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Department for Digital, Culture, Media & Sport



the next generation mobile communication standard that is set to transform business and society

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Introduction

Context

5G is used to describe the fifth generation of mobile communications technologies. It is anticipated that it will deliver a step change of ultrafast, low latency (i.e. minimal delay), more reliable wireless connectivity that is able to support ever-larger data requirements, as well as wide-ranging new applications.

The path to a 5G future is likely to integrate existing and new technologies and require wireless networks to align ever more closely with fixed networks. This will take place in the context of a maturing 4G market, with many of the technological innovations that may be classified as 5G being introduced early on through evolution of the current 4G standards.

As referenced in the <u>5G Nation Report (2018)</u> created by the Digital Catapult, the UK 5G landscape is highly interconnected, gaining momentum and strong. The UK Government has been playing a growing part in accelerating this, alongside industry, through the work of the DCMS 5G Testbeds and Trials Programme (5GTT).



5G Landscape

Government lead

Telecommunications and digital policy are led by the Department for Digital, Culture, Media and Sport (DCMS), while the Industrial strategy and R&D are led by the Department for Business, Energy and Industrial Strategy (BEIS) and UK Research and Innovation (UKRI). Services dependent upon 5G fall under the responsibility of a range of different Departments.

Opportunities

Opportunities that 5G could enable include the development, trialling and use of new capabilities in core networks as well as interactions involving a range of wireless networks (potentially including future 5G radio networks, 2G, 3G, 4G, low power wide area networks, narrow band IoT, Wi-Fi and fixed wireless access networks).

Central government leads for activities involving 5G

BEIS	Connected and autonomous vehicles; energy, smart meters and smart systems; agri-tech; local industrial strategies; business sectors including retail, automotive, manufacturing, aerospace, infrastructure and construction; robotics; Digital Built Britain/BIM; OLS (digital health and care); AI
СО	Cyber security; infrastructure; Government Digital Service
DCMS	Telecommunications infrastructure; AI; creative industries; cyber
Defra	Agriculture (science and innovation); water; environment management; rural life opportunities
DfT	Connected and autonomous vehicles; future of mobility; road freight transport and the environment; traffic; transport technology (including digital); ports and maritime
DHSC	Digital health and care; ESN uses (ambulances)
DIT	Inward investment and exports (technology); freeports
НО	Cyber security; ESN/public safety uses
MHCLG	Local growth policy and initiatives

Central government led or supported initiatives

BEIS	<u>Clean Growth</u>	DCMS	National Data Strategy
BEIS	Made Smarter	DCMS	Audience of the Future
BEIS	Quantum Technologies	DCMS	Building Digital UK
BEIS	Prosperity from Space	Defra/BEIS	Global Food Security programme
BEIS	Healthy ageing programme	DfT	Digital Railways
BEIS/DCMS	Office for Artificial Intelligence	DfT	Smart Ports
BEIS/DFT	Future of Mobility Programme	DHSC/NHS	<u>NHSX</u>
BEIS/IPA	Centre for Digital Built Britain	DIT	Cross-Government Prosperity Fund
СО	Geospatial Commission	IPA	Transforming Infrastructure Performance
CO/DCMS	National Cyber Security Strategy	MHCLG	Local Digital Fund
DCMS	5G Testbeds and Trials Programme	GDS	GovTech Catalyst



Devolved administrations led or supported initiatives

Northern Ireland	Smart Belfast
Scotland	<u>Connected Tay;</u> <u>Mobile Innovation Living Lab</u> , Dundee; <u>5G RuralFirst</u> – 5GTT partners include Highlands Council and Perth and Kinross Council; <u>5G: strategy for Scotland</u>
Vales Cardiff Capital Region (CCR) City Deal; Swansea Bay City Region Deal; 5GRIT – 5GTT partner includes Monmouthshire Cou Council	

Local government led or supported initiatives

Basingstoke and Deane Borough Council	Innovation Centre in Basing View	
Bath and North East Somerset Council	<u>Smart Tourism testbed</u> – 5GTT partner	
Birmingham	Digital Birmingham	
Brighton and Hove Council	<u>5G Brighton testbed</u> – Digital Catapult partner	
Bristol City Council	Bristol is Open; Smart Tourism testbed – 5GTT partner	
Buckinghamshire County Council	<u>5G Terrestrial & Satellite Network infrastructure Test bed</u> – Satellite Applications Catapult partner; <u>Buckinghamshire</u> <u>Local Industrial Strategy</u>	
Cambridgeshire County Council	Smart Cambridge	
Dorset Council	BCP Council 5G Pilot	
Greater London Authority	Smarter London Together; Digital Greenwich; Arqiva and CityFibre pilot of 5G-ready small cell deployment	

Local government led or supported initiatives

Liverpool City Council	Liverpool 5G testbed – 5GTT partner	
Manchester City Council	City Verve; Greater Manchester Local Industrial Strategy	
Milton Keynes Council	<u>CityLabs</u>	
Newcastle City Council	5G North East consortium – North East LEP	
North Pennines	<u>5GRIT</u> – 5GTT partner	
Nottingham City Council	Smart Nottingham	
Orkney Islands Council	<u>5G RuralFirst</u> – 5GTT partner	
Oxfordshire City Council	Smart Oxford	
Warwickshire County Council	Smart City Mobility Centre	
West Midlands	<u>WM5G</u> – 5GTT partner; <u>Smart City Mobility Centre</u>	
Worcestershire County Council	Worcestershire 5G – 5GTT partner	

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DCMS recommends joining the **UK5G Innovation Network** (<u>www.uk5g.org</u>) to link into the activities of the growing 5G community in the UK.