



Dorset Local Enterprise Partnership

Dorset Smart Place Pilot
End of Project Report

Local Growth Fund (LGF)

PROJECT SUMMARY

This Smart Place Pilot Project has deployed a variety of wireless networks including an advanced 5G network. In order to demonstrate the capability of these networks a series of Smart Place use cases (challenges) have also been developed helping to tackle some of the key issues faced by the area. This includes use cases associated with reinvigorating the high street; improving security; supporting independent living; helping to address homelessness; improving air quality, addressing traffic congestion and monitoring public assets.

The primary aim of the project was to develop a series of wireless networks, including an innovative 5G network, to act as a digital testbed that could then be utilised by digital technology companies, including local SMEs, to test and develop new products. This is with the purpose of boosting the local economy and addressing local issues. The digital networks have all been delivered and are being utilised for the use cases. The testbed remains in place to enable more companies to develop products in the future,

BCP Council's Smart Place Programme is in three key stages. This Smart Place Pilot Project is the critical first stage and has proven that the technology works and can be utilised. The second stage of the programme is to take the knowledge and learnings from this pilot project and to apply them through the government funded, Boscombe Digital Connectivity Project. This project will act as a broader 'demonstrator' project. The final stage of the programme will be the widescale roll-out of 'Smart' technologies across the whole of the BCP Council region.

The main programme objective was to develop new opportunities for businesses to create innovative new technology products, leading to new jobs in the digital sector. This objective is being delivered.

Project start date	19 th November 2019
Project construction start date	N/A
Project completion date	31 st March 2021

CHANGE REQUEST

A single Change Request was submitted in July 2020 and approved by the Dorset LEP Programme Board. The request asked that the original 5G mmWave network programmed for delivery be deleted and that the £300k saving be used to develop Smart Place Use Cases ('Challenges') instead. This was to help showcase the benefits of the wireless networks and Smart Place technologies and to support companies during COVID.

OUTPUTS AND OUTCOMES:

The following outputs have been delivered around the Lansdowne area and for the project:

- Completion of a public Wi-Fi (5GHz) network;
- Completion of a 'Narrow Band – Internet of Things' (NB-IoT) network;
- Completion of a LTE-M 4G network;
- Completion of a 3.8 to 4.2GHz 5G proof of concept standalone network;
- Completion of a 'software-defined' 5G Core network;
- Extension of the ducting network within Holdenhurst Road;
- Connection to a new local commercial data centre;
- Completion of a network of Electromagnetic Field (EMF) monitors and an associated

EMF monitoring web-portal.

- Compliance with cyber security requirements;
- Testing and commissioning of the wireless networks;
- Working with the Council's Smart Place R&D Consortium members to highlight the opportunities around the use of the wireless networks and Smart Place technologies;
- Completion of seven Smart Place 'Challenges' (resulting from a Change Request)
- Deployment of four Smart Benches
- The showcasing of BCP Council's 5G and Smart Place capabilities at the 2020 World Smart City Expo event

Photographs of some of the installations are provided later.

A formal launch event for the project, highlighting its benefits to businesses, residents and communities will take place early in 2022.

The following key outcomes of the project were recorded within the Grant Agreement:

1. The creation of 200 new high-quality jobs in the Digital Sector within the first 2 years, with 700 created within 12 years;
2. Increased productivity in Bournemouth, Christchurch and Poole and Dorset and increased GVA
3. Support for innovation through the ability of businesses to test 5G applications in a real-world testbed
4. Delivery of more cost-effective services by the public sector through the use of 5G technology

In regard to Outcomes No. 1 and No. 2, jobs and productivity, a survey was conducted of local Dorset R&D Consortium partners to evaluate the impact of the project on job numbers. This was done as a proxy for what might be taking place in the wider Digital Sector*. 13 partners returned information that indicated that between April 2020 and March 2021, nine new jobs were created, simply within the R&D consortium. This equates to a boost to the local economy of £450k GVA per annum, against a background of the impact of COVID-19. Assuming these jobs are retained, over 10 years this equates to a Benefit to Cost Ratio (BCR) of 2.71 based upon the £1m investment. This represents high value for money. It is intended that the job survey among R&D partners is conducted every six months to enable ongoing monitoring.

In regard to Outcome No. 3, support for innovation, seven Smart Place Challenges have been undertaken utilising the 5G network and other wireless networks. These were:

1. Improving security;
2. Attracting people back to the High Street;
3. Providing assistive living devices to help monitor vulnerable people;
4. Monitoring air quality;
5. Helping to tackle homelessness;
6. Monitoring single occupancy vehicles (to help address traffic congestion)
7. Public asset monitoring

These challenges have involved 11 different companies, including many local SMEs, as well as international companies. Videos and other materials are being produced to showcase the details of the Smart Place challenges and the companies that have been involved in developing the solutions.

The 5G network and the Smart Place 'open' ecosystem, were promoted as part of the 2020 World Smart City Expo. This has led to additional companies joining BCP Council's Smart Place

R&D Consortium.

In regard to Outcomes No. 4, delivery of more cost-effective services by the public sector. Of the seven challenges the single occupancy vehicles challenge and the reinvigorating the high street challenges have both involved 5G technologies. The other challenges have utilised other wireless technologies. The assistive living, improving security, air quality and asset monitoring proof of concept challenges have all highlighted the potential for improving these aspects of public services. The next step will be to develop these projects further, typically as part of the imminent Boscombe Towns Fund project.

BENEFITS REALISED TO DATE

- Nine new jobs have already been created within partners of the R&D consortium, leading to a GVA increase of £450k to the local economy.
- There are now over 60 businesses involved in BCP Council's Smart Place R&D Consortium.
- The Smart Place proof of concept projects (challenges) are already highlighting how Smart Place technology has the potential to help service providers deliver better and more cost-effective services.
- The pilot project has been very helpful in highlighting the ambition and delivery capability of BCP Council's Smart Place programme, particularly within central government.

FINANCES

£1,000,000 was awarded, and all money was spent.

£330,000 of match funding was received. This was made up of: £65,500 private sector, £219,200 public sector, £45,300 third sector.

The mmWave element of the project, budgeted at £300k, was removed. Through a Change Request, the money was instead invested in the development of the innovative Smart Place Challenges. The benefits of this £300k reinvestment were significant. An additional eleven R&D Consortium companies, including a number of local start-ups and SMEs, were able to be engaged in the development of bespoke solutions to key local challenges.

LESSONS LEARNT

There was a slight delay of around 3 months to the commencement of the project, which was beyond the control of the project team. The delivery timeframe therefore became very tight, which was exacerbated by the impact of COVID on supply chains and delivery timeframes. A slightly longer project delivery period would therefore have helped. Nonetheless, a very technical and highly innovative project has been successfully completed to budget.

COVID-19 and related restrictions affected the development of the Challenges, particularly around stakeholder and end-user engagement. This was mitigated as much as possible by proactive solution development by the vendors.

Supply chain issues were also significant but were mitigated by early vendor engagement and efficient procurement.

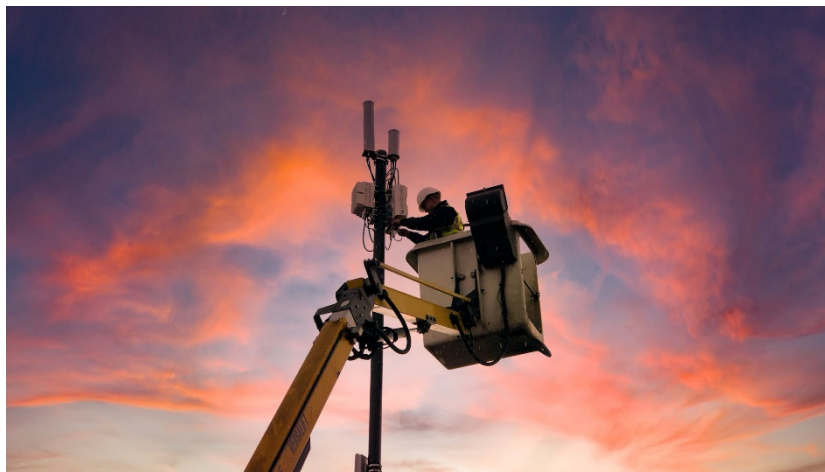
SUCCESS STORY

Involvement with the R&D Consortium has helped significantly in raising the profiles of some of the partner companies. The female CEO of one of the companies has been nominated as Tech Entrepreneur of the Year (Tech South west Awards 2021) and is due to be featured in a

BBC article. Her company has also been shortlisted as South West Technology Company of the Year (under £5m revenue). A CEO of another company has been awarded International Indian of the Year, helped by work undertaken as part of BCP Council's Smart Place programme.

BCP Council's Smart Place programme is highly regarded within government. BCP Council has been recognised as an exemplar authority by the National Cyber Security Centre in regard to its approach to Smart City cyber security. BCP was the first UK 'city' to feature in the Department of International Trade's Smart Cities showcase. The deployment of what is believed to be the first 'standalone' 5G network in the UK is of considerable interest to the Department of Digital, Culture, Media and Sport.

BCP Council has been shortlisted by the Local Government Chronicle as Smart City of the Year.



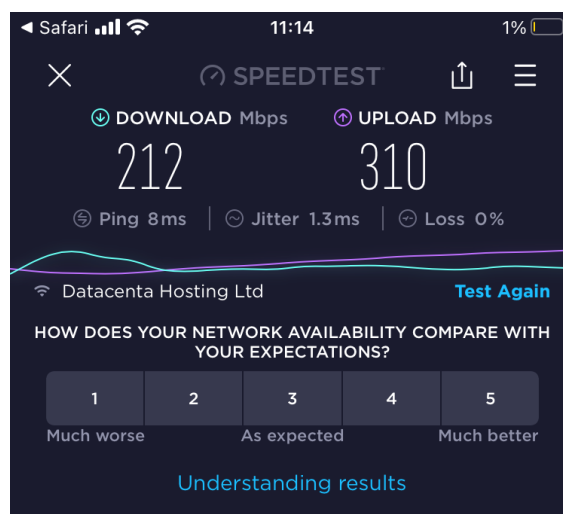
'Standalone' 5G and 4G units being installed at the Lansdowne



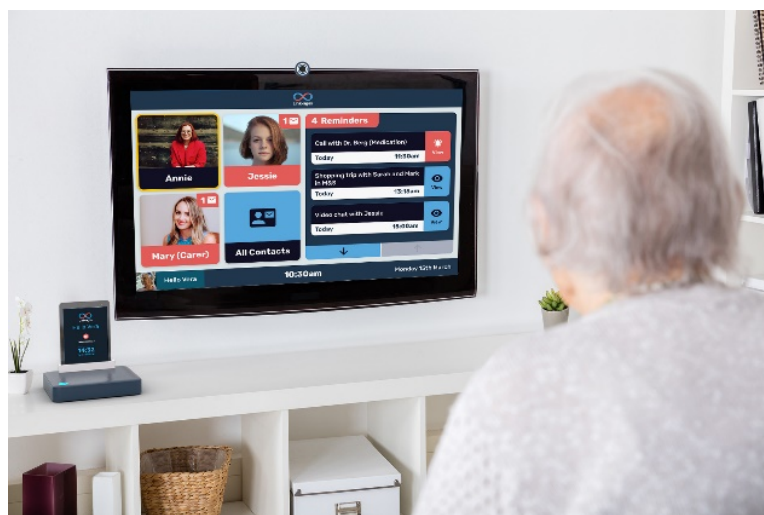
Ducting being installed in Holdenhurst Road



An electromagnet Field (EMF) monitor continually monitoring emissions from our 5G and other wireless installations



A broadband speed test conducted on Wi-Fi equipment at the Lansdowne



A client using the assistive living technology

There has been continued growth of the Smart Place R&D Consortium, which now stands at over 60 members.

Many internal Council departments not involved with any of the Smart Place Challenges have seen the innovation and value-adding potential of the technology and have since approached the Smart Place team to facilitate working together with Consortium members on future projects.

BCP Council has received £2.5m of government funding, as part of its Towns Fund, to roll out its Smart Place programme across the Boscombe area. The bid for this funding was enhanced by being able to demonstrate the successful deployment of 5G and wireless technologies, along with the beneficial digital solutions, as part of the Smart Place pilot project.

There are a number of conversations currently taking place with investors seeking to invest in various aspects of BCP Council's Smart Place programme.

Dorset LEP

Laura Zisa-Swann
lzisa@bournemouth.ac.uk
07708 510464
www.dorsetlep.co.uk

Bournemouth, Christchurch and Poole council

Adrian Hale
Adrian.hale@bcpcouncil.gov.uk
07745 331139
www.bcpcouncil.gov.uk