



Local Industrial Strategy Draft

March 2020

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1. Executive Summary

Liverpool City Region is a place of transformation. A place where the ingenuity and creativity of its people is helping to pioneer the ideas, industries, and infrastructure of the future. A place that is once again emerging as an international centre for culture and commerce. A place where a spirit of innovation is providing the solutions to society's deepest challenges. This Local Industrial Strategy sets out how Liverpool City Region will build upon these distinctive strengths and opportunities to transform together, and deliver a competitive, clean, and inclusive City Region.

Overview

Liverpool City Region (LCR), comprising Halton, Knowsley, Liverpool, St Helens, Sefton, and Wirral, is a significant economy in the North West of England. A recent economic renaissance has seen over £1bn added to its economy in the last decade, laying the foundations for truly transformational economic success in the years and decades to come.

This success will be based on harnessing the potential of key assets, competencies, and internationally competitive investment opportunities to increase the productivity of the LCR economy whilst also responding to the UK's Grand Challenges, the Climate Emergency, and the need to rebuild the wealth of the City Region's local communities.

To ensure that this economic success is sustainable for the long-term, it must be predicated upon closing the performance gaps that currently prevent Liverpool City Region from realising its full potential. Only by levelling-up and disrupting long-standing and deep-rooted socio-economic challenges can LCR achieve a thriving, inclusive economy, the benefits of which can be felt meaningfully by all people and places of the City Region.

Understanding LCR's economy

This Local Industrial Strategy is based upon a deep understanding of Liverpool City Region's economy: where it already excels, where the opportunities lie within the City Region, and which areas must be strengthened in order to unlock its full potential.

There is much to celebrate in the recent renaissance of Liverpool City Region's economy. Its people are now more skilled, its communities better-connected, and it can be proud of the strength and diversity of its business base. This is complemented by a wealth of innovation and research assets, from the high-performance computing capabilities at the STFC Hartree Centre, to the future of sciences, health care, and technology being pioneered in Knowledge Quarter Liverpool. In Liverpool City Region, the foundations of a high-value, innovation-led economy that can compete with the rest of the world are in place.

However, it is also recognised that, as a legacy of LCR's industrial past and shifts in the global economy, a number of significant challenges remain.

Place-based challenges, from low-quality housing and entrenched deprivation, to poor air quality, impact the health and wellbeing of people across the City Region, perpetuating the systemic forms of inequality that act as powerful barriers to opportunity in their lives.

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Meanwhile, LCR's business base remains too small – meaning there are not enough firms offering the quality employment opportunities that people and places need to thrive.

Finally, there is not yet the scale of effective collaboration between the City Region's research institutions, innovation assets and business to sufficiently power the kind of innovation-led economy that will sustain the future prosperity of Liverpool City Region.

This Local Industrial Strategy offers the opportunity to deliver the transformational change that will address these challenges and create an effective economy that works for all people and places in the City Region, and improve the national and international competitiveness of its economy.

Developing the strategy

This detailed understanding of the Liverpool City Region economy has been complemented by the wealth of knowledge, expertise, and experience held by those who live and work in the City Region.

To develop the strategy, the Liverpool City Region Combined Authority (LCRCA) has embarked on its largest consultation exercise to date, #LCRListens. Through this, over 300 stakeholders, from industry, academia, and the third sector, took part in policy development workshops, and 2,500 members of the public were engaged through online surveys, on-street interviews, focus groups and a deliberative workshop, directly shaping the ideas and issues at the heart of this strategy.

This is a Local Industrial Strategy developed by the whole City Region and it will be delivered by, and for, the whole City Region.

The Transformational Opportunities for Liverpool City Region

Liverpool City Region offers a unique proposition. The evidence base shows that the assets, skills, and talents present in the City Region offer a number of key transformative opportunities. When realised, this will build on LCR's existing distinctiveness while delivering new areas of national expertise that complement the wider economy. These opportunities will be realised by focusing on five core competencies:

- Digitalisation;
- Sustainability;
- Science;
- Innovation;
- Creativity.

By aligning these with key strategic assets, LCR will have the potential to develop internationally competitive niches and USPs that will improve both the productivity and prosperity of the City Region. An investment in Liverpool City Region is an investment in:

- **Industrial Digitalisation for Sustainability** – building a sustainable industrial future.

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- **Open Health Innovation** – improving health and wellbeing through collaboration and innovation.
- **Global Cultural Capital** – a place where culture creates prosperity for all.
- **Social Innovation** – new practices to solve society's deepest challenges.

Addressing the Foundations of Productivity

The full potential of the opportunities that exist can only be unlocked if the foundations of the Liverpool City Region economy are sufficiently strengthened. Performance gaps must be addressed in order to level up with the rest of the UK economy and maximise the potential for transformation.

These foundations are:

- **Thriving and distinctive places (places):** Liverpool City Region will create homes and neighbourhoods that support people's health and wellbeing, expand and enhance the natural environment, and act as a magnet to attract the best of national and international talent.
- **The opportunity to turn potential into prosperity (people):** Liverpool City Region will ensure that its people have the health, skills, and opportunities to realise their full potential.
- **A dynamic business base creating opportunity (business environment):** Liverpool City Region will support more businesses to grow, and deliver high quality, sustainable employment opportunities for the whole City Region.
- **Collaboration that translates innovation into impact (ideas):** Liverpool City Region will enable the collaboration between innovators in research, industry, and society that will create social as well as commercial value.
- **Connecting all communities to opportunity (infrastructure):** Liverpool City Region will deliver the strategic infrastructure that will enable all of this to happen.

Only when these gaps have been addressed, will Liverpool City Region be able to achieve a truly competitive, clean and inclusive economy. And, only then, can the full benefits of this economy be maximised.

Responding to the National Grand Challenges

By addressing the foundations of productivity and grasping the transformational opportunities outlined in this strategy, Liverpool City Region will be in a strong position to contribute towards addressing some of the UK National Industrial Strategy's Grand Challenges.

LCR has significant natural and industrial assets which can make a unique contribution to the national grand challenges of clean growth and Data and AI. Similarly, its innovation strengths and assets are poised to lead the next industrial revolution, with a focus on embracing data, and advances in technology to support all areas of the economy and society.

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In addition, this strategy sets out how Liverpool City Region can contribute meaningfully to its own, local grand challenge of tackling entrenched disadvantage and systemic deprivation in order to unlock economic growth and build a truly inclusive economy.

This strategy addresses the following grand challenges:

- **Pioneers of the zero carbon economy (Clean Growth):** The shift to cleaner growth through clean energy production, low carbon technology, and greener travel, present real opportunities for further investment, business growth and job creation in LCR's economy. The UK's clean economy is estimated to grow at four times the rate of GDP. With its unique natural and industrial assets and strength of expertise in energy production and transport, Liverpool City Region is well placed to capitalise on that growth potential.
- **At the forefront of Tech for Good (Data and AI):** The AI and data revolution will bring new product and process innovation, job creation, and market opportunities that will benefit both the local and national economy. This technological innovation will also be fundamental to creating a healthier, greener, more inclusive economy. Liverpool City Region will embrace all opportunities to use new technology and big data to improve society, with a particular focus on three areas of distinct opportunity in Liverpool City Region: tech for health, tech for place and tech for the planet.
- **The home of the most inclusive economy in the UK (LCR's Local Grand Challenge):** Liverpool City Region will demonstrate how building a system which proactively dismantles the cycle of constrained growth and polarisation of opportunity will build a stronger, more effective economy. This effective economy will be a focal point for social innovation to enable all people and places the opportunity to experience prosperity, good health and wellbeing, while demonstrating the productivity gains that can be unlocked in doing so.

By 2040

- The **liveability of places** will have improved, and people will have a tangible stake in the communities they live in. All communities will be **clean, green, well designed** and have a defined purpose. LCR will be full of desirable places to live, to go to school, to start a family, and to call home.
- The barriers that prevent people living prosperous lives will have been successfully removed. People living in the City Region will be **healthy, happy and independent** and **equipped to succeed** through life.
- Liverpool City Region will have secured increased productivity across a **business base which offers fair, quality and skilled employment opportunities**, that invests in the long-term prosperity of the City Region, and has a wide array of established trading relationships with global and domestic markets.
- LCR's **internationally recognised innovation ecosystem** will maximise the commercialisation of its **genuinely distinctive competitive strengths**, with an

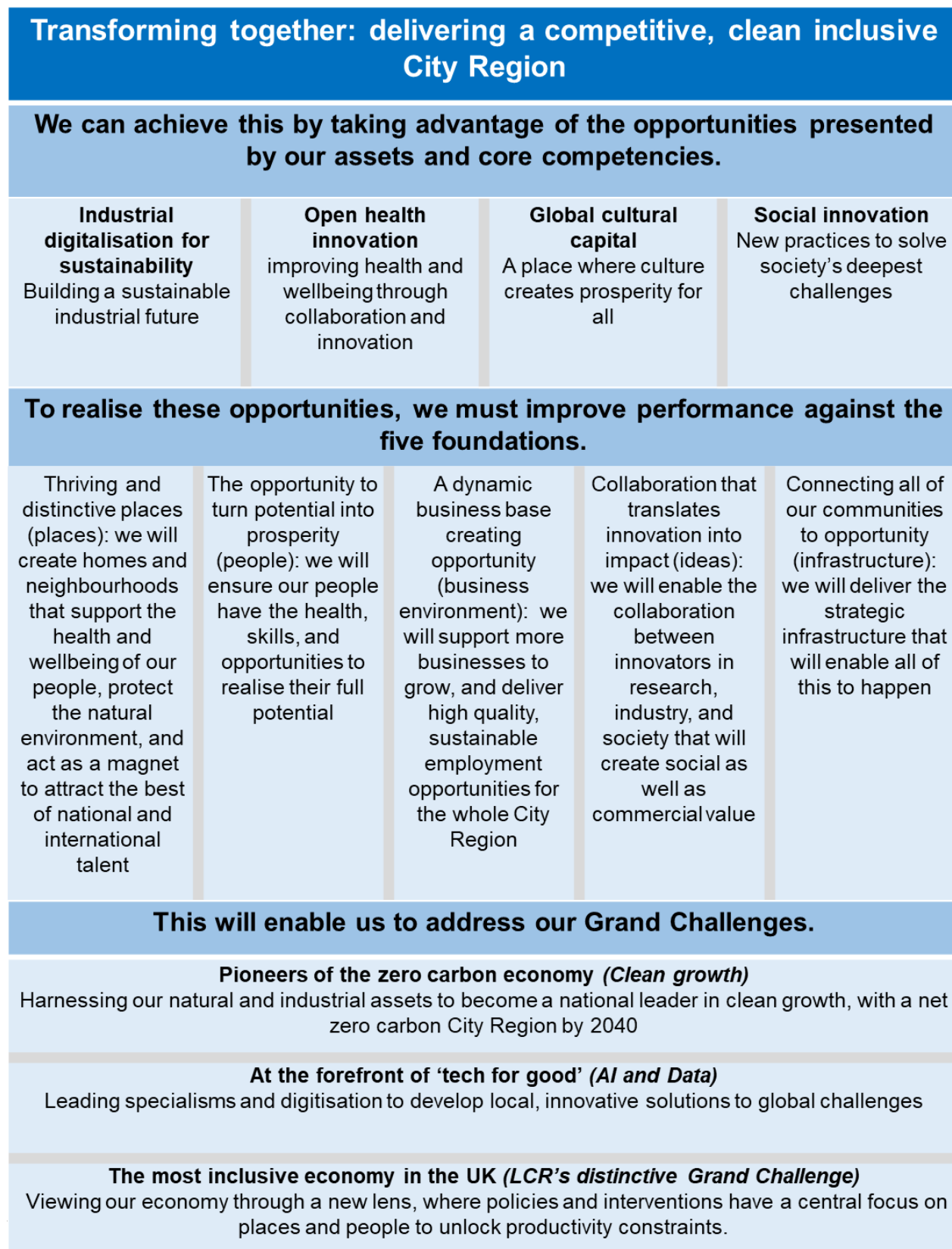
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innovation culture embedded across the business base, **delivering well above UK average R&D investment** and supporting high levels of productivity.

- **Connectivity** will be an overarching principle for joined up strategy, planning and delivery across all forms of infrastructure. LCR will be a fully connected City Region where **all people, businesses and communities have access to the opportunities that the economy offers**.
- Liverpool City Region will be **a leading clean and green economy**, utilising the unique geography and innovation assets of the City Region to transform how people live, work and travel. It will have **maximised the sustainability of its industrial base**, which through continuous innovation, will be forging new markets within a global low carbon economy.
- The power of technology and data will be used fully to transform all levels of the economy and society. Liverpool City Region will have become **a truly smart City Region**.
- Liverpool City Region will be a pioneer of inclusivity, **addressing systemic disadvantage once and for all**, and unlocking the potential of all people and places.

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Figure 1 The Liverpool City Region Local Industrial Strategy Summary



2. Introduction

Introducing Liverpool City Region

Liverpool City Region (LCR) - Halton, Knowsley, Liverpool, St Helens, Sefton, and Wirral - is a place of 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 world's 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 high-performance computing capability at the Hartree Centre and trailblazing health and life science research. LCR is also at the forefront of global advancements in the prevention of infectious disease, the future of materials and consumer goods, and innovations in clean growth, glass manufacturing and fourth industrial revolution technologies. It is this spirit of innovation that sets Liverpool City Region apart and enables it to compete with the rest of the world.

But it is not just these industrial innovations that power Liverpool City Region. It is also world renowned for its culture, its creativity and its unique sense of place. Its heritage buildings, museums, and galleries, its contribution to music and sport, and the unique energy of its grassroots cultural organisations.

This is set against a backdrop of inspirational natural landscapes: miles of coastline and open spaces, woven together by the River Mersey.

And it is powered by Liverpool City Region's greatest asset: its people. It is their passion, their character and their ideas that forge LCR's success. The City Region's economy, its culture and its continual spirit of transformation can only thrive when every person has the support, confidence, and opportunity to share in, and own this success.

Introducing the vision

This strategy sets out Liverpool City Region's vision for **transforming together**: delivering a **competitive, clean, and inclusive** City Region.

As its economic renaissance over recent decades shows, LCR is starting from a positive position in achieving this vision. But it must maintain the pace and momentum it is building as it continues its journey of **transformation**; to successfully level up with the rest of the UK and deliver meaningful and sustainable economic success for the whole City Region.

This success cannot be delivered alone. LCR must work closely with stakeholders and partners to achieve its vision, **together**. Locally, it will continue to work together as one City Region to make the most of devolution and empower all who live here to become change-makers within their communities. Regionally, it will work even closer with its nearest neighbours in the North and in Wales; especially where there exist complementary strengths, similar challenges, and a shared role in rebalancing the UK economy. Nationally, LCR will work closely with government, identifying where it can make a significant contribution to realising the ambitions of UK plc. And internationally, the City Region will develop new partnerships, networks, and trading opportunities across the globe.

Only by working together can Liverpool City Region make the most of the strengths, assets, and distinctive capabilities that it has to offer.

From computing to science and health related R&D, LCR will continue to invest in areas of excellence, and it will unlock the potential of its social and cultural assets to revitalise the regional, national, and international **competitiveness** of the City Region's economy.

At the heart of this competitiveness will be LCR's position at the forefront of the shift to a zero carbon economy. The City Region will harness the power of nature and industry to deliver **clean** growth and pave the way for a carbon neutral UK.

Most importantly, LCR will ensure that all people and places are **included** in this transformation, with meaningful opportunities to contribute to, and benefit from, the long-term success of our economy.

Economic planning and strategy that acknowledges the virtuous links between economic prosperity and health and wellbeing is critical for a competitive, clean and inclusive economy. An economy that is clean and that functions effectively for everyone is better for health and wellbeing and a population with better health and wellbeing is better for business, competitiveness and inclusivity. LCR will link partners in industry, health services, communities and voluntary sector with plans for a green economy and engagement on developing a model of economic planning that has health and wellbeing at its core and inclusivity as its goal.

Liverpool City Region will push boundaries and put an end to business as usual to deliver this vision of a cleaner, more competitive, and more inclusive economy.

It is a place of transformation; through this Local Industrial Strategy the whole City Region will transform together and ensure that nobody is left behind.

Developing our strategy

This is a Local Industrial Strategy developed by the whole City Region and it will be delivered by, and for, the whole City Region working closely with regional and national partners.

To develop the strategy, the Combined Authority carried out its largest consultation exercise to date, #LCRListens. Through this, 2,500 members of the public engaged in an online survey, on-street interviews, focus groups, and a deliberative citizens' workshop, directly shaping the ideas and issues at the heart of this strategy. In addition, over 300 stakeholders, from industry,

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academia, and the third sector, took part in policy development workshops, contributing the wealth of knowledge and expertise that comes from living and working in the City Region.

It is this collaborative spirit that will provide the foundations of LCR's future economic success. The City Region will be transformed in order to deliver a competitive, clean and inclusive economy that provides a better future for the next generation. By working together, as one City Region, this strategy will be made reality.

The commitments in this strategy set out and clarify where:

- There are shared ambitions to be delivered collaboratively by LCR/the City Region (meaning multiple partners across the whole City Region);
- Where the LCR Combined Authority will have responsibility to deliver;
- Where the City Region will work in partnership with government to achieve these aims together.

Further detail will be outlined in an Implementation Plan which will follow this strategy.

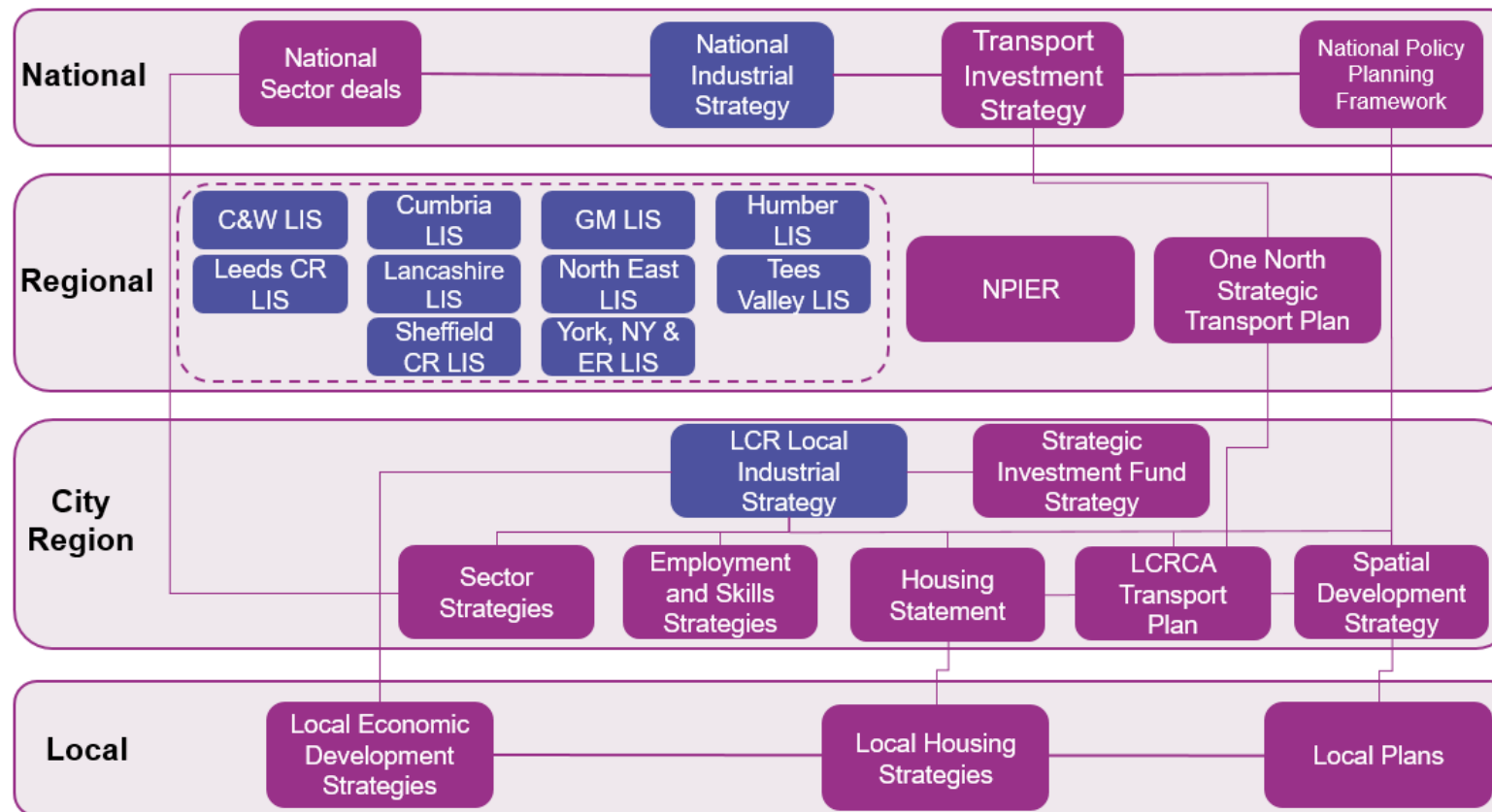
This strategy does not sit in isolation. It is influenced by national strategy. It will complement pan-northern strategies as LCR continues to work in partnership with government and its stakeholders to rebalance the UK economy. It will set the strategic direction for further City Region policy on skills, transport, housing and planning. It will complement strategies of local authority partners as LCR works collectively to deliver its shared vision. These links are set out overleaf.

The strategy is structured as follows:

- Chapter 3 sets out Liverpool City Region's economic performance;
- Chapter 4 outlines the transformational opportunities;
- Chapter 5 addresses the foundations of productivity;
- Chapter 6 responds to the National Grand Challenges; and
- Chapter 7 covers how the strategy will be implemented.

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Figure 2 Local Industrial Strategy Policy Hierarchy



3. Understanding the Liverpool City Region Economy

This strategy is founded on a detailed understanding of the Liverpool City Region economy and informed by a comprehensive evidence base. LCR is a place that knows what it is good at, where the opportunities lie within the City Region, and which areas must be strengthened in order to unlock its untapped potential and raise productivity. The full evidence base and associated research that has informed it, is published alongside the strategy.

It is impossible to understand the current economy of Liverpool City Region without considering the significant influence of its industrial heritage. LCR developed quickly in the 19th century becoming a centre of global commerce, and a powerhouse of the industrial revolution. This history has influenced LCR's demographics, business base, skills, housing stock, sense of place, and infrastructure. It has played a role in the City Region's economic triumphs, as well as its economic challenges.

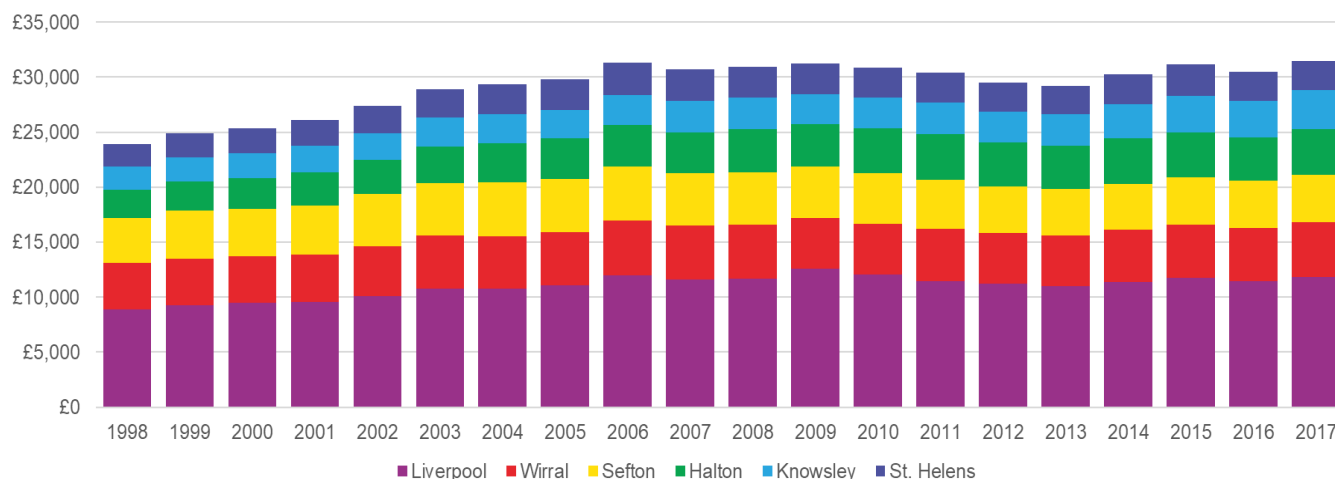
Over the last century, Liverpool City Region's economic position and purpose has been challenged by rapid change. As a result of deindustrialisation and shifts in global trade, areas of the City Region suffered serious decline. Rebasement of the economy is an intergenerational pursuit, but one that is now well under way. Areas of LCR have been regenerated successfully and the City Region has invested to strengthen its already impressive asset base. Liverpool City Region's population is now more skilled, its business base more diverse and it is a better-connected City Region. In many aspects LCR is stronger than it has been for a very long time, and there is much to celebrate in this progress that has been made.

But, whilst the trajectory is positive, there can be no complacency. There is significant work to do to reduce the gaps with the highest performing places nationally and internationally, and to address long-standing and deep-rooted socio-economic challenges that impact on productivity. The task now must be to bring the economy of the whole region up to national and global levels of investment, innovation and growth, and to do so in a way that is environmentally sustainable and socially inclusive. Liverpool City Region will play a significant role in rebalancing the UK economy, boosting national prosperity, and improving the lives of its residents.

This will require the City Region to set its standards even higher over the next twenty years and beyond to create the success it is capable of.

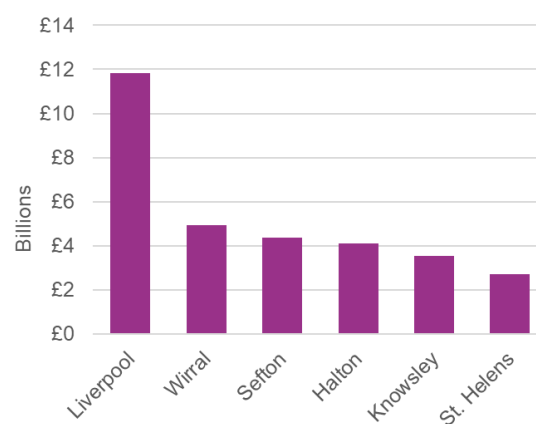
The Liverpool City Region Economy

Figure 3: Real GVA (£m) (1998-2017)



Liverpool City Region is a significant economy in the North West of England. In the last decade it has added over £1billion to its economy, which now stands at £32billion. It has achieved economic stability against the backdrop of the deepest recession the UK has experienced since the Second World War. Liverpool is the largest economy, in the City Region, accounting for 38% of GVA (Figure 4). The City Centre is an important driver of economic activity in the City Region as the largest employment-generating area. Not only is it an important leisure, cultural, retail and tourism centre, it also provides high-value, knowledge-intensive jobs that can gain from agglomeration benefits.

Figure 4 GVA by Local Authority



This nationally important economic centre – a second tier Core City – plays a crucial role in the success of the wider City Region both now and in the future. There are considerable opportunities for further economic investment in the City Centre which will drive and benefit the whole City Region. This, combined with the complementary strengths of other Local Authorities, will continue to create a diverse City Region economy that offers more than the sum of its parts.

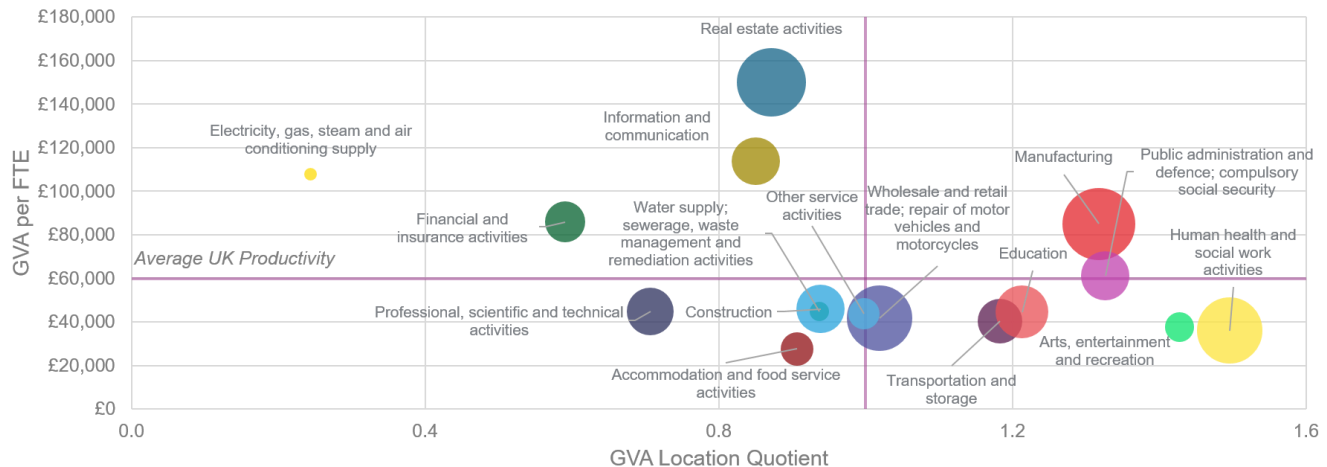
Another key driver of economic activity in the City Region is the significant output delivered by the manufacturing sector, which is particularly important to the economies of Halton and Knowsley. Other sectors including public admin, education, health and retail are also important, accounting for nearly 43% of jobs in the City Region, compared with 37% nationally.

However, the sectoral composition of LCR's economy is skewed towards lower productivity sectors. As shown in Figure 5, a number of sectors make a greater contribution to LCR GVA than nationally (in percentage terms), but only two of these sectors are more productive than average.

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This higher prevalence of lower productivity sectors, combined with lower within-sector productivity, creates productivity gaps. In the most recently reported years, productivity has been consistently below the national average. In 2017, real GVA per hour was £31 in LCR, around 90% of the UK rate.

Figure 5: Liverpool City Region Productivity and GVA Concentration (Bubble Size Denotes Amount of GVA)

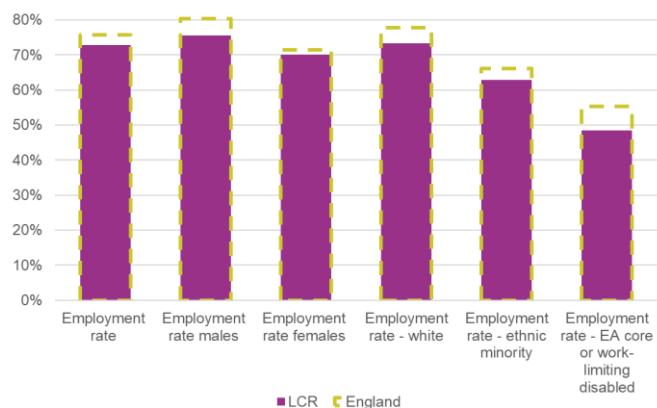


A crucial performance gap for Liverpool City Region is GVA per head, which is 74% of the UK level. This is a reflection of lower levels of prosperity across the City Region.

For too many people, the output of LCR's economy can feel distant and disconnected from their daily lives. It is insufficient to disrupt the multiple forms of disadvantage many people in the City Region face. This disadvantage is evidenced by:

- Almost a third of LSOAs (a geographic area including c. 1,500 people on average) in the City Region within the most deprived decile in the UK;
- Employment gaps across the whole population base, and particularly pronounced for ethnic minorities and those with disabilities (see Figure 6);
- Life expectancy differing by more than 25 years depending on where people are born in the City Region;
- A significant difference in annual income between the richest and poorest households. The top 10% of earners are paid at least three times as much annually as the bottom 10%;

Figure 6 Employment Gaps in Liverpool City Region



The persistence of these systemic challenges exposes the underlying fragility of the Liverpool City Region economy and impacts its performance. These challenges:

- Undermine the prosperity of communities;
- Limit the potential of people to access good work and improve their earning power;
- Reduce the attractiveness of the City Region as a place to start and grow a business; and
- Act as a brake on productivity.

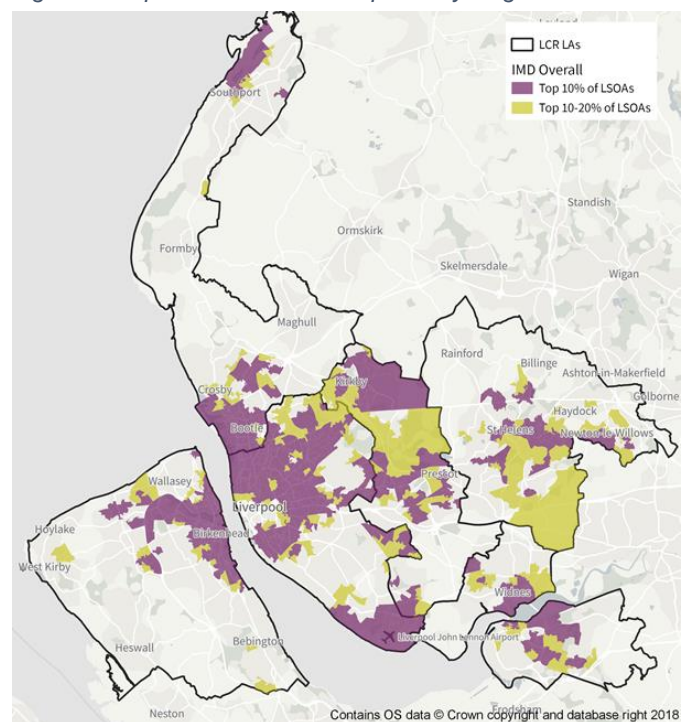
Places

Strong communities are essential for the wellbeing of people and the prosperity of places. There is a distinctive sense of place and cultural vibrancy in Liverpool City Region. This distinctiveness is in the bricks and mortar of LCR's heritage buildings, theatres, museums and galleries. It plays out across its waterfront, coastline and other natural assets. It is endorsed by UNESCO, with World Heritage and City of music status. It is recognised and appreciated by the 67 million visitors to the City Region in 2018, as well as those who call Liverpool City Region home. In 2018 visitor spend generated an estimated £5bn boost to the LCR economy and supported 55,000 jobs. The cultural offer is global in reach and central to the development of a brand that attracts profile and investment.

Six diverse local authorities make up the City Region, each with their own distinctiveness, strengths and opportunities. There are many examples of prosperous neighbourhoods across the City Region: the north Sefton coast, west Wirral, south Liverpool, Roby in Knowsley, Sandymoor in Halton and north of St Helens. These are an important part of LCR's place offering, as well as developing its ability to attract and retain talent, including those who attend the Liverpool's universities.

However, the housing offer across the whole of the City Region has implications on the ability to attract and retain talent, as well as having implications on quality of life. The housing offer is homogenous and characterised by a higher than average proportion of lower value properties - 68% of the City Region's housing stock is in Council Tax Band A or B, compared to 44% of housing stock in England LCR's housing stock does not match the vibrancy of place across the City Region.

Figure 7: Deprivation across Liverpool City Region



Engagement with residents demonstrated the strong sense of civic pride that exists across Local Authority with 68% agreeing their area has strong community spirit. Despite this, there are too many communities that face entrenched and widespread deprivation, which negatively impacts productivity growth. More than a third of LSOAs in the Liverpool City Region are in the most deprived nationally, particularly in Knowsley and Liverpool. This deprivation is more severe across domains related to health, employment and income.

A strong and vibrant social economy will be central to addressing these challenges and is a key foundation to building thriving places. Approximately 45,000 people work in the sector in the City Region with 1,400 organisations. This is a strong base to help drive up social capital, support community development, and to co-produce and forge innovative solutions that help people and places maximise their potential.

It is recognised that some LCR communities are susceptible to poor air quality, particularly deprived areas, while a significant number of properties and businesses are threatened by the impacts of climate change – including the cost and disruption associated with more frequent and severe flooding events, and coastal erosion. This requires adaptation and mitigation, ensuring infrastructure is future-proof, and that innovative solutions to environmental challenges are developed. Ensuring Liverpool City Region is greener, cleaner, and healthier for all communities is critical.

In addition, there are also a number of town centres across LCR that are in decline and require a renewed sense of purpose.

The evidence shows that LCR must focus on developing thriving and distinctive places that promote the health and wellbeing of its people and the environment.

People

The people of Liverpool City Region are its greatest asset. Known for their passion and spirit, they will always be the bedrock of LCR's economic strength. Across the City Region there has been a dramatic rise in the number of economically active residents, particularly since 2014, while the unemployment rate has reduced (from 10% to less than 4%) – an indication that more people are moving into employment. At the same time, the City Region has a significantly improved skills profile. The number of people with no qualifications has halved since 2004, and more people now hold degree-level qualifications. Significant progress has been made and the direction of travel is positive.

But, challenges persist and must be addressed to improve economic performance. Despite recent growth in qualifications levels, and being home to three universities, LCR has a relatively low proportion of highly qualified workers (NVQ4+) and a higher than average proportion of residents with no qualifications. In order to match the national average for NVQ4+ qualifications, LCR would need a further 59,000 residents qualified to that level.

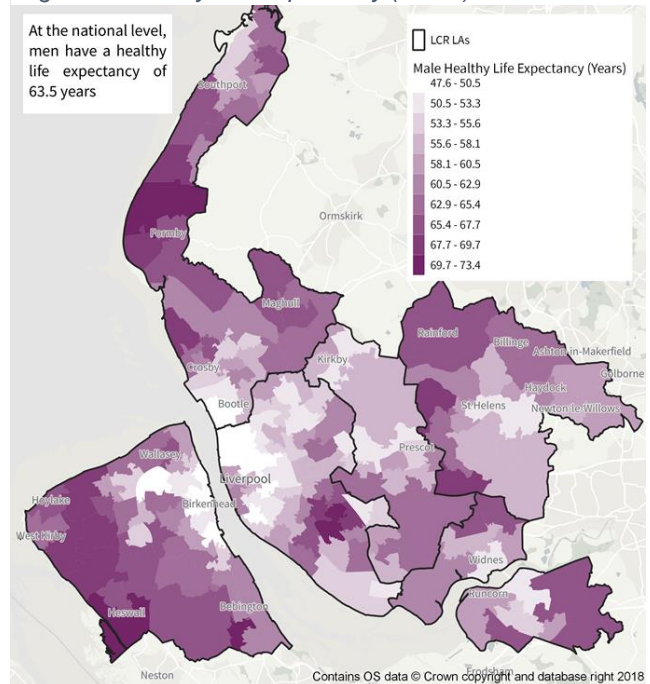
In 2018, 57,000 potential skilled workers were studying at Liverpool's universities, and 39,000 of these were attracted from outside of the City Region. While universities play a central role in attracting highly skilled people into the region and upskilling current residents, the local economy is unable to retain enough graduates. More than 60% leave the City Region upon completion of their studies.

Economic inactivity among LCR's working age population is still too high – at 26%, this is the third highest rate amongst all LEP areas. Long term health problems are a key underlying cause - 30% of those that are economically inactive in LCR report that this is due to ill health. This causes further barriers to work, as a result of this, we have too many people having to provide unpaid care reducing their ability to access paid employment. In addition to this, there are too many young people not engaged in employment, education or training.

The prevalence of significant economic and social polarisation means that too many people are unable to fulfil their potential. Weaknesses in the education system, low skills, a fragmented skills system, poor health (see Figure 8), poverty and a lack of suitable employment opportunities hold people back. Tackling these challenges and improving opportunity will enable more people to reach their potential, improve productivity, and contribute to societal and economic success.

The evidence shows that health, education, and skills must be promoted, barriers to employment must be reduced and all people should have the opportunity to turn passion and potential into prosperity.

Figure 8: Healthy Life Expectancy (Males)



Business Environment

Liverpool City Region is proud of the strength and diversity of its business base. Among its 52,000 businesses, the City Region is home to globally significant businesses including Unilever, IBM, Cammell Laird, Ineos and Inovyn, JLR, Orsted, ABB, Pilkington and Very. Alongside these world-leading names, there is an SME base with significant capacity to continue to grow, connect, and innovate, with already well-established SME clusters in places such as Liverpool's Baltic Triangle which is a hub for creatives and technology-enabled firms. The highest concentration of businesses in the City Region is in Liverpool, with 35% of the total, and providing 38% of all jobs.

LCR's business base is growing faster than national levels and the City Region can boast high business start-up rates, 16% of all active businesses. Liverpool City Region is a good place to start a business.

A business that starts in Liverpool City Region is, however, less likely to survive three years than in other areas of the UK economy (a rate of 53% for businesses that started in 2015 compared to 57% nationally). This could be a reflection of the nature of support provided in the City Region. Evidence reviews¹ of business support identifies that intensive support is most effective. While the City Region has an established Local Growth Hub business support service, businesses report that there is a lack of tailored, high intensity support in the City Region, important for survival and high growth.

There are some sectors in Liverpool City Region that have a high incidence of scale-ups. This includes the maritime, human health and social work sectors, manufacturing, and logistics. The good practice of business in these sectors (such as manufacturing's adoption of industrial digital technologies) needs to be amplified to improve the number of high growth firms across the whole economy. High growth firms are, and will continue to be, an important source of quality employment, career progression, and a driver of productivity.

A clear means to improve business growth rates and productivity is to provide support to access international markets. Where LCR businesses are selling beyond local markets they are more resilient, profitable and productive. However just 7% of all businesses in the City Region are involved in exporting activities. This varies though across the City Region and anecdotal

Liverpool City Region trade is worth 40% of its economy's GVA

Exports from LCR = £6.1bn
Imports to LCR = £6.3bn



USA

Exports from LCR = £1.2bn
Imports to LCR = £354m



China

Exports from LCR = £685m
Imports to LCR = £748m



Germany

Exports from LCR = £612m
Imports to LCR = £1.1bn



Republic of Ireland

Exports from LCR = £310m
Imports to LCR = £132m

¹ For example see Evidence Review 2, Business Advice, what works centre for local economic growth, June 2016

evidence suggests that cluster development will support greater levels of exports. Through stakeholder research undertaken by the LCR Growth Platform with representatives from the Baltic Creative in Liverpool and Sci-Tech Daresbury in Halton, it is estimated that between 60% to 70% of firms in these locations are exporting.

As businesses grow, good quality office space must be available to accommodate them. While there is a strong supply of office space in the City Region, it is predominantly made up of lower quality, existing Grade B offices. This is particularly important for the city centre, both in maintaining and building on the investment proposition it provides.

The right conditions for businesses to start and grow in the City Region must be created. However, this alone will not be enough to offset the business deficit. Relative to its working age population, LCR's business density is too low. There are 535 business in the Liverpool City Region for every 10,000 working age residents, compared to 683 in Greater Manchester, or 900 in Cheshire and Warrington. LCR's home-grown businesses must be supported to grow and more businesses must be attracted to invest and locate in the City Region. This is critical to increase the number of good quality jobs in the City Region economy and the competitiveness and resilience of LCR's business base.

The evidence shows that the right environment is needed to support a dynamic business base that creates opportunity.

Spotlight: the Maritime sector

Liverpool City Region is focussed on building upon its strong maritime innovation capabilities and heritage which saw the region become home to the world's first ever steel hulled ship, first ever lifeboat station, first radar controlled port and first ever commercial wet dock.

Today, LCR's maritime sector directly supports 7,900 highly productive jobs and generates £650m in GVA with a wider economic impact of £1.7bn GVA annually, with shipping and ship-building making up its largest industry. Shipbuilding at Cammell Laird has, in part, been revived with the RRS Sir David Attenborough polar research ship.

Liverpool City Region is also home to a diverse range of world class maritime companies providing national and global expertise in the ports industry, marine engineering, leisure marine, and maritime financial and professional services. The City Region is well placed to handle the likely reorientation of UK trade following Brexit, with its ideal location on the UK West Coast, on the transatlantic trade route to North America and the via the Panama Canal to Australasia and the Far East.

Maritime is clearly a key sector for the region, which is why through the proposed collaboration platform - Port City Liverpool – an innovation hub would be located at Wirral Waters. LCR will enable its maritime 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 – ensuring the region plays a leading role in the fourth industrial revolution as it did for the very first.

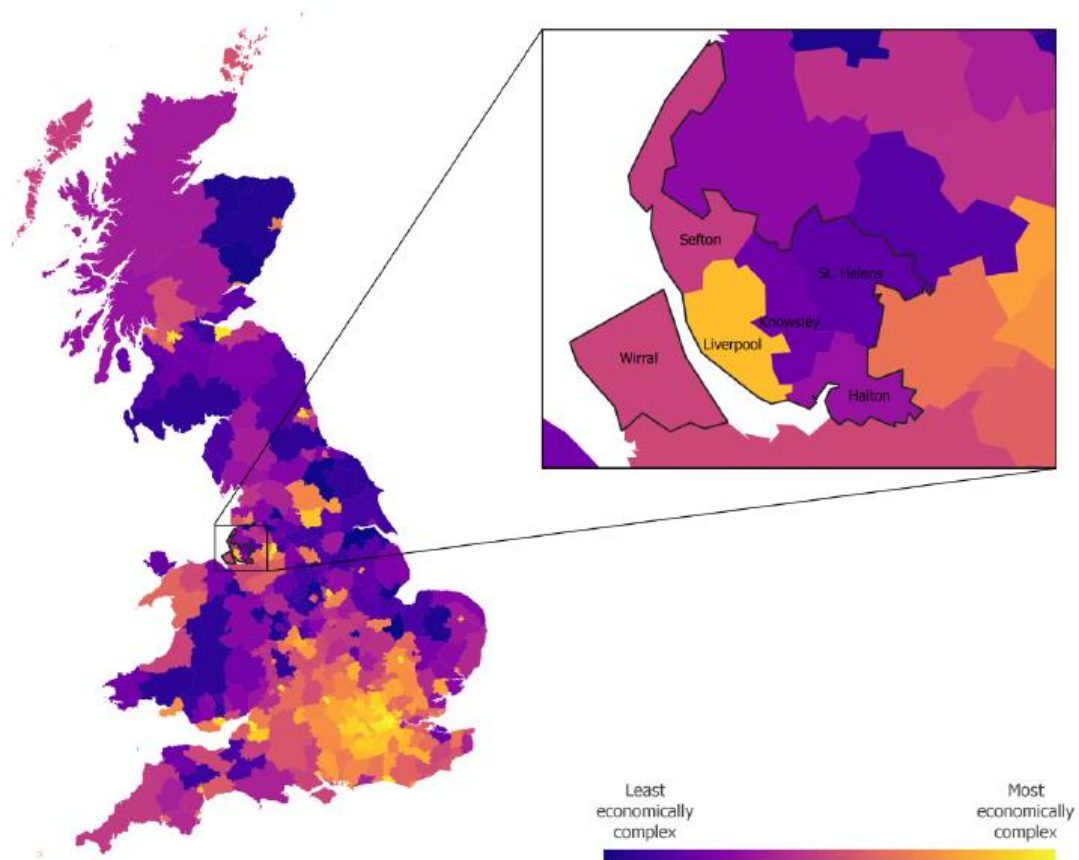
Ideas

Technological change is happening at an unprecedented pace, which provides a significant opportunity for innovation-led growth. Liverpool City Region is fortunate to have a wealth of nationally, and in some cases internationally, leading innovation assets and research strengths to exploit the opportunities this change provides.

Liverpool's universities produce world leading research in Chemistry, Computer Science, General Engineering, Electrical and Electronic Engineering, Sports Science, Physics, and Infectious Disease. They possess translational research capabilities across areas as diverse as digital health, data management and low carbon technologies, and attract significant research funding.

As well as its universities, the complexity of Liverpool's economy in particular, demonstrates the clear potential and opportunity for innovation-led growth (economic complexity measures how much productive knowledge is contained within an economy, an important component for innovation). Liverpool is one of few '*most economically complex*' areas outside of London and the South East (Figure 9).

Figure 9: Economic Complexity by local authority in Liverpool City Region



In LCR, R&D investment is almost 2% of GDP, higher than the national average, and, over the last four years £0.8 billion has been invested within the City Region's innovation related infrastructure. This includes investment in:

- High performance computing capabilities at the STFC Hartree Centre, and computer science which is a leading research area;
- The new Alder Hey Children's Hospital incorporating a facility where clinicians, SMEs and multinationals co-create new healthcare solutions;
- Unilever's Advanced Manufacturing Centre: a world class facility featuring a state of the art pilot plant helping scientists and engineers to test new ideas at factory scale;
- The Materials Innovation Factory at the University of Liverpool, delivering the world's most advanced computer - and robotics-aided materials discovery and design;
- Sensor City – one of the world's first incubators of dedicated sensor technologies; and
- A Life Sciences Accelerator centred within Knowledge Quarter Liverpool, with state-of-the-art laboratories, offices, collaboration zones.
- The Digital Innovation Factory (DIF), which will bring together complementary areas of expertise in computer science, robotics and engineering, and will enable collaborative R&D and support for businesses that exploit digital technologies.

Liverpool City Region, driven primarily through clusters in Knowledge Quarter Liverpool and Sci-Tech Daresbury, has a strong base to build on but its innovation ecosystem is not without its challenges. Business expenditure on R&D is relatively low compared to other LEPs, and this must be driven upwards if the City Region is to meet and exceed the national target of 2.4%.

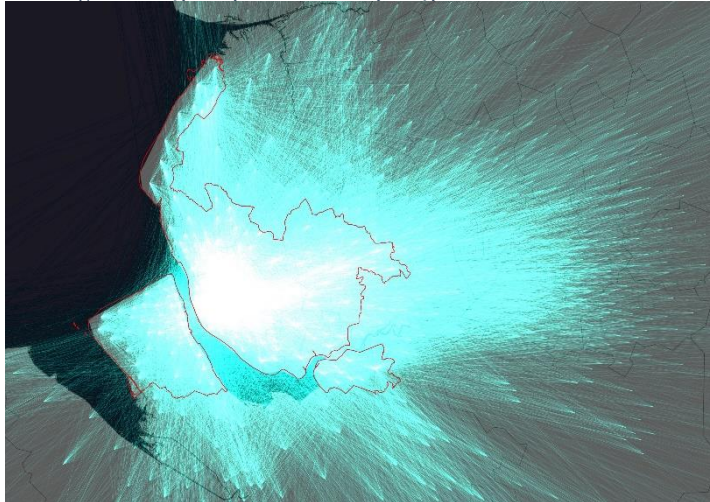
Additionally, Liverpool City Region has a below-average proportion of knowledge intensive businesses, comparatively lower levels of innovation grant awards, relatively low business-university collaboration, and low levels of venture investment.

The City Region needs to do more to ensure that local excellence in research and discovery is translated into real industrial and commercial products and services. LCR's innovation strengths need to be brought together to further enhance an eco-system that has the potential to deliver transformational change. They also need to link with complementary specialisms of LCR's near neighbours, such as those across the Cheshire Science Corridor. Better connecting these innovation assets will deliver a critical mass of digitalisation and innovation needed across all corners of the economy and society.

Infrastructure

Infrastructure is a critical economic and social enabler, and a well-connected City Region will ensure the benefits and opportunities of growth can be felt in every community. There are a number of nationally significant infrastructure assets in the City Region. Liverpool is a key international gateway for trade, and people, into the North West, North Wales and North of England. The Port of Liverpool, the UK's busiest Atlantic-facing port, facilitates a large amount of international trade, particularly with the US and Republic of Ireland. Liverpool John Lennon

Figure 10 Liverpool City Region travel to work flows (from-to MSOA), showing the pull of the City Region labour market.



Airport has a wide catchment across the North West, holds significant growth aspirations, and provides access for international travel and commerce.

Liverpool City Region has an extensive transport network, which includes the 120km Merseyrail network. This helps people access employment, amenities and services quickly. It takes significantly less time, on average, for people to travel to work in the City Region than other places in the country. But these averages mask some of the weaknesses in LCR's network, including access to key employment sites by public transport.

There are significant employment sites across the City Region including the Port, spanning Liverpool and Sefton, Sci-tech Daresbury in Halton, Central St Helens and Knowsley Business Park (the second largest business park in the North West). These are an important source of jobs for people across the City Region. Almost all densely populated areas are connected by public transport to one of LCR's key employment sites. However, not all of these sites have the accessibility they need, and this can be a constraint on growth.

This lack of connectivity increases car dependency in the City Region (68% of all journeys to work are made by car) which is at odds with the need to address air quality and environmental sustainability, and increase active travel. Through engagement with residents there is a clear appreciation that walking and cycling infrastructure requires further improvement to facilitate transition away from the high car-dependency in the City Region. Just 36% of people agree that their area has good and useful cycle routes.

Digitally, Liverpool City Region is one of the most connected places in the UK in terms of superfast broadband coverage, which reaches 99% of premises. However, full fibre availability is low in the City Region. Less than 2% of premises have access to full fibre, lower than near neighbours Greater Manchester and Leeds City Region. LCR significantly lagging behind the best performing digitally-connected cities internationally.

The availability of faster, better, more competitive digital connectivity services can enable businesses to increase sales and achieve productivity gains; attract inward investors; underpin high value technology clusters – and enable more effective and efficient delivery of better public

services. There is a correlation between connectivity and city performance, making improvement to digital infrastructure a necessity.

There are significant digital assets that, with improved connectivity, carry considerable potential:

- A dedicated Internet Exchange, ensuring world-class speeds for local businesses;
- Connections to London directly (LINX) and to the GTT transatlantic internet cable linking the City Region to North America and Europe; and
- A DCMS funded Liverpool City Region 5G testbed, creating a platform for multi-gigabyte connectivity.

In terms of wider national connections, the delivery of Northern Powerhouse Rail, and connection to HS2, will improve connectivity and agglomeration across northern England. Northern Powerhouse Rail and the direct link to HS2 could result in an increase of GVA of £15 billion, increase employment by 24,000, the number of homes by 11,000, and result in 3.6 million extra visitors each year, supporting the continued growth and sustainability of the visitor economy in the City Region. Critically, this will also benefit the UK as a whole, rebalancing inefficient freight movements across the UK by bringing freight bound for the North and Midlands closer to the market, and decongesting overheated container ports in the South and South East of the country.

The evidence shows the need to connect all of LCR's communities to opportunities.

Summary

Over the last decade, Liverpool City Region has demonstrated its potential to grow and improve performance across all areas of LCR's economy.

Areas of the City Region have been regenerated and LCR's place-based offer has been enhanced. More people are moving into employment and skills levels continue to improve. LCR's business base continues to grow and become more innovative and creative. The City Region has and will continue to deliver an impressive R&D pipeline, while investing in the infrastructure needed to connect all the opportunities that the City Region provides.

Standards must now be set even higher to transform the Liverpool City Region economy. But this transformation can only be achieved by addressing the deep-rooted and long-standing challenges that will otherwise constrain the future growth potential of LCR and limit the capacity of its places and people to thrive.

Place-based challenges, particularly low-quality housing and entrenched deprivation impact the health and wellbeing of too many LCR residents, perpetuating the systemic forms of inequality that act as powerful barriers to opportunity in their lives. This is exacerbated further by a low business density. Whilst there are many successful businesses across the City Region, there are still not enough firms offering the quality employment opportunities that people and places need to thrive. Cumulatively, this impacts on ambitions to raise productivity.

Finally, there is not yet the scale of effective collaboration between the LCR's research institutions and businesses to sufficiently power the kind of innovation-led economy that will sustain the future prosperity of Liverpool City Region.

This Local Industrial Strategy offers the opportunity to deliver the transformational change, across all five foundations of productivity, which will enable Liverpool City Region to create an effective economy that works for all people and places and, importantly, level up its performance with the rest of the UK.

4. The Transformational Opportunities for Liverpool City Region

Liverpool City Region offers a unique proposition. The evidence base shows that the assets, skills, and talents of LCR's people present a number of transformative opportunities for the City Region, which, when realised, will build on its distinctiveness, develop global market opportunities, and establish new regional, national, and international centres of excellence within the City Region.

Liverpool City Region will realise these opportunities by focusing on a number of core competencies, and aligning these with the key strategic assets across the City Region. These opportunities will improve both the productivity and prosperity of the City Region. In improving prosperity, the conditions will be created for more people to be able to contribute to, and benefit from, the new opportunities that emerge. In turn this will unlock further growth and develop the international visibility of Liverpool City Region as an investment proposition. With focus, support and investment these opportunities will deliver a globally competitive, clean, and inclusive economy that makes a significant contribution to UK plc.



Industrial Digitalisation for Sustainability

Liverpool City Region created the processes and infrastructure for the first industrial revolution. The port, roads and railways put it at the centre for international trade. As the links between physical and digital worlds merge, through the fourth industrial revolution, the City Region has again placed itself at the forefront of innovation.

LCR is taking a lead in driving forward the digitalisation of industry through the convergence of digital, manufacturing and engineering competencies. Industrial Digital Technologies (IDTs) are transforming UK industry with high-performance computing and A.I. LCR's innovators are creating unique robotic solutions to complex industry problems and are developing new digital tools and techniques to open gates to new industries and ways of working.

The City Region's successes in embracing industry 4.0 is enabled by the asset base, including:

- The UK's most powerful supercomputing facility dedicated to industrial applications at the Hartree Centre, located within Sci-tech Daresbury;
- A leading technology innovation centre for virtual engineering technologies and expertise at the at the University of Liverpool's Virtual Engineering Centre; and
- A new focal point for the discovery of applications across a wide range of industries using sensor technology at Sensor City in Liverpool.

Case Study: Hi Tech Steels, beneficiary of LCR 4.0

LCR 4.0, a partnership between University of Liverpool, Liverpool John Moores University (LJMU), LCR LEP, STFC Hartree, and the Virtual Engineering Centre was created to bring together world class, practical support to transform Liverpool City Region businesses in the manufacturing space through digital innovation. The Financial Times has listed LCR 4.0 as one of its 'Top 100 European digital champions. LCR 4.0 was hailed 'exemplar' by 2018's Made Smarter report.

We needed to explore how we could implement new laser technology and develop a commissioning strategy to fully integrate new systems seamlessly. The dedicated LCR 4.0 team assessed our exact requirements, and brought in specialist expertise from the photonics group to research how we could integrate this technology in the most efficient manner. Our eyes were opened to the fact that we could start to collect data from this process, which feeds back automatically to myself, giving insight into the performance of our operations, allowing us to make more informed decisions which ultimately improve product quality and customer service levels. A year on from integrating the new equipment, we now have four highly trained operatives and increased facilities and capabilities to meet our growing customer demand and we are currently exploring new markets and business opportunities.

We have significantly increased our turnover as a direct result of this, and we expect that to be more in 2020. We now have equipment that performs autonomously, so after some simple programming, it allows our operators to focus on other tasks and add more value to our business.

Complementing this is a research base with expertise in improving manufacturing output, including the Faculty of Engineering and Technology, at Liverpool John Moores University. LCR has a business base of successful advanced manufacturers, including leading industrial businesses such as Jaguar Land Rover, Unilever, Pilkington, AstraZeneca, ABB, Cammell Laird, Ineos and Orsted. Finally, there are business clusters that are ripe for innovation, such as maritime, logistics and materials. These clusters are supported by a dynamic supply chain, suppliers of products, services and innovations.

The next step is to harness and apply the innovations of the fourth industrial revolution to addressing the pressing climate emergency.

This opportunity is significant not just to the future of the planet, but to the long-term sustainability of the business base. Businesses can no longer ignore the impact they have on the environment, but sustainability does not need to be viewed as a burden – for example, LCR's leading developments in glass innovation highlight both strong economic growth potential and highly impactful environmental benefit. Combining IDTs with the need to protect the environment can enable businesses to create new and innovative products and processes - their differentiators. These will put the business base in a leading competitive position, nationally and internationally, and will be key to generating both domestic and inward investment. This will drive productivity, innovation, business growth, and sustainability.

Achieving the ambition: National Packaging Innovation Centre

One example of how LCR will deliver on its Industrial Digitalisation for Sustainability opportunity is through the development of expertise in sustainable packaging. LCRCA are working with Unilever Plc and the Centre for Process Industries to develop plans for a National Packaging Innovation Centre (NPIC) on the Wirral, a physical locus for a centre for sustainable packaging research and commercialisation. The intention is to create an internationally significant open-access innovation centre to:

- Provide access to industrially relevant capabilities and expertise for packaging innovation development and demonstration;
- Facilitate collaboration and growth across current and future packaging supply and value chains;
- Catalyse an eco-system for growth and productivity through opportunities presented by disruptive and market-creating innovation and its commercialisation.

The NPIC will seek to enable the UK to further anchor itself into the global packaging market and capitalise on the various opportunities that disruption in the industry currently presents. It is estimated that NPIC will facilitate the UK to anchor and then double the current UK global packaging market from £12 billion to £24 billion by 2030. This will result in a growth in global market share from 1.7% to 3.5%.

Open Health Innovation

There is a critical mass of scientific assets within the City Region and proven excellence in science and research. This has supported the development of trailblazing health and life science research. Health innovation is important to Liverpool City Region. The health challenges it faces are persistent, stark, complex, and require innovative responses. That is why, alongside measures to improve the wider determinants of population health, LCR partners are continuously investing in the health ecosystem.

This ecosystem will not only be key to delivering a leading Life Sciences proposition in the City Region – the key drivers being the Knowledge Quarter in Liverpool City Centre and designated MedTech cluster at Daresbury – but will also be an integral input into the wider offer being developed across the north. The foundations of the ecosystem includes world-leading research in infection at the Liverpool School of Tropical Medicine, materials chemistry and sensor technology, high performance and cognitive computing at Sci-tech Daresbury, and specialist NHS Trusts. These are strongly complementary to assets in near neighbours such as Cheshire and Warrington and Greater Manchester.

Open health innovation is already supported by the global companies that are investing in the City Region: AstraZeneca; Allergan; Baxter Healthcare, Bristol Myers Squibb; Lilly; Nestlé Health Science; Seqirus and Unilever. It is enabled by the partnerships that exist including the Innovation Agency, Liverpool Health Partners and the Northern Health Science Alliance.

LCR has developed this expertise in R&D, innovation and manufacturing to improve health outcomes with particular focus on:

- Infectious Diseases;
- Bio-manufacturing;
- Med Tech; and
- Digital Health (including Artificial Intelligence).

This expertise will be used as the foundation for developing further open health innovation, developing a critical mass for agglomeration and a continuous cycle of investment. There is significant potential for open health innovation to contribute to saving lives, transforming the way people are treated, and creating and developing new, innovative products and services.

Through collaboration, innovation and digitalisation, health outcomes will be improved in Liverpool City Region. A culture of collaborative working across the system's actors will be embedded: the public and private sectors, government, the research base, and people / patients. LCR will encourage the blurring of lines between collaborators, whereby ideas can come from any part of the system, information and data is shared across the system, and innovations are led by the needs of patients as well as the knowledge of researchers. And the City Region will improve how innovators access the NHS, to get new, transformative treatments to patients as quickly as possible. Innovations will be drivers for investment, forging new markets both domestically and internationally.

Spotlight: connecting businesses with the NHS

LCR benefits from intensive support for health innovation from the Innovation Agency, the regional Academic Health Science Network and the innovation arm of the NHS. They have secured funding to support businesses with proven health products to access NHS markets. From 2016 to 2020, 23 contracts were won by the businesses and an additional £7.5 million funding leveraged into businesses in the LCR as a direct result of their work.

They also work with NHS trusts, universities, Liverpool Health Partners and the Northern Health Science Alliance, to support innovations developed by researchers and clinicians.

Alder Hey Children's Hospital has received £280,000 from the Innovation Agency to develop its Innovation Hub where businesses develop innovations alongside clinical staff, while many businesses have been helped to apply for and win millions of pounds in investment.

Achieving the ambition: The Hill – Health Innovation Liverpool

A key enabler to deliver the Open Health Innovation ambition will be 'The Health Innovation Liverpool (The HILL)' in the Knowledge Quarter Liverpool. Plans are being developed for a digitally enabled, distributed health district in Liverpool City Region, which will convene the University of Liverpool, NHS primary, secondary and tertiary care trusts, industry and the Liverpool City Region Combined Authority. Working with local residents the aim is to increase the number of healthy years of life expectancy by improving the co-ordination across the local and regional health and care system; delivering the right care, for the right patients, at the right time. It will also support the 'longevity economy', as the health of older people improves.

The HILL will include a new medical school, dental school and clinical skills centre, research facilities and significant business space. It will train the next generation of clinical and allied professionals to deliver the right type of care for the needs of the City Region and have a real impact on the health and wellbeing of the community, now, and for the next generation. A wide portfolio of investment is planned including a Civic Data Co-operative which will be a world class health data system with the potential to transform diagnosis and treatment.

The HILL will scale-up existing expertise in infectious disease, therapeutics, personalised and digital health to develop a small number of USPs where Liverpool can be truly world leading and globally compelling. The subsequent scale of inward investment, productivity and employment opportunities to the City Region from data-driven health innovation projects will be highly significant.

Global Cultural Capital

Spotlight: 2008 European Capital of Culture, Liverpool

As the only city in England to hold this title, hosting the 2008 European Capital of Culture in Liverpool was a unique platform from which to showcase the City Region to the world. With 7,000 cultural activities taking place across Liverpool, 2008 saw 2.6 million international visitors travel to the region, helping to generate a £176 million boost to the local economy.

The city was transformed, attracting investment in key cultural assets such as Liverpool One and the Arena that created new opportunities. Local people could see, first hand, the significant contribution culture had in driving economic and social success. And the power of this culture-led regeneration could be felt by all.

Liverpool and the City Region built upon the success of 2008 with a developing programme of investment culminating in a 10th anniversary celebration in 2018 that projected to the world and to local people the legacy of 2008 and the ambition for the future. 2018 marked the moment of wider City Region collaborations for culture and creativity, with a LCR Cultural Partnership and the metro Mayor's % for Culture which launched a rotating Borough of Culture, kick-started an annual collaborative cultural project, and the new LCR Culture and Creativity Awards that celebrate the growing and ambitious culture and creativity sectors across the City Region.

Hosting the 2008 European Capital of Culture in Liverpool demonstrated to the region the truly transformational power that culture can have: as a catalyst for economic development, as a source of well-being, and as a way to strengthen the national and international profile and brand of the City Region. It showed that an investment in cultural infrastructure and place can pay economic as well as social dividends and create new opportunities for people and places.

Culture is impactful. It is an experience that changes lives, changes perceptions, and changes places. Cultural opportunities – from a night at the theatre, to a night on the town - bring us together, enrich our lives, and are central to our identities and sense of place. Culture is the glue that binds communities together, and supports people's health, wellbeing, and quality of life.

The City Region is able to build on a wealth of distinctive assets and strengths. These include:

- More museums, theatres, galleries, and heritage buildings than any other place outside London, and UNESCO World Heritage Site status for Liverpool Maritime Mercantile City;
- A leading role in the UK's film and TV industry;
- A unique musical heritage and vibrant, international contemporary music scene, with UNESCO City of Music status for Liverpool;
- World-renowned sporting venues, from football and rugby league, to horseracing, and golf;
- National and international prominence as a cultural destination;

- Vibrant and thriving networks of grassroots cultural organisation;
- Embedded partnerships between Universities and cultural organisations

But the biggest cultural asset is the people of Liverpool City Region. Without people, cultural assets are just bricks and mortar.

Culture will be foundational to LCR's long-term success and resilience. It is dynamic and ever-changing, responding to the latest trends, as well leading them. In a world that is changing at pace, investing in culture makes sense. It is an investment in a dynamic, responsive, outward looking and growing industry that is synonymously a public good.

Case Study: Beneficiary from Creative Alternatives

Creative Alternatives, based in St Helens, is a culture/arts focused programme, helping with people's confidence, mental health and employability skills.

"Before I started Creative Alternatives I was suffering from anxiety and depression, I was off work and didn't really have much of an interest for anything. The workshops I feel have developed my personal creativity and I found that they were a distraction from my worries. I've noticed that my mood and confidence has improved. This didn't happen overnight but I am so pleased that I went to the sessions as they helped tremendously. I have started to enjoy things now and have now recently started work again Creative Alternatives not only reduces social isolation but it improves your communication skills, self-confidence and allows you to switch off from everyday worries".

When the role and value of culture is recognised fully, significant economic development can be unlocked.

Opportunities to experience and participate in culture and the arts will help promote creativity and a confident approach to learning, employment and skills that will enable young people to succeed in the industries of the future. It will nurture the talent pools that will propel the cultural and creative sectors to continue to grow and thrive. Investment in cultural infrastructure will be a catalyst for wider regeneration, support public expenditure savings, attract and retain talent, and drive wider productivity growth in the economy. Most of all, culture will expose and connect LCR to an international marketplace, opening the City Region, its people, and businesses, to global opportunities.

Achieving the ambition: Specialist support for cultural activities

Building on the strong locational assets and the creative reputation of a City Region that is one of the most filmed locations outside of London, a film and TV fund was launched in 2019 to attract productions to LCR. Worth £2m, local, national and international production companies can bid for a maximum investment of £500,000 per proposal. The Fund is aimed at small and large projects ranging from feature films and TV dramas, through to scripted comedies and animations.

Attracting even more productions to film here in the City Region will help to develop the kind of creative ecosystem that delivers highly-skilled jobs for local people, and opportunities for local

businesses to grow. Film and TV already generates more than £16 million a year for the city region economy and this fund will help increase that even further.

Social Innovation

Liverpool City Region has a long-standing reputation for social innovation. From the pioneering public health work of Dr Duncan; the philanthropic efforts of Eleanor Rathbone - who championed women's and family rights; and the collective efforts of the Dock workers in the 1900s who campaigned tirelessly for fair pay, there is a proud history of fighting for social progress. The inspiration for the Citizen's Advice Bureau, Legal Aid and Age Concern all came from Liverpool.

LCR remains a centre point of social innovation today. The thriving social economy - which incorporates grassroots, neighbourhood, community and voluntary groups, registered charities, social enterprises, cooperatives, mutual societies - continuously produces ground breaking innovations. These have ranged from new digital technologies that improve health and wellbeing; the development of land trusts which reinvest community spend back into neighbourhoods; social movements that celebrate the diversity of communities and promote equality, and service innovations that improve interactions between healthcare and patients.

Looking to the future, the economic, social and environmental challenges are getting bigger. The City Region's heritage of social action and social innovation will be one of its greatest assets in addressing these challenges. LCR will empower and mobilise the collective efforts of social innovators to solve these challenges. It will support the expansion of the social economy by providing investment opportunities for new start-ups and scale-up funding for existing social organisations with growth potential. And it will provide the strategic support necessary to promote knowledge exchange and for the whole sector to maximise its collective power for innovation.

LCR will support its social innovators and entrepreneurs who want to get their ideas for social change off the ground. It will create interfaces and forums where seasoned social entrepreneurs and innovators can connect and interact with professionals from a wide range of sectors; thereby enabling the flow of knowledge and resources to accelerate social innovation processes; embracing collaborative practices and systems working. LCR will become the most socially innovative region in the UK.

Achieving the ambition: Kindred

One example of how LCR will help drive social innovation through the development of Kindred, an innovative and locally owned vehicle that seeks to help foster an inclusive economy by supporting Socially Trading Organisations (STOs) through investment, partnerships and support.

It will provide a combination of financial and non-financial support to STOs at the stage where they are poised for growth, bringing together national and local social investment funders and support partners to provide loans, blended funding (loans & grants) and alternative business support. It will also actively look for the local thought-leaders who have ideas that have potential to generate community wealth, but who have not yet established an STO and so do not consider themselves to be entrepreneurs.

Importantly, the project will be a catalyst for scaling up and scaling out successful STO business models. Kindred provides an exciting opportunity to pioneer a new way of supporting STOs in LCR's social economy which can pave the way for other regions in the UK and internationally.

5. Addressing the Foundations of Productivity

Liverpool City Region will only be able to unlock the full potential of the opportunities that exist, if it is able to strengthen the foundations of the economy. It must address the performance gaps it has identified and level up with the rest of the UK economy to maximise its transformation.

These foundations are:

- **Thriving and distinctive places:** LCR will create homes and neighbourhoods that support the health and wellbeing of its people, expand and enhance the natural environment, and act as a magnet to attract the best of national and international talent.
- **The opportunity to turn potential into prosperity:** LCR will ensure its people have the health, skills, and opportunities to realise their full potential.
- **A dynamic business base creating opportunity:** LCR will support more businesses to grow, and deliver high quality, sustainable employment opportunities for the whole City Region.
- **Collaboration that transforms innovation into impact:** LCR will expand and deepen the collaboration between innovators in research, industry, and society that will create social as well as commercial value.
- **Connecting all communities to opportunity:** LCR will deliver the strategic infrastructure required to enable all of this to happen.

Only when these gaps have been addressed, will LCR be able to deliver a truly competitive, clean and inclusive economy. And, only when it has done so, will the benefits of this economy be maximised.

The following sections and their actions are founded on a rigorous evidence base, logic model development, and extensive consultation with partners across the City Region and beyond. This has informed an understanding of what works, where the gaps are and where new activity is needed to provide transformational change and drive up productivity.

Thriving and distinctive places (Places)

Liverpool City Region is a place of diversity and vibrancy. From the thriving city centre and wealth of cultural assets, to stunning coastal landscapes and natural spaces and the strength of grassroots community place-making, the City Region is truly a unique place to live, work, visit, and invest. These assets - alongside LCR's transformational growth opportunities, and the affordability of the City Region - are important pull factors for talent attraction and retention, for people from both within and outside the area.

The issues

All of LCR's communities have something special to offer, but it is also recognised that there are too many that face long term place-based challenges, which impact quality of life, and prevent the City Region realising its full potential. This is illustrated by a slight increase in the proportion of LSOAs in the 20% most deprived LSOAs nationally, between 2010 and 2019.

The legacy of rapid economic change over recent decades has left areas of the City Region without a clear sense of economic purpose or direction, leading to a lack of investment and sense of decline and disconnectedness in the hearts of communities: its town centres, high streets, and public spaces. Such challenges are particularly concentrated in a corridor running from East Wirral, through North Liverpool/South Sefton to North Knowsley.

This lack of investment is evident in areas with high concentrations of aging, low quality, low value, housing stock; nearly two thirds of the housing stock has EPC ratings of D or lower. Not only is this lack of housing choice detrimental to the sense of place in communities, it also contributes significantly to fuel poverty (14.5% of LCR residents are in fuel poverty compared to 11% nationally) and carbon emissions in the City Region, whilst also threatening the health and wellbeing of residents.

These factors serve to entrench deprivation and inequality in places, discouraging investment and sustaining a vicious cycle that becomes increasingly difficult for communities to break. Critically, it constrains improvements in productivity, as highlighted by an OECD report on enhancing productivity growth in Core Cities.

Improving the liveability of places will be a priority in order to break this cycle once and for all. Agencies and organisations across LCR will work with communities to disrupt systemic deprivation and create homes and neighbourhoods that support the health and wellbeing of residents and protect the environment. The City Region will harness the place-making power of culture to bring new social and economic opportunities to communities. And it will seek to rebuild and embed wealth and prosperity in all communities, helping places to redefine their economic purpose and lay the foundations for a sustainable future.

The key priorities to address

- Ensure everyone has access to a good quality, secure and affordable home within a thriving neighbourhood;
- Disrupt disadvantage across the City Region so that communities can flourish;
- Revitalise town centres so that they are renewed focal points for communities and businesses;
- Harness culture to enhance Liverpool City Region as a great place to live, visit, invest and do business.

LCR is already working to address these priorities in a number of ways. Over 17,000 new homes have been delivered across the City Region since 2017 – the highest rate of delivery since the 2008 recession. 4,000 homes were also retrofitted across the City Region to improve quality and to make them more energy efficient, tackling fuel poverty and making homes more environmentally sustainable.

LCR is also working to ensure that the most vulnerable in the region have access to a safe and secure home. Liverpool City Region is one of just three places in England piloting Housing First, a programme that provides people with a settled home as the first response to homelessness and the foundation for individualised support to their complex needs.

The City Region's housing policy is predicated on accelerating delivery, widening housing choice, regeneration (including retrofitting), and place-making. It sits within an aligned framework including employment opportunities, transport and infrastructure delivery to reflect complementary and overlapping priorities. This will create a sustainable housing offer that supports the economic growth proposition for Liverpool City Region.

A Spatial Development Strategy is also being developed. This statutory document will detail how LCR will consolidate and enhance the quality of place in Liverpool City Region, with particular focus on ensuring communities are sustainable, connected, accessible, complement the value of the natural environment, and promote the health and wellbeing of people and communities. By building on these innovative, strategic approaches to homes, communities, and sense of place, Liverpool City Region will continue to be a vibrant and distinctive place to live, visit, and do business.

Case Study: Anfield regeneration project

The Anfield Project began in 2012 to revitalise one of Liverpool's best-known neighbourhoods. £260 million has been spent on the project so far which has led to the building of over 600 new homes and refurbishment of 600 existing properties - along with a raft of much needed works to regenerate the local street scene and infrastructure. It represents a pioneering partnership between Liverpool City Council, Liverpool Football Club, Your Housing Group and Keepmoat homes. The project was originally set up to bring a community-led response to the withdrawal of Housing Market Renewal.

The success of the Anfield project illustrates the full potential of opportunities that can be unlocked when multi-sector organisations come together to form partnership with one another, hand-in-hand with the local community. Forming locally led regeneration strategies like those in Anfield puts people at the heart of community regeneration and focuses efforts on developing safe, sustainable and prosperous communities.

The strength of the community led approach in Anfield is embodied in Homebaked, the co-operative bakery and Community Land Trust that is co-owned and co-produced by people who live and work in the area. Such local organisations reflect a wider sense of community and are a valuable contributor to creating opportunities for local people – helping Anfield to become a place where people are increasingly proud to call home.

Key actions to address the priorities

1 - Supply quality, sustainable homes at the heart of thriving neighbourhoods

LCR will work in partnership with government and Homes England to continue to upgrade and modernise its housing stock, ensuring that homes are fit for the needs of residents, both now and for the future. Through delivering more homes, it will improve housing choice and quality, meeting both need and aspiration. It will also ensure that future homes are age friendly, accessible to all, and environmentally sustainable. The City Region will seize the opportunity to

redefine, regenerate, and revitalise its most deprived communities, supporting health and wellbeing, social and economic outcomes. This will include:

- **Large scale housing focused development:** including continued delivery of the Wirral and Liverpool Waters sites and other dockland areas, and the development of new housing on brownfield land to unlock growth potential. Examples include the planned investment with Homes England into the former Festival Gardens site in Liverpool and Moss Nook in St Helens. Other large-scale sites include Halsnead Garden Village in Knowsley.
- **Piloting the future of homes and communities in the North:** by building on the legacy of model communities in the City Region, such as Port Sunlight and Granby 4 Streets, as well as cutting-edge assets such as the exemplar residential houses based at Liverpool John Moores University (part of the BRE Innovations Parks Network), LCR will explore options - both locally and with government - to improve housing quality, provide effective strategic infrastructure and key amenities, enhance the public realm, develop skills and opportunities for employment locally (particularly as many deprived communities in LCR are immediately adjacent to areas of economic opportunity), and demonstrate smart and sustainable ways of living for the future which improve population health outcomes.

“It’s important to speak to the communities you’re trying to help – listen to them and adapt your plans to suit their different needs”.

(LCR Listens deliberative event participant)

Using existing best practice, both from within the City Region – such as the Welsh Streets in Toxteth, voted by RICS as the ‘Best Residential Project in the UK’ - and beyond, a long term approach to place-making and redefining the function and purpose of places will be set out. Participatory models of community engagement and consultation will be used to ensure that people can shape the future of their communities and take meaningful ownership of this process.

LCR will work alongside Homes England to deliver the required investment and infrastructure that supports key housing ambitions and will build on already collaborative relationships with the City Region’s housing associations. Joined up planning in this space will also maximise value for money and increase the pace of delivery.

Through the development of the Spatial Development Strategy, the City Region will work with sector leaders, including the Metro Mayor’s Design Champion, to develop policies and standards that underpin the high-quality homes and neighbourhoods of the future.

2 - Revitalise high streets, town centres, and community hubs

High streets and town centres form the hearts of communities. LCR will develop a holistic “whole place” approach, recognising that the interaction between business growth, housing, health and wellbeing, skills, culture, connectivity and transport affects the success of a town centre. It will redefine and reinvent the purpose of town centres in order to maximise their economic and social potential, ensure they can continue to thrive as the economy evolves, and explore their economic relationships with the regional centre. Cultural activities, and the potential to reimagine the role

that LCR's wealth of historical buildings can play in communities, will be particularly crucial to developing the distinctive identities of towns, and ensuring they enhance quality of life and access to opportunity for local people.

Particular actions include:

- **Implementing the recommendations of a Liverpool City Region Town Centre Commission**, facilitated by the Institute for Public Policy Research (IPPR) North and made up of external, independent experts, that provides critical support for reimagining the function, purpose, and possibilities of towns. This will create the template for future policy and investment decisions on town centres, and will focus on four key areas:
 - How town centres support a sense of place and belonging in Liverpool City Region;
 - How policy decisions on the environment, planning, and infrastructure can best support town centres;
 - How town centres can operate as a hub for business and civil society in the longer term;
 - How town centres manage change to play a role in the future.
- **Delivery of Town Centre Funds**, supporting plans for thriving and modern town centres across the City Region. This includes the Metro Mayor's £6 million Town Centres Fund, and delivery of proposals for the government's Towns Fund and Future High Streets Fund. This support for town centre regeneration will reinvigorate places and help disperse economic growth, improve access to training and employment and spur regeneration in communities where issues like inclusivity and ease of access are the greatest obstacles to growth and development. Key strengths within culture and the visitor economy will also be used to develop distinct offers for towns.
- **LCR Town Centre Panel** that acts as a link and collaboration group between local authority officers and the LCRCA on all town centre work, incorporating the LCR Towns Fund, Town Centre Commission, and government funded bids.

3 - Support tourism and the transformational development of a vibrant and sustainable visitor economy

A thriving visitor economy is central to providing foundational strength to the City Region and in building an attractive place offering. Working collaboratively with partners in the development and implementation of the LCR's upcoming five year Visitor Economy Strategy (which will be inherently linked to Tourism Zone requirements), the sector will continue to be a key enabler for developing the City Region's brand proposition, attracting investment, leading destination marketing, and ensuring that its wide range of unique offerings - such as Knowsley Safari Park, the resort towns of Southport and New Brighton, rural and coastal landscapes, as well as Liverpool's city centre, UNESCO World Heritage sites and cultural vibrancy - continue to draw in increasing numbers of visitors from across the globe.

Furthermore LCR will work closely with the Department for Culture, Media and Sport and the British Tourist Authority to put forward a bid to support the ambition of establishing the City

Region as a Tourism Zone. This will aim to address the challenges of seasonality, accessibility, connectivity, supporting career progression, and to catalyse investment within the sector, therefore increasing productivity.

4 - Develop projects that put culture at the heart of transformational place-making

Building on unique cultural strengths, a thriving visitor economy, as well as the lessons learned from the European Capital of Culture and Borough of Culture experience, LCR will develop initiatives that weave culture and place-making together, further enhancing the profile, branding and investment opportunities of places. It will also create shareable reasons for local people, as well as domestic and international tourists, to visit and reconnect with places within the City Region and provide an enhanced sense of ownership and belonging.

Examples of early ideas from partners are highlighted below. Each will accompanied with a number of strategic aims and defined outcomes:

- ‘Demystifying Daresbury’ to highlight the wider opportunities for people and businesses;
- Building on the artisanal independence of businesses in Prescott, together with the Shakespeare North development which is central to its cultural regeneration;
- Local ownership of St Helens town centre through artistic installations and a ‘stained glass’ inspiration;
- Harnessing the nostalgia of Southport whilst also future-proofing the visitor economy through decreased seasonality and increased public ownership of the town centre.

Spotlight on the visitor economy

The visitor economy is central to supporting the City Region’s place offer. The City Region is amongst the top performing destinations in the UK for both leisure and business tourism, generating over 67 million visitors a year, propelling a sector that contributes over £4.9 billion to the local economy as well as supporting 57,000 jobs. Building on the success of the 2008 European Capital of Culture, the City Region’s enduring priority will be to sustain this trajectory of growth over the long term, enhancing the competitiveness of businesses and SMEs that are dependent on visitor investment as well as ensuing these benefits are felt in all corners of our City Region.

The City Region is committed to unlocking future growth and the visitor economy will remain a critical pillar within investment planning in areas such as business events, infrastructure, transport, skills and cultural tourism. Supporting Visit Britain’s national tourism strategy, LCR will use these opportunities to attract high value domestic and international visitor markets, thereby increasing the sector’s productivity and routes into employment for all communities.

Case Study: Shakespeare North, Prescott

The captivating and intriguing connections between Prescott, Shakespeare and Elizabethan theatre establish the historic foundations for what will be a vibrant and contemporary cultural asset for the north of England. Shakespeare North Playhouse, which opens in 2022, is already a beacon that has illuminated the power of culture as a driver for change and regeneration. Its high quality cultural, education and visitor programme will have wide appeal.

On the back of this cultural investment, Prescott town centre and the wider area has been rejuvenated, creating new jobs and opportunities for people to become actively involved in the life of their town centre community. A positive wave of regeneration, has seen an average of one new business opening each month, transformed the evening economy and attracted new private investors to be part of this transformational story of cultural led regeneration. Once complete the Playhouse will create 20 permanent posts and attract over 100,000 visitors which will have a huge economic impact on the town and wider region.

5 - Improve and maximise green spaces

Informed by the pioneering Natural Capital Baseline Assessment produced for the Combined Authority, LCR public sector partners will work with key stakeholders such as housing providers, community organisations, and the Mersey Forest to enhance the natural capital of the City Region and create and sustain green spaces. This is important given the strategic imperative to address the Climate Emergency, as well as air quality, health outcomes, and living environments – crucial for both for existing residents and as part of the wider quality of life offer for attracting and retaining talent. This ambition will be supported through the Spatial Development Strategy and the Strategic Infrastructure Plan which sits alongside it.

Realising the full potential of LCR's Transformational Opportunities

The above demonstrates how harnessing cultural capital will develop quality of place across Liverpool City Region, increase investment and create new economic opportunities. A mix of global cultural appeal, quality housing and desirable places to live supports an enhanced quality of life offer. This offer, combined with the location of leading clusters such as health, advanced manufacturing and digital technology industries, provides a mix that will support the City Region's ambitions to be a magnet for talent.

It is also clear that social innovation will be a driver for place-making and regeneration of the City Region's homes, communities and town centres. The depth of the challenges for many places across the City Region requires boldness and different ways of doing things – enabling social innovation will be central to this.

By 2040

Liverpool City Region will create homes and neighbourhoods that support people's health and wellbeing, expand and enhance the natural environment, and act as a magnet to attract the best of national and international talent. This will be evident in the following outcomes:

- **Increased supply of quality, sustainable, affordable housing:** measured by number of housing completions, number of homes retrofitted to improve energy efficiency.
- **Reduced disadvantage across the City Region:** measured by improvements across all domains of deprivation.
- **Thriving high streets and town centres:** evident in sustained town centre employment, reduced vacancy rates, increased footfall.
- **Increased levels of cultural placemaking:** measured by number of regeneration projects including cultural components, growth in the cultural and creative sector, increased tourism employment, and reduced visitor seasonality.

The opportunity to turn potential into prosperity (People)

People form the backbone of the economy. The City Region will work to improve the liveability of places, however it is people that turn places into communities. They provide spirit and cohesion. The people of Liverpool City Region are passionate, creative, innovative, and have significant potential.

A successful economy is one that removes barriers to prosperity and provides the opportunity for all people to have a good quality of life and be able to use their potential to have prosperous lives.

The issues

We know that prosperity means different things to different people, that each person has varying ambitions and faces different challenges. For some people, including graduates coming out of Liverpool's universities, the barrier to realising their ambition is a lack of good quality jobs and opportunities within the Liverpool City Region. For others the challenge is having the right skills to access and sustain well-paid, high-quality work.

"Lots of free/funded opportunities available to those that aren't employed but little available to those in work who want to up-skill". Anonymous (LCRlistens online)

For many, the jobs they are in are at risk due to automation, digitalisation and intensive modes of production. For these people, developing skills for the changing nature of jobs can be challenging and it needs to be made easier for them to do this.

A key observation from the LCR Listens consultation was that once in work, people can often struggle to upskill themselves, and progress their career effectively. This is particularly acute for those who find themselves in low-pay-no-pay cycles, zero-hour contracts and precarious work.

Other barriers to prosperity are much deeper and more ingrained. The prospect of accessing work, or improving quality of life feels too distant for too many people. Systemic deprivation across many places in the City Region constrains life chances and ultimately impacts on productivity - poverty and poor health are central features of this. The scale of this challenge is much more complex and requires more intensive, sustained and joined up intervention.

These issues are not limited to those of working age within the City Region. The life chances of children are, in some instances, determined prior to their birth. While the school environment can improve the life chances of children, the educational performance of young people across parts of Liverpool City Region has been an issue of concern for many years. To illustrate the challenge, 59% of English and Maths GCSE students in LCR achieved grades 4 or above in 2018/19, lower than the national level of 65%. These figures also vary significantly across and within different local authority areas. This lower level of attainment then follows through into higher levels of young people not in education, employment or training.

Whatever the barriers, collective action is needed to remove them. Every single person must be provided with the opportunity to turn their potential into prosperity.

The key priorities to address

- Support people to become healthy, happy and independent;
- Improve employability of residents to give them the best chance to access meaningful employment;
- Improve skills mobility and opportunities for career progression and lifelong learning;
- Ensure skill sets and training evolve to reflect the changing economy and reflect business needs;
- Increase the number of high quality employment opportunities in the City Region to attract and retain skilled workers.

The long established Employment and Skills Board has already delivered key strategic work-streams. The Liverpool City Region Skills Strategy 2018-23 identifies actions designed to improve employment levels, the access of employers to skills and firm level productivity.

The City Region has a strong track record of delivery, working with both local partners and national government – from working with employers to deliver Skills for Growth Action Plans across key sectors, successful devolution of the Adult Education Budget, commissioning over £100m of ESF funding, delivery of Households into Work and Ways to Work, through to the development of the Be More UCAS-style apprenticeship portal (which was nominated for a European award). It is from this foundation of effective collaboration that future provision will enable people across the City Region to fulfil their potential.

Case Study: Households into Work

Households into Work helps people with complex needs enter or re-enter full time employment. It operates across LCR, with the aim of providing intensive support that goes beyond those simply searching for work and instead extends to those people who face multiple challenges in thinking about full time employment as a realistic option.

The issues faced by people on the programme are complex and varied including debt and finance, housing, mental health illness, domestic violence, addiction(s), isolation and disaffection. Without action to tackle these underlying conditions, it is highly unlikely that many of the participants would ever secure sustainable employment. What makes Households into Work truly significant is developing a full appreciation of the underlying issues for each of the programme participants. This allows the team to construct a personalised long-term action plan of support that is tailored to the unique needs and circumstances of each participant, structured around an innovative model, which takes a 'whole household' approach to support. This means that the team is well positioned to effectively tackle issues, which may affect one member of the household but are caused by another member of the same household.

Key actions to address the priorities

1 - Improve population health through collaboration and a focus on prevention

LCR will pioneer new approaches to improving health and wellbeing. This will require new partnerships and deeper levels of collaboration. Working with Public Health England North West, City Region partners will review and support the delivery of recommendations from a Wealth and Wellbeing Programme to reduce poor health outcomes by improving the wider determinants of health, particularly those associated with the economy and employment.

Prevention will be a central pillar of future approaches to improving population health, particularly given that it is one of the key priorities for the health and care system in achieving NHS savings, increased productivity, community prosperity and resilience. LCRCA will work with Public Health England and other partners – such as the University of Liverpool's Department of Public Health and Policy and LJMU's Institute for Public Health, both of which are World Health Organisation Collaborating Centres - to identify opportunities for preventative interventions at scale which will have long term benefits for LCR's population.

Local partners will also increase engagement and collaboration with Clinical Commissioning Groups (CCGs) and NHS providers to ensure future commissioned activities provide the right provision for disrupting embedded health and wellbeing issues across the City Region, particularly mental health. Building the connections between social innovators and public health professionals will be key to success.

"I want to be comfortable in my community through seeing others having opportunities to grow and be happy as opposed to neglected and stigmatised". (LCR Listens focus group participant, Knowsley)

Finally, LCRCA will embed a focus on health and wellbeing in future policies and strategies, ensuring

that narrowing health inequalities becomes part of mainstream economic development planning and outcome measurement. Criteria and guiding principles will be drawn up to support this.

2 - Plan and deliver early intervention for schools

The City Region will intervene early to improve education and learning outcomes – and ultimately the life chances of young people - through primary and secondary education. In partnership with government and local partners, a Liverpool City Region Schools Support Programme is being proposed that will improve the local education system by:

- Recruiting and retraining more high quality teachers;
- Improving leadership in schools; and
- Improving collaboration to improve outcomes, particularly literacy and numeracy, vocational training and school attendance.

The programme will mark a systemic shift, through increased levels of collaboration between school leaders within the Liverpool City Region and embedding best practice.

Partners throughout the City Region will also work with households in a targeted way to ensure that the best possible provision is in place for parents so that young children are school ready. This will include working with health and care services, nursery schools, children's centres and others, to improve support for families, together with innovative ways to focus on hard to reach parents.

3 - Support an integrated system for lifelong learning – getting ready for and getting into work

Liverpool City Region will work to develop a long-term, joined-up focus on skills, education, employability and health, with a system in place that supports lifelong learning and opportunities for all people, regardless of their background or circumstances. Crucially, this will tackle the barriers to aspiration, and will include a number of components which are set out below.

a) Support more people out of inactivity through highly targeted support

Supporting economically inactive people on pathways into work will remain a central priority. Building on what works will be important to this approach, such as the people centred and devolved Households into Work Pilot and the Ways to Work Programme. Ways to Work is a large scale programme delivered by LCR's local authorities since 2016, supporting 25,000 people and helping over 8,500 into sustainable employment. LCR will continue work to support the sustainability of such pilots and programmes. This will include ongoing conversations with government to explore future options.

LCRCA will also explore options with government in developing a 'Second Chance' programme, a strategic employability intervention bringing together partners in the public, private and third sectors to help long term claimants of sickness related benefits, and those inactive from the labour market, move into sustainable employment. This will be a large scale programme that will build on previously successful models implemented across the City Region.

b) Improve careers advice

LCRCA will work with education and training providers to improve careers advice for both people in education and those in work. To help achieve this aim, it will build on its leadership of the City Region's Strategic Careers Hub. This Hub, in place since 2017, is designed to coordinate the often crowded and fragmented careers landscape.

Community-led careers advice will also be explored, which would also be based in community hubs providing regular career MOTs. This would normalise careers advice and guidance, making it part of every-day life.

LCR will also develop plans to ensure that careers advice starts earlier, allowing young people to better understand the workplace. Furthermore, changing demographics mean that there will also be support for those in mid-career to understand and plan for their futures. Career insights and pathway analysis will be created by LCRCA to improve people's understanding of, and aspiration for career progression, as well as supporting businesses to understand what can be achieved through investment in people. A pool of career mentors will also be developed, who can provide one-to-one support, advice, and share experience.

c) Build a leading and cohesive technical education and apprenticeships offer

Developing higher level digital and technical skills will be essential to the future success of employers and people within the City Region. This will include embracing the implementation of T-levels locally as part of a cohesive technical education offer. LCRCA will also continue to work with government and partners to build long term change, ensuring that residents with no or low level qualifications are not left behind.

Building on the delivery of the Be More Apprenticeship Portal, and of Gold Standard and degree-level apprenticeships, the City Region will radically improve the quality and breadth of apprenticeships. LCRCA will continue to work with government and local partners to build long term change within the system. As well as maximising the impact of Be More, the LCR Skills and Apprenticeship brokerage service will support firms to identify the right courses and providers to suit their current and future staff needs.

d) Improve links between access to employment and labour market progression

It is important that those who are supported into work are also able to progress in work. The successful devolution and delivery of the Adult Education Budget has supported residents both to get into, and get on in work. It is also an example of LCR's successful management and delivery of budgets at scale. The City Region will continue to build on this success, expanding test and learn activities, embedding agility and flexibility in the model, and supporting improved local collaborative networks between learning providers to ensure continuous skills progression. This will be a baseline for further discussions between LCRCA and government on how to ensure continuous improvement and growth of this devolved power.

4 - Facilitate a demand led system supporting labour market progression – getting on in work

Alongside supporting people getting ready for and into work, LCR will continuously strive to support workers to progress along a continuum of better, more highly skilled and paid, roles within the City Region's business base. This means understanding the present and future skills demand of business and encouraging further investment in relevant skills provision.

a) Support employers' investment in skills

Working with employers, the Combined Authority has developed Skills for Growth Action Plans which audit and set out current and future skills needs in the City Region, allowing skills providers to align their learning and training to those needs. It will work with employers to accelerate this process, through the Skills for Growth brokerage service and improved leadership and management training. The Combined Authority is working with Cogent (Sector Skills Council for Science) to help science focused employers articulate their skills needs and could provide a template for future action in other sectors.

Case Study: Liverpool City Region Science Industry Partnership (SIP)

The Combined Authority and Cogent are working to help employers in the science sector to clearly and consistently articulate their skills need and see them met through the aggregation of demand. SIP Liverpool City Region brings together the science-based sector to focus on skills in the area and support local companies to develop and sustain the appropriate skills they need to innovate and grow, through partnership. Sectors embraced include chemicals, pharmaceuticals, medical technology, biotechnology, advanced materials and downstream oil and gas. The group will drive a local approach to sharing best practice, addressing skills challenges, growing the skills pipeline and developing specialist STEM training provision.

b) Ongoing focus on reskilling

LCR partners have been working closely with government and the TUC on rolling out the first phase of the National Retraining Scheme focusing on individual reskilling. LCRCA are discussing with government how the scheme can be accelerated together with the development of other necessary provision. The City Region will also work with government to help shape and deliver the emergent National Skills Fund, which will support retraining across the economy.

The City Region will work with businesses across the economy to make the case for progression and to explore practical solutions such as sector-based skills escalators, sharing best practice and links to business to business peer support. There will be an expectation of career progression with businesses, which is aligned to the City Region's work on continuous education and lifelong learning. LCR will raise the ambition of people and businesses so that skills, continual learning and development are perceived as the norm.

5 - Progress future focused skills-development

LCR will develop targeted programmes that provide the skills needed to transform the City Region economy. This will be linked directly to the competencies and opportunities identified in this strategy. For instance, clean growth and an increasingly digitally and technologically enabled economy requires specific skills sets and competencies, which this strategy accounts for and the City Region is planning towards.

It will involve working closely with schools, colleges and universities to better align the skills pipeline with the transformational opportunities present in LCR. This will produce a City Region of creatives, of environmental scientists and engineers, of data scientists and entrepreneurs, as well as those roles with highest demand. But, most importantly, in a rapidly changing world with changing skills requirements, working with schools and skills providers will deliver a City Region of confident, independent learners, with transferable skills across all industries of the future.

Whilst it is not always possible to protect jobs impacted by technology, key traits such as agility and adaptability can be nurtured. This will be a core focus for the City Region in working with employers and providers, particularly with regards to pivotal attributes that automation will not address: leadership, design skills, innovative capacity, creativity and adaptability.

Realising the full potential of LCR's Transformational Opportunities

The opportunities and continuous investments in open health innovation will support transformation of the City Region's population health, healthy life expectancy and economic inactivity.

Enabling social innovation will support better health outcomes, and help people to get in and get on in work, notably through community led approaches in supporting people and places that are often hard to access for existing public services. And opportunities through cultural capital will support improved health and wellbeing outcomes, as well as promoting creativity and different approaches to learning, employment and skills.

By 2040

By 2040, the barriers that prevent people living prosperous lives will have been successfully removed. People living in the City Region will be healthy, happy, independent and equipped to succeed through life. This will be evident in the following outcomes:

- **Reduced health inequality:** measured by the health domain of the IMD, healthy life expectancy, and prevalence of common mental health disorders.
- **Improved education and skills outcomes:** measured by attainment at each of the Key Stages, the proportion of 16 and 17 year old classified as NEET and proportion of LCR residents with NVQ Levels 1 to 4.
- **Increased labour market participation:** measured by a reduction in the proportion of people who are classed as economically inactive alongside improvements in the employment rate.
- **Improved skills profile:** measured by improvements in the number of people with NVQ L4+ and a reduction in the number of people with no qualifications.

A dynamic business base creating opportunity (Business Environment)

LCR's businesses are the wealth generators and lifeblood of its economy. They create the opportunities for happy, healthy, prosperous lives. Business growth and higher levels of productivity are essential for attracting investment, creating additional new and good quality jobs, and powering the innovation of solutions to social and environmental challenges.

The Issues

There is a growing business base in the City Region which has exceeded national growth levels in recent years – 19% growth since 2014 compared to 17%. There is also an entrepreneurial culture, reflected in a high business birth rate (16% of all businesses) that is ranked in the top five Local Enterprise Partnership areas nationally. There is no shortage of entrepreneurial ambition in the City Region.

Despite this the business base, at less than 600 businesses per 10,000 working age population, is too small to provide the level of good quality jobs needed across the City Region. Growth barriers need to be removed with the support put in place to enable all businesses to both survive and thrive. This support needs to be cohesive, targeted and integrated.

The challenges differ depending on a business' size and the stage they are at in their lifecycle. For some businesses, the barriers to growth can be lack of resource, be that finance, time or knowledge, to do the small things that can make a big impact. This can include investing in new processes to improve efficiencies, or adapting to new technologies. This is particularly important

"We don't have any problems in starting businesses in the City Region – but we must do more to grow them and provide the proper support for that to happen" (LCR Listens policy workshop participant)

for businesses anchored in the foundational economy such as healthcare, retail and tourism. These sectors are strategically important due to the high volume of employment they provide, and they can be most vulnerable to external drivers of change such as automation.

For businesses looking to grow or scale, a key challenge is access to finance in the City Region, especially early stage and long-term patient capital.

The evidence suggests that this is particularly the case for technology focused businesses who do not have means to raise seed or scale up capital. Access to finance issues within the City Region are due to a combination of demand and supply, together with information and coordination failure.

This, combined with a lack of leadership and management skills frequently cited during the LCR Listens consultation, and challenges accessing international markets (just 7% of businesses are involved in exporting activity), holds back potential growth. Providing more intensive and tailored support to overcome these challenges will result in more businesses being able to grow and scale. At present there are only 24 scale ups per 10,000 active business, compared with 34 at the national level.

Removing these barriers will also create a more supportive environment that will enable businesses to grow and prosper. It will also create an attractive proposition for businesses

looking to invest and grow here. Ultimately, addressing these challenges will help develop a thriving, dynamic business base that provides significant opportunity across the City Region.

The key priorities to address

- Ensure business support is readily understandable and fully accessible;
- Provide delivery of intensive, tailored business support for businesses with high growth-potential;
- Reduce barriers to accessing international markets;
- Improve the ability of businesses to innovate and commercialise new ideas;
- Develop the right infrastructure and space to support business growth.

The right foundations are in place to address these priorities and ensure that business support is smart, sustainable and inclusive. LCR LEP works in close partnership with the private sector and has established industry-led sector boards. The new Growth Platform is a joint venture between the Combined Authority and LEP delivering an integrated, high value business support model, enhancing the existing Local Growth Hub support service already established in the City Region. It is responsible for business growth activity, supporting inward investment, skills development, sector development work, and brand development. It has already begun to deliver a £75 million Growth Package that all businesses across the City Region can benefit from.

This is only the beginning. LCR will continuously review and strengthen the business support offer to ensure it is meeting rapidly changing needs and will support creating the conditions that help deliver the good quality jobs Liverpool City Region residents require.

Actions to address the priorities

1 - Provide coherent business support appropriate for the whole economy

LCR partners will undertake a review of the current business support landscape to ensure that it provides for the needs of all businesses. Within this there will be a focus on the needs of businesses across all sectors and the social economy, ensuring that current support provides the right intervention to improve firm productivity.

Such provision will include helping businesses to understand what digitalisation means for them, planning for progression routes, succession planning (particularly for family owned businesses), developing the supply of relevant skill sets across the City Region's labour force (as detailed in the People section), facilitating improved career prospects and progression, and exploring leadership training requirements. Sector and cross sector networks will be supported in the development of supply chains.

In particular, approaches will build on the strengths of the Local Growth Hub to inform future activity, which will be flexible enough to fit across business needs and be fully accessible. Additionally, LCRCA and the Growth Platform will work with government to explore what strengthening the Growth Hub would entail and how it would support the development of a more strategic and coherent landscape.

The City Region's ERDF and ESF programmes are also an important part of the business support, employment and skills landscape, providing help for businesses both within higher and lower productivity sectors. LCRCA will continue to work with government and partners to ensure a smooth transition from EU Structural Funds towards an integrated offer as part of the UK Shared Prosperity Fund.

2 - Develop long term and intensive relationship management

Future provision for high growth firms, those with high growth potential, and growth businesses reaching maturity, will be managed through long-term relationship management. The support offer will be wide ranging and use strategic action plans for businesses, to plot progress and challenges across key components such as product and service development, talent and skills access, market intelligence, leadership and management, and financing. Working with businesses, LCR will also explore the feasibility of specialist provision where there are identified gaps, such as developing manufacturing advisory support for high growth potential companies. Such provision will also be a springboard for addressing the clean growth and AI & Digital Grand Challenges.

A bespoke and targeted approach, supported by continuous data-led intelligence, is not only important for the individual success of the companies involved, but will also help to develop a benchmarked evidence base to determine 'what works' in terms of supporting businesses with scalable products and processes. The following activities will underpin the approach:

a) Driving up entrepreneurial leadership, confidence, capacity and capability

The City Region will develop dedicated programmes aimed at improving leadership capability for businesses with high growth potential. The programmes will focus on ensuring that business leaders have the right knowledge, capacity and skills to drive business growth and scale up. Indeed, one such scale up programme has recently been commissioned, which will provide recognised, selective and intensive support for tech-led and tech-enabled businesses.

LCR will also strengthen peer-to-peer and alumni networks, providing a co-ordination role to bring together the talent that clearly exists. Mentorship programmes will be promoted and supported to ensure businesses have access to specialist knowledge and expertise.

Liverpool's universities will also play an important role in developing entrepreneurial capacity and capability, including spinout businesses. If a critical mass develops, then so will the amount of investment into them from private investors. The universities and other local partners will work together to determine how the ecosystem can be developed over the long term to encourage spinouts as part of a wider approach to commercialisation of ideas.

b) A seamless access to finance offer

LCR will develop a range of access to finance initiatives to ensure all businesses are able to access the finance they need to grow. Initiatives will include:

- Promotion of patient seed and scale-up capital for new potential high growth businesses;

- Provision of resilience liquidity funding in response to external market pressures and exit from the EU;
- Flexible growth loans to facilitate local business expansion;
- Steps to raise inward investment. Facilitation match funding grants will be complemented by increased capacity within access to local expertise and advisory services as part of the Liverpool City Region Invest Liverpool initiative; and
- A package of measures to develop investor readiness.

Ultimately, LCR's interventions in supporting access to finance aim to stimulate a culture of private investment, incorporating start-ups, early and expansion stages, and beyond. Increased private capital will also tend to bring more mentoring and management support to investee businesses which is vital, especially at the earlier stage of the growth cycle.

3 - Develop an integrated approach to exporting

As set out in the Liverpool City Region Internationalisation Strategy and Action Plan, the strong global trade potential of LCR and its business base is clear. Through strengthened engagement with the international business community, targeted support for businesses and effective collaboration across the City Region, the opportunities offered by a fast-changing global economy can be realised to deliver shared prosperity for LCR.

An important element of this strategy is global trade. To support this further a Liverpool City Region Export Plan will be developed, agreed and implemented, focused on goods, services and knowledge. This will build on LCR's global innovation excellence and increasing commercialisation of ideas. LCR will also develop stronger relationships with DIT and work with them to increase their regional, long-term presence here and enhance interaction with the local business community.

Delivering a step-change in how LCR works with DIT and other key central government departments will ensure that there is increased capacity for multi-partner collaborative learning on vital issues that impact the business landscape including post-Brexit trade negotiations, upcoming sector deals, proposed legislation on issues such as product testing, and the implementation of forthcoming changes within taxes, tariffs, subsidies and grants.

4 - Build on the strategic importance of the Port for future trade opportunities

The continuing development of the Port of Liverpool will build on the previous action. It is now the UK's leading transatlantic port handling 45% of trade from the US and is home to a growing cluster of maritime related industries. As the UK's largest western facing port, with a large comparative reach across the country, it will be critical in supporting levelling up across the north.

LCR partners will work together to ensure that the Port of Liverpool maximises its offer, post Brexit, to be the leading port for trade with Ireland, the US/Atlantic and beyond.

This growth of the port, together with the UK's departure from the European Union, means that it becomes increasingly important in the development of new export relationships. Within this LCR will work with government to examine the potential benefits of Freeport status.

5 - Ensure that LCR's businesses have the right physical infrastructure to grow

A central enabler to the delivery of LCR's growth ambitions is to provide the right mix of sites, buildings and facilities across the City Region, which are attractive to the market, facilitate investment and are essential to both employment and productivity. Key to this, is the right quality and variety of space to achieve businesses' growth ambitions.

LCR will ensure that employment sites - supporting all areas of the economy - are able to develop and grow to help maximise the volume of good jobs created and sustained. Mobility issues need to be minimised and many residents face challenges in moving between regional centres that are constraining access to employment and services. The actions set out in this strategy to improve the public transport system across the City Region will ensure that there is full access to employment opportunities for all.

LCR policy and investment activity will also continue to support clusters of knowledge intensive business and employment. This will foster agglomeration effects, develop a critical mass of investment, scale up activity, and support commercialisation of research emerging from local innovation assets – such as Sensor City, the Manufacturing Technology Centre and emerging Digital Innovation Factory. Sci-tech Daresbury and Liverpool City Centre are key to this, the latter particularly through the continued development of the expanding Knowledge Quarter Liverpool with its array of science and innovation assets, together with the central location of other sectors such as finance and legal.

This mix is central to supporting knowledge spill-overs, cluster development, sustainable employment and high-quality jobs. LCR will use the infrastructure and opportunities this enables, to bring together innovative business communities and the higher education base, and to attract and retain world class talent.

Realising the full potential of LCR's Transformational Opportunities

The development of these clusters and their agglomeration impacts will be critical in driving up productivity and increasing the City Region's export potential. The opportunities for advanced manufacturing around Industrial Digital Technologies and LCR's excellence in open health innovation, are key to this cluster growth, supporting the wider economy and cross-sector supply chains. Furthermore, the highly targeted and intensive nature of business support to be delivered in Liverpool City Region will ensure that the business ecosystems in these clusters are nurtured so that they can maximise both domestic and global reach.

By 2040

By 2040, LCR will have secured increased productivity across a business base which offers fair, quality and skilled employment opportunities, that invests in the long-term prosperity of the City Region, and has a wide array of established trading relationships with global and domestic markets. This will be evident in the following outcomes:

- **Increased business productivity and growth:** measured by GVA per worker, change in overall employment, output and GVA in the City Region.
- **Increased entrepreneurial activity:** measured by business start-up and survival rates.

- **Increased internationalisation:** measured by the proportion of LCR businesses exporting and trade to GVA ratio.
- **Improved business space:** measured by the supply and quality of business space in the City Region.

Collaboration that turns innovation into impact (Ideas)

The City Region has a long, rich heritage of world-changing innovation. It was the birthplace of the world's first commercial wet dock, tropical medicine institute and first inter-city railway. It was home to Beecham's first pill factory, Pilkington's pioneering float glass inventions and landmark corporate social responsibility projects such as Lever Brothers' 'making cleanliness commonplace'. This spirit of invention, enterprise and creativity abides today as LCR undergoes a marked innovation renaissance that is helping it to capitalise on opportunities associated with the Fourth Industrial Revolution and play a lead role in creating the industries of the future.

The issues

The evidence base highlights that LCR has several world leading cluster specialisms which are supported by both a strong research base and by a wide range of cutting-edge innovation assets – particularly those located at Sci-Tech Daresbury and the Knowledge Quarter Liverpool.

Sci-Tech Daresbury was a forerunner and continues to be an exponent of the principles of 'open innovation', using strong relationships between science and industry to develop commercial solutions to 21st Century world challenges. The Liverpool Knowledge Quarter is key to the City Region's ambitions of supporting an increasing critical mass of global science/innovation activity and clustering.

The evidence also shows that the City Region's business base engages in notably more innovation activity than national averages, with 57% of businesses taking part in this activity compared to 52% in England – reflecting an innovation culture which builds on its creative heritage.

However, whilst LCR is well primed for an era of innovation-led growth, it continues to face a number of barriers to maturing the local innovation ecosystem. It is not achieving commercialisation of ideas and the levels of business-university collaboration needed to match the scale of ambition for innovation-led growth or fully maximise the potential of the available asset base. Only 7% of firms have brought new products or services to market between 2014 and 2016, and only 32% engaged in collaboration for innovation.

The gap is three-fold: not enough firms engaged with the HEI base; the translation of HEI knowledge/research strengths into IP and viable products; and a capacity gap in terms of cross-coordination and in combining different initiatives to add multiple mutual value, scale and impact. These challenges have limited the level of business-led R&D expenditure, potential growth within the knowledge economy, and the availability of high skilled job opportunities.

One key obstacle often cited by the business base is the ability to access patient risk capital - which is a critical factor in helping their ideas reach commercial maturity. This is true of both private - with a dearth of regional Angel and VC investors - and publicly backed investment which sees businesses only securing a small fraction of the investment volumes offered to those

businesses within other areas such as the UK's Golden Triangle. LCR is home to 2% of the UK business base but only attracts 0.2% of venture funding.

Yet many later stage ideas are still providing global impact. Clusters in areas such as infection show demonstrable examples of successful Triple-Helix partnerships which combine the entrepreneurial spirit of businesses, with world-leading knowledge of NHS practitioners and cutting-edge expertise of universities and innovation assets. With £0.8 billion invested within local innovation over the last four years alone, the foundations are in place to enhance the City Region's partnerships and increase the rate at which they reach commercial maturity.

Key priorities to address

- Further integrate the innovation ecosystem and drive dedicated commercialisation activities aligned with local research strengths and needs;
- Accelerate the diffusion, adoption and absorption of innovation and digitalisation to create and grow businesses across all sectors of the economy;
- Focus specialised research and innovation strengths and assets on addressing local social challenges as well as generating global economic impact; and
- Increase investment in R&D in the LCR beyond the UK target of 2.4% GDP.

The City Region starts from a strong base to use as a platform for innovation-led growth, both in terms of assets and networks. This includes:

- **Industry-led strategic partnerships:** England's first sub-regional Innovation Board, chaired by Unilever's Global VP;
- **Major ongoing investment:** more than £2 billion LCR innovation infrastructure investment in train;
- **Integrated business (and Fourth Industrial Revolution) support:** through the Growth Platform, One Front Door, and LCR 4.0 successor projects;
- **Skills for Growth:** England's first dedicated Innovation Skills Action Plan.

LCR is applying a "smart specialisation" emphasis to innovation-led growth. A core element of this was the 2017 BEIS-commissioned 'LCR+' Science & Innovation Audit (SIA) – an approach explicitly showcased in the UK Industrial Strategy - which highlighted the City Region's demonstrable world-leading capabilities in:

- **Materials Chemistry:** University of Liverpool's UK-leading Chemistry Department, Unilever's global R&D base at Port Sunlight, and the partnership between the two at the Materials Innovation Factory;
- **Infection:** including the world leading Liverpool School of Tropical Medicine, the University of Liverpool, and the City Region's bio-manufacturing cluster;
- **High Performance Computing, AI (& data):** leading computer sciences at the University of Liverpool and its Digital Innovation Factory, STFC Hartree Centre, IBM Research Lab & Watson, and the Atos Quantum Learning Machine.

Indeed, alongside the current and new programmed innovation infrastructure, most notably Paddington Village in Knowledge Quarter Liverpool and further phases of Sci-Tech Daresbury expansion, SIA-related initiatives form the core of a £350 million pipeline of innovation projects.

These projects include: the Materials Innovation 4.0 and Integrated Solutions for Human Infections Strength in Places proposals; the Glass Futures pilot plant and global glass industry innovation hub project, building on LCR's highly distinct glass offer; the prospective National Packaging Innovation Centre as detailed in the 'Transformational Opportunities' section; and a national AI Solutions Centre as an integral element of the STFC Hartree Centre's Phase 4 development and which is an intended permanent IBM Global Research Lab at Daresbury.

There are also a range of other leading assets and opportunities which further strengthen the City Region's proposition, and act to demonstrate the potential for accelerated innovation-led growth. For instance, there are an array of clean growth assets and developments as described in the Clean Growth section. There has also been the emergence of industrial digital technologies, catalysed by LCR 4.0, which are supporting niches in digital manufacturing. Within Health and Social Care, there are specialist and complementary NHS Trusts, global digital exemplars, Alder Hey innovations, and the 5G testbed which could transform how health and social care services are delivered in the City Region.

Set within the context of leading knowledge clusters including Sci-tech Daresbury and Liverpool's Knowledge Quarter, there is a well-defined focus for future innovation activity through investment and infrastructure. The investment over recent years, has, in part, helped contribute to a noteworthy increase in innovation activity.

Spotlight: The Knowledge Quarter Liverpool, and Sci-Tech Daresbury

Knowledge Quarter Liverpool, a 450-acre urban innovation district based in the heart of the Liverpool City Centre, will play a crucial role in the future of the City Regions innovation landscape. The Quarter has grown rapidly and currently has over £1bn of new developments either recently completed or currently underway. It acts as a highly connected focal point for regional innovation activity, creating cluster network effects in vital innovation enabling areas including access to capital, supply chains, specialist support, infrastructure, talent, and community networking. The growth and impact of the businesses, individuals and organisations based within the Knowledge Quarter is not just vital to the sustained success of the city centre and City Region, but also that of UK plc. Indeed, many of the cluster specialisms, including infection, artificial intelligence and materials chemistry, have disruptive potential to address some of society's most pressing future challenges both here and around the world.

Sci-Tech Daresbury is similarly recognised as an internationally renowned hub of science and open innovation activity. Over 1,300 people work on site, including world class scientists working in a variety of scientific fields including accelerator science, high performance computing, simulation & data analytics and sensors. It is home to nearly 150 high-tech companies in areas such as advanced engineering, digital/ICT, biomedical, energy & environmental technologies. The leading-edge research carried out at STFC's Daresbury Laboratory and Hartree Centre is of global significance and is done in partnership with some of the UK's foremost academics as well as an increasing number of industrial companies (e.g. IBM, Unilever, Bentley Motors, BAE Systems, Atos).

Overleaf is a map highlighting some of the key innovation assets that are located across the City Region.

Materials Innovation Factory

A collaboration between the University of Liverpool and Unilever, the MIF brings together materials chemistry expertise with the latest computational and robotic equipment to carry out cutting-edge R&D.

The De Novo Materials Design project will work on a range of areas, including porous materials and their applications in producing and storing fuels.



Centre of Excellence for Infectious Disease Research

A single point of access for industry into a broad, world-renowned infectious disease expertise base.

CEIDR specialises in co-ordinating the translation of research into products for the diagnosis, prevention and treatment of infectious diseases. Recent work includes research into a personalised therapy approach to treating antimicrobial resistance.



Glass Futures

A £70m partnership bring together world-leading businesses and universities to put the UK at the forefront of global glass manufacturing.

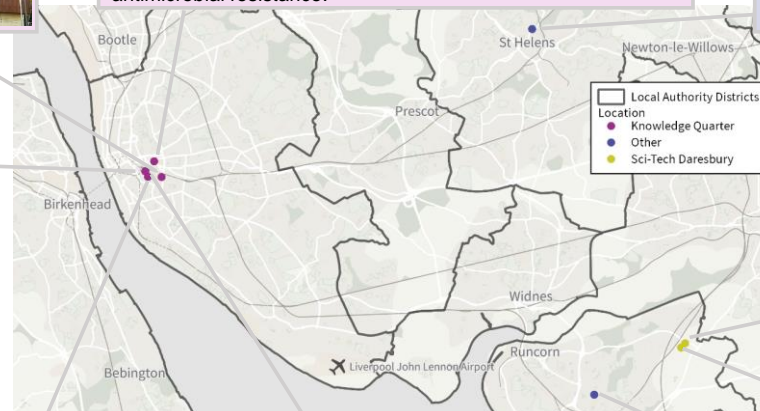
Building on St Helens history in glass manufacturing, where Pilkington invented the Float Process, the new hot glass research and testing facility will work to support the move towards a lower carbon economy.



5G Testbed

One of six winning projects nationally tasked with testing 5G across a range of applications.

The work has focused on deploying technologies across deprived communities. With a strong health and social care focus, it has aimed to reduce the digital divide and to improve communication between hospitals and the community.



Hartree Centre

The UK's largest supercomputing facility for industrial applications. It is home to IBM Watson.

It is dedicated to industrial R&D and it was here that an app was developed to put supercomputing tools in the hands of chemists, reducing the time taken for product experimentation from a week to 40 minutes.



Manufacturing Technology Centre

Bridges the gap between university based research and delivering innovative manufacturing solutions.

It will provide a digitally enabled factory in a box testbed and a digital factory environment enabling companies to develop their manufacturing process.



Sensor City

A new hot house for research into the application of sensor technology across all industries.

Projects have ranged from smart insoles, to biodegradable coffins, to robotics.



Ineos Hydrogen Supply Network

Ineos uses hydrogen, a by-product of its chlor-alkali production, to provide fuel for its gas boilers.

It also supplies hydrogen to Fuel cell manufacturers.



Virtual Engineering Centre

The leading technology innovation centre for engineering development, using Virtual Engineering technologies and expertise.

LCR-based Inovus partnered with the VEC to create a mixed-reality, cyber physical surgical training tool, bringing the operating theatre to life for medical training.



Key actions to address the priorities

1 - Facilitate a coordinated approach that enables the development of an integrated innovation ecosystem

There remains significant scope to better integrate expertise, capacity, and resources from across the innovation ecosystem. This will be coordinated across a number of levels: the LCR Innovation Board, working with other actors across the ecosystem and business community; using the CA's convening power, and building on the SIA partnership to coordinate and agree specific priorities in meeting national and international challenges and investment opportunities. By working together as a whole, LCR can determine a long-term integrated framework for its innovation ecosystem, which is critical to building on identified opportunities and competencies. The following details the approach:

a) Undertake a review of the innovation ecosystem

LCR is undertaking an in depth review of the innovation ecosystem to form the basis of a multi-layered plan to coordinate and support further development and integration of the innovation ecosystem, so that investors and businesses view Liverpool City Region as a leading place to innovate. This builds on previous reviews of key specialisms and assets, such as the SIA in 2016. In particular it is focusing on the complexity of the business base, and connections between businesses and innovation & science assets.

b) Centralising knowledge of innovation activity to support smarter policy and strategy

There will be an exploration of options by LCR partners around setting up a cross-organisation 'Innovation Exchange', or Observatory, to undertake systematic horizon-scanning, research, intelligence gathering, analysis and knowledge sharing in order to enhance evidence-based policy-making and high impact project development. It will centralise knowledge of innovation activity, ambitions, capacity, needs and capability across the City Region.

Another important function of this will be to determine, monitor and report meaningful innovation-related targets that demonstrate real commercial impact rather than mere inputs and outputs – for instance not just looking at business R&D expenditure in isolation but also the rate of conversion of R&D investment into sales.

c) Developing dedicated commercialisation support

Despite there being targeted accelerators, numerous business support mechanisms, and several significant projects aimed at developing new IP, there is nothing specifically dedicated to providing and coordinating cross-sector commercialisation support. Plugging this gap is therefore a priority, and a number of options will be considered by LCR partners, including the feasibility of a dedicated commercialisation vehicle. In terms of finance, particular focus will be paid to access later stage, closer-to-market areas of innovation growth capital with a view to understanding how the City Region can better attract patient capital from established and emerging Venture Capital Funds and co-investment schemes, as well as investment from high net worth individuals, both from within the City Region and beyond.

d) Enhancing external relationships

LCR will further develop and enhance connections with all UKRI councils, national think-tanks, investor networks, and complementary UK/global clusters. This is key to further strengthening connections across the innovation ecosystem. Translating existing strong pan-Northern and NP11 innovation-related collaboration into tangible strategic and project interventions will also allow the City Region to fully exploit global market and growth opportunities, and support levelling up across the north.

One example of enhancing relationships is an opportunity to work with Cheshire and Warrington in exploring increased use of Artificial Intelligence in materials chemistry. Working with the Science and Technology Facilities Council, this would involve a project to identify opportunities for digital design and processing of real materials for the benefit of industries and their supply chains.

2 - Deliver the R&D project pipeline

LCR is in a strong position of having a host of major schemes already in varying stages of development, to maximise its SIA-defined (and other) specialisms. The priority is securing investment and operationalising these as a mainstay of commercialising knowledge assets and exceeding the national 2.4% R&D target. Future interventions will be principally focused on these core differential strengths and have a focus on business led activity. LCR partners will work collaboratively with BEIS as it develops its place strategy to identify opportunities for leveraging R&D resource.

The City Region will also go beyond this and integrate assets and cluster individual projects within critical mass 'big ideas' that can ultimately translate into investable propositions, building on key specialisms. This could include: the creation of a leading Centre for Materials, becoming a designated pan-City Region scale NHS R&D testbed, and establishing a global Clean Growth Technologies Hub. This would all be underpinned by existing leading capabilities in High Performance Computing and AI and links directly to the transformational opportunities identified within this strategy.

LCR will also maximise access to the Industrial Strategy Challenge Fund and place-based funding streams (such as Strength in Places projects). Underpinning this will be the collaborative interface between R&D, the public and private sectors as catalysts to secure the required investment.

3 - Trail-blaze innovation diffusion and embed an 'innovation first' culture

LCR has leading capability in applying AI solutions to industrial challenges, with programmes like LCR 4.0 having already delivered a diffusion project to SMEs to spread innovations. As a result, it is well placed to focus on developing and piloting other programmes to diffuse innovation and new technologies, from clean growth to health and social care. The City Region is already working with Innovate UK to work up associated proposals.

Over and above bespoke innovation diffusion programmes, there is a need to increase the scale, speed and scope of innovation across the whole business landscape so that an 'innovation first' culture becomes the norm. LCR will support both a mix of early stage, exploratory projects, and

well-resourced later stage work. A number of innovation-focused schemes to help de-risk business investment and adoption are already operational or in the pipeline. These include LCR Activate and LCR Health Matters, whilst the Growth Package and Growth Platform will support delivery of joined-up access to support and finance for local SMEs, and develop new initiatives where gaps are found. Interventions will also be made to ensure that innovation practices are embedded by businesses (i.e. applied and sustained) on an ongoing basis beyond initial adoption.

4 - Deliver the enabling conditions for innovation

The City Region will deliver on its Innovation Skills for Growth Action Plan (the first at sub-regional level in the UK), with particular focus on matching supply and demand in areas that support key competencies and capabilities. There will be a focus on developing core skills required by employers in a number of ways. This will include scaling up initiatives such as 'Innovate Her' to encourage more girls to acquire digital skills and supporting more Knowledge Transfer Partnerships. Alongside high-profile events, LCR will also develop and deliver a major science and innovation campaign in order to inspire the next generation of innovators.

The previous chapter sets out the priority to invest in the right infrastructure to grow the knowledge intensive business base. To foster innovation and support commercialisation, LCR priorities will include the development of the right mix and provision of quality incubator space, accelerators, labs and business accommodation, which is integral to delivering the project pipeline and facilitating start-ups, scale-ups and foreign direct investment. Particularly crucial will be the availability of a range of open innovation, testbed and technical testing facilities. Current examples include the Materials Innovation Factory with its leading testbeds, and the Manufacturing Technology Centre's Factory-in-a-Box.

5 - Focus global research strengths on local needs & transformational opportunities

LCR will apply demonstrable existing research excellence to redress local challenges and accelerate innovation-led growth. The recent comprehensive reorientation of Liverpool Health Partners'² research programmes to directly address local population health priorities, is an example of how the City Region is already taking this approach. Another future intended initiative will directly input materials chemistry expertise into the development of major clean growth programmes, most notably around hydrogen.

Citizen engagement will go hand-in-hand with this focus on addressing local needs, in order to develop an innovation ecosystem that supports an inclusive economy. This will help innovators to unlock the insight, experience and knowledge of LCR's diverse communities and ensuring that representative co-creation lies at the heart of future innovations. Instruments such as hackathons, living labs and real-world testbeds will be deployed to realise this vision.

² The Health Partners is a partnership which works to bring Liverpool City Region's academia and NHS closer together to deliver an integrated approach to developing research

Realising the full potential of LCR's Transformational Opportunities

There is important synergy between the continuous evolvement of Liverpool City Region's innovation ecosystem and the growth opportunities of Open Health Innovation and Industrial Digitalisation for Sustainability. Knowledge Quarter Liverpool will become a global hub for driving the commercial and social potential of open health innovation, whilst the enabling conditions will be in place to drive collaborations between LCR's array of innovation assets, high performance computing and the specialisms of the advanced manufacturing base.

The strengths of Liverpool's universities and collaboration with government and the business base will facilitate the opening up of these opportunities, which will be both central to LCR's globally competitive economy and in supporting how local social and environmental needs are met.

Case Study: Materials Innovation Factory

The £65M Materials Innovation Factory (MIF) in Knowledge Quarter Liverpool is a partnership between the University of Liverpool and Unilever. By combining one of the largest research-active companies with the top-rated chemistry department in the UK, it is one of the most exciting developments of its kind in recent years. MIF offers one of the world's most advanced facilities for robotics-enabled and high-performance computing aided materials discovery and design. It is a unique and flexible space, and long-term research hotel residencies are available, offering the ability to co-locate research teams on site with specialists.

By 2040

By 2040, LCR's internationally recognised innovation ecosystem will maximise the commercialisation of its genuinely distinctive competitive strengths, with an innovation culture embedded across the business base, delivering well above UK average R&D investment and productivity levels. This will be evident in the following outcomes:

- **More commercialisation of knowledge in our HEI base:** measured by the number of businesses working with the HEIs, the number of new IP registrations and number of KTPs.
- **A more innovative business base:** measured by the proportion of businesses engaging in innovation activities and the proportion of businesses bringing new products or services to the market
- **More investment in R&D:** measured by Government, Higher Education and Business Expenditure on R&D

Connecting all communities to opportunity (Infrastructure)

Infrastructure forms the backbone of the economy. It is crucial to living, working, and getting around the City Region. To be future ready, it must be clean, sustainable, and accessible; enabling all people and communities to thrive. LCR will transform its energy, transport, and digital infrastructure to protect the environment, improve public health, and link people to opportunities across the City Region and beyond.

The issues

Liverpool City Region has always been a hub of connectivity. Its connections to the Atlantic Ocean made it a centre for international trade and commerce. Its airport, proximity to Manchester airport and the port continue to link the City Region, its people and businesses, with the world.

The Liverpool and Manchester Railway was the first inter-city railway in the world, accelerating the growth of industry and the transformation of the region in the 19th Century. Rail remains crucial today, with the expansive 120km Merseyrail network forming the heart of its significant and extensive public transport system, connecting people and communities across the City Region.

LCR is digitally connected. The transatlantic internet fibre-optic cable linking the UK with North America lands near Southport, and it is home to one of the first DCMS funded UK 5G testbeds. Three quarters of LCR premises have capacity for ultrafast broadband, compared to just 58% nationally.

However, to be fit for the future, there are a number of infrastructure challenges must be addressed.

Despite the comparative strength of the public transport system, too many people can find it difficult to access employment and other opportunities via public transport. Good services in and out of the city centre are not always matched by effective connections across the wider City Region or to cities elsewhere in the UK. Local bus services are often considered unreliable and expensive, which acts as a significant barrier to opportunity.

“Public transport into and out of the city centre is generally excellent but there is often poor connections between different parts of the city” (LCR Listens deliberative event participant)

Similarly, the potential of digital connectivity must be matched with digital inclusivity. Currently, 23% of LCR residents do not have all 5 Basic Digital Skills. Too many people in Liverpool City Region lack the skills, confidence, or resources to make the most of the social and economic opportunities this type of connectivity enables.

And the environmental sustainability of LCR’s infrastructure must also be addressed. While CO2 emissions have fallen significantly over the last decade, the transport-related component has stayed constant. Car usage remains high, with negative impacts for the environment, air quality, and public health. The impact of road traffic is also exacerbated by the sizeable freight and logistics sector in the City Region, as well as the emissions associated with the busy port and airport. Modal shift, enabling more people to walk, cycle, and use sustainable public transport is

critical to arrest the harm associated with transport emissions. LCR must also ensure that the energy infrastructure is in place to power not just vehicles, but homes, and businesses too, in the most sustainable way.

Key priorities to address

- Future readying and integrating LCR's infrastructure;
- Connecting all homes, businesses, and communities to the fastest possible fibre broadband;
- Further enhancing local public transport networks that encourage modal shift;
- Improving connectivity to the rest of the UK and to international markets;
- Managing the impact of the growth of freight and logistics;
- Powering the City Region effectively and sustainably.

LCR's existing strengths are significant, but so are its challenges. It is clear that the prosperity, resilience, and sustainability of the City Region will be limited unless it plans for infrastructure in an integrated, long term and ambitious way. Getting it right will ensure that that LCR can achieve the modern, low carbon infrastructure system needed to deliver the industrial strategy.

Key actions to address the priorities

1 - Develop a fully integrated and future ready infrastructure approach

A shift towards a truly integrated, strategic, clean infrastructure approach through connected policy, planning, investment, and delivery will result in an inclusive infrastructure system. One that maximises its role as an economic enabler, connects people to employment, services and amenities; that helps to create resilient, healthy, active communities, addressing social inclusion through access to transport and digital services; and that supports a shift to a low carbon economy. It will require new ways of working, enhancing collaborations across agencies, with landowners, and with those who deliver. It will also require different solutions to be identified, and to challenge some historic assumptions and conventions about how we plan for movement.

The first step in delivering this will be LCRCA's Strategic Infrastructure Plan developed alongside the Spatial Development Strategy in 2021. This will outline the principles and requirements for this approach. It will incorporate digital, grey, green and blue infrastructure, fully accounting for the City Region's ecological natural capital assets and green spaces. Therefore future infrastructure developments will enable clean and low carbon solutions, as well as determining sustainable multi-modal transport that connects communities, employment centres, amenities.

2 - Deliver transformational digital infrastructure across LCR

LCRCA, in partnership with a commercial Joint Venture and with government, will develop a core fibre network throughout Liverpool City Region. The route, at over 220km long, will span all local authority areas providing the enabling infrastructure for full fibre connectivity. Combining this level of connectivity with the LCR's world-leading High-Performance Computing and AI capabilities, the Liverpool 5G testbed, and the intended Civic Data Co-operative, is an all-encompassing "Smart City Region" approach. This presents a transformational opportunity to

create an integrated data ecosystem and innovation platform with huge potential, supporting the development of LCR's data and AI ambitions. The infrastructure will also enable high speed broadband across the major science, education, health and culture facilities in Knowledge Quarter Liverpool, plus the LCR's four Global Digital Exemplar NHS trusts.

This next generation digital connectivity will help power innovation across the economy, linking citizens, businesses, and research institutions in a way that supports the creation of commercial and social value for the City Region, as well as being a critical enabler for inward investment.

3 - Improve mobility and connectivity at all levels

It is important to continue to enhance both local and national connections, making it easier for people and freight to move across the City Region, and to connect further afield. The below components are all interdependent and part of the vision to build a fully integrated and clean system.

a) Local bus transformation

To support a modal shift, buses must be an affordable, reliable, accessible and sustainable option for many more people. Moreover, buses are essential to inclusive transport, providing connections to communities across the City Region, and supporting a connected, healthy, and less congested City Region. To achieve this vision, bus provision across the City Region will be efficient, fully integrated with the rest of the public transport system, and deliver value for money. An options review is considering retention of the existing alliance, advanced partnership and franchising. Franchising is currently the LCRCA's leading option.

b) New rail rolling stock and addressing rail capacity constraints

LCRCA's £460m procurement of a new fleet of efficient, clean and higher capacity trains to serve the Merseyrail electrified network is a highly significant development. This will further build on the uniqueness of LCR's local management of services, allowing opportunities for greater efficiency.

Further, rather than leasing stock, it will be publicly owned, which is another first for Liverpool City Region; LCRCA will also seek further control of the stations and infrastructure on the Merseyrail network. Of equal importance is the commitment to addressing capacity constraints and improvements for key stations, including Liverpool Central Station. This is the third busiest station in the north and is key enabling infrastructure to the continuing growth of the City Centre. LCRCA will also increase the reach of the network to new places in the City Region, illustrated by proposed new stations in Headbolt Lane in Kirkby and St James in Liverpool's Baltic Triangle.

c) Supporting walking and cycling across Liverpool City Region

LCR will work proactively to encourage people to use their cars less, delivering a transformative increase in walking and cycling - the first stage being a 600km network. This will make it easier, safer, and more attractive for people to get around by bike or on foot, supporting health uplifts and the City Region's clean growth ambitions. This will build on foundations of the LCR Cycling and Walking Infrastructure Plan.

d) Securing HS2 and Northern Powerhouse Rail

LCRCA will work to ensure that HS2 and a Northern Powerhouse Rail links Liverpool City Region more effectively with other major UK cities, widening the travel to work area and maximising agglomeration effects. A Northern Powerhouse Rail would form a 'belt' between Liverpool / Manchester / Sheffield / Leeds / Hull, enabling increased service patterns and frequency, providing a stronger link to Manchester's international airport, and helping to ensure that Liverpool City Region is central to, and fully contributing towards, the success of the wider northern economy. This could also free up capacity for freight and logistics, which brings national benefits economically and environmentally.

Spotlight on Buses in the City Region

Building a truly inclusive economy must ensure that all people have access to local services and employment. Buses are a vital part of this. If the transport infrastructure is going to make a real difference to the lives of all people, it must be recognised that investment in the bus service is just as important as investment in high speed trains.

We also recognise the role our bus service plays across our economy. While its key function is to give people access to education, employment and services and to give businesses access to people, the bus service is an industry in itself. It employs more than 3,000 people directly. The transition towards more hydrogen fuelled buses in the City Region will also support many more jobs in the growing low carbon economy while improving our environment.

This is in addition to the impact buses already make in delivering a greener city region by supporting modal shifts. A double decker bus can take 75 cars off our roads. This has a significant impact on air quality and, ultimately people's health.

The flexibility of buses will be a key asset in realising LCR's ambitions. New bus routes can be put in place quickly to connect people with new opportunities, including new employment and housing sites, as well as access to health care and other services.

But to unlock the true potential of buses in the City Region, devolved powers must be used to improve how LCR's bus service is delivered. The ambition for bus is to transform the service across the City Region. It will improve frequency, reliability, affordability and integration across the transport network.

4 - Develop the enabling infrastructure for increased internationalisation

LCR has historically been, and will continue to be, an outward looking and globally focused City Region. The UK's departure from the European Union makes it imperative that it maximises infrastructure assets that support internationalisation. Maritime and the role of the Port of Liverpool will be central to this.

LCR is already investing in a number of programmes to ensure that the region continues to be at the heart of future maritime growth, including: an enhanced Liverpool Cruise Terminal and new Isle of Man ferry terminal at the heart of the iconic Liverpool Waterfront; and expansion of

Liverpool 2 container terminal - delivering a transformational step change in capability for the Port of Liverpool, allowing it able to handle the world's largest container ships. LCRCA and other partners will continue to work closely with the Port of Liverpool to encourage development of the infrastructure required for growth and innovation of the maritime cluster with the international opportunities this opens up.

Liverpool John Lennon Airport is another key enabler for internationalisation. More than a local airport, it attracts increasing numbers of passengers from across the North West. Building upon its recent success, the airport has ambitious plans to expand the range of destinations served and adding long haul services to key business and leisure destinations. As part of this there is an ambition for an air link to a hub airport for onward global connectivity – this will be important for both business and tourism. The airports ambitions - as outlined in its Draft Masterplan – will be supported, including plans to diversify into business travel and freight transit to build a sustainable future for an important regional asset.

5 - Support the clean growth of freight and logistics

LCR's assets, including the port, inland ports, Liverpool John Lennon Airport, the Manchester Ship Canal, proximity to national arterial road networks, and the potential for a major intermodal freight interchange at Parkside in St Helens, mean it will continue to be a hub for freight and logistics. LCR will ensure that the continued growth of this sector does not come at the expense of the natural environment or people's health and wellbeing.

Supported by the National Infrastructure Commission, LCR will explore the potential for freight and logistics to be served by alternative, clean fuels such as renewable electricity and hydrogen. The City Region will seek to resolve the conflict and inefficiency that exists in a market-led environment, using data to build a detailed understanding of freight and logistics movements and how these can be rationalised.

6 - Deliver the energy infrastructure to power a zero-carbon City Region

LCR's transformative long-term ambitions require equally long-term planning on energy infrastructure to deliver a market place that connects the grid, suppliers and consumers. The City Region will develop its renewable energy assets, including offshore wind and tidal, to power homes, businesses, and the clean growth of the economy. And it will work to create the infrastructure necessary to charge electric vehicles and supply shore to ship power in the port.

This will be part of a wider conversation with LCR's neighbours across the North West and beyond, and with government in terms of grid capacity. The City Region will build on existing working relationships with private stakeholders such as Scottish Power, in providing the connections for key projects such as Liverpool Waters and Knowledge Quarter Liverpool, and who can support investment ahead of need for the infrastructure to cope with electricity demand and to enable transition to a net zero carbon economy.

Realising the full potential of LCR's Transformational Opportunities

Infrastructure is the overarching enabler that connects the innovations across LCR's transformational opportunities. Digital infrastructure will power Industrial Digitalisation for Sustainability and Open Health Innovation and will further enhance the inward investment

proposition into these opportunities. The continuous investments made in infrastructure will also ensure that the clusters these opportunities (and others) support, will be fully connected across a modern integrated transport network, allowing ease of access and employment opportunities for all.

Improved transport connections will also ensure that cultural capital is both 'local' and 'global' in the fullest possible way – providing connections for all the City Region's communities to access cultural opportunities in all its forms, and to maximise the domestic and international reach of cultural assets and events through air and rail.

By 2040

By 2040, connectivity will be an overarching principle for joined up strategy, planning and delivery across all forms of infrastructure. LCR will be a fully connected, clean City Region where all people, businesses and communities have access to the opportunities that LCR's economy offers. This will be evident in the following outcomes

- **Strong levels of digital connectivity:** measured by the proportion of domestic and commercial premises with access to ultrafast and gigabit speeds and the proportion of businesses and households taking up ultrafast connections
- **Continued modal shift:** measured by bus, rail and ferry patronage, car use and levels of walking and cycling.
- **Improved connectivity to the rest of the UK:** measured by the frequency of services to other core cities and improved journey times.
- **Renewable energy generation:** measured by the absolute level and proportion of energy generated in the City Region from renewable sources.

6. Responding to the National Grand Challenges

The transformational opportunities outlined in this strategy put Liverpool City Region in a strong position to contribute towards addressing some of the UK National Industrial Strategy's Grand Challenges. This section demonstrates how a combination of these opportunities and the five productivity foundations will support:

- LCR being a pioneer of the zero-carbon economy;
- Tech for Good; and
- Becoming the most inclusive economy in the UK.

Liverpool City Region has significant natural and industrial assets which can make a unique contribution to the national grand challenges of clean growth and Data and AI. Similarly, its innovation strengths and assets can harness the technology revolution, with a focus on embracing data, and advances in technology to support all areas of the economy and society.

This strategy also sets out how LCR will make a meaningful contribution to its own, local grand challenge of tackling entrenched disadvantage and systemic deprivation to drive up productivity, unlock economic growth and build a truly inclusive economy.

Pioneers of the zero-carbon economy (Clean Growth)

As one of the world's first industrial cities, and with LCR communities and ecosystems now on the frontline against climate change, it is imperative that action is taken to address the climate emergency and pioneer sustainable approaches to living, travel and doing business. This section sets out the challenge and how the City Region will use its unique competencies and assets to meet it.

In May 2019 the City Region declared a climate emergency, with a commitment that it will become net zero-carbon by 2040. This is ten years ahead of the UK national target and five years ahead of devolved governments in Scotland and Wales. Achieving this goal will therefore require fast-paced transformative change to the way the City Region functions, with a rigorous policy framework and collective vision for City Region wide change. This will be delivered through an LCR Climate Action Plan, Energy Strategy and strategic oversight from the LCR Climate Partnership, allowing the City Region to articulate a clear 'roadmap' towards 2040.

The opportunity

The shift to cleaner growth through clean energy production, low carbon technology, and greener travel, present real opportunities for further investment, business growth and job creation in the local economy. By one estimate, the UK's clean economy is estimated to grow at four times the rate of GDP. Within the City Region, the low carbon sector is valued at £2 billion per annum, employing 27,000 people across 1,400 businesses. With strong natural and industrial assets and strength of expertise in energy production and transport, LCR is well placed to capitalise on that growth potential.

Energy – LCR's distinctive proposition

The market for sustainable energy is one of the fastest growing in the UK and globally, offering significant opportunities for economic growth and improved environmental sustainability. The City Region has one of the largest clusters in the UK for clean power generation.

Growth of this cluster will be a key economic opportunity for the City Region and the wider north. The capacity for large-scale renewable energy generation from Liverpool Bay and the River Mersey from tidal and offshore wind, as well as local advances in hydrogen production & utilisation technology, place Liverpool City Region at the forefront of the revolution in sustainable power for the UK. The emerging LCR Energy Strategy, being developed with the contribution of industry and community voices, will provide a strategic framework to support the realisation of its energy ambitions.

Equally important is the opportunity to develop a sustainable and responsive energy distribution network. The City Region is at the forefront of developments including the introduction of hydrogen to the gas grid, the development of electric vehicle charging infrastructure and integrated smart grid technology.

A leading clean and green transport network

Transport is critical to the development of a connected City Region and an integrated infrastructure system. It is also a central pillar of its clean growth ambitions.

Liverpool City Region has the opportunity to significantly improve the sustainability of the transport network. Investment in sustainable transport, such as the procurement of higher-efficiency Merseyrail rolling stock and low carbon buses has considerably reduced emissions. With continued focus and investment, and with support of the City Region's Air Quality Task Force to help deliver the ambitions of the Air Quality Action Plan, LCR can develop one of the leading clean and green transport networks, setting the blueprint for other places nationally, while improving the environment and, particularly, air quality.

The City Region is also at the vanguard of developing infrastructure and vehicle solutions to enable the mass deployment of electric vehicles powered by batteries or fuel cells. Internationally significant projects including 'HyMotion' to deploy hydrogen vehicles and refuelling systems, and 'Project Charge' to model the impacts of mass deployment of electric vehicles place the City Region in a strong position to exploit these new technologies for both internal use and external markets.

Homes at the heart of sustainable communities

Housing quality is of central importance to LCR's sense of place, as highlighted in the Places chapter. But it is also central to supporting clean growth ambitions as well as addressing wider environmental challenges.

Improving the energy efficiency of the housing stock will contribute significantly to reducing the City Region's carbon footprint; currently 37% of LCR's CO₂ emissions come from domestic sources. More than half of all private sector homes are estimated to have been built before World War 2 and a quarter before 1919, often to what today would be considered poor standards. This age and quality is reflected in poor thermal efficiency of LCR's existing housing stock, with nearly

two thirds of houses having an EPC rating of D or less. It heightens the need to embrace new innovation in sustainable construction and retrofitting to future-ready it. This will have the dual benefit of both reducing carbon emissions and fuel poverty.

There is real opportunity for Liverpool City Region to be a leading player in developing new methods of sustainable construction. Through 'Project REECH' it has already retrofitted over 4,000 homes across the City Region to make them more energy efficient. Accelerating this transformation of the housing stock, and cementing Liverpool City Region as a centre for innovation in sustainable construction, will create further highly skilled employment opportunities across the region and improve its desirability as a modern place to live.

Building a Zero Carbon economy

The Climate Emergency will result in demand-led growth across the zero-carbon economy, in businesses and their supply chains. There are already over 140 City Region companies contributing to the offshore wind supply chain, with many now exporting their technology and expertise into expanding overseas markets. There is also an emerging supply chain cluster to support the hydrogen economy with new companies supplying hydrogen hybrid commercial vehicles, buses and trains establishing in the City Region.

This is an important starting point which needs to be accelerated if the City Region is to ensure that the economy is future proofed and ready to seize the opportunities that the transition to zero carbon offers. This will require intensive support for skills development, innovation, and export led-growth to enable new and established businesses to capture the opportunity of a zero carbon economy.

LCR can build on experience and existing capabilities to achieve this - for instance, through the Low Carbon Eco-Innovatory project, a collaboration between Liverpool John Moores University and the University of Liverpool. Working with the business base, this creates innovative low carbon goods, processes and services, providing competitive advantage to firms within the low carbon sector.

Key actions: towards 2040

1 - Deliver energy transformational activities

Transformation of energy infrastructure will continue, bringing sustainable power and heat to the homes and businesses of Liverpool City Region and beyond. Harnessing the power of the Mersey and building on the strengths of the maritime cluster, Europe's largest tidal energy project will be delivered by the 2030's. This will provide a substantial amount of renewable electricity for years to come, represent a clear statement of the UK's progress to achieving zero carbon energy, and develop knowledge and expertise that can be exported to forge new markets elsewhere. Alongside tidal, the City Region aims to triple the volume of renewable energy through offshore wind in Liverpool Bay by 2032, led by a well-established offshore cluster.

Local hydrogen assets will be maximised to replace methane across the City Region's gas grid by 2035, through accelerating support for industry led plans in delivering hydrogen production, whilst being able to store and distribute it. The first residential trials of the deployment of hydrogen into the City Region's gas grid will commence in late 2020. To support this LCR will

work with neighbouring LEP areas, including Cheshire and Warrington, given its hydrogen storage facilities which will be key to supporting its widespread deployment.

The City Region will also work directly with communities to trial municipal clean energy projects including solar, onshore wind and district heat projects.

Spotlight on Mersey Tidal Power

The City Region is developing what could be the UK's first tidal range energy project. A range of schemes are being considered with the largest able to power up to a million homes for over 120 years. 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. In the light of the recently declared climate emergency, this project is vital in meeting regional & national carbon targets.

Generating power four times a day, this helps to balance more intermittent and unpredictable sources like wind and solar, 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 jobs and opportunities for today and the future in the new green economy.

The Mersey Tidal Project is perfectly positioned to be the UK's first tidal range energy project and the trailblazer for a new industry. There is a predicted global tidal range energy potential of 3TW, which is the equivalent to 1,000 Hinckley C power stations. The UK has a resource that can provide more than twice our current electricity demand. Harnessing just 10% of this is 20% of our electricity needs. The Mersey Tidal Power Project could generate four times the amount of electricity as all the wind turbines in Liverpool Bay, enough to power up 500 football stadiums, or send an electric train around the world 3,554 times.

2 - Invest to support modal transport shifts

How people get around Liverpool City Region will be revolutionised through continued innovation across transport network, including delivering a zero-emissions bus fleet by 2040. This will begin in 2020 with the deployment of 25 hydrogen fuel cell buses by LCRCA for routes across the City Region and the first public hydrogen refuelling station in the North West. LCR will also encourage modal shift through the completion of a 600km route for walking and cycling. This shift towards active travel will also have significant health benefits.

The transition to electric vehicles will be accelerated through delivery and extension of Liverpool City Region's Electric Vehicle Charging Point Network, whilst ensuring necessary grid capacity is in place. LCR will also support and facilitate a sharing economy approach to electric vehicles in order to minimise 'clean congestion' on the streets and make the transition to electric more affordable. Ultimately the aim is for much reduced traffic in the city centre and other key urban centres; anything else is unsustainable.

As the Port of Liverpool and John Lennon Airport continue to grow, the maritime, aviation, and associated logistics industries will be supported to address their emissions and the sustainability of global trade. This will require the introduction of measures such as ship to shore power (as highlighted in the Infrastructure section), as well as emissions restrictions on marine and aviation turnarounds.

3 - Provide sustainable housing fit for the future

LCR will work with government to explore options for the acceleration of energy retrofit programmes of existing stock, alongside the construction of new, sustainable, and accessible homes which are built to high environmental standard. Key to delivery will be the strengths of LCR's advanced manufacturing and low carbon industries to develop new and innovative construction methods – including Modern Methods of Construction (MMC) - delivering high skilled jobs as well as high quality homes fit for the future. The proposed development of an LCR Construction Manufacturing Development and Training Centre will provide a focal point for this.

Furthermore, the LCR Spatial Development Strategy will examine the feasibility of requiring all new homes to comply with energy efficiency and environmental standards.

4 - Support business growth in a zero-carbon economy

LCR will work with government to plan and develop specialist, tailored support for businesses and their supply chains in the zero-carbon economy, to enable them to capture the growth opportunity locally. This will include:

- Investment in skills (especially STEM skills) to ensure businesses anchored in the low carbon economy have access to a pipeline of skilled workers locally. This will include a focus both on skills for young people and reskilling within the existing workforce;
- Developing Clean Growth focused Knowledge Transfer Partnerships;
- Working with the Department for International Trade (DIT) to develop export plans for businesses in the low carbon economy;
- Working with universities and industry to facilitate commercialisation of research in the low carbon space into new products and services;
- Tailored business support delivered through the Growth Platform; and
- Supporting interaction between sectors, in particular across manufacturing and construction.

LCR will also explore how to provide further support to businesses through the Industrial Decarbonisation challenge. The City Region will also support the development of a North West Decarbonisation Roadmap, for which scoping funding has been secured.

5 - Embed the principles of a Circular Economy

As the economy grows, it is important to get the most use and value out of material resources, improve resource efficiency and minimise the amount of waste generated. The City Region is already playing a role in this area, for example with a new 360-degree circular economy plastic recycling plant opened by Coral Products in Haydock last year.

LCR will work towards a Circular Economy approach to sustainable resource production and consumption across all sectors to enable the reduction of waste, the re-use of products and materials and the efficient conversion of waste from one process into raw materials for another. Employment and innovation in these areas is likely to increase as more materials are dealt with locally. Areas of particular focus will include design, manufacturing, food production systems, recovered materials and land use. Liverpool City Region will target zero waste by 2040 in order to contribute towards net zero carbon.

To help achieve LCR's ambitions, the feasibility of a localised Industrial Symbiosis network will be explored, as will circular economy 'hubs' in communities and high streets focusing on reuse and repair of waste goods.

6 - Create a shared drive towards clean growth from all who live and work here

It is imperative to clearly and consistently articulate the behavioural and systemic changes required as a result of the climate emergency for all who live, work and invest in the City Region. A Climate Action Plan will set out how climate literacy is promoted, enabling people, organisations and businesses to understand more fully the challenges and opportunities associated with achieving carbon neutrality and climate adaptation, and how all of decisions, investments, and actions can best contribute towards this goal. LCR will work to establish the City Region's HEI base as a leading centre of expertise in the environment/clean growth and engage with people to understand how the transition to a net zero-carbon City Region can most effectively be delivered across communities. Forums such as the LCR Climate Partnership, will also endeavour to share best practice and sustain momentum as all people, communities, agencies and businesses work towards addressing the Climate Emergency together.

Realising the full potential of LCR's Transformational Opportunities

Industrial digitalisation will play a key role in supporting Liverpool City Region's clean growth ambitions, harnessing and applying the innovations of the fourth industrial revolution to clean growth and creating a sustainable industrial future. Through the development of new and innovative products, businesses will be able to embed themselves within local, national and global supply chains, further build the competitiveness of the City Region, and support further inward investment. Advanced manufacturers will be provided with the enabling support to realise these ambitions.

Social innovation will also play an important role, in seeking to reach out to all communities across the City Region to convey what clean growth, the climate emergency and climate adaptation means for them. This requires different and innovative ways of engaging which the social economy will support. Furthermore, social innovation will play a key role in the development of initiatives such as community led energy schemes, and also inputting into how to model future, sustainable communities.

By 2040

By 2040, LCR will be a leading clean and green economy, utilising the unique geography and innovation assets of the City Region to transform how people live, work and travel. LCR will have maximised the sustainability of the industrial base, which through continuous innovation,

will be forging new markets within a global low carbon economy. This will be evident in the following outcome measures:

- **The size of the Zero Carbon economy:** number of LCR businesses in sectors which are part of the zero-carbon economy, their growth rates and levels of employment.
- **Reduced carbon emissions:** measured by the absolute and percentage change in emissions from the transport, domestic, industry and commercial sectors.
- **A growing circular economy:** measured by the overall amount of waste generated in the LCR, the proportion of LCR waste that is recycled or reused, the number of people employed in the circular economy.

Tech for Good (Data and AI)

Liverpool City Region is a place of invention, and of progress. Its creativity, social fabric, and innovation assets offer a melting pot for developing new technology, in a collaborative and user-led way, to improve the City Region and the lives of those who live and work here.

New technologies, including Artificial Intelligence, Quantum Computing and the Internet of Things are changing industry and society. They are disrupting long standing business models and transforming products, services and communication between citizens and service providers. The technology, data and artificial intelligence (AI) revolution has the ability to solve some of the biggest social and environmental challenges. By embracing the power of technology, a better City Region can be built, and a better world.

The opportunity

The AI and data revolution will bring new product and process innovation, job creation, and market opportunities that will benefit the local and national economy. This technological innovation will also be fundamental to creating a healthier, greener, more inclusive economy. The City Region will embrace all opportunities to use new technology and big data to improve society, with a particular focus on three areas of distinct opportunity in LCR: tech for health, tech for place and tech for the planet.

Tech for health

The market for health and care is one of the fastest-growing globally, catalysed by demographic change and an ageing society. This provides a significant opportunity for innovation to revolutionise diagnosis, prevention and treatment of key healthcare challenges.

The population is a valuable, data generating asset. Opening up this asset to the most entrepreneurial, creative and digital businesses will develop a fertile ground for new product and process development in health and social care. This will create new commercial opportunities for businesses, support healthy ageing (with the associated opportunities of the longevity economy that emerge from this) whilst addressing poor health outcomes, one of LCR's most significant challenges. It will also present opportunities around health and social care reform, as technology enhances social care front line services and advances continue to be made around how information around need is collected, analysed and applied.

Nationally, there are opportunities to be explored through working in partnership through NHSX's AI Laboratory to facilitate cross-government, industry and academic collaborations.

Case Study: Alder Hey Innovation Hub

'Alder Hey in the Park' is one of Europe's biggest and busiest children's hospitals. The state of the art new facility opened in 2015, having been designed by and for children to an unprecedented degree, and incorporating a dedicated education, research and innovation centre, as well as a 1,000 square metre "batcave" in the basement where medical staff, multinational companies and local SMEs co-create new solutions to everyday clinical challenges.

The award-winning Alder Play app takes this collaborative innovation-led patient focus to the next level. Developed at the suggestion of a 7-year old, supported by the Global Digital Exemplar (GDE) Hospitals programme – Alder Hey is one of 4 designated GDEs in the LCR. The App uses gaming and augmented reality to help young patients feel less anxious and worried about their time in hospital. This not only transforms the child's experience, reduces parent stress, and potentially accelerates recovery and/or reduces in-patient duration in hospital, but also potentially optimises clinician time and efficacy and reduces NHS costs.

An integral element of the app is "Ask Oli" – a chatbot developed in partnership with the Hartree Centre (part of the UK's Science and Technology Facilities Council), using IBM's Watson AI platform to enable questions to be answered in real time. This is the first time cognitive technologies have been applied in any hospital in the UK, in this way, and marks the first step towards Alder Hey's ambition to become the world's first sentient "Living Hospital" through the application of sensors, the internet of things and artificial intelligence.

Tech for places

Technology enables smarter place-based decisions. These decisions can make communities more environmentally sustainable, less congested, and improve quality of life for those who live and work there. Ultimately, this creates a Smart City Region which is more economically competitive and socially attractive.

Sensor technology, and the internet of things (IoT) are key enablers for a Smart City Region. Sensor City, a key innovation asset, has the potential to become the go-to place for businesses looking to develop in this space, and complements activity at the Hartree Centre, which has been transforming UK industry through high performance computing, 'big data' and cognitive technologies since 2012. Partnerships between these key assets, the business base, universities and the public sector, will propel civic innovation in LCR, becoming an internationally recognised Smart City exemplar.

Tech for the planet

The clean technologies market is in its infancy, but is poised for significant growth. Increasing environmental concerns, the rise of green consumerism and the attention of private and public sector funding are unlocking growth of this emerging market. Liverpool City Region is well equipped to capture this opportunity. There is demonstrable expertise in transportation, energy, and materials, areas identified as having plentiful applications for clean technology. Embracing the opportunity in clean tech will have significant impact on the economy in terms of job creation and improved resource productivity, and it will have significant impact on environmental sustainability, enabling clean growth.

Across all three of these opportunities and through the below actions, LCR will collaborate with both government and other areas of the country where there are similar work-streams and ambitions, to help identify and nurture best practice, accelerate roll-out in the City Region, and to support scaling up activity across the country.

Key actions

1 - Develop Citizen Buy-In

Changing people's perceptions on how their data is collected and shared will be fundamental to the City Region's ability to use data and AI for new product development. LCR will undertake work with citizens to build a transparent social license for sharing and use of data. Best practice from elsewhere will be built upon, including citizens juries to maximise the future potential of technology in people's daily lives, whilst maintaining strong data protection, privacy and trust.

2 - Develop platforms for open data

Opening up large publicly-owned data sets across areas such as health, education and transport so that they are free to access, to use and to share, can revolutionise the provision of public and foundational services. The City Region will work with government, community groups, the digital ecosystem, companies and anchor institutions such as Merseyrail and local NHS hospitals to map out data structures and co-develop pathways to deliver meaningful real-world solutions using that data. All solutions will reflect the changing needs of people over time, with efforts made to standardise data storage and interoperability. This will require significant data sharing, and LCR will work towards a clearly planned process / roadmap to be set into motion, which will help develop future data agreements. LCR's new Civic Data Co-operative forms a leading initiative in this space and will help guide future learning and policy in this area.

3 - Remove barriers between the private and public sector

Breaking down barriers between the private and public sector is critical to maximising the strength of the technology ecosystem as a force for positive social change. Private technology businesses are able to provide the skill, knowledge and investment to developing meaningful digital solutions which meet important challenges for industry, citizens, and society – with the public sector playing a key role in shaping regulation and policy to aid technology adoption and growth. LCR will take action to break down silos and build relationships between the public sector and technology providers so that tech for good missions can be collaboratively developed, through a joined up, agile approach.

4 - Improve digital inclusion and skills

LCR's ambition is to use technology to deliver benefits that extend to everybody within all communities – not just a select few. However, there are barriers which currently prevent delivery of this vision across the entire City Region, including varying levels of broadband accessibility, digital skills and confidence levels, and ability to afford digital services. Steps are being undertaken by LCRCA to overcome some of these barriers in LCR's work to deliver a 220km full fibre digital spine which connects all 6 local authorities to ultra-fast internet. The Combined Authority has also commissioned 'Include IT Mersey', which aims to improve digital inclusion, learning and skills. Furthermore, the development of an LCR Digital Skills Partnership will provide the framework for a coordinated approach to addressing the issues.

Collaboration with businesses and education providers including local schools, colleges, universities and professional training providers, will develop a coherent, consistent and deliverable plan to address the future digital skills demands of employers – including working closely to develop digital competency and qualifications. A lifelong approach towards digital skills development will be undertaken. Provision will stretch from basic building blocks of STEM competency in early years' education, to providing digital skills pathways for adults which balance the need for retraining with the demands of family and professional life. LCR will focus on developing functional, practical and industrially relevant skills, ensuring that residents are 'work ready' for the changing demands of the future.

5 - Support business growth and cluster development

Companies in this area face specific barriers to grow, scale and export. Soft infrastructure and tailored businesses support will be provided for businesses capable of delivering life changing solutions across Liverpool City Region, and around the world.

This will include:

- Scoping out an intensive accelerator programme, linking in with and complementing national initiatives such as Tech Nation;
- Access to early stage seed funding;
- Tailored advice and guidance; and
- Access to facilities and key innovation assets across LCR.

Realising the full potential of LCR's Transformational Opportunities

The actions from Tech for Good will support the opening up of data platforms for Open Health Innovation to flourish, utilising the population data that will pave the way for new advances in improving health and wellbeing, and which in turn, will further cement Liverpool City Region's competitiveness in this area. They will also support how advanced manufacturers within Industrial Digital Technologies for Sustainability develop their applications for clean technologies, further enhancing the City Region's position as pioneers of the zero-carbon economy.

Social innovation will be key to developing citizen buy in and developing the social licence to share and use the public's data. This means changing perceptions and developing innovative,

different approaches to engaging with the diverse communities across the City Region. The social economy will be central to this.

By 2040

By 2040, LCR will have fully used the power of technology and data to transform how all levels of economy and society operates. Liverpool City Region will have transformed into a truly smart City Region. This will be evident in the following outcomes:

- **Greater availability and use of open data:** measured by the number of open datasets and their application to improving economic and civic life.
- **New data-led product and service innovations:** measured by the number of businesses supported to develop new products and service using open data sources.
- **Greater levels of digital inclusion:** measured by the proportion of residents taking up superfast and ultrafast broadband connections.

Liverpool City Region's Local Grand Challenge: The home of the most inclusive economy in the UK

Building a truly inclusive economy in Liverpool City Region will set the blueprint for how to unlock a region's economic potential through disrupting inequality, deprivation, and disadvantage, which are the key components that act as a brake on productivity. Inclusivity will be a key driver for policy making, investments and commissioning. It will provide a new lens for how the economy is viewed, how success is measured, and will inspire the next generation of young people to grasp the future opportunities that an inclusive economy provides.

A truly inclusive economy is one that creates purposeful economic success, measured not just by GDP but by the health and wellbeing of all citizens. It is an economy with opportunities for all people and places to prosper, and an economy that is strengthened by this inclusivity.

"A rising tide can't lift all boats when some can't even get launched and others, pushed off course and deprived of navigation tools, founder on the rocks" Heather Boushey, Unbound: How Inequality Constricts Our Economy and What We Can Do About It.

The most truly prosperous and best performing cities across the globe are, by nature, inclusive, with strong levels of health and wellbeing and resident satisfaction as well as economic success. This supports a strong investment proposition. Liverpool City Region will demonstrate how building a resilient system which proactively tackles a vicious cycle of constrained growth and polarisation of opportunity will build a stronger, more productive and effective economy for the whole City Region.

The opportunity

In Liverpool City Region there is a significant opportunity to be grasped in developing a truly inclusive economy. There is untapped growth potential and complex social disadvantage that must be tackled. The City Region will demonstrate how building a system which proactively dismantles the cycle of constrained growth and polarisation of opportunity will build a stronger,

more productive and effective economy. This effective economy will be a focal point for social innovation to enable all people and places the opportunity to experience prosperity, good health and wellbeing, while demonstrating the productivity gains that can be unlocked in doing so.

Liverpool City Region will be the home of the most inclusive economy in the UK. The complexity of disadvantage and the scale of the challenge in the City Region means the scale of this ambition is high. A business-as-usual approach cannot disrupt the profound systemic challenges that currently constrains the City Region's productivity and economic potential.

The foundations are strong. There is a shared recognition of the importance of addressing complex health and wellbeing related challenges in new ways; LCR has a historic reputation of inclusive business practices and there are opportunities to yet again place the City Region at the heart of the 'good business' movement. There is also a strong and long-established skills and employment delivery track record, with innovative programmes such as Households into Work, Ways to Work and cross-sector Skills for Growth plans helping people get in and get on at work.

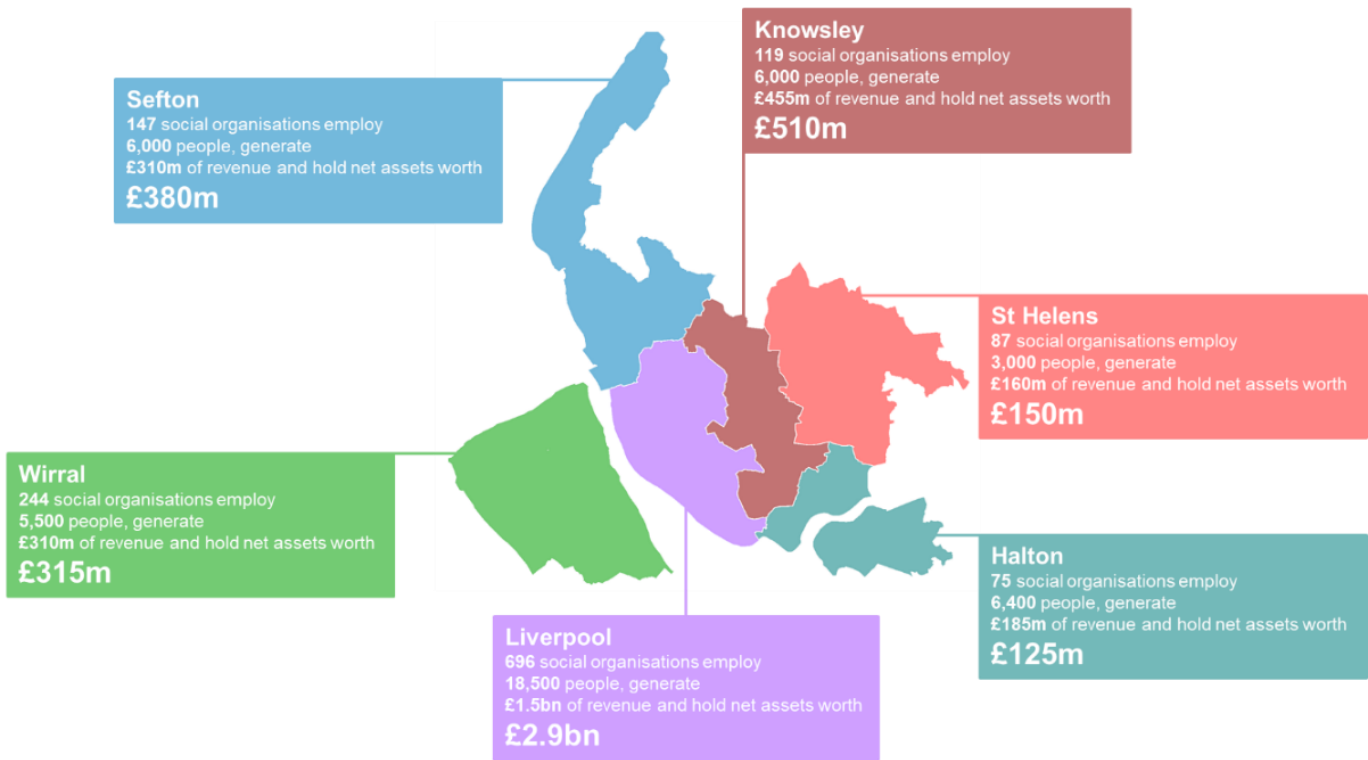
The City Region boasts a thriving and effective social economy, comprised of highly innovative and nationally recognised organisations including:

- The Women's Organisation, the largest of its kind that promotes women's economic development on an international scale;
- Granby Four Streets Community Land Trust, the first architectural housing project ever to be nominated and win the Turner Prize, in 2015; and
- Homebaked, a bakery that is transforming derelict houses into affordable homes for the local community, while providing employment and training.

LCR's social economy has been a key asset in addressing stubborn, persistent challenges while creating economic value, as shown in Figure 11.

Liverpool City Region will embrace the opportunity offered by this Local Industrial Strategy to take a long-term approach to systematically redressing the deprivation and inequality identified across the City Region. These barriers will be proactively removed in order to create a more productive, equitable, and more effective economy.

Figure 11: Liverpool City Region's Social Economy



Key actions

The commitments below will be developed to create a shared purpose amongst all partners across the City Region. Much of this is about challenging existing assumptions about the lens through which the economy is viewed and changing the mind-set across the system in how success is built and measured.

1 - Develop the base conditions for an 'inclusive system' shift

The first step to building a truly inclusive economy, is to recognise the complexity of the challenge and the scale of the opportunity. The desired outcomes - an inclusive, resilient and productive economy, are produced by whole systems, not discrete individuals, organisations, or programmes. This means that to achieve these outcomes, an 'inclusive system' must be developed that enables people and organisations to co-ordinate effectively to play their respective roles in achieving these outcomes. This will involve public institutions, community organisations and enterprises, and the business base. Together these actors will provide the stewardship needed to create the right conditions for people and places to achieve better outcomes, and, ensure that policies and programmes are working, as a system, to develop a truly inclusive economy.

At the broadest level LCR will develop its social innovation strengths to support people and places. Building on existing activity from within the City Region a number of key principles will be embedded, including:

- Early intervention and prevention centred on people of all ages and community focused approaches;
- Evidence based service design, planning and delivery;
- Asset based approaches that focus on the strength of communities, households and individuals, and their ability to access opportunity;
- Digital transformation of service delivery; and
- Integrated approaches to interventions across employment, skills, social care, housing and transport.

This will be a long term and ongoing journey for the City Region, predicated on continuous improvement in the system, rather than an overt focus traditional measures of success.

2 - Adopt a Community Wealth Building approach

To support the shift to an inclusive system, action will be developed that is centred on Community Wealth Building principles, changing how challenges are framed and addressed and how the benefits of economic opportunities are spread. This will focus on plural ownership of the economy, making financial power work for local places, driving social innovation. Community Wealth Building offers an opportunity to empower places and people, and arrest the long-standing and deep-rooted challenges that prevent too many LCR communities realising their full potential. A number of inter-related components, detailed below, will ensure that Community Wealth Building embeds wealth, prosperity, and economic resilience.

a) Develop and implement social value frameworks for progressive procurement

Robust social value frameworks will be developed to enable progressive procurement of goods and services that directs spend towards local businesses. The Combined Authority will lead from the front, making a commitment to embedding *real* social value in all its purchasing decisions, and within its own practices as deliverers of services. It will incentivise and encourage local anchor institutions to do the same by sharing best practice with them. The Combined Authority are also committed to undertaking a social value evaluation of each of the policies that emerge from the Spatial Development Strategy, becoming the first to do so.

b) Support good employment

A Fair Employment Charter will be rolled out across the Liverpool City Region to ensure that all work is good and fair. Those organisations that are already supporting these ambitions will be recognised, whilst others will be provided with encouragement and pathways to develop. The Combined Authority will meet the aims of the Charter as an employer, whilst also using its services and spending power to encourage organisations to meet the goals that the Charter will set out.

The Charter offers the opportunity for a new, socially focused relationship with the business base, and for the City Region to become a centre for Good Business. Additionally, hosting the Good Business Festival 2020 puts Liverpool City Region at the heart of this paradigm shift. LCR will also develop a 'good business' framework through its business support offer and sector focused activities that will help embed principles into the operational processes of firms. This is particularly important at a time when responsible business practises lie increasingly at the core of the marketplace.

c) Maximise the potential of publicly owned land for social purposes

The function and ownership of local assets held by anchor institutions will be deepened, so that social, environmental and financial gain can be harnessed by communities. To do this, sites will be identified that have minimal value to public land owners but could provide important local facilities, community assets or enable local / social venture activities. The devolved LCR Land Commission would also assist in facilitating the potential of merging public land assets to maximise value for public sector bodies.

3 - Support the social economy across a number of levels

Tailored support will be provided to enable social enterprises to grow, scale and replicate. This will include access to finance and specialist, bespoke business support, delivered through a dedicated vehicle – Kindred - that enables socially trading organisations to thrive in Liverpool City Region, as highlighted in section 4.

As part of a wider strategic approach to engaging with the social economy, a Social Economy Panel will be established by LCRCA, to further enable best practice, policy innovation and knowledge to be shared across the whole sector. The sector will also be encouraged to self-organise across the City Region, with the Panel being an overarching body to support this.

4 - Set out new measures of success

Supporting the development of an inclusive economy requires a paradigm shift in how to measure success and understanding just what that success looks like. A broader basket of qualitative and quantitative indicators that demonstrates an appreciation of long-term change and continual improvement is important. New metrics by which to measure the success of the City Region will therefore be developed. Importantly this process will be designed to inform all of LCRCA's future commissioning and investment decisions.

Realising the full potential of LCR's Transformational Opportunities

Social innovation is central to Liverpool City Region's ambitions of delivering an inclusive economy, and the above actions, whether through business support, financing, developing physical assets, or through wider social value activity, will support those social innovators who possess the ideas to get social change off the ground.

The actions will support collaborative networks and forums, accelerate innovation, and be central to the systems working that is critical to the implementation and success of an inclusive economy.

By 2040

By 2040, Liverpool City Region will be a pioneer of inclusivity, addressing systemic disadvantage once and for all, and unlocking the potential of all people and places. Success here will look like:

- **Greater levels of participation:** continual growth, broadening and evolution of the number and range of organisations / actors working together to achieve an inclusive economy.
- **Empowered communities:** communities who feel confident, able and welcome to participate in all areas of public and economic life.
- **A broader understanding of the economy:** adopting a more comprehensive definition of success which goes beyond traditional measures and using this to inform resource allocation.

7. Implementation and Evaluation

The publication of this Local Industrial Strategy is the beginning of a process. It has been developed collaboratively with people, partners, and businesses across the City Region, and will be implemented collaboratively, working as one City Region to deliver a prosperous and productive economy that is effective and inclusive for all people and places. By harnessing the potential of devolution and empowering communities to shape their own futures, this vision will be achieved together.

Below sets out the overarching principles, and frameworks for delivering a place based Local Industrial Strategy, as well as how the success of this strategy will be monitored and evaluated.

Principles for implementation

Informing the implementation of the Local Industrial Strategy will be a set of guiding principles, ensuring the realisation of LCR's full potential and embracing the opportunity to do things differently:

- **Collaboration** – this is a strategy for the whole City Region and can only be delivered meaningfully through constructive and effective partnerships, both within and across the City Region, and with external stakeholders. Existing working relationships will continue to be strengthened: between the constituent local authorities of Liverpool City Region and the Combined Authority; with government; with the LEP/Growth Platform; and with delivery partners across industry, academia, and the social economy. Importantly, LCR will always seek to embrace opportunities to collaborate with near neighbours and the wider north of England where areas can work together to achieve common aims and overcome shared challenges.
- **Community empowerment** – communities have the best knowledge of places and how they can thrive. For this reason, the opportunities of devolution will be extended to all communities across the City Region as much as possible, engaging with, and empowering them to shape, influence, and deliver on strategic aims in a way that will be most effective and most significant.
- **Agility and dynamism** – in delivering the Local Industrial Strategy, LCR will be willing to take risks and pioneer new approaches where there is a clear strategic imperative and a robust evidence base for action. Partners will maintain a responsiveness to events, innovation, and the specific needs of communities to ensure that interventions evolve alongside the City Region.
- **Pragmatism** – in order to maximise the return on investment for public money, small, quick wins are considered, pursued, and valued as much as large-scale transformational interventions.
- **Accountability** – the Local Industrial Strategy has been developed through working with partners, stakeholders, and people from across the City Region, and this openness and transparency will be maintained throughout delivery.

Perhaps most importantly, all collective efforts will reflect the three key themes which pervade throughout this strategy – **competitiveness, a clean economy, and inclusivity.**

They will run throughout strategies and policies and be at the forefront of thinking when making investment decisions and when in dialogue with government.

Governance and strategic fit

Liverpool City Region Combined Authority will coordinate the implementation of this Local Industrial Strategy with delivery partners and key stakeholders. This coordination activity will be subject to the existing governance and delivery structures of the Combined Authority. The governance structure incorporates the six local authorities that constitute Liverpool City Region, and overarching decisions around coordination and delivery will be taken through this arrangement, set within the Combined Authority's Corporate Plan Delivery Framework.

More specifically, a Local Industrial Strategy Implementation Group will be created to oversee the development of an Implementation Plan and its delivery, incorporating partners from the Combined Authority, government departments, local authorities, the Local Enterprise Partnership and other key stakeholders. The Implementation Plan will set out in detail the objectives, actions, and approaches by which this Local Industrial Strategy will be delivered, as well as clear timescales for delivery, accountability, scrutiny, and evaluation. It will outline prioritisation processes and sub-level planning sequencing of activity. Bi-annual reviews of implementation progress will be produced, which will directly link into the evaluation and monitoring process.

The strategic aims and objectives of the Local Industrial Strategy will be reflected in, and guide, other City Region strategic policies and investment decisions, including the Spatial Development Strategy, the Transport Plan, and the next iteration of the Strategic Investment Fund Strategy. This will ensure consistency of vision and approach across everything that is done in the City Region, with all partners working towards shared outcomes.

A set of economic and social performance measures will be devised to ensure that the success of this Local Industrial Strategy is measured by a mix of both standard economic indicators and a broader basket of qualitative and quantitative indicators. This will ensure that it reflects changing ambitions and aspirations across both economy and society, and that it delivers meaningful change that can be felt by the people and places across the whole City Region.

Funding

This Local Industrial Strategy does not include any new spending commitments outside of existing budgets. Instead, it will inform the strategic use of local funding streams and, where relevant, spending and decisions at the national level. It will also help LCR decide on its approach to maximising the long-term impact of the new UK Shared Prosperity Fund once its details and priorities are announced.

To demonstrate progress towards the long-term vision set out by this Local Industrial Strategy, a number of specific actions will be identified. Where these actions are locally-led, these will be drawn from local budgets which exist for those purposes. Where actions are shared between Liverpool City Region and government, they will be funded from existing local and departmental budgets, with funding allocated for those specific purposes.

This strategy does not represent all the priorities and action being developed in Liverpool City Region. Liverpool City Region will regularly review the latest evidence to continue

designing the most effective approaches and interventions to be at the forefront of the future UK economy. This Strategy sets out long term ambitions and will continue to evolve as the economy changes. Liverpool City Region will comply with all of the monitoring and evaluation requirements of each particular funding source, in addition to the wider requirement to monitor the implementation of the Local Industrial Strategy as a whole.

Monitoring and evaluation

The investments and activities that come through the Local Industrial Strategy are central to the LCRCA's organisational mission and the success of devolution in the City Region. The Combined Authority will monitor and evaluate the impact and effectiveness of LIS activities as part of a wider organisational monitoring and evaluation approach. It is committed to providing robust and objective evaluation evidence which demonstrates the impact of activities, providing wider insights and lessons about what has worked, how and why.

Monitoring and evaluation activity will encompass:

- **Impact:** a robust impact evidence base will be developed which captures the difference being made to businesses, people and places in the Liverpool City Region. The measures will be meaningful and truly reflective of the breadth of activities. The impact evaluation work will capture net additional impact on a range of economic, social, environmental, health and wellbeing measures.
- **Process:** process focused evaluation will explore how effectively the City Region is using the freedoms and powers that devolution has provided. The aim of process evaluation is to highlight the things which are working well and the areas where there could be scope for improvement. The Combined Authority will periodically review the effectiveness of governance, management and delivery processes to explore how well these are working to deliver the aims and objectives of the Local Industrial Strategy and supporting successful devolution. Importantly, the process evaluation will also consider the strength of external links and partnerships with the full range of local stakeholders.

These two work streams will be used to identify evidence-based lessons that can be used to strengthen the way LCR is working and to maximise the impact of activities. There will be honest and open reflections on these lessons and they will be embedded into strategy and operations to ensure that the City Region works as effectively as possible to make the most of the important opportunity that devolution offers. Progress and lessons learned will also be disseminated across other combined authority and LEP areas, together with government, as part of a transparent approach to knowledge sharing