



IoT Future 5G and Small Cells

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What 5G means to the UK

“Digital connectivity was once a nice to have, perhaps even a luxury. It is now essential. Connectivity creates new business opportunities, opens up markets and supports us in our everyday lives. For an economy that works for everyone, and as part of our modern Industrial Strategy, the UK must be a global leader in the next generation of mobile technologies and digital communications.”

Source: DCMS/HM Treasury: Next Generation Mobile Technologies: A 5G Strategy for the UK, March 2017

The 5G Vision: a unifying connectivity fabric

5G

Enhanced mobile broadband

- Multi-Gbps data rates
- Uniformity
- Extreme capacity
- Deep awareness



Mobile devices



Networking

Mission-critical services

- Ultra-low latency
- High availability
- High reliability
- Strong security



Automotive



Robotics



Health

Massive Internet of Things

- Low cost
- Deep coverage
- Ultra-low energy
- High density



Wearables



Smart cities

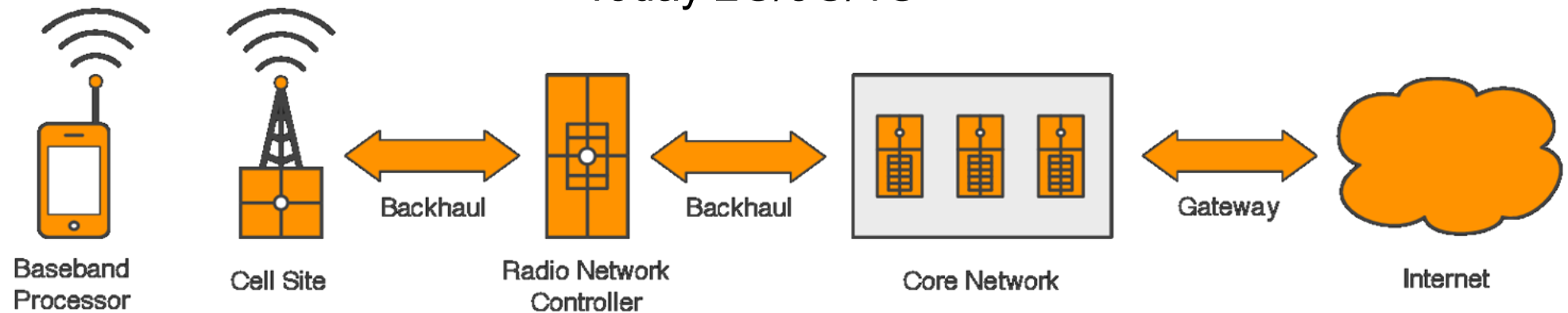


Smart homes

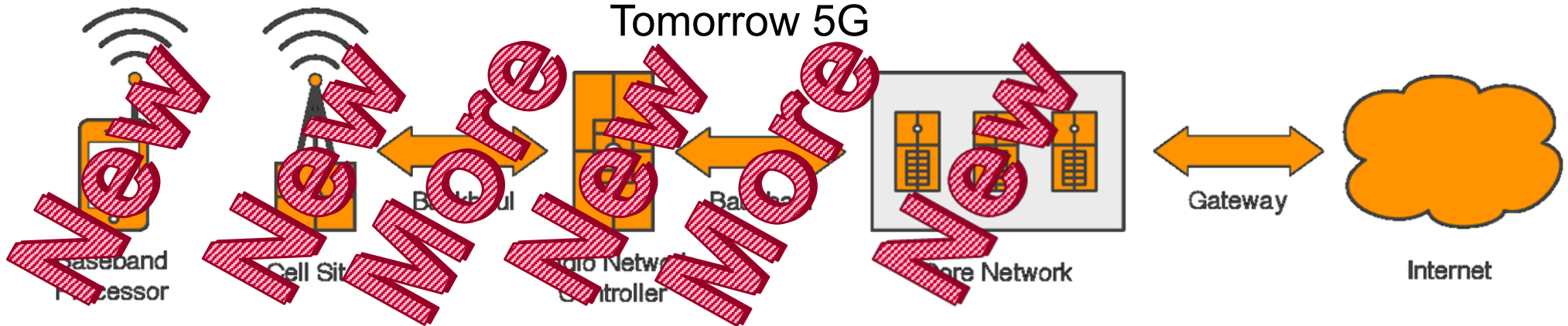
← Unified design for all spectrum types and bands from below 1GHz to mmWave →

What Has to Happen

Today 2G/3G/4G



Tomorrow 5G



How will it happen

Figure 7

Source: GSMA Intelligence

Mobile revenue outlook

\$ billion

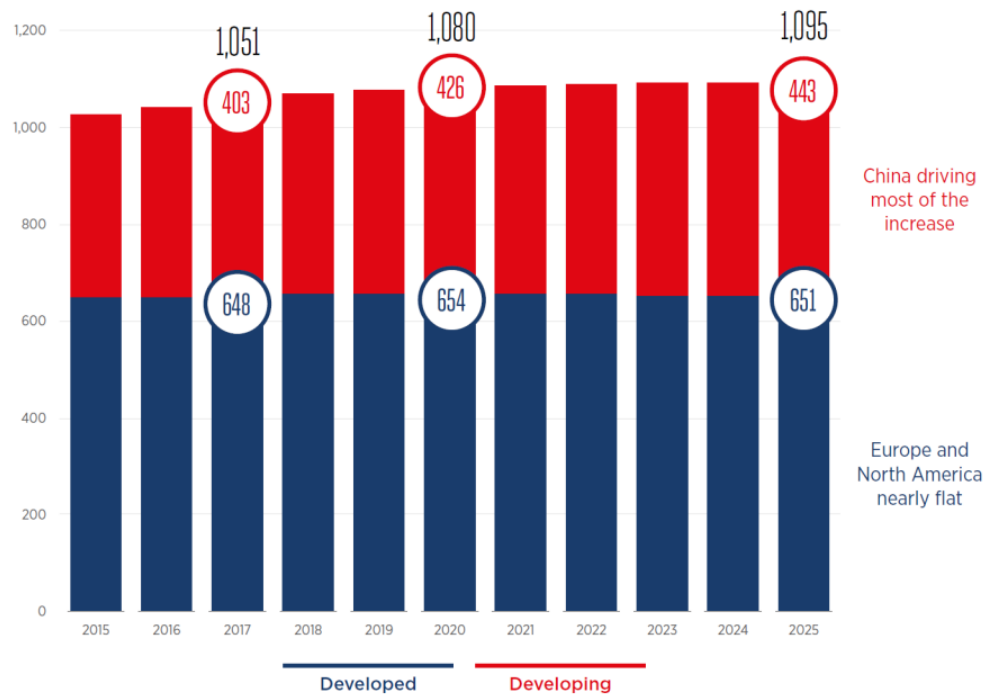
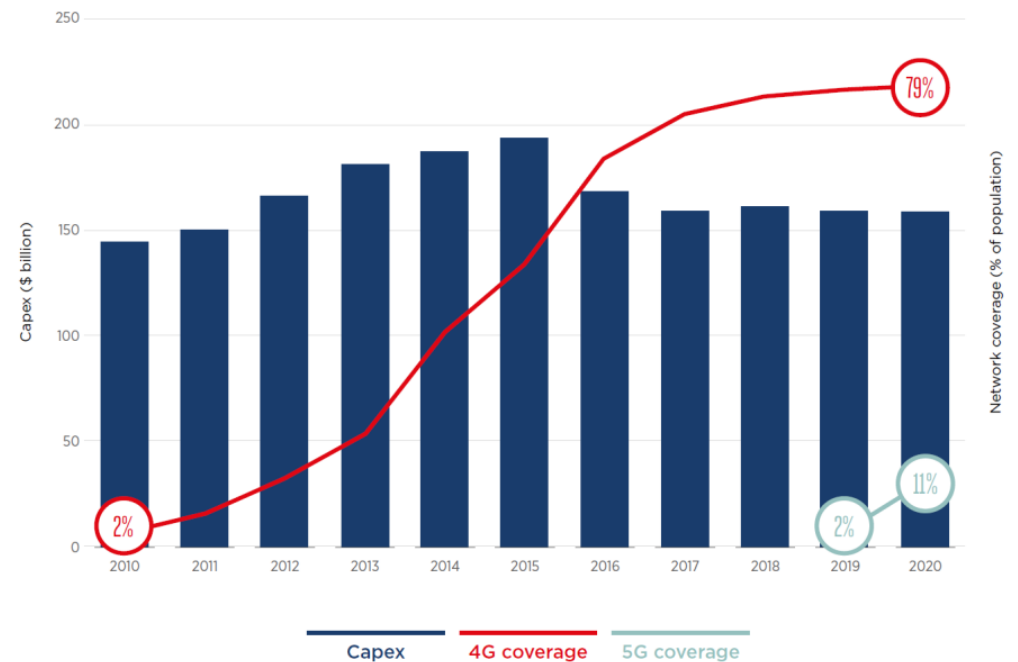


Figure 8

Source: GSMA Intelligence

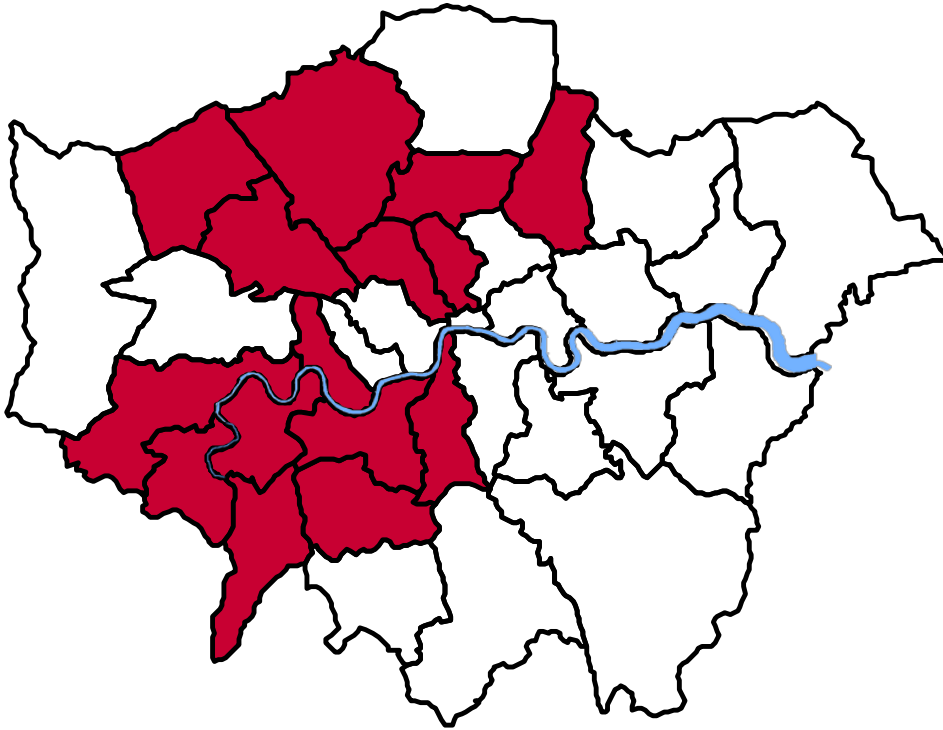
Global capex and network coverage



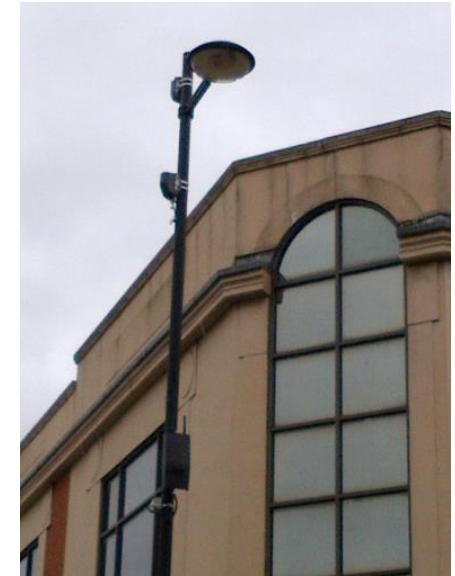
Source: GSMA – The Mobile Economy 2018

Further Reading: https://www.comreg.ie/media/dlm_uploads/2017/11/William-Webb.pdf

Street Assets



- ▶ Arqiva has won 14 concessions in London (300k+ locations)
- ▶ Currently developing two variants of small cell offering for different circumstances
 - ▶ Hosted location for isolated MNO requirement
 - ▶ Connected street infrastructure via dark fibre for concentrated multi MNO demand

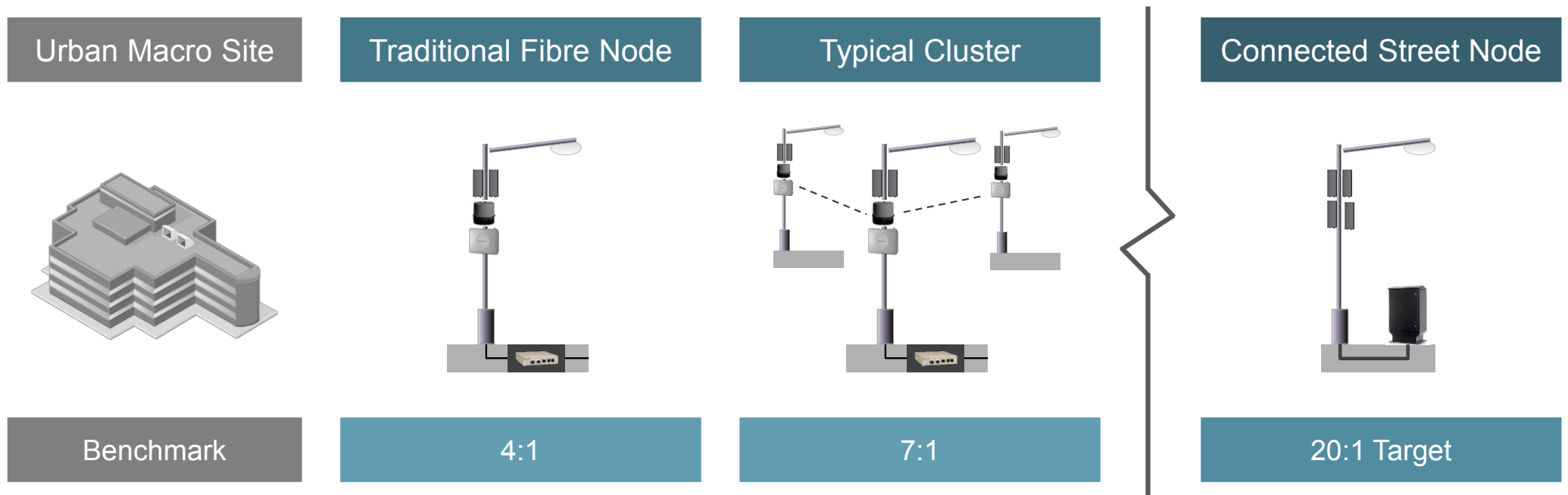


Inner London: Lambeth, Islington, Hammersmith and Fulham, Wandsworth, Camden

Outer London: Kingston, Waltham Forest, Brent, Merton, Richmond, Barnet, Haringey, Harrow, Hounslow

Small Cells – Business Case

Use of dark fibre transforms small cells TCO; proof of concept will enables validation and further improvement



Proof of Concept with Hammersmith and Fulham



- ▶ 5 routes
- ▶ Total length 16.2 km
- ▶ 75% existing duct (PIA)
- ▶ 25% new dig
- ▶ 2 Pols outside BT Exchanges

If we had a magic wand

amazon.co.uk prime

Deliver to UK MNO - Slough SL1 4DX

Arqiva ★★★★★ 987
Arqiva - 10 pieces of Hosted Location - Fibre Root nodes, height 8m



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