

Economic Opportunities Framework

Liverpool City Region



A FAIRER, STRONGER, CLEANER
LIVERPOOL CITY REGION

WHERE NO ONE IS LEFT BEHIND



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Foreword: Councillor Mike Wharton

The Liverpool City Region is a beacon of opportunity with a proud and storied history.

Driven by our ambition to be the fairest, strongest, cleanest, and most prosperous place possible, we are on a remarkable journey of transformation to unleash our full potential and build a place where no one is left behind.

The Combined Authority is already investing hundreds of millions of pounds to support economic growth in every part of the City Region. From investment in start-ups and fast-growing businesses, attracting companies to locate here, to delivering the transport, digital infrastructure, and skills they need to thrive. We are determined to build on our success: raising aspirations, harnessing opportunities, and creating an inclusive economy that benefits everyone who lives, works, and grows up in our region.

This Economic Opportunities Framework is a roadmap towards a future of that shared prosperity; a long-term approach that will build on our strengths and nurture the creativity and ingenuity of our people and businesses who are pioneering the ideas and industries of the future.



Councillor Mike Wharton

Building on the LCR Plan for Prosperity, it emphasises clusters of economic activity which are strategically important to our City Region's economy, and where we have competitive and comparative advantage.

From world leading innovation specialisms to our dynamic clusters in advanced manufacturing, health and life sciences, and digital & creative industries, the Liverpool City Region has the necessary components to thrive in the ever-evolving global landscape.

And it is these strengths and opportunities which are central in responding to the biggest global challenge of our time – the climate emergency – and which will support our goal of achieving Net Zero by 2040, a decade ahead of the national target.

Liverpool City Region is at the forefront of innovation-led low carbon solutions, with the potential for us to become the UK's 'Renewable Energy Coast': further scaling-up one of Europe's largest clusters of offshore wind farms; supporting the growth of green hydrogen; and a first-of-its-kind Mersey Tidal range to harness the power of our river and deliver predictable energy for the next century.

Furthermore, with both UK and Freeport and Investment Zone status, our locational and tax advantages will help unlock global markets, secure investments in research and development, boost exports, and foster a knowledge-intensive economy. This Framework is not born from mere ambition; it is grounded in strategic partnerships, collaborative leadership, and a resolute commitment to inclusivity. We invite businesses, investors and residents to explore the opportunities, collaborate on solutions, and join us in building a legacy of progress and prosperity for generations to come.

**Councillor Mike Wharton,
Portfolio Holder for Economic Development
And Business**

LIVERPOOL CITY REGION – A PLACE OF PIONEERS AND OPPORTUNITY

Liverpool City Region (LCR) - Halton, Knowsley, Liverpool, St Helens, Sefton, and Wirral - is centrally and strategically positioned on the UK's west coast. With a £35bn economy and a population of 1.6 million people, it is a true global gateway built on international trade and connectivity, driven by innovation.

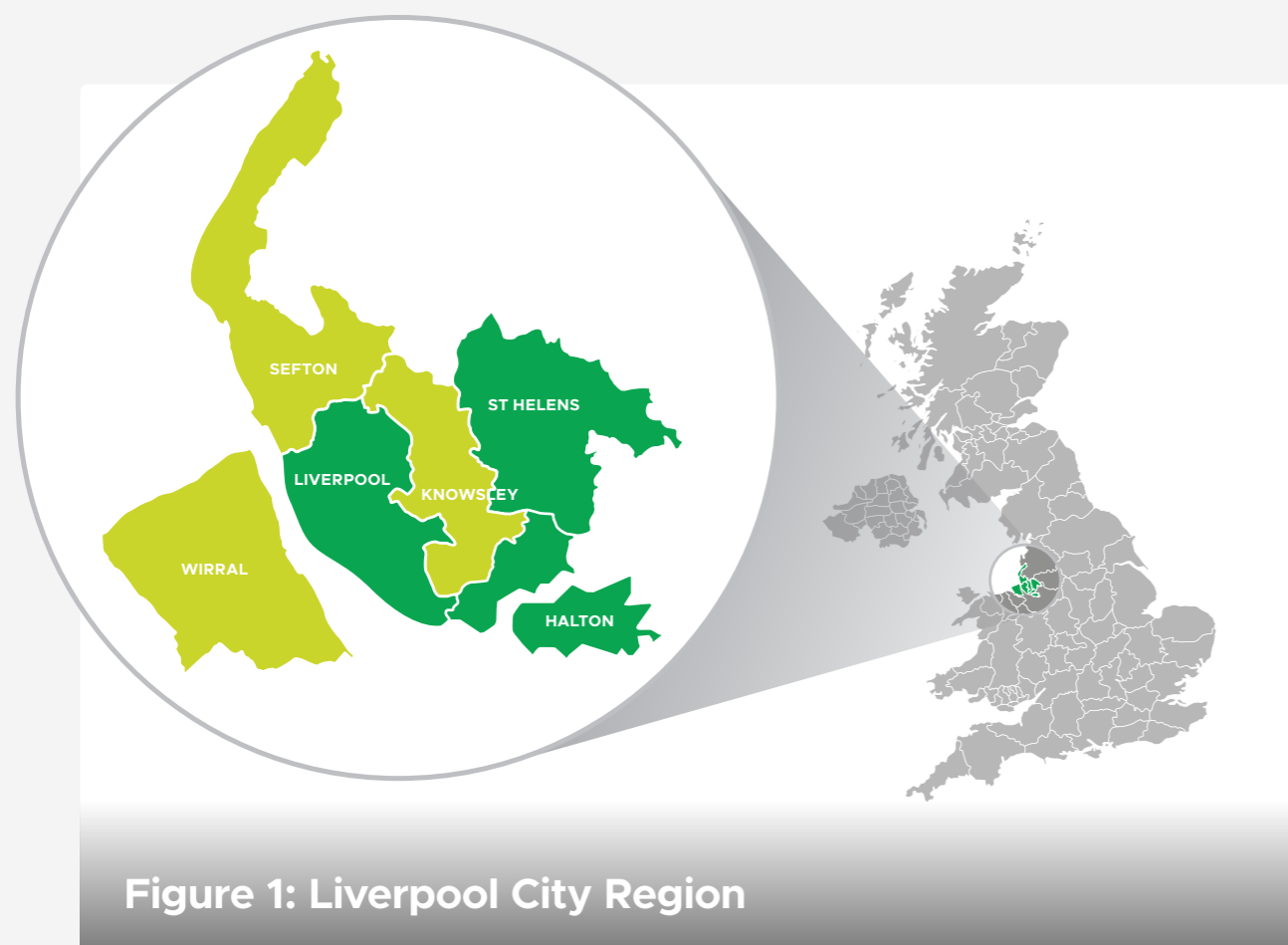


Figure 1: Liverpool City Region

A pioneering spirit that drives LCR's transformation

The City Region rose to prominence through transformation, pioneering the modern dock technology, transport systems and maritime buildings that enabled the first industrial revolution. That level of creativity, ingenuity and innovation continued in other aspects of economic and civic life: the world's first municipal public park in Birkenhead; the country's first municipal housing; the first industrial utopian model villages at Port Sunlight; the world's first tropical medicine research institute; and the first school dedicated to urban planning. Liverpool City Region has always sought to lead the way.

Today, its industrial transformation is led by world-leading capabilities in high-performance computing, materials chemistry, and health and life sciences. LCR is at the forefront of global advancements in the prevention and control of infectious disease, lab automation, fast-moving consumer goods, and innovations within clean energy, industrial decarbonisation and immersive technologies. It is this spirit of innovation that sets Liverpool City Region apart and enables it to compete with the rest of the world.



Liverpool School of Tropical Medicine, Liverpool

A place where people choose to be

It is not just world class science and innovations that power the City Region. It is also world renowned as a 'Global Cultural Capital', founded on creativity and a unique sense of place. Heritage buildings, museums, and galleries, sporting and music prowess (Liverpool is a UNESCO City of Music) which are synonymous here and showcased internationally, a thriving nightlife and diverse culinary offerings, together with the energy of grassroots cultural organisations, all add to its vibrancy and distinctiveness.

This is set against a backdrop of inspirational natural landscapes: miles of coastline and abundance of open green spaces, woven together by the River Mersey and great public parks, providing a distinctive city/countryside/coastal lifestyle combination. It is powered by Liverpool City Region's greatest asset: its people. It is their passion, character, warmth, and ideas that forge LCR's success.

The City Region has a wide ranging housing offer that incorporates contemporary urban living complemented by Georgian townhouses and more traditional suburban neighbourhoods. It also offers a strong sense of belonging, community and cohesion in its urban environment that adds to quality of life and its vibrancy.

Communities are well connected to services and leisure, cultural, and economic opportunities through a public transport network which is amongst the most sophisticated in the country, including a Merseyrail network serving a catchment labour market of over 2.5m people and a bus network where routes will be under public control. Furthermore, a planned 600km network of walking and cycling routes will revolutionise active travel.

This all serves as a set of differentiators that can be effectively leveraged to build a dynamic corporate base, foster inward investment and affirm the City Region as a place where people choose to visit, live, work, study and invest.

Progress founded on Leadership and Collaboration

The City Region benefits from strong and cohesive political, business, and institutional leadership through its Metro Mayor, Combined Authority and six local authorities; cross-sectoral partnerships supported by private sector-led Business & Enterprise and Cluster Boards combined with business representative groups; its universities and the UK's first sub-regional Innovation Board.

The Combined Authority, its local authorities, and partners, are dedicated to enabling growth and economic opportunities in every part of the City Region. Together, they are investing hundreds of millions of pounds and significant resources to build on the region's distinctive strengths, including investing in high quality education and skills, affordable housing and attractive, liveable places to create a 'fairer, stronger, cleaner City Region where no-one is left behind.' This is supported by devolved powers and resources in areas such as employment and skills, housing and planning, transport, innovation, business growth and support, and culture.

This collaboration creates a shared, unified vision and sense of purpose to maximise a unique global brand and identity that will instil confidence to investors and partners who share the same long-term ambitions and values for the future of LCR.

Taken together, this pioneering, collaborative spirit and culture forms the core basis for a cohesive place brand and maximising the array of opportunities set out in this Economic Opportunities Framework, in doing so further forging the City Region's economic future and prosperity.

1 Why this Framework is Needed and What it Does

The global and UK economy is experiencing change and disruption at a pace not seen in many years. This is characterised by geopolitical uncertainty, digital transformation and reorientation of global trade and supply chains, whilst the pandemic reset how we live, work and do business. It is also set against a backdrop of long-term productivity gaps, ever increasing competition for both public and private investment, and the urgent need to transition to net zero.

Furthermore, at national policy level, there is an explicit growing realisation of the importance of “Place” in UK innovation and broader economic policy – a clear renewed emphasis on developing existing and emerging “clusters” as a primary means of unlocking and accelerating economic growth and productivity increases.

The scale of economic change and increasing role of place in policy, demands – more than ever - a refined view of the economy that clearly articulates and positions the City Region’s economic value proposition, in order to maximise its potential on the national and global stages. Central to this is fore-sighting and planning for the economy of the future – how it is transforming and the opportunities for growth that will support high skilled jobs, drive up productivity, and deliver associated co-benefits across the City Region.

Articulating the scale of opportunity

This is the main driver for this Framework, which binds together the strategic strengths, opportunities and assets that will help forge the City Region’s economic prosperity and resurgence on the world stage. It is a core strategic investment narrative that partners can align investment opportunities with, and that provides clarity to investors and government about who we are and what we have to offer.

Building on the 2022 [Plan for Prosperity](#), - and its aim for a ‘*City Region that will build up the resilience and productivity of its economy and unlock its global potential*’ - the Framework is designed to:

- Support opportunities to attract investment, including from institutional and inward investors;
- Influence the focus of government investment;
- Support LCRCA and partners in aligning future strategy and in the unique positioning of the City Region;
- Shape City Region wide investment priorities, areas of focus for developing our economic clusters, and pipeline projects;
- Enable responses to new funding opportunities in a timely and cohesive manner.

The consistent theme that runs through the Framework is building on scale of opportunity. Only through a relentless, consistent and targeted focus on this will the dial be shifted on economic performance and ultimately in creating the critical mass of high skilled jobs our City Region needs. This document also sets out a number of high level considerations and actions which can be translated into future work, being operationalised through cross-sector collaborations across the public, private, academic, and social sectors.

2 Consistent and Underpinning Economic Principles

We need to achieve an *innovation-led, inclusive, connected, and sustainable* approach to growing the economy and maximising opportunity. Therefore these integrated principles underpin the Framework and our thinking both now and in the future.

Innovation-led

A long-term focus on opportunities that drive clustering forces, have the greatest potential for innovative capacity, to be enabled by our innovation ecosystem, and which will drive up productivity. In particular, this builds on key strengths and encompasses activity across Health and Life Sciences, Advanced Manufacturing, and Digital & Creative. These strengths also align with the 2023 update of the [Northern Powerhouse Independent Economic Review](#). They are also those areas of the economy that will be at the forefront in addressing current and future societal and environmental challenges.

This will help develop and sustain comparative advantage and have long-term impact which supports the City Region in becoming more resilient to external shocks; creates and sustains good quality, well paid jobs; and which in turn drives further demand for other service based sectors. See **Figure 2** for a visual representation of this.

Inclusive

No economic ambitions can be achieved without the supply of skilled people, broadening the talent pool and developing shared prosperity across all communities. More people need to be engaged in work and in higher quality work. So we can only succeed through both expanding the number of residents in work from across all communities, enabling progression routes, and through making jobs more productive. This can only be achieved at scale through providing access to opportunity for all with support organised around what people need to address their barriers and the systemic issues around inequality.



Race Equality Hub team

Connected

Economic opportunity can only be maximised through ensuring the right coordinated approach to connectivity through integrated and future focused infrastructure - digital, sustainable transport, energy, the built environment, and planning for the changing nature of work advanced by the pandemic. Integrated approaches will maximise the role of infrastructure as an economic enabler and supporting the shift to a low carbon economy.

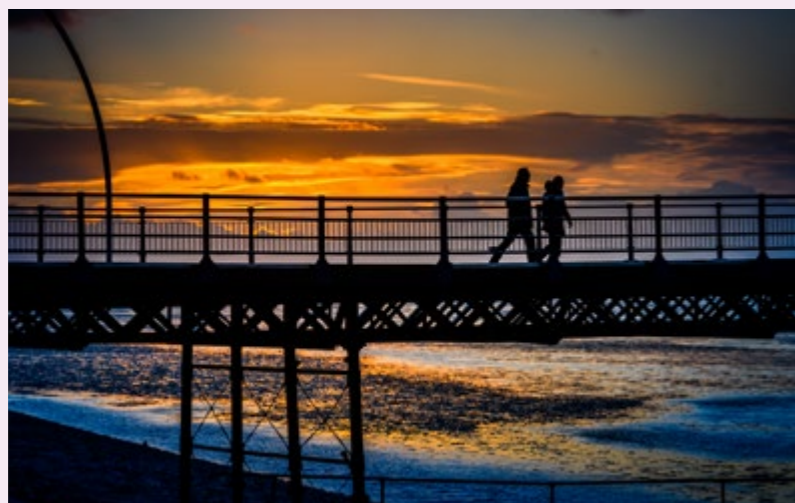
 **Sustainable**

Future economic growth is entwined with climate change. This means economic development must be delivered sustainably, with a focus on low carbon economy opportunities; investments that enable and support reduced carbon emissions, climate adaptation and mitigation; improved energy efficiency, and growing the circular economy. This sustainability principle is driven by LCR's target to achieve Net Zero by 2040 or sooner.

Delivery through Partnership

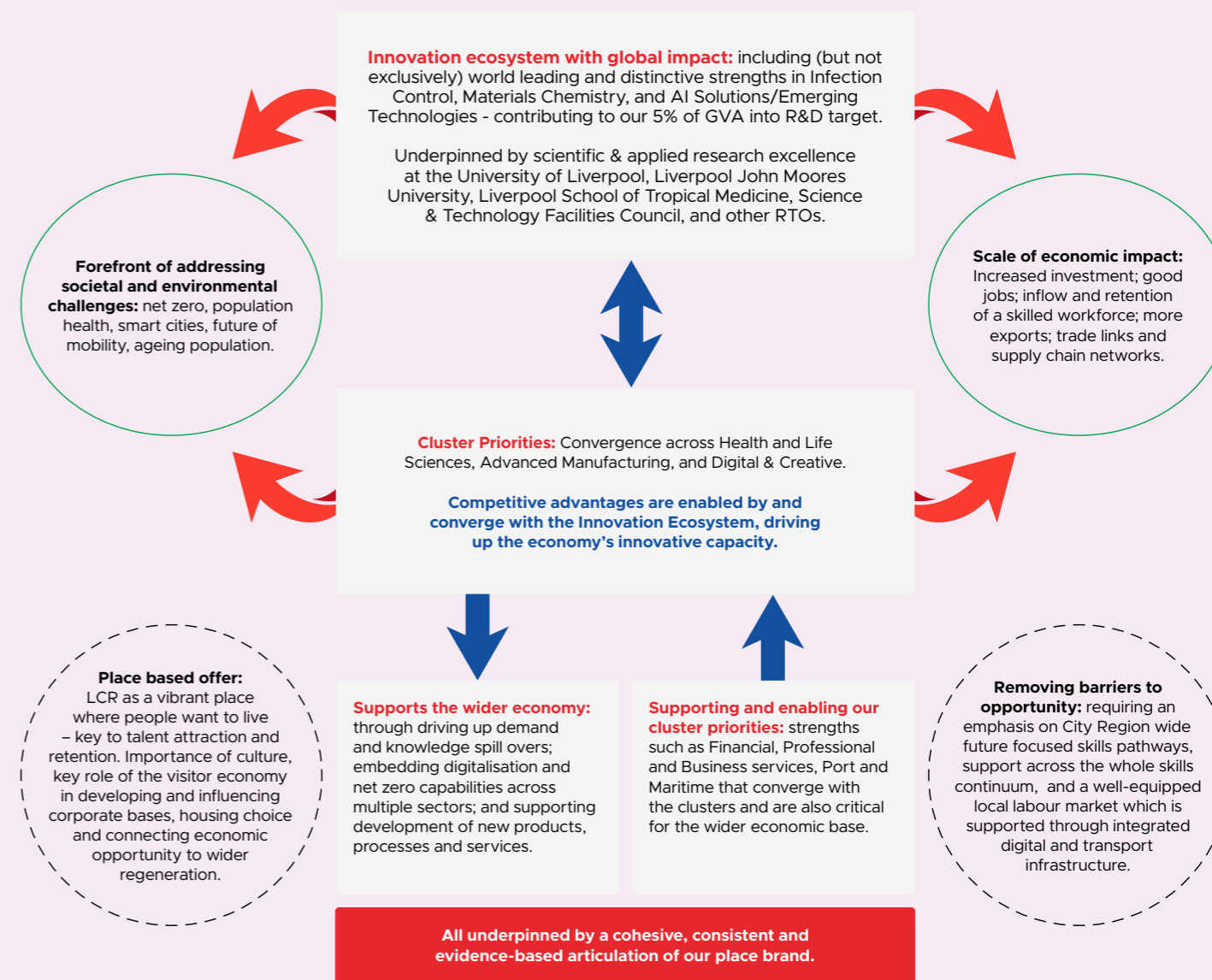
Underpinning all of this is partnership – within and between the public, private, academic/research, and social sectors, based on collaborating and innovating together, and key anchor institutions (including Local Authorities/LCRCA/NHS/HEIs) leading the way.

The above principles mean that this Framework does not sit in isolation, but rather as part of integrated approaches that taken together are critical in delivering sustainable and inclusive economic growth. It goes hand in hand with key developments such as LCR's Long Term Skills Plan, Internationalisation Strategy, Climate Action Plan, emerging Spatial Development Strategy, Local Transport Plan, and pipeline development planning.



Southport Pier, Sefton

Figure 2: The component parts in creating and sustaining long term comparative advantage, productivity and prosperity



3 Key Priorities and Focus

The City Region has a number of key strengths and locations that provide, or have the potential to provide, a catalytic impact on our economy, representing opportunities of a type and scale that can enable transformational change.

To maximise their impact will require a core focus of sustained and highly targeted activity across strategy, policy, and investment.

Our priorities are to ensure:

- An emphasis on **convergence across established key strengths, enabling capabilities, and emerging opportunities;**
- Scale is the underlying focus across all our interventions and associated outcomes;
- Opportunities and challenges to building on our strengths are understood and continuously updated;
- That targeted focus on the City Region's core growth drivers and clusters will address the critical issues of talent, digitalisation, and the transition to net zero;
- That high value supply chain opportunities are supported across the City Region;
- Through strengthening supply chains and networks, businesses are anchored to place and their communities;
- Inclusive economy ambitions are inter-twined with economic opportunity, recognising that people are the most important asset the City Region has;
- That opportunities are scaled through public/private partnerships.

The focus on these priorities and core opportunities will support the City Region in meeting key targets and outcomes, such as:

- GVA growth from £35bn (2021) to £45bn in 2035 – a transformational growth scenario where LCR maximises the potential of its economic strengths and opportunities;
- Achieving Net Zero by 2040 or sooner;
- Securing investment of 5% equivalent of GVA spend on R&D;
- Increasing the level of exports to 35% of our GVA (£11.8bn) as set out in our Export Plan, and increasing the percentage of foreign direct investment coming into the City Region;
- Growing the proportion of knowledge intensive businesses from 22% towards the national level of 26%;
- Progress in closing productivity and business density gaps;
- Improved outcomes across the skills continuum and enhancing career progression routes;
- Increased health equity as a result of investments and developments across Health and Life Sciences that combine with public service innovation.



Edge Lane Retail Park, Liverpool

4

Scaling Up Our Regional Growth Drivers

This Framework shows that through leaning on competitive strengths and converging with global innovation capabilities, the City Region has a clear vision and proposition to commercialise ideas and create a knowledge intensive economy that is at the forefront of Industry 4.0.

Below sets out our transformational strengths, capabilities and opportunities: why they are important, key locations, and the opportunities they provide. It begins with the innovation ecosystem - the knowledge anchor and enabler - and then how this connects with other cluster strengths to drive economic growth.

Innovation – Local Solutions with Global Reach and Impact

Liverpool City Region has a long history of innovation excellence. Rooted in evidence, our world leading, highly distinctive and interconnected innovation strengths and priorities were set out in successive Science and Innovation Audits in [2017](#) and [2022](#) and [LCR Innovation Prospectus](#). These are centred on infection prevention & control, materials chemistry, and AI solutions & emerging technologies, with developing specialisms also in net zero and maritime. They form the basis for the City Region's cluster focused approach to developing innovation assets that will actively bring ideas to market and support growth across the economy.

These strengths are underpinned by a strong academic and research base. 91% of the University of Liverpool's research is classed as world leading or internationally excellent by the Research Excellence Framework (REF), with 94% of its research impact considered 'outstanding' or 'very considerable'. In Research England's Knowledge Exchange Framework (KEF), it is in the top quintile for research partnerships, working with business, and with the public & third sector. Liverpool John Moores University also has a strong reputation of high impact applied research. The REF asserts that 64% of its impacts are 'outstanding or very considerable', and it also scores in KEF's top quintile for research partnerships.

Combined with the Liverpool School of Tropical Medicine ranked 2nd in the UK by REF for overall impact, the opportunity for enhancing knowledge exchange and collaborating with the business base to drive innovation-led growth is very strong.

Driving Real World Solutions and Supporting Businesses to Innovate

Further development of our innovation ecosystem is central to translating research into real world solutions (improving population health outcomes and supporting the drive to net zero for example); increasing the density of R&D intensive businesses we need to improve economic performance; driving close academic-industry collaboration partnerships; creating more university spinouts; more businesses applying for and benefiting from Innovate UK funding; and more broadly, instilling an innovation culture across the wider business base.

In particular, turning research ideas into commercial and investable propositions to bring to market requires a highly supportive ecosystem, and the City Region has targeted investments to do just that – from Lyva Labs, a commercialisation vehicle that invests in the projects and technologies that will push the boundaries of tomorrow and is already delivering national programmes for Innovate UK, through to a Tech Accelerator and £5.1m 'Horizons' programme to help businesses innovate, complemented by Seed Fund and Business Angel Network investments. Taken together, our investments are leveraging private funds to provide a supportive environment and helping to develop an investment runway for businesses to innovate and flourish.

Scale of Impact that will Support National Priorities

The assets and capabilities across the innovation ecosystem are drivers of economic activity that will create significant scale of impact. As set out in our Plan for Prosperity and elsewhere, focusing activities and investment around distinctive innovation clusters will be central to meeting ambitious City Region targets including **5% equivalent of GVA spend on R&D by 2030 and achieving net zero by 2040 or sooner**. Achieving the 5% target could mean additional £19.7bn in net GVA, a 6.5% increase in jobs (44,000) and a 10% increase in productivity.

With the Government increasing spending on R&D to £20bn by 2024/25, and its stated priority to drive up knowledge intensive growth clusters across the country, the City Region is one of the few places outside the Greater Southeast with the demonstrable potential to help meet national ambitions. This is reflected in it being the first place in the country to develop and launch a place-based innovation Partnership & Action Plan with Innovate UK.

This is underpinned by an R&D pipeline worth £1.9bn and £725m of projects underway. It is facilitated by one of the UK’s leading place-based approaches to innovation, as recognised by Government. It is further enabled through the LCR Health and Life Sciences Investment Zone that will scale out world class innovation capability, build on long-standing collaborations and attract businesses of all sizes into new high quality facilities.

We will continue to prioritise mobilising investment and activities across the innovation ecosystem’s clusters to improve commercialisation performance; forge R&D collaborations; enable businesses to access finance, investment, skills, talent, and wider support they need to innovate; and invest in physical infrastructure for innovators to flourish.

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> • Two nationally significant, rapidly expanding science and innovation campuses for current and future strategic focus at: <ul style="list-style-type: none"> ○ Knowledge Quarter Liverpool, a 450-acre innovation district. Its further development is also key in meeting the priority of supporting the city centre as a focal point for knowledge intensive activity. 	<p>Our concentration of innovative ideas, industry, and assets presents huge potential to deliver scalable and transferable innovation approaches and major R&D projects that open the knowledge base to support industry; help secure the UK’s position at the forefront of global innovation; and develop novel solutions to society’s most pressing current and future challenges, both here and around the world. This is exemplified in our R&D pipeline, to be delivered through collaboration and co-creation with industry and government.</p> <p>A £1.9bn pipeline with a range of opportunities particularly for our ‘Superclusters’ / Global Differentiators based at Knowledge Quarter that will have huge multiplier and spill-over impacts, including through commercial applications (see case study below):</p> <ul style="list-style-type: none"> • Infection Innovation Consortium (iiCON) is creating a new translational research facility to complement the clinical trials work that will be carried out at Liverpool School of Tropical Medicine’s Human Challenge Facility, due to open in 2025. This will help to deliver on the iiCON’s objective to lever £1bn local R&D investment within 10 years. These initiatives will be complemented by The Pandemic Institute’s national flagship facility for Pandemic Prevention, Preparedness and Response; • Materials Innovation Zone, which is a ten-year plus horizon opportunity, centred on the expertise at Materials Innovation Factory at the University of Liverpool.

Key Locations	Opportunities to build and sustain comparative advantage
<p>o Sci-Tech Daresbury, a national science and innovation campus that serves as UKRI's primary base for the North.</p> <p>At its core is STFC Daresbury Laboratory, sister site to STFC in Harwell, Oxfordshire. Its ambition is for 10,000 new jobs to be located at Daresbury in the next 15 years.</p>	<p>The array of existing assets and capabilities, combined with opportunities from the pipeline and beyond, will support LCR to become a global 'Smart City Region'; to pioneer health innovations (also central to the Investment Zone); and to lead on global solutions to industrial decarbonisation. Below are just a few illustrative examples.</p> <p>A 'Global Smart City Region'</p> <p>LCR has all of the elements required to be a national digital transformation exemplar and Global Smart City Region that addresses core local, national and global challenges. For example:</p> <ul style="list-style-type: none"> Existing assets of STFC Hartree Centre in partnership with IBM Research: a world leader in devising and delivering AI solutions to industrial and real world challenges; UK's first Civic Data Cooperative, which will maximise population health improvements through data collection, analysis, assets and community-oriented challenge programmes. This is a model that could also be scaled for other uses; Next stage development of the Meta-Liverpool Metaverse Platform at the University of Liverpool's Digital Innovation Facility, in partnership with STFC Hartree Centre and Civic Data Cooperative. This is a unique 3D digital mapping and data platform which can be developed as a 'digital twin tool' with the highest ever resolution imaging for the whole City Region. Its potential applications are boundless – it can be used for policy simulation, scenario modelling, monitoring and evaluation, citizen engagement, place marketing, research and education;

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> New and emerging clusters and opportunities located across the City Region. These will be informed by LCR's bespoke Asset Based Cluster Development (ABCD) approach across the City Region – this is a detailed framework that objectively assesses the performance and maturity of actual and emerging innovation assets, with a view to wider cluster development. 	<ul style="list-style-type: none"> Scaling out Quantum capabilities, building on the new PsiQuantum (the world's largest privately backed quantum company) facilities at Sci-Tech Daresbury into wider internationally significant quantum technologies and solutions cluster. Quantum is cutting edge technology that can be deployed to address a range of environmental, social and economic challenges – across climate tech, cyber security, energy, pharma, financial services and beyond. <p>At the forefront of maximising population health improvements</p> <p>Supported through the H&LS Investment Zone, examples include:</p> <ul style="list-style-type: none"> Creation of a new world class mental health research and innovation facility at Maghull, Sefton around what is already one of Europe's foremost specialist forensic psychiatry centres; Civic HealthTech Innovation Zone – partly building on the Civic Data Cooperative (as above) this will be a world-leading innovation campus and LCR-wide network of NHS and community sites ready to research, develop, evaluate, and optimise HealthTech, creating significant co-investment opportunities; Scaling up a world first Centre for Long-lasting Therapeutics at the University of Liverpool, combining global expertise in pharmacology and materials chemistry. This can have a huge impact for treatment and prevention of chronic diseases but also other applications for acute diseases where patients often need multiple drug doses for successful therapy.

Key Locations	Opportunities to build and sustain comparative advantage
	<p><i>Driving industrial decarbonisation</i></p> <ul style="list-style-type: none"> • Further development of Glass Futures in St Helens – a global industry led open-access hub for both glass technologies innovation and wider decarbonisation for foundation industries; • Solutions to maritime decarbonisation linked to LCR Freeport and deep academic specialisms, including LJMU's Maritime Centre and the Institute for Sustainable Coasts & Oceans, a partnership between both universities and the National Oceanography Centre. University collaboration in the maritime industry is illustrated by UOL's involvement in a new UK Maritime Research Hub, and LJMU's involvement in a consortium led by Liverpool based Bibby Marine to develop electric ships designed for the offshore wind industry. Further industry-led innovation and R&D could be anchored in a proposed Maritime Knowledge Hub on the Wirral, creating solutions to reduce emissions across maritime and so helping meet Government's 'Maritime 2050' objectives.



Maghull Health Park, Sefton.
Design/visuals by Gilling Dod/
ION developments

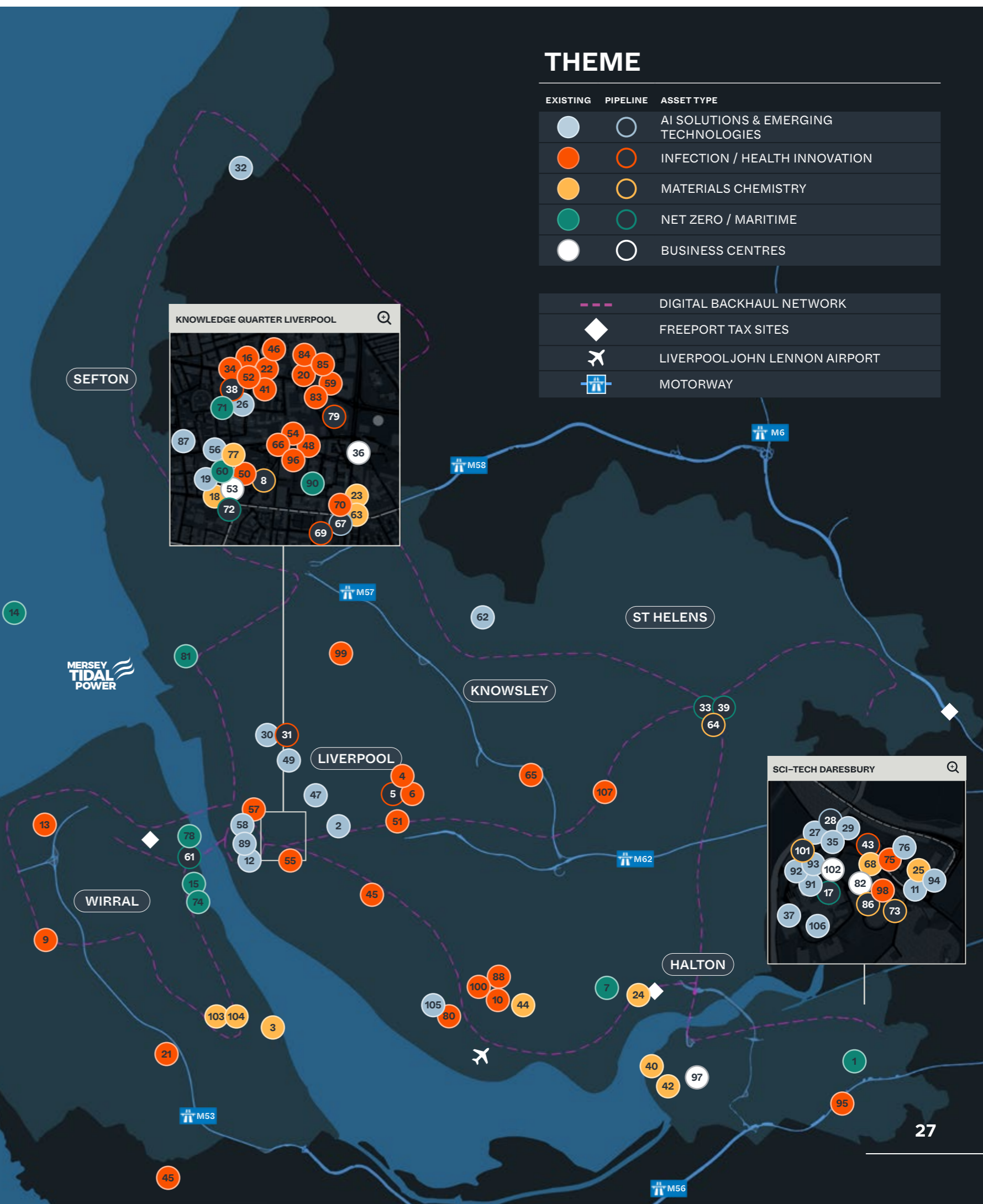
Figure 3: Innovation Ecosystem illustration: assets, supporting industry and infrastructure

Source: LCR Innovation Prospectus 2023

THEME

EXISTING	PIPELINE	ASSET TYPE
		AI SOLUTIONS & EMERGING TECHNOLOGIES
		INFECTION / HEALTH INNOVATION
		MATERIALS CHEMISTRY
		NET ZERO / MARITIME
		BUSINESS CENTRES
		DIGITAL BACKHAUL NETWORK
		FREEPORT TAX SITES
		LIVERPOOL JOHN LENNON AIRPORT
		MOTORWAY

- 01 ABB UK HQ
- 02 AIMES
- 03 Albea Creative UK
- 04 Alder Hey Children's Hospital (Global Digital Exemplar)
- 05 Alder Hey Innovation Centre
- 06 Alder Hey NIHR Clinical Research Facility
- 07 Alstom Transport Technology Centre
- 08 Anti-Viral Surfaces Innovation Hub (UoL)
- 09 Arrows Park Hospital (Global Digital Exemplar)
- 10 AstraZeneca
- 11 Atos Quantum Learning Machine
- 12 Baltic Triangle
- 13 Bristol Myers Squibb
- 14 Burbo Bank wind farm
- 15 Cammell Laird
- 16 Centre for Drugs & Diagnostics (LSTM)
- 17 Centre for Low Energy Accelerators Research
- 18 Centre for Process Innovation (CPI)
- 19 Civic Data Cooperative
- 20 Clatterbridge Cancer Centre (new)
- 21 Clatterbridge Cancer Centre (original)
- 22 Clinical Diagnostic Parasitology Laboratory (LSTM)
- 23 Croda Centre of Innovation for Formulation Science
- 24 Croda Europe Ltd
- 25 Croda UK Biotechnology Laboratory
- 26 Digital Innovation Facility
- 27 Digital Tech Cluster
- 28 EuPRAXIA Plasma Accelerator Centre of Excellence
- 29 European Space Agency Business Incubation Centre UK
- 30 Everton FC
- 31 Everton Minds - National Dementia Centre
- 32 EXA North trans-Atlantic fibre cable landing
- 33 Glass Futures
- 34 Global Health Trials Unit (LSTM)
- 35 Hartree National Centre for Digital Innovation
- 36 HEMISPHERE
- 37 IBM Global Research Lab & Discovery Accelerator
- 38 iiCON Phases 2 & 3
- 39 Industrial Energy Test Centre at Glass Futures
- 40 Ineos
- 41 Infection Innovation Consortium (iiCON)
- 42 Inovyn Rocksavage International
- 43 Ion Beams Cancer Therapy Research Centre
- 44 Jaguar Landrover
- 45 Leahurst Veterinary Centre (UoL)
- 46 Life Sciences Accelerator
- 47 Liverpool 5G network
- 48 Liverpool Clinical Trials Centre (UoL)
- 49 Liverpool FC
- 50 Liverpool Health Partners
- 51 Liverpool Heart & Chest Hospital
- 52 Liverpool School of Tropical Medicine (LSTM)
- 53 Liverpool Science Park
- 54 Liverpool Surface Science Research Centre (UoL)
- 55 Liverpool Women's Hospital
- 56 LJMU Astrophysics Research Institute
- 57 LJMU School of Pharmacy & Biomolecular Sciences
- 58 LJMU Sports Science
- 59 LYVA Labs
- 60 Manufacturing Technology Centre (MTC)
- 61 Maritime Knowledge Hub
- 62 Matalan HQ
- 63 Materials Innovation Factory (UoL)
- 64 Medical Glass Manufacturing & Innovation Centre
- 65 Mersey Care (Global Digital Exemplar)
- 66 Microbiome Innovation Centre (UoL)
- 67 MIF Labs of the Future
- 68 MTC Digital Manufacturing Accelerator
- 69 Nanotherapeutics Centre for the North
- 70 National Biofilm Innovation Centre
- 71 National Oceanography Centre
- 72 National Packaging Innovation Centre
- 73 National Thin Films Centre & Discovery Accelerator
- 74 Nuclear AMRC Modular Manufacturing R&D
- 75 NW HealthTec Cluster
- 76 NW Space Cluster
- 77 Open Innovation Hub for Antimicrobial Surfaces (UoL)
- 78 Ørsted
- 79 Pandemic Institute
- 80 Pharmaron Biologics (UK) Ltd
- 81 Port of Liverpool
- 82 Project Violet
- 83 Royal College of Physicians North
- 84 Royal Liverpool NIHR Clinical Research Facility
- 85 Royal Liverpool University Hospital (Global Digital Exemplar)
- 86 RUEDI: Relativistic Ultrafast Electron Diffraction & Imaging Facility
- 87 Sensor City
- 88 Seqirus
- 89 Sony Interactive Entertainment
- 90 Stephenson Institute for Renewable Energy (UoL)
- 91 STFC Accelerator Science & Technology Centre (ASTeC)
- 92 STFC Cockcroft Institute
- 93 STFC Daresbury Laboratory
- 94 STFC Hartree Centre
- 95 Teva UK
- 96 The Centre for Genomic Research (CGR) (UoL)
- 97 The Heath
- 98 The Innovation Agency (NW Coast Academic Health Sciences Network)
- 99 The Walton Centre
- 100 TriRx
- 101 UK Compact Light Source Grid
- 102 Ultraviolet
- 103 Unilever Advanced Manufacturing Centre
- 104 Unilever Global R&D HQ
- 105 Very Group HQ
- 106 Virtual Engineering Centre (UoL)
- 107 Whiston Hospital





Case Study: Our Major Differentiators – Towards Global Infection and Materials ‘Super Clusters’

LCR’s most distinctive specialisms are based around infection and materials – in turn supported by our third specialism in AI and emerging technologies. Exponentially scalable and mutually reinforcing, these all overlap to offer strong global impact, multiplier effects, and lucrative investment opportunities.

Infection: LCR has the UK’s largest concentration of translational public sector research, development and innovation into infectious diseases. Together with neighbouring Cheshire and Warrington, the City Region delivers £2bn of infection R&D – the biggest concentration in the UK and one of the biggest in Europe.

The Infection Innovation Consortium (iiCON) led by the Liverpool School of Tropical Medicine (LSTM) is at the centre of this. During the COVID pandemic, iiCON’s work to accelerate novel infection control products became a flagship of both regional and national place-based innovation and was key in securing the first LCR-based High Potential Opportunity (HPO) from central government, focused on vaccines.



Researchers working in a lab

Within just 3 years it had used £20m government funding to lever well over £200m of other, mainly private, investment, brought 23 products to market, and deployed more than 6 billion units worldwide. The next stage is extending an already ambitious 10-year £1bn R&D investment target towards £3bn per annum for a wider North West infection Super Cluster extending out to Cheshire and Warrington.

Materials: LCR is already a world leader in the core science, discovery and industrial application of materials chemistry. At the heart of this is the Materials Innovation Factory (MIF), built on longstanding collaboration between the University of Liverpool and Unilever. Since the £81m facility opened, it has secured an additional £50m of internationally competitive research and innovation grants.

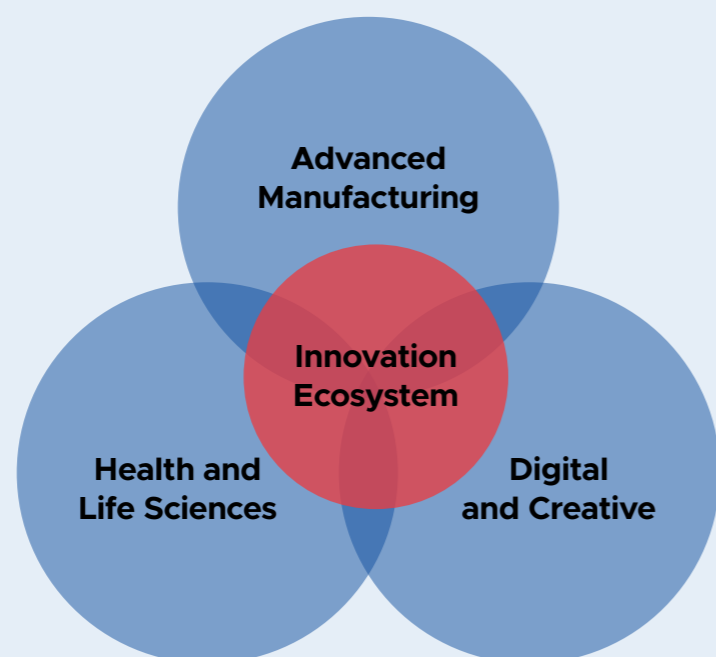
The MIF is now evolving into a global centre for lab automation and the development of automated and digital technologies for materials R&D. It is working on this in partnership with UK leading companies in pharma, energy materials, polymers, coatings, and FMCG, notably Unilever, Croda, Johnson Matthey, Boots. This activity will form the basis of a Materials Innovation Zone, which is a ten-year plus horizon opportunity.



Materials Innovation Factory, Liverpool

Sector Led Cluster Strengths Driving Opportunity

LCR’s innovation capabilities converge with and help enable longstanding and emerging interconnected strengths, which together will help to stimulate wider demand and redirect the economy towards an inclusive and sustainable future. In particular, these are focused on Advanced Manufacturing, Health and Life Sciences, and Digital and Creative which weave together to create an offer greater than the sum of their parts. These are underpinned by deep expertise, high quality and skilled jobs, major global businesses and brands, and clusters of innovative SMEs and start-ups that are central to supply chains. Given their prevalence in terms of economic impact, they are each supported by private sector led Cluster Boards that will help inform and shape policy, partnerships, investment and delivery.



An offer greater than the sum of their parts: clusters intersect within, across, and between each other (e.g. Vaccine development and manufacture, our digital manufacturing expertise, LCR’s MedTech capabilities).

Mutual dependencies and learning across areas such as Net Zero, Skills, Productivity, Supply Chains, together with processes and systems.

1) A Place for Makers and Innovators with Continent Spanning Connections (Advanced Manufacturing)

With a port-centric location providing global trade opportunities, a skilled workforce, established R&D infrastructure, and with the presence of major Original Equipment Manufacturers (OEMs), LCR provides significant competitive advantages for advanced manufacturing businesses. Contributing £2.9bn to the economy, there are 22,000 jobs and nearly 700 businesses in the LCR Advanced Manufacturing sector (50,000 jobs across wider manufacturing), with the second fastest growth rate in businesses of any city region. There is a critical mass of high productive activity in LCR where the percentage contribution to LCR’s GVA is 70% larger than the national average, and where advanced manufacturing productivity is 17% higher than the national average. Therefore, it is central to our ambitions to drive growth, good quality jobs, and raise productivity. Particular strengths include:

- Automotive, employing 7,000 people and 15% of the UK’s annual car production;
- Vaccine Production/Biomanufacturing, with LCR home to one of the most important clusters of biomanufacturing in Europe;
- Materials and Chemicals, with one of the UK’s largest chemical clusters, and Unilever’s site in Port Sunlight is a major global hub;
- Ship building and marine engineering, with a diverse range of world class maritime companies, including the famous Cammell Laird, a strategic UK facility.

Supported by a strong smart logistics infrastructure and the benefits of the UK’s third largest Port, a Freeport that will unlock global markets and trade hubs for manufacturers, and an Investment Zone that will drive bio-manufacturing, LCR is at the forefront of shaping a manufacturing future that enables the convergence of new technologies and proactively responds to changes in market demand and supply chain shifts.

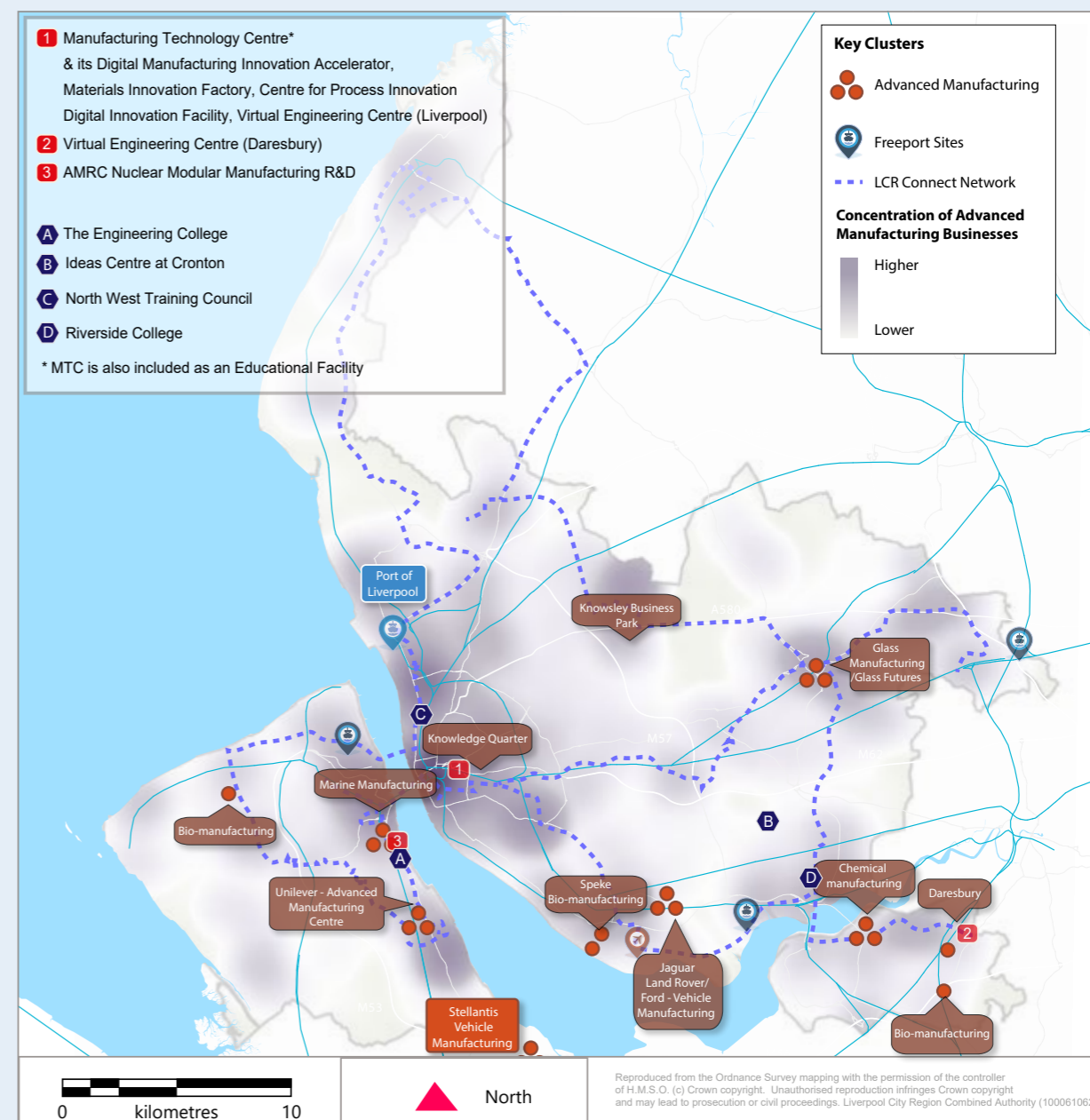
The workforce is also driven by over 15,000 students studying sector related courses across the region’s universities and the Engineering College, the North West of England’s specialist centre for engineering training.

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> • The Speke-Halewood Corridor focused on high value national and internationally important Biomanufacturing and Automotive, extending through to materials and chemicals in Runcorn. A core strategic focus for premium manufacturing capability. • Industrial decarbonisation for foundational industries including Glass Futures in St Helens as the catalyst for a major cluster focused on innovation and decarbonisation. • The Wirral/Left Bank Belt between Wirral Waters, Birkenhead (particularly focused around shipbuilding/ Cammell Laird) through to Unilever and Stellantis, the latter as part of a 	<p>Our Core National and Global Opportunities</p> <ul style="list-style-type: none"> • Automotive and the EV Opportunity (see case study below): with £1bn of private investments expected in a once in a generation transition. Stellantis, JLR, Bentley, Ford, Leyland Trucks, Toyota will all be transitioning to EV simultaneously and either within LCR or close to the Port and LCR Freeport; • Vaccines: with the cluster in biomanufacturing catalysed by a Life Sciences Investment Zone and designation from the Department for Business and Trade for LCR as a High Potential Opportunity (HPO) programme for Vaccines (also see Health and Life Sciences); • Hydrogen developments such as HyNet and future LCR Green Hydrogen Hubs means emerging tech and opportunities will present themselves in the supply chain, providing further edge to LCR in clean energy capability - this is enhanced with the existing expertise of INEOS/ INOVYN in this space.

Key Locations	Opportunities to build and sustain comparative advantage
<p>wider automotive offer extending beyond LCR but integral to our supply chains and the regional offer.</p> <ul style="list-style-type: none"> • Freeport Tax sites at Parkside, 3MG Widnes, and Wirral Waters but with City Region wide impact. • Strength of the cluster is further supported and enabled by engineering within Knowsley Business Park – one of the largest employment areas in Europe and the second largest of its kind in the North West; food and FMCG at the Port of Liverpool and Bootle, and engineering at Haydock in St Helens. 	<p>Positioning LCR at the forefront of advanced manufacturing innovation</p> <ul style="list-style-type: none"> • LCR as a UK Centre for Low Carbon Manufacturing: <ul style="list-style-type: none"> ○ With Mersey Tidal, LCR has the opportunity to become the central point for tidal supply chains in the UK; ○ The EV opportunity and Hydrogen (as above); ○ Glass Futures supporting decarbonisation of foundation industries and supply chains; ○ One of the highest concentrations of materials and science robotics in the world and the Materials Innovation Factory (MIF) is helping to make rapid advances in sustainable materials development; ○ Freeport related opportunities towards decarbonisation of maritime, freight and logistics, supporting lower carbon, more efficient solutions for manufacturers and distribution across the UK; ○ Wind power expertise as LCR becomes a net exporter of offshore wind and being able to transfer knowledge to other places;

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> • Industry enablers and innovation assets: Manufacturing Technology Centre, Materials Innovation Factory, Digital Innovation Facility, and Virtual Engineering Centre, located at Knowledge Quarter and Sci-Tech Daresbury. • Advanced Manufacturing business and supply chain opportunities spread across the whole City Region. 	<ul style="list-style-type: none"> • Leadership in Industrial Digital Technologies (IDTs): LCR has pioneered support for digital manufacturing and was home to the UK's first industrial digital adoption programme (LCR4.0). As IDTs transform UK industry, the City Region has invested in an ecosystem that gives it a significant edge in the utilisation of digital technology; • Connecting supply chains to industry enablers and innovation excellence: convergence of innovation assets, world leading academic research, and expertise in emerging technologies addresses industry challenges, reduces costs and risk for manufacturers undertaking R&D. Assets and capabilities including the Virtual Engineering Centre, Manufacturing Technology Centre, and Centre for Process Innovation, future-proofs LCR as a centre of digital manufacturing expertise with leading-edge facilities and knowledge; • Providing a UK-wide solution to uncertainty within global supply chains. The Port is closest to more than 50% of UK manufacturers and with the capability to service 95% of the world's largest container ships - the City Region provides a global supply solution and also gives LCR an edge in speed to market and Fast Moving Consumer Goods (FMCG); • A Freeport that accelerates advanced manufacturing growth: tax incentives across three tax sites together with beneficial customs arrangement for businesses that import, hold or manufacture goods and export. It will deliver £800m of new investment, 14,000 new jobs, and catalyse supply chain opportunities and right across the City Region;

Figure 4: Advanced Manufacturing Concentrations





Case Study: LCR and the North West's Role in Providing EV Solutions

A generational opportunity for LCR is in electric vehicles given the major contribution of automotive to the economy. Employing 7,500 people, it is hugely important to the City Region's productivity and a central pillar of the export base.

The key anchors to the sector are fully invested in LCR - Ford has made a £125m investment in its Halewood plant, increasing capacity by 70%, and JLR has announced £15bn investment over the next five years, part of which includes Halewood becoming JLR's first all-electric manufacturing facility.

This is all part of a wider regional opportunity. Stellantis in Ellesmere Port received a £100m investment to transform its plant for electric vehicle production - the first Stellantis plant globally dedicated to electric vehicles. Bentley (Crewe), Toyota (Deeside) and Leyland Trucks (Preston) are all part of a regional transition happening at the same time. With their proximity to the Port of Liverpool and the Freeport (of which automotive is a target sector), ease of access to global markets will be further enhanced for a North West cluster – with LCR at its heart - that is second highest in the country in terms of automotive GVA and jobs contribution, and in electric & battery investment (£2.8bn).



Port of Liverpool

The opportunities this provides to an already strong LCR supply chain are vast, with specific focus on battery systems, hydrogen fuel cell components, and electrified powertrains. It also includes refurb, reuse and recycling of batteries – uniquely, LCR is the location of only one of two plants in Europe that recycles lithium batteries.

Figure 5: Key Automotive Manufacturing Sites Across the North West



2) From Discovery to Production: *The Place for Health and Life Science Innovation*

Liverpool City Region is a globally significant location for health innovation. It is underpinned by education and research capacity and a nationally important biomanufacturing cluster in Speke with global companies such as CSL Seqirus, AstraZeneca, Pharmaron, and TriRx choosing to locate and continue to invest here in cutting-edge manufacturing and associated research. In 2023 this included £151m from Pharmaron through the 'Life Sciences Innovation Manufacturing Fund' and an announced £10m from TriRx into its Speke bio-tech facility. In 2024, Astra Zeneca announced a major £450m investment into Speke, building a vaccine factory close to its current site.

The City Region has the largest cluster of life sciences jobs out of any English city region, with the exception of Cambridgeshire & Peterborough. There are 6,000 life sciences jobs in LCR, with the sector making a larger contribution to total LCR jobs than the national average. These jobs are highly productive, with GVA per job of £122,000 in LCR. This is 94% higher than overall productivity levels nationally. The sector makes a £730m annual contribution to the LCR economy and is projected to grow at 2.3% per year to 2040 compared to the overall economic growth rate of 1.3%.



Aerial shot of Alder Hey Hospital, Liverpool

The City Region excels in several fields with leading assets and capabilities. These include:

- **Antimicrobial resistance (AMR):** listed among the top 10 threats for global health and a key focus for LCR with a microbials accelerator programme;
- **Infectious disease prevention and control** – complemented by expertise in diagnostics, vaccine discovery, development and manufacturing, and novel therapeutics, supported by academic research and clinical trials conducted by Liverpool School of Tropical Medicine/iiCON, Liverpool University Hospitals NHS Trust and the University of Liverpool;
- **Cancer care and Oncology** – Clatterbridge Cancer Hospital are working with leading academics to develop a pioneering, first of its kind, cancer vaccine which will be tailored to the needs of the patients;
- **Data science applications in health care** – improving health outcomes and the patient experience across the LCR through unifying, simplifying and harnessing the power and potential of data sets across healthcare settings;
- **Health/MedTech** – The Knowledge Quarter and Sci-Tech Daresbury are already the location of choice for innovative Health and MedTech organisations. These innovation districts are rapidly expanding their world-class offer through investing in additional lab and specialist accommodation to attract and retain world-leading innovation;
- **Children's Health and Mental Health** – with the expanding remit of Alder Hey's Innovation Centre and plans for an International Centre of Excellence for Mental Health at Merseycare's specialist hospital site at Maghull.

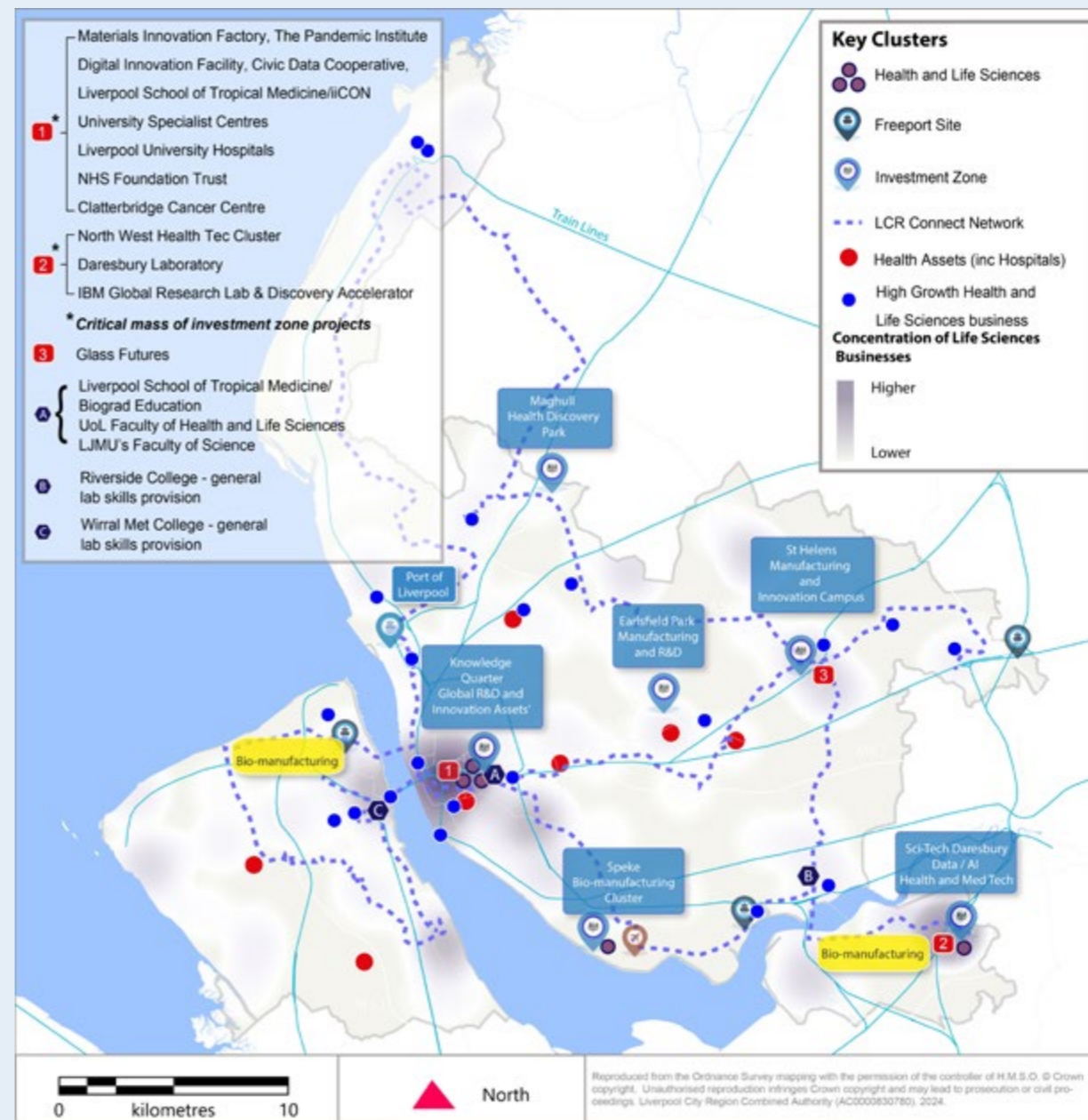
The cluster is underpinned by a strong skills pipeline, with 27,000 students enrolled in health-related courses, as well as the UK's first University Technical College (UTC) that specialises in life sciences for 14-19 year olds.

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> • Discovery and R&D around Knowledge Quarter with the opportunities presented by LSTM, the iiCON programme, The Pandemic Institute, The University of Liverpool, with specialist centres, infection specialisms, and the UK's first Civic Data Cooperative. Much of this is enabled by the Liverpool University Hospitals NHS Foundation Trust, a key knowledge anchor. • Digitally enabled by nationally important capabilities at Sci-Tech Daresbury, with the cluster in AI, data, MedTech, quantum (emerging) supported by STFC and IBM – it is also the location of the UK's second Health Tec cluster. 	<ul style="list-style-type: none"> • A global life sciences market that has exponential growth potential. <ul style="list-style-type: none"> ○ Pharmaceuticals and MedTech alone was worth £1.2tn in 2020, with growth of around 5% expected per year through 2030; ○ The global personalized medicine market size was valued at £425bn in 2021 and is projected to reach £727bn by 2030; ○ Global infectious disease market worth £57bn in 2021; the diagnostics market was valued at £18bn in 2020 - expected to reach £32bn by 2030; • The City Region is ideally placed to position itself nationally and internationally to take advantage of these opportunities and provide both local, national and global population health solutions. This is underpinned by a combination of capacity and capability for rapid drug discovery and vaccine development at scale, potential to access and utilise public health data systems that will support the transition from research to practical applications quickly, and strong existing collaborations between academia, the NHS, pharma and biotech; • Turbocharging the vaccines opportunity. This is enabled by a highly distinctive ecosystem with clear intersections between innovation excellence, R&D and discovery, through to production/manufacture of vaccines. As a result, the City Region has been designated by government as a High Potential Opportunity (HPO) programme for Vaccines, and the Investment Zone will further drive this opportunity. <p>These two developments demonstrate Government's confidence in the City Region to deliver.</p>

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> • One of Europe's most important pharma clusters in Speke (and other locations in Wirral and Halton) completing an integrated value chain from R&D through to commercialisation and production. • Maghull Mental Health Discovery Park in Sefton, to be an international centre of excellence for mental health, including attracting a cluster of industries specialising in the expanding mental health sector research and development. 	<ul style="list-style-type: none"> • A strong NHS marketplace in LCR, which can further drive innovations – across 9 specialist NHS Trusts (the largest number outside London) with UK leading expertise particularly across: <ul style="list-style-type: none"> ○ Neurology (Walton Centre); ○ Children's health (Alder Hey); ○ Cardiology and respiration (Liverpool Heart and Chest); ○ Liverpool University Hospitals NHS Foundation Trust - the largest Trust and playing a leading role in national and regional healthcare innovation. <p>This critical NHS mass can be key for enabling growth in local supply chains and help in addressing the poor population health outcomes experienced here;</p> • Opportunity that is further enabled by Investment Zone status (see case study), that will act as a clustering/networking programme for H&LS to help to double the size of the sector. It injects investor confidence and further opens up opportunities to unlock the disproportionate impact this cluster has on economy and society.

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> • Advanced products in St Helens, linking innovations in medical training, products, and glass (medical glass vials) to create a critical mass of innovation and advanced manufacturing. 	<ul style="list-style-type: none"> • Convergence across the Freeport and Investment Zone - where science meets trade. The market for life sciences products and solutions will continue to scale exponentially, and so the Freeport plays an important role in supporting this growth through its trade flexibilities – providing ease of access and efficient transit to markets for high quality life sciences products; • All of the above brings together a transformational opportunity greater than the sum of its parts - bringing together academic-clinical expertise through university and NHS knowledge anchors, with advanced manufacturing knowledge concentrated in Speke (and extending to Cheshire and Warrington), and through supporting the development of clusters of SMEs – including spinouts from the universities and NHS – which can enhance the supply chain for our major manufacturers. This can be achieved through effective curation built on the energy of partners across the cluster, its ever increasing profile, Investment Zone enablement, and delivering on the potential of the strengths and opportunities set out here.

Figure 6: Health and Life Sciences Concentrations





Case Study: Life Sciences Investment Zone - Scaling Up World Leading Capabilities

The Life Sciences Investment Zone has the potential to drive more than £800m of public, academic, and private sector investment and create 8,000 jobs. It will maximise crossovers between an array of capabilities, building on one of the UK's leading place-based approaches to innovation, with distinctive assets, world-leading research institutes and facilities, leaders in biopharma, biotech, and vaccines.

City Region stakeholders have created a collective offering that spans early-stage discovery and digital enablement through to advanced manufacturing, building on a rapidly expanding and highly productive health and life science sector which already employs 6,000 people and delivers an estimated £730m a year to the City Region economy. It builds on three existing and emerging strengths:

- **Infection prevention and long-lasting therapeutics:** led by the world-leading capabilities of the Liverpool School of Tropical Medicine, The Pandemic Institute, an emerging super cluster centred on the high impact iiCON programme, and the world's first Centre for Long-Lasting Therapeutics (CELT);
- **Healthy lives:** digital health innovation across paediatric medicine, mental health, social care and healthy ageing, combining University of Liverpool and Liverpool John Moores University expertise with NHS clinical excellence and innovative private sector solutions;
- **Advanced manufacturing:** over recent years, companies have made multi-million-pound investments to create new capabilities at their sites in Speke. This includes cell and gene therapies at Pharmaron, Europe's largest fermentation facility at TriRx, and Astra Zeneca's £450m investment in its vaccine manufacturing site in 2024, which reinforce the City Region's place on the world's stage.

The Investment Zone provides opportunities for occupational investment into bespoke life science facility developments, labs and world-class accommodation. It includes a multi-million pound programme of business support, helping to align venture capital with emerging opportunities, and an R&D programme aimed at attracting co-investment by the life sciences industry.

The key Investment Zone locations are the nationally significant and complementary campuses at Knowledge Quarter Liverpool and Sci-Tech Daresbury, with clusters planned in Maghull in Sefton, and St Helens Manufacturing and Innovation Campus, site of global industry-led glass innovation and decarbonisation partnership Glass Futures.

The Life Sciences IZ builds on already strong partnerships. It will draw organisations together linking academic research, business incubation and acceleration and the participation of the private sector; ensure it works for all communities through existing and new skills programmes as well as a broad range of employment opportunities that provide high quality and well-paid jobs for local people; and it will seek out opportunities for innovations which can be brought forward to benefit local people, improve population health and enhance healthy life expectancy.



Scientists working in a lab, at TriRx Speke, Liverpool

3) Inspiring Technology and Creative Spirit (Digital and Creative)

From digital scientists harnessing Big Data and AI to programmers, developers and creatives creating compelling content, Liverpool City Region is rapidly developing a multifaceted, dynamic digital and creative ecosystem that is key for digitalisation across the whole economy.

Digital capabilities and high-performance computing have positioned the City Region at the forefront of technology driven industry solutions. Key assets and expertise such as at Sci-Tech Daresbury and the Hartree National Centre for Digital Innovation, drive AI and data proficiencies, allowing businesses to acquire technical capability required to adopt digital technologies like supercomputing, data analytics, AI, Immersive Technology, and Quantum Computing. This provides a bedrock for significant strengths in applied tech and LCR being a hotbed for creative content production.

The cluster is powered by [LCR Connect](#), making the City Region one of the most digitally connected places in the UK. With nearly 4,000 digital and creative companies employing over 24,000 people in highly productive jobs, there is a strong network offering complete wraparound support for companies looking to collaborate at the cutting edge of next-generation infrastructure.

The Digital and Creative sector is an increasingly important driver of growth for the Liverpool City Region economy. Since 2010, the sector's GVA contribution has grown by 34%, significantly outstripping overall economic growth. This rises to 117% in Liverpool. LCR has the fastest growth rate of digital and creative businesses of any city region. It makes a £1.5bn annual contribution to the LCR economy and is projected to reach £3bn by 2040, representing faster growth than the economy average.

The cluster has nurtured strong relationships with the local universities, amongst the best in the world for Computer Science and allied disciplines including VR, AR, Artificial Intelligence, Machine Learning, Robotics and Visualisation. The University of Liverpool is the UK's top-rated Computer Science department for 4* and 3* research, whilst Liverpool John Moores University's Live Lab provides facilities for the development and delivery of commercial and research projects via cutting-edge mixed-reality technologies.

Dynamic businesses in this sector are also supported by investments in the business support ecosystem. This includes Baltic Ventures, a flagship early stage tech accelerator for the City Region which connects businesses into key networks and provides global reach.

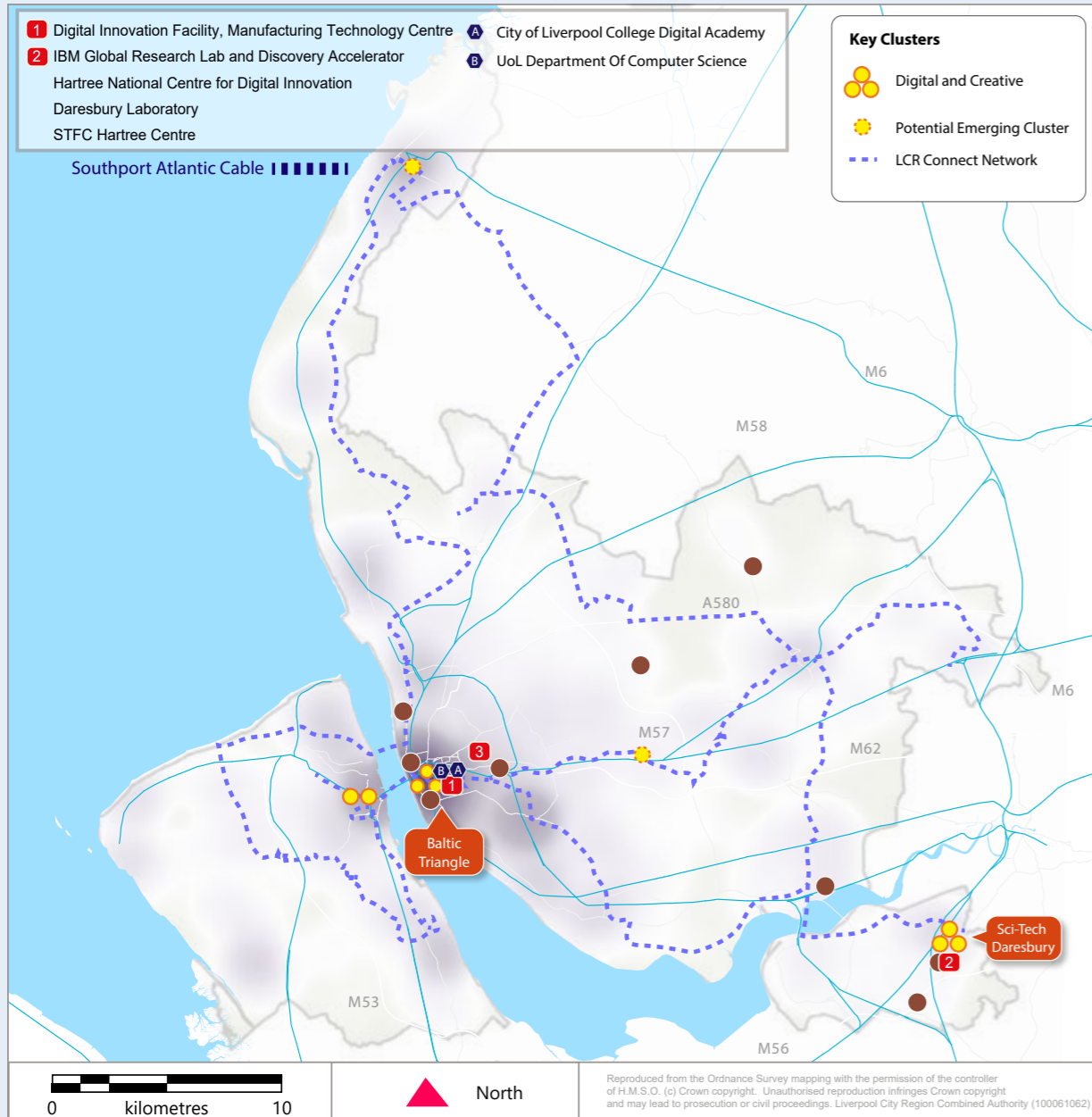


Royal Albert Dock,
Liverpool

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> The Baltic Triangle and Liverpool Innovation Park are focal points with some of the most innovative digital and creative enterprises located there, and Liverpool is already a global hub for games and interactive entertainment with an array of major names and investments. The cluster extends to Birkenhead/Left Bank and potential emerging clusters in areas such as Southport and Huyton. 	<ul style="list-style-type: none"> Creative content opportunity with convergence across technologies and a major global market <ul style="list-style-type: none"> Gaming is now the second largest global media sector that is about to reach £156bn and expected to be at nearly £400bn by 2030; LCR is one of the strongest games sectors in the country with 50 active gaming companies, the talent, skills, suitable studio locations and a strong ecosystem; There is increasing overlap between digital and creative industries which will only increase with the role of AI/gaming platforms used for film and TV; There is also a national drive to grow the creative industries by £50bn and support a million more jobs by 2030. The convergence of music and film production augmented by virtual realities (based on games heritage) sets us apart from other areas to maximise the opportunity; Key projects to support the opportunity include the Littlewoods Studios project – a refurbishment of a previous site into Film studios; and ‘Liverpool Music’, comprising an immersive visitor attraction and world class recording and production facilities and rehearsal space. Applied Tech: LCR’s next generation technologies and facilities have paved the way for a range of opportunities; Our advanced manufacturing industry, a well-connected health sector and the more nascent emerging technologies (AI/quantum) in development can respond to new Med Tech

Key Locations	Opportunities to build and sustain comparative advantage
<ul style="list-style-type: none"> The priority, therefore, will be supporting a hub and spoke approach across LCR - both on opportunities to build on established strengths and locations, and to help facilitate the wider network of emerging clusters and capabilities. All of this is underpinned by national digital capabilities at Sci-Tech Daresbury and leading facilities such as the Digital Innovation Facility at the University of Liverpool. 	<ul style="list-style-type: none"> opportunities in a £500bn global market with the UK medical technology sector generating annual turnover of approximately £30 billion each year; Transcending multiple sectors to deliver scalable tech solutions: <ul style="list-style-type: none"> - As a leading UK centre for digital manufacturing we can take systems engineering and learning from digital manufacturing into a range of environments such as laboratories; - Building on the NW Health Tech cluster at Sci-Tech Daresbury; - Developing ‘smart’, future-focused approaches leading to digitally driven ports and logistics building on our AI expertise; - The development of capability and offer in Fintech (the UK’s strongest tech sub-sector and worth £219m in the City Region), WealthTech and LawTech – building on tech and gaming expertise and the strength of LCR’s Financial, Professional and Business Services; - Other unique offers such as the development of the UK’s First National Centre for Digital Heritage Research. World class infrastructure to drive forward innovation and become a Smart City Region: LCR Connect will open up skills and job opportunities at all levels, and a Civic Data Cooperative data-sharing platform as part of the IZ enables better health and care for people everywhere (also see Innovation Section).

Figure 7: Digital and Creative Concentrations



Sci-Tech Daresbury, Halton



Case Study: LCR's Gaming and Immersive Technology Prowess

The City Region's heritage in gaming dates back to the 1980s as the home of trailblazing British games developer Psygnosis, which was acquired by Sony in 1993. The gaming industry has already proven to be a valuable source of inward investment into LCR.

In 2020, Sweden's Avalanche Studios – creators of the popular 'Just Cause' franchise which has sold more than 15 million copies worldwide – chose Liverpool as the location for its second international studio after New York. In June 2022 global games services provider, Universally Speaking, expanded its UK footprint to open a specialist studio in Liverpool.

Local businesses are responsible for some of the best-known titles in the world including: WipEout, Project Gotham Racing, Destruction Derby, the Playroom and many others. The expertise/pedigree of Liverpool businesses in a global context is highly regarded and sought after.

This expertise is extremely transferable, and we have seen evidence of this in LCR with the likes of vTime, Damibu and Citrus Suite securing sizeable NHS contracts; applying their skills in areas such as independent living, pre-surgery, training and patient care etc. Augmented and Virtual Realities (AR and VR) will be a \$1.5 trillion industry by 2030 (PwC). These technologies, first developed in the games industry, are starting to come into their own across all sectors. The City Region has some excellent examples of the application of these technologies in its leisure (including film), health, automotive and engineering sectors.



Children experiencing immersive technology

Convergence of Opportunities to Push the Net Zero Boundaries

Our cluster strengths and opportunities are central in addressing societal and public health challenges – as demonstrated in Health and Life Sciences - but also in responding to the biggest global challenge of our time, the climate emergency.

The City Region is working towards a target of becoming net zero by 2040 or sooner, and is ideally positioned to lead the way with a distinctive portfolio of investable opportunities and commitment to innovation-led low carbon solutions across the economy.

Home to a significant advanced manufacturing, digital, logistics and maritime base coupled to Freeport status and strengths of the innovation ecosystem, this creates major opportunities in new markets, supply chains, and green jobs. Indeed, the low carbon sector is estimated to support 140,000 jobs by 2040 in LCR. An LCRCA 5 Year Climate Action signals intent and commitment to ensuring net zero cuts through everything we do as a City Region.



Apprentices at Alstom Train Care Depot, Liverpool

Our focus is on moving quickly to support both established and fledgling industries in this once in a generation chance to accelerate change. Climate technologies are being adopted more rapidly than previously anticipated meaning acting quickly is essential – developing Climate Tech clustering is therefore at the centre of our economic considerations, inspiring local innovation and developing the ecosystem for start-ups, local and regional supply chains that enable the transformation of the City Region and UK into a cleaner, greener economy.

Our critical mass of distinctive, innovative solutions, technologies and capabilities – from R&D through to deployment and delivery - illustrates the City Region is developing a truly long-term approach that, through public-private partnerships, will be of incalculable benefit to future generations.

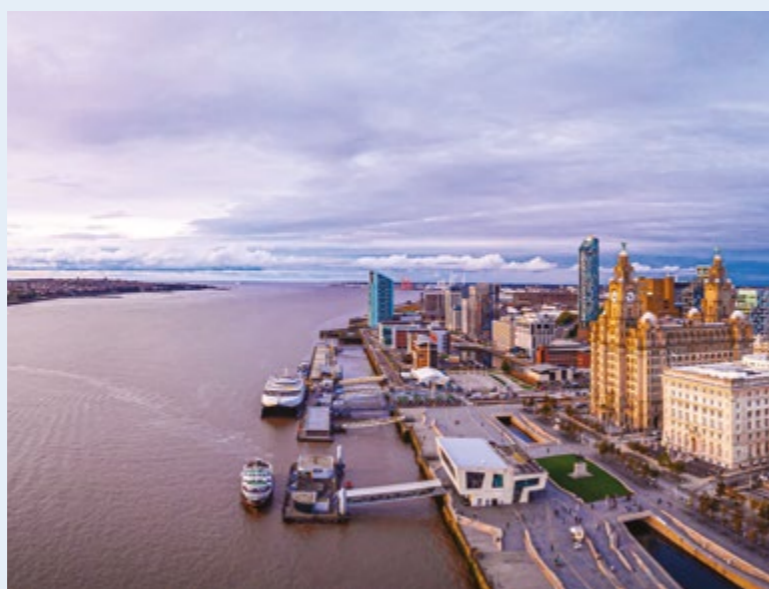


Installation of solar panels

The Clean Energy Coast – Forging the Pathway towards Energy Security

Given the significant challenges around energy insecurity, price volatility and geopolitics, this is an important time to consider the need for joined up thinking and major ambition around minimising demand, increasing efficiency and providing predictable sources of energy. We already have substantial regional offshore-wind operable. Our focus is now on supporting the growth of Hydrogen to replace natural gas, diesel and petrol and to bring a first-of-its-kind tidal range to the UK. This energy transition offer needs to be achieved through coordinated activity and investment with government and industry.

- **In the medium term, Mersey Tidal Power represents a major opportunity for LCR to become the UK’s de facto tidal energy hub.** The Mersey has the second-highest tidal range in the UK. Now at an advanced stage of concept, delivering the Mersey Tidal Power Project would create a major predictable energy source for the next century supporting the City Region’s move to decarbonise its transport, homes and industry and create thousands of jobs, with new skills, in the green economy. A game changer for Liverpool City Region and beyond;



Liverpool waterfront

- **Further building out one of Europe’s largest clusters of offshore wind farms through tripling the volume of wind energy by 2032,** generating capability in local supply chains which will grow across the North Wales and North West coast and exporting knowledge to overseas markets – a systemic approach to developing the supply chain will support LCR in exploiting a predicted £92bn of economic value in the UK by 2040. Offshore wind in Liverpool Bay has attracted over £6bn of investment over the last fifteen years with a further set of windfarms due for deployment by 2030 and demonstrates that with the right level of ambition, clarity of the opportunity and targeted support, other transformative plans such as Mersey Tidal are clearly achievable;
- **The Green Hydrogen opportunity:** tangible investment opportunity valued at up to £810m by 2030 to support the development and deployment of decentralised electrolytic Hydrogen production and refuelling infrastructure at over twenty Green Hydrogen Hubs supporting both industrial process sites and transport applications across the City Region. This investment opportunity sits alongside the HyNet project that will produce and distribute low carbon Hydrogen and develop a Carbon Capture and Storage (CCS) system to service high carbon-emitting industrial sites. This will ensure the capability to supply widespread emerging transportation and industry demand. Manufacturers in particular, are relocating closer to sources of hydrogen given that a central cost for them is energy.



Burbo Bank Offshore Wind Farm



Case Study: Mersey Tidal Power

The City Region is developing a first-of-its-kind tidal range energy project and largest publicly led renewable project in the UK. A trailblazer for a new industry, it could mean generating enough power for up to 1 million homes. With an operational life of over 120 years, it could lock in low carbon generation for a century.

Mersey Tidal Power is a potential mega-project, using the energy from the tides in Liverpool Bay and Mersey Estuary to generate plentiful clean, reliable, and predictable energy. The City Region and wider North West will require double the volume of power available today in order to switch its transport industrial use and heating to clean hydrogen or electricity. This project is therefore vital in meeting regional and national carbon targets.

Generating power four times a day, it will complement and help balance more intermittent and unpredictable sources, helping to balance the grid locally and nationally. As well as generating green energy, the Mersey Tidal Power Project has the potential to generate thousands of jobs across design, construction, start-up, operations, and maintenance. Every stage of the project will create opportunities in the new green economy, with Liverpool City Region becoming a centre of excellence in a vital industry of the future.

Industrial Decarbonisation – Local Solutions for Global Sustainable Growth

The opportunities for industrial decarbonisation are vast, particularly as businesses and their stakeholders increasingly inform their decisions on environmental, social and governance considerations. The City Region is at the forefront of driving world class expertise and solutions that will help accelerate sustainability across the economy. In addition to hydrogen (above), key assets and opportunities include:

- **Glass Futures Global Centre of Excellence:** attracting innovators to the City Region, bridging the technology readiness level gap between research and commercial viability - driving industrial innovation and decarbonisation for both glass technologies and wider foundational industries at a global scale;
- **Building a circular economy through converting waste into energy,** utilising the City Region's industrial and academic expertise in Sustainable Chemicals with countless opportunities for innovation;
- **Port and Freeport opportunities driving logistics and maritime decarbonisation.** With the Port at its centre, the region is home to significant transport and logistics activity and as such, offers numerous opportunities for supply chain decarbonisation. This is combined with Freeport focus on innovation to drive decarbonising freight, the marine and maritime sector, presenting LCR with a unique opportunity to become a global leader;
- **Electrifying the region and UK** and the supply chain opportunity, following significant investments into infrastructure and the added unique feature of being the location of only one of two plants in Europe that recycles lithium batteries (see advanced manufacturing).



Case Study: Glass Futures – Revolutionising Global Glass Production and Industrial Decarbonisation

This is a world first, industry-led, international centre of excellence, located in St. Helens, the cradle of glass innovation. Co-funded by the UK government, this Research & Technology Organisation (RTO) involves some of the world's biggest names in glass and technology – Pilkington, Diageo, Encirc, Guardian, Heineken, Owens Illinois, Siemens and UK trade body British Glass, in collaboration with the Universities of Liverpool, Cambridge, Leeds and Sheffield.

The £56m not for profit facility opened in summer 2023 and includes an open access 35-tonne-per-day pilot plant with dedicated R&D, training and office space. It has already laid the foundations for a wider open innovation and industrial decarbonisation campus, while Glass Futures has established a leadership position with other UK foundation industries.

Glass Futures is also investigating new green hydrogen technologies and process innovation, in tandem with working with St. Helens Council on hydrogen vehicles, and the intention is for Glass Futures to have access to [HyNet North West's](#) hydrogen fuel network.

A separate facility for medical glass manufacturing and innovation is also being developed nearby, and will support the UK in onshoring glass vial and test tube production. Glass Futures is also the global headquarters of Inovus Medical, which provides advanced surgical training technology. Whether helping to decarbonise industrial production or supporting cutting edge life sciences, Glass Futures is an international focal point providing global solutions.



Glass Futures, St Helens

Powering and Enabling our Strengths

Fully capitalising on our innovation, cluster and net zero opportunities cannot work in isolation. There are strong synergies across other areas of the economy which will also continue to have a significant strategic focus. In particular, **Financial, Professional and Business Services (FPBS)** and **Port & Maritime** are both intrinsic to driving LCR's economy, providing a critical enabling role and leaning directly into our comparative and competitive strengths.

Oiling the Wheels of the Economy: Financial, Professional and Business Services

All successful clusters need to be served by a strong local Financial, Professional and Business Services (FPBS) ecosystem, with high quality expertise in areas such as corporate financing, legal and other areas that will facilitate and raise the profile of economic strengths and opportunities. Critically, the breadth and depth of that expertise is something that can also transcend across different clusters and sectors.

With one of the highest concentrations of financial services and wealth management companies outside of London, 50% of the City Region's high growth companies, and expanding on strengths such as a Fintech proposition that can be embedded across multiple other sectors, FPBS has a distinctive offer that will continue to be at the forefront of driving and supporting LCR's economic ambitions. It is also a major employer, with 9,500 companies employing 75,000 people across the City Region, and with a strong talent pipeline – 17,000 students studying FPBS related courses, 50% of whom remain in the City Region post-graduation. Key names include Pershing (subsidiary of the Bank of New York), Investec Wealth and Investment, Rathbones Investment Management, Hill Dickinson and Brabners.

In particular, net zero and the sustainability imperative cannot be achieved without climate and green financing, and applied tech is driving innovations that will allow the sector to catalyse broader digital revolution across the economy. In short, a strong FPBS sector in LCR means a strong economy. Supporting the FPBS' continued growth and market opportunities will therefore remain an important strategic focus for the City Region.

The Pre-eminent Western Global Gateway to the UK Economy

The artery running through the City Region is the River Mersey, and it remains just as economically important today as it ever has with the **Port Complex** being a central economic engine, underpinned by LCR's central UK position. It means that the City Region is a core global trade hub for the North of England.

The centrepiece is the **Port of Liverpool**, providing the quickest, most cost-effective route to major global markets and the best connected terminal in the country. It is the **UK's third biggest port and main transatlantic gateway handling 45% of all US trade**. More than £1 billion of intermodal infrastructure investment and a new deep-water container terminal, means faster global supply chain transit for products made here. The combined importance of an expanded Port of Liverpool and a widening of the Panama Canal has created a globally competitive multi-modal port proposition.

This critical economic hub is within four hours transit to more than 50% of UK manufacturers, and is also complemented by an array of multi-gateway infrastructure assets alongside the Mersey and across the City Region, including the opportunity for Strategic Rail Interchange Capability at Parkside, St Helens, allowing for national and regional distribution.

With 10 motorways within 10 miles, 10 rail linked terminals and its closer proximity to the UK's import and export markets, it reduces costs, carbon and congestion. Furthermore, two international airports within 45-minute drive time also offers excellent connectivity with Europe and the rest of the world.

Combined, this provides the opportunity for value added manufacturing and speed to market through an excellent logistics infrastructure which gives the City Region a further competitive edge.

A Maritime Offer Key to the Future Prosperity of LCR and the UK

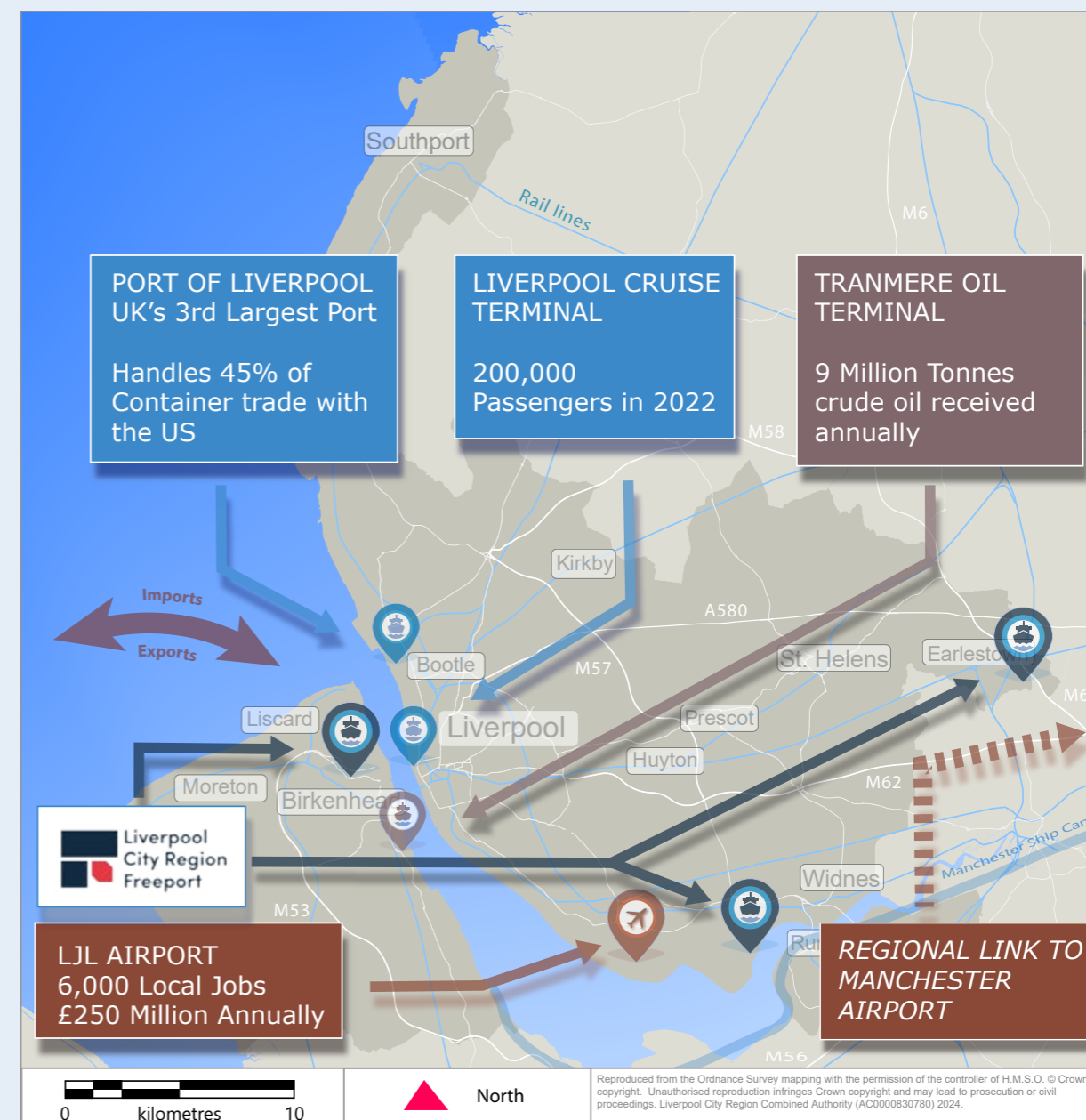
This connects directly into a buoyant and strong international maritime sector, built on innovation and a heritage which saw the region become home to the world's first ever steel hulled ship, lifeboat station, radar-controlled port, and commercial wet dock. Maritime directly supports 8,500 highly productive jobs with an economic impact of £2.7bn.

The City Region is home to a diverse range of world class companies providing national and global expertise in the ports industry (including 4 of the 6 world's largest shipping firms), marine engineering, leisure marine, and maritime financial and professional services served by a strong regional cluster network. Supporting this are developments that continue to ensure LCR is at the heart of maritime innovation – such as a Port City Innovation Hub, a planned Maritime Knowledge Hub, and the maritime and logistics decarbonisation focus of LCR Freeport. Together with a dedicated Maritime Innovation Action Plan, this will enable the ecosystem to be at the forefront of developing and adopting cutting edge technologies in areas such as smart shipping, robotics, clean growth and ship-tech digitalisation - all supporting delivery of the national Maritime 2050 Strategy.

Global Reach that Delivers Supply Chain Solutions for the UK

Taken together, our location, maritime strengths, and array of assets are crucially important in the current period of major shifts in global supply chains coupled with potential future energy insecurity. The City Region can position itself at the forefront of these agendas – with the combination of Port, Freeport, a vibrant maritime presence, multi-modal/multi-gateway infrastructure assets, digital supply chain expertise, and proximity to manufacturing and logistics activity, all providing significant trade and efficient global transit that will benefit LCR, the wider north of England and the UK.

Figure 8: The Pre-eminent Western Global Gateway to the UK Economy





Case Study: LCR Freeport – Multimodal Global Trade and Investment Platform

Liverpool City Region is one of eight places across England that has been granted Freeport status. LCR Freeport is a low carbon multimodal, multi-gateway trade platform with a network of sites which, through a range of targeted customs and tax benefits, will attract high-value inward investment, support growth and employment to regenerate communities through industry, innovation, and collaboration.

Our Freeport is a unique proposition. Centred on a mix of infrastructure including the deep-water container terminal at the Port of Liverpool, multiple rail heads, other water-based access, and the airport, it's the key coastal access point to the UK's largest concentration of manufacturing.

Targeting key sectors including automotive, biomanufacturing/ pharmaceuticals and maritime, LCR Freeport will also support advanced manufacturing, logistics and energy.

It will also support digital integration of supply chains and of the wider port and logistics sectors. Across the City Region, LCR Freeport will be transformative, creating nearly 14,000 jobs, with an estimated economic benefit of £850m, and £800m of total investment.

LCR is also one of only three places that have the combined benefits of the Investment Zone and Freeport, offering unique benefits at scale, and a high level of complementarity with a shared focus on biomanufacturing.



Wirral Waters, Wirral

Figure 9: A Port and Maritime Industry with a Global Network and Reach



5

Commercial Premises and Pipeline to Deliver

The City Region is determined to ensure its ambitions and priorities are matched by a supply of Strategic Commercial Premises, with a focus on quality and scale that will provide confidence to government and the market. Below are examples relating to the core economic clusters set out in this document, that in turn are aligned to the emerging LCR Spatial Development Strategy.

This is based on current understanding of need, but of course economic opportunity is constantly evolving meaning the City Region needs to be able to position itself for that. We will therefore continually explore future pipelines and emerging opportunities/locations that unlock opportunity to meet demand and help to further our global ambitions.

LCR's Freeport Tax Sites comprise the largest strategic employment locations in the City Region that will support advanced manufacturing and rapid transit to global markets, whilst its tax sites will help stimulate supply chain activity across the City Region. Cumulatively this includes a total of 310ha of land for development and 675,000 square metres of commercial floorspace to be created:

- **Parkside** - the largest strategic employment site in the City Region, it is located in St Helens close to the M6 and M62. The site includes the former Parkside Colliery and is focused on advanced manufacturing and logistics businesses. There is also significant scope at the adjoining Parkside East site, particularly with a planned Strategic Rail Freight Interchange;
- **3MG Widnes** - offers direct connections to the UK motorway network and rail access from the West Coast Main Line. 3MG is already involved in the hydrogen economy supporting capital investment in low carbon fuels and infrastructure;

- **Wirral Waters** - located around the Birkenhead Docks, it comprises significant areas of dockside land capable of attracting a range of port-centric businesses, advanced manufacturing, innovation and research and development activities.

Sci-Tech Daresbury is seeking to drive forward continued expansion of its internationally important Campus so that it can be home to 10,000 high-value jobs (from 2,000 currently). It has vast potential to grow 700,000 square feet of high-quality science and technology facilities over the next 15 years. This includes the 'Ultraviolet' development comprising up to five buildings/180,000 square feet of Grade A office and lab space. This complements the existing campus portfolio which currently includes startup and grow on lab space, meaning it is well-positioned to attract lab-occupiers at all stages of development.

Knowledge Quarter Liverpool (KQ Liverpool) is a 450 acre innovation district in Liverpool City Centre and a partnership between the University of Liverpool, Liverpool John Moores University, Liverpool School of Tropical Medicine, Liverpool University Hospitals NHS Foundation Trust, Liverpool City Council and Bruntwood SciTech. KQ Liverpool is at the centre of the LCR H&LS Investment Zone, bringing together several R&D and innovation assets into a globally significant cluster, including iiCON, The Pandemic Institute, Centre for Excellence in Long Lasting Therapeutics and the Civic Health-Tech Initiative, CHI-Zone.

Paddington Village is Liverpool City Council's £1bn flagship development site, sitting at the Eastern gateway of the innovation district. Paddington Village is already home to The Spine, University of Liverpool International College, Clatterbridge Community Diagnostic Centre and Novotel Hotel. The Investment Zone will unlock further development at the site and be the catalyst for the delivery of up to 200,000 sq ft of new, much-needed lab space. A high-quality residential building, with accompanying green space and amenity, will also be delivered on the site.

The sites sitting at the North and South of the existing Paddington Central site are also earmarked for future development, with the potential to deliver significant R&D space aligned to KQ Liverpool's key strengths in health and life sciences and materials chemistry.

Speke Boulevard to Halewood (Speke-Halewood Corridor)

is the focus of premium advanced manufacturing activity across pharmaceuticals and automotive. It is an area of high significance for further strategic and commercial focus (including as part of the Investment Zone) as the City Region further positions Life Sciences and the EV opportunity for future growth, redevelopment and investment.

Investment Zone locations are across the City Region, including in Knowledge Quarter, Sci-Tech Daresbury and Speke (above). Other areas of key focus include:

- St Helens Manufacturing Innovation Campus - a cluster of life science manufacturing and innovation businesses alongside over 40 acres of strategic development land, incorporating significant private sector investment;
- Maghull Health Discovery Park – 42 hectares Ashworth hospital site as an international centre of excellence for mental health, including attracting additional development, investment and a cluster of industries specialising in the expanding mental health sector research and development;
- Earlsfield Park in Knowsley is a 30-acre opportunity site targeting advanced manufacturing and R&D, benefiting from planning permission and recently completed on site infrastructure.

The Baltic Triangle area is well known nationally as a triangular slice of Liverpool, home to digital and creative industries. The area holds approximately 12,600 square metres of office space and a further 5,700 square metres of creative studio/workspaces. Although it provides limited new land, the continued evolution of the area and development of commercial premises that provide the flexibility required for our Digital and Creative cluster is key for its future growth. Birkenhead is another emerging cluster, together potentially with Southport and Huyton.

West Runcorn (incorporating INEOS/INOVYN), of strategic national importance with the chemicals produced on INEOS' site sold into a wide variety of industrial applications. This also connects directly to Port Weston on the Manchester Ship Canal, which is benefiting from Freeport investment, providing accommodation for a range of key sector opportunities.

City Centre and Inner Urban Area. There are specific opportunities for focusing on high quality office space for the CBD, with high calibre options under consideration. The strategic opportunity is broader, with a focus on maximising the potential of the waterfront connecting the city centre to Liverpool Waters and Bramley Moore Dock – 2.3km of prime waterfront.

Taking this a step further, there is a wider strategic view of the City Centre and inner urban area as set out in the emerging Spatial Development Strategy, connecting to broader commercial and regeneration opportunities – extending to plans for Bootle in Sefton and the ambitious Left Bank regeneration centred on Birkenhead on the Wirral.

Enabling manufacturing and logistics locations: the City Region is particularly strong in mixed logistics (where there is strong market demand) and wider manufacturing capabilities, which supports and enables both national and international trade. Some major sites with developable opportunities include:

- Knowsley Business Park, which is one of the largest employment areas in Europe and the second largest in the North West. Home to 800 businesses and 15,000 jobs, it is a key employment hub for LCR and the region, and has the capability to offer many types and sizes of accommodation;
- Halsnead, in Knowsley, will be the largest combined housing and employment site in the City Region, meeting demand for logistics and advanced manufacturing space;
- Haydock Industrial Estate and Omega, in St Helens, which are prime locations for logistics activity, and in supporting associated market demand for manufacturing.

6 Enabling Economic Opportunity: Connectivity, Vibrancy and Talent

Maximising the scale of opportunities cannot be achieved without the right mix of enabling conditions. In LCR the ingredients are in place to drive success, and opportunities will be actively sought to mobilise resources around economic clusters, regeneration, transport and skills to ensure systemic, connected approaches.

Investing and Innovating in Connecting People, Businesses and Communities

Our priority is to align connectivity between strategic transport corridors, economic opportunities, and full digital connectivity to ensure that we can maximise our strengths and that people are joined up to opportunity wherever is possible.

LCR is already one of the most digitally connected places in the UK, and this is now becoming even better through investment in the LCR Connect Joint Venture, one of the UK's most ambitious sub-national digital connectivity initiatives. LCR Connect is a full-fibre, ultrafast, gigabit-capable network spanning the Liverpool City Region – it's a gateway to access next-generation future-proofed and cloud-enabled technologies. Providing a 212km fibre backhaul network, this provides gigabit capacity and capability to data hungry sectors.

This is matched with our ambitions to accelerate the delivery of a world-class, fully integrated transport network for the City Region.

There are also plans for stations at Woodchurch on the Wirral, Carr Mill in St Helens, and at Daresbury in Halton - the latter would be key in further improving connectivity to this nationally significant innovation campus.

A 76km Merseyrail network serves a catchment labour market of over 2.5m people and has been upgraded through investments in stations and a £0.5bn investment in new trains that are amongst the most modern and sophisticated in the country.

Furthermore, LCR bus franchising will provide greater public control on setting fares and routes, meaning that more people and places will be better connected to areas of economic opportunity. This is a key step to fully integrated transport for LCR. Supporting this will be significant capital investment into infrastructure via the Green Bus Routes programme. The £70m transformation of the City Region's bus network, will make it easier, faster and more reliable to travel by bus.

Moreover, the delivery of new and upgraded walking and cycling routes as identified in our Local Cycling and Walking Infrastructure Plan (LCWIP) will revolutionise people's ability to walk, wheel and cycle. We have planned a 600km network of walking and cycling routes across the City Region over the next 10 years, based on upgrades to 31 key routes.

The City Region also secured £710m through City Region Sustainable Transport Settlement (CRSTS) between 2022-2027 to build and improve services across our public transport network. It is anticipated this will be followed by CRSTS2 between 2027-2032. This will give the emerging place based pipeline an opportunity to deliver some transformational schemes. CRSTS2 and further devolution will allow us to steadily grow our network to deliver full affordable connectivity, and critically, develop transport corridors that address gaps and are led by connecting to opportunity.



MetroBus outside Mann Island, Liverpool



Spotlight on LCR's Investments and Ambitions for New Stations

The new, fully accessible Headbolt Lane station in Knowsley marks the debut of LCR's publicly owned, cutting-edge battery-powered trains. These state-of-the-art trains will enable services to extend beyond the current network without the need of an additional third rail electrification, paving the way for the expansion of the Merseyrail network throughout LCR and beyond as well as helping to promote modal shift and net zero ambitions. We will invest in more batteries on trains, supporting the expansion of the Merseyrail network beyond its current geography.

Coupled with IPEMU, significant investment at Liverpool Central will enable expansion of the Merseyrail network across the City Region, driving investment and regeneration in Liverpool City Centre and significantly enhancing city centre rail capacity.

The opening of Liverpool Baltic station would enhance connectivity to the City Centre's expanding Digital and Creative cluster. The increased accessibility is anticipated to fuel economic development in the area with a high frequency service of 15-minute intervals during peak times.



Entrance to Headbolt Lane station, Knowsley



Brand new, battery-powered train for the Merseyrail network pulls into Headbolt Lane station, Knowsley

A Vibrant Place Where People Want to Visit, Live, Work, Study, and Invest

Our priorities are to further grow a resilient and thriving visitor economy; maintain and enhance the City Region's cultural offer; and for all LCR's neighbourhoods to have a quality housing offer that meets needs and aspirations, at a cost which people can afford.

As set out at the beginning of the Framework, LCR is an exciting, dynamic place to be with a great quality of life. It is world renowned for culture, creativity and a unique sense of place, with 57m visitors per year and being 3rd in the UK for international visitors. Hosting major international events such as Eurovision has further cemented global status.

The City Region's importance as a destination is reflected in it being announced by government as a *Local Visitor Economy Partnership (LVEP)* area. This further supports collaboration on shared priorities to grow the local visitor economy which is a major source of employment adding to the diversity of LCR's economic base and place offer, and a key component in shaping the place brand – we also know that overseas visitors may be prospective investors, so a strong visitor economy is critical.

There are also many high-quality neighbourhoods, connected by excellent transport links, offering a wide range of housing which make the City Region a great place to live and work. We are committed to accelerating delivery of new homes, widening housing choice, improving housing quality, but perhaps most importantly the City Region also offers a real sense of community in its urban environment that adds to quality of life and its vibrancy.



Spotlight on Liverpool City Region's Housing Offer

We have a dual focus on creating new housing and improving what we have. A good home in an attractive neighbourhood with easy access to services and facilities is key to health and wellbeing and overall quality of life.

Our City Region's offer is distinctive and varied, with many high-quality, attractive neighbourhoods providing excellent places to live in higher value homes and residential areas. For example, along the north Sefton coast, west Wirral, south Liverpool, Roby in Knowsley, Sandymoor in Halton and north St Helens. Liverpool City Centre, and the emerging market in Wirral Left Bank, provides an exciting and distinctive "urban" offer.

We are committed to supply over 76,000 new homes up to 2040. This is part of a continuous approach to diversify, enhance and create the right balance in the City Region's housing offer, creating and developing new markets. It means building on emerging market trends to widen choice and improve quality taking advantage of our unique urban offer to provide new types of housing; and driving change in areas which have potential to deliver long term improvement.

It is also essential that all our communities benefit from, and contribute to, our projected economic growth. This will mean addressing challenges in some of our existing neighbourhoods where housing choice and quality is not of the standard we want, or people deserve.

Improving the housing offer in these neighbourhoods, and their wider living environment, will help retain and attract economically active residents, complement adjacent new development thus supporting long term sustainability. Focusing on improving quality and condition of housing stock through retrofit programmes and urban regeneration in our most deprived neighbourhoods with poorest quality housing is key.

Talent to Fuel the Knowledge Economy

Our priority is talent management through *development, attraction, and retention*. Human capital is the most critical factor for any successful place, particularly so within a highly mobile labour market in the post-Covid era. With a clear strategic focus on investments at scale that provides high quality jobs, creating a distinctive quality of life offer of vibrant places that people choose to live, study and work in, and an affordable housing market, the ingredients are in place for a deep talent pool that will help drive the knowledge economy.

Furthermore, the pipeline is there to ensure not just the development, but the sustainability of a robust talent pool. With access to a 3.9 million working-age population within one hours drive time, the City Region provides the economy with a large skilled workforce and a thriving student population of 57,000 and over 250,000 again within one-hour. But more work is needed to better connect local employers and local students, and to support the creation of first and second graduate level jobs, noting that many students wish to stay locally.

The City Region benefits from strong networks of responsive Colleges, Local Authority Community Learning providers and Independent Training Providers. It is home to six general FE Colleges, adult and community learning provision from all our 6 Councils, 2 outstanding standalone sixth form colleges, 26 schools offering sixth form provision, over 40 specialist indigenous independent training providers delivering publicly funded training programmes directly, and five Universities with complementary and reinforcing specialisms allowing for special progression in advanced manufacturing and engineering. The Association of Liverpool City Region Colleges brings together the major colleges locally and provides a framework and basis for their collaboration. Allied to the national Association of Colleges, it acts as a conduit between the colleges and local, regional and national organisations.

The University of Liverpool is consistently ranked as one of the strongest in the country for research but also got a Gold TEF rating for teaching excellence, and with its 30,000 students is helping drive the knowledge economy through close collaboration with fellow universities, industry and the NHS. Liverpool John Moores University with its 25,000 students, also scores highly with a Silver TEF rating, offering over 200 undergraduate courses which through its links with industry there exists a strong pipeline of talent for businesses to draw upon.

The talent pipeline will be further strengthened through alignment with future focused skills to ensure the labour market is ready for rapid changes including through AI: this will include learning from the fore-sighting work undertaken by national Catapult Centres, including CPI and MTC. Aligning with transformational opportunities, this will produce a City Region of creatives, of environmental scientists and engineers, of data scientists and entrepreneurs. But, most importantly, in a rapidly changing world with changing skills requirements, working with schools, colleges, HEI and skills providers, this will deliver a City Region of confident, independent learners, with transferable skills across all industries of the future.

There is also a critical role here for employers to invest in the development of their staff, with more employers over time seeing training as an investment. Providing access to high quality, accessible, affordable and flexible provision locally is key to this with colleges, training providers and universities required to think and act differently to enable this to happen.

Breaking Down the Barriers to Talent and Supporting an Inclusive Economy

We have a clear vision and priority to actively work to address barriers to opportunity through systemic approaches that helps people – wherever they are – maximise their potential.

Talent is widespread but opportunity is not. We know that too many people do not benefit from economic opportunities and that they are often overlaid with significant areas of deprivation. There is an intrinsic link between People and Place and too many of our residents have horizons that are affected by structural inequalities linked to the postcode in which they live.

Removing the multiple barriers to prosperity (including careers, skills, digital, transport, childcare and systemic drivers of poverty including poor health) will provide the opportunity for all people to have a good quality of life and be able to use their potential to lead prosperous lives.

These are long-term challenges requiring long-term solutions. The *LCR Plan for Prosperity* sets out the strategic priorities around this in detail. Workstreams include a City Region approach to Community Wealth Building, employability programmes such as Households into Work, and public service innovation initiatives like Cradle to

Career which focuses on young people and families in some of our most deprived places. Such initiatives are central to supporting an inclusive – and in the longer term productive – economy. The challenge is systemically scaling these up.

Ultimately, we need more people to be engaged in work and in higher quality work. Our skills focus will work to improve educational attainment, publicising opportunities through the award winning Be More portal, upskilling, reskilling, supporting people who are out of the labour market into employment, enabling progression from labour market entry to higher skilled technical jobs, and alongside this systemically improving health outcomes. A Long Term Skills Plan will set out how we intend to deliver. More specifically, an Access to Opportunities Plan has also been designed for the Investment Zone, which will be mainstreamed as a wider approach to deepening the talent pool across the City Region.

The people approach will be complemented by an integrated place-based vision to bring together economic opportunity and regeneration potential – with a focus on place-making, decarbonised transport corridors, social infrastructure, social capital, and housing growth. In particular, the proximity of a number of key economic opportunities to town centres provides potential for spill-over impacts, thereby bringing good jobs and prosperity closer to key urban centres and often act as places where communities can come together.

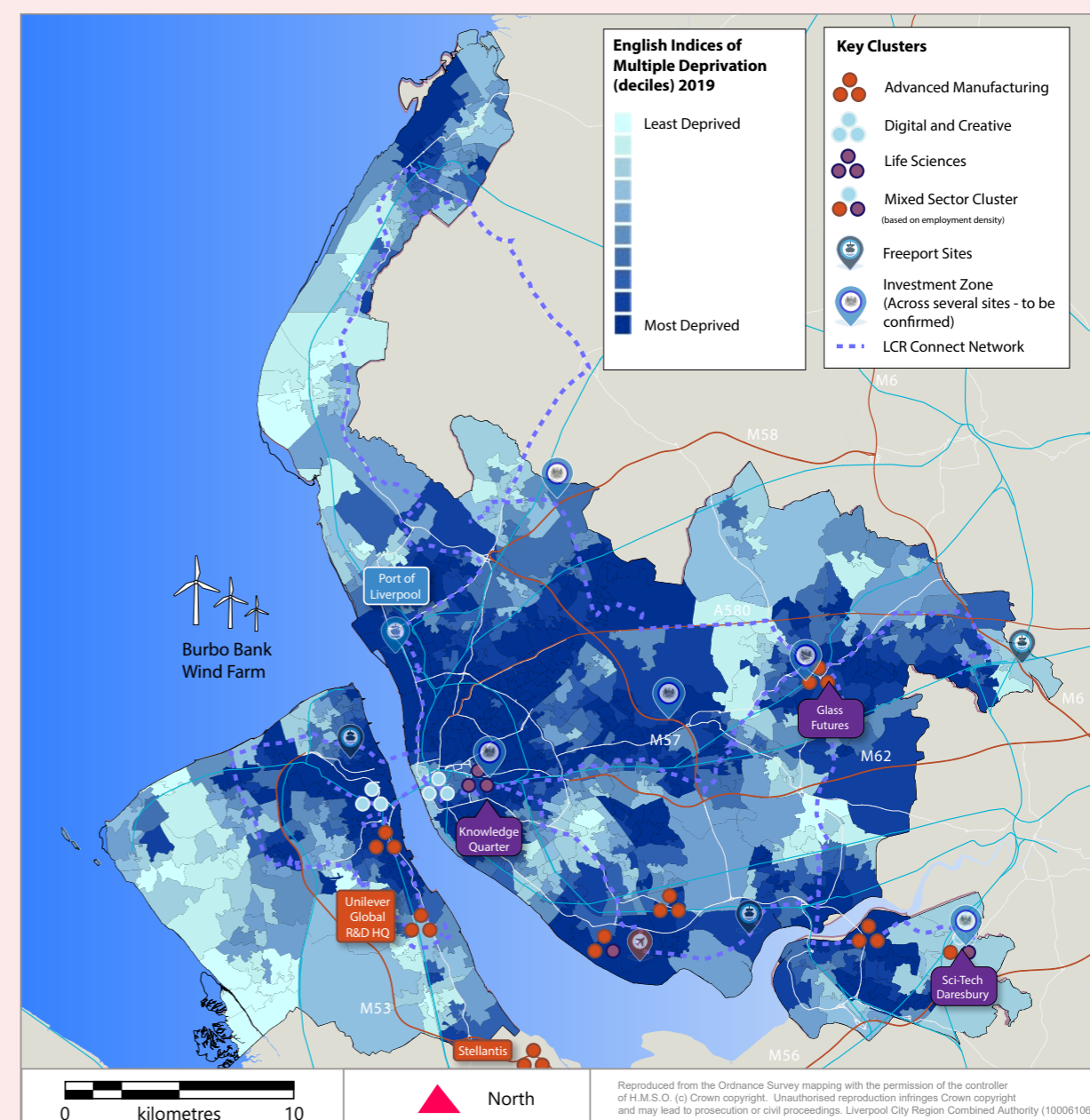
Tackling digital exclusion, to ensure our residents have the skills, access and connectivity to make the most of a modern digital life, is essential to our future economic growth. Our collaborative approach across service delivery and our Digital Inclusion Network are helping to bridge the digital divide and leave no-one behind.

Supporting all of the above is our vibrant social economy that leads the way in the City Region’s longstanding reputation for social innovation. As the Plan for Prosperity sets out, a heritage of social action and innovation means that the social economy will continue to play a critical role in building community capacity, managing assets and delivering services, and will further deepen its relationship with public services and businesses.

This is key to successful regeneration, supporting communities and residents in developing the skills they need to participate in the economy and thrive, and working in collaboration with the public sector and business to address long term social and health challenges that affect too many people. We have already invested in Kindred, a vehicle providing bespoke finance and support for socially trading businesses,

and will build on this through a social economy clustering approach that brings together networks and the collective efforts of social entrepreneurs and innovators. Creating new employment opportunities in purpose-led organisations started by the community, for the community.

Figure 10: Key Economic Clusters Overlaid by Deprivation in LCR



7 Developing Our Economic Opportunities and Clusters

Only through an integrated City Region level approach across economy, people and place, can the City Region maximise its economic opportunities. The following sets out – at a strategic level – the types of thinking, connections, and activities that will be required as this document is operationalised.

This is meant as a starting point and provides the basis for future workstreams and Cluster Development Plans. It will be continually amended and added to and will also support the work of our Business and Enterprise Board and Cluster Boards for Advanced Manufacturing, Health & Life Sciences, and Digital & Creative.

There are of course limitations through existing levers and funding, but more and deeper devolution across a range of interconnected areas will allow us to achieve more. Greater devolution will also provide further confidence to investors when combined with the strength of the value proposition.



Business and Enterprise Board members

A: Economic Focus

Theme	What needs to be done
Insights around market & supply chain opportunities, demand and requirements for cluster growth	Focused 'deep dives' across and within clusters to further determine where the specific opportunities are and how our supply chains across the value chain are positioned in relation to these. This in turn ensures continual development of specific cluster value propositions and will ensure systemic, integrated programmes of work to develop these..
Supply chain development	<p>Identify and promote supply chains both within and across key growth clusters - providing clear information to investors and businesses how they can tap into local supply chains, build collaborations, and add value.</p> <p>Identify and focus on public sector orientated market opportunities (relating to net zero, health innovation, addressing local major health challenges, for example) as a way of investing through 'market-making' to develop local and regional supply chains that result in exportable expertise and capabilities. In turn this will instil further confidence from the market.</p> <p>Seek opportunities to develop shared/collaborative platforms for supply chains to use - for example shared service IT models.</p>
Identifying innovation cluster potential	Utilise LCR's bespoke 'Asset Based Cluster Development Framework' (ABCD) as a basis for innovation cluster policy and project proposals that seek to develop innovation assets.

Theme	What needs to be done
LCR/Innovate UK Partnership and Action Plan	Deliver on the Action Plan, which has a specific focus on developing innovation clusters, pipeline projects and major programmes; skills; and developing business innovation, capacity and culture.
Emerging business clusters	Continually assess the landscape for evidence of emerging clusters and determine how they can/will connect with more established concentrations of activity. Within this focus on cross-cluster and cross-sector opportunities, and solutions relating to Net Zero/Climate Tech and Digitalisation.
Business Innovation Culture	<p>Develop further mechanisms to identify R&D support needs and building on efforts to date to support commercialisation.</p> <p>In particular, a focus on industrial/business innovation across the value chain and encourage large businesses to support their supply chain to innovate – for example helping SMEs access R&D Tax Credits.</p> <p>Develop the business support infrastructure in line with the principles of the LCRCA Business Support Policy Framework – particularly ensuring that business support integrates effectively with innovation and skills support.</p>
Foundational industries and foundational economy	Continual and active consideration as to how cluster and innovation focus will support businesses across the economy in adaptation of business models (e.g. particularly regarding net zero and digitalisation) and leads to an innovation culture that extends more broadly – identify activities to address this.

Theme	What needs to be done
Understanding barriers to productivity in LCR and how to address them	Develop a stronger understanding of the complexity of reasons behind lagging productivity given the challenge this has to building on economic opportunities – act on the findings of the LCR Productivity Study and connect to wider North West studies and research to develop strategic focus.
Working with larger companies	Further develop strategic relationships with the largest businesses with footprints in the City Region, in particular influencing them in their role as corporate anchor institutions – relating to promoting good employment, skills development, connecting into their existing relationships with government, and supply chain development.
Strategic and targeted focus around infrastructure and commercial premises	Act on the findings of the LCR Commercial Premises Study so that barriers to opportunity are overcome and that there is a clear emphasis on where the core strategic focus should lie. In the longer term, a clear, targeted thematic and spatial plan to be developed around commercial premises.
Building mechanisms to enhance business networks	Work with the Cluster Boards and other partners to develop frameworks and practical actions that can increase density of private sector led networks across key clusters.
Connectivity with wider related regional clusters	Explore where we can scale LCR focused opportunities into wider propositions that transcend the City Region (e.g. within infection, regional automotive opportunities, cyber).

B: People and Skills

Theme	What needs to be done
Access to opportunity as a core and overarching theme	<p>Build on the Access to Opportunity Plan developed for the Investment Zone, as a wider framework to address key barriers to opportunity and ensure that people from across the City Region – no matter their background – are being supported to access opportunities relating to our key economic strengths.</p> <p>Ensure that long term mechanisms are in place for (re)engaging with and supporting people into the world of work in a way that recognises their needs and potential. Within this, develop systemic and fully integrated approaches to improving health equity outcomes, as set out within the Plan for Prosperity.</p>
Alignment of FE and HEI provision against high value economic opportunities	<p>Build upon existing strengths within colleges, training providers and universities to continue to meet employer needs relating to key economic opportunities. In addition, address gaps and areas for development.</p> <p>Support FE/HEI institutions to engage in detail with relevant employers in curriculum design and potentially delivery to ensure that current and future provision meets their needs.</p>
Place based skills approaches based on inclusion and meeting future demand	<p>Work with businesses, skills providers and local areas on specific place-based plans (e.g. Daresbury and KQ Liverpool) to ensure that local opportunities are captured and implemented.</p>
Enable businesses to develop their own skills base through upskilling and reskilling	<p>Work with businesses - particularly within key growth clusters - to identify clear progression pathways and support them through funding where appropriate to realise opportunities to develop their own future workforce.</p>

Theme	What needs to be done
Strategic approach to technical and future focused skills, including in AI	<p>Deliver on the long term skills plan which sets out the vision for an integrated, responsive, business focused skills system which enables people to flourish and businesses to grow.</p> <p>Identify skills gaps as part of a process of future proofing specific skills relating to clusters/economic opportunities. This includes a holistic view of cross-cutting skills & competencies, and anticipating the changes, disruption, and opportunities AI will bring across all areas of the economy.</p>
Skills for Growth Action Plans	<p>Refresh the suite of sectoral and thematic skills for growth action plans to ensure that these stay relevant to the needs of our competitive and comparative economic strengths.</p>
Aligned careers advice	<p>Improve access to jobs and careers information through award winning Be More portal and communicating through networks and organisations, including schools, colleges and universities.</p>
Alignment with commissioning programmes	<p>Ensure Combined Authority commissioning programmes reflect the priorities for businesses as set out in the Local Skills Improvement Plan and other relevant documents.</p>
Boosting diversity to maximise our opportunities	<p>Proactively engage with communities across LCR with consistent messaging linked to our economic opportunities with the focus on inspiring people from all walks of life; working with businesses to ensure there is a focus on diversity in recruitment, talent development, and retention.</p>
Digital inclusion	<p>Building a co-ordinated and connected digital inclusion ecosystem across Liverpool City Region, supporting organisations to deliver digital inclusion activities in a sustainable way and increasing awareness and understanding of this challenge.</p>

C: Place and Connectivity

Theme	What needs to be done
Transport connectivity	<p>Identify gaps in connectivity and develop strategic transport corridors that link to key economic assets and clusters.</p> <p>Ensure equal opportunities for all to access affordable transport systems that connect people to jobs and services – all while keeping the environment in mind.</p> <p>Ensure our transport network and assets are long lasting, and tough to the effects of climate change. Aim to become a national exemplar, forward-thinking region for transport. Use innovation and new technologies, plan for uncertainty and change to improve future travel in the region.</p>
Digital connectivity	<p>Work with stakeholders to ensure that Liverpool City Region has comprehensive and ubiquitous digital connectivity, both fixed-line and wireless.</p> <p>To enable our transition to a knowledge intensive economy, that is at the forefront of Industry 4.0, digital connectivity should be secure, high-speed, high-capacity, and low latency. Fixed line and wireless infrastructure will need to be supported Data Centres and Internet Exchanges as appropriate.</p> <p>The provision of digital infrastructure should be integrated across transport, commercial premises, and regeneration activities.</p>
Housing offer and choice	<p>Lobby for devolved housing funding with local flexible criteria that allows local placemaking.</p> <p>Explore how we can encourage institutional investment to widen housing choice, offer & quality.</p>

Theme	What needs to be done
Linking our key opportunities to communities, placemaking and regeneration	<p>Encourage linking regeneration/placemaking to significant clusters of economic opportunity – with key considerations such as sustainable living, bringing employment closer to housing that also supports active travel and low carbon goals, and ultimately ‘uplifting’ localities that are in proximity of economic clusters.</p> <p>Link to wider town centre regeneration activities where appropriate, linking to potential spill-over effects based on proximity to opportunities and clusters, and in providing the flexible workspace required for a range of entrepreneurial activity.</p> <p>Complementary support for the development of the social economy – including cluster development - that embeds social innovation in support of regeneration and skills objectives, and in addressing major social/health challenges.</p>
Determining opportunities and/or constraints for physical development of clusters	<p>As per economic considerations, consider and act where appropriate on the Commercial Premises Study conclusions and recommendations, focusing on identified market challenges with a focus on strategic interventions at scale.</p> <p>Identify and address opportunities and constraints to developments in and around clusters (e.g. strategic land assembly), working with partners and government to explore long term solutions.</p>
Developing a robust Place brand for the Liverpool City Region	<p>Commission a cohesive, consistent and evidence-based articulation of our place brand, developed and delivered in partnership to affirm the Liverpool City Region as a unique and multi-faceted place where people choose to visit, live, work, study and invest.</p>

