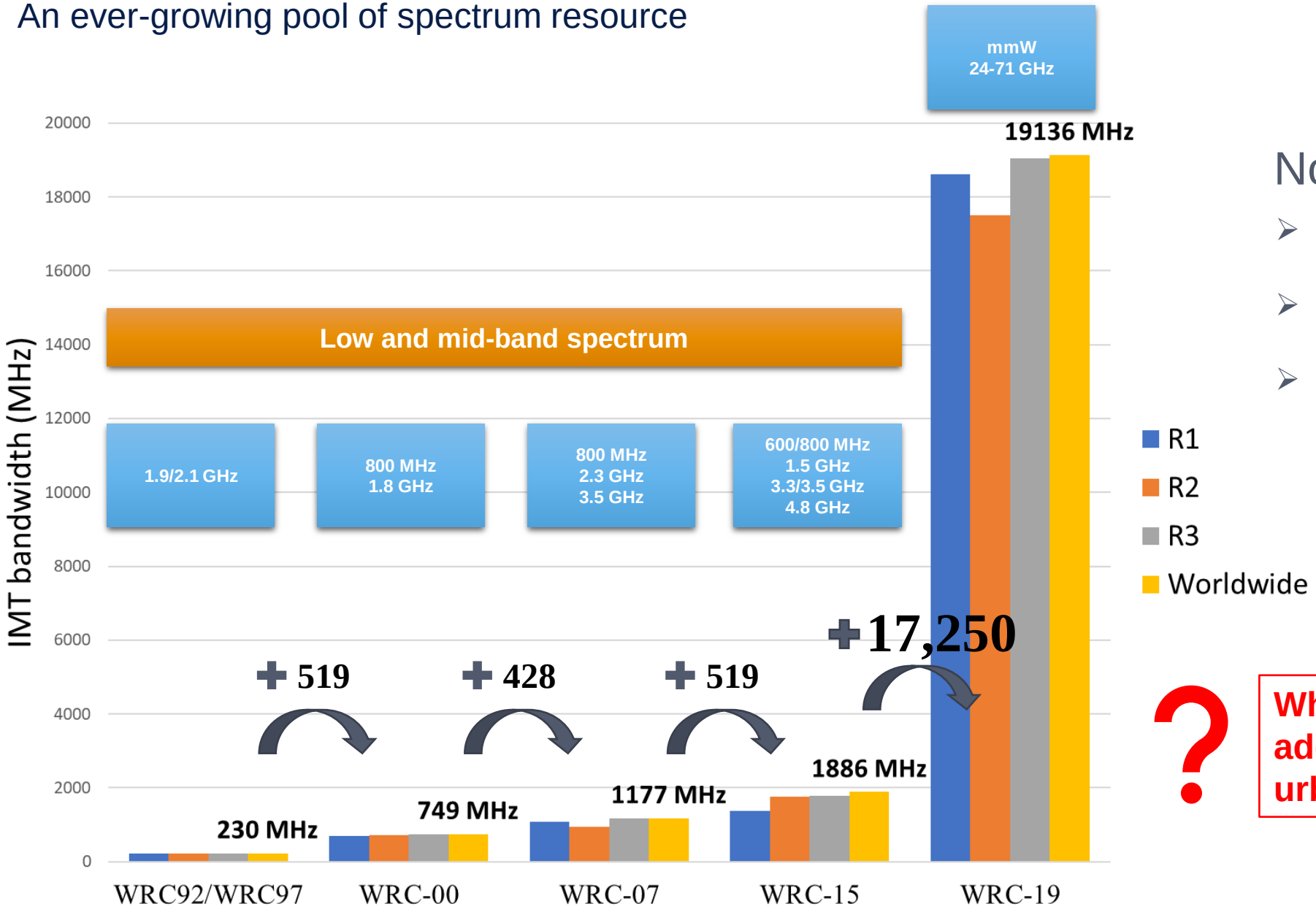
Spectrum Resources – The Need for a Balanced Approach

UK SPF Future Spectrum Policy Summit

1st December 2022

Overview of IMT spectrum growth

An ever-growing pool of spectrum resource



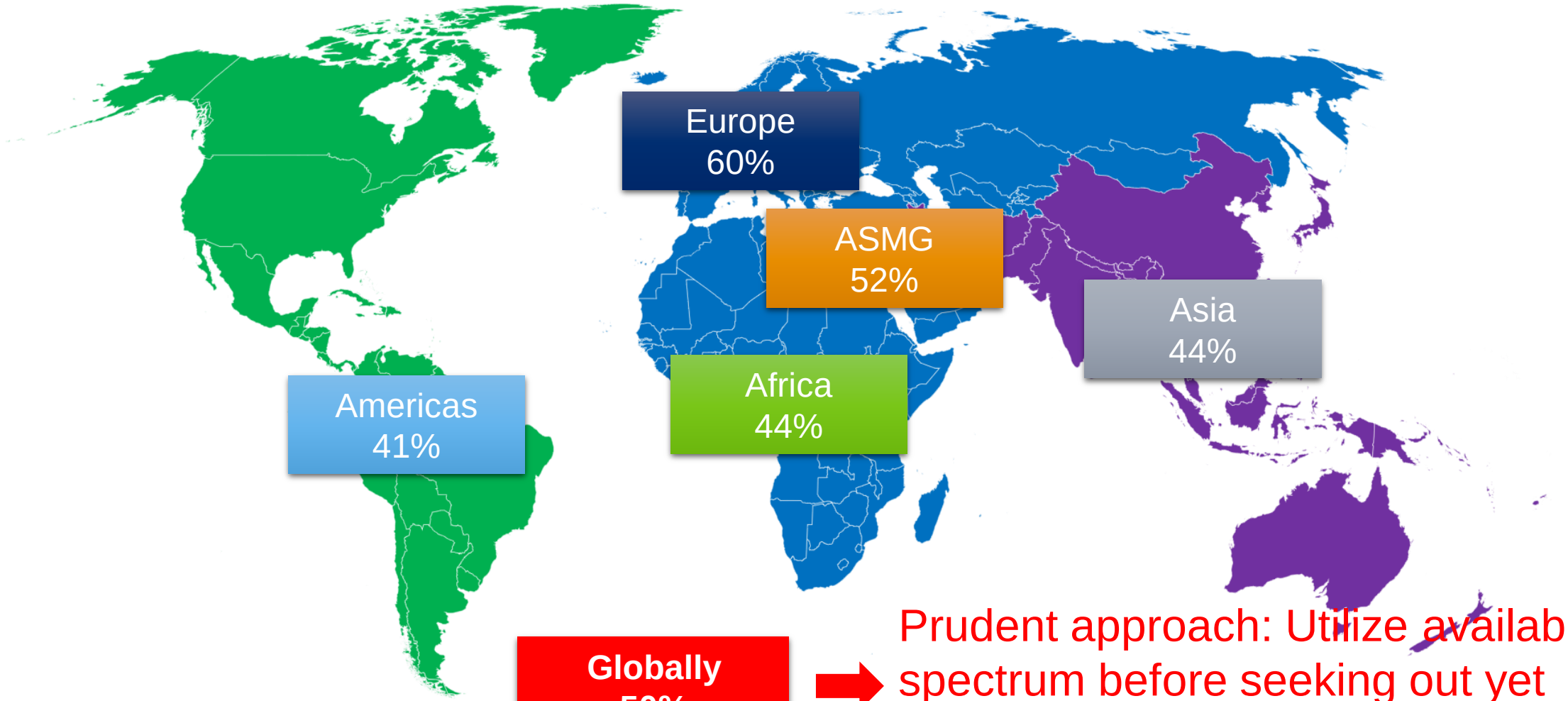
Notes

- Bands < 1 GHz suitable for coverage applications
- Bands > 24GHz suitable for capacity in urban areas.
- More than 18 GHz spectrum identified for small cell IMT. So far, this spectrum is mostly unused.

What is the justification for additional IMT spectrum for urban applications?

Available vs licensed spectrum

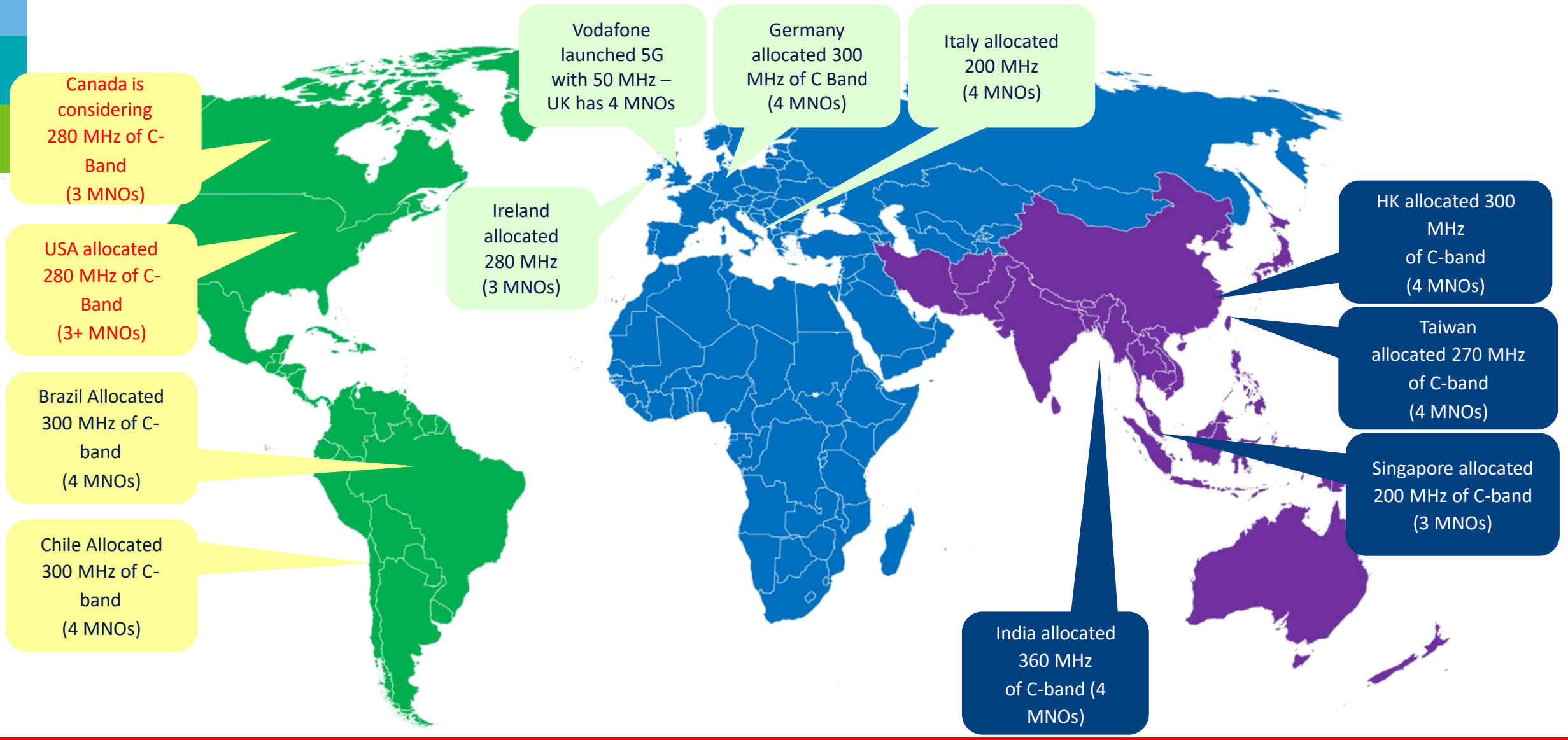
On average globally, only 50% spectrum available below 5GHz (low&mid band) is licensed



Prudent approach: Utilize available spectrum before seeking out yet more and impacting other services

Source: https://www.Istelcom.com/fileadmin/content/Ist/marketing/media/2019_Study_LicensingUseofMobileSpectrum.pdf

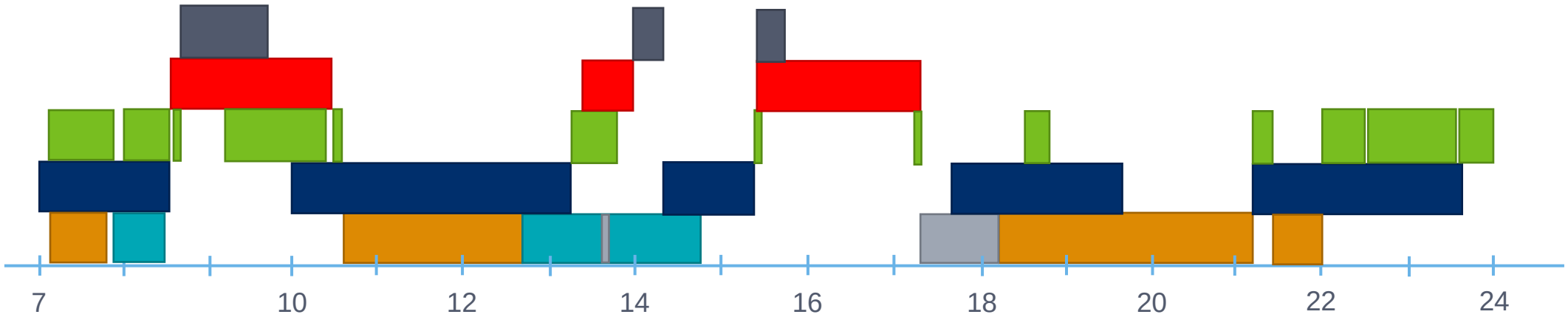
Current use of mid-band spectrum



Based on national auctions not every MNO acquired 80-100 MHz spectrum in C-band

7-24 GHz

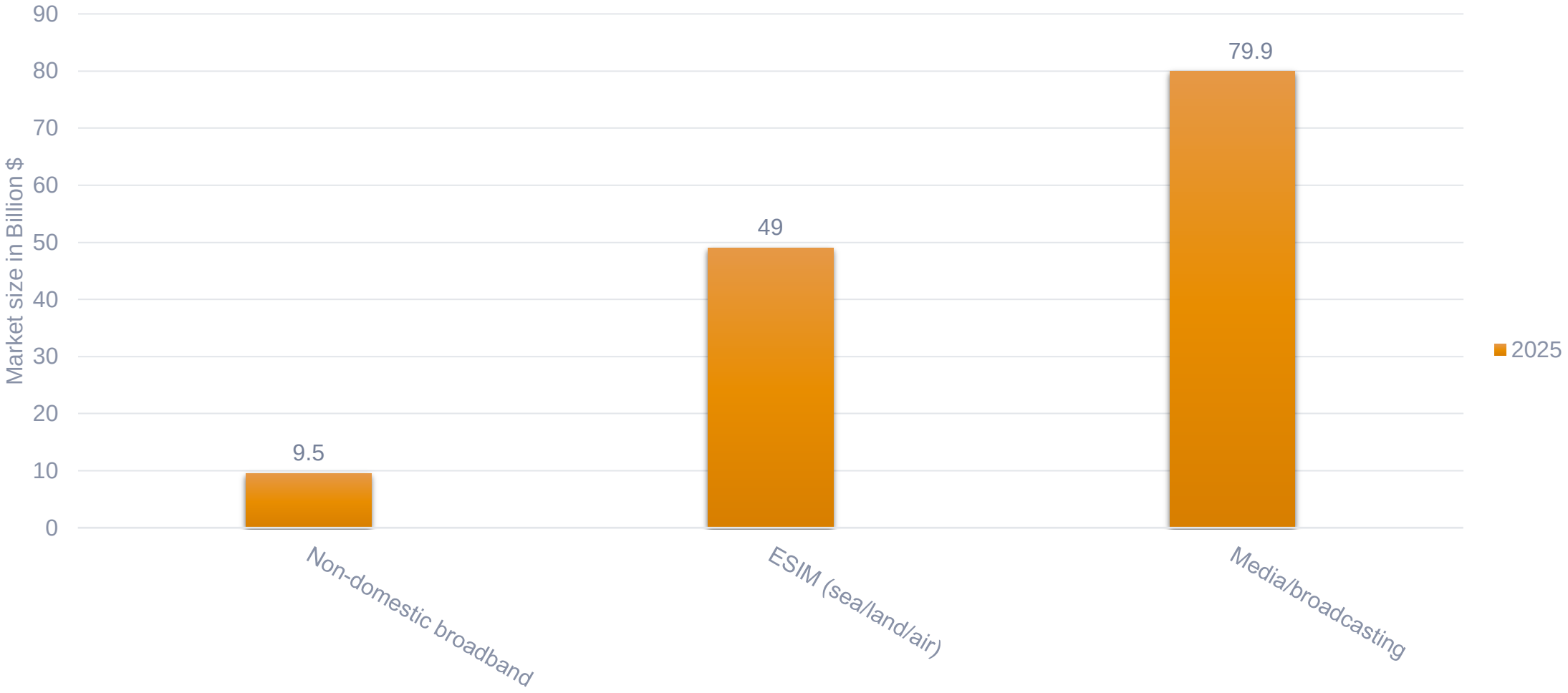
Overview of the spectrum usage



Spectrum in the 7-24 GHz range is congested with critical applications

Satellite use in the 7-24 GHz range

Current and expected global market size



Europe Framework in 7-24 GHz

Satellite use in the Ku-band is widely harmonized within CEPT and the use is largely in changing locations and exempt from individual licensing

High e.i.r.p. and low e.i.r.p. Satellite Terminals 10.70-12.75 (s-to-E) and 14-14.25 GHz (E-to-s)

- ECC/DEC/(06)03 (implemented by 36 admins)
- ECC/DEC/(06)02 (implemented by 36 admins)

VSATs 14.25-14.50 GHz (E-to-s) and 10.70-11.70 GHz (s-to-E)

- ECC/DEC/(03)04 (implemented by 32 admins).

ESIMs 10.7-12.75 GHz (s-to-E) and 14-14.5 GHz (E-to-s) harmonised by ESIM in land, air and sea communicating with GSO space stations and future NGSO systems

- ECC/DEC/(05)10 (implemented by 39 admins)
- ECC/DEC/(05)11 (implemented by 47 admins)
- ECC/DEC/(18)04 (implemented by 16 admins)
- ECC/DEC/(18)05 (implemented by 18 admins)

WRC-27

Is the need for more mobile spectrum at the cost of other services really justified?

1. **A lot of spectrum available not being used:**
   - Low/Mid band: 50% still available in <5 GHz (≈550 MHz)
   - mmW band: Use extremely scarce and only used in a few countries worldwide

2. **Looking for yet more spectrum for densely populated areas is not warranted:**
   - 7-24GHz is not justified especially when IMT2030 could be accommodated in other bands
   - IMT requires exclusive access to spectrum, hence removal of other services from the band. This is welfare destroying of existing eco-systems.

3. **Need to have a more pragmatic and balanced approach to start using/refarming what is available before asking for more spectrum.**

Thank you
Any questions?