

Press release: Three universities to develop £16m 5G test network

- First step in plan to make UK a leader in sector which could add up to £173bn to the economy
- Includes plans to deliver end-to-end 5G trial in early 2018

A world-class 5G technology test network will aim to put Britain at the forefront of the next wave of mobile technology – potentially adding up to £173 billion to the economy by 2030.

Experts from leading 5G research institutions at King's College London and the Universities of Surrey and Bristol, will be awarded £16m to develop the cutting-edge 5G test network which will see academic expertise and commercial leadership brought together to trial the technology and make sure people and businesses can enjoy the benefits sooner.

5G is expected to deliver reliable ultrafast mobile connectivity with the ability to process huge amounts of data and support complex applications predicted for tomorrow's mobile phones – for example, sending virtual reality 3D TV clips to mobile devices.

It could also be used in new technologies that have the potential to revolutionise society such as autonomous vehicles – for example, to make sure they can be used safely on our roads – or in advanced manufacturing and robotics, augmented reality, remote surgery, smart agriculture and in smart homes and cities.

Minister for Digital Matt Hancock said:

We want to be at the head of the field in 5G. This funding will support the pioneering research needed to ensure we can harness the potential of this technology to spark innovation, create new jobs and boost the economy.

We know 5G has the potential to bring more reliable, ultrafast mobile connectivity, with quicker reaction times and larger data capabilities, and I'm thrilled to announce King's College London and the universities of Surrey and Bristol have agreed to collaborate on this project.

This test network will trial and demonstrate the next generation of mobile technology and is the first part of a four-year programme of investment and collaboration in the Government's new 5G Testbeds and Trials programme.

The universities will work together to create three small-scale mobile networks which together will form the test network. Each network will have a number of the elements expected in a commercial 5G network – including mobile

signal receivers and transmitters and the technology to handle 5G signals – to support trials of its many potential uses.

The project will build on existing research and help to make the case for timely deployment of 5G in the UK. It will help make sure the country is ready to capitalise on a potentially huge global market for 5G products and services and create opportunities for British business to grow at home and abroad. It will also mark the first steps towards developing a new national 5G Innovation Network.

This investment is also aiming to deliver a 5G end-to-end trial in early 2018. This could be, for example, a trial in which a signal is sent from a mobile device, such as a phone or in a car, to a data centre and back again. This will test the capability of 5G to make an application or service work in a real-world environment.

Surrey, Bristol and King's are internationally renowned for their work on 5G and specialise in different aspects of the technology. The project will combine their strengths.

Rahim Tafazolli, University of Surrey's 5G Innovation Centre director, is the project lead and will be working with Dimitra Simeonidou from the University of Bristol and Mischa Dohler from King's College London to deliver the project. He said:

The University of Surrey's 5GIC, University of Bristol and King's College London are delighted to be delivering this initial project as part of the Government's new 5G Testbeds and Trials Programme. This investment will ensure that the UK continues to be world-class in 5G innovation and development through to commercial exploitation.

This exciting programme builds on significant investment and a strong foundation of 5G research and development across the three institutions. The programme will maintain and extend the UK's leadership position in the race to transform many aspects of everyday life and business through digital transformation.

Notes to editors

Media enquiries – please contact the DCMS News and Communications team on 020 7211 2210 or out of hours on 07699 751153.

- Other academic institutions, industry and local authorities will also be able to bid for further funding to be part of this programme from 2018/19 onwards. Further details on opportunities and the funding available will be published later this year.

- A new centre of 5G expertise has also been created in the Department for Digital, Culture, Media and Sport to drive forward this work.
- At Autumn Statement 2016, the Government first announced its intention to invest in a nationally coordinated programme of 5G Testbeds & Trials, as part of a £1bn package of announcements made to boost the UK's digital infrastructure.
- Of this funding, £740m from the National Productivity Investment Fund (NPIF), will be spent on two new programmes: the Local Full Fibre Networks Programme and a new programme of coordinated 5G testbeds and trials. These programmes will help to deliver next generation mobile services and full-fibre broadband networks.
- The Government's 5G Strategy set out the first steps to make the UK a world leader in the mobile technology and included a pledge to develop a 5G testing facility.
- The aim of the 5G Testbeds & Trials Programme is to make the UK an attractive place to test 5G applications and services, helping to ensure the UK secures an 'early mover advantage' in the development of new 5G applications and services and to support the timely deployment of 5G networks.
- 5G's full economic impact is difficult to predict at this early stage but there is emerging consensus that one of the main benefits will be in enabling new applications in a number of different sectors.
- For example, the GSMA estimates that the contribution of mobile to the global economy will be worth USD\$3.9 trillion in 2020, of which over 75% will be benefits to the wider economy that are enabled by mobile.
- Other recent reports have illustrated the potential gains from 5G. In particular: the Future Connectivity Challenge Group report suggests that UK leadership in 5G could result in the opportunity to create £173 billion of incremental UK GDP growth over a ten year period from 2020 to 2030; and
- IHS Economics / IHS Technology estimated by modelling industry investment and impacts on total factor productivity from expected use cases that 5G will enable USD\$12.3 trillion of global economic output in 2035.