
LIVERPOOL CITY REGION'S KNOWLEDGE ECONOMY: DELIVERING NEW OPPORTUNITIES FOR GROWTH

SUMMARY

2011-2020



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SUMMARY OF AMBITION

The growth of the Knowledge Sector is central to the Liverpool City Region's vision of creating a thriving economy with world-class aspirations.

This summary sets out the route-map for creating a competitive Liverpool City Region economy, based on the application and exploitation of the most relevant up-to-date ideas, skills and innovation into the development of goods and services – A Liverpool City Region Knowledge Economy.

For businesses, this means more readily available, appropriately skilled people, better supply chains, the easier application of research and innovation, access to new markets and the ability to compete and win new investment. In short, greater growth potential.

For the Liverpool City Region it means attracting new inward investment, higher value economic activities, the right infrastructure

and ultimately a greater number of more sustainable jobs. Over the last decade, employment in knowledge-intensive business in the City Region has grown by over twice the rate of the rest of the economy.

Liverpool City Region's Knowledge Economy is already strong, currently providing one third of the local employment base and over 40% of its total economic value. This provides a substantial platform on which to build.

We have identified four key elements to drive Liverpool City Region's Knowledge Economy; Life Sciences, Advanced Manufacturing, Financial and Professional Services and Creative and Digital Industries.

Implementation of the Knowledge Economy Plan is being taken forward by the Knowledge Economy Group; a collaboration of businesses, universities and public sector organisations.

As well as prioritising certain sectors, the Knowledge Economy Group is responsible for ensuring that the environment for business growth is right. This includes ensuring that skills, property and finance availability meets the needs of businesses; that the structures are in place to quickly commercialise new ideas; and that the City Region's research and technology assets are better linked with local businesses and as an attractor of new investment.

The Knowledge Economy Group provides clear leadership and accountability.

Successful delivery of the Knowledge Economy Plan has the potential to deliver 58,000 jobs over the next 10 years. Reaching these goals demands innovation, expertise and a vibrant relationship between the private and public sectors.

CITY REGION ASSETS, OPPORTUNITIES AND KEY DELIVERY PRIORITIES FOR KNOWLEDGE ECONOMY

LIFE SCIENCES ADVANCED MANUFACTURING FINANCIAL AND PROFESSIONAL SERVICES CREATIVE AND DIGITAL INDUSTRIES

The Liverpool City Region has the assets, opportunity and potential to grow a larger, knowledge and innovation driven economy which can drive future sustainable prosperity and international competitiveness.

The Knowledge Economy Plan outlines an ambitious framework to generate nearly 60,000 additional jobs by the early 2020s, to raise productivity and to move GVA closer to the national average. This is both a significant challenge and considerable opportunity for the City Region.

Over more than a decade, the total number of jobs in the City Region has grown by 6% but those in the Knowledge Economy have far outstripped this figure, leaping by 13.6%.

This indicates there are good building blocks in place and points to significant jobs growth. We have identified three sector “drivers” of the Knowledge Economy which have the potential to play an even more important role that they do

at present – Life Sciences, Advanced Manufacturing, Creative and Digital Industries – together with Financial and Professional Services as an “enabling” knowledge intensive sector.

All demonstrate significant growth potential and are outlined in more detail overleaf.

Key priority projects for the Liverpool City Region outlined in the plan include:

- Developing a productive **long-term relationship between Daresbury SIC, industry and the public sector**. Explore the possibility of creating a City Region innovation hub at Daresbury
- Developing **Technology Innovation Centres** to support leading edge innovation and its translation into goods and services
- Capitalising on the area’s world-class strengths in Life Sciences industries and the **expansion of Liverpool Science Park**,

BioInnovation Centre and **BioCampus**.

- **Maximising market opportunities in digital advertising and marketing, gaming and new cinema technologies** and the business generated through MediaCityUK
- Establishment of an **advanced manufacturing innovation centre**
- **Attract financial and professional services companies** to the commercial core.
- Set up a **Public Services Institute** to develop innovative solutions to public sector service challenges
- Ensure the **branding of the City Region** more vigorously and more effectively reflects its strengths in science and technology, its dynamic commercial centre and quality of life
- Develop a strategy **to secure the provision of superfast Broadband** and associated data centres and internet exchanges.



To meet the demands of the future and to maintain our position as a competitive location of choice, it is imperative to have a quality, state-of-the-art physical environment for knowledge intensive functions. The expansion of the Daresbury Science and Innovation Campus and the Liverpool Science Park and the development of the 1m sqft biomedical campus are three examples of developments which contribute to this goal. In addition, the universities continue to develop and there is further work at Liverpool Innovation Park, as well as Speke Garston and the international airport. At The Heath at Runcorn and Knowsley Industrial Park, increases of capacity are attainable while the massive opportunities presented by Peel's Wirral and Liverpool Waters have the capability to help drive significant job growth.

Some well-established businesses are already boosting the Knowledge Economy. Jaguar Land Rover's development of the Range Rover Evoque has led to the creation of 1,500 jobs, while Pilkington's energiKare product is a world leader in green double-glazing development, and Liverpool Science Park has signed 18 new tenants this year.

Marine Specialist Technology has won a £17million order from the Dutch navy to build fast-raiding craft, while glass firm Pilkington, haulier Stobart and chemical company Ames Goldsmith have all been successful

in bidding for the government's Regional Growth Fund.

Threading through the development of the Knowledge Economy are a number of important cross-cutting themes:

- **Innovation and enterprise** - It is vital to establish an effective innovation structure. The idea of a City Region innovation hub at Daresbury SIC would enhance the ability of businesses to access new ideas and support
- **Branding** - It is vital to market the City Region's knowledge assets and reputation for creativity and innovation rather than simply a visitor destination
- **Public sector** - Some of the 21st Century's greatest public service challenges, such as supporting a growing ageing population in independent living, urgently require innovative service models which make maximum use of evolving technologies
- **Education and skills** - The Government is seeking to combine enterprise with training, learning and research. There is also a renewed emphasis on workplace learning and an additional 75,000 apprenticeships. The proposal to develop a technical skills centre at Daresbury SIC will provide some of these job opportunities. There must also be emphasis on leadership and management skills,

technical expertise and customer service

- **Physical and digital infrastructure** - It is important to encourage investment in high speed rail, the Mersey Gateway Bridge at Runcorn, and superfast Broadband. Having the most effective, up-to-date heavy-lift broadband and data centres is of paramount importance

THE KEY TO FUTURE COMPETITIVENESS

The Liverpool City Region economy is one of the UK's largest, with 1.5million people living within its six districts and home to a significant concentration of jobs, businesses and Knowledge Economy assets. The hub of the City Region is Liverpool itself, which contributes £7.2billion of the local economy's £19.2billion annual output.

The City Region has experienced a major renaissance in its economy. Between 1999 and 2007, the employment rate grew by 4.8% to 63.3%. Between 2006 and 2009, the value of the local economy increased by 4.8% with a concomitant rise in the number of businesses from 45,000 to 49,000.

The challenge for the City Region is surpass the successful growth enjoyed between 1998 and 2008. A fundamental factor for the City Region to meet that challenge will be its ability to successfully



compete globally and expand the economy driven by high levels of skills, creativity and the creation and exploitation of ideas and knowledge.

The City Region is part of a global transformation in industrial and occupational structures towards knowledge intensive industries and knowledge intensive jobs. This has been accelerated by globalisation, which has created markets of scale facilitated by dramatic improvements in the speed and ease of moving capital, ideas, goods, technologies, information and people around the world.

City Region businesses are well placed to respond to increasing demand for high value-added, sophisticated goods and services from wealthier and demanding consumers. The UK can draw on a strong and open economy that promotes enterprise and encourages innovation, coupled with a flexible labour market, world-class research base and an attractive investment location for global companies.

The fastest-growing global product and services markets are, in many cases, areas where the productivity and trade performance of UK and City Region businesses has been strong. However, as other economies respond to the same opportunities, or try to replicate the UK's strengths, the competitive pressure our businesses face will intensify. Businesses will provide not just finished products,

but increasingly, intermediate goods and the complex services that are an integral part of modern supply chains, including design, marketing and financial services.

As a result, opportunities will multiply hugely for competitive Liverpool City Region businesses. However, the same changes to patterns of production also increase dramatically the levels of productivity, skills and innovation required from UK-based businesses to remain competitive. That pressure will only get tougher.

EXPANDING THE KNOWLEDGE ECONOMY BY 15% BY 2022 IS ACHIEVABLE

The UK economy and the Liverpool City Region have fundamental strengths that position us well to capitalise on these dramatic changes. But others will be doing the same so we have to keep ahead of the game. Critical to this will be ensuring that British science and technology are at the heart of the revolutions in industrial production that will define the 21st Century and directly linked to creating opportunities, jobs and wealth in the Liverpool City Region.

Liverpool City Region already has a diverse and developing Knowledge Economy. It is home to a wide range of nationally and internationally significant businesses and substantial cluster of knowledge assets. Over the last decade, employment in knowledge-intensive businesses in the City Region has grown by over twice the rate of the rest of the economy.

The challenge is to successfully harness these assets to allow more successful British companies to compete in global markets and develop innovative products and services. This in turn will create new jobs and rising prosperity.

It is important to pay particular attention to technological change where this is reshaping industries and demanding high levels of innovation, skills and investment from those businesses who will ultimately lead in these markets.

The most optimistic predictions suggest that expanding the Knowledge Economy by 15% by 2022 is achievable - a goal that nets an additional 58,000 jobs. Recent figures show that between 2006 and 2009, the economy of the region increased by 4.8% to £19.1 billion, slightly above the North West figure. The number of businesses grew from 45,000 to 49,000 and whilst Knowledge Economy businesses declined the number of people actually employed in the sectors went up.

THE KNOWLEDGE ASSETS

Sector Hot Spots

-  Creative and Digital Industries
-  Advanced Manufacturing
-  Finance and Professional Services
-  Life Sciences
-  Low Carbon

- 1** Southport Commerce
- 2** Mersey Waters Enterprise Zone
- 3** Knowledge Quarter
- 4** Liverpool City Centre
- 5** Wirral International Business Park
- 6** Unilever Research and Development
- 7** Knowsley Industrial Park
- 8** Speke Corridor
- 9** Haydock Industrial Park
- 10** Heath Business and Technical Park
- 11** Daresbury Science and Innovation Campus
- 12** Liverpool Innovation Park / Wavertree Technology Park
- H** Major Hospitals
- U** Universities





LIFE SCIENCES

Includes pharmaceutical and medical technologies and has been an important, long-established part of the region's Knowledge Economy.

The sector has 57,110 jobs according to statistics for 2008, almost 10% of the city region's economy.

This dynamic community is home to over 100 medical companies delivering products and services worth in excess of £1.5 billion per annum, and contributing over £300 million in GVA to the local economy.

It has a strong industrial focus on pharmaceutical and biopharmaceutical manufacturing, diagnostics and an emerging group of small companies developing pipelines of novel therapeutics in areas relating to pain, influenza, anti-infective agents, cardiovascular disease and neurological conditions.

The sector has a broad spectrum of companies including multi-nationals such as Novartis, Eli Lilly, Bristol-Myers Squibb, Terumo, Life Technologies, Nutricia, Nestle, Associates of

Cape Cod International, Baxter Healthcare, Watson Pharmaceuticals and LGC; mid-sized companies such as ProLab Diagnostics, Pharmapac, Mast Group Ltd; and a range of smaller companies such as Biofortuna, RedX Pharma, Iota Nanosolutions and Hydra Polymers.

Liverpool City Region has significant assets in both the research and clinical base, including three universities, the Liverpool School of Tropical Medicine and six hospital trusts. Research strengths are wide ranging and with significant research funding awarded in areas such as infectious and microbial diseases and cell biology.

The development of the Daresbury Science and Innovation Campus (already home to 20 bio-medical companies); the continued development of The Heath; the scope for development at Liverpool Innovation Park, and Liverpool Science Centre all offer important opportunities for business growth in this sector.

OPPORTUNITIES

In order to develop this sector in the City Region it is important to:

- Tackle the severe shortage of incubation space
- Tackle the lack of grow-on space
- Provide more effective innovation and commercialisation support processes
- Develop the concept of the Royal Liverpool Bio Campus adjacent to the new hospital once it is built
- Build on the leading-edge research and applications work taking place at the Royal Liverpool and Broadgreen University Hospitals NHS Trust, including the development of a digital platform for pathology; the use of robotics in surgery; the development of immunology to offset the rejection of transplants; and the rapidly developing field of pharmacogenetics (where the Trust has the only Chair in the UK), developing mechanisms to ensure the correct drug and dose are given to each individual patient
- Determine how these and other innovations can best be harnessed both for the benefit of service users and the development of the Knowledge Economy
- Secure TSB and private sector support for the development of a Technology Innovation Centre in Life Sciences promoting collaborative research and development
- Support the work underway to explore the development of the Clatterbridge Innovation Park in Wirral focussing on healthy living and healthcare and involving the Wirral University Health Trust and the University of Chester, who intend to make the Park their campus for health studies, related research and training



ADVANCED MANUFACTURING

Advanced Manufacturing spans activities from research, design, development and production through to logistics, after sales service, maintenance and repair, and end of life management.

Liverpool City Region, which has particular strengths in efficient manufacturing processes, can participate in all points of the supply chain from the design and provision of component materials to companies throughout the world, to the final assembly of products within the region.

The region is home to over 3,000 manufacturing companies which employ over 34,000 people. Although the number of jobs in Advanced Manufacturing has declined in the last decade, it remains a significant sector for knowledge intensive employment. The number of enterprises has increased though, reflecting broader fragmentation and niche production within the sector as a whole.

There are in over 140 commercial manufacturing businesses within the energy and environmental technology sector (including glass, insulation and building control systems) and 103 advanced engineering companies. Evidence suggests that the strength of these commercial knowledge sectors is linked to research strengths in the higher education institutions. There is a significant proportion of SMEs and five business parks and industrial estates.

Marine engineering activity is largely based at Cammell Laird in Birkenhead. The yard is currently undertaking shipbuilding, ship conversion and ship repair contracts, with plans to diversify into a broader spectrum of marine engineering and support services including those related to nuclear and wind energy.

Key city region assets include Jaguar Land Rover's Halewood plant in Knowsley, the Biomanufacturing Cluster and National Biomanufacturing Centre in Speke. Major companies include leaders in Automotive (Decoma, Halewood International, and Getrag) and Pharmaceuticals (Novartis, Eli Lilly and Medimmune). Other key companies include Pilkington NGF Europe Ltd, Colormatrix, Bachem, Goodrich, Newsprinters, Knauf, Unilever and Nichols.

Research strengths across the City Region include: the Virtual Engineering Centre and the Engineering Technology Centre at Daresbury SIC, National Centre for Electron Spectroscopy and Surface Analysis and the Cockcroft Institute; LJMU's General Engineering Research Institute and the Built Environment and Sustainable Technologies Centre; the University of Liverpool's Ultra Mixing and Processing Facility; the Liverpool Institute for Nanoscale Science Engineering and Technology; the Centre for Materials Discovery; and the Agility & Supply Chain Management Centre.

OPPORTUNITIES

Across the City Region opportunities which have emerged from discussion with the sector include those to:

- Establish a voice for manufacturing across the Liverpool City Region and develop a wider community of interest
- Strengthen the supply chain within the City Region, not just to individual major manufacturers but recognising also that supply chains are becoming horizontal, serving several clients (e.g. aerospace and automotive)
- Raise the profile and image of manufacturing in Liverpool City Region
- Exploit the potential for future convergence (e.g. across the manufacturing and digital sectors through digital manufacturing, including additive layer manufacturing)
- Explore the possibility of establishing a 'Fab Lab' in the City Region
- Look to build on Wirral's structured, business-driven business support arrangement linking the Local Authority, the Manufacturing Advisory Service and Business Link. This type of approach could be widened to embrace research base and the skills supply and rolled out across the City Region
- Explore opportunities in the public sector procurement processes to foster innovation and support the growth of defined markets (e.g. the micro-generation of wind power, photovoltaics) through common commitment and collaborative procurement



FINANCIAL AND PROFESSIONAL SERVICES

The Financial and Professional Services (FPS) sector includes financial institutions: banks, building societies, insurance and pension companies, financial intermediaries such as insurance brokers and financial advisers, venture capitalists, fund, asset and wealth managers, stock brokers and investment companies. It includes key parts of the business services sector, broadly comprising the professions, including legal services, accountancy, management consultancy, recruitment consultancy and property services.

The FPS sector has been important in driving growth in the Liverpool City Region and there is a well-established concentration of companies across the sector. The Liverpool City Region is home to over 7,400 financial and professional services companies which employ over 71,000 people. Employment in the sector increased by 20% from 2001-2007, delivering 18,000 additional jobs. There is significant concentration of enterprises in Liverpool, particularly the city centre area. However, there are secondary clusters in Sefton and Wirral, notably in Southport and Birkenhead.

FPS is essential in underpinning job growth in the Knowledge Economy and Low Carbon Sectors. The sector also plays a significant role in setting standards, enhancing skills levels and spreading innovation and good practice throughout business and industry more widely.

New opportunities and forthcoming legislation will require significant changes in building design and operation and lead to increased demand for architects, consultants and planners. Similarly, the creation of new infrastructure and products and services will require specialist finance and legal skills in the North West.

While banking is the most important sub-sector in terms of scale, asset and wealth management is a notable strength with the City Region, being the most important English location outside London for this specialist activity.

The sector has a broad spectrum of companies including SSS Holdings Corporation, DWF, Brabners Chaffe Street, Hill Dickinson and Weightmans. There are important job generators in contact/call centres such as O2, Santander, Vertex and Barclaycard, and stockbroking such as Panmore Gordon.

Research strengths at the three universities include corporate governance, management, banking, corporate ethics, social responsibility and law.

OPPORTUNITIES

- Raising the profile of FPS in Liverpool to be recognised as an important regional, national and international commercial centre. This needs to build on a sustained marketing effort to communicate the strengths which Liverpool can offer: geography, price of property and local tax, a gateway city, skills, academic support, quality of life
- Further develop an evolving and sophisticated approach to attracting inward investment into this sector in the City Region
- Develop improved links and relationships to London
- Further develop the Higher Education offer to the sector through the business/management schools by exploring opportunities such as a Chair in wealth and asset management and producing graduates with particular skills in 'financial' mathematics
- The education sectors need to be able to offer bespoke training opportunities both for existing companies and as part of the service which the City Region can offer to potential external investors whether national or international
- Further develop Grade A office accommodation offer which the banking and professional sectors require and which is a prerequisite for attracting significant new external investment



CREATIVE AND DIGITAL INDUSTRIES

Digital Industries includes digital content activities, including creative media, covering film, animation, commercials, pop promos and corporate production, as well as advertising, music and design.

There is a strong interface with the creative sector, which incorporates companies in advertising, architecture, crafts, design, fashion, film, computer games, music, performing arts, publishing, software and computer services, and TV and radio.

Liverpool City Region is home to over 3,000 creative and digital businesses. This extends to 23,724 jobs according to statistics for 2008. This makes up 7.4% of the Liverpool City Region economy and is a reflection of the fact that many organisations are SMEs. Over the past decade, the profile of the sector has changed: there are now fewer businesses and a larger number of employees, pointing to a notable increase in small to medium-sized organisations. Alongside Liverpool City Centre as a key location for the sector (with concentrations of creatives in Baltic Triangle, Knowledge Quarter, Liverpool Science Park and Ropewalks areas), there are key clusters of enterprises in Southport, Birkenhead, St. Helens and Daresbury.

The Creative and Digital Industries (CDI) permeate other sectors and are very fluid. Around one fifth of staff work outside the sector and nearly a quarter of the workforce

is freelance. The sector is characterised by small or micro-sized businesses which need to keep up-to-date with technology and market developments. While this enables them to respond quickly to new opportunities, the sector is highly fragmented and businesses often struggle to raise capital at earlier stages of development. Fewer large media businesses frequently provide the route to market.

As home to the European Headquarters for games testing of Sony Computer Entertainment, as well as games studios such as SetGo Games and Magenta, Liverpool is one of Europe's focal points for the games industry. The City Region is increasingly recognised for multi-platform content via firms such as Conker Media, part of Lime Pictures. Other notable industry brand leaders include Trinity Mirror, Cream, Deltasonic and Ad Lib Audio. There is also a strong core of local growth businesses, such as Mando, Evolve, Integral and Rippleffect.

Merseyside ACME, established in 1997, was the first creative industries sector development agency in the UK and has worked to support the growth and sustainability of creative businesses.

The research strengths across the City Region include the recently established Open Lab; Liverpool Screen School; the Centre for Cultural Leadership and the School of Computing and Mathematical Science all at

LJMU; Liverpool School of Art and Design; the Liverpool Hope Creative Campus; the University of Liverpool Semantic Web Technology Lab. The Institute for Cultural Capital, jointly established by the University of Liverpool and LJMU, opens this year. Daresbury SIC has strong relationships with many major international companies through its Computational Science and Engineering Group.

Liverpool is currently well served for basic Broadband services and ranks as average

in comparison to other UK cities. However, the City Region is less well served by current SDSL availability and the forecast is that this position will worsen with the next generation of DSL services. Liverpool's provision also falls behind that of Manchester and this has been identified as a significant issue, given the focus of investment there and the opportunities this will create.

OPPORTUNITIES

- Explore the development of a Creative Business Hub, together with the provision of better links between key business locations and the development of more effective cross-sector relationships. The Creative Business Hub should encourage networking, collaboration and business development and support for the many micro businesses in this sector
- Address the need for the provision of incubation space and subsequent grow-on space for the sector building on the offer from the Baltic, FACT and the Hope University Creative Campus
- Develop a significant digital business location between the Ropewalks / Baltic area and the Knowledge Quarter, providing closer physical links between creative businesses and key university facilities such as the new LJMU Screen School
- Focus the limited resources available to support and promote the CDI sector in a most effective way including a joined up approach to maximising opportunities from commercial finance, Regional Venture Capital Funds, the new Merseyside Loan and Equity Fund
- Explore the development of an integrated approach to working with the Technology Strategy Board between the sector support group, the universities and Daresbury SIC
- Broker effective dialogue between the CDI sector and the HE/FE sector to ensure that the City Region is producing the skills required, at all levels, to support the industry and indigenous and external investors. This could be adequate support arrangements through the Local Enterprise Partnership (LEP)
- Enable access to new market opportunities in digital advertising and marketing, gaming and new cinema technologies and the business generated through MediaCityUK
- The opportunity should be taken by the current sector support group to facilitate a dialogue between key companies and the universities to explore the potential for strengthening the city region's capability in the field of digital post-production including addressing the skills needs in this area
- Explore how the earlier Wirral-led proposal to establish a Digital Enterprise Network for the City Region might be taken forward, utilising alternative sources of funding and taking full account of competition requirements
- Foster the evolution of a wider knowledge exchange hub linked to the recent major developments around the Art and Design Academy and the Clarence Street development at LJMU, with a aim to exploit new and emerging markets through industry-focused, inter-disciplinary working between local companies, academic/technical staff and students
- Facilitate and position City Region businesses to take advance of Next Generation technologies such as smart materials and physical computing and the potential business opportunities which could flow from their exploitation. Opportunities from current research conducted by the universities such as the digitisation of film, heritage and library content and the curation and re-use of digitised content should also be pursued

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