

Item: 20

General Meeting of the Council: 8 October 2019.

Proposed Participation in 4/5G Mobile Innovation Project.

Report by Executive Director of Development and Infrastructure.

1. Purpose of Report

To consider Council participation in a UK Government Connected Communities Programme consortium bid to support the testing of a new model for the provision of 4/5G services in Orkney.

2. Recommendations

The Council is invited to note:

2.1.

That, in 2017, the Council, as part of a consortium of partners, successfully submitted a bid to the UK Government's 5G Rural Connected Communities project, resulting in the 5G Rural First trial.

2.2.

That the 5G Rural First trial, which delivered a number of innovative projects throughout Orkney, ended on 30 September 2019.

2.3.

That the Department of Digital, Culture, Media and Sport has announced a further competitive funding programme, the 5G Rural Connected Communities Project, with a closing date for applications of 25 October 2019.

2.4.

The opportunity for the Council to continue to be involved in 5G trials, with a number of potential partners having expressed a willingness to collaborate on a future bid.

It is recommended:

2.5.

That the Council should participate as a partner in a Connected Communities project bid with a focus on the provision of 100% 4 and 5G coverage for Orkney and trialling new commercial models for delivery of 4 and 5G services in rural environments.

2.6.

That powers be delegated to the Executive Director of Development and Infrastructure, in consultation with the Chair and Vice Chair of the Development and Infrastructure Committee and the Executive Director of Corporate Services, to finalise the Council's contributions to the Connected Communities project proposal for submission to the UK Government on the basis of a cost neutral position to the Council.

3. 5G Rural First

3.1.

In 2017, the UK Government supported the establishment of a test bed in Orkney to demonstrate 5G technologies and new business models to deliver connectivity for the UK's rural businesses and communities.

3.2.

5G Rural First was an innovation project involving a consortium of partners that included [REDACTED], the Council and a number of equipment suppliers. The trial ended on 30 September 2019.

3.3.

Projects delivered in Orkney include the following:

3.3.1.

Enhanced Mobile Broadband – testing different technologies to deliver connectivity to several communities, where nothing, or only very poor landline coverage, exists today. Small clusters in Burray, North Ronaldsay and Sanday have been established.

3.3.2.

Radio broadcast over 5G – testing the potential of 5G to broadcast nationwide in a more efficient manner. The BBC will only turn off terrestrial TV when alternatives can cover 99% of the population, so diverting their broadcast costs to 5G Mobile Network Operators could be a valuable contributor to the 5G rural business case. The BBC has undertaken a trial on Stronsay involving residents to trial 20 5G handsets to deliver radio services and Wi-Fi.

3.3.3.

Low Cost Disaggregated/Virtualised Small Cell – testing lower cost solutions for connectivity, which could help to improve the economics of rural coverage. BT has trialled high speed broadband clusters in four to five locations.

3.3.4.

LiFi Solar ‘Last Mile’ links – testing the viability of Light Fidelity (LiFi) in rural environments, by connecting two rural properties using solar panels as receivers. A brand-new technology, first to be tested in the field, this project has been led by the University of Edinburgh in partnership with a commercial offshoot PureLiFi. The trial has taken place on Graemsay involving residents from four properties.

3.3.5.

Legionella monitoring – Internet of Things (IoT) enabled remote monitoring of water in a school providing a more cost-effective solution for health and safety compliance. The Council has had temperature sensors installed at Kirkwall Grammar School to enable remote sensing of water temperatures throughout the building.

3.3.6.

Salmon Farming – farmed salmon is the UK’s second largest food export and therefore a major contributor to the national economy. Measuring parameters (pH / dissolved oxygen / salinity / temperature) inside and outside the salmon cages is vital as exceeded parameters can pose a serious risk of death to the fish stocks. Despite this being a technology heavy industry, deployment today is seriously constrained by limited connectivity. Toyness salmon farm (near Houton) has participated in the trial.

3.3.7.

Connected Wind Farm – Internet of Things (IoT) sensors have enabled high value equipment integrity monitoring as well as weather/wind speed monitoring. Installing this technology has helped identify potentially dangerous weather conditions, and enabled appropriate action to be taken, minimising impact. This could reduce insurance premiums, helping to improve the efficiency of wind farms. Hammars Hill has taken part in this trial.

3.4.

The Orkney trials have been technically successful, delivering connectivity to some of Orkney’s most remote locations. In addition, new technical innovations such as open roaming has been successfully tested and deployed.

4. Rural Connected Communities

4.1.

The UK Government has recently announced a new funding programme called the Rural Connected Communities (RCC) competition. It will fund up to ten 5G research and development projects to run over the course of two years.

4.2.

Successful projects will trial innovative use cases and technical solutions to build the business case for investment in rural connectivity and explore the capabilities of 5G to benefit rural communities. They will also help demonstrate demand from a variety of economic sectors and rural communities for 5G technologies.

4.3.

Connectivity applications are expected to show a combination of societal and economic benefits that will together create a stronger case for investing in the deployment of 5G infrastructure for rural areas.

4.4.

This competition is open to applications from consortia from across the UK. Consortia are likely to consist of a mixture of organisations including the public, private and third sectors, and academia.

4.5.

The closing date for the receipt of applications is 12:00 on 25 October 2019. Those shortlisted will be notified by 14 November 2019. They will then be interviewed between 25 November and 6 December 2019, with successful applicants notified during December 2019.

4.6.

Whilst costs are unknown at this stage, it is anticipated that they will be met by a mixture of public and private funding contributions. Council participation in being part of a consortia bid is assumed to be on a cost neutral basis.

5. An Orkney 5G Proposal

5.1.

Building on the success of the Orkney trials, there is an opportunity for Orkney to submit an application for the RCC competition.

5.2.

Having established a positive working relationship during the previous trials, the Council has been in discussion with [REDACTED]. They have expressed an interest in working with the Council in preparing a funding bid.

5.3.

It is proposed that further Orkney trials focus on two key outcomes:

- Provision of 100% 4 and 5G coverage for Orkney.
- Trial new commercial models for delivery of 4 and 5G services.

5.4.

Given the timescales outlined in section 4.5 above, it is recommended that powers be delegated to the Executive Director of Development and Infrastructure, in consultation with the Chair and Vice Chair of the Development and Infrastructure Committee and the Executive Director Corporate Services, to finalise the Council's contributions to the Connected Communities project proposal for submission to the UK Government on the basis of a cost neutral position to the Council.

6. Human Resource Implications

6.1.

Participation in the project may involve establishment of a new full-time temporary post of Project Officer for two years (the duration of the project).

6.2.

The Chief Executive has delegated authority to approve temporary posts of up to 2 years in duration. Given the potential start date of a project (January 2020), the Council will need to resource the Council's involvement within the next 3 months. Subject to a successful outcome, the Chief Executive will be requested to exercise delegation to put in place the temporary required staff resources to manage the project for a period of up to 2 years.

6.3.

Posts that are being directly employed will require to be job evaluated once the job descriptions and person specifications have been finalised, therefore post costs are unknown.

6.4.

The project officer role will be recruited to following the Council's established policy and procedure on Recruitment and Selection.

6.5

If a project officer is employed for a period of 2 years, they will be entitled to redeployment to other suitable alternative work at the end of their contract under the terms of the Council's redeployment policy, or will receive a redundancy payment if this is not possible.

7. Links to Council Plan

7.1.

The proposals in this report support and contribute to improved outcomes for communities as outlined in the Council Plan 2018 to 2023 strategic priority theme of Connected Communities.

7.2.

The Council Delivery Plan for the period 2018 to 2023 identifies a priority action at 1.8 to lobby for Superfast Broadband – delivery of interim solutions to fibre based Broadband in parallel with R100 commitments and input to the developing business case showing the impacts of not having affordable reliable full digital connectivity in the islands.

8. Links to Local Outcomes Improvement Plan

The proposals in this report support and contribute to improved outcomes for communities as outlined in the Local Outcomes Improvement Plan priority of A Vibrant Economy.

9. Financial Implications

9.1.

The Council's participation as a partner in the Connected Communities project is proposed to be on a cost neutral position.

9.2.

The report highlights that management of the project may require the establishment of a new full-time temporary post of Project Officer for the two years duration of the project although no job evaluation has been carried out so the cost of this has not yet been established. Severance costs require to be built into the budget if the post holder is employed beyond two years.

9.3.

Achieving 100% 4 and 5G coverage for Orkney and the trialling of new commercial models for delivery of 4 and 5G services in rural environments would be expected to have substantial economic benefits for rural businesses in Orkney.

10. Legal Aspects

If a partnership or a funding agreement is entered into to which the Council is to be a party, there will be legal obligations arising from such an agreement. If any such agreement purports to be subject to the laws of England and Wales, specialist legal advice would require to be obtained.

11. Contact Officers

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