Divisions Affected - All

DELEGATED DECISIONS BY CABINET MEMBER FOR COMMUNITY & CORPORATE SERVICES

16 JULY 2024

Contract Awards for the Department of Science, Innovation and Technology 5G Innovation Regions (England's Connected Heartland)

Report by Executive Director of Resources and Section 151 Officer

RECOMMENDATION

The Cabinet Member is RECOMMENDED to

(a) Delegate authority to the Executive Director Resources and Section 151 Officer in consultation with the Head of Legal and Deputy Monitoring Officer, to approve the award and entering into of two contracts for managed 5G private network services for each of the capital projects forming the project known as England's Connected Heartland (ECH). The combined contract's value will not exceed the value of the Department of Science, Innovation and Technology (DSIT) capital grant of £3.8m.

Executive Summary

1. This decision follows approval by Cabinet on 19th December 2023 to accept the DSIT grant of £3.8m awarded to Oxfordshire County Council for funding the ECH programme. This decision also authorised the use of a proportion of the gainshare funding held in a ringfenced account for the purpose of supporting digital infrastructure projects.

2. The two capital projects comprise a 5G Private Mobile Network (MPN) for Harwell Science and Innovation campus, and a 5G MPN for deployment along the new stretch of East West Rail between Bicester and Bletchley.

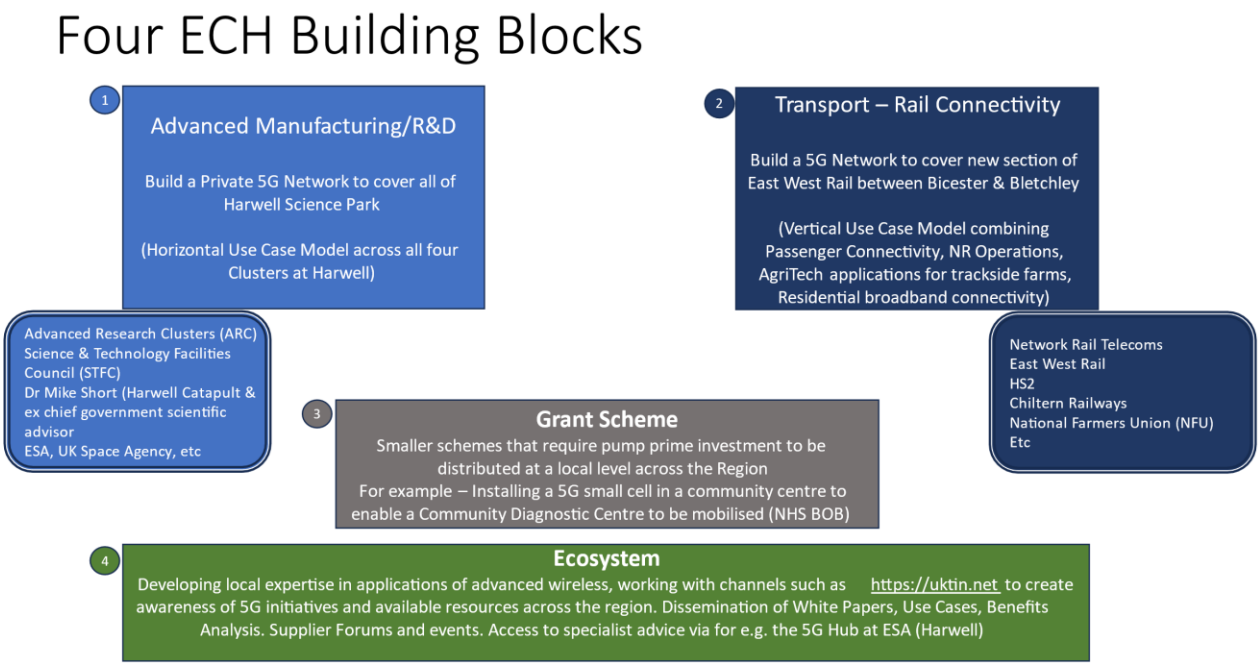
3. Both capital project requirements have been subject to an Open Procedure procurement. At the time of drafting this report, the Preferred Bidders are not known and selection of such will be subject to evaluation and moderation before taking the recommendation of contract awards to the Executive Director Resources and Section 151 Officer.

4. Both contracts will have one-off capital costs to be paid entirely by the DSIT grant funding. Both contracts will have ongoing service management costs to be paid annually. These costs are estimated to be c £150k per annum for each capital project. The programme expects to commit to these two projects being available for a minimum of three years, meaning the total expected drawdown of gainshare funding will be c £900k.

5. The programme aims to generate revenue from users of the services of each project which will mitigate/reduce the gainshare drawdown required and may enable the services to continue for up to seven years without requiring any further drawdown of gainshare funding. The core purpose of the programme is to establish a viable commercial model for each capital project such that future investment in this type of capability will happen without the need for public subsidy. It can be described as a 'build it and they will come' model where the demand for this connectivity can be aggregated to enable the business case for investment can be financially viable, along with demonstrating to the supply market that these are low risk viable propositions to bring to market. This is described in further detail below at paragraph 15.

6. For context, these two capital projects are supported by a Grant Award Scheme and an Ecosystem workstream. These are described below in Fig 1

Fig 1: ECH Programme Components



Context and Background

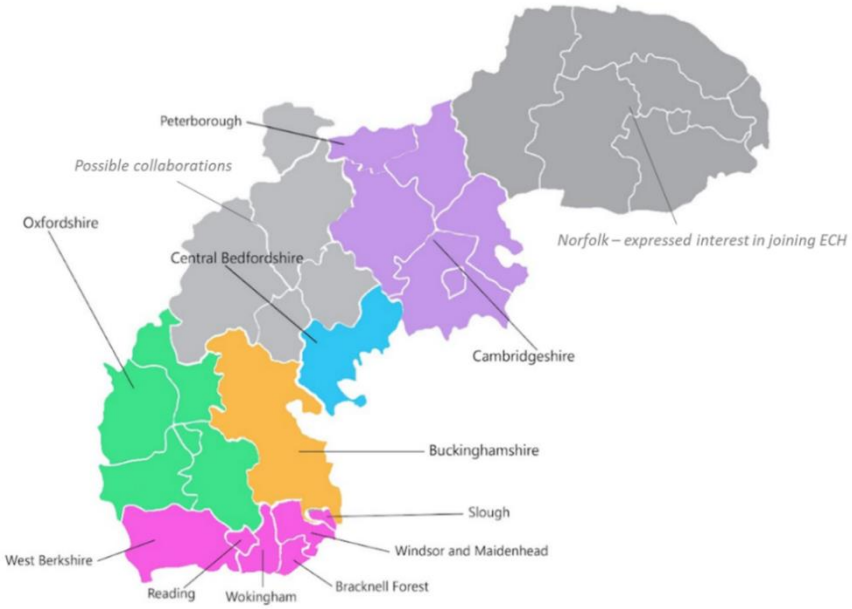
7. **Digital Infrastructure** comprises fixed broadband connectivity and mobile voice/data connectivity along with connected assets such as Internet of Things devices. Wide availability and access to good connectivity in the internet age is

critical for a huge array of public and private sector services to be delivered productively, and frequently can be linked to both clean economic growth and carbon reduction by mitigating the need for travel. Historically the central government department responsible for digital infrastructure was the Department for Digital, Culture, Media & Sport (DCMS). It is now the responsibility of the Dept for Science, Innovation and Technology (DSIT).

8. **Oxfordshire Digital Infrastructure Programme (DIP)** has been in place since 2014. The initial focus was fixing the lack of broadband infrastructure across Oxfordshire. The core project was known as Better Broadband for Oxfordshire which delivered access to superfast broadband for 100,000 homes and businesses over a period of six years. The delivery contract was constructed as a profit-share where an element of revenue earned is paid to the council, predicated on take-up of services by residents. This adoption rate has reached over 80% and allowed for DIP to accrue a fund known as gainshare which is ringfenced for further investment the council wishes to make in digital infrastructure. The programme has delivered several other projects since 2014, including Businesses in Rural Oxfordshire a Gigabit Voucher Scheme & GigaHubs. DIP has more recently focussed on improving mobile infrastructure as wireless connectivity becomes more strategically important, especially with the advent of 5G mobile.

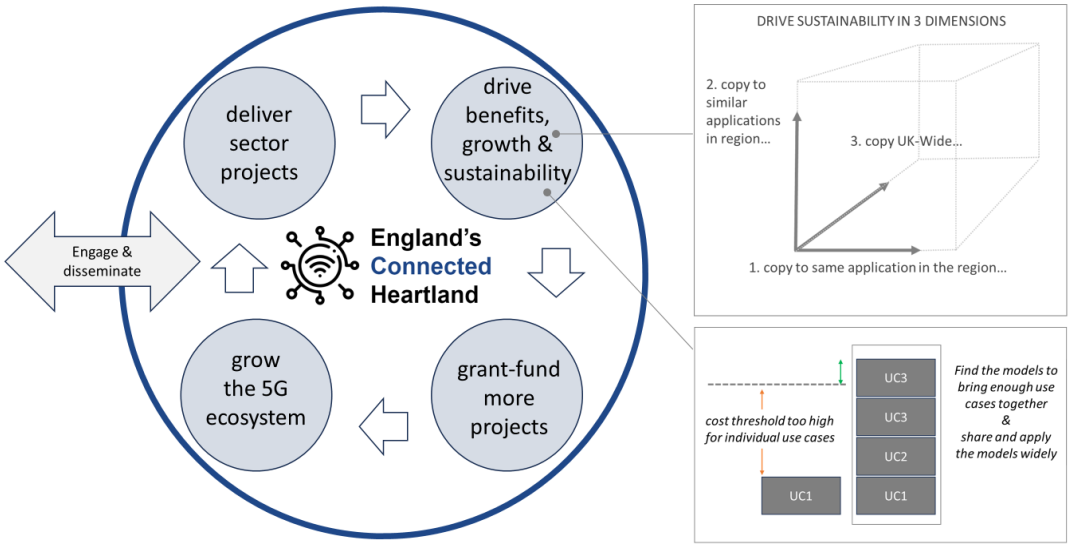
9. **England's Connected Heartland** is the regional partnership comprising the Local Authorities in the map below. The partnership is led by Oxfordshire County Council and is supported by a Memorandum of Understanding.

Fig 2: England's Connected Heartland



10. **UK Wireless Infrastructure Strategy** published in 2023 sets out the case for driving private and public investment in wireless infrastructure. The report concludes that 5G "'…will be the cornerstone of our digital economy…" where widespread adoption could see £159bn in productivity improvements by 2035. The DSIT 5G Innovation Regions (5GIR) is an intervention funded programme aimed at improving adoption in specific UK sector verticals. The ECH Advanced Manufacturing (Harwell) and Transport (East West Rail) projects are set to test and demonstrate commercial models that if successful can be widely replicated. This is represented in the diagram below.

Fig 3: Commercial Model Development



11. **Supplier Consultation**. Extensive informal consultation with suppliers has taken place prior to structured engagement in the form of supplier webinars, each attended by over 70 people representing over 30 suppliers. This was followed with publishing Prior Information Notices (PINs), one for each procurement.

12. **Stakeholder Engagement** has been widely undertaken over several months. This has been aimed at capturing requirements, testing demand & likely use cases, as well as establish preparedness for installation and integration with other ICT infrastructure and assets. This has included;
    - Harwell: Science & Technology Facilities Council (STFC), Advanced Research Clusters (ARC), Asset Management team, Estates, IT Management group, Security management team, and individual entities such as European Space Agency, SA Catapult, Moderna and others.
    - Rail Project: Network Rail, Network Rail Telecoms, East West Mainline Partnership, East West Rail Company, Chiltern Railways, England's

Economic Heartland, Dept for Transport, National Farmers Union and others.

13. **Functionality, Purpose, and Objectives of the projects**

(a) **Harwell Science & Innovation Campus:** With over 200 innovative enterprises across four clusters (Space, Energy, Health, & Quantum) located at Harwell, this is an ideal location to demonstrate how a private 5G network can provide a range of benefits. The approach seeks to overcome the 'who pays?' It is much more cost effective to deploy a single network that can be accessed by multiple entities than it would be for individual enterprises to stand up their own individual mobile private network (MPN). It should be noted that Harwell campus competes with similar science parks across the globe in locations such as Silicon Valley, Beijing, Singapore etc where this kind of connectivity is readily available. Currently there is no mobile network operator 5G coverage at Harwell at all and even the 4G mobile coverage is patchy. The plan for Harwell should also make it more likely that a public 5G network would be built by one or more MNOs as our ECH project will make infrastructure assets available for use. After the first year of operation, ECH will work with STFC and ARC to establish a process for billing and collecting revenue for users of the 5G MPN, most likely via existing ground rent/service charges issued to tenants.

(b) **Rail Project:** The 5G rail project seeks to resolve an entirely new commercial model to enable the rail industry to find a way of providing decent connectivity for rail commuters. This is a long-standing problem in the UK and stems from the same 'who pays' conundrum as described in the Harwell project**.** The ECH project is using the concept of stacking use cases each with potential revenue opportunities which when combined aims to reduce or remove the need for public subsidy. These revenue streams can be described as:

(1) Train Operating Company where the 5G MPN is made available via SIM card added to the train-top mobile antenna box which augments any MNO signal available on the route
(2) Network Rail where the connectivity can demonstrate the means of collecting the vast amount of data gathered onboard such as track condition sensors, trackside video of embankment conditions, onboard security CCTV etc.
(3) Network Rail maintenance yards such as the vast new facility being built at the intersection of HS2 with East West Rail.
(4) Agri-tech connectivity for farms.
(5) Residential Fixed Wireless Access (FWAS) broadband service to trackside communities.
(6) Business Park connectivity along the route.

Sustainability Implications

14. Digital infrastructure invariably enables communication that reduces the need for travel which both improves productivity as well as reducing carbon

emissions. The Harwell project will provide both aspects where greater collaboration is possible between Harwell enterprises and their supply chain and partner institutions, both within the UK and internationally. The rail project seeks to find a sustainable funding mechanism that will enable reliable rail passenger connectivity. This will in turn attract more people to using sustainable rail transport rather than vehicle commuting. Whilst the ECH rail project is very small in scale, if successful it could have an application much more widely across the UK's rail network.

Risk Management

15. The ECH programme has a detailed risk log which is continually assessed. The service outputs are external and do not impact on any services directly delivered by the council. The risks will primarily be concerned with diligent contract, budget, and project delivery management. Subject to contract(s) the bulk of delivery risk will be held by the successful supplier(s). The commercialisation aspect of both projects will become material during 2024/25 but the business case does not depend on this such that revenue collected is forecast as upside outcomes.

Financial Implications

16. The ECH programme is entirely funded though the DSIT grant funding of £3.8m and access to the digital infrastructure gainshare fund of £0.9m held by the council. This covers the minimum operational contract period 3 years post implementation.

17. There is sufficient grant for the two capital programmes £3.2m (£1.6m each) and Grant Award scheme of £0.6m and worst-case position regarding operational delivery costs of £0.9m. As such the projects bear no financial risk to the council and will be contracted via an open competitive tendering process and in line with value for money principles.

18. The ECH programme is leveraging our gainshare fund to secure c £17 external investment for every £1 of our money investment. An important aspect (and risk) of the programme is the current condition of the DSIT grant award that all invoicing for capital items (the purpose of the grant) must be submitted for payment by March 2025.

Comments checked by:

Drew Hodgson
Strategic Finance Business Partner - Resources
drew.hodgson@oxfordshire.gov.uk

Legal Implications

19. Both capital projects referenced in this paper have been supported by robust, compliant with the Public Contract Regulations procurements with input not only

from the procurement and legal teams, but also external legal services via DAC Beachcroft who have provided specialist contract and UK subsidy control advice. There will be further downstream legal input required in establishing mechanisms for the council to receive income derived from users of the network services. It is, for example, a possibility that the regional consortium of ECH is formed as a Joint Venture given the potential value in the commercial templates developed for both the Harwell and Rail projects.

Comments checked by:

Marina Lancashire
Legal Services Lawyer- Contracts
Marina.Lancashire@Oxfordshire.gov.uk

Lorna Baxter
Executive Director of Resources and Section 151 Officer

Contact Officer: Craig Bower, Programme Director, Tel: 07711 411744. craig.bower@oxfordshire.gov.uk

July 2024