

Liverpool 5G Health and Social Care Testbed Overview January 2020



Better Health and Wellbeing



Improving quality of life

Reducing loneliness



Improving health

Reducing need for health and social care services



Reducing digital exclusion

Improved Efficiencies and Cost Avoidance



Potential cost savings to the health and social care services of ~ **£2,477** per user per year



Releases > **300** carer hours per user per year

Supporting and developing new technologies

Created the **largest 5G mmWave network in UK and Europe** and second largest in the world

70% of the tech companies reported an increase in their Technology Readiness Level

Over **£1.1m** additional funds spent on R&D due to the funded project



Better Partnership Working

Unique and **innovative consortium** of the public, private, academic and third sectors



Disseminated the work at > **60 events**

> **60 organisations** involved in delivery



Background and Scope

The Liverpool 5G Health and Social Care Testbed ran from April 2018 to November 2019.

The project aim was to see if 5G technology could provide measurable health and social care benefits in a digitally deprived neighbourhood.

A suite of reports have been produced as a summary of the Liverpool 5G Health and Social Care Testbed.

This report an overview of the trial, other aspects are covered in the companion reports:

- **Liverpool 5G Health and Social Care Testbed: Overview**
Why we did it, what we did, who benefited, key learning and what's next
- **Liverpool 5G Health and Social Care Testbed: Benefits, Outcomes and Impact**
The project outcomes, who benefited, and the overall impact and analysis of combined data from use cases
- **Liverpool 5G Health and Social Care Testbed: Developing the Network**
Planning, installation and deployment of the network - 5G, WiFi, LoRaWAN - what we did, management and monitoring, and research and development as part of the project

All of the reports can be found on [the resources page of our website](#)

The project was delivered by the [Liverpool 5G Consortium](#).

Contents

01

Why do it?

02

What did we do?

03

Who benefited?

04

What about the technology?

05

Learning and What Next?



01

Why do it?

Who are we?

The Liverpool 5G Health and Social Care Testbed started in April 2018 as part of the [DCMS 5G Testbeds and Trials Programme](#) and the greater 5G strategy, and ran for 20 months.

The project, the first 5G supported health trial of its kind in Europe, was given £4.9 million to see if 5G technology provides measurable

health and social care benefits in a digitally deprived neighbourhood. It is also part of the [UK5G](#), national innovation network for the sector.

The project was delivered by the Liverpool 5G Consortium

The Liverpool 5G Consortium

Liverpool 5G is a unique and innovative consortium of public sector health and social care suppliers, the NHS, university researchers, third sector organisations, agile local SMEs and a leading UK 5G technology vendor, who came together to deliver the Liverpool 5G Health and Social Care Testbed.

The partners and subcontractors:

- Sensor City
- Liverpool City Council
- University of Liverpool
- Liverpool John Moores University
- BluWireless Technology
- CGA Simulation
- Defproc Engineering
- AIMES
- Royal Liverpool and Broadgreen University Hospital Trust
- Digicredis (first 12 months)
- eHealth Cluster
- Safehouse Technologies
- The Medication Support Company
- Broadway Partners
- Derand
- Finch Electronics

What was the aim?

The testbed was established to address the following challenges:

- Many households in Liverpool do not have broadband. Of those that do, many believe that they should not pay for connectivity to support health and social care services.
- As more technology devices become available connectivity will become an essential part of health and social care services.
- As devices become more data hungry, for example, through greater use of video, the data charges are increasing.

Without addressing the affordability of connectivity health inequalities will increase.

Treatments that rely on connectivity will not be available to those who cannot afford their own connection and public services will find the ongoing revenue costs prohibitive.

The impact of this will be to reduce the adoption of technology within home-based services and further widen health inequalities.



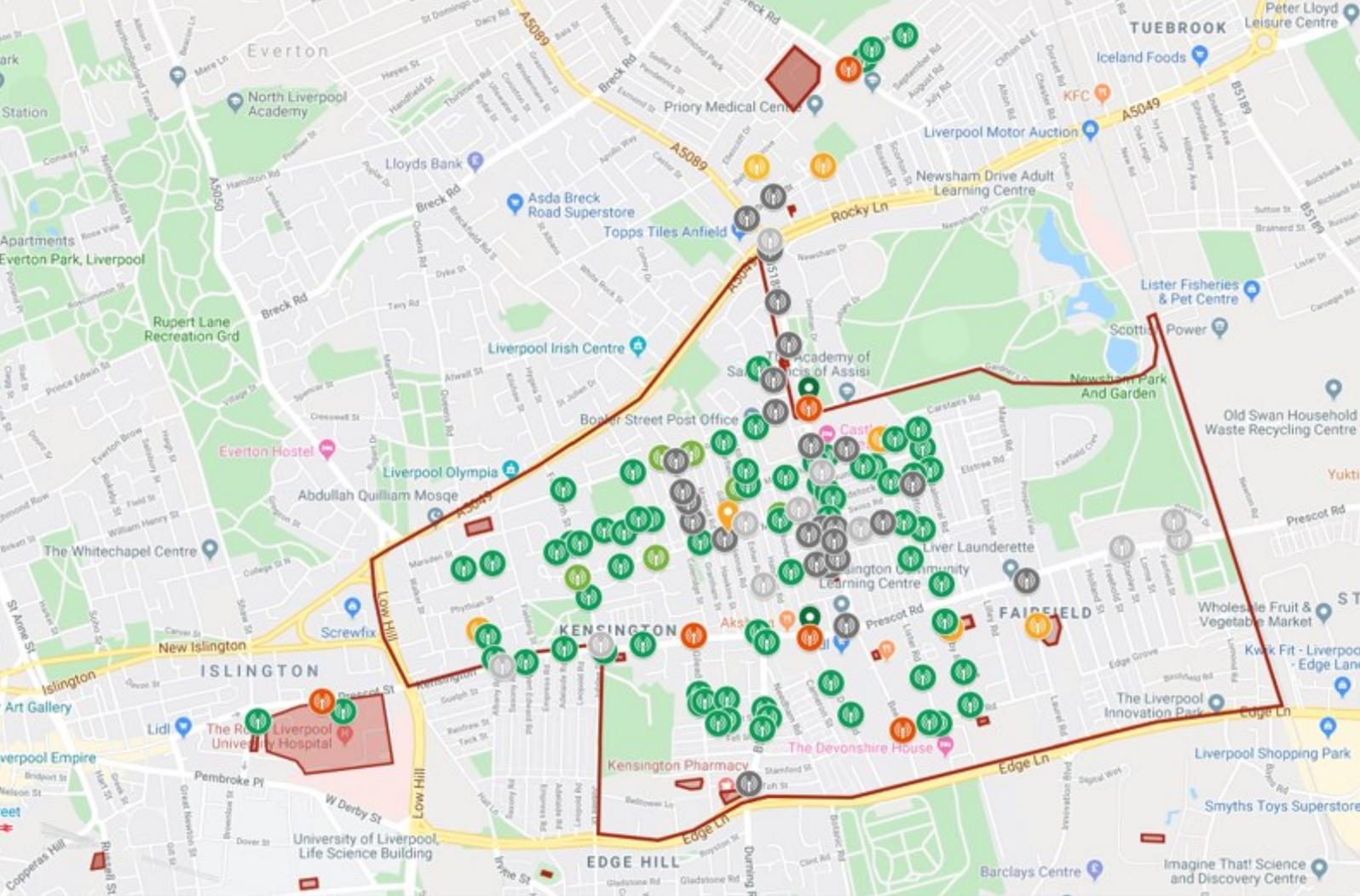
Throughout the project, the consortium tried to address the following question:

“Can 5G connectivity be sufficiently cheap and effective in health and social care provision that it will be cost effective to give free access to those unable to afford either phone or broadband access?”

We knew that to answer this question we needed a series of technological solutions that care services could easily adopt and use.

We also focused on:

- Reducing the digital divide
- Providing affordable connectivity with the necessary level of service
- Creating capacity within social care services
- Improving efficiency in health and care services
- Improving people’s quality of life and reducing social isolation



02

What did we do?

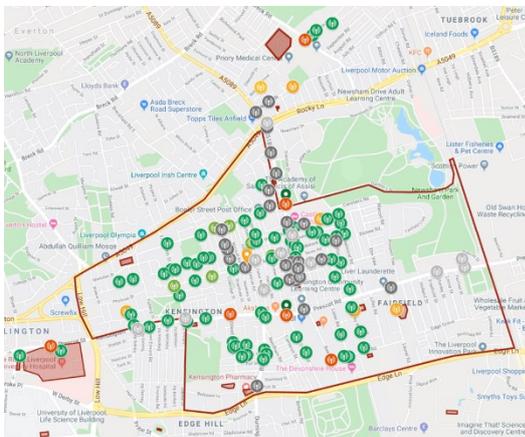
What we did

DCMS funded the £4.5M Testbed in the Kensington area of Liverpool until the end of 2019.

The testbed created a privately owned 5G mesh network. It is not a cellular network. It uses council owned street lamps and accesses the council owned CCTV network as the fibre backhaul.

Although there are capital and maintenance cost for the network there are no ongoing data charges for the resident or for the service.

We now have the largest mmWave network in Europe, supporting telehealth services in Kensington, and addressing challenges currently facing health and social care services.



Node deployment

We worked with 11 partners, over 15 subcontractors, social care providers, local citizens and wider stakeholders, spanning the full range of private, public and third sectors.



Using a Paman Medihub device

We trialed devices in people's homes to address loneliness, manage medication and enable people to live safely in their own home.

We deployed a significant number of IoT devices in the community and supported health and social care products for 179 people.

We also have nodes on a Care Home and a community learning centre.

We connected telehealth devices and enabled the use of VR in palliative care.

We have nodes on the Royal Liverpool University Hospital and the Life Sciences Accelerator building adjacent to it.

We completed a full benefits realisation exercise on all the use cases and can demonstrate improved health outcomes for service users and estimated potential cost savings to health and social care services of £248k per 100 users per year.

We ensured key people were kept informed about the testbed and the potential benefits of 5G technology, attending conferences, debates and events nationally and internationally and regularly provide interviews, quotes and updates to relevant press and

media. We produced a suite of reports documenting the project, its outcomes and technology.

We overcame the significant challenges of integrating our products into existing live services and recognised these challenges as the start of a significant change management process to integrate technology into the way care services are delivered.

We overcame the technical challenge of installing and proving the feasibility of the new mmWave mesh network technology.



Partners at a Liverpool 5G showcase event in Sensor City

Where are we now?

There are currently 220 nodes on lampposts in the Kensington area that provide WiFi into surrounding properties that is free to use for health and social care purposes.

The network is being maintained and the residents are continuing to use the devices installed in their homes.

The testbed has enabled us to develop cost models that compare the costs of a network under public ownership with existing commercial models.

At cross government level the testbed is seen as a great success and the learning is being promoted internationally. Liverpool is leading the way in terms of providing alternative access to 5G using British technology.

Liverpool 5G is an ongoing part of the conversation about 5G/ emerging technologies and the positive impact they can have on health and social care services.



03

Who benefited?

Working with people

One of the most important aspects of the Liverpool 5G testbed project was working with people.

We were clear from the start that, while new technology is exciting and important, it has to be useful, solve a problem and bring benefits to both individuals and our stretched health and social care services.

In order to work from the need up, we worked with local agencies and health providers to identify areas where technology could help.

We were lucky to work with a range of great care and health organisations, who helped us to talk to individuals and groups who could benefit from the technology provided by the consortium.

Areas that the technology solutions were aimed at were:

- Improving health and wellbeing
- Addressing loneliness and isolation
- Improving quality of life
- Reducing reliance on health and social care services, increasing capacity and reducing costs

Using the technology

To trial the technology, volunteers were identified by the eHealth Cluster and Liverpool City Council (home care providers, care homes and supported living providers).

We worked with care providers, safeguarding teams and technology partners to develop protocols for engaging with and working with users safely.

The new technologies supported by the Liverpool 5G testbed were:

- Loneliness apps: 'Push to Talk' links older people for a chat and 'The Loneliness Quiz and Bingo App' builds social connections for people with a learning disability.
- At the Royal Liverpool and Broadgreen University Hospitals NHS Trust 'Telehealth in a Box' connects the hospital with community patients, whilst 5G supports pain distraction VR headsets for palliative care.
- In the Kensington community, 5G supports Safehouse Sensors to develop a new type of telecare service, chromatic sensors in the home and the Paman service, a pharmacy video link enabling people to take medicine safely at home.

All the innovations help people live independently at home for longer.

5G technology was chosen to support these health technologies because it is faster, more reliable and can transfer more data than existing options. It is the perfect technology for supporting Internet of Things (IoT) health and social care devices that people rely on to stay well at home.

You can read more about them in the following pages, and about the outcomes in: [Liverpool 5G Health and Social Care Testbed: Benefits, Outcomes and Impact](#)

Loneliness Quizzing and Gaming App, from CGA Simulation

CGA created the Loneliness Quizzing and Gaming App, a social gaming app that brings people together to take part in online quizzing, games and chat, to combat loneliness and social isolation.

It features video communication to allow users to meet and take part in the game from different locations – from a care home lounge or their own room.

The quizzes and games were co-created with users and their feedback helped to shape the app. CGA made the app more accessible to people of different ages and abilities – changing the colours, font and questions.

The system was developed to support a variety of network configurations and performance.

The app was a perfect test case for 5G technology as it needs the high bandwidth offered by 5G to drive the device-to-device video capability. To run effectively, the application requires around 80 Megabit bandwidth and low latency.



Testing the app

Key outcomes from the trial

- Reduction in loneliness in users:
 - 28% decrease in those who said they often felt that they lack companionship
 - 20% decrease in those who said that they often felt left out
 - 13% increase in those who said that they hardly ever felt isolated from others
 - 26% decrease in those who said that they often or sometimes felt lonely
- Improved quality of life in service users, with an increase of an average of 1.4 points on the life satisfaction scale
- Reduced digital exclusion, with users more confident to use technology

The Loneliness Quizzing and Gaming App has been used by over 45 people in a variety of community settings:

- Kensington Community Centre: Two groups of users with varied learning difficulties, and other conditions.
- L'Arche supported living: A variety of users from amongst the residents who have different learning disabilities, some with mobility issues, and are a wide range of ages, from 30 to 80.
- Breckside Park Residential home: users in the 60+ age group, some with age related illnesses such as dementia.

<http://www.cgasimulation.com/>

Co-producing solutions with the users

CGA Simulation worked with a group of people with a learning disability to co-produce a **Loneliness Quizzing and Gaming App** that's accessible and usable to people of differing abilities.



Designing the app

The group meet at Kensington Community Learning Centre each week to take part in activities and games. For some, it's the only chance they get to chat to and meet people with similar interests.

CGA Simulation followed feedback from the group and adapted the colours, font size and other game features on the app. They also tailored questions in the quiz to take into account age, ability and interests.

With the users' assistance, CGA Simulation has been able to create a gaming app that is accessible, usable and enjoyable for people with learning disabilities to use.

Reducing Loneliness and Isolation

Mary Brandt is from Kensington and was introduced to the **Push to Talk** device by her Liverpool Carers Centre, Local Solutions team.

She says it's brought her great comfort: "When Chris from Local Solutions came with the Push to Talk box my family said, 'what do you need that for?' I told them it was for carers in the same situation as me, people caring and living on their own who don't always have somebody to talk to.

"I love using it. I contact other carers and we talk and have a laugh, it does everybody good. We don't always talk to each other about our problems, we just chat."

She added: " My son who I cared for for many years doesn't live with me anymore. When I cared for him I hid it from people at work as I knew their thoughts about people with mental illnesses and didn't want my son talked about that way. It made me feel quite lonely. When I met with people from Local Solutions who introduced me to Push to Talk I felt like they were giving a voice to the carers."

Over half of all unpaid carers, who are caring for family members or friends, say they don't like talking about caring to their friends and never get the time to socialise. Push to Talk is a valuable tool for those who feel isolated.



Mary Brandt, who uses Push to Talk, with Chris King from Local

Push to Talk, from Defproc Engineering

Push to Talk users press a button, indicating they want a chat, and are connected via their phone to another user who has also pushed their button.

Users are grouped into 'communities' of people in similar situations. The groups include people with a learning difficulty, unpaid carers and people who feel isolated.

Over 40 Push to Talk devices were placed with people in Liverpool.

Push to Talk's 'talk time' feature is flexible and it has a maximum 30 second delay from push to talk to actual connection.



Push to Talk button and app

<https://www.defproc.co.uk/>

Key outcomes from the trial

- Reduction in loneliness in users:
 - 25% increase in those who said that they hardly ever felt that they lack companionship
 - 75% increase in those that said they hardly ever felt left out
 - 50% increase in those who said they hardly ever felt isolated from others
- Reduction of over 30% in the number of people who visited their GP and 16% drop in average number of visits per user. Potential cost saving per 100 users per year: £868

The low powered Push to Talk device is easy to install at home and doesn't require the user to have WiFi or broadband internet connection.

The device takes dexterity impairments into account and is designed as a social network

It plugs into standard power supply and works with landlines and mobiles.

DefProc Engineering provided a public access LoRaWAN Network using the Things Network with 5G backhaul. The Push to Talk device connects using LoRaWAN gateway technology with the Liverpool 5G as the backhaul connection.

Paman Service, from The Medication Support Company

Paman service uses a simple video-audio device to assist with taking medications. After a medication review with a clinical pharmacist, users are provided with a Medihub device in their home.

The Medihub has a simple button that operates a two-way audio system and a video link. It is connected to the Paman monitoring centre, from where a qualified pharmacy assistant contacts the user at a pre-arranged time, and sees the user taking their medicines, ensuring this is done correctly and safely.



The Paman service Medihub device

The Paman team also answer user questions and concerns, liaise with pharmacies and GPs, and can arrange for repeat prescriptions to be ordered. An interactive medication administration record (MAR) chart is used to record all medications taken by the patient.

Key outcomes from the trial

- Potential cost savings to health and social care services of £208,800 per 100 users per year
- Improved medication adherence levels: 40% higher than national average of 55%, at 95%.
- Decrease in medication errors: 51% drop in the number of service users who had a medication error
- Medication costs reduced by over 50%, and medication wastage reduced.
- Reduction in carer hours needed to provide medication administration support. Potential saving per 100 users per year: 30600 hours (£464,500)
- Improved quality of life for users
 - 73% increase in those confident and happy to take medication
 - 53% increase in those who felt safe
 - 40% increase in service users who felt more independent
- Improved safety in the home, with medicines securely stored.

Over 30 people who previously received daily visits from home carers to help them take medicines, now use a Medihub device.

The 5G connection results in faster internet speeds and reduced lag times.

<https://themedicationsupportcompany.co.uk/>

Reducing Medication Wastage

The Paman team clinical pharmacist's initial medication review highlighted many issues with service user B's medication.



Medicines were in lots of different places in B's home, many were stored at too high a temperature (so they were less effective), some were out of date, there were broken bottles of liquid medicine, older medication that B should not have been taking were still available, and there were unused prescribed

medications. Following the review, unusable medicines were taken to the pharmacy for disposal. The value of the wasted medicines was £1,245.78.

Communication between the pharmacy, GP surgery and the Paman team established the correct medication regime for B. Medicines are now stored in one designated place in the home, away from any heat source, and those that require special storage conditions are highlighted. Several medicines have been discontinued, and the Paman team also manages the repeat prescription process.

B is more independent and feels more confident and safer taking her medicines, and her medicine adherence level has increased from 43% to 94%. Medicine costs have been reduced, and wastage has been reduced.

Increasing Independence

User D was active, mobile and regularly out of the house visiting friends, family and going to social events, but he was frustrated that he needed a carer to oversee his medication management. He said that carer's visits were at "unhelpful" times, which restricted his social life and stopped him being as independent as he wanted to be. *"Imagine what it would be like for you to have to wait in for the gas man every day from 8:00 until 11:30am for the rest of your life – see how you would feel. I can now have my medicines on time every day and then get out shopping. No more waiting in"*



Knowing that he needed support with his medicines due to his learning difficulties, D was happy to use the Paman Medihub to give him more flexibility. A medication review highlighted some previously unrecognized clinically significant issues with D's medication, that the Paman team discussed with the pharmacy and GP. Appropriate changes were made.

D's medication adherence has improved from 42% at the start to 96% at the end of the system trial. He took to the Medihub very well and is now enjoying the freedom of being able to get out and meet friends and relatives without having to wait in for carers. D is delighted with his newfound independence, and feels safer and more confident taking his medicines.

Safehouse Sensors, from Safehouse Technologies

The Safehouse system provides sensors that monitor the home environment and alarm buttons that help people live independently for longer.

Sensors monitor conditions and environments that may adversely affect the health and well-being of service users and provide telecare alerts that notify the community (friends, family & professional carers) via a dashboard app.

The system can be used by organisations for monitoring or to produce regular reports that highlight “at risk” properties in terms of fuel poverty and abnormal behaviour, including temperature, humidity, audio alarm and power outage.

Alerts from alarm buttons have also been integrated into traditional back office tele-care response systems to notify the emergency services of situations requiring support.



Safehouse devices and sensors

Key outcomes from the trial

- Potential cost savings to health and social care services of £38,020 per 100 users per year
- Reduced costs of telecare: Potential reduction of £14,280.00 per 100 users per year
- Average hospital admissions reduced by 50%: Potential cost saving of £22,536 per 100 users per year
- Reduction in average GP visits by 13%: Potential cost saving of £592 per 100 users per year.
- Improved quality of life for users: Average increase of 0.7 points on the life satisfaction scale

Safehouse sensors have been installed in a variety of home care, sheltered living, supported housing and care home locations. Over 80 people in home care are using their sensors as part of this project.

Safehouse Sensors connect to the Liverpool 5G mesh network via a low cost LoRaWAN (Long Range Wide Area Network) using the Liverpool 5G as backhaul. It is a comprehensive, end-to-end, Internet of Things (IoT) device.

<https://www.safehouse.technology/>

Telehealth and VR headsets from NHS RLBUHT

NHS/RLBUHT (Royal Liverpool and Broadgreen University Hospital Trust) provided two user related technology solutions during the trial:

Telehealth in a Box, uses assistive technology to support earlier discharge of patients from hospital to their own homes. A portable multi-media telehealth monitor is used to record clinical, life style and quality of life data each day. The device delivers information to patients, helping them manage their conditions more effectively.

The device measures ECG, heart rate, and heart rate variability without the need for wires/leads; bio-impedance measurements monitor blood flow and breathing rate.



Patient using a VR headset

RLBUHT also built the **'Hospital to Home' SME testbed** - a "smart room" in Liverpool's life sciences accelerator building, which provides technology SMEs with an environment for testing 5G connectivity of products. Two testing environments are available: a replica single inpatient bedroom and a mock-up house with bedroom and kitchen facilities.

Key outcomes from the trial

- Telehealth in a box: Decreased use of primary health services and hospital services
- Telehealth in a box: Improved health for service users and increased ability to manage their own health
- VR Headsets in Palliative Care: Improved quality of life and wellbeing for patients
- VR Headsets in Palliative Care: Some reduction in pain medication for patients

The trial was delivered by MerseyCare, Liverpool CCG and their telehealth supplier, Docobo.

VR Headsets in Palliative Care, where headsets are used as a distraction in Palliative Care for pain management.

Samsung Gear VR headsets were used to provide the virtual reality experiences, and patients used the distraction therapy for ten minutes at a time.

VR headsets used 5G signals to allow streaming of a full range of virtual reality experiences, rather than viewing limited pre-loaded experiences.

Chromatic Sensors from the University of Liverpool

The University of Liverpool developed a chromatic sensor for use in home care, to help people live independently either in their own home or in residential care, with minimal intervention .

The Chromatic Sensor provides alerts to carers, with any unusual event (e.g. a fall, seizure, intrusion etc.) raising the level of concern and sending an alert.



Chromatic sensor

Key outcomes from the trial

- Improved notification of incident to carer
- Estimated reduction in carer time dealing with incident

The chromatic sensor units are placed on the ceiling and look similar to conventional smoke detectors. 5G connection allows high speed data transmission, critical for time-sensitive alerts.

This was an early stage trial, which allowed the devices and accompanying software dashboard to be tested.

One sensor was installed in Breckside Care Home, who reported that alerts from the device had provided an early indicator to the care worker to deal with a problem before it became an emergency.

WarnHydrate from the DigiCreDis

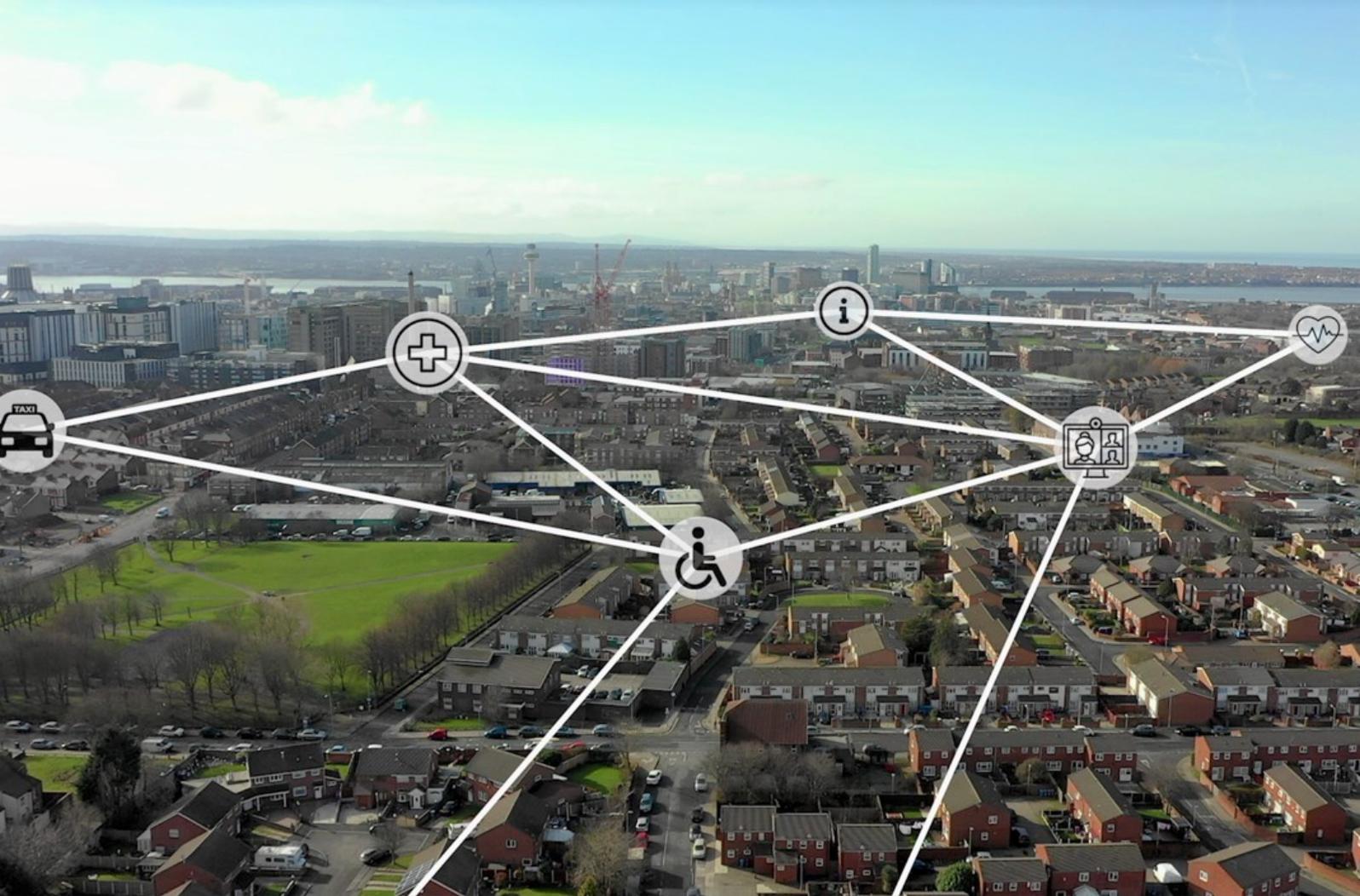
DigiCredis developed WarnHydrate to help home care services identify dehydration in elderly clients via urine analysis.

The device connects to the 5G internet via LoRaWAN and sends data to care providers.

A mobile app was jointly created with a local health tech company to provide a dashboard for care organisations and support workers.

The WarnHydrate prototype was trialled with a social care provider, who used it with their client in the context of domiciliary care to detect early signs of reduced hydration.

This was an early stage trial, which allowed the devices and accompanying dashboard to be tested. It ran for the first year of the project .



04

What about the technology?

Building the Network

Sensor City and the eHealth Cluster gave our project access to a global hub for innovative sensor and IoT technology, and existing local relationships between SMEs, public, and private sector commissioners.

This enabled Liverpool 5G to bring together 11 partners and 15 subcontractors and to build the UK's largest mmWave mesh network in 20 months. Using existing fibre and Blu Wireless' mesh network meant internet service providers could use unlicensed spectrum band, making it possible to provide affordable (free) Gbit connectivity to people's homes.

220 mmWave nodes were installed across Kensington and used with WiFi and LoRaWAN to create a 'network-of-networks' - connected to local authority backhaul. Independent data-centre hosting and internet carrier peering has ensured the safe storage of project data.

Our project harnessed research and development work taking place across the partnership. Creative SMEs and universities channelled knowledge of emerging technology, IoT devices and apps, to meet the needs of the health and social care sector.

Creating the mesh network has allowed us to establish network planning and implementation methodologies, procedures and protocols based on lessons learned during deployment.



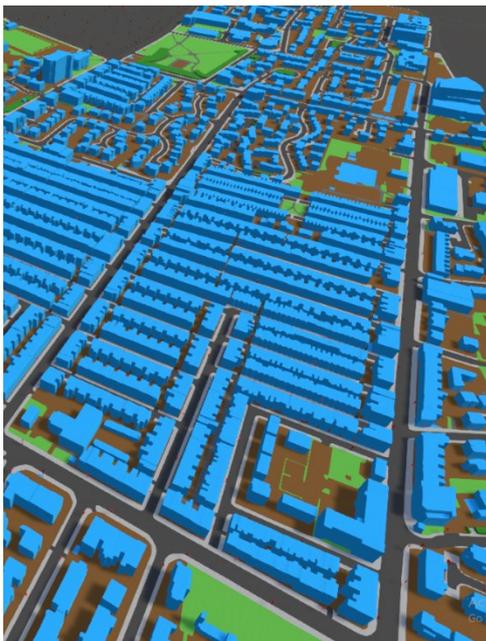
Nodes installed on a lamppost in Kensington, Liverpool

Our project has provided 179 5G supported IoT devices to 150 people in need, whilst a unique 5G supported care home and a 5G enabled community learning centre gave older people and isolated groups the chance to play online games and use health devices.

Further details of the technology and research involved can be found in: [Liverpool 5G Health and Social Care Testbed: Developing the Network](#)

Behind the scenes, emerging technology played a key role in our 5G network.

- Blu Wireless' innovative British 5G mmWave technology was developed and refined throughout the project, responding to feedback and learning as we went along.
- CGA Simulation designed a 5G network planning tool that uses a 'digital twin' simulation of Kensington, 3D mapping and new time-saving algorithms to automate planning and node placement, saving both time and money.
- AIMES supported the network deployment and developed a Trusted Research Environment for securely storing and analysing data from the project.
- DefProc Engineering provided a public access LoRaWAN Network using the Things Network with 5G backhaul.



CGA Simulation 'digital twin' planning tool

Research and Development

- The University of Liverpool produced algorithms to reduce power consumption across the network.
- Liverpool John Moores University built a simulator to model the properties and parameters of 802.11ad Networks. The team integrated CGA Simulation's 5G network planning tool into their simulator, to model optimal placement for 5G nodes and to make sure the simulator faithfully represents the Liverpool 5G network.
- Our academic partners produced papers and theoretical work; their findings were applied to the network to improve and optimise different elements of the technology.
- The project initiated the development of some early-concept devices, which had short initial/developmental trials, like digicredis' WarnHydrate.
- Co-production initiatives like CGA Simulation's anti-loneliness app saw the team working alongside a group at Kensington Community Centre, who all have a learning disability. Co-working created an app that is easier for people with different interests and abilities to use.



Liverpool 5G partners at the 5G Realised Summit 2019, after winning the award for the most innovative use of 5G technology

05

Learning and What Next?

Key points we learned from the project

We learned that you are more likely to be successful if you:

- Build on established projects and services – not a stand-alone project
- Use real services to avoid stand-alone pilots
- Work to ensure the integration of the technology and social aspects of the project
- Accept that new technology takes time to both develop, install and adopt
- Build flexibility into the programme
- Recognise that the input from all partners, subcontractors and trial partners is all equally valid and critical to the success of the project.

In working with health and social care providers and with individuals, the key things we learned are:

- Fit the technology to the need, not the need to the technology, when identifying potential health and social care technology applications.
- A close positive working relationship with health and social care providers is critical to successful implementation.
- For permanent change to take place, all stakeholders need to be involved, from clinician to care worker
- Tech SMEs developing solutions for the health and social care sector often need support to better understand the environment and the challenges faced.
- You can only show the impact of the works by understanding the underlying problem that the technology aims to address from all perspectives, and having the ability to work with health and social care providers and service users.

In addressing the technical and logistical challenge of installing the mesh network we learned:

- Planning needs to be in close cooperation with local government, for instance, for access to street furniture and future planned works in the area.
- Planning of node deployment and installation takes two stages: planning, but also manually carrying out site surveys.
- A combination of partners is needed for effective installation on buildings
 - Liaising organisation to establish relationship with care providers, for access
 - Contractor with capability and familiarity with product, for installation
 - Partner with the skill set and flexibility for internal works
- Moving from R&D to large scale production can be challenging, an effective supply chain establishment is essential.

What Next?

We aim to extend the network across the city, and then the region, and to introduce more useful and innovative technology that has a positive impact on health and social care services.

We are currently looking at a number of funding sources to enable the network to be extended and more use cases introduced.

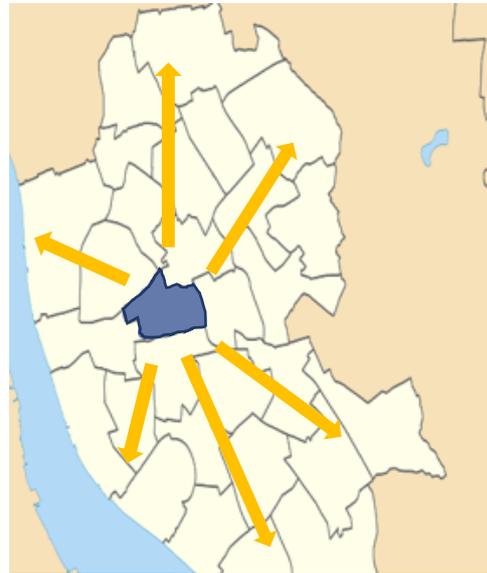
We are considering sources of local and central government funding and are looking to extend the range of NHS partners involved.

In the meantime, with the help of Liverpool 5G partners, the existing network is being maintained and devices are continuing to be used.

Opportunities for the NHS

There is an opportunity to work with NHS organisations on monitoring patients at home, supporting early discharge and reduced out-patient visits.

All local NHS organisations can use the network currently available in Kensington and have input into the future rollout plans to align with their own digital strategies.



Expanding the network from Kensington, Liverpool

Opportunities for Social Care

As we have already seen in Home Care Services, the increased use of technology is leading to a greater proportion of the minimal budgets available being spent on connectivity. This programme has continued to support the integration of technology into services whilst maintaining equality of access and developing more responsive services.

By providing more monitoring services in the home we are creating greater opportunities to support the integration of health and social care services, ensuring monitoring and response mechanisms are coordinated and focussed on improved outcomes for citizens.



SENSORCITY
Making the future happen



Acknowledgements

Thanks to all the partner organisations, their staff, the contractors and sub-contractors who helped to make this project a significant success, and who continue to work with us to maintain and expand the network.

Thanks to **DCMS 5G Testbed and Trials project** for funding this testbed

Report produced by: eHealth Cluster Ltd, with support from the partners.

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