



Spectrum sharing for innovation & growth

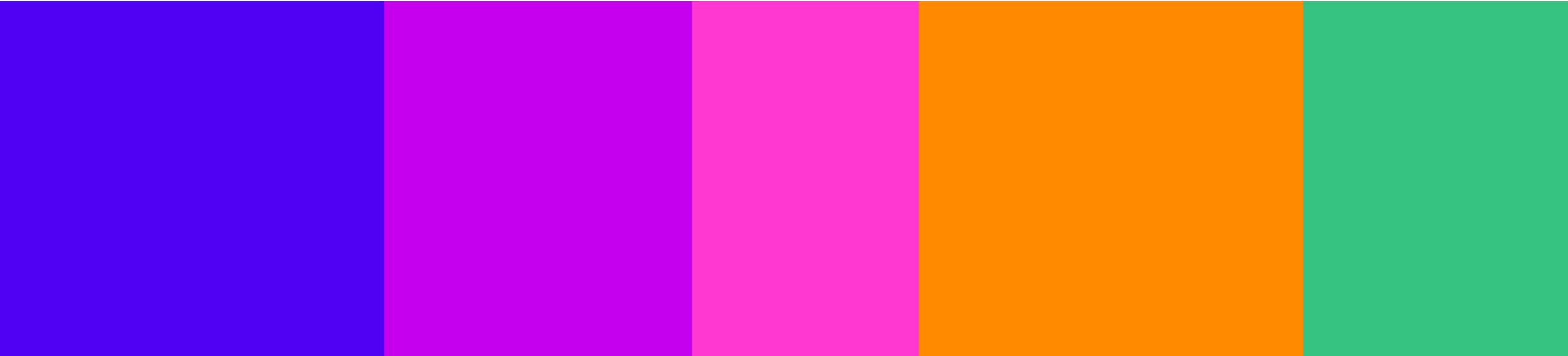
Martin Fenton

Director of Spectrum Technical Policy

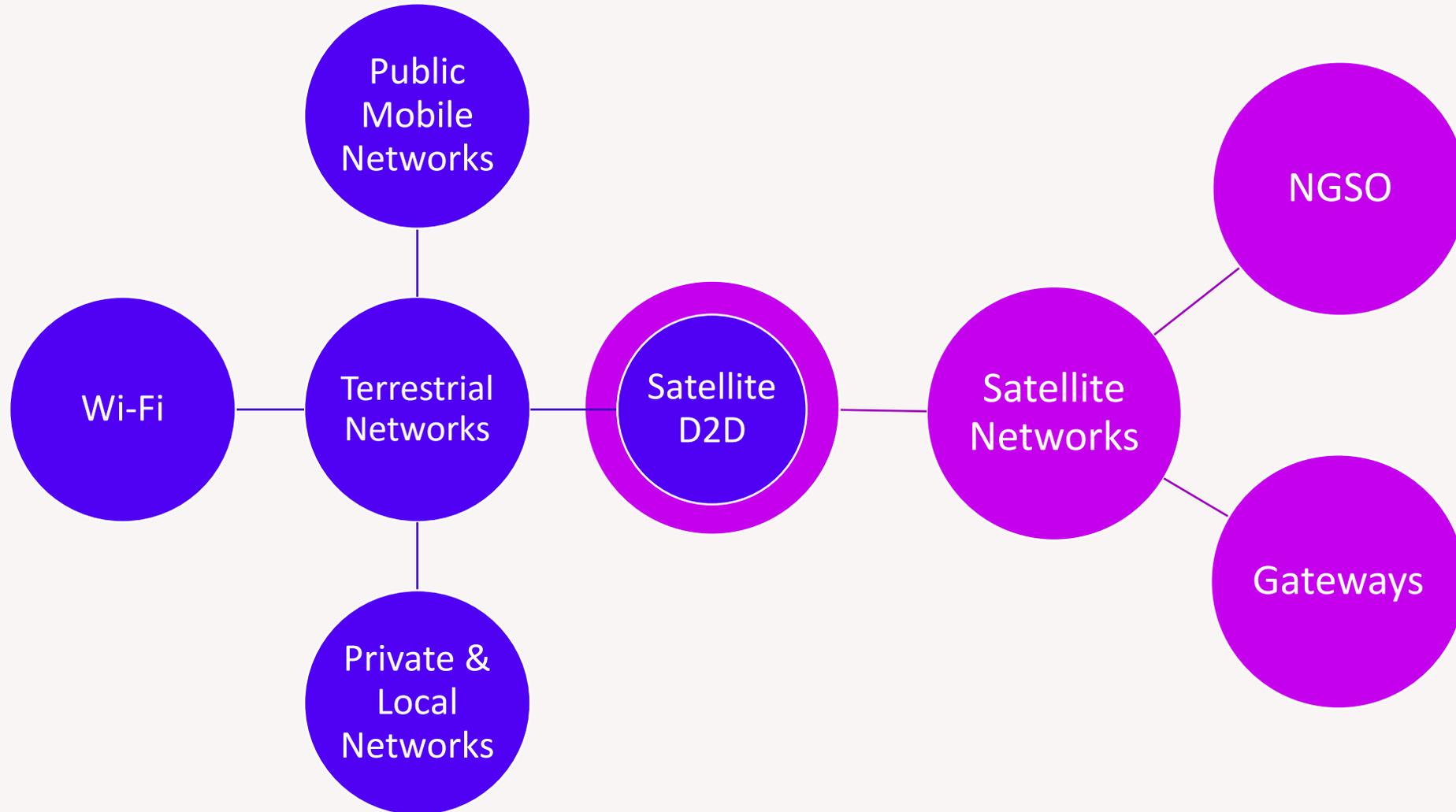
22 May 2025



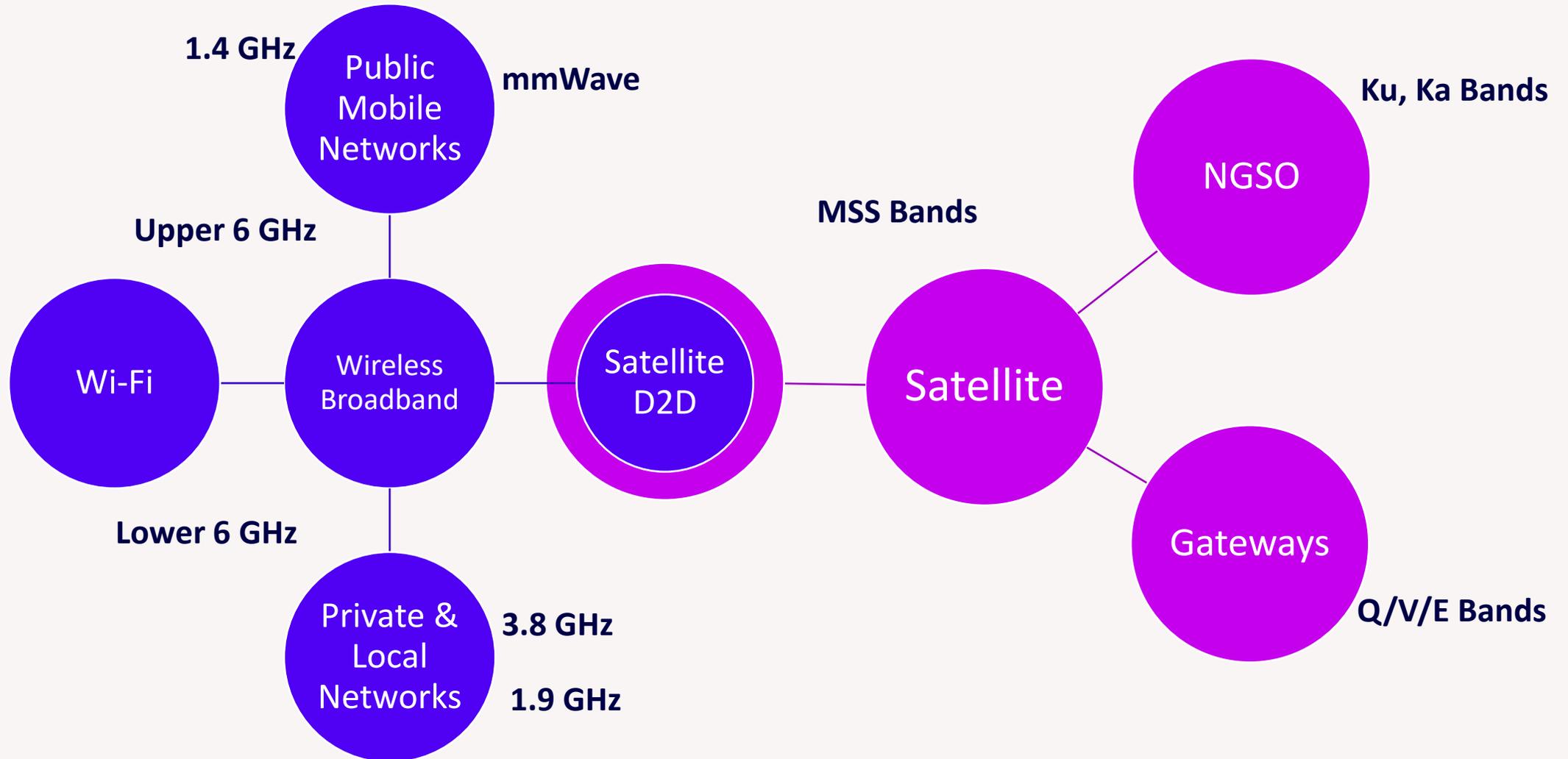
Enabling innovation and growth in wireless connectivity through spectrum sharing



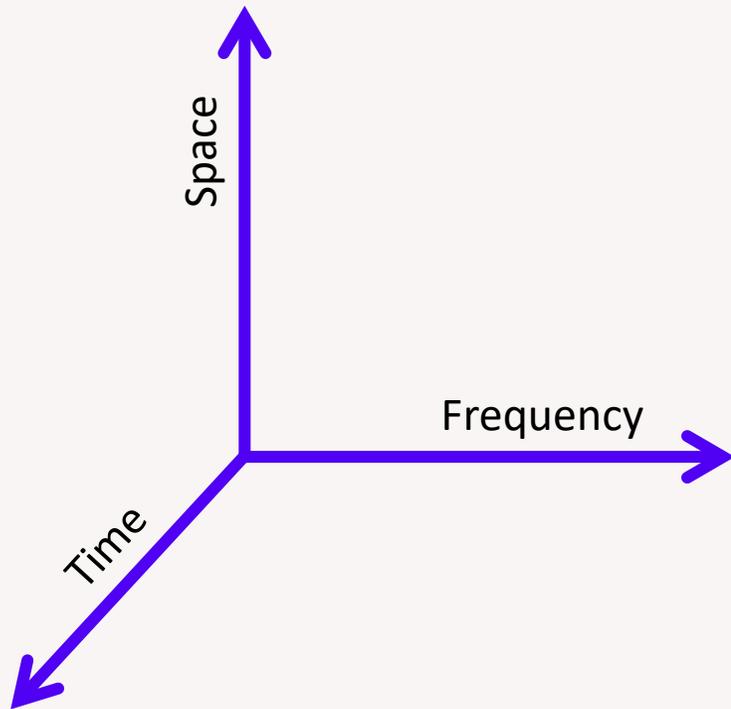
No single network can deliver the wireless connectivity people and business need...



... and each network needs spectrum to grow

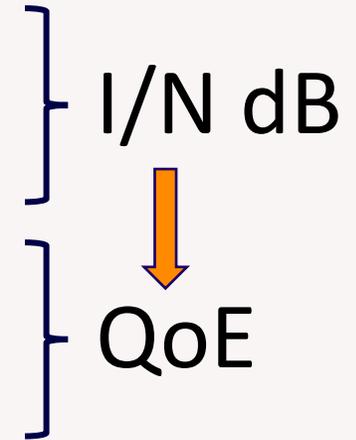


Traditionally, spectrum sharing has relied on orthogonality in space, frequency & time...



Spectrum Toolkit

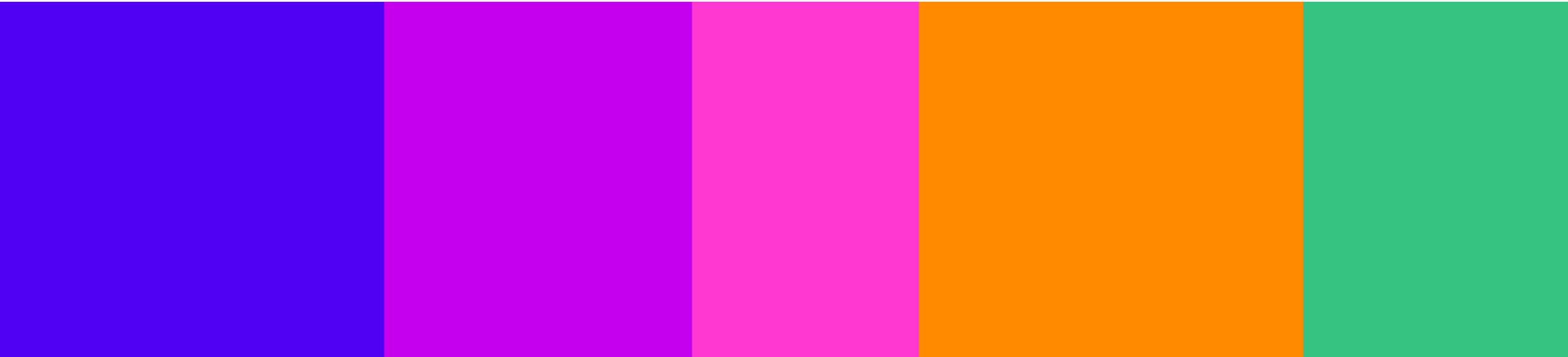
- Power
- Propagation
- Sensing
- Protocols



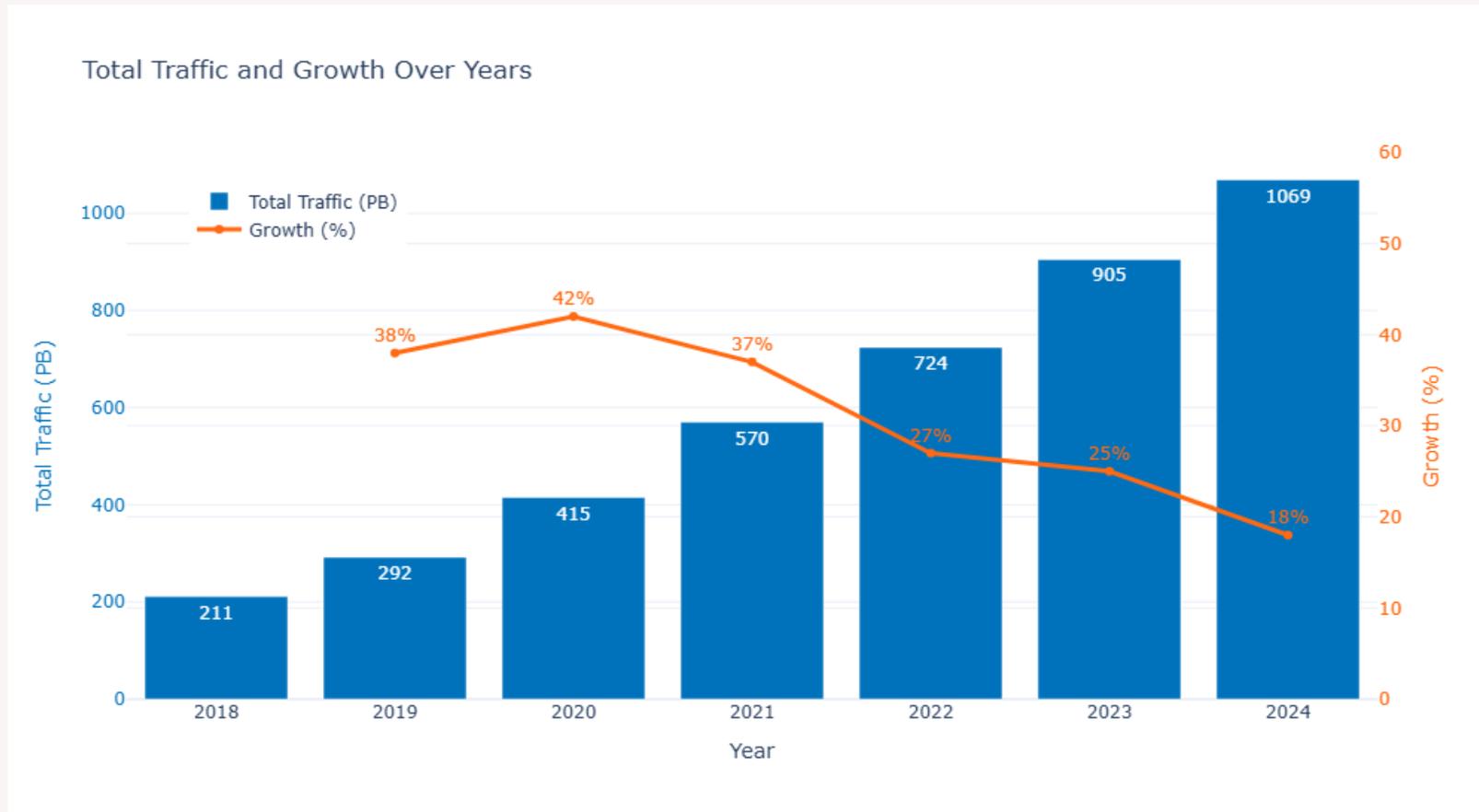
...spectrum sensing and better protocols in radios can improve intensity of sharing whilst maintaining

QoE

Spectrum for Public Mobile Networks

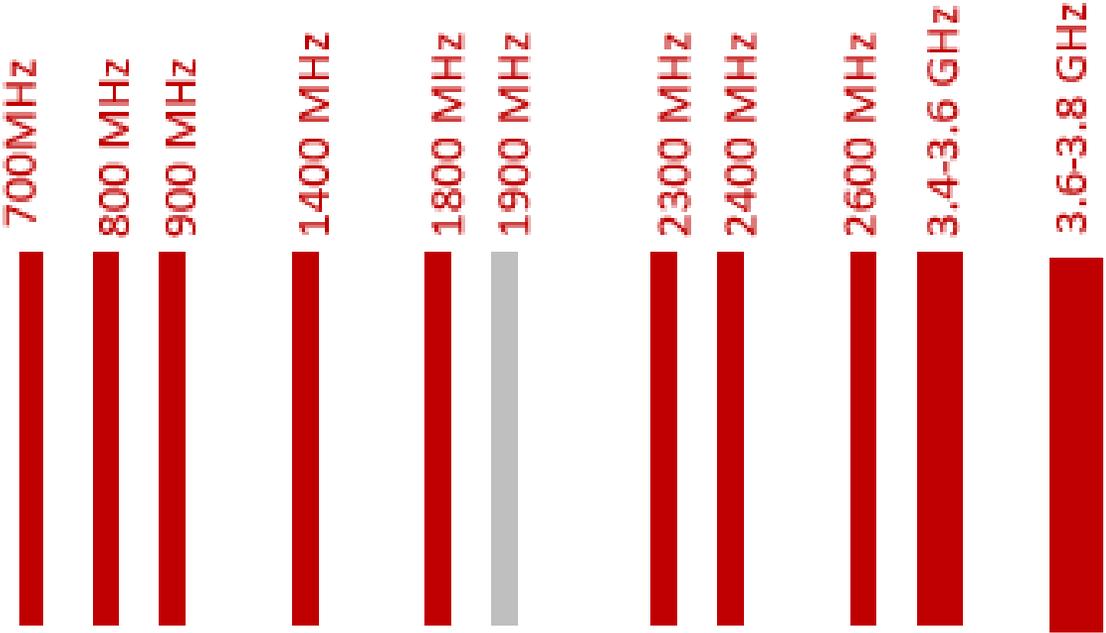


Mobile traffic continues to grow, but rate of growth has slowed in recent years...



...23/24 growth ~6% when FWA excluded

Over 1 GHz of spectrum already allocated to MNOs



1132 MHz

With more to come...

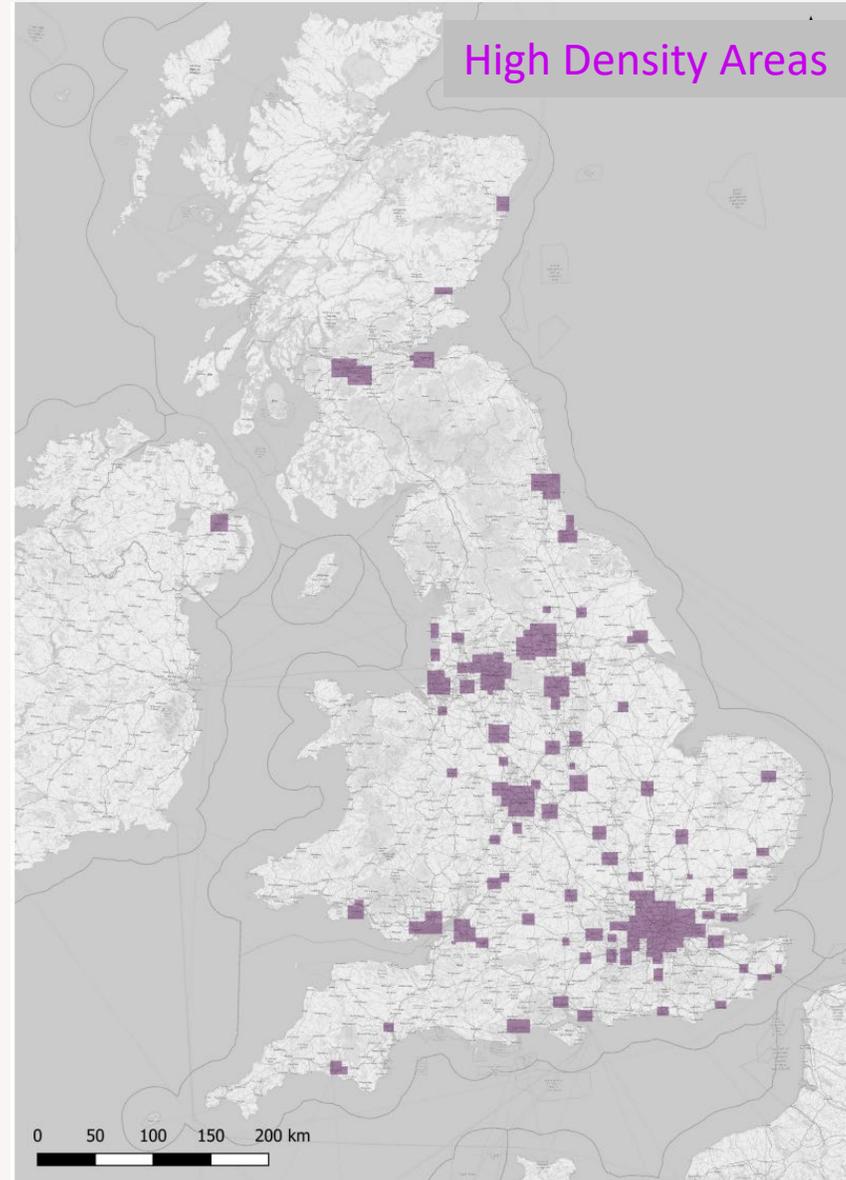
mmWave – ‘Rural / Urban’ sharing

26 GHz, 42 GHz

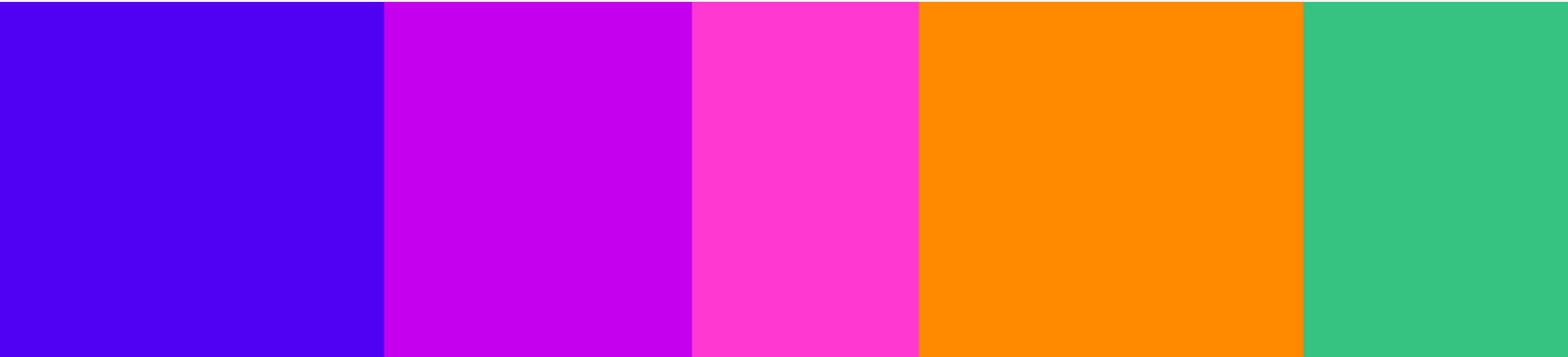
Spectrum Auctions in High Density Areas for efficient allocation. Our first non-nationwide auction of mobile spectrum.

‘First Come, first Served’ local licences available nationwide (co-ordinated with incumbent fixed links and satellite earth stations)

Co-Channel Coexistence

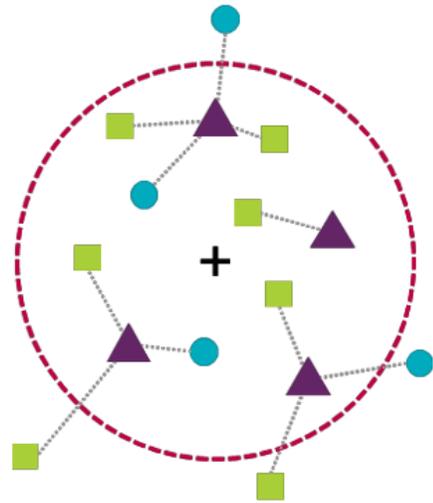


Sharing between local 5G networks

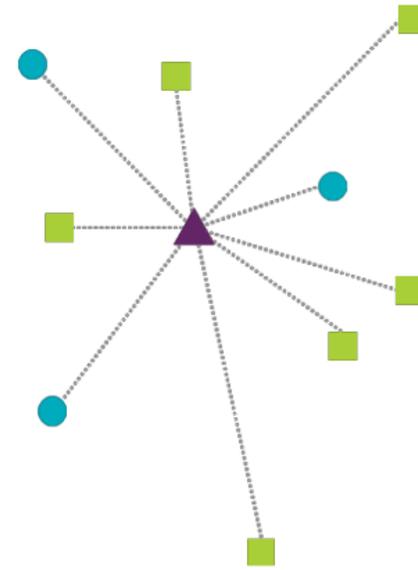


Shared Access Licences

Enabling public and private local 5G networks



Low power
50m radius area



Medium power
per site licence

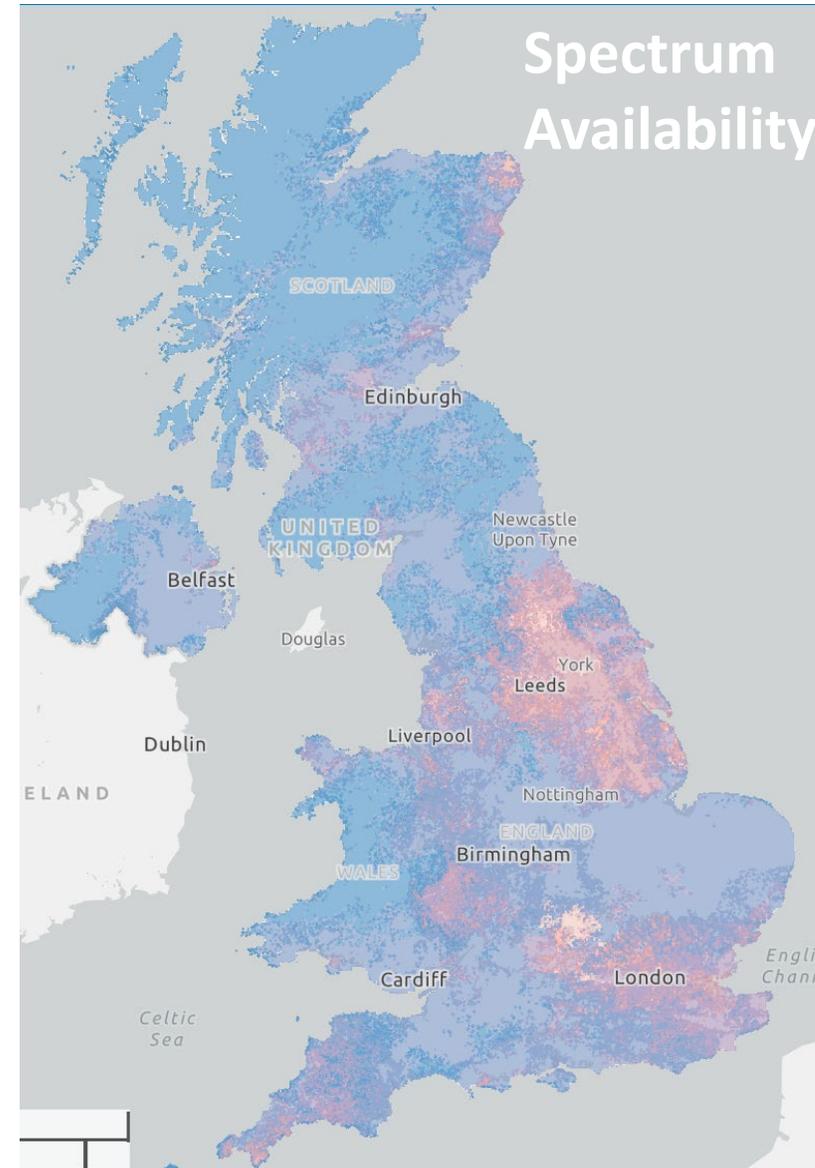
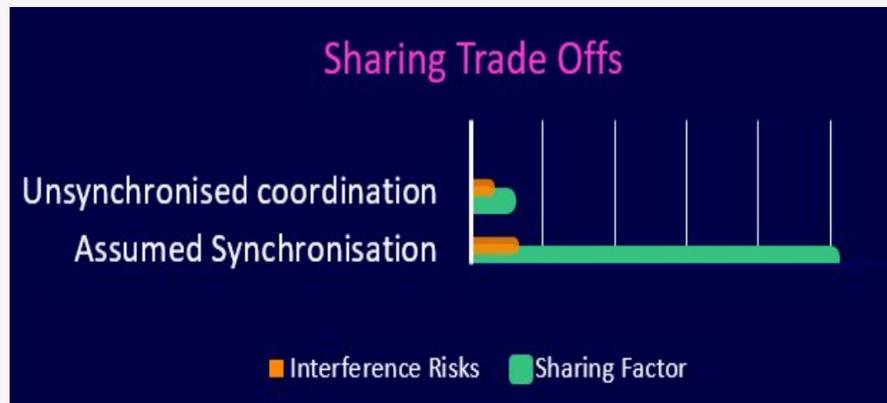
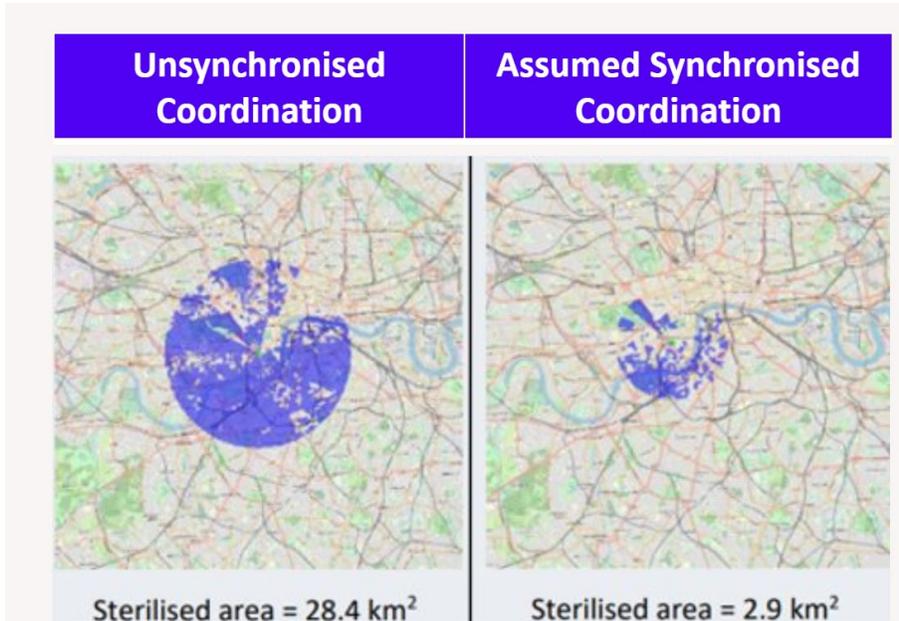
1800 MHz

2.3 GHz

3.8-4.2 GHz

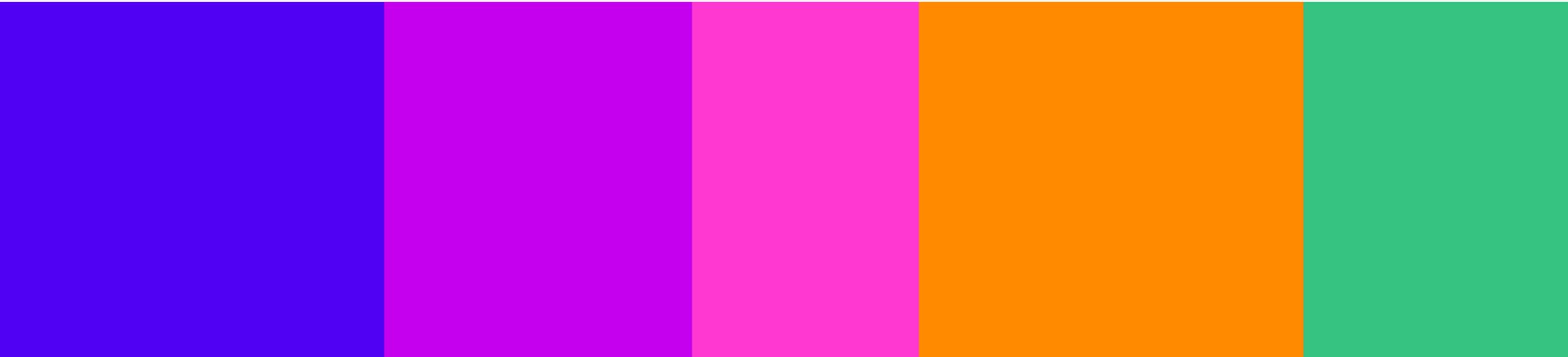
26 GHz

More intensive sharing, higher power & the importance of time synchronisation

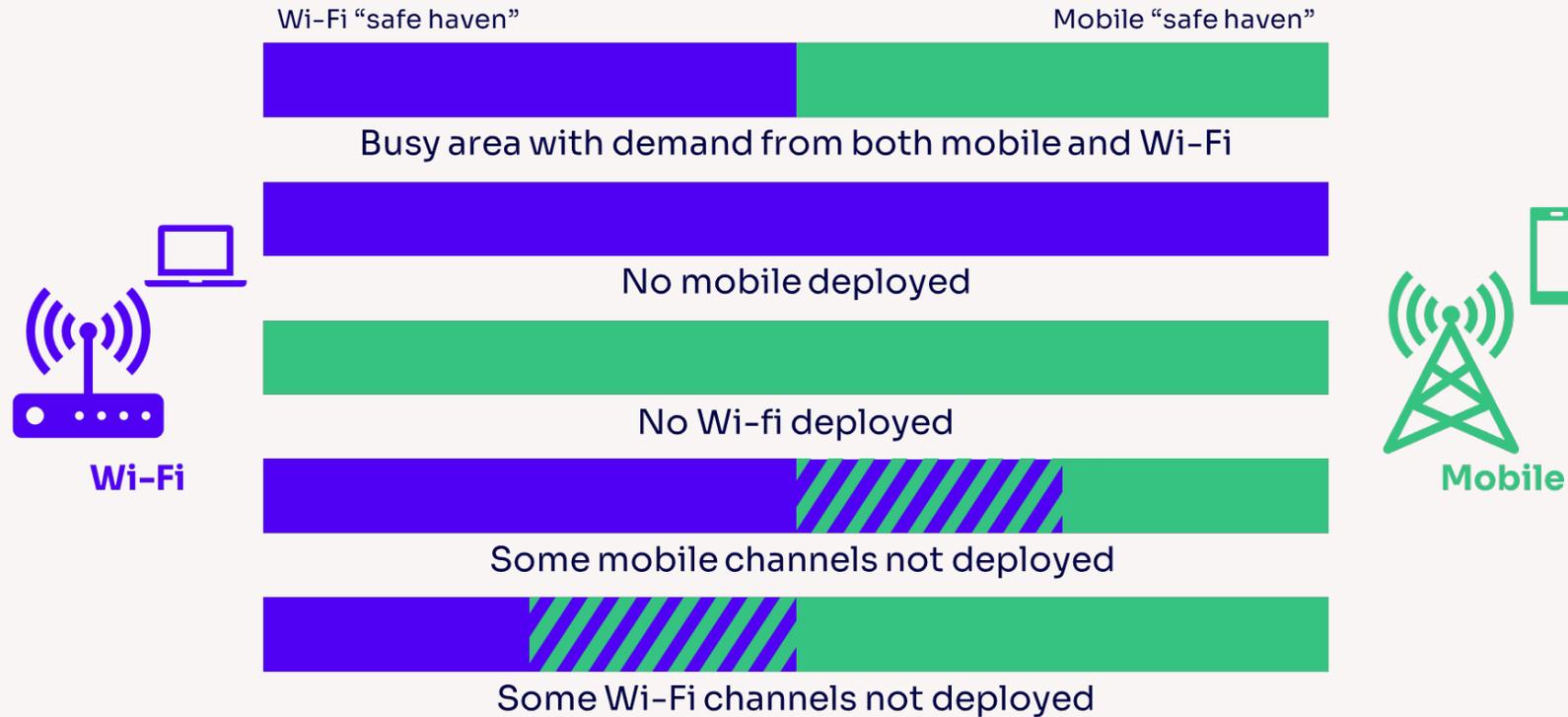


Sharing between Mobile and Wi-Fi

Upper 6 GHz : 6425 – 7125 MHz

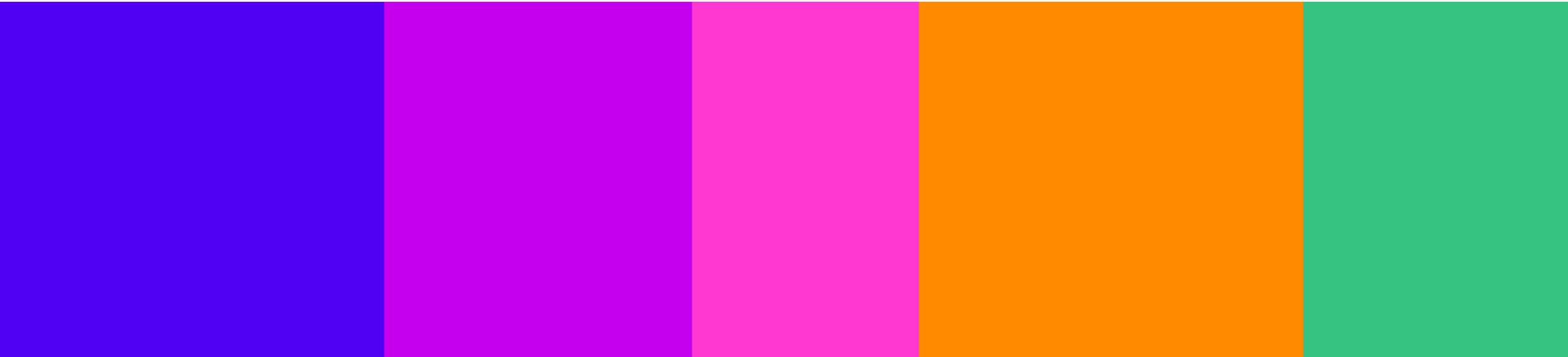


Potential to use sensing and protocols to optimise spectrum use

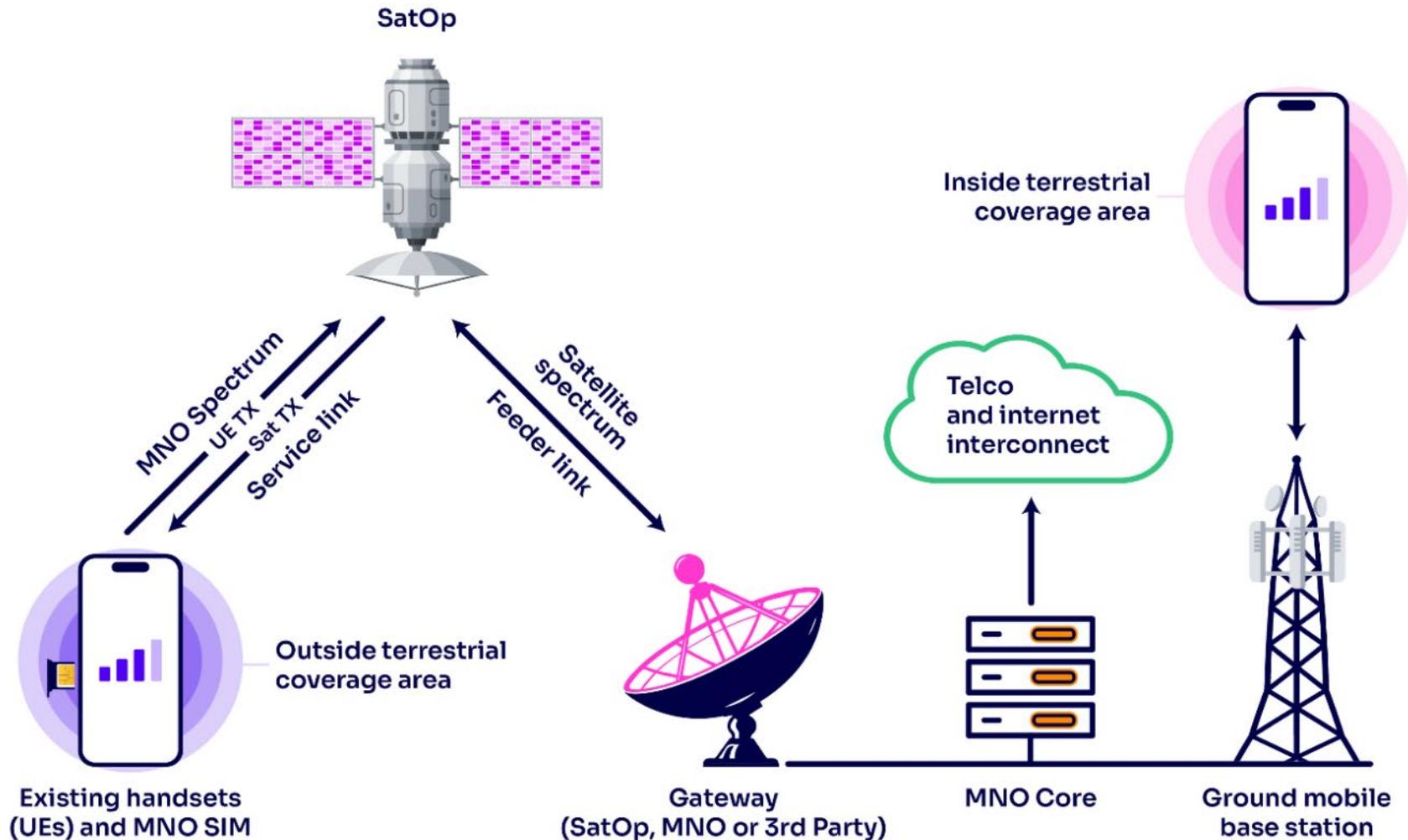


Sharing between mobile and satellite

Direct to Device in mobile bands



Connecting mass market mobile phones where terrestrial coverage isn't available



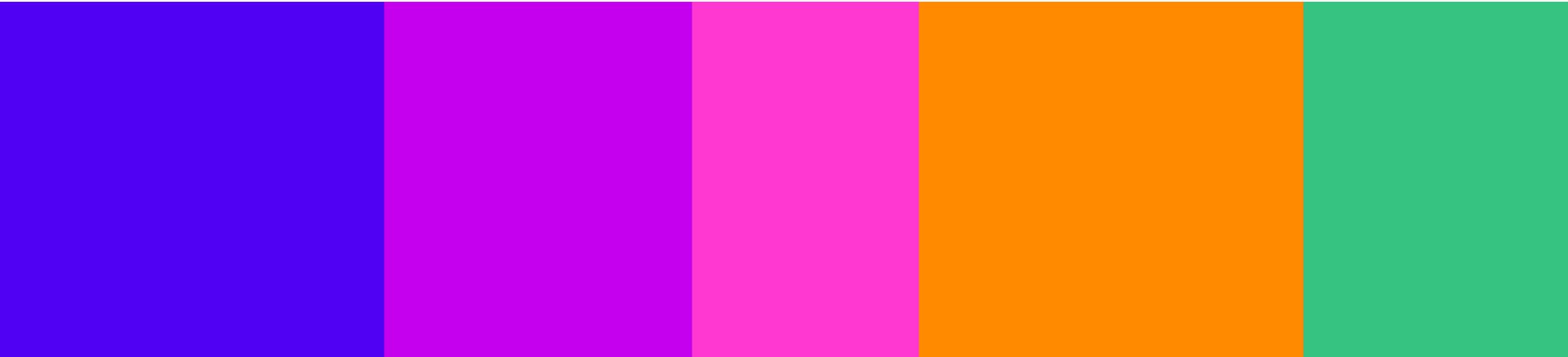
MNO and SatOp collaboration for optimal use of spectrum

- Rapid innovation in satellite industry is challenging the four-year WRC cycle
- Satellite is becoming as much a domestic matter as it is an ITU matter
- Innovation in both technology and business models
- Satellite industry has a tradition of collaborative spectrum sharing, mobile industry has historically had dedicated spectrum

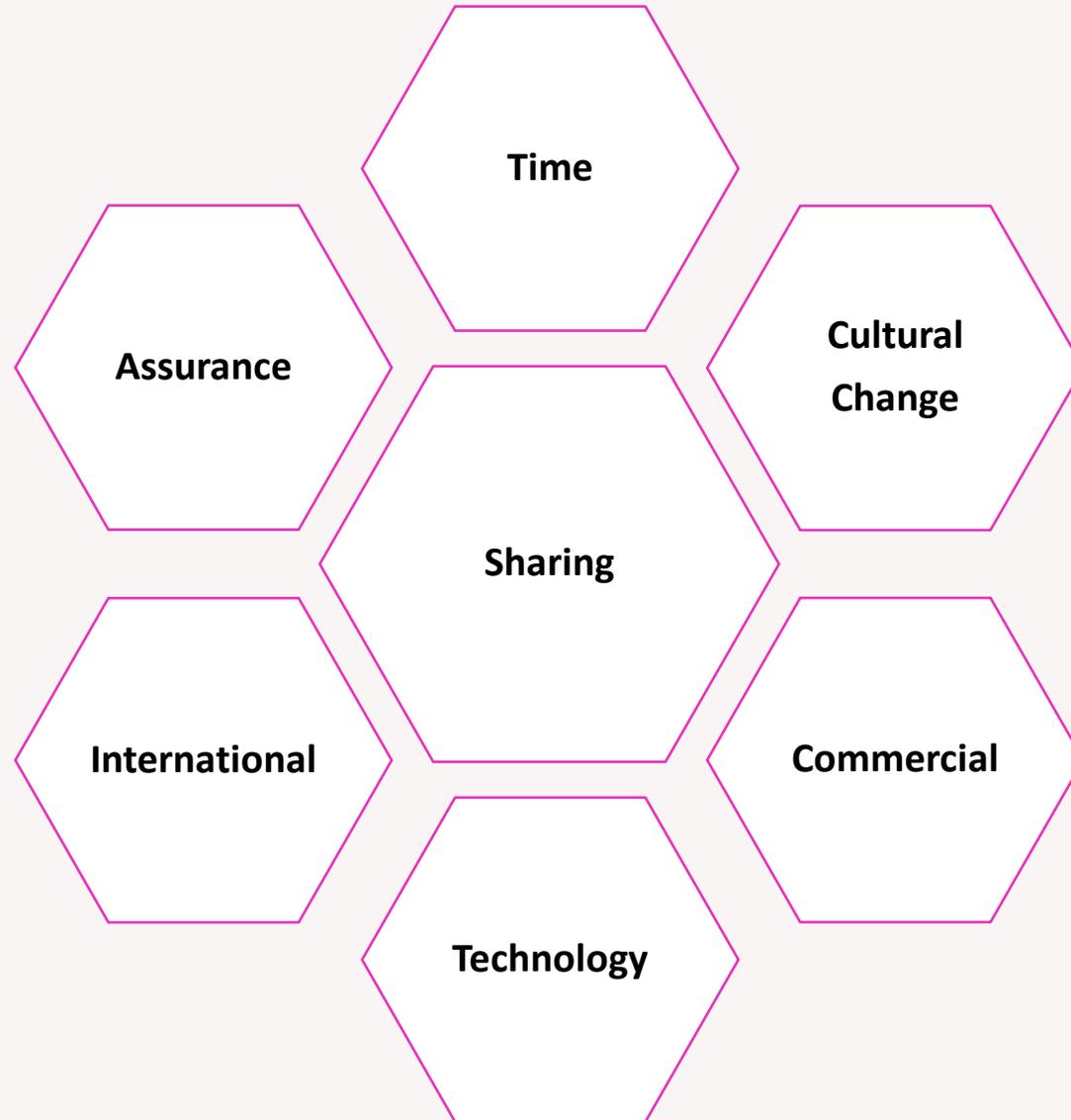
Collaborative Coexistence

Spectrum Sharing

Lessons learnt & rising to the challenges ahead



Sharing can be hard...





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