



Cornwall as a region has been at the forefront of EU and national funded programmes to develop and implement integrated strategies for digitising rural areas. This has been delivered at a regional level through partnering with local stakeholders from across the public and private sectors to address issues of rural isolation, ageing population and low business productivity. Key initiatives include digital inclusion training, enabling digital hubs within communities and e-health innovation.

Aims of Digital Strategies

Access to broadband is seen as overcoming barriers of distance through digital connectivity. Recent UK government policy is built around a three-way benefit to society from investment in broadband infrastructure (SQW 2013):

- Economic - access to employment;
- Social - access to healthcare and community benefits;
- Environmental – reduced carbon footprint.

At a community scale, broadband access and training in digital skills are seen as supporting a particularly elderly, rural population. And to overcome other issues of social isolation, such as those linked to health and shrinking populations where young people move to urban areas for work and study. Increasingly, government services are transitioning to online, with the UK Government running an estimated 89 % of public services online. A number of third sector organisations have run national digital skills training, such as the Good Things Foundation which runs the Online Centres Network.

UK programmes on the digitisation of rural areas

The UK is delivering a broadband rollout nationwide through Broadband Delivery UK (BDUK) with a £75 million investment in the Rural Broadband Infrastructure Scheme (RBIS) to fund universal access to broadband of speed of 30Mbps or faster. This follows on from the Superfast Broadband project which aimed to provide fibre optic broadband to at least 95 % of UK premises. BDUK policy initiatives position access to broadband as a 'basic' entitlement, equivalent to a utility:

- is supporting investment to provide superfast broadband coverage to as many premises as possible beyond the 95 % level achieved in December 2017;
- is also introducing a broadband Universal Service Obligation so that by 2020 everyone across the UK will have a clear, enforceable right to request high speed broadband;
- has provided access to basic broadband (2Mbps) for all for those who do not currently have coverage otherwise;
- is supporting investment to stimulate private investment in full fibre connections by 2021 (DCMS 2018).

A considerable 17 % of premises in UK rural areas cannot receive good broadband services, compared to just 2 % in urban areas (OFCOM 2017, p.11). One of the key challenges with rural broadband is the 'last mile' – the final 5 % – an estimated 1.2 million premises are located in hard to reach locations. Openreach, which owns and maintains the UK broadband network, is running a 'Community Fibre Partnerships' scheme to address this (Regeneris 2018). Whilst this 5 % might seem insignificant, the compounded factors of geographical isolation, that are often linked to being in the last mile, together with poor digital connectivity, mean that they are some of the most critical locations to get connected (see Figure 1).

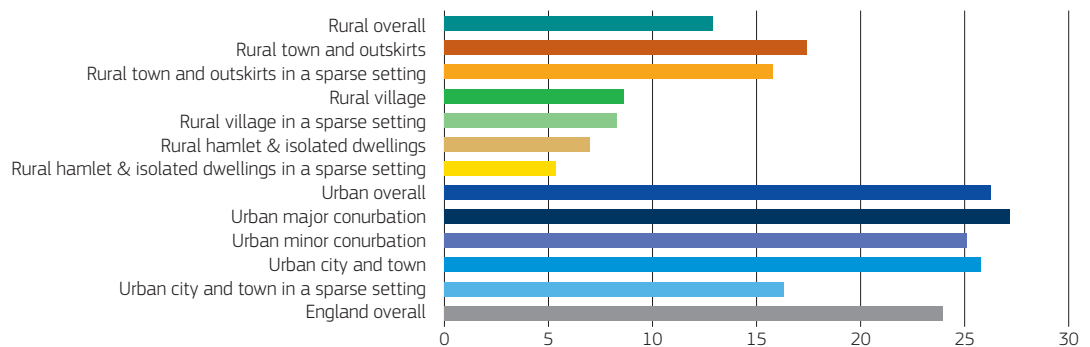
THE VALUE OF RURAL BROADBAND – A SOCIAL RETURN ON INVESTMENT?

UK policy and investment in broadband is primarily based on indicators of economic benefits. A report prepared by the UK Department for Digital, Culture, Media and Sport and Simetrica has sought to evidence social benefits by looking at the social return on investment to show that 'the provision of subsidised superfast broadband is associated with a wellbeing uplift per year for the average targeted premise' (DCMS 2018b, p. 7). The report includes the following figures, which are speculative, but at least start to provide quantitative measures of the perceived social benefits of rural broadband (Regeneris 2018 p. 18-19):

£ 2 413 per user Social value associated with internet access (using a Social Return on Investment (SROI) calculator).

£ 1 274 per user Monetised Social Value (MSV) attached to new internet users based on digitally excluded individuals.

Figure 1. Average Broadband speeds by urban/rural classification 2014 (DEFRA 2018, p. 109)



Superfast Cornwall

In 2011, Superfast Cornwall, a £132 million project funded by the EU (ERDF), BT, BDUK and Cornwall Council and managed by Cornwall Development Company, launched a fibre-based superfast broadband rollout across Cornwall (Superfast Cornwall 2014). Cornwall, in the south west of the UK, was seen as a remote and rural location or digital 'hotspot' - a rural region with poor internet connectivity. There are around 536 villages in Cornwall, and over half of the population (56%) live outside of towns, with 42% in rural settlements. Many of these villages have issues with isolation - economically, geographically and socially, factors which often correlate with digital exclusion. In 2011, 20% of adults in Cornwall had never used the internet - higher than both the regional and national average (ONS 2010). Through delivering FTTC (Fibre to the Cabinet), Superfast Cornwall has connected fibre optic broadband to 95% of homes and businesses in Cornwall and the Isles of Scilly. By 2016, the number of people in Cornwall who had not used internet had dropped by half to 10% (ONS 2016).

Regional Partnering

One of the key delivery mechanisms was that Superfast Cornwall worked with Citizens Online, Cornwall Rural Community Charity (CRCC) and Cornwall Council Library Services in a partnership approach.

“The success of the programme has been largely a result of close partnership working with a range of partner organisations, including Cornwall Rural Community Charity (CRCC), Cornwall Library Service, Job Centre Plus and the Plymouth and Falmouth Universities.”

Superfast Cornwall website

In 2015, this approach was strengthened through the formation of iCornwall, a group of representatives of a range of organisations drawn from the public, private and voluntary sectors with commitment to work together to help people make the most of the digital world. Group members include the Department of Work and Pensions, NHS, Housing Associations and local voluntary groups, as well as Superfast Cornwall.

Delivering Digital Skills as well as broadband infrastructure in Cornwall

Providing digital infrastructure is only one side of the challenge; enabling communities to use it is an important part of the Cornwall regional initiative.

Digital skills training has been offered through free Get IT Together beginners' sessions in libraries and community centres across Cornwall. The training consisted of 5- to 7-week training sessions delivered locally in towns and villages, mainly aimed at the over 60s demographic - the most digitally excluded. Between 2010 and 2018, the programme of digital inclusion training had been delivered to 57 locations in Cornwall. In order to build capacity within rural communities that would drive the development of

digital skills, iCornwall introduced a 'Digital Champions' network across the region, offering free training and support.

“Digital Champions in local communities have the most tremendous potential to improve the quality of life for their families, friends and neighbours, transforming the way everyone works, lives and plays.”

Dawn Stoddern, iCornwall lead, Cornwall Council

A further initiative is the annual GetOnline week, a national event that is actively run in Cornwall. The 2018 Get Online Week had the theme 'Try 1 Thing' - encouraging people to do just one new thing online as a next step towards improving their digital skills.

Key initiatives

- Digital Skills Training
- Digital Champions
- Digital Hubs
- Get Online Week

Digital Hubs - from digital access to use



Centre of Pendeen Digital Hub, Cornwall ▲

To benefit from digitisation there is a need for it to become part of the fabric of everyday rural life. A village hall, community centre or library can provide a key venue to address digital inclusion. It is possible to turn these places into digital venues through installing a broadband connection, purchasing computer equipment and offering training for digital skills. This can help support the viability of the venues and enable them to play a key role in creating a strong community by exposing many residents, who would not ordinarily be reached, to the potential of technology.

“A good thing about the internet is that you can have access to a lot of information from all over the world! The problem is that technology is going so fast that people are being left behind. That's why places like the Centre are necessary. People come not just to use the computers but to learn to use them.”

Sandra Cook, The Centre of Pendeen



Gatekeepers, participants and trainers at Get IT sessions ▲

According to PhD research at the University of Plymouth, gatekeepers are the key to the community, and hold a vast amount of local influence. They also act as governors of key village social spaces, and installation of a broadband connection in these will expose many residents, who would not ordinarily be reached, to the potential of technology. In acknowledging the social operating system of the village, and the importance of the community village hubs, industry stakeholders may unlock further potential for wider broadband adoption in the village, but also fulfil a degree of social responsibility, ensuring connectivity is for the many and not the few (Varley 2018, p.208).

Initiative: Digital Venue Toolkit

To enable village venues to go online, the University of Plymouth, in partnership with national organisation Action for Communities in Rural England (ACRE), developed the Digital Venue Toolkit, a practical guide to turning their hall or centre into a digital hub (Willis 2017). The Toolkit takes venues through a scale of provision, from 'switched off' to 'Digital Hub.'

- Digital Hubs
- Digital Venues
- Switched On
- Switched Off

The Digital Venue Toolkit is a practical guide to getting a community online.

Impact: The Toolkit is being used to turn broadband access into effective use by halls, parish councils and community centres across Cornwall and the UK.

Case Study- St Breward

St Breward is a lively village in rural north Cornwall with a population of around 1 000 residents and a strong community spirit. It has an elderly demographic and is geographically isolated, with the nearest town being a 30-minute drive away, and with no local bus service.

“Our community said ‘we’d like computer training’. We know that it gives people access to things that will make them less socially isolated.”

St Breward Hall Committee

Initiative: The St Breward Institute and War Memorial Hall was renovated in 2013 and, as part of this, funding was obtained to turn it into a digital hub; this included installing wireless superfast broadband, equipping two rooms each with a SMART Board, speakers, a visualiser, and a sound system. Superfast Cornwall and later Cornwall Rural Community Charity have run a series of 5-week digital skills training courses for local residents, as well as offering ‘IT Drop-In’ sessions in the hall. In addition, the Parish Council, Art group, Local History Group and Gardening Club use the computer facilities.



Get IT Together sessions at St Breward Institute and War Memorial Hall ▲

“A warm and welcoming Village Community Hall with Superfast Broadband and WiFi.”

Research by the University of Plymouth, as part of Superfast Cornwall Labs, found that according to records of visitor numbers, the digital hub alone has accounted for events that brought 1 049 unique visits to the Hall since October 2013. In addition, children’s or private parties which hired the Hall expressly because of the computer provision accounted for 189 unique visits, 90 of which were considered new visitors to the Hall (Willis 2017, p.19); many of them were from a younger demographic.



Bridging the generational gap with VR taster sessions ▲

In 2018, a series of events using Microsoft Kinect and Virtual Reality have been organized to overcome technological generational gaps. They also introduce state-of-the-art technologies in an accessible and relevant way.

E-Health – putting rural digital innovation into practice

E-health innovation has the potential to address rural issues of isolation and lack of access to local health care providers and facilities. The EPIC project (E-health, Productivity and Innovation in Cornwall and the Isles of Scilly), funded by ERDF (£ 2.7 million), involves doctors, nurses, care homes, patients, university academics and small companies in the region helping to find the best uses of the internet, apps and robotics in health and social care. The project has experimented with the use of robotics such as Paro, the ‘comfort’ seal for people with dementia, Giraff telepresence, and humanoid robotics such as Pepper.



EPIC care robots - Pepper, Miro, Paro the seal and Joy for All dog ▲

One example of how e-health innovation was implemented in a bottom-up approach is at Eventide, an ‘outstanding’ elderly care home in Liskeard. Hannah Broadwell, a researcher, introduced residents to robotic pets to understand how these technologies might be used as part of e-health initiatives. Eventide was committed to innovation to enhance care, but was openly cautious about the potential impact of technology; in particular, it was concerned over the reduction of personal contact, which it feels is critical for high quality care. But the initial feedback was positive:

“Our residents absolutely love interacting with the robotic pets!! We have attended some great events and met some interesting people that have opened our eyes to the potential beneficial impact of eHealth.”

Jennifer Nancarrow-Allen, Manager of Eventide

Initiative: E-health Innovation Challenge Fund

The e-health programme is supported by a £600K challenge fund open to local businesses to enable them to work with health teams and individuals in order to design technology solutions. EPIC’s approach to innovation involves researchers from the University of Plymouth with a range of expertise, including nursing, medicine, psychology, robotics, business and public health, working with numerous collaborators across Cornwall, using a bottom-up approach.

Further initiatives being investigated include:

- use of video calls to better connect care home residents;
- apps that support people wanting to make positive behavioural changes;
- care robots to comfort people with dementia;
- use of drones to get emergency equipment to rural locations quickly.

Impact: The bottom-up approach to rural innovation, enabled by the Challenge Fund, allows relevant solutions to e-health challenges to be identified and delivered within communities.

Lessons learned – How can we enable the digitisation of rural areas?



Superfast Cornwall FTTC Fibre Broadband ▲

UK policy has focused on delivering digital access in rural regions through investment in broadband infrastructure. It is based on a drive for ‘access’ as a basic right, similar to a utility. But access is only one side of the rural broadband challenge.

Enabling and stimulating rural communities to beneficially engage with broadband is another challenge, and one that has been relatively neglected across the EU-25 in the rush to provide access (Preston et al. 2007). Cornwall, a pioneering EU region, has sought to deliver localised digitisation by understanding the geographical, socio-economic and political context through initiatives and research such as:

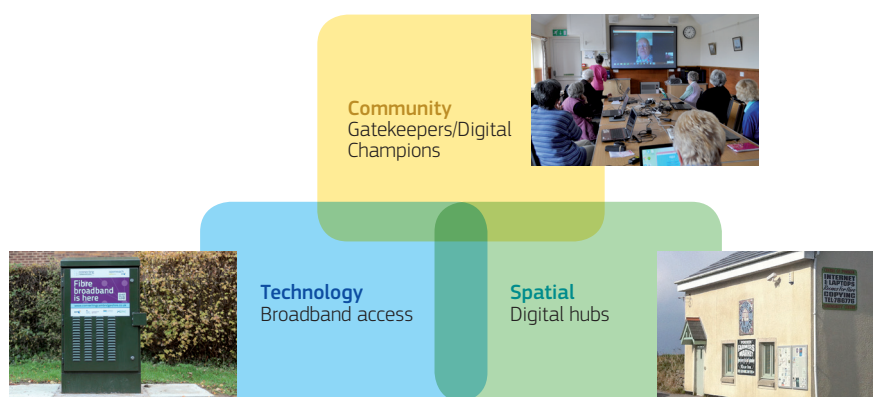
- Partnerships between telecoms providers and the public and private sectors;
- Empowering local people as Digital Champions;
- Equipping and enabling Digital Hubs;
- Innovation ecosystems in E-health;
- Working directly with Community Gatekeepers.

This recognises the spatial, technological and community aspects of a rural place, and acknowledges the three-way relationship which exists between them (see Figure 2). For investment in digitisation to bring benefit to rural communities, the policy focus needs to shift from rural broadband diffusion to rural broadband development, with the associated enhancement of policy solutions that better fit the reality of rural areas.

References

- BBC News (2018). Animal robots comfort Cornwall dementia patients. www.bbc.co.uk/news/av/uk-england-cornwall-44945933/animal-robots-comfort-cornwall-dementia-patients. 25 July 2018
- Department for Culture Media and Sport (DCMS) (2018). BDUK (Broadband Delivery UK). www.gov.uk/guidance/broadband-delivery-uk
- DCMS (2018b). BDUK Superfast Evaluation Annex C – Subjective Wellbeing Analysis – Executive Summary. London: DCMS.
- Department for Environment, Farming and Rural Affairs (DEFRA) (2018). Statistical Digest of Rural England – February 2018. www.gov.uk/government/publications
- Just Economics for BT (2014). Valuing Digital Inclusion: Calculating the social value to individuals of going online. BT PLC Report.
- Office of Communications (Ofcom) (2017). Connected Nations Report 2017. www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2017
- Office for National Statistics (ONS) (2011). Internet access: 2010. ONS
- ONS (2016). Internet users in the UK: 2016. ONS
- Preston, P., A. Cawley, Metykova, M. (2007). ‘Broadband and Rural Areas in the EU: From Technology to Applications and Use’, Telecommunications Policy, 31: 389-400.
- Regeneris (for Openreach) (2018). Impact of High-Speed Broadband for Communities. <https://communityfibre.openreach.co.uk/resources>
- SQW for DCMS (2013). UK Broadband Impact Study Impact Report. www.gov.uk
- Superfast Cornwall Research Labs www.superfastcornwall.org/current-programme/research-innovation-2011-2015-programme/
- The Good Things Foundation. Online Centres Network www.onlinecentresnetwork.org/news-and-activity/case-studies
- Varley, P. (2015). ‘Sustainable Digital Neighbourhoods: A Study of the Social and Spatial Effects of Technological Transition in a Rural Village’. Superfast Cornwall Research Labs www.superfastcornwall.org/current-programme/research-innovation-2011-2015-programme/
- Varley, P. (2018). Sustainable Digital Neighbourhoods: A Case Study of People, Place and Technology under the Rural Village Condition. Unpublished PhD Thesis, University of Plymouth.
- Willis, K. (2017). Digital Venue Toolkit. www.acre.org.uk/cms/resources/digitalvenue/toolkitartdigital.pdf

Figure 2. The three-way relationship needed to deliver rural digitisation



Community Gatekeepers/Digital Champions

Technology Broadband access

Spatial Digital hubs