

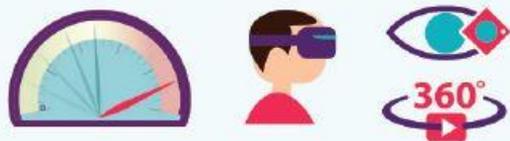
Maximising the benefits of wireless innovation

Steve Unger, Ofcom

31 May 2017

What do consumers and businesses expect ?

More data



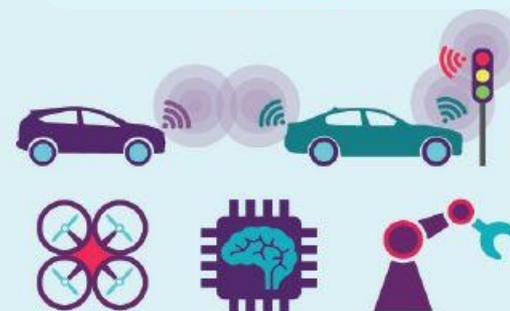
Improved consumer experience
 More connected devices
 Faster connection speeds
 Virtual and Augmented Reality

More devices



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

Real-time control



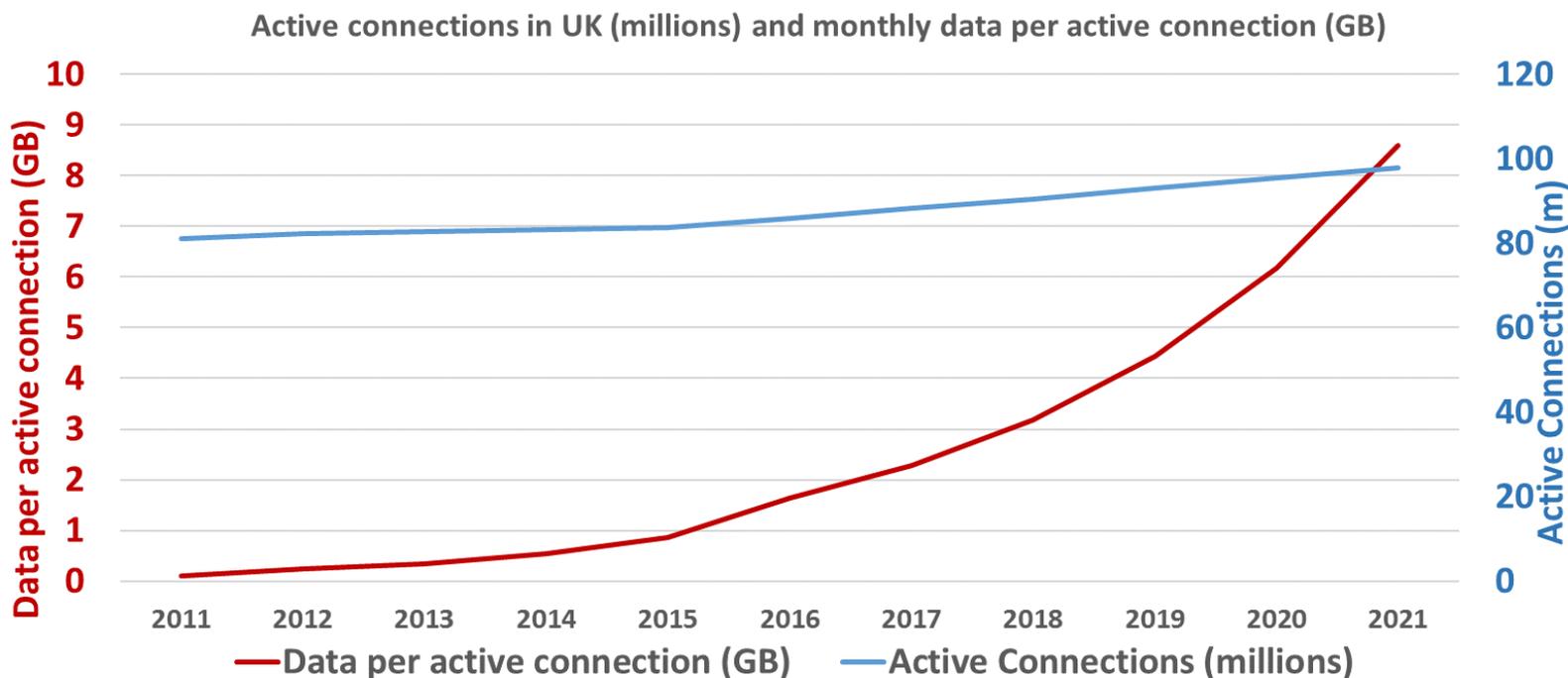
Vehicle-to-everything communication
 Drone delivery
 Autonomous monitoring
 Smart manufacturing

Universal Coverage



Increased demand drives technological enhancements

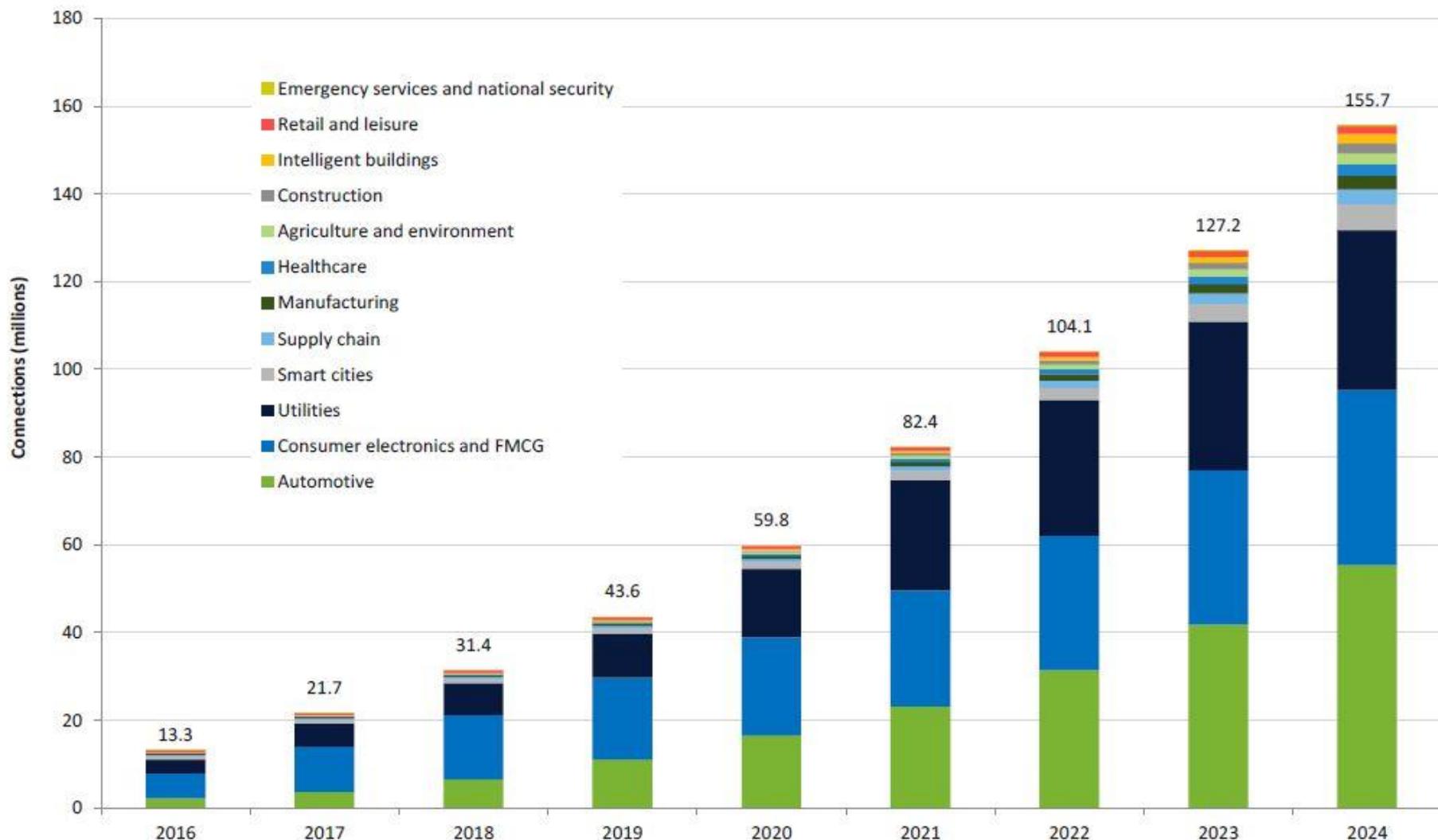
Mobile traffic per user has increased 10-fold in the UK from 2011 to 2016



Source: Connected Nations 2016 and CISCO VNI

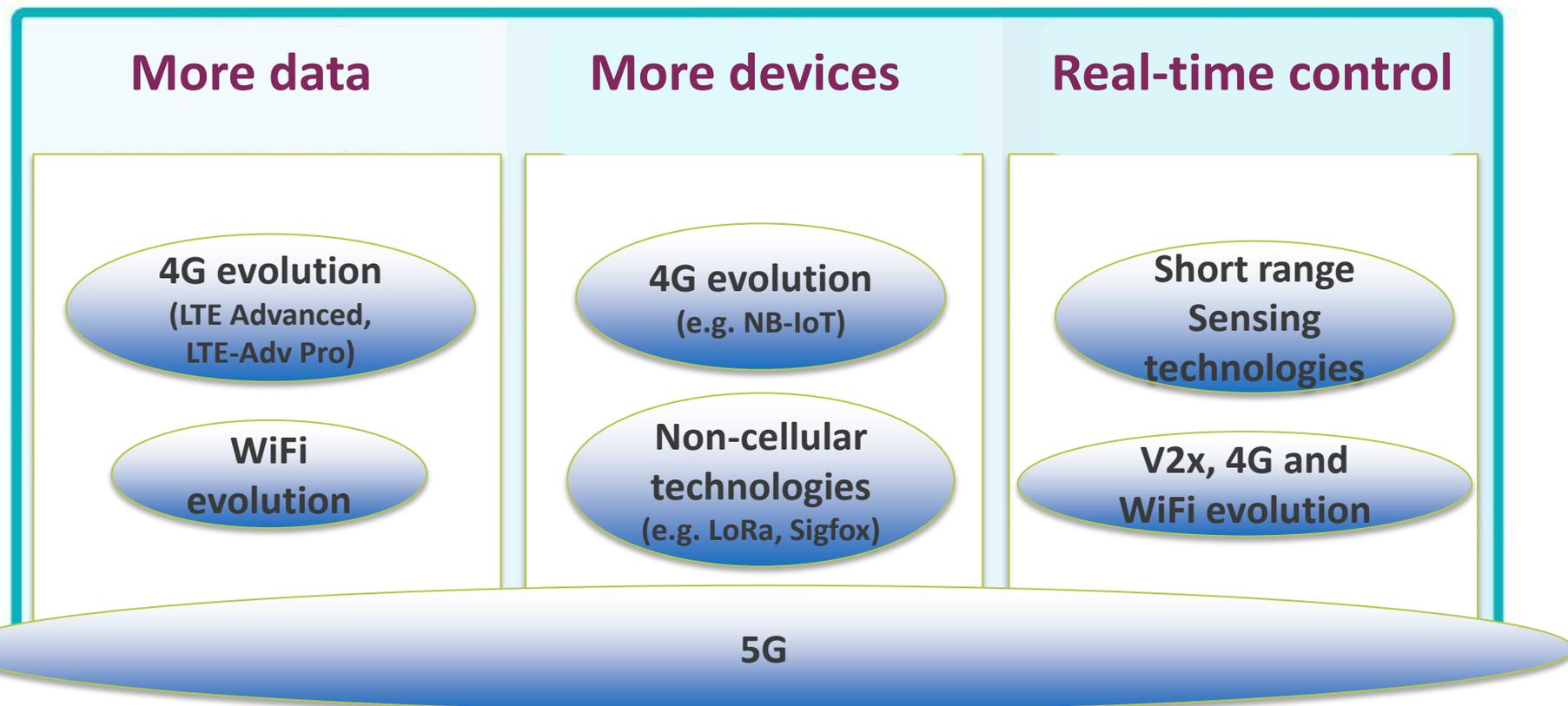
Note: Active connections do not include IoT

IoT connections in the UK by sector (2016-2024)

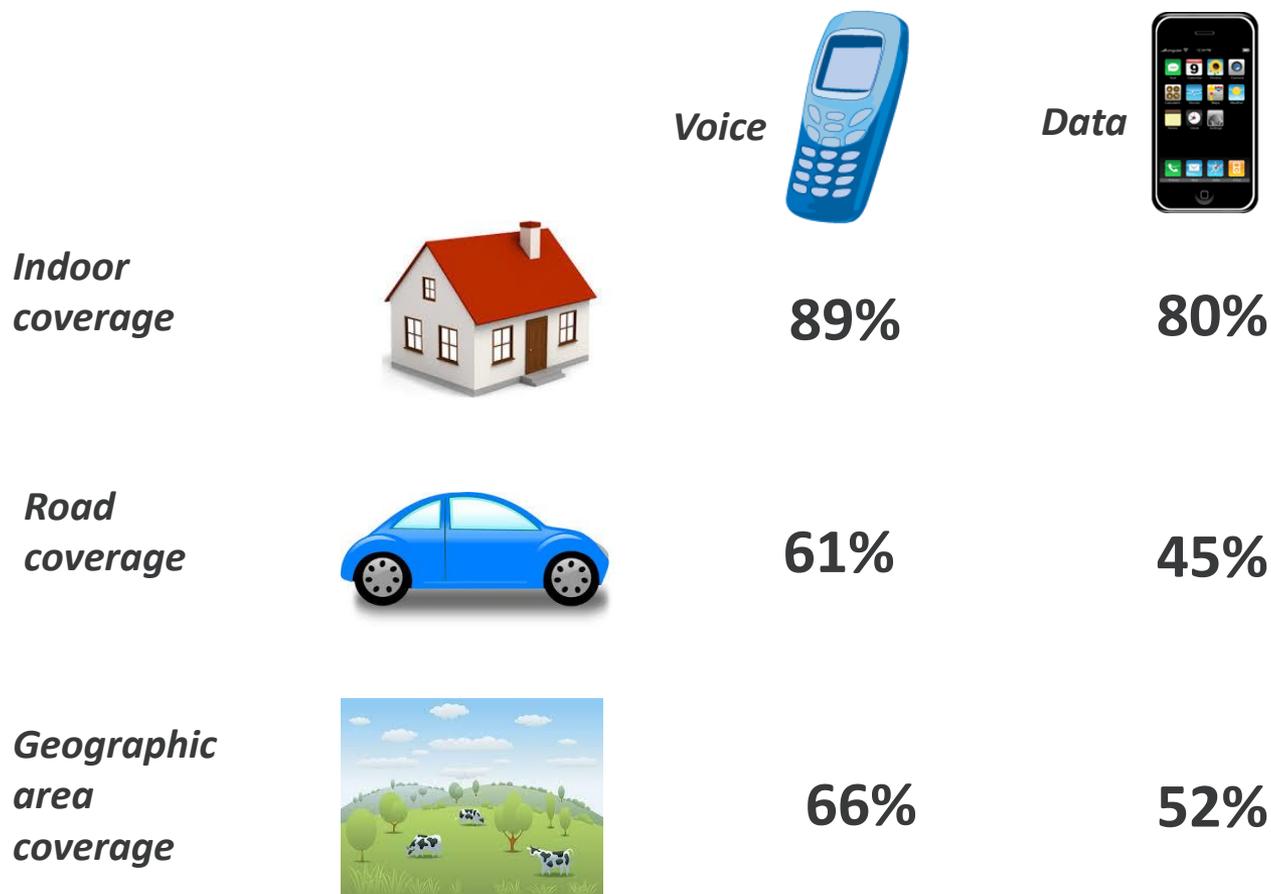


Source: <https://www.ofcom.org.uk/research-and-data/telecoms-research/review-of-latest-developments-in-the-internet-of-things>

5G will be important, but so will other forms of wireless innovation



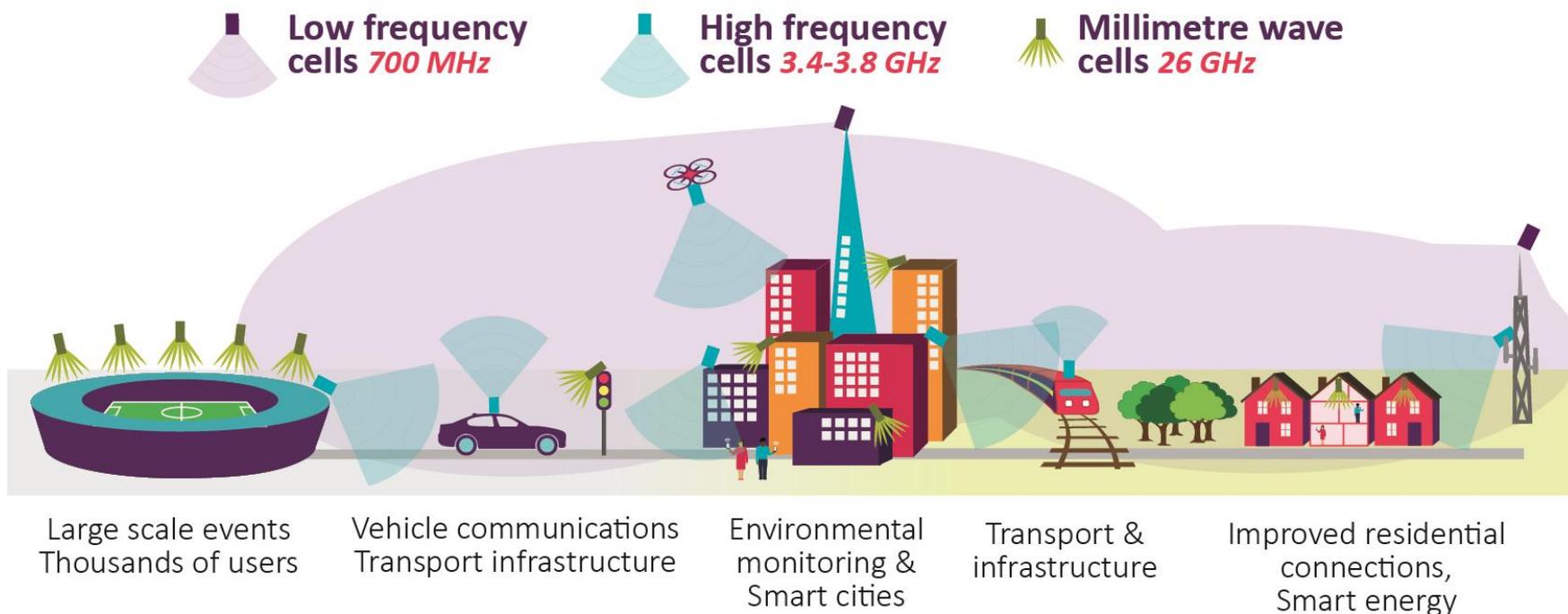
Achieving universal coverage remains a challenge – especially if we require a good consumer experience



Source: Ofcom 2016 Connected Nations Report

Note: These figures are for coverage by all four operators. We have used our own estimates of the signal thresholds needed for a good consumer experience, which are more conservative than those used by the MNOs.

Spectrum is a key enabler. Several complementary bands have been identified for 5G in Europe



Further bands for 5G: RSPG also highlighted 32 GHz and 40 GHz as promising bands for 5G, CEPT confirmed them as priorities for study for WRC-19. 66-71GHz: potential for licence-exempt 5G?

The way we authorise access to spectrum is important

We are interested in new approaches to spectrum authorisation which provide protection from interference, whilst also promoting competition and innovation



Dedicated
National
Licences
e.g. current
MNO licences

Dedicated
Local Licences
e.g. deployed
by a factory

Shared,
co-ordinated

Shared,
licence-exempt
e.g. Wi-Fi

Any questions?