



ADUR & WORTHING
COUNCILS

Adur Cabinet Member for Regeneration
and Strategic Planning Worthing
Cabinet Member for Regeneration

Date 8 November 2023

Decision to be taken on or after
16 November 2023

Key Decision Yes

Ward(s) Affected: All

BEACH bid

Report by the Director for Sustainability & Resources

Executive Summary

1. Purpose

- This report sets out an opportunity to utilise grant funding to deploy mobile technology in Worthing town centre and beachfront areas to improve mobile network coverage and capacity to support the visitor economy.

2. Recommendations

- 2.1.** To approve the virement of grant funding in the sum of £202,296 made available by DSIT (Department for Science, Innovation and Technology) administered through its ONE (Open Network Ecosystem) competition to be used for implementing the BEACH (Beach Energy efficient Access Clusters for High demand) project and amend the budget accordingly, and for that budget to facilitate accurate reporting for the receipt and utilisation of funds.
- 2.2.** Delegate authority to the Director for Sustainability & Resources to enter a collaboration agreement with West Sussex County Council and Worthing Borough Council for the delivery of the project and any other contract required to deliver the project within the agreed budget envelope.

3. Context

3.1. Background

- 3.1.1. As councils, we play a fundamental role in shaping our digital future by lowering barriers to entry for commercial investment, creative pathfinding with private and public partners, and leading on sustainable digital placemaking. Working together, local authorities across West Sussex have already successfully accelerated telecoms commercial investment in recent years and are continuing to work with the market and with the Government to increase fibre and mobile infrastructure.
- 3.1.2. The Council understands the importance of high-quality connectivity and wants to ensure it is future-ready, capable of underpinning a strong and vibrant economy that attracts businesses and people to visit, live and work in Worthing. Working with West Sussex County Council (WSCC), Worthing Borough Council (the council) supports the countywide Digital Infrastructure Strategy in its ambition to ensure that West Sussex has the digital infrastructure needed to support our economy to thrive, to improve our quality of life and to protect our natural environment.
- 3.1.3. Worthing benefits from high-quality fibre infrastructure; however, its mobile service quality is poor in comparison and demand for capacity at peak periods is also unmet. Mobile network coverage is stretched by the fluctuating demands of increasing numbers of users. As a result, the experience of getting online and making calls can be either impaired or impossible, and online business transactions outdoors fail.
- 3.1.4. This innovative project aligns with our principles and missions as part of [OurPlan](#)
 - 3.1.4.1. Reliable 4G and 5G networks can bridge the digital divide by providing high-speed internet access to underserved communities. This encourages greater participation in the digital economy and access to online education and telemedicine services
 - 3.1.4.2. Robust 4G and 5G networks empower communities to adapt to various challenges, from economic shifts and health crises to technological advancements. They facilitate communication, access to information and services, and the deployment of innovative technologies that enhance communities' overall resilience and adaptability.

3.1.4.3. Resilient 4G and 5G are well-suited for the Internet of Things (IoT) and machine-to-machine (M2M) communication, allowing for adaptability in various applications such as environmental monitoring, high-density urban infrastructure, and footfall monitoring, providing better data on resource utilisation, pollution levels, traffic patterns, and more. This data empowers decision-makers to respond effectively to changing conditions, implement sustainable practices, and improve the overall quality of life in all environments.

3.1.5. This project will support the delivery of WBC priorities. Having a resilient and reliable mobile network can significantly assist with community wellbeing, especially among young people, by facilitating access to education, healthcare, economic opportunities, and social connections. Additionally, it enhances community safety through improved emergency services, safety apps, surveillance, and disaster management. These technologies are integral to building resilient and thriving communities in the digital age.

3.2. **Funding Award**

3.2.1. The BEACH project has been developed by WSCC with Dense Air Ltd, a mobile network-neutral host which is leading the consortium. Other consortium partners include technology providers Radisys UK Limited, VM Ware Limited, Sitenna Limited and the University of Glasgow.

3.2.2. The project has been successful in bidding for funding through DSIT's ONE competition which will support the implementation of energy-efficient Open RAN mobile networks that respond and scale up to increasing demand from users in High Demand Density (HDD) environments when many users are trying to access mobile networks at the same time e.g., on a busy beachfront, at an event, around transport hubs etc. HDD environments are some of the most difficult environments for the performance of any network. The ONE competition is funding deployment into these HDD environments along the seafront and in the town centre to enhance network capability, provide improved 4G/5G mobile service and accelerate commercial deployment of 5G services in the future.

3.3. **An Innovation Project**

3.3.1. This vanguard project will showcase the county's open innovation, open asset and connected places ambitions as outlined in WSCC's Digital Infrastructure Strategy. It will improve mobile connectivity for Worthing residents, businesses, and visitors in specific high footfall

areas across the town centre and beachfront during high usage during peak seasons and events.

- 3.3.2. Beach will create a scalable cellular network that can be shared by mobile network operators (MNOs) and hosted on local authority-owned assets. Shared infrastructure negates the need for individual MNOs to locate cellular equipment in multiple locations across the town, reducing unnecessary planning applications made to the authority and providing a manageable street scene.
- 3.3.3. The project also serves as an enabler, opening up the potential future public sector innovation in the public realm. For example, it could be used as a platform for citizen Wi-Fi internet access or improved communications for mobile council workers or even Internet of Things (IOT) environmental or traffic monitoring devices etc. Intelligent power management across the network will enable it to flex to meet peak demand and reduce power in times of low demand resulting in energy efficiencies in line with the council's net zero ambitions and supporting the county-wide agenda to de-carbonise by 2030.
- 3.3.4. A mobile phone app will be developed to support the council's 'Time for Worthing' brand providing information and visitor and business connector events/initiatives as well as digital offers and initiatives.
- 3.3.5. The project will work with DSIT to share learning that can be replicated across West Sussex and other UK coastal communities. The BEACH project aims to de-risk further commercial investment in improving the coverage and capacity of Worthing's mobile network.

4. Issues for consideration

4.1. Project Delivery Team

- 4.1.1. The consortium is led by Dense Air Ltd, which has a proven track record with Government wireless network projects.
- 4.1.2. The BEACH consortium comprises several technical partners and West Sussex County Council.
- 4.1.3. Worthing Borough Council is a critical delivery partner that will work with WSCC to co-design sensitive and future-ready installations of street furniture for the siting of the cellular network to support potential business, community and public sector use cases. These will typically use the improved network performance to support: outdoor digital transactions eg at events, outdoor trading; the potential deployment of public realm sensors eg environmental monitoring etc; and more

effective delivery of council services.

4.2. Timelines

4.2.1. The timelines for the project are as follows:

- October 2023 - Project start and mobilisation
- January 2024 - Design starts
- Jan 24 - Jan 25 – Siting of assets
- March 2025 - Project complete

4.3. Post Project

4.3.1. Following the completion of the project, infrastructure will remain in situ, continuing to provide additional commercial coverage and capacity. It is hoped that additional commercial investment by telecom operators will extend networks even further by continuing to use street furniture as open assets.

4.3.2. During the project, the council will work with partners to design the ongoing commercial operation and maintenance of the digital infrastructure (eg street assets, cells, fibre and internet connectivity) and the app (Time for Worthing). The council does not expect any additional ongoing liability for the commercial infrastructure.

4.3.3. An app is being developed to support the project as it will provide invaluable insight into network traffic performance across the new technology and assist with the benefits realisation. We are adding to the base app design in a way which minimises costs by ensuring it links directly to the Time for Worthing website and becomes an app that residents and visitors will want to download and use during and after the project has ended. The potential to create a future income stream via a membership/payments system will be built into the back end of the app to ensure a potential revenue stream to ensure the longevity of the application.

5. Engagement and Communication

5.1. WSCC is leading the development of the communications plan, working with the council in partnership with respect of deployment in Worthing.

5.2. Dense Air Ltd will lead the consortium communications plan with DSIT and consortium partners.

- 5.3. Engagement by the council with business communities will be key to supporting the development of connectivity use cases.

6. Financial Implications

- 6.1. This is a fully funded project through DSIT funding. The WSCC Digital Infrastructure Team will manage the project as a consortium partner and pass-through funding to the council from the lead partner, Dense Air Ltd. A collaboration agreement will be in place between WSCC and the council to facilitate this.
- 6.2. Overall, the council will receive funding of £202,296 towards the costs of resourcing this project. This will fund the costs associated with taking this initiative forward. The app development will be funded by WSCC through its own DSIT funding as part of the BEACH consortium.
- 6.3. Under our financial regulations, the cabinet member can approve up to £250,000 budget virements.

7. Legal Implications

- 7.1. Any grant funding received must be spent in accordance with the grant funding conditions agreed with the lead partner, the council's Collaboration Agreement with WSCC and the council's Contract Standing Orders.
- 7.2. Under Section 111 of the Local Government Act 1972, the council has the power to do anything calculated to facilitate, or which is conducive or incidental to, the discharge of any of their functions.
- 7.3. Section 1 of the Localism Act 2011 empowers the council to do anything an individual can do apart from that specifically prohibited by pre-existing legislation.
- 7.4. Section 3(1) of the Local Government Act 1999 (LGA 1999) contains a general duty on a best-value authority to make arrangements to secure continuous improvement in the way in which its functions are exercised, having regard to a combination of economy, efficiency and effectiveness.
- 7.5. Section 1 Local Government (Contracts) Act 1997 confers power on the council to enter into a contract to make available assets or services for the purposes of, or in connection with, the discharge of the function by the council.
- 7.6.

Background Papers

- [WSCC Digital Infrastructure Strategy](#)

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Sustainability & Risk Assessment

1. Economic

- 1.1. A good 4G and 5G network infrastructure can improve productivity, stimulate innovation, and support the growth of various industries. It can also enhance the overall quality of life by enabling better access to education, healthcare, and digital services. These factors, in turn, contribute to economic growth and competitiveness on a national and global scale.
- 1.2. **Increased Productivity:** High-speed and high-capacity mobile networks allow businesses to access and transmit data quickly. This can lead to increased productivity, as employees can work more efficiently and make better use of their time. For example, remote workers can participate in video conferences, download large files, and access cloud-based resources with minimal latency.
- 1.3. **Smart Cities:** 4G and 5G networks are crucial in developing smart cities. These networks enable the implementation of smart infrastructure, such as connected transportation systems, energy-efficient buildings, and real-time data analytics for urban planning.
- 1.4. **IoT and Industry 4.0:** These networks are essential for the Internet of Things (IoT) and Industry 4.0. IoT devices and smart factories require fast and reliable connections to transmit data and receive commands. This can lead to improved automation and efficiency in manufacturing and logistics, reducing operational costs.

2. Social

- 2.1. **Social value:** Fast 4G and 5G networks help improve communication, increase access to information, support remote work and learning, promote social inclusion, enhance emergency services, foster social innovation, and

enrich entertainment and culture. These networks empower individuals and communities, contribute to personal well-being, and enhance the overall quality of life in society.

- 2.2. **Digital Inclusion:** High-speed networks help bridge the digital divide, ensuring that more people, especially in underserved or rural areas, can access the internet and its benefits. Access to essential online government services, including social support programs, healthcare services and more, become more accessible to residents and visitors.
- 2.3. **Access to Information:**
 - 2.3.1. High-speed internet enables access to online educational resources, which can benefit students of all ages.
 - 2.3.2. Telehealth services and health-related information are more accessible, allowing people to make informed decisions about their health and well-being.
 - 2.3.3. People can stay updated with current events, access news, and stay informed about local and global issues, leading to a more informed citizenry.
- 2.4. **Entertainment:** People can enjoy streaming services, music, and video content that contribute to their leisure and entertainment, while fast and resilient infrastructure ensures continued connectivity to share social media content while at high footfall events like bonfire nights.

3. Equality Issues

- 3.1. **Digital Inclusion:**
 - 3.1.1. Access for underserved communities: High-speed networks can help bridge the digital divide, ensuring that rural, low-income, and marginalised communities have equal access to the internet. This can reduce disparities in access to education, job opportunities, and essential services.
 - 3.1.2. Telehealth Services: These networks enable telemedicine, allowing people, regardless of their location, to access healthcare services. This can address healthcare inequalities, especially in remote areas with limited healthcare facilities.
 - 3.1.3. Access to Social Services: Individuals with disabilities or those who face mobility challenges can access social services, support networks,

and information more easily through online platforms, promoting social inclusion.

4. Community Safety Issues (Section 17)

- 4.1. **Video Surveillance and Monitoring:** 4G and 5G networks support high-quality video streaming, enabling surveillance cameras in public areas without requiring costly fibre connections to each camera. These cameras can deter criminal activity and provide crucial evidence in case of incidents.
- 4.2. **Smart Traffic Management:** High-speed networks enable smart traffic management systems that can improve road safety by monitoring traffic conditions in real-time and optimising traffic flow during emergencies.
- 4.3. **Internet of Things (IoT) Sensors:** IoT devices connected to 4G and 5G networks can monitor environmental conditions, such as air quality and water levels. This data can be used to predict and mitigate environmental hazards.
- 4.4. **Enhanced Communication for First Responders:** First responders can access real-time data, maps, and resources via their mobile devices, improving their situational awareness and decision-making during emergency situations.

5. Human Rights Issues

- 5.1. **Digital Divide:** Unequal access to high-speed networks can exacerbate existing inequalities, leaving marginalised communities with limited access to information and the ability to exercise their human rights.
- 5.2. **Economic Disparities:** Unequal access to high-speed networks can exacerbate economic disparities, as those without access may miss out on job opportunities, education, and social services.
- 5.3. The impact of good 4G and 5G networks on human rights is complex and depends on how these technologies are used and regulated and how their accessibility is ensured. While they offer significant potential for protecting and promoting human rights, they also come with challenges related to privacy, surveillance, and information control. Safeguarding human rights in the digital age requires a careful balance between leveraging the benefits of these networks and protecting individual freedoms and privacy. Regulatory frameworks, transparency, and digital literacy are critical in addressing these issues

6. Environmental

- 6.1. **Energy Consumption:** This innovative project uses the latest technology, which would allow the network to “breathe” This would allow energy usage to flex up when demand is high and flex down when the demand is reduced; this is expected to have a significant positive environmental impact when

comparing how existing technology is being used.

- 6.2. The environmental benefits that 4G and 5G can unlock are significant and need to be set in the wider context of how networks are deployed, energy efficiency across the infrastructure, and the extent to which they enable sustainable practices and resource management. Use cases such as using energy-efficient technologies, environmental monitoring, and responsible e-waste disposal can be enabled by this new underlying infrastructure which can have positive outcomes for the environment

7. Governance

- 7.1. This project supports the WSCC Digital Infrastructure