

Liverpool 5G Testbed & Trial for Health and Social Care

Using 5G technology to improve digital health and social care applications





Vision

Create a platform to mature proofs of concept, begin commercialisation trials, attract inward investment and drive efficiencies arising from an integrated health and social care system.

The Liverpool 5G testbed brings together a unique mix of public sector and SME organisations:



Blu Wireless Technology, AIMES, Inventya, DefProc, Digicredis, CGA Simulation, Sensor City, Liverpool City Council, Royal Liverpool and Broadgreen University Hospitals NHS Trust (RLBUHT), e-Health Cluster, University of Liverpool, and Liverpool John Moores University.



Our Ambition for the next 12 months

- **Created 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
- **Demonstrated the potential for 5G** networks to make **positive impacts on societal health** outcomes over the next 5 years
- Demonstrated that through the use of licence free 5G mmWave networks there exists a future for 5G that **reduces**, not increases, the **digital divide** and access to services
- **Evidenced how 5G health and social care applications fit into the next wave of regional infrastructure development**, and the potential for UK and international commercial exploitation of our solution
- **Proven the viability of deploying Open Source 5G networking software** on an open platform 5G Mesh technology



Our Ambition for the next 12 months

- To demonstrate societal benefit of **health and social care working better together** and the **opportunities this affords for Government** releasing this band width to be **free for health and social care.**

LIVERPOOL 5G CONSORTIUM



5G TEST BED
INFRASTRUCTURE

LIVERPOOL CITY COUNCIL Street furniture Local infrastructure	AMAZON WEB SERVICES Support	UNIVERSITY OF LIVERPOOL Green 5G demonstrator	LJMU Optimisation & integration	AIMES Integrated cloud based services Research environment
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BLU WIRELESS – MESH NETWORK

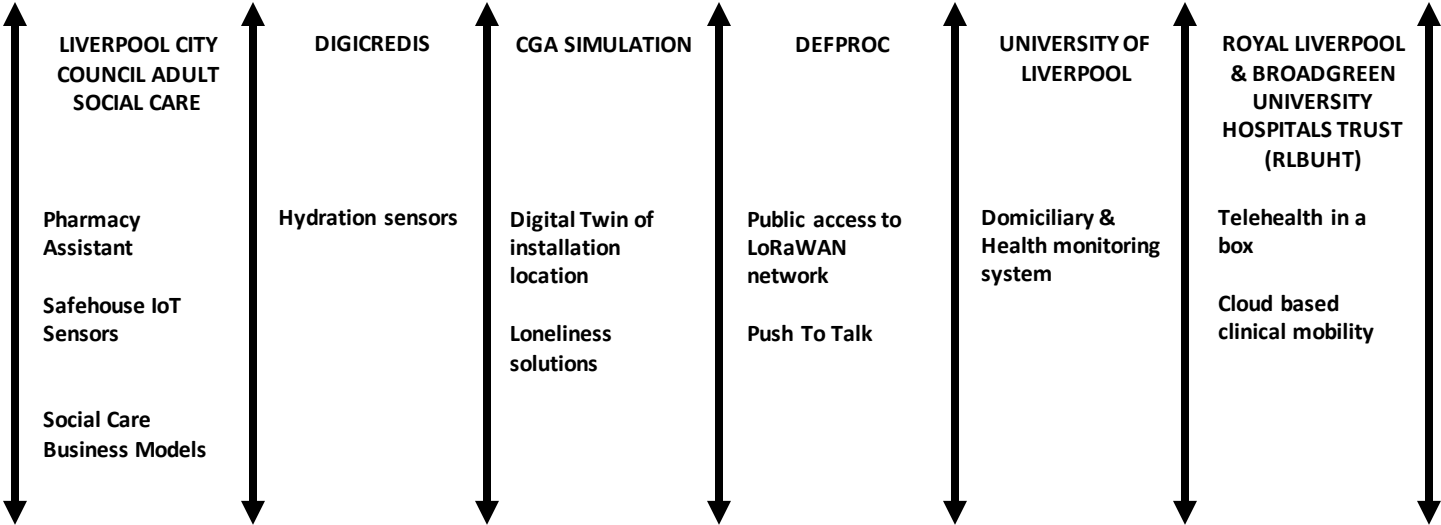
5G TEST BED
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LIVERPOOL 5G CONSORTIUM



ADOPTION & INTEGRATION

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5G TEST BED INFRASTRUCTURE

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<p>LIVERPOOL CITY COUNCIL</p> <p>Street furniture Local infrastructure</p>	<p>AMAZON WEB SERVICES</p> <p>Support</p>	<p>UNIVERSITY OF LIVERPOOL</p> <p>Green 5G demonstrator</p>	<p>LIMU</p> <p>Optimisation & integration</p>	<p>AIMES</p> <p>Integrated cloud based services Research environment</p>
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BLU WIRELESS – MESH NETWORK

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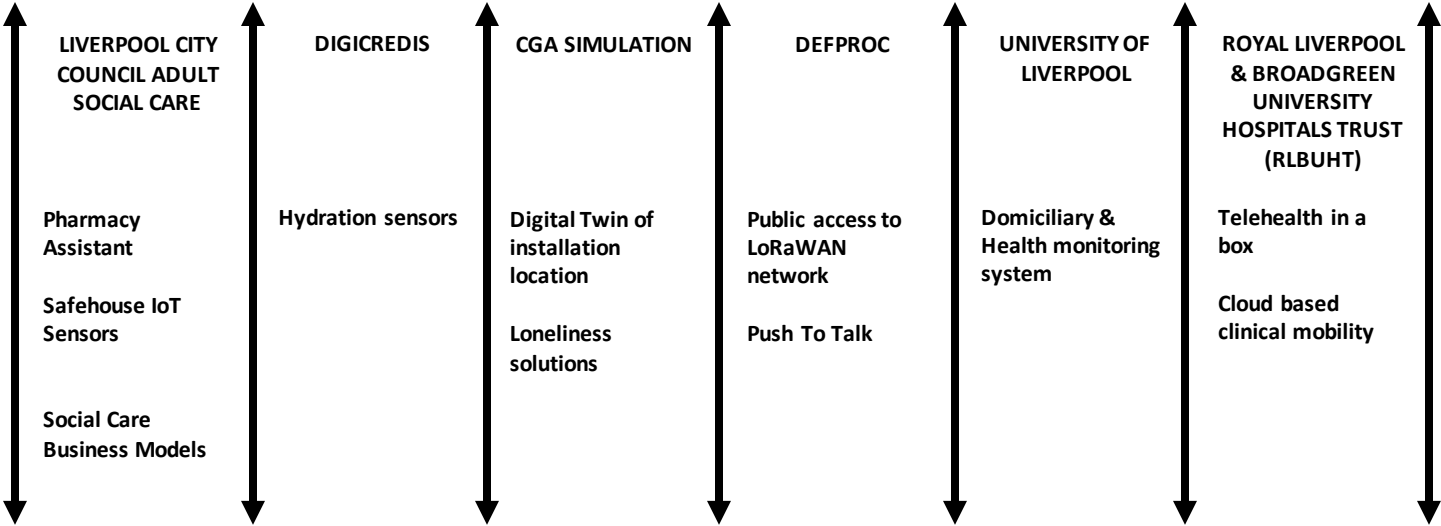
USE CASES

SOCIAL CARE ← → **HEALTH**

eHealth Cluster: Facilitating collaboration, SME Engagement, Adoption & Integration within Health & Social Care via use cases.

ADOPTION & INTEGRATION

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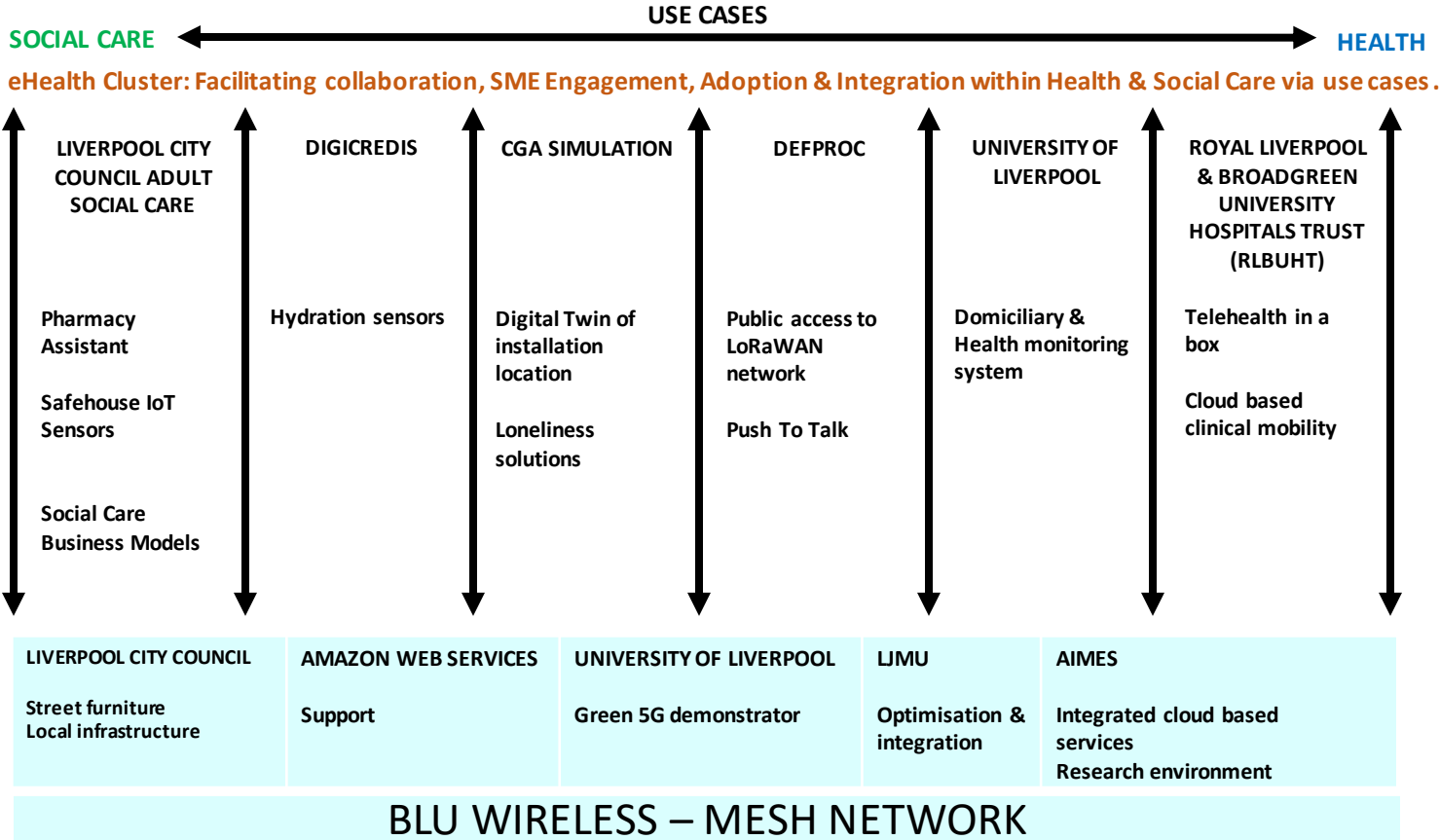
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BLU WIRELESS – MESH NETWORK

LIVERPOOL 5G CONSORTIUM

SENSOR CITY – LEAD – STRATEGIC OVERVIEW



STRATEGY / POLICY

ADOPTION & INTEGRATION

5G TEST BED INFRASTRUCTURE

STRATEGY / POLICY

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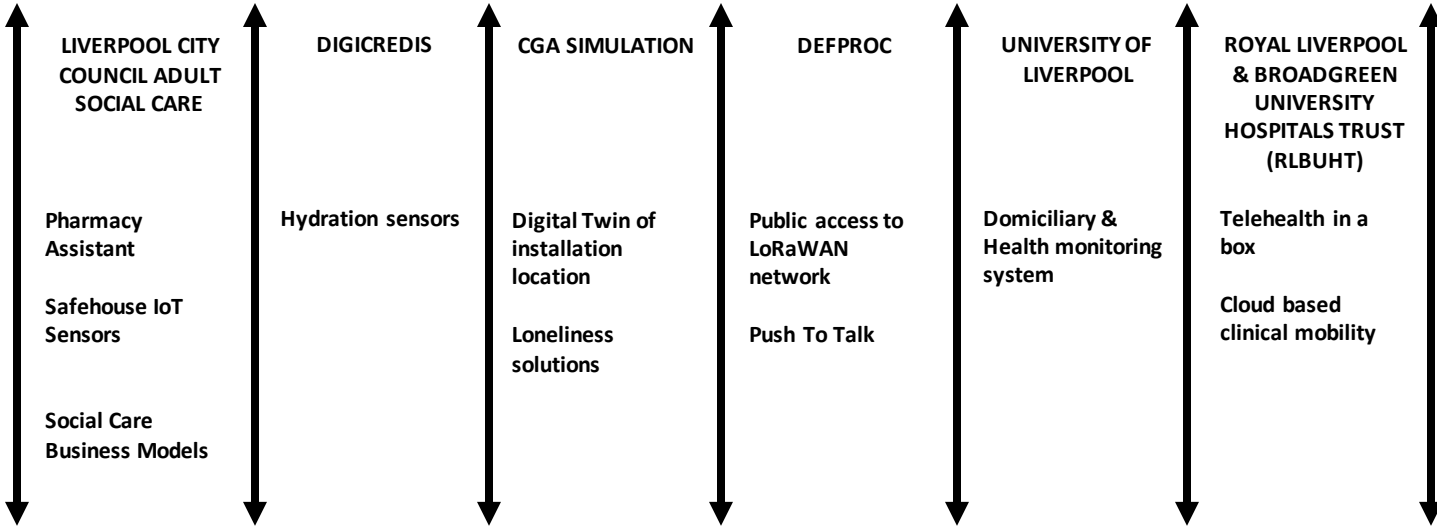
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BLU WIRELESS – MESH NETWORK

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PILOT PHASE PROJECT MANAGEMENT - INVENTYA



What the Testbed and Trial should do.

- **Blend of advanced low cost 5G technology and modern applications designed to revolutionise the future delivery of health and social care**
- **Demonstration of how health and social care applications are enhanced and integrated** through the utilisation of the **high bandwidth and low latency of 5G**
- **Provision of a testbed** for the development and **trial of bandwidth intensive applications** that require edge and/or cloud compute
 - **High resolution video and distributed AI** for patient event and movement monitoring
 - **Teleconferencing, AR, VR, etc.** to **manage loneliness** in older adults
 - **High resolution video and remote diagnostics** for ‘telehealth in a box’, facilitating **communication between hospitals and the community**
 - **Intelligent IoT sensors to aid independent living in the home**



Assessing Impacts.

- Use cases: baseline data in place or ready to analyse
- Social impact: engagement with service users, review of existing LCC and RLBUHT data and analysis of trends
- Economic impact: SME (consortium and engaged through eHC) pre and post project assessment, review of income and ROI
- Regional economic impact: full project evaluation undertaken by Inventya
- Methods: workshops, surveys, landscape review, case studies, dissemination report, monthly monitoring, IP reviews



Long Term Commercial Output.

- Commercialisation of 5 innovative SME applications
- Driving efficiencies in Health and Social Care – reducing local and central government costs through delivering care and consultation at home. Reduction in the use of hospital beds (£400 per night), social care beds (£200 per night), GP and A&E visits
- Commercial sales of testbed functionality for testing and innovation, providing post-2019 revenues and supporting 5G innovation
- Establish UK SME Blu Wireless as a global leader in low cost 5G broadband technology

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