

Agenda



- Councillor Susan Aitken - Leader of Glasgow City Council, Chair of the Glasgow City Region Cabinet, Convenor for City and City Region Economy and Just Transition.
- Mike McNally - Head of UK Shared Prosperity Fund, Glasgow City Region.
- Glasgow City Region 5G Innovation Region Project
- SCONDA Project
- ONSIDE Project
- Dejan Bojic - Head of Technical Design Authority, Future Network Programmes. Department for Science, Innovation and Technology
- University Of Strathclyde and Neutral Wireless Popup 5G Demonstration
- Networking and Lunch

Councillor Susan Aitken

Leader of Glasgow City Council,
Chair of the Glasgow City Region Cabinet,
Convenor for City and City Region Economy and
Just Transition.



Mike McNally

Head of UK Shared Prosperity Fund,
Glasgow City Region.





Glasgow City Region

City Region Economy at a glance



£48 billion

Total GVA – 4th largest UK City Region outside of London.



73.3%

In employment – with rate remaining steady through Covid-19



3.1%

Unemployment rate



+127,000

Additional fibre broadband connections since 2020



47.4%

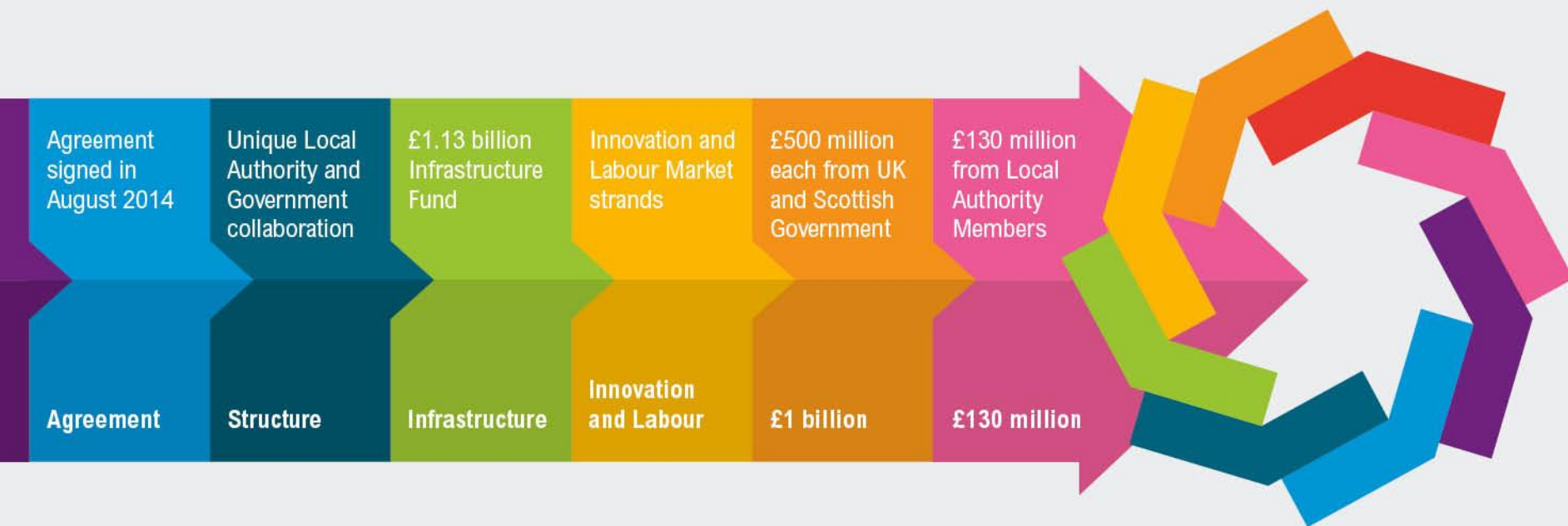
Proportion of working age population educated to degree-level



1.85 million

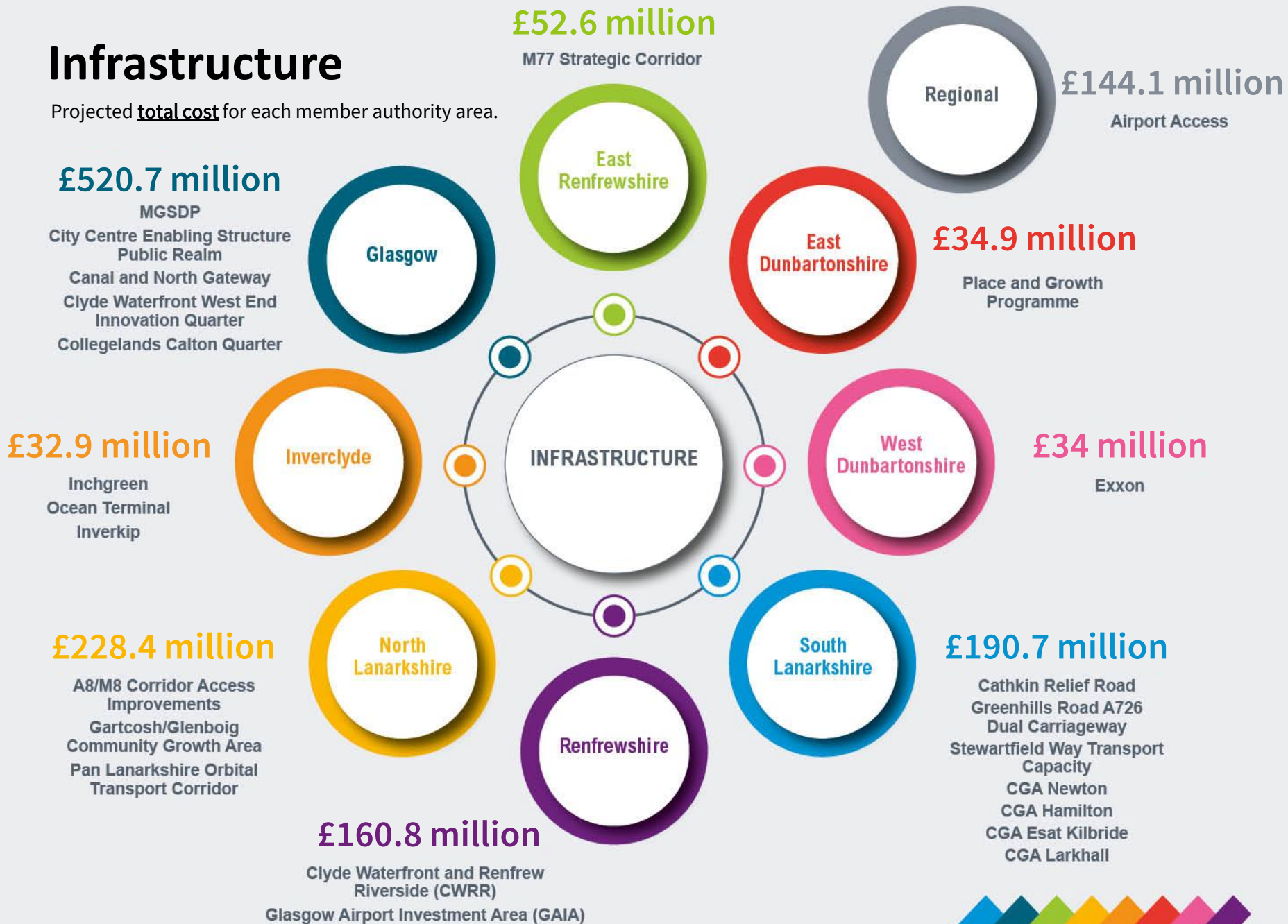
Total population, 33.7% of Scotland

Our City Deal



Infrastructure

Projected **total cost** for each member authority area.



The Regional Economic Strategy

In 2022, the Region published the Regional Economic Strategy which is based on an extensive evidence base and stakeholder engagement

CHALLENGES AND OPPORTUNITIES

Creating an Inclusive Economy

Enhancing Productivity

Addressing the Climate Emergency

High Growth Sectors

Foundational Economy

Accelerating Climate Action

Health

skills

Technology

Place



Vision and Missions

The Regional Partners' commitment to transforming the economy to address the challenges can be seen in a new vision and three interlinked missions:

By 2030, Glasgow City Region will have the most Innovative, Inclusive and Resilient Economy in the UK



MISSION 1

By 2030, the Region will have the most inclusive major city-region economy in the UK.



MISSION 2

By 2030, the Region will have the most productive major city-region economy in the UK.



MISSION 3

By 2030, the Region will have the most advanced city-region economy in the UK in the race to net zero and climate resilience.

Delivering Regional Priorities

The Region has a series of priorities. With the right approach the combined invest in GCR can help address a wide range of these

MISSIONS	ACTION AREA PRIORITIES (NOT RANKED)
	
	
	
	
	
	
	
	
	
	

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 Inclusive Economy  Enhancing Productivity  Climate Emergency

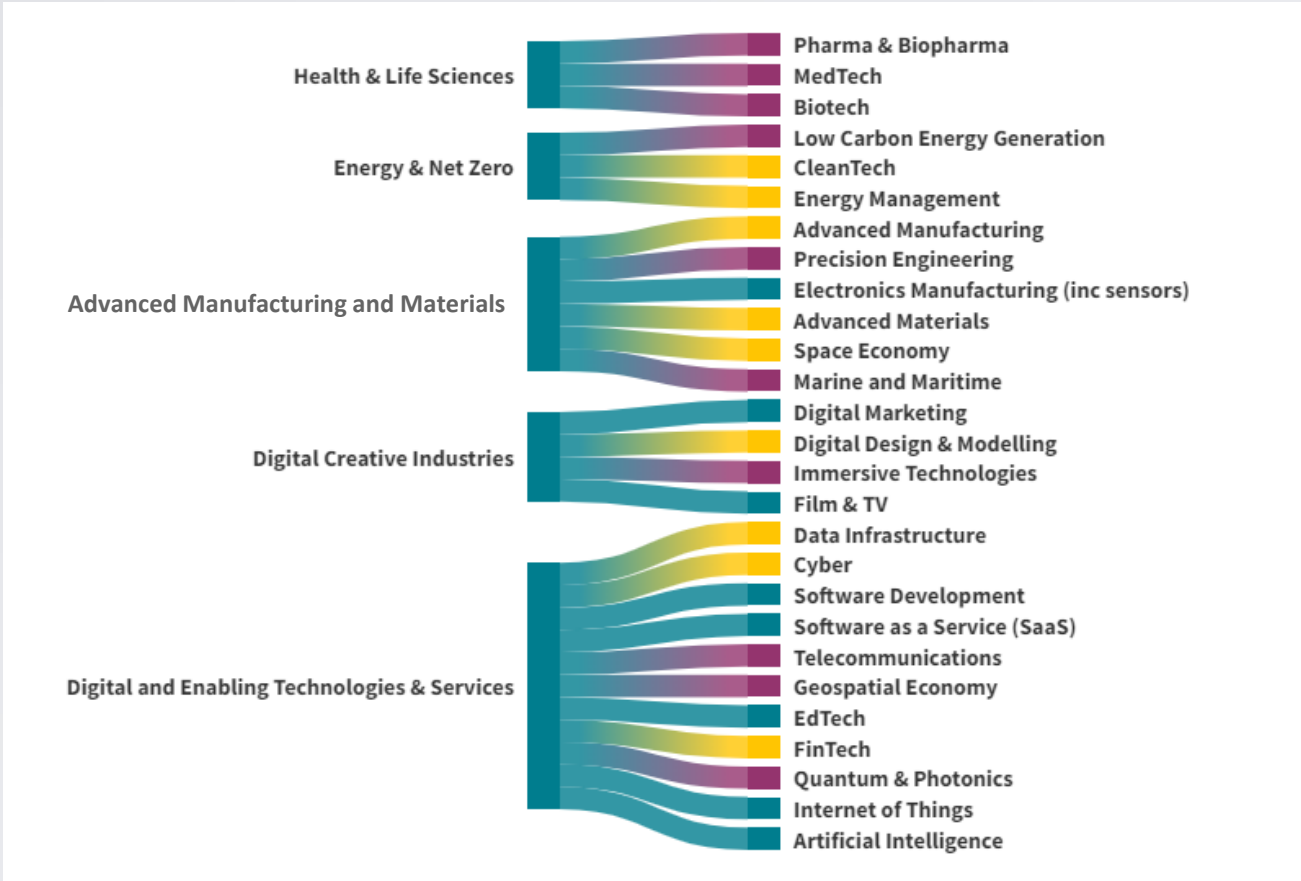


Cluster Strengths & Specialisms

The group of clusters has been agreed with the eight Local Authorities, Innovate UK, Glasgow University, Strathclyde University, University West Scotland, Glasgow Colleges and Scottish Enterprise

Broad Cluster Groups

Sectors



- Sectors in purple represent existing specialisms
- Sectors in yellow represent emerging specialisms
- Sectors in green represent strengths

Integrating Activity

Investment to deliver the Regional Economic Strategy



City Deal

- £1.1bn investment
- Includes series of innovation enabling projects

UK SPF

- £74m
- Includes a range of skills, business projects and community projects

Clyde Mission

- £25m+
- Includes a range of skills and business projects
- Accelerator

Investment Zone

- £160m
- 10 year programme supporting sectoral growth

Innovation Accelerator

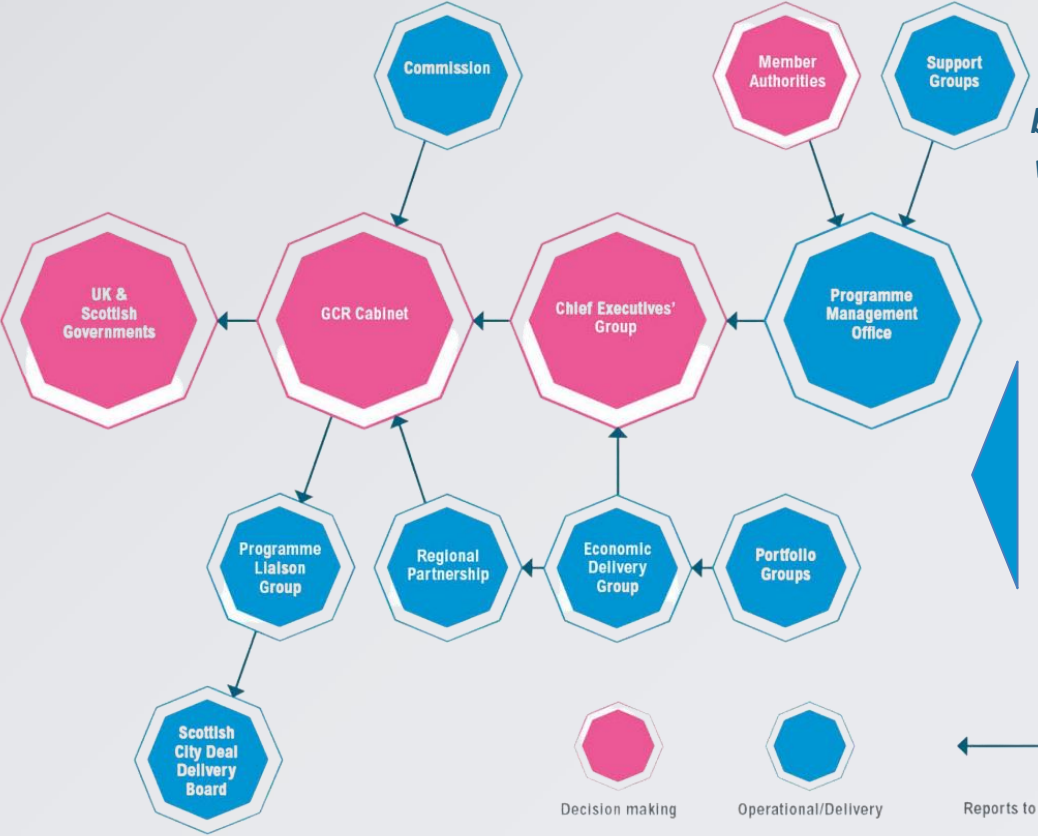
- £33m
- Broad range of innovation projects

5G Innovation Region

- £3.2m DSIT investment
- Development of 4 use cases

City Region Governance

Since the City Deal, the understanding of the benefits of Regional working has increased and work of the team is now focused in three areas



City Deal Management

City Region Delivery

Intelligence Hub

GCR 5GIR Project





**Glasgow City Region
5G Innovation Region Project
January 2024**

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Glasgow 5G Innovation Region: Using Technologies to Better Deliver Local Services

GCR will utilise existing Internet of Things (IoT) deployments and smart city applications to identify, deliver and propagate use cases for utilising advanced wireless technologies and driving improvements in public and private sector service delivery

Addressing Key Issues in Our Communities

- **Deprivation:** Long standing concentrations of poverty including digital poverty (connectivity as biggest factor)
- **Population:** high multi-morbidity, low life expectancy, & significant health and social inequalities coupled with ageing population
- **Housing Stock:** over 240,000 social homes, ageing stock, increasing maintenance costs & challenging energy efficiency and net zero targets
- **Increased Service Demand / Budget Pressures:** Increasing demand into health & social care services & funding and service sustainability pressures
- **PSTN switch over** in 2025 impacting existing telecare deployments

Glasgow 5G Innovation Region: Overview

The Project has been designed around four workstreams – focusing on three key demonstrators

Workstreams

1

**MONITORING DATA
AGGREGATION**

2

**SOCIAL CARE AND
MONITORING**

3

**SOCIAL HOUSING – ASSET
MONITORING**

4

**SOCIAL HOUSING – NET
ZERO MONITORING**

 **Demonstrators**



Glasgow 5G Innovation Region: Approach

There are three key elements to the work which will cut across all four workstreams

Mapping the Best Practice

- *Review each workstream to understand the current best practice' system / architecture works*
- *Wireframe / Test of change*

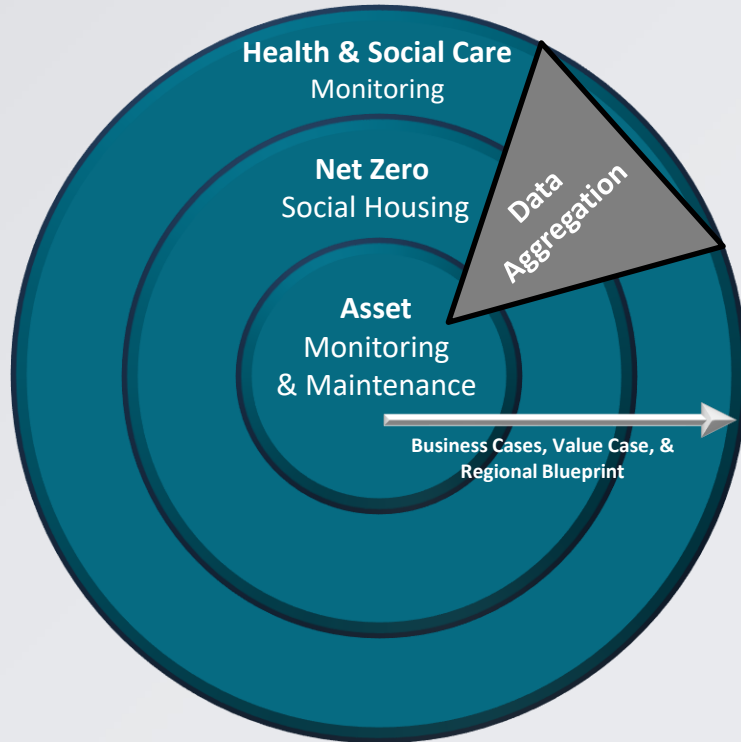
Systems Change

- *Review how each of these models of best practice could be adopted elsewhere – Regionally, also nationally*

Business Case Development

- *Development of business cases for each workstream*

Glasgow 5G Innovation Region: Opportunities / Deliverables



Focus on Business Cases,
Value Case & Regional Blueprint

OPPORTUNITIES

- Scaled **Technology & Connectivity Adoption**
- Expedite **5GIR objectives**
- Commercial **Innovation**
- Attract **Investment**
- 1st of Type Model to be **Replicated** at UK Scale

Glenda Cook

Planning Manager

Glasgow Health and Social Care Partnership

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Telecare

- Over three decades of analogue telecare
- Industry complacency
- Lack of innovation
- Absence of change drivers
- Poor data analysis
- Dubious efficacy of some products

Analogue Switch Off

- Catalyst for change - deadline set
- Innovation inertia from telecare industry
- Growing consumer expectations/Generational shift
- 'Like for like' offer
- Connectivity: the rising spectre

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The Proposition: Alexa

- What are we proposing?
- Why Alexa?
- Why now?

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Alexa: Opportunity

- Harness cutting edge technology
- Introduce a new model of telecare
- Support self management
- Normalisation of care technology
- Development potential

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Benefits Realisation

- Increased efficacy and efficiency
- Predictive technology
- Conveyance avoidance
- Maintaining individuals in their own home
- Alleviate pressure on direct care provision by HSCP
- Cost benefits

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Patrick Murray

Head of Digital, Transformation and Customer Service

Renfrewshire Council

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Our Strategic Focus on Smart Social Homes

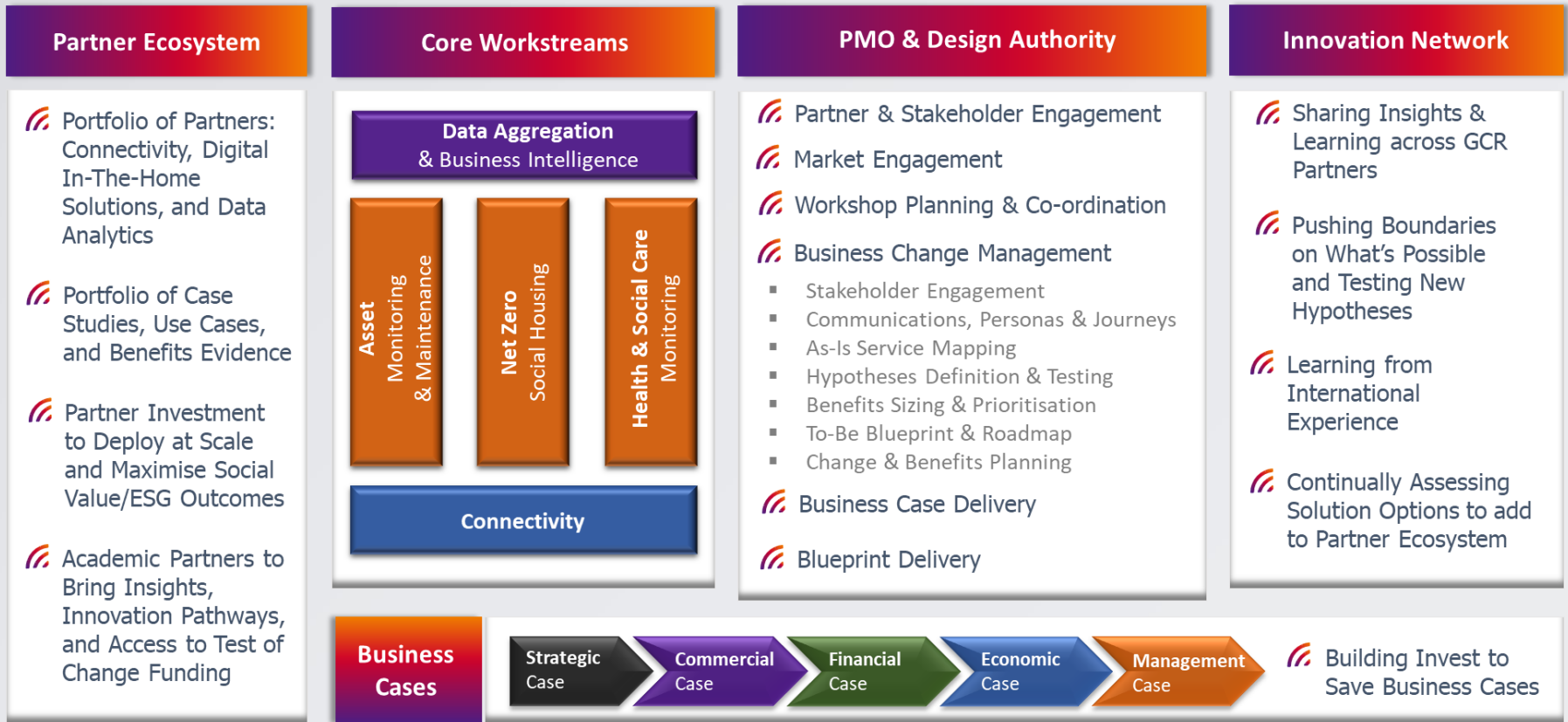
“Having secured best value pricing from partners who want to make at-scale social impact, we can build an Invest to Save Business Case to deliver step changes in outcomes by deploying free connectivity to social homes as a platform for deploying in-the-home solutions that enable efficiency, productivity, and performance improvements to be sustained at whole system scale such that the investment pays for itself.” – Our Primary Hypotheses to Test & Prove via our Demonstrator Project



AMBITION

- **Free Connectivity to 10,000 Social Homes** leveraging our fibre infrastructure and other connectivity solutions
- Create an **Invest to Save Business Case** for investment based on the ROI from deploying in-the-home solutions
- Learn from pilot deployment of sensors in 300 social homes measuring **Humidity, Temperature** and **CO2** levels
- **Hypotheses-Led Approach** to identify, prioritise, and validate benefits opportunities (financial and non-financial)
- Manage a **3-Month Demonstrator Project** to produce a Business Case and Blueprint starting in early 2024
- Demonstrator scope covers all **5GIR workstreams** with IoT solutions and data aggregation as a primary focus
- Deliver a **Launch-pad in Renfrewshire** to expedite 5GIR objectives by sharing knowledge, insights, hypotheses, business case, and blueprint via our Innovation Network
- Secure Go-Decision at end of demonstrator to move into a **12-month Implementation Phase** to deploy scaled connectivity, digital, and data solutions that **maximise the ROI** for the Council, NHS, HSCP, and CPP

Our Building Blocks

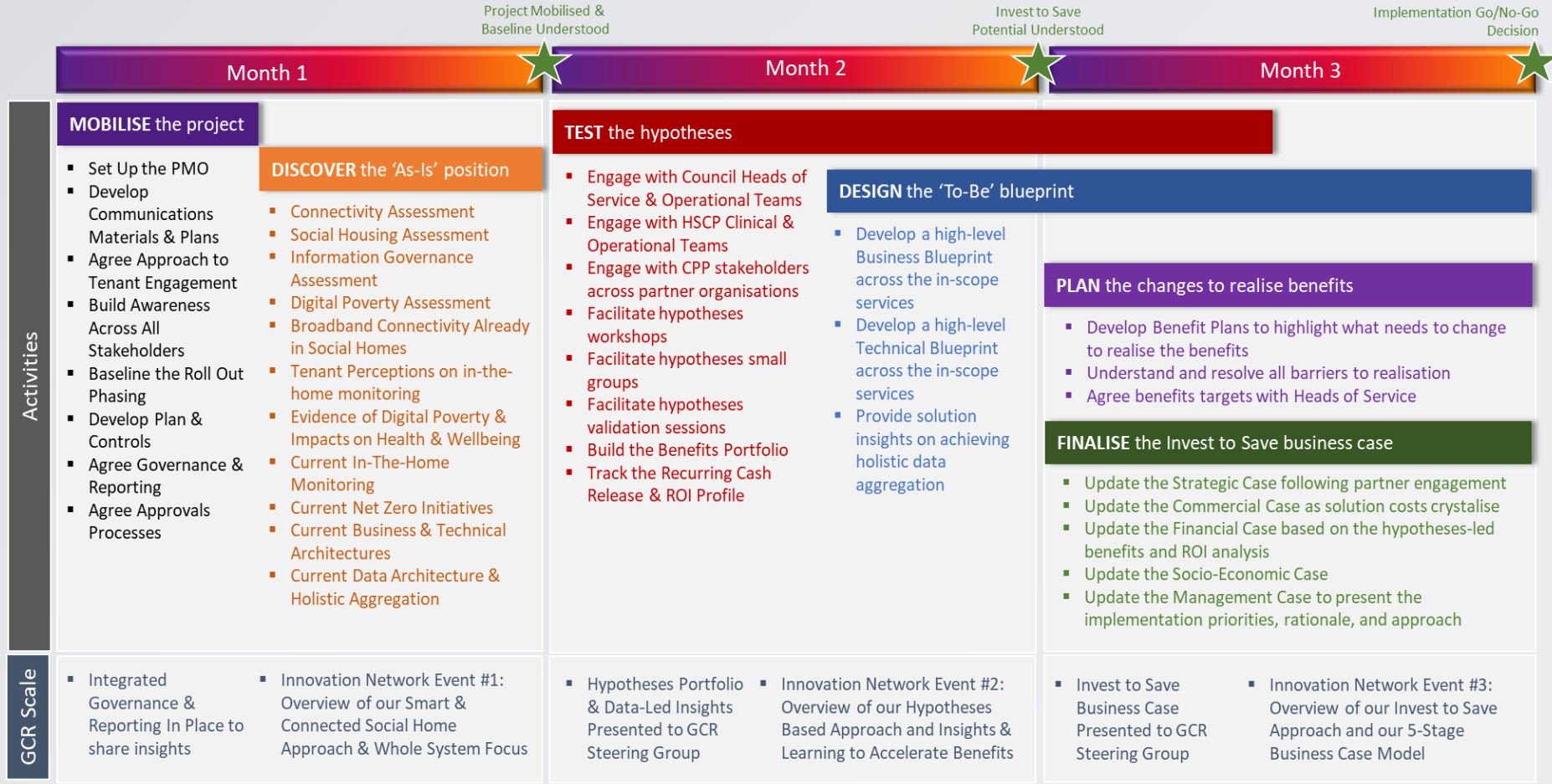



We continue to shape our partner ecosystem which will include existing GCR solution partners


We will cover all 5GIR workstreams as each will be vital to delivering our Invest to Save returns


We will share knowledge, templates, and outputs with GCR local authority partners to help accelerate pace, reduce risks, and maximise 5GIR benefits

Our Demonstrator Phasing












 We have secured strong support for the demonstrator

 We will expedite learning and positive 5GIR outcomes at GCR scale

 We will collaborate closely with the 5GIR Delivery Taskforce to maximise early benefits

Our Initial Benefits ‘Levers’ To Test

-  **REDUCE VOIDS & LOST INCOME:** intentional focus on identifying empty homes & accelerating turnaround times
-  **REDUCE REPAIRS COSTS:** enable right-time repairs, reduce assessment visits, & prevent escalation to major repairs
-  **REDUCE HOME CARE COSTS:** enable remote monitoring, reduce home visits, & accelerate switch from analogue
-  **REDUCE CONTACT CENTRE COSTS:** reduce repairs calls & time invested in complex case management
-  **RELEASE PRODUCTIVE TIME:** release time to support/care in Council teams, HSCP teams, & CPP partner teams
-  **IMPROVE COMPLIANCE:** SHR focus on damp & energy efficiency, and reduce reputational risk, claims & penalties
-  **REDUCE NHS COSTS:** digitally enable on-time discharge (£39M in GGC 22-23) & shift the balance of care
-  **ADDRESS HEALTH INEQUALITIES:** digital poverty no longer prevents access to in-the-home & national solutions
-  **ENHANCE TENANT WELLBEING:** reduce inequalities, reduce fuel poverty & improve social connectedness
 - We will add to the Hypotheses to Test through engagement with stakeholders in Renfrewshire and via the 5GIR Delivery Taskforce
 - Having shared our initial Hypotheses with the 5GIR Steering Group, we’ll continue to collaborate as one team to accelerate 5GIR benefits at GCR scale

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Summary

Taking a Regional Approach and delivering across the workstreams, we will collaborate to Test, Learn & Scale Up to create more efficient and effective service delivery – and establish an approach that can be replicated across the UK

*The GCR 5G
Innovation
Project will:*

- *Accelerate pace, reduce risk, & maximise benefits at GCR scale*
- *Leverage demonstrators to expedite learning & re-use*
- *Enable holistic & data-driven decision making*
- *Accelerate opportunities for scaled technology & connectivity adoption*
- *Test & prove commercial models, not just the technology*
- *Deliver solution business cases, and blueprints to attract investment*

The background features a white central area surrounded by several overlapping, semi-transparent geometric shapes in various colors: yellow, orange, red, pink, purple, blue, and green. The shapes are arranged in a circular pattern, creating a dynamic and colorful frame.

Thanks

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Our Focus on Net Zero Social Homes

Leverage experience from 19 net zero emission homes in North Lanarkshire with the following as standard

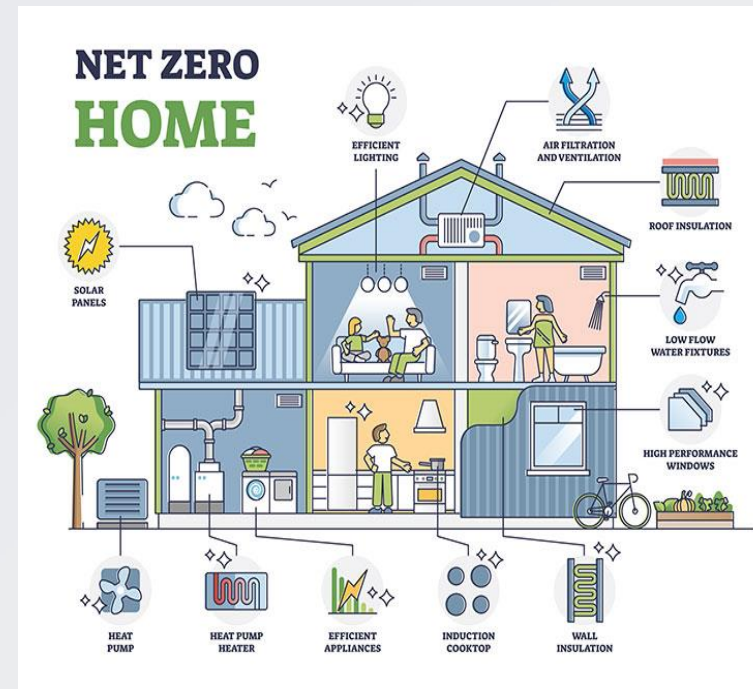
- Solar panels producing up to 4KW of electricity to reduce CO2 emissions and reduce heating costs
- Battery storage units to store the electricity, designed to top-up during cheaper off-peak periods
- Energy efficient air source heat pumps to provide heating using gas or other carbon sources
- Enhanced insulation to minimise heat loss
- Enhanced windows and doors specifications
- Electric vehicle charging pillars in every parking court
- Aim is to reduce carbon emissions, reduce energy costs, tackle fuel poverty, and achieve 'A' rated Energy ratings

Consider wider solutions to enable Net Zero outcomes

- IoT solutions to track temperature and humidity to measure effectiveness of net zero improvements
- Smart thermostats to moderate temperature based on need
- Smart lighting based on movement in the property
- Collaborate with HACT and other UK wide organisations to leverage all possible technology-enabled net zero solutions
- Consider Net Zero as one outcome across a portfolio of Smart Social Home outcomes given IoT dependencies

Provide Invest to Save Evidence Bases & Scale Up Opportunities

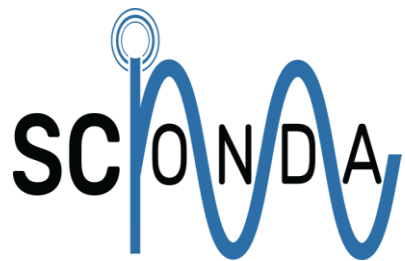
- Use North Lanarkshire as a launch pad to share knowledge and expedite Net Zero Investment Case analysis at GCR scale
- Leverage experience from sensor deployments across GCR partners, identifying all net zero benefits delivered
- Integrate analysis of Net Zero solutions as part of Smart Social Homes to maximise benefits and ROI at a portfolio level



SCONDA Project

Mike Carter
AWTG Director of Public Networks

Claire Venners
Boldyn - Director of Smart Places



Glasgow 5G Connectivity Event

10th January 2024

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ONE (Open Networks Ecosystem) Competition



The Open Networks Ecosystem Competition is offering up to £80m of funding in the next phase of the UK Open Networks Research and Development (R&D) Fund

Key Challenge Area

- **RIC and other RAN Software Automation**
- **Processors, RF, and other RAN Hardware**
- **High Demand Density (HDD) Use Cases/Demonstrations:** HDD sites such as urban areas, airports, sports venues and major public events represent the most challenging environments for the technical performance of mobile networks. We're looking to fund projects which seek to develop, demonstrate and test approaches for optimising mobile network performance in High Demand Density environments

Objective: Develop, demonstrate and test approaches to optimising Open RAN network performance in High Demand Density (HDD) environments.

SCONDA (Small Cells OpenRAN Network in Dense Area)

The SCONDA project will build, integrate, optimise and deliver an Open RAN network in Glasgow City Centre, integrated to the existing Three UK Core Network, operating alongside their traditional RAN

The project will aim to deploy a cluster of 53 small cells in hotspot locations in Glasgow City Centre creating a densification layer

- The system is capable of serving the needs of Three UK customers in a dense urban environment
- Open RAN (Radio Access network) small cells can be deployed in effective manner – reducing complexity and cost of deployment
- Include a RIC (RAN Intelligent Controller) solution to orchestrate the management of the Open + (multi-vendor) Traditional RAN

Expected to optimise the Open RAN system during the project duration. Focusing on automation and softwarisation of processes and methodologies, and Lessons Learned for the Industry

Increase the knowledge base for a Tier 1 Network operator in adopting Open RAN into its eco-system

Who are the partners?

AWTG – Programme Lead - bringing its expertise as a system integrator, ensuring that innovations and lessons learned in this project are realised

Three – Technical Owner – Integrating to their Network, and adoption of Open RAN into their eco-system

Boldyn – Deployment Partner - bringing their 'site + fibre + connectivity' model. Crowd-source analysis to pin-point new cell locations, and simple and effective Acquisition, Design and Construction (ADC)

Mavenir – ORAN Provider. Will develop and provide the small cell suitable for Three spectrum, and ORAN based on a new future proof scalable and cost-effective network design

PI Works – RIC Provider. Will integrate its RAN Intelligent Controller and develop suitable rApps for inter-operability and energy saving / load balancing with the Traditional RAN

S5GC – Benefits Realisation and Information Dissemination. Responsible for monitoring and measuring the benefits that are identified at each phase of the project

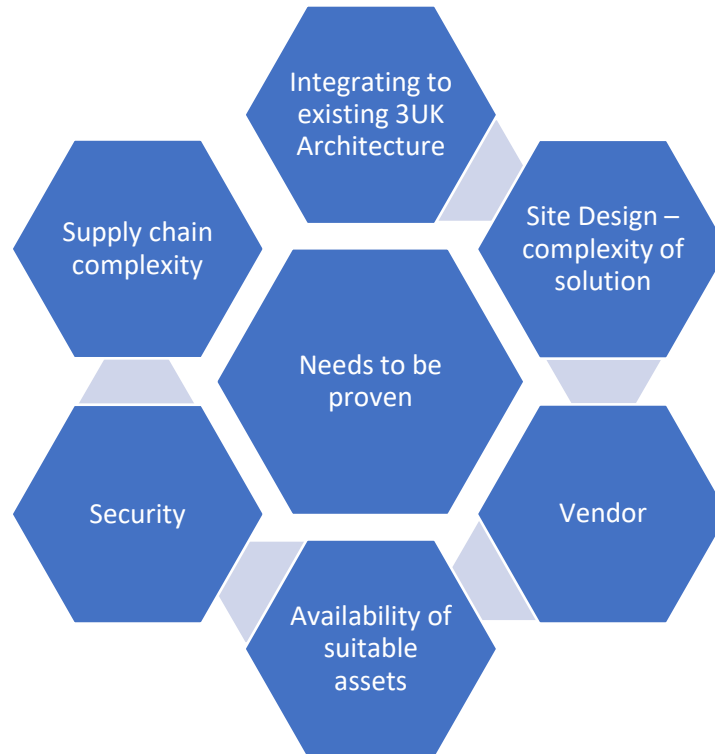
Accenture – Benchmarking expertise to measure the enhanced customer experience

University of Glasgow – Deployment of an Indoor Network using Flex5G solution

University of Surrey – ORAN expertise in App development and FlexiDAS solution



SCONDA – Is it easy?



But the opportunity is huge...

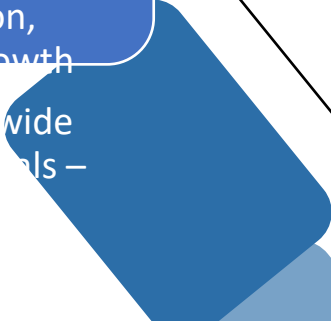
SCONDA – What it means



- *Catalyst for ORAN and HDD solutions
- *Maintain integrity of city architecture
- *Access to fast 5G network for all
- *Fosters innovation in urban connectivity

- *Faster Deployment of service
- *Increase Vendor Ecosystem
- *Lower cost of deployment
- *Increase coverage footprint

- *Expedite nationwide Implementation of 5G Services
- *Increase Vendor Ecosystem
- *Net Zero
- *Innovation, competition, economic growth



ONSIDE Project





ON-SIDE

Open Network Shared Spectrum Innovation and Design Environment

Peter Shearman

Project Director; Head of Innovation, Cisco UKI



5G RuralFirst



5G new thinking

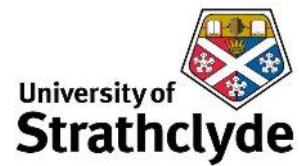
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Open Network Shared
Spectrum Innovation and
Design Environment

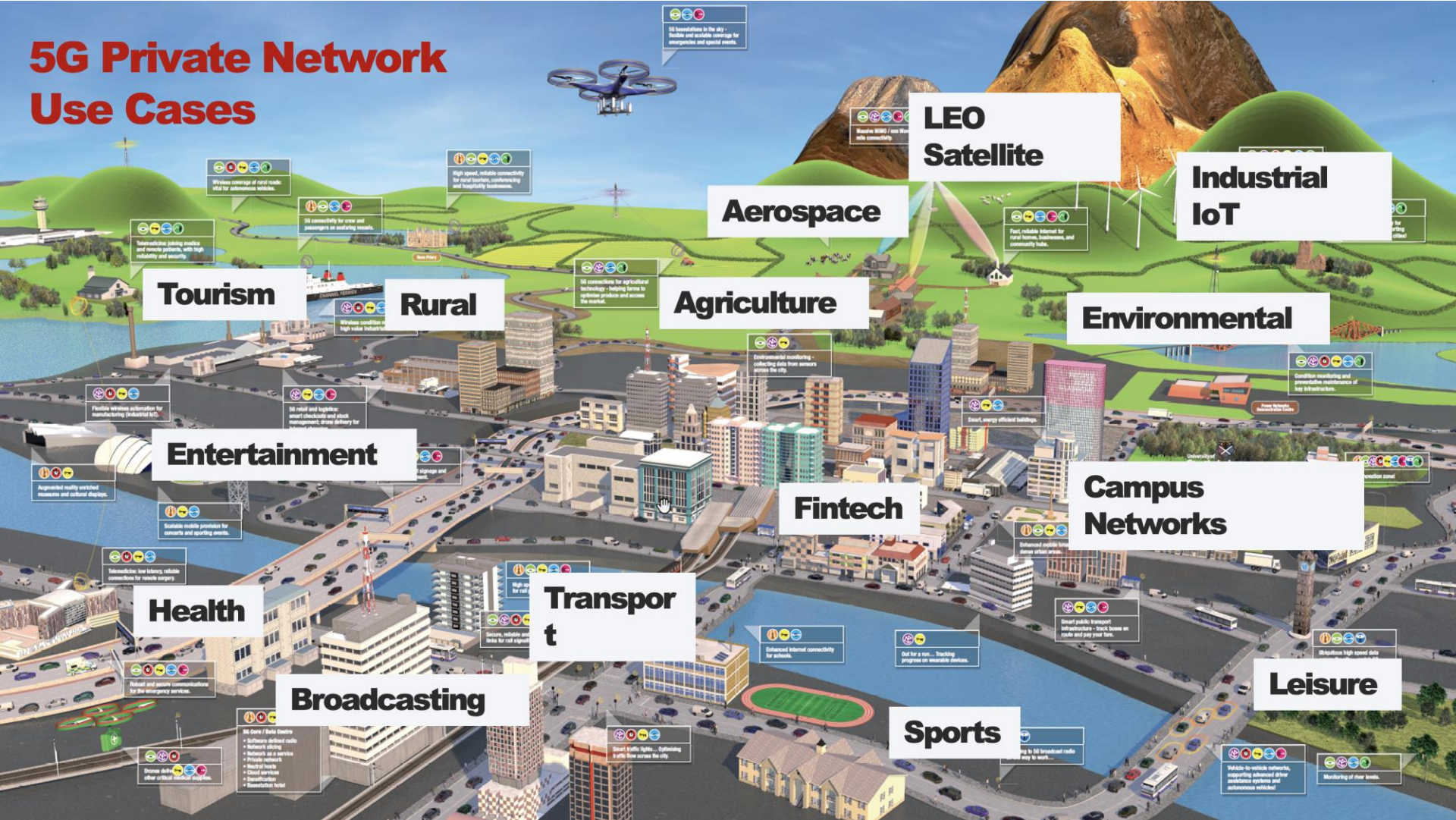
ONSIDE Partnership



Co-funded by



5G Private Network Use Cases



Spectrum Sandbox





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Dejan Bojic

Head of Technical Design Authority,
Future Network Programmes.



Department for
Science, Innovation
& Technology



Popup 5G Private Network Demonstration

University Of Strathclyde and
Neutral Wireless



University of
Strathclyde
Glasgow

