[5G RuralFirst](#)

The [5G RuralFirst](#) project trialled new wireless and networking technologies, spectrum sharing, and new applications & services across three main sites – the Orkney Islands, Shropshire, and Somerset. The project investigated whether 5G connectivity could be rolled out in hard to reach rural areas where Mobile Network Operators (MNOs) have limited engagement due to low return on investment compared to urban environments. The project used this network to then test 5G use cases in agriculture, tourism and broadcasting.

Key findings

- Fixed Wireless Access (FWA) can be used as a practical alternative to provide homes and businesses superfast broadband in hard to reach locations.
- On Orkney, a LiFi solution, a network backhaul solution which combines communications and energy harvesting, demonstrated robust communication performance in harsh weather conditions and hard to reach rural areas.
- The project explored methods to improve the availability of rural mobile broadband in the 700MHz band, using radio equipment from the University of Strathclyde and using an alternative, or community-owned provider rather than mobile network operators. This was tested in hard to reach areas where there would be no connectivity, or complementing existing services (e.g. on tour buses on the Orkney Islands).
- Insufficient evidence for cost savings or benefits was collected during this demonstrator project to support wide adoption of 5G in rural areas. However, this project was an important first step towards exploring new business models for rural connectivity – for example a community-owned mobile network to provide affordable and reliable connectivity. This is now being further explored in the large-scale rural projects, the [Rural Connected Communities](#).

Use cases

Some of the use cases in the project included:

- **Animal Health Monitoring:** In Somerset, the project tested the ability to

proactively manage animal health, through monitoring of rumination, fertility and eating patterns.

- 5G enabled devices can help farmers to monitor animal welfare (such as cows), saving an average of 10-14 hours a week in labour time.
- UsingAugmented Reality (AR), offering remote veterinarian diagnostics support, enabling farmers to ask advice and see how to care for animals in real time, using voice commands.
- These use cases could potentially bring benefits to farmers once the tech for the applications becomes more effective. When they were first tested, it was not established whether this led to savings.

- **Soil quality** : 5G enabled drones were able to provide accurate data on the quality of soil in fields potentially saving farmers some survey time.
- **FWA/ LiFi** – Testing the viability of LiFi (Infra-red) in harsh rural environments, by connecting a number of rural properties using solar panels as receivers.
- Testing the potential of **5G to broadcast** content nationwide in a more efficient manner.
- **Sustainable Tourism in Orkneys** , specifically around cruise line passengers. Despite having only 20,000 inhabitants, the Orkney Islands received over 110,000 tourist visitors last year. By demonstrating approaches to increase connectivity for large numbers of tourists and the sensors that could monitor them, the project suggested that future trials may be able to explore a business case for improved tourist management and experiences.
- **Connected Wind Farm** – Internet of Things (IoT) sensors were installed on a wind turbine, enabling users to monitor equipment integrity as well as weather/wind speed. Installing this tech could potentially help identify potentially dangerous weather conditions, and enable appropriate action to be taken, minimising impact.

Reports

[5G RuralFirst: New Thinking Applied to Rural Connectivity](#) – This report outlines the project's learnings and findings across its consortium members. The report particularly focuses on new business models to stimulate 4G and 5G in rural areas.

Project partners

- Cisco (Lead)
- University of Strathclyde (Lead)
- Afimilk
- Agri-EPI Centre
- BBC
- Broadway Partners
- BT
- Censis
- CloudNet
- DataVita

- Harper Adams University
- Heriot-Watt University
- Hyperceptions
- Kingshay
- Lime Microsystems
- Microsoft
- Milkalyser
- Nominet
- Orkney Islands Council
- Parallel Wireless
- Precision Decisions
- pureLiFi
- Scottish Futures Trust
- Shefa
- Soil Essentials
- Telint
- University of Edinburgh
- Zeetta Networks
- 5G Innovation Centre, University of Surrey

More information can be found on the [UK5G 5G RuralFirst page](#).

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1. 2 August 2021

   Updated case study.

2. 23 July 2018

   First published.

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[Membership of the Social Security Advisory Committee](#)

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[Introduction to Data Quality course launched](#)

News story

Learn what data quality is, why it matters, and who is responsible

We need good quality data to build services and make policy. But does everyone know what data quality means? Do they understand why it matters? Or how they can maintain quality in the data they handle?

Today we are launching a new training course that could help answer these questions. It covers the basics of data quality, structured around the principles in the [Government Data Quality Framework](#). We have designed it with modules:

- **Commit to data quality** — aimed at everyone, this module introduces the concept of data quality and why it's so important for government data.

- **Know your users and their needs** — aimed at everyone, this module explains how quality varies between users and across the data lifecycle.

- **Assess quality: Dimensions** — for people who assess quality or manage data, this module introduces the six dimensions of good data quality.

- **Assess quality: Improvements** — for people who manage data, this module covers the importance of effective improvements that tackle the cause not the symptoms of quality problems.

- **Assess quality: Good data quality management** — for people who manage data, this module introduces concepts that bring together good quality assessments and good improvements to form better ongoing management of data quality.

- **Communicate quality** — for people managing, sharing, or using data, this module covers the importance of clearly communicating data quality and some of the routes available.

- **Anticipate change** — for people managing data, this module includes examples of how change might be an opportunity to improve data quality.

This does not mean the principles are relevant only to the roles mentioned

above, but this is the focus of the current training course.

[Access the course online.](#) In the future, we plan to host this course on the Learning Platform for Government but currently this is not possible.

We know this is just the beginning. The course is designed to provide an introduction to the subject of data quality and how it is managed in government. We will be following it up with more focused training dealing with some of these subjects in more detail.

Thank you to all the colleagues across government who have tested early versions of this course and helped us shape the content.

Published 2 August 2021

[Children's clothing company secures Wales' first General Export Facility](#)

- Character.com sells a range of character themed clothing worldwide including Harry Potter, Star Wars, Peppa Pig and their own brand Harry Bear.
- UKEF and Barclays are committed to supporting the continued growth of Character.com, which employs 85 people locally.
- £3 million trade loan facility will help Character.com boost exports by scaling up their business operation.

Swansea-based clothing company [Character.com](#) exports children's clothing and accessories across the world with recognisable characters from film and TV shows such as Harry Potter, Star Wars and Peppa Pig. The UK's television and film industry is a creative powerhouse, and the popularity of these products demonstrates its importance.

Husband and wife team Stephen and Karen Hewitt set up the business in 2009. It is one of the fastest growing companies in Wales with an annual turnover of more than £50 million. Character.com exports its products to markets all over the world including in Europe and North America.

Working with its bank Barclays, Character.com has benefited from UKEF's new [General Export Facility (GEF)](#), securing a £3 million trade loan facility. GEF allows the UK government to guarantee up to 80% of a facility offered by a bank to finance exports. It is aimed at supporting small and medium-sized enterprises (SMEs) as they scale up their business operations.

Character.com took advantage of this facility, providing the company with additional working capital to support and optimise the business's growth strategy.

Character.com's Finance Director, Helen Morgan said:

> The opportunity that the collaboration brings to Character.com is paramount to our ambitious and exciting growth trajectory. It supports us and other organisations in putting Wales on the map as serious contenders in the export market. We look forward to working with the team at Barclays and UKEF as we realise our growth potential worldwide.

Minister for Exports, Graham Stuart MP, said:

> I am delighted that Character.com are the first of many Welsh businesses to take advantage of GEF. GEF is a gamechanger for UKEF, making it quicker and easier for SMEs to access government-backed funding to help boost their exporting capacity.

> Research shows that companies that export are more productive, profitable and pay higher wages on average than their non-exporting peers, so we are determined to help more companies increase their exporting capacity in support of the Chancellor's Plan for Jobs.

Barclays Trade Director, Amy Wilson said:

> By really understanding the business and the industry sector, Barclays with the support of UKEF has been able to deliver an innovative funding package to support this ambitious SME.

> The new facility demonstrates both Barclays, UKEF and the company's confidence in the continued growth and success of the business in international markets.

Minister for Wales Simon Hart said:

> The UK Government is backing businesses across Wales and the rest of the UK to help our economy build back from the pandemic. It's fantastic to see a growing Welsh business like Character.com successfully utilise this support, enabling them to expand their businesses further.

> The General Export Facility is a great way for businesses gain access to finance to support their ambitions and I urge other firms who would benefit to apply.

About UK Export Finance

[UK Export Finance](#) is the UK's export credit agency and a government

department, working along-side the Department for International Trade as an integral part of its strategy and operations.

Established in 1919, it exists to ensure that no viable UK export should fail for a lack of finance from the private market. It provides finance and insurance to help exporters win, fulfil and get paid for export contracts.