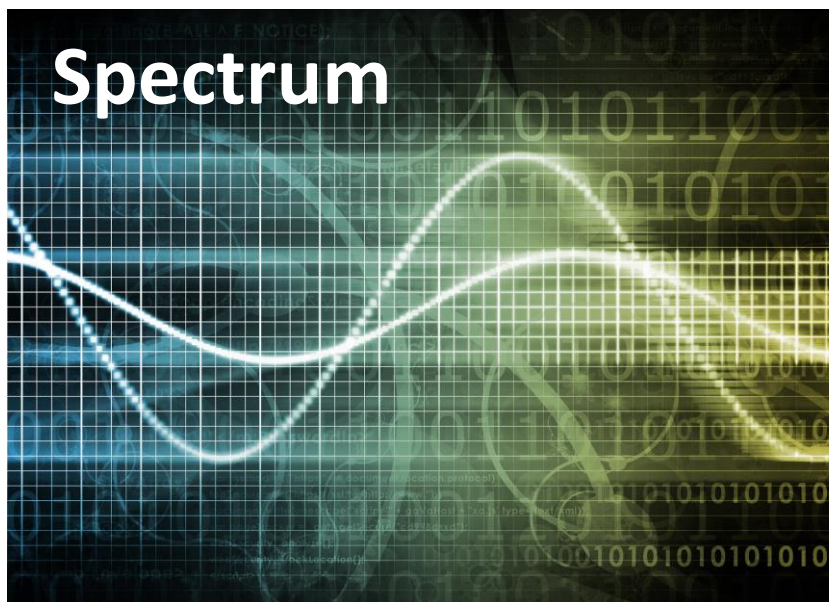


Economics of Spectrum in the Context of 5G

Justin Moore, Ofcom

1 July 2020

How to get the most out of a limited natural resource?



Ensuring the optimal use of radio spectrum

“Making communications work for everyone”

- Ofcom is required to
 - further the interests of citizens and consumers in relation to communications
 - Ensure optimal use of spectrum
- Use not revenues
- Design authorisation as appropriate
 - Geographic nature of use
 - Power / indoor / outdoor
 - Supply versus demand



5G is expected to enable new use cases beyond enhanced mobile broadband

More data



Improved consumer experience
More connected devices
Faster connection speeds
Virtual and Augmented Reality

More devices



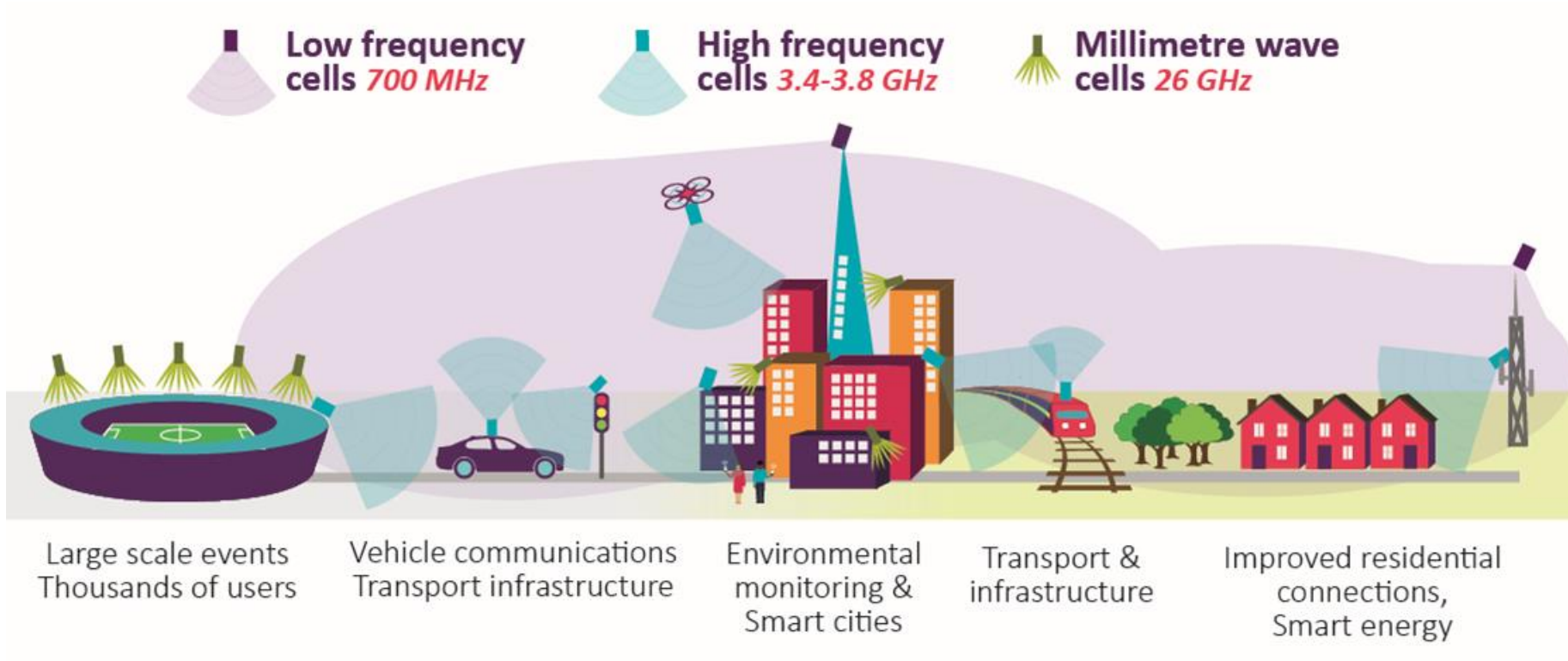
e-health
Transport & logistics
Environmental monitoring
Smart energy networks
Smart agriculture, smart retail

Instant response

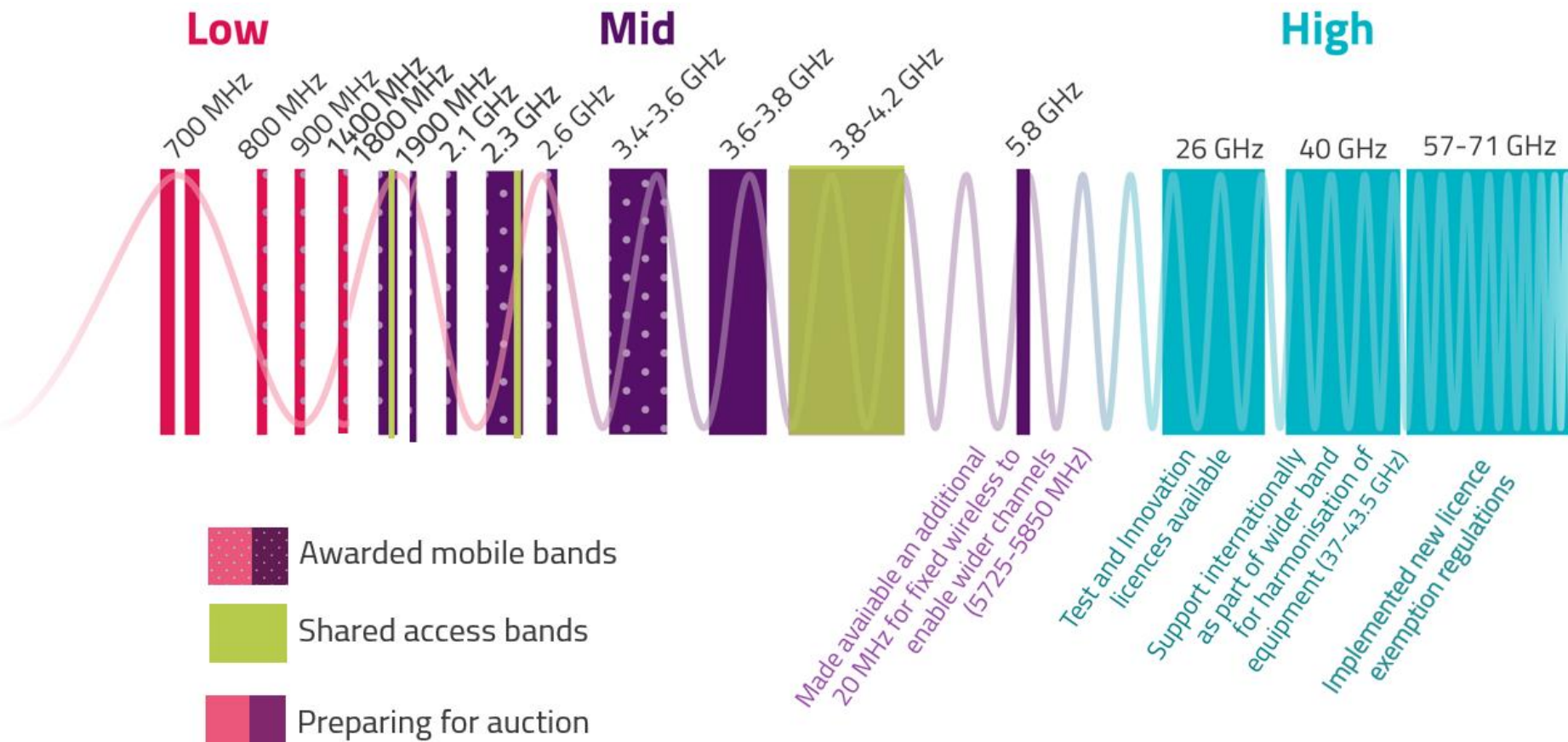


Vehicle-to-everything communication
Drone delivery
Remote control
Smart manufacturing

A range of bands to support a wide range of applications



We are making spectrum available to meet increasing and varied demand



National licences and national coverage

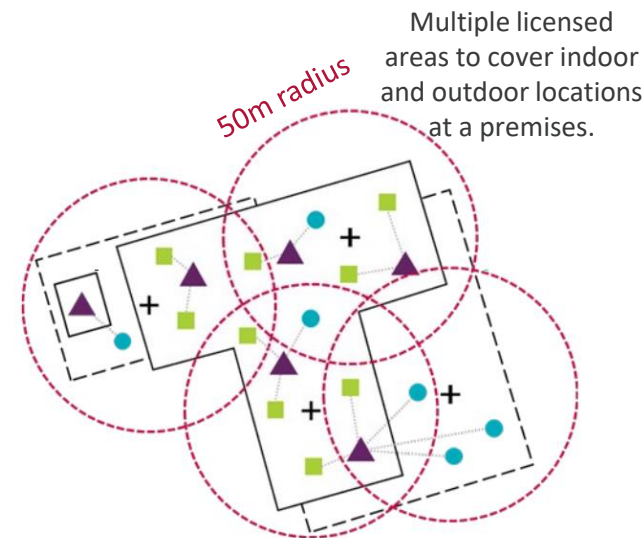
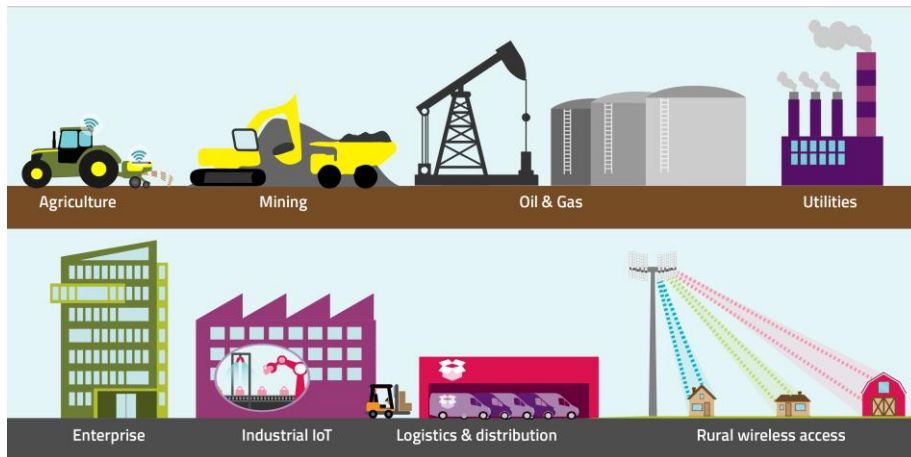
- 4G auction (2013) - obligation to cover 98% of premises
- Good coverage where people live and work, but gaps in coverage of UK landmass.
- 5G auction doesn't include coverage obligation as government agreement with MNOs on a shared rural network.
- Means each operator will deliver 90% geographic (land mass) coverage by 2026.
- Ofcom has implemented this via licence variations with a detailed compliance methodology.



Local access to spectrum: important role in encouraging innovation and improving coverage

Shared access licenses

1781.7-1785 /
1876.7-1880 MHz,
2390-2400 MHz,
3.8-4.2 GHz, 24.25-
26.65 GHz.



Multiple licensed areas to cover indoor and outdoor locations at a premises.

Access to licensed mobile spectrum



Thank you