

CABINET MEMBER DECISION

7 MARCH 2019

WORCESTERSHIRE 5G CONSORTIUM – EXTENSION

Relevant Cabinet Member

Dr K A Pollock

Relevant Officer

Director of Economy and Infrastructure

Recommendation

1. The Cabinet Member with Responsibility for Economy and Infrastructure is recommended to:

(a) note and endorse the work undertaken by Worcestershire Local Enterprise Partnership (WLEP), the Council and other partners in the successful delivery of the project by the Worcestershire 5G Consortium as part of the Department of Digital, Culture, Media and Sport's (DCMS) Phase One of the 5G Testbed and Trials programme;

(b) note the application for extension funding to DCMS made by the Council on behalf of the Worcestershire 5G consortium to extend the project timescales, scope and additional incurred costs, delivering further on the objectives set out in Phase 1;

(c) agree the proposed extension of the 5G project within the parameters as set out in this report; and

(d) authorise the Director of Economy and Infrastructure to finalise and agree the necessary agreements to progress and support that extension.

Background

2. Having been successful in its bid for Government funding to test and explore 5G (fifth generation) mobile technologies within the areas of Industry 4.0, Advanced Manufacturing and Security applications last Spring, the Worcestershire 5G Consortium has, for the past 11 months, been delivering the project as supported by Cabinet in April 2018.

3. The project now has the opportunity to build on the successes, by potentially extending the testbed and trials to expand on the learning to date, by extending the timescales, adding additional scope and incurring additional cost. An expression of interest has been submitted to DCMS to secure additional funding to cover an extended period and additional activities.

4. The Council will continue as the lead body of the local 5G consortium; whilst again no significant funding is required from the Council for the proposed extension, the additional funding from DCMS for activities to be undertaken by the Council and the funding from DCMS, to be redistributed to partners for their activity, would be required to be added to the Council's accounts in 2019/2020.

Summary of project to date

5. One of six Phase 1 5G Testbed and Trials projects selected by DCMS across the UK, the Worcestershire 5G consortium began the country's most comprehensive industrial 5G Testbed trial pioneering the concept of 'Industry 4.0' and seeking to demonstrate the impact the fifth generation of mobile networks could have on increasing industrial productivity.

6. The project has now built the fibre-supported '4G' and '5G' testbed infrastructure across the five sites in Worcestershire and linked back to the 5G 'core' at the University of Surrey; including the erection of a 25 metre telecommunications mast at Malvern Hills Science Park and local 'mobile edge computing' capability.

7. The indoor 4G network has been operational and all partners have started their use case trials, testing the capability of the network. In February 2019, the UK's first 5G industrial trial was launched on the testbed and was reported on extensively in national and international publications, providing positive exposure for the county and our ambitions.

8. As expected, the ground-breaking research and design nature of the project has created many challenges and an associated accumulation of knowledge, including resolving issues with transmission, interoperability between equipment and gaps within the supply chain. Partner QinetiQ has also undertaken a series of tests on the equipment and the network and are writing up their findings. These have all proved useful learning points and will be fed into the lessons learnt for the final report.

9. The final month of the project timeframe will concentrate on the 5G network tests and the collection of data from the 5G trials across the use cases, as well as developing the final project report for DCMS and preparing for the DCMS showcase in early April 2019.

10. The skills theme has been progressing locally throughout the project, with course material for September 2019 in the process of being developed. In December 2018, the scope of the skills theme was increased to undertake a national review of skills across the Phase 1 testbeds and with the engagement of wider industry; a workshop was held in London on 11 February to identify recommended actions, the outputs for which are now being documented. Finally, as a direct result of being involved in the consortium partners, Heart of Worcestershire College and Huawei have worked together to launch the Huawei ICT Academy at the college, one of only 14 in the UK.

11. Partners of the Worcestershire 5G Consortium comprise the Council, the University of Surrey, QinetiQ, Yamazaki Mazak, Worcester Bosch, Malvern Hills Science Park, AWTG, Telefonica, Huawei, Heart of Worcestershire College and British Telecommunications. The partners have been involved in a series of local, national and international events and engaged in wider activity to help build the 5G Ecosystem, from industry specific conferences and local business network meetings

to leading the development of the Midlands Engine Digital Board and a key stage at Huawei's Global Mobile Broadband Forum in London. The Worcestershire 5G project has established itself in the area of industrial applications of 5G and has enhanced the reputation of the county in line with our Open for Business ambition; the Project was 'Highly Commended' in 5G Leadership at the World Communication Awards 2018.

Overview of Extension proposals

12. In late 2018, DCMS identified the opportunity for the existing projects to apply for extension funding to their initial projects. Expressions of interest were submitted by the deadline in late January 2019 and are currently being discussed with DCMS.

13. Worcestershire's expression of interest includes propositions from all of the existing project partners; in addition, a number of additional potential partners were identified alongside potential use cases. These have been discussed with DCMS and the application is being reviewed.

14. The preferred project extension includes a move from the current 5G 'Non stand-alone' (5G NSA) to full 5G 'stand-alone' (5G SA) infrastructure, which would mean that the latest version of the network is fully 5G and not reliant on any 4G radio signal. This, combined with securing additional customer premises equipment, would allow for longer and deeper testing on the new network. The transition to 5G SA would also move the Testbed into a more sustainable model for transition to a commercial model. If DCMS prefer to approve a 5G NSA plan, the extension would likely be of shorter duration, complexity and lower cost, but potential benefits are not as high.

15. Other advantages of the extension would be that new 5G 'standards' are expected to be released during the first half of 2019/2020, which would allow for testing and trials on the latest network architecture, which would improve the experience and learnings of the businesses conducting the trials, such as Yamazaki Mazak and Worcester Bosch. The extension will also allow for the 'skills theme' to develop and for further operating models to be explored.

16. It is expected that the next stage, if the recommendations are agreed, would be an iterative process alongside DCMS to narrow the scope of the extension into a project of up to 12 months duration and requiring additional DCMS funding of up to £2.2m and the associated private sector match-funding.

17. The next steps following this recommended decision would be to continue with work to agree the final details of the proposed extension with DCMS during March 2019, work with partners to finalise the points and agree to an amended Grant and Collaboration Agreement during March, with the approved extension to commence from 1 April 2019.

Risk evaluation

18. The risks identified at the commencement of Phase 1 remain, the key points for the extension that are being managed include: ensuring the public and private partner grant split remains below 30% for the public partners (the Council, University of Surrey and Heart of Worcestershire College); the timelines to conclude the Grant

and Collaboration Agreement; ensuring only eligible spend is accrued against the grant, securing the required radio spectrum licences from Ofcom; controlling the spend and establishing the Programme Management and Technical expertise required for the extension; and management of partner expectation in the event use cases are not progressed. These risks are accepted and are being managed accordingly. If DCMS extension funding is not approved, the current project will be concluded without the extension.

Legal, Financial and HR Implications

19. The Legal, Financial and HR implications on the Council as the lead partner and accountable body for the WLEP are an extension to those in the original report to the Council's Cabinet in April 2018.

20. The amendments to the Grant Agreement and Collaboration Agreement in respect of any extension agreed by DCMS will be completed accordingly and are not expected to present any significant issues. Providing existing partners do not need to be withdrawn from the extension proposals.

21. The extension into 2019/20 would continue to be funded by DCMS and the private partners in accordance with the grant conditions; as a public body the Council is able to claim back 100% of its eligible costs incurred on the project. Partners will continue to submit their claims to the Council and will be paid from the Grant provided to the Council by DCMS.

22. Subject to funding agreement and once the value of the final grant determination is known (expected to be up to £2.2m), the DCMS income and matching expenditure will form part of the Economy and Infrastructure revenue budget in 2019/20 and Cabinet will be informed of this amendment as part of the normal Resources Report.

23. Since commencing the project, the core project and programme management, including technical, sector specific and commercial expertise has been challenging to resource and recruit to. This has therefore been sourced through a combination of recruitment to fixed-term contracts, management of existing resource, engagement of third parties through Matrix and Clients Direct Limited, procurements through recognised frameworks Crown Commercial and Espo, or through the 'In Tend' portal. Moving into the extension the provision of the core project management is being reviewed.

Privacy and Public Health Impact Assessments

24. No adverse privacy impacts have been identified during the planning of the extension; this will be kept under review as the project continues. It should be noted that during the planning process for the new mast to be erected at Malvern Hills Science Park, a number of health concerns were raised by members of the public, around Electromagnetic fields used by mobile telecoms in general and 5G.

25. Guidance on matters regarding the mast planning application were provided by the Department for Health in Winter 2017/18, and partners AWTG provided their declaration that the installation is designed in full compliance with the requirements of the radio frequency public exposure guidelines of the International Commission on

Non-Ionising Radiation Protection (ICNIRP). The mast was subsequently approved and erected.

26. All radio transmissions as part of the project are covered by three 12 month 'Non-Operational Development Licences for Science and Technology / Non-Operational Development' issued by Ofcom. At least one additional licence is required to cover the period of the proposed extension; this has been submitted to Ofcom and is being reviewed.

Equality and Diversity Implications

27. An Equality Relevance Screening was completed during the original project timescales. The screening did not identify any potential negative equality considerations requiring further consideration during the project. It was noted that whilst the project itself does not impact negatively on individuals with protected characteristics, that future 5G networks and applications do have the potential to impact both negatively and positively on individuals with protected characteristics, including availability of services and employment opportunities. Overall at this stage in the development of 5G networks and their applications, the potential benefits are thought to outweigh the potential negatives and continued consideration should be given to how 5G networks and digital technology could improve the way public sector services are delivered.

Contact Points

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Background Papers

In the opinion of the proper officer (in this case the Director of Economy and Infrastructure) the following are the background papers relating to the subject matter of this report:

Agenda, background papers and minutes for the meeting of Cabinet, Agenda Item 6, held on [19 April 2018](#).