



HM Government



Cambridgeshire and Peterborough Local Industrial Strategy

A Partner in the Oxford-Cambridge Arc

July 2019





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Foreword

Cambridge is the UK's driving force for human discovery.

From Francis Crick's role in the discovery of the structure of DNA, Fred Sanger's work to understand how to sequence it, and ultimately to the Sanger Institute's role in sequencing one third of the human genome, as part of the International Human Genome Project, Cambridge has led our understanding of the nature of humanity itself. Cambridge still produces more patents than the nearest four UK cities put together, and its University's academics and alumni have produced more Nobel laureates than any other institution globally. It is the combination of Cambridge's global leadership in academic discovery, and sectors such as life sciences and digital, together with Peterborough's rich heritage in manufacturing, and The Fens' potential for agri-tech, that provide the building blocks to make Cambridgeshire and Peterborough the UK's fastest growing and most innovative economy outside London.

Cambridgeshire and Peterborough is an international hub of innovative business. It is leading in research in fields as diverse as artificial intelligence and agri-tech. It generates £23.7bn of national output¹ and has seen employment levels growing by 3.3 per cent over the last six years²

Cambridgeshire and Peterborough is comprised of three different subeconomies - Greater Cambridge, Greater Peterborough and The Fens. Each is unique, facing its own opportunities and challenges. Success for business in each will take a different form, while the overall goal - an inclusive, prosperous, and productive economy - is the same. To achieve this, many different sectors will need to flourish, creating opportunities for entrepreneurs and employees.

The success of the Oxford-Cambridge Arc is also dependent on an economy in Cambridgeshire and Peterborough which continues to grow, creating further demand for employment and housing. Partners across the Arc are collaborating to ensure the Arc delivers on its transformative economic potential for the UK as a whole.

The mandate to deliver all of this is set out in the Devolution Deal signed between central government and local partners. Through the establishment of a Combined Authority with devolved powers, local partners set out a commitment that 'Cambridgeshire and Peterborough will enhance its position as a global leader in knowledge and innovation, further developing its key sectors including life sciences,

information and communication technologies, creative and digital industries, clean tech, high-value engineering and agri-business³.

This Local Industrial Strategy sets out an evidence-based plan to support industry across the area in delivering these goals. The foundation for it is the Cambridgeshire and Peterborough Independent Economic Review - a thorough review of all the available economic evidence for the area chaired by an experienced and expert panel, bringing in new research on business clusters and growth. This review set out a series of key recommendations, many of which are reiterated and developed upon in this document.

By creating the conditions for business to thrive, Cambridgeshire and Peterborough can achieve its goals of doubling economic output and building an inclusive economy. This strategy combines bold ambition with clear actions that will directly support firms to grow, become more productive, and increase their international reach.



Rt Hon Greg Clark MP
Secretary of State for Business,
Energy and Industrial Strategy



James Palmer
Mayor of Cambridgeshire
& Peterborough



Prof Aamir Khalid
Chairman of The Business Board

Executive summary

Cambridgeshire and Peterborough are determined to make their economy work for all of the area's communities.

The full economic potential of the region can only be realised by identifying diverse strengths - from Peterborough's rapid growth, Cambridge's global research strengths, and The Fens' innovative micro and agricultural businesses and working to tie them together.

This Local Industrial Strategy sets out how Cambridgeshire and Peterborough will maximise the economy's strengths and remove barriers that remain to ensure the economy is fit for tomorrow's world. It supports the aims of the National Industrial Strategy by boosting productivity in Cambridgeshire and Peterborough. The interventions within are based on a highly credible, independent evidence base, and are specifically and carefully designed to achieve growth.

This strategy is one of a family of four linked strategies covering the Oxford-Cambridge Arc ('the Arc'), with the other strategies covering Oxfordshire, Buckinghamshire and the South East Midlands. It therefore includes a summary of the wider economic context and identifies those priorities within each Local Industrial Strategy which can be developed at scale across the Arc, complementing the specific Cambridgeshire and Peterborough strategic objectives which sit at the heart of this strategy. This includes:

- ▶ Working together collaboratively across all of the foundations of productivity to ensure that the implementation of the four Local Industrial Strategies maximises the economic potential of the wider Arc region.
- ▶ Harnessing the collective strength of the Arc's research base - driving greater collaboration on science and research; developing a network of 'living labs' to trial and commercialise new technologies; and growing the role of the Arc as a global research and innovation hub.
- ▶ Bringing employers and skills providers together to understand the current and future skills needs, and planning provision to meet them.
- ▶ Maximising the economic benefits of new transport, energy and digital infrastructure within the Arc.
- ▶ Developing an improved business support and finance programme for high growth companies, a shared approach to commercial premises and an Internationalisation Delivery Plan to encourage greater trade and inward investment in the Arc.

- ▶ Taking a Natural Capital Planning approach to development within the Arc, embodying Government's 25 Year Environment Plan and contributing to the Clean Growth Grand Challenge Mission to halve the energy use of new buildings by 2030.

Together, the strategies reflect the close collaboration and partnership working between Local Enterprise Partnerships (LEPs) across the region.

Today's picture

The Cambridgeshire and Peterborough economy is thriving, contributing £22bn to the UK. The economy has outperformed the UK in overall growth since 2009, and growth in employment has significantly outpaced official figures. The area is an internationally recognised centre for artificial intelligence, life sciences, food production and advanced manufacturing. Cambridge is a global leader in innovation and the commercialisation of new ideas. Local partners' ambition is to continue to build an industrial ecosystem that is globally known for tackling the biggest challenges facing society, and in so doing to nearly double gross value added (GVA) over 25 years.

In the short-term, the Combined Authority will work to raise productivity per hour to above the UK average by 2024. Through applying a natural capital and ecosystem services approach local partners will ensure this is matched by a world-class natural environment.

As the Cambridgeshire and Peterborough Independent Economic Review (CPIER) established, it is really three sub-economies. The largest and most international is Greater Cambridge, characterised by high levels of output and skills, a rich mix of biomedical, pharmaceutical, artificial intelligence and other technology companies underpinned by two leading universities, one of which is amongst the greatest in the world. In the north, Greater Peterborough is important both as the largest city and, consistently over the last decade, one of the fastest growing in the country. It is an area with an important manufacturing history and existing base. It is also home to a growing range of service, financial and professional companies which - with a new 38 minute rail connection to London - are set to expand further through government and corporate relocations out of the capital. The Fens, a largely rural area, has a diverse range of market towns; much of the best farmland in the UK; and world-class agricultural production.

It is a rural economy but one which is also home to highly successful, niche manufacturing and service companies. This Local Industrial Strategy will tailor and mix interventions to the needs of each of these specific sub-economies.

Major opportunities exist in the area. The opportunity is to grow further, to benefit the whole area, building on Cambridge's world-class assets. Devolution, and the creation of a Mayoral Combined Authority has also given Cambridgeshire and Peterborough a key advantage with more local powers and funding to deliver the ambitions of this Local Industrial Strategy.

In addition to making the most of opportunities, challenges must also be recognised and overcome. The key challenge relates to the underlying need to broaden the base of economic growth whilst securing the continued success of Greater Cambridge, raising productivity across the wider economy. This will ensure that the whole of Cambridgeshire and Peterborough grows more high-quality jobs, improving business output and providing better opportunities and outcomes for people.

Ambitions for tomorrow

This Local Industrial Strategy sets out three priorities for the Cambridgeshire and Peterborough economy:

- ▶ **Improve the long-term capacity for growth in Greater Cambridge by supporting the foundations of productivity.** This will support the expansion of the region's innovation powerhouse. Crucially, this will also reduce the risk of any stalling in the long-term high growth rates that have been enjoyed in the city region for several decades. This will be done by: investing heavily in housing; supporting supply chain development; delivering transformational transport and infrastructure; whilst leveraging the strengths and better connecting the Cambridge cluster - all for the greater benefit of the other two economies and the UK. There also needs to be continued efforts to support the Cambridge innovation ecosystem and to continue to attract international firms to the region;

- ▶ **Increase sustainability and broaden the base of local economic growth**, by identifying opportunities for high growth companies to accelerate growth where there is greater absorptive capacity, addressing the current bottlenecks to growth in Greater Cambridge; and
- ▶ **Expand and build upon the clusters and networks that have enabled Cambridge to become a global leader in innovative growth.** The Local Industrial Strategy sets out how business leaders, sectors, and places will join together to build an economy-wide business support ecosystem. This eco-system will promote business growth; greater productivity; innovation commercialisation; greater global market access; and more effective skills development. This will complement the above to deliver a more inclusive and resilient economy.

The CPIER has identified the area's sectoral strengths and specialisms, which this Local Industrial Strategy will seek to make the most of. These include:

- ▶ **Life sciences:** Greater Cambridge is a global centre of life sciences that will increasingly grow across Huntingdonshire and be connected to a wider cluster operating across the Arc. As part of the Life Sciences

Sector Deal, local partners in Cambridgeshire and Peterborough will continue to deepen the connectivity between research and industry, with a specific focus on addressing the Ageing Society Grand Challenge. This will include the creation of an Innovation Launchpad, partnering with a global player to help start-ups and scale-ups get access to customers and markets world-wide. A Life Sciences Accelerator Scheme and key infrastructure improvements - such as the A505 and Cambridge South Station - are particularly crucial for this sector.

- ▶ **Agri-tech:** Cambridgeshire and Peterborough's ambition is to support further growth in pioneering research and development ('R&D') in plant science and precision agriculture, as part of a regional offer. The innovative ecosystem will be further strengthened, and the Combined Authority will develop and fund an Innovation Launchpad facility, or facilities, which offer new locations to support the development of innovation ecosystems. Agri-tech is one of the area's strategic growth sectors which does not yet have central agglomerations which will be a key ingredient in its future success.

- ▶ **Digital and information technologies** (including artificial intelligence): the opportunity is to establish Greater Cambridge and the Arc as the preferred global base for firms from across the world to create and adopt the technologies of tomorrow. As part of this, the Combined Authority will host a global artificial intelligence conference in Greater Cambridge. This represents a significant opportunity to increase the sector's growth both within the local economy and across the Arc and the UK.
- ▶ **Advanced manufacturing and materials:** Drawing on existing skills and capabilities, the Combined Authority can provide impetus to development of advanced manufacturing across the region.

A specific opportunity lies in scale-up, developing facilities closely coupled to local universities where technologies can be developed and taken through the early stages of commercialisation.

This Local Industrial Strategy also recognises five supporting sectors, which are also strengths of the Cambridgeshire and Peterborough economy. These are; logistics, health and social care, education, the visitor economy and business tourism, and construction. There are opportunities in these sectors to create business growth. This Local Industrial Strategy also considers how these could be maximised.

Enhancing the foundations of productivity

Ideas

This Local Industrial Strategy will ensure that the area's economic base grows by harnessing innovation. Actions to support this include:

- ▶ The creation of new launchpads will be the focal points for innovation cluster development. The creation of at least four new Innovation Launchpads will be the focal points for innovation cluster development. Focusing on product development to support key growth sectors - bringing together established firms with training, R&D, and incubation facilities.

The creation of new launchpads will be focused on key sectors such as agri-tech, artificial intelligence and advanced manufacturing innovation.

- ▶ Consider options to develop a Mayoral Innovation and Growth Investment Fund. Providing equity and loan investment to firms already accessing growth coaching and support to break into global markets and transform their productivity through innovation.
- ▶ Establish the Innovate 2 Grow Network, bringing together leading entrepreneurs, innovators, mentors and coaches with growing firms to strengthen linkages across the area.

People

The People chapter sets out how education and training levels will be improved to ensure business has the supply of skills it needs, and that people are provided with more and better opportunities to fulfil their potential, including digital skills. Key skills initiatives include:

- ▶ Implement changes to the devolved Adult Education budget to change how it is invested and the related outcomes for individual opportunity and business needs.
- ▶ Look at scope to create a new university in Peterborough, that will attract highly skilled, productive individuals to the city, and develop the skills of the local population.
- ▶ Create a Skills, Talent and Apprenticeship Hub: connecting employers, providers, and learners.

Infrastructure

The views of businesses surveyed and engaged in the development of place and sector strategies is that poor infrastructure is hampering growth and is set to increase as a problem over the next decade.

Sustaining and de-risking the area's full potential for economic growth relies on transforming the transport, housing and infrastructure capacity in Greater Cambridge and improving the transport system for market towns. Improving connectivity is vital if recent growth is not to stall and will contribute to addressing the Future of Mobility Grand Challenge. Local partners will:

- ▶ progress key infrastructure priorities, for example, establishing in-principle viability of a Cambridgeshire Autonomous Metro (CAM), which could support sustainable growth in and beyond Cambridge City;
- ▶ complete the Cambridgeshire and Peterborough Strategic Bus Review, on the basis of which a Bus Task Force is being established to examine opportunities for an improved future service; and
- ▶ work with government to develop a shared evidence base for the current and future energy needs of the Arc, including through the identification of opportunities to test new energy policies or approaches within the Arc.

Business Environment

The Combined Authority's aim is to increase the number of start-ups and scale-ups to drive growth and productivity. The Combined Authority will:

- ▶ create a new Global Growth Service targeted at the places and firms that will have the most impact - operational from 2020 and working with 250 firms per year. This will be delivered through a new Cambridgeshire and Peterborough Growth Company, an arms-length and commercially sustainable, not-for-profit business to bring together the Growth Hub, Signpost2Grow and the new Global Growth Service;
- ▶ introduce a new 'Trade & Investment Service' featuring an integrated and customer-focused approach to co-ordinating the Global Growth Grants and Loans with the support offered by the Department for International Trade and Buyer Credit (financing overseas customers to buy British goods) and other products from UK Export Finance; and
- ▶ establish a Global Investor Service focused on landing new firms into Peterborough and Greater Cambridge.

Places

This Local Industrial Strategy aims to tailor and customise intervention to meet the distinctive needs of the three different areas of the local economy - Greater Cambridge, Greater Peterborough and The Fens. This will include supporting market towns as key players.

Responding to the Grand Challenges

This strategy will make a globally significant contribution to the societal and economic Grand Challenges that the government sets out in the National Industrial Strategy, building on the sector strengths of Cambridgeshire and Peterborough, notably:

- ▶ life science discoveries that transform ageing well;
- ▶ artificial intelligence and data technologies transforming commercial and public life;
- ▶ energy and circular economy practices that pioneer clean growth; and
- ▶ advances in sustainable and healthy food production brought about by agri-tech.

Priorities for Cambridgeshire and Peterborough

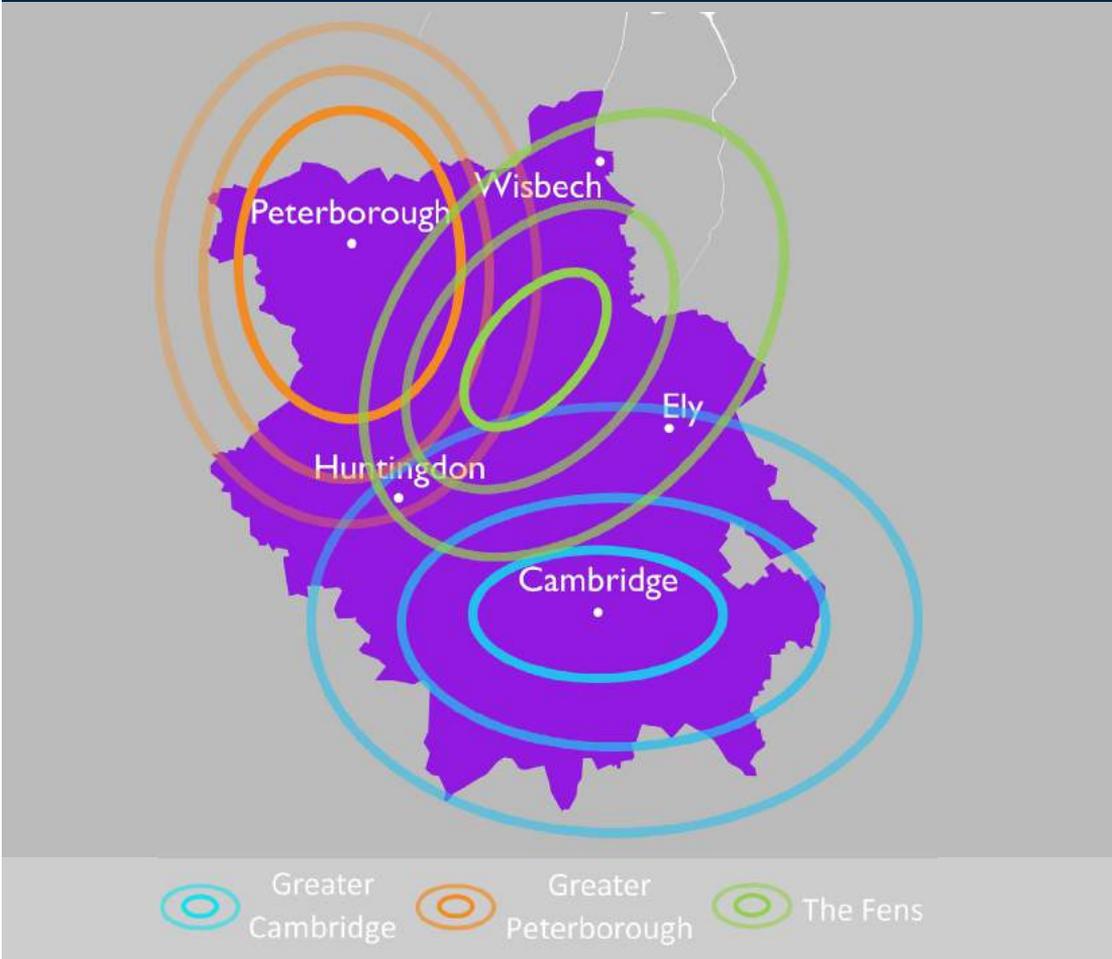
This Local Industrial Strategy sets out an industrial blueprint to deliver Cambridgeshire and Peterborough's vision of being a leading place in the world to live, learn, work, and do business.

The actions in this strategy will help deliver the aims of the national Industrial Strategy in the region; the Cambridgeshire and Peterborough Devolution Deal; and the recommendations of the Cambridgeshire and Peterborough Independent Economic Review (CPIER).

The Cambridgeshire and Peterborough Devolution Deal has set out a clear ambition to nearly double output in 25 years, and independent analysis has shown that this can only be achieved by strong increases in productivity. Whilst overall output growth has outperformed the UK, the area - taken as a whole - has become less productive, relative to the UK, over the last five years. As is the case elsewhere in the Arc, output growth has been sustained by additional employment rather than rising productivity. In 2012, productivity per hour worked was 98.9 per cent of the UK average. By 2017, that had fallen to 94.9 per cent, the biggest five-year fall for any Combined Authority area⁴. **Cambridgeshire and Peterborough has therefore set itself a five-year target to reverse this trend, aiming to catch up with the national average for productivity per hour worked by 2024.**

To achieve this, current patterns of growth must change. At the moment, Greater Cambridge has a global intellectual and market reach, but its economic and societal impact remains local. Businesses in The Fens are strong at bringing cutting-edge research to market, but tend to do so in relative isolation. Peterborough is one of the fastest growing cities in the UK, but has not translated its industrial heritage and recent growth into shared prosperity. Therefore, economic successes are highly place-specific. Within a few miles of Cambridge there are many businesses which are not sharing in its success, let alone those much further away. Too many of the people working in Cambridge have commutes that are difficult, long and growing: not out of choice, but necessity due to high housing costs. In isolated hamlets and in the biggest cities, the challenge of ageing means isolation and ill health. Businesses face increasing risks from a changing climate and other environmental pressures. The practical role of this Local Industrial Strategy must be to apply new approaches to solving these problems. Doing so will deliver the growth needed and ensure this is done in the right way.

Figure 1: the sub-economies and Cambridgeshire and Peterborough



This Local Industrial Strategy is not a dash for growth at any price. Cambridgeshire and Peterborough Combined Authority will work to ensure growth is sustainable and has a positive effect on all communities and the environment, to ensure the long-term health of the area - social, environmental and economic. The Combined Authority's productivity-growth target is supported by three priorities, driven by the distinctive features of the local economy:

- ▶ **Improve the long-term capacity for growth in Greater Cambridge.** Greater Cambridge is a magnet to companies from across the globe and the home of world-leading digital (including artificial intelligence) and life science clusters. Its labour supply and research and innovation reputation are of the highest order. But there are signs that constraints are starting to bite. Modelling shows that housing, energy capacity and transport issues will significantly

reduce the success of Greater Cambridge if not dealt with. Local partners will act, with government's support, to reduce the risk of any stalling in the long-term high growth rates that Cambridge has enjoyed for several decades. This will be achieved by the Combined Authority and local government investing heavily in housing, transport and infrastructure, whilst supporting efforts to increase inward investment and to develop the infrastructure and skills needed to enable firm scale-up. Keeping Cambridge strong is crucial to leveraging the strengths of this globally-important and hugely successful cluster for the greater benefit of the other two economies and the UK as a whole.

- ▶ **Increase the sustainability and broaden the base of economic growth.** Growth has not been balanced across the local area, and growth in high value companies has been very unevenly spread. The interaction between the three economies of Greater Cambridge, The Fens and Peterborough is a potential strength. Each economy has its own specialisms, allowing the area as a whole to lead the UK on multiple fronts. However, disconnects between the different economies present a missed opportunity. By enabling them to work together more closely, this Local Industrial Strategy will look to widen the benefits of high growth in some areas, most notably in Cambridge,

to others. The business support networks and skills provision across the area will be better connected to ensure that all areas benefit from the wealth of expertise that exists.

- ▶ **Expand and build on the clusters and networks that have enabled Cambridge to become a global leader.** The benefits of the global success of Greater Cambridge have, for the most part, remained localised. Whilst there are signs some non-knowledge intensive businesses are moving out of Cambridge to the wider area, work will take place to ensure all parts of Cambridgeshire and Peterborough can thrive. This means building on places' existing industrial strengths and developing a distinctive offer to help the firms with greatest potential in these places to achieve their full growth potential. Specifically, local partners will target improved productivity and access to international markets by identifying opportunities for high-growth companies to accelerate business growth where there is greater capacity. And innovative growth will be supported by encouraging individual business leaders, sectors, and places to join together to build an economy-wide business support eco-system. This eco-system will promote business growth, greater productivity, better commercialised innovation, greater global market access and more effective skills development - in support of a more inclusive and resilient economy.

These priorities will be delivered by the actions set out against each of the foundations of productivity in the subsequent sections.

Realising this ambition will require a change in how the three sub-economies work. Greater Cambridge is a hotspot. There are other patches of excellence in Peterborough, in Huntingdonshire, and in The Fens - but these hotspots are generally isolated. This means some of the conditions that have made Cambridge so globally successful must be replicated - dense business networks, the right balance of competition and collaboration, access to finance, and the provision of high-quality business growth, productivity, innovation and global market access support, as well as partnerships with key anchor institutions. This will ensure that the emerging technologies and industries are being applied and will make Cambridgeshire and Peterborough a better place in which to live as well as work and do business.

At the same time, the success of Greater Cambridge cannot be taken for granted. There are serious risks that without investment in housing, transport and infrastructure that the area needs, the global businesses there may take flight to more attractive global centres of innovation-based growth and it will make it harder to achieve the national 2.4 per cent R&D target.

Avoiding long-term risks to the productivity and growth of the local and national economy requires a focus on these issues in Greater Cambridge and its business base.

This Local Industrial Strategy therefore is underpinned by the fifth Industrial Strategy foundation of productivity: Places. The approach taken recognises the needs of the different places, across one of the largest Combined Authority areas in the UK. Greater Cambridge, Greater Peterborough, and The Fens each present different opportunities and challenges. This Local Industrial Strategy responds to these, tailoring the application and mix of the interventions to the very specific needs of each sub-economy.

This means higher levels of transport and innovation spend in Greater Cambridge, with more focus on business growth eco-system development, skills and education in The Fens and Greater Peterborough, including exploring scope to deliver a new university and Innovation Launchpads in the north and east of the area, to stimulate the level of growth from innovation, leading to higher productivity and prosperity there. These could be closely modelled upon what is working well in Cambridge.



Oxford-Cambridge Arc: Economic Context

This Local Industrial Strategy for Cambridgeshire and Peterborough articulates government and local partners' shared ambitions for the area at a sub-regional level, outlining how specific interventions in the local area will drive future growth in Cambridgeshire and Peterborough and across the Arc more widely.

These local ambitions sit alongside a range of work which will be progressed collectively at an Arc level.

Each of the Local Industrial Strategies across the Arc should be read as 'local chapters' of the national Industrial Strategy⁵- outlining not only the ambitions for the local areas, but also how their strengths and assets will contribute to national objectives.

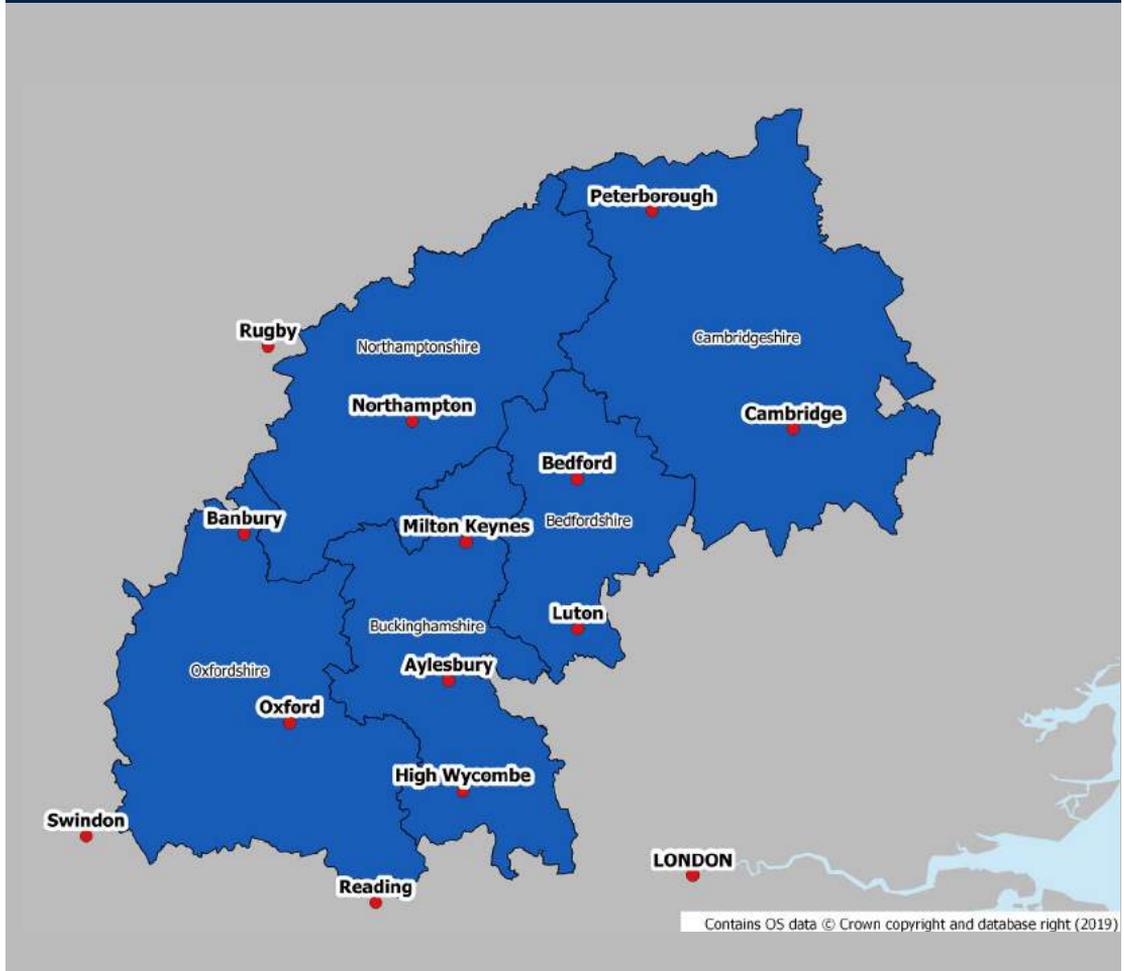
The economic opportunity presented by the Arc is significant. But it will not happen by itself. It will take concerted and coordinated work by both government and the local areas to ensure that the Arc remains an economic asset of international standing over the coming decades. This Local Industrial Strategy for Cambridgeshire and Peterborough, published alongside those for Buckinghamshire, Oxfordshire and the South East Midlands, shows how this will be done.

Introduction to the Arc

The Arc is a world-leading economic area, underpinned by a high-quality environment, which has the potential to deliver transformational growth that will create jobs and boost local and regional economies for the benefit of existing and future communities. It contains almost four million residents and over two million jobs, contributing £111bn of Gross Value Added to the UK economy per year⁶ and the transformative economic potential to contribute around £191.5bn by 2050. It is a highly productive and prosperous region with global strengths in science, technology and high-value manufacturing.

The Arc covers the ceremonial counties of Oxfordshire, Buckinghamshire, Northamptonshire, Bedfordshire and Cambridgeshire. The economic landscape is covered by the Oxfordshire, Buckinghamshire and South East Midlands Local Enterprise Partnerships and the Cambridgeshire and Peterborough Mayoral Combined Authority's Business Board.

Figure 2: Map of the Oxford-Cambridge Arc



The Arc as a whole is a strongly knowledge-intensive economy. It contains ten diverse universities⁷, including the Universities of Oxford and Cambridge, two of the world's greatest and most internationally-recognisable centres of learning, and a network of cutting-edge science parks, research institutions, businesses and incubators.

The Arc is home to world-leading R&D and is already renowned as a place of global firsts - pioneering cures for disease, forging breakthroughs in engine technology, innovation in future energy and transport systems, and developing world-leading strengths in technologies that are shaping the twenty-first century. But it has the ambition and ability to go further.

Its continued success will be critical if the UK is to meet its target of 2.4 per cent of GDP being spent on R&D by 2027 and its knowledge and innovation assets enable the area to be world-leading in industries that have rapidly growing, global markets.

The Arc today: Key growth sectors

Transformational growth of the scale envisaged across the Arc will need to build on the breadth of existing assets and strengths found across the local area. The Arc is home to two globally renowned life sciences clusters in Oxford and Cambridge - the most productive life sciences clusters in Europe, which already compete internationally with the global leaders in San Francisco and Boston, Massachusetts. These clusters feature prominently in the UK's Life Science Sector Deals, published in 2017 and 2018. The Cambridge life sciences cluster alone is home to over 400 companies, with 15,500 employees and contributing around £2.9bn annually to the UK economy⁸. Oxfordshire is home to a world-leading bioscience cluster, with an estimated 180 R&D companies and over 150 companies in associated industries. It has world-class R&D facilities, with four new innovation centres at the Oxford BioEscalator, the Begbroke Accelerator, Harwell Science and Innovation Campus and Culham Science Centre. Buckinghamshire is also home to a growing med-tech sector and the county also houses national facilities such as the spinal centre in Stoke Mandeville.

The Arc has significant strengths in the space and satellite sector. The Harwell Science and Innovation Campus in Oxfordshire comprises over 90 space organisations employing nearly 1,000 people and is the largest space cluster in Europe incorporating the European Space Agency, the Space Applications Catapult and the National Satellite Testing Facility.

In aerospace, Central Bedfordshire's Cranfield University, which is home to the Aerospace Integration Research Centre and the UK's Aerospace Technology Institute, is building a Digital Aviation Research and Technology Centre that will spearhead the UK's research into digital aviation technology.

The Arc is a world leader in advanced manufacturing, with particular specialisms in high-performance technology and motorsport engineering. Silverstone is home to 40 advanced manufacturing companies, testing facilities for materials and vehicles and the iconic F1 Circuit. More widely, there are over 4,000 businesses operating in 'Motorsport Valley'⁹, which extends from Northamptonshire into Oxfordshire and beyond - a £6bn global cluster of automotive, motorsport and advanced manufacturing companies.

The Future of Mobility features heavily across the Arc as a whole, specifically in the research, development and commercialisation of connected and autonomous vehicles. Key assets include the RACE Centre at Culham Science Centre, which is a UK centre of excellence of robotics and autonomous systems, Millbrook Proving Ground in Central Bedfordshire and, at Milton Keynes, a hub of the Connected Places Catapult and the UK Autodrive project.

There are several leading creative and digital clusters within the Arc. In Buckinghamshire, Pinewood Studios and the National Film and Television School comprise two globally renowned state-of-the-art facilities. Milton Keynes, Peterborough, Cambridge, Luton, Northampton, Oxford, High Wycombe, South Bucks and Aylesbury all have highly concentrated creative and digital clusters with diverse specialisations. Oxfordshire is home to a range of strengths including computer games, software development, cybersecurity, high performance computing as well as film and TV including the new £78m studio facilities at Didcot opened by Rebellion. In Cambridge, the information technology and digital technology cluster is highly concentrated, with a strong track record of establishing and growing globally significant companies. This high concentration of modern, creative, industries, have led to Arc businesses featuring heavily in the UK's Creative Industries Sector Deal.

Policy context

Recognising the importance of the area and the opportunity it provides for the UK, the government has already made significant investment to support local growth and productivity in the Arc over recent years. This has included:

- ▶ committing over £400m of Local Growth Funding to the LEPs in the Arc from 2015/16 to 2020/21, to fund growth enabling projects;
- ▶ agreeing over £800m of funding for economic growth, transport and skills through the Cambridgeshire and Peterborough Devolution Deal;
- ▶ continuing to invest in the four LEPs' Growth Hubs to provide business support across the Arc and investment in the Greater South East Energy Hub;
- ▶ supporting the accelerated development of key sites through an Enterprise Zone programme, including in Science Vale, Northampton Waterside, Aylesbury Vale and Alconbury Weald; and
- ▶ investing, through Innovate UK, £670m in 1000 businesses in the Arc since 2010 to help them develop and innovate new products and services.

It was part of recognising the national importance that in 2016 the government commissioned the National Infrastructure Commission (NIC) to undertake a study to strengthen collective understanding of the area's economic growth potential. The NIC published its report¹⁰ - Partnering for Prosperity: A new deal for the Cambridge-Milton Keynes- Oxford Arc - in 2017, concluding that, with the right interventions, the Arc could harbour transformational growth, even against its existing levels of output. It explained that meeting this long-term potential would require both significantly more homes to be built and significantly improved east-west transport connectivity.

In its response to the NIC report¹¹, published in 2018, the government designated the Arc as a key economic priority, outlining a breadth of actions to seize the opportunity for growth identified in the NIC's report. The government also affirmed its ambition to deliver more homes in the Arc, supported by measures such as the £215m Oxfordshire Housing and Growth Deal and the recent confirmation of £445m Housing and Investment Funding for the Arc. The government has committed to deliver transformational infrastructure projects to improve east-west connectivity across the Arc, most notably by completing the £1bn East West Rail scheme and the Expressway. Government is also working with partners to identify what utilities, digital and environmental infrastructure, planning and investment is required.

Importantly, the government's response to the NIC recognised that delivering ambitious growth on this scale had to go hand in hand with environmental enhancement to maximise the benefits to local people and leave the environment in a better state for future generations.

Since then, the government and local leaders have been working in partnership across the Arc to match the level of ambition for the area. This includes working collaboratively to realise the area's potential through four inter-related policy pillars:

- ▶ **Productivity** - ensuring businesses are supported to maximise the Arc's economic prosperity, including the skills needed to enable communities to benefit from the jobs created;
- ▶ **Place-making** - creating places valued by local communities, through the delivery of sufficient, affordable and high-quality homes, to increase affordability and support growth in the Arc, as well as wider services including health and education;
- ▶ **Connectivity** - delivering the infrastructure communities need, including transport and digital connectivity, as well as utilities;
- ▶ **Environment** - investing in environmental infrastructure and ensuring growth leaves the environment in a better state for future generations.

The four Arc Local Industrial Strategies set out a shared response to the productivity pillar.

Figure 3: Cambridge and Peterborough in regional context



Other key strategic corridors

In addition to the Arc, Cambridgeshire and Peterborough is also the central nexus for many other important corridors and national connections, which will play an active role in future growth.

London-Stansted-Cambridge

Corridor: This corridor, also known as the UK’s Innovation Corridor, connects the area to the capital, via the research centres of Hertfordshire and Essex, and the international airport at Stansted. Key assets include GSK, Harlow Enterprise Zone, and the London universities.

This area has the potential to generate 400,000 new jobs, half of which would be in technological jobs¹², by 2036. This Corridor plays a significant role in the growth of the Life Sciences sector across the wider region. The Cambridgeshire and Peterborough Business Board continues to invest in connectivity across this crucial corridor, including recent investment into the upgrade of the M11.

Cambridge-Norwich Eastern Agriculture and Tech Corridor:

The local area shares many common business interests and sectors with Norfolk, most notably around agri-tech and food sciences, where the University of East Anglia is a world-leading research centre.

This Corridor presents opportunities to work together, cementing the East of England as a global centre of excellence.

Connections to the midlands and the north: Just as important as links south to London and east to Norwich, are links to the midlands and the north. These regional powerhouses are leading the UK in many areas of innovation and progress - by connecting into them through key transport links like the East Coast Mainline and A1 the local area stands to benefit from, and contribute to, their productivity growth.

Links to international ports: The east coast ports, most notably Felixstowe, connect to the world, and are a key outlet for exports. As local partners look to grow the area's export contribution to GDP, and thrive in the post-EU exit world, these links to the global marketplace put Cambridgeshire and Peterborough in a strong position to trade.

Evidence Summary

A detailed understanding of the economy of Cambridgeshire and Peterborough is the keystone of this Local Industrial Strategy.

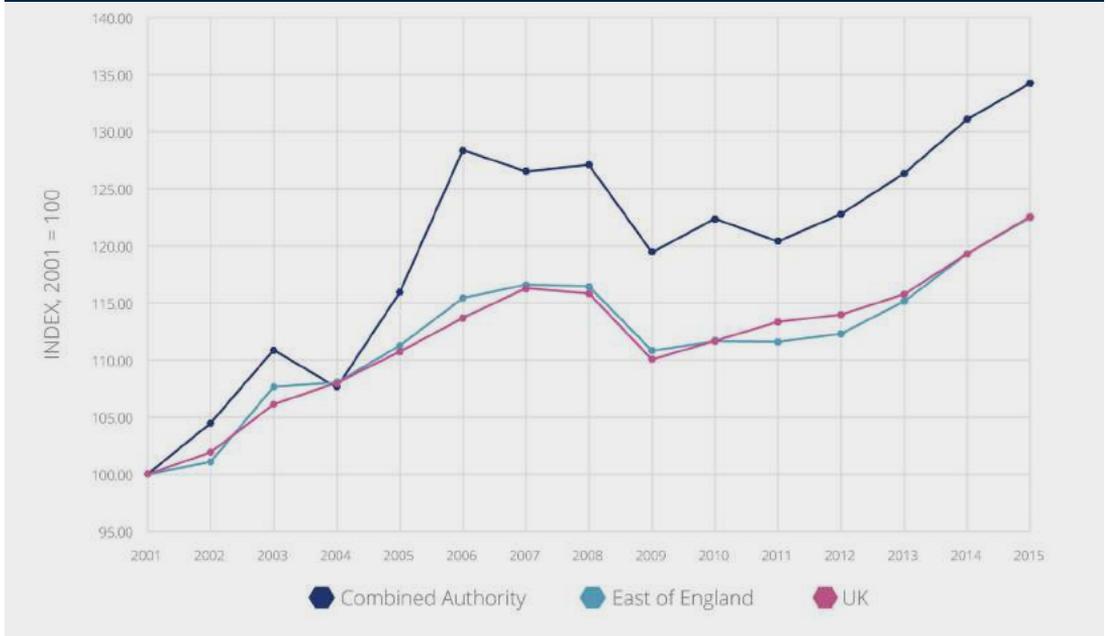
This is found in the Cambridgeshire and Peterborough Independent Economic Review (CPIER). This was developed to inform the Combined Authority of the nature of the economy, developing trends, and issues to be addressed. To ensure this was impartial, an independent commission was set up to chair it, led by economist Dame Kate Barker. Others on the Commission included business people and academics with specialist expertise relevant to the work. Much of the detail that sits behind the key economic features identified here can be found in the review (which is also informing the delivery of other key local plans like the Combined Authority's Local Transport Plan and the Non-Statutory Strategic Spatial Framework).

Base engine - strong business performance

Businesses in the area are performing strongly. Employment growth has been strong, and, as revealed by independent analysis of all registered businesses in the area, significantly outpacing official sample-based figures, by as much as one per cent per annum. This is true not only of the urban hotspots of Greater Cambridge and Peterborough, but right across Cambridgeshire and Peterborough.

This has translated into strong growth in output, as measured by GVA. Strikingly, the region has bucked the wider regional trend of the east of England, to outperform the UK.

Figure 4: Real Gross Value Added (GVA) - index - 2001=100



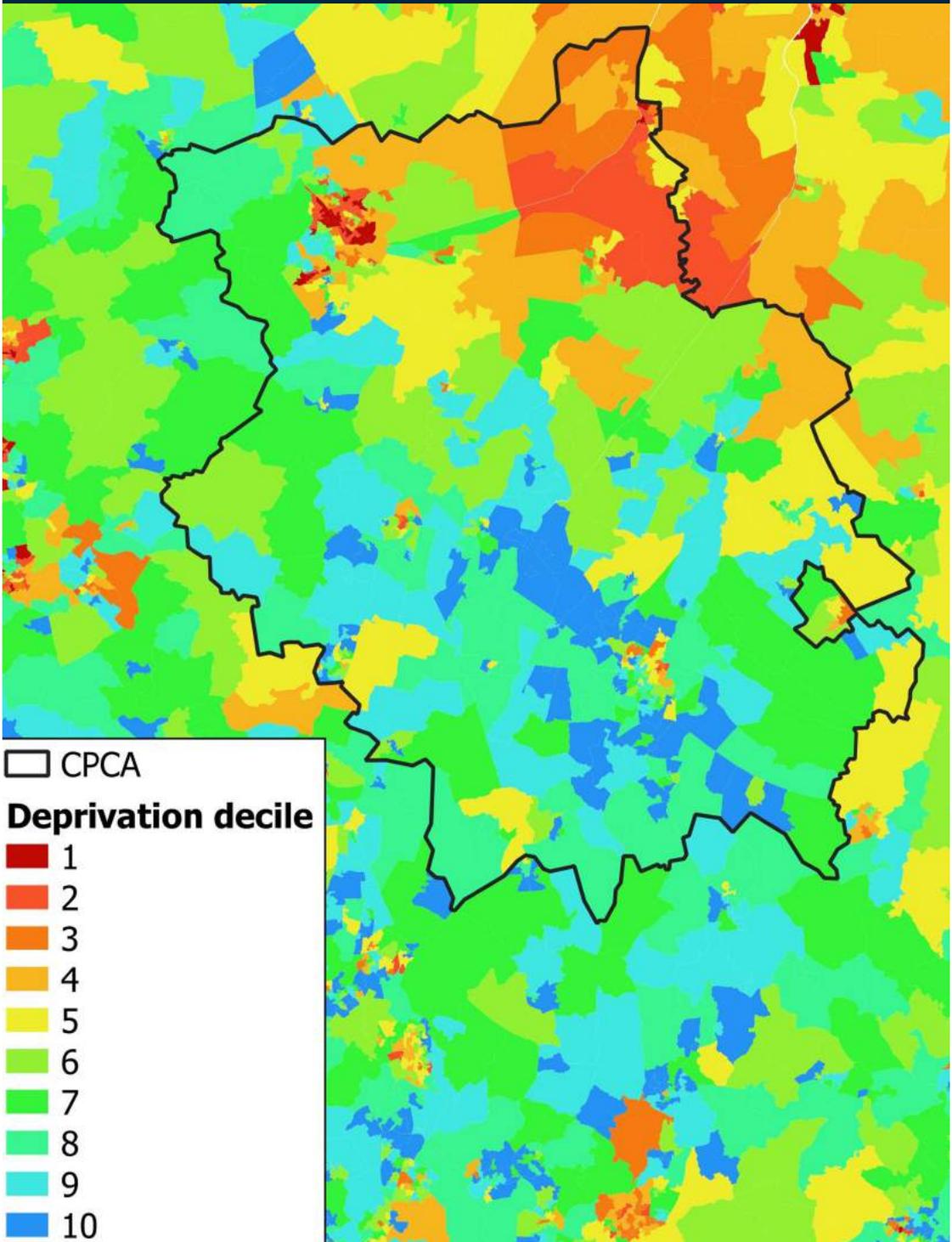
An inclusive growth challenge

Despite business growth having been strong everywhere recently, the benefits have not been felt across the whole region in the same way. The economy of Greater Cambridge has been performing the most strongly. The positive effects of this have been felt in parts of the Greater Cambridge ecosystem, with market towns such as Ely and St Ives benefiting. However, further north the effects are not being felt. Wages are notably lower in the northern districts of Peterborough and Fenland than the southern districts of Cambridge and South Cambridgeshire. There are related challenges of poorer health and education outcomes, with healthy life expectancy falling below the retirement age in some parts of the north of the Combined Authority.

This can be seen clearly through the Indexes of Multiple Deprivation with strong contrasts within and across the county between areas ranked amongst the best (blue) and the worst (red) in the country¹³.

In many ways, the area is a microcosm of the UK as a whole. It has a prosperous south, based around one principal city, which receives the majority of foreign investment and attracts high value companies and talent from across the world. International evidence increasingly shows that this concentration of growth leads to both high living standards and significant inequality. Further north, there is much industry and innovation, but while there are many success stories, business investment, skill levels and wages are lower.

Figure 5: Index of multiple deprivation

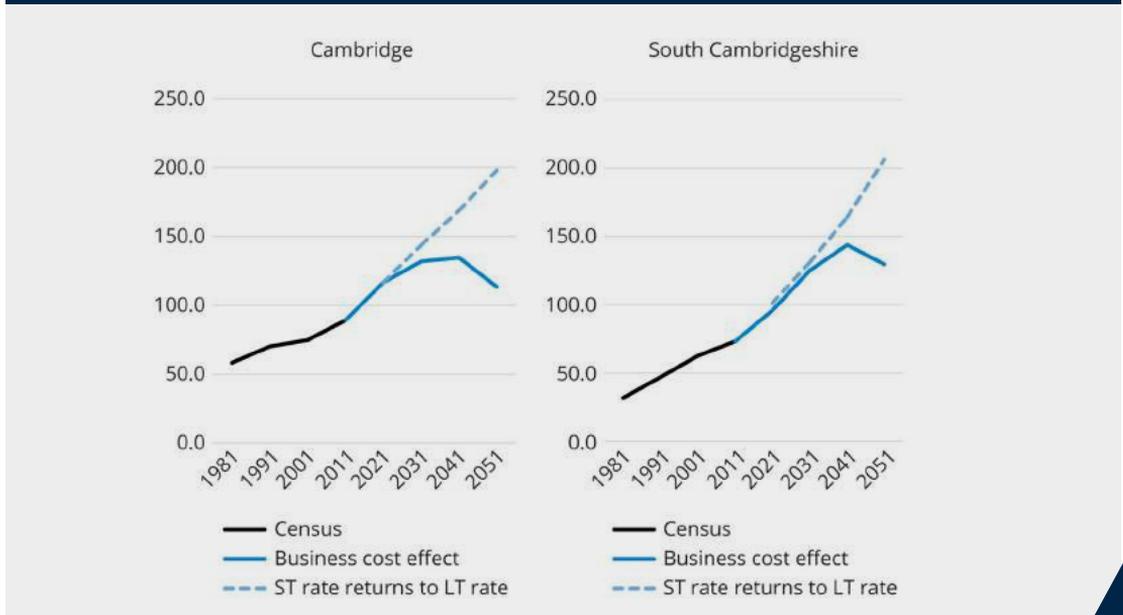


Risks to UK industrial success

The CPIER also identified a significant risk to the national economy if transport infrastructure and housing issues were not tackled in the Greater Cambridge area. The report also recognises the ongoing impacts of climate change, coupled with future growth and a rising population across the area will add further stress to the area’s environmental infrastructure and natural environment. Advanced land use and transport modelling from the University of Cambridge (similar to that carried out for some of London’s bigger transport projects) has shown that, on current rates of transport infrastructure development and housing delivery, the growth of the economy will slow, before eventually going into reverse within 10 to 15 years.

This leads the CPIER to make its seventh key recommendation, that ‘[a] package of transport and other infrastructure projects to alleviate the growing pains of Greater Cambridge should be considered the single most important infrastructure priority facing the Combined Authority in the short- to medium-term’. Energy infrastructure is also at capacity around Cambridge, hampering the ability to build new science facilities. Securing its future success will ensure Greater Cambridge can remain a global leader in innovation and the commercialisation of new ideas and an internationally recognised centre for artificial intelligence, life sciences, food production and advanced manufacturing.

Figure 6: University of Cambridge modelling: employment growth set to stall in the medium-term, and go into reverse in the long-term.



Sectoral strengths and specialisms

The detailed evidence base created for the CPIER shows that Cambridgeshire and Peterborough have specialisms in high-productivity, high value added, sectors.

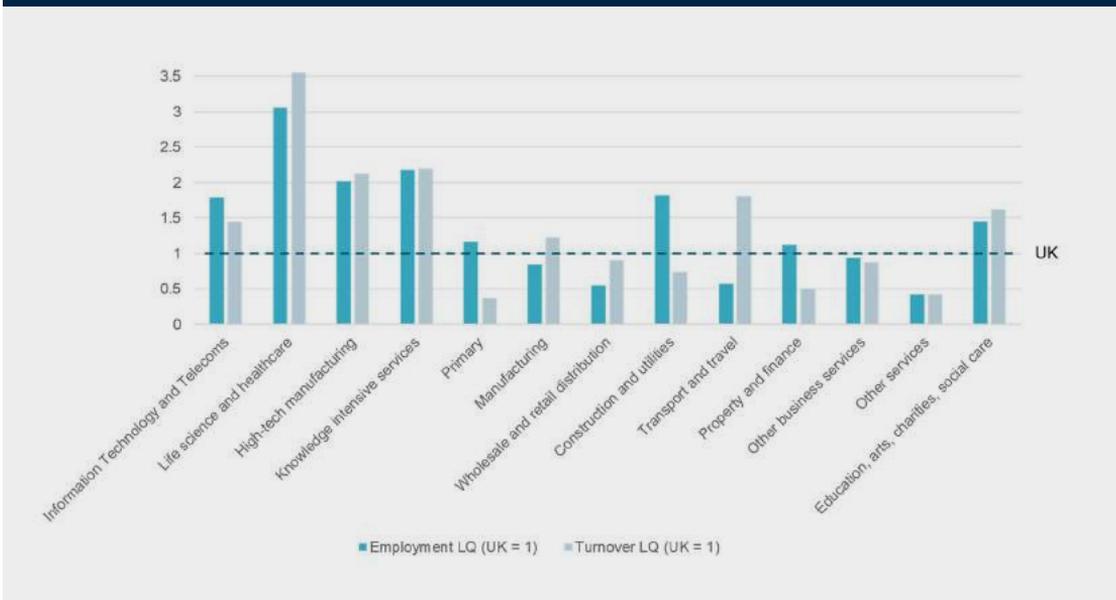
The area is strong in sectors which directly contribute towards the UK's Grand Challenges and are important global growth markets. Based on a combination of existing strength and future growth opportunities, four strategic growth sectors have been identified:

- ▶ life sciences;
- ▶ digital and information technologies (including artificial intelligence);
- ▶ advanced manufacturing and materials; and
- ▶ agri-tech

These have been used as a basis for recruitment of industry leaders to the new Business Board, and for each a sector growth strategy will be co-produced between businesses and the Combined Authority. These will sit as part of the Local Industrial Strategy framework and will make recommendations for the consideration of the public sector and businesses alike.

The diagram below shows local specialisations in terms of employment and total turnover compared to the UK in a range of business sectors.

Figure 7. Location Quotients for employment and turnover in businesses in Cambridgeshire and Peterborough



Life sciences

As demonstrated through the Life Sciences Sector Deals, life sciences is one of the UK's greatest business strengths, and the reach of the biomedical industry in Greater Cambridge, and increasingly Huntingdon, is international. This cluster is worth around £3bn annually to the UK economy, encompassing over 430 companies and employing over 15,000 people. The growth of Greater Cambridge is therefore intrinsically linked to the future success of this cluster. Government announced £45m investment for cloud computing software at the European Bioinformatics Institute in Cambridge, in the Spring Statement¹⁴, in support of this.

The Greater Cambridge cluster is the global HQ of AstraZeneca and also has the presence of other global industry leaders such as GlaxoSmithKline and Envigo. World-leading genomics firm Illumina has recently completed a £150m new facility at Granta Park.

The sector covers a wide variety of interrelated fields, including pharmaceuticals, genomics, and biodata. Local industry generates numerous spin-outs with innovative products, including Abcam (which offers research tools into proteins and other chemicals), Crescendo Biologics (therapeutics in oncology) and Kymab (developing antibody technologies).

The Science Industry Partnership, which brings employers together with government to provide vocational skills needed for the science industry, is launching its first local programme in Cambridgeshire. Apprenticeship standards for the bioinformatics sector and other key sectors are being developed.

Case Study: Cambridge Centre for Ageing and Neuroscience (Cam-CAN)

The Cambridge Centre for Ageing and Neuroscience (Cam-CAN) is a large-scale collaborative research project, launched in October 2010, with substantial funding from the Biotechnology and Biological Sciences Research Council (BBSRC).

The Cam-CAN project is using epidemiological, behavioural, and neuroimaging data to understand how individuals can best retain cognitive abilities into old age.

Case Study: Positive Ageing Research Institute (Anglia Ruskin University)

The Positive Ageing Research Institute (PARI), is a cross-faculty multidisciplinary institute involving over 130 academics from across Anglia Ruskin University.

The institute brings together a multi-disciplinary team representing diverse disciplines. Common interests

in ageing unites the Institute with practitioners, local authorities, industry, and voluntary organisations.

Through innovations local partners aim to bring greater sustainability to technology-enabled health services, in order to create business opportunities and economic growth.

Life science opportunities

Greater Cambridge is a global centre of life sciences that will increasingly grow across Huntingdonshire and be connected to a wider cluster operating across the Arc. Local partners in Cambridgeshire and Peterborough will continue to deepen the connectivity between research, industry, and the public sector (especially the hospitals), with a specific focus on addressing the Ageing Society Grand Challenge. This will include the creation of an Innovation Launchpad, based on pioneering business scale-up approaches already proven in California, partnering with a global player to help start-ups and scale-ups get access to customers and markets world-wide. It will pioneer new approaches in digital health, using the local area as a testbed for innovation. A Life Sciences Accelerator Scheme and key infrastructure improvements - such as the A505 and Cambridge South Station - are particularly crucial for this sector.

Agri-tech

The Cambridgeshire and Peterborough area (and the wider east of England) is one of the most fertile soils regions in the UK and is home to many progressive and innovative farmers, ground-breaking technologists and innovative companies across the food and drink value chain as well as centres of world-leading research. The management of and confidence in key data, including the associated analysis and interpretation for aiding reliable decision making will become ever more important. There are untapped potential opportunities in The Fens and across the local area for growing and strengthening this sector specialism, and by creating better connections with local clusters in clean growth, advanced manufacturing, artificial intelligence and machine learning - collectively tackling other key policy agendas in the UK and on a global stage such as healthy ageing, nutrition and well-being. A big opportunity within this is to develop new career opportunities as part of the devolved local skills system.

Agri-tech in this region is increasingly operating as a successful innovation ecosystem. An example of this is Agri-Tech East, which brings closer collaboration between the scientific and research community and the businesses (including farmers and growers), operating across the supply chain. The Cambridgeshire and Peterborough Combined Authority has also recently established a venture capital fund Cambridge Agri-tech to support businesses to grow. There is now a need to build on existing partnerships with other geographical areas.

38,000 people are currently employed in the agri-tech sector in the local economy, generating approximately £4bn of economic value per annum. Agri-tech opportunities were highlighted by the CPIER and the sector is forecast to grow by over 10 per cent over the next ten years. The local agri-tech cluster has internationally significant research and development in both agriculture and food. This research base is also a significant provider of postgraduate training with a global reputation and creates a significant market for those with higher level skills and qualifications.

The strength and breadth of the research base is built on a highly skilled, international workforce, attracted to Cambridgeshire by the reputation of centres such as NIAB and the University of Cambridge. Firms in the economy have expertise in sensors, robotics, genomics and communications and are at the forefront of ideas and commercial applications that are shaping the food production in the UK and globally.

Automation provides opportunities for economies of scale to increase the efficiency with which food and drink is produced, and new career opportunities are developing in engineering; robotics; software development and producing algorithms.

Agri-tech opportunities

The ambition is to support further growth in pioneering R&D in plant science and precision agriculture, including crop bioscience, engineering, robotics and information technology-based systems. This will be achieved as part of a regional offer, including New Anglia (through an expansion of the joint Eastern Agri-tech Growth Initiative), the Oxford-Cambridge Arc, Greater Lincolnshire LEP and other partners.

Innovative ecosystem will be further strengthened, including by working with networks like Agri-Tech East, developing new skills provision and building upon the emerging local presence of venture capital and investment funds.

The Combined Authority will develop and fund an The area's innovation Launchpad facility, or facilities, which offer new locations for businesses, research institutes, incubators and other key players to co-locate to support the development of innovation ecosystems. Agri-tech is one of the area's strategic growth sectors which does not yet have central agglomerations which will be a key ingredient in its future success.

Case Study: NIAB Innovation Hub @ Soham

The Innovation Hub is a purpose-built facility in the heart of The Fens, facilitated by funding from the Eastern Agri-tech Growth Initiative (Local Growth Fund). This unique centre managed by NIAB has a particular focus on fresh produce. Welcoming farmers and growers, food businesses, and other users wishing to engage in applied research work to reduce or re-use all forms of waste in the food supply chain and improve resource use efficiency in its production. Research and trial activity includes:

- ▶ waste reduction – healthy soils, crop production, field and post-harvest storage;
- ▶ waste management – packing, processing and alternative uses and markets;
- ▶ increase value or application potential for new products from waste streams;
- ▶ identifying opportunities to recycle waste or generate energy and co-products;
- ▶ target total and marketable field losses, due to weather, pests and diseases or other damage; and
- ▶ reduce loss of quality or specification in store due to crop physiology, disease or storage conditions.

Digital, information technologies and artificial intelligence

The vibrancy and technological expertise of the Cambridgeshire and Peterborough area digital sector is a significant reason for the area's international attractiveness. The sector delivers almost nine per cent of the area's revenue and eight per cent of employment. Furthermore, it is the fastest growing knowledge intensive sector, increasing 10.4 per cent over the last three years (compared to 6.6 per cent for KI as a whole). Foreign direct investment (FDI) into the area and sector is strong and, when these projects occur, they generate twice the proportion of jobs than information technologies FDI more generally across the UK.

A well-known example, ARM, was started in Cambridge with fewer than twenty employees and has grown into a global player valued at £24bn in 2016. This is one reason why Greater Cambridge is an internationally recognised centre for artificial intelligence and digital technology innovation, with Cambridge University among the top five globally in this area.

Academic and home-grown success has led to major private investment too. Microsoft established their first non-US research centre in Cambridge in 1997, followed by Apple, Amazon, Samsung and others.

As demonstrated in the artificial intelligence sector deal, Cambridge is a key part of the £1bn invested in UK artificial intelligence start-ups. Venture funding of £170m was invested in Darktrace, £140m in BenevolentAI, and £50m in Featurespace, and the number of spinouts from the University continues to rise with starts ups such as PROWLER.io, Cytora, AudioTelligence and Intelligens, and many other companies choosing Cambridge for their international headquarters. Cambridge has recently secured a major expansion by Bristol-based Graphcore, which designs chips used for artificial intelligence. More widely, firms are supported in innovative growth by numerous technological assets, key amongst which is the new artificial intelligence supercomputer which is being used to support artificial intelligence companies in developing next generation solutions.

The inter-relationship between digital and the other Local Industrial Strategy strategic growth sectors can be neatly demonstrated by the 2018 decision of one of Europe's biggest artificial intelligence firms - BenevolentAI - to acquire a drug discovery and development facility at the Babraham Research Campus in Greater Cambridge, to dramatically speed up drug discovery.

Digital and information technologies opportunities

The opportunity is to establish Greater Cambridge and the Arc as the preferred global base for firms from across the world to create and adopt the technologies of tomorrow, offering businesses exceptional talent at all levels and a highly networked ecosystem that has global impact. As part of this, the Combined Authority will host a global artificial intelligence conference in Greater Cambridge. This represents a significant opportunity to increase the sector's growth both within the local economy and across the Arc and the UK. It will not be just the digital sector that benefits from this growth, but all vertical markets who can increase efficiency and deliver advanced benefits to customers through the adoption of cutting-edge technology products and services such as big data, artificial intelligence, robotics and next-generation connectivity solutions.

Advanced manufacturing and materials

Specialisms and strengths in this sector exist across all of the three economies of Cambridgeshire and Peterborough, with an overall strength of this region being the practical application of innovation in cutting-edge commercial products. Peterborough has a strong manufacturing history, large firms such as Caterpillar have engineering bases there as well as a number of cutting-edge smaller firms, such as Radical Sports Cars.

Twenty per cent of business turnover generated in Peterborough comes from high-tech manufacturing (with a further six per cent stemming from other manufacturing).

Prototype fabrications for the first magnetic resonance imaging (MRI) machines were built at Chatteris in The Fens, and Stainless Metalcraft continues to produce high-end scientific products, such as cryostats, chambers that can maintain very low temperatures. Composites are a particular strength in the west of the area, with Forward Composites, Paxford Composites and Codem Composites based in and around Huntingdon, producing alternatives to steel and aluminium for aerospace, motorsport and other industries. Greater Cambridge is home to leading firms such as Marshalls Aerospace and Hexcel Composites, as well as major industry research institutions such as TWI (The Welding Institute), the Cambridge Graphene Centre, and the Institute for Manufacturing operating across the whole country as well as with firms locally. Greater Cambridge also acts as a successful spin out engine to the rest of the UK, with innovations such as metalysis created there and scaled elsewhere.

Hubs of manufacturing also exist within Cambridgeshire's Market Towns, such as St Neots. The St Neots Masterplan for Growth identifies how the manufacturing base - which includes firms such as Sealed Air - can act as a contributor to the growth of the sector within the Arc, making use of new connectivity brought about by East-West Rail and the A428 Upgrade.

Advanced manufacturing opportunities

Advanced manufacturing and materials is a broad sector that contains many subsets and will play a myriad of roles across the future growth of the Cambridgeshire and Peterborough economy. The East of England Science and Innovation Audit of 2017 found this sector to be 'of foundational importance to the other themes' (namely life sciences, agri-tech and information technologies). But alongside its 'foundational' importance, it has institutions and features which bond it together as a sector in its own right, and which this Local Industrial Strategy will support specifically to grow.

This opportunity covers the whole of Cambridgeshire and Peterborough, where the existing base engine of firms can be supported to grow into bigger clusters and eco-systems with interventions such as a new Innovation Launchpad, the Growth Service, the scoping work for a proposed new university in Peterborough, and the development of a Fens Business Network. Drawing on skills and capabilities that already exist in some hotspots, the Combined Authority can provide impetus to development of advanced manufacturing across the region. A specific opportunity lies in scale-up, developing facilities closely coupled to local universities where technologies can be developed and taken through the early stages of commercialisation.

There is scope to pilot this idea on the West Cambridge site, in collaboration with the Institute for Manufacturing and the wider Engineering Department. There is also an opportunity to collaborate with other centres of excellence in advanced materials - such as Greater Manchester and CPI in Tees Valley - to grow the UK's strengths in this technology. As part of the Growth Service the Combined Authority will seek to create Scale-Up Engines to support early stage commercialisation.

Key supporting sectors

Five supporting sectors have been identified where local strengths exist and where local partners can build upon the strong market position to create business growth and increase the sustainability of the local economy further:

► **Logistics:** The connectedness of parts of Cambridgeshire and Peterborough to the UK transport network means it plays a significant part in the UK logistics sector. In particular, Peterborough has a base on the A1, which has attracted many firms to establish distribution centres there, including Amazon. Due to the expansion of online shopping, this industry is likely to both grow and change in future as new methods of transport and distribution become available. However, to ensure the city continues to be attractive and to capture the growth in this sector suitable sites need to be allocated and developed offering both good

motorway connections and access to the local labour force. Local partners will consider options to provide more and better logistics commercial space on the A1 West (Haddon) at Peterborough, where additional, contiguous housing is being developed around the Ortons, as this could provide a significant opportunity for improving the city's GVA performance

► **Health and social care:** With almost 30,000 staff working in health and social care in Cambridgeshire and Peterborough, the sector is a significant part of the economy, with long-term potential for growth and productivity gains through the adoption of new technologies and techniques. Working with existing organisations, such as Cambridge University Health Partners, we can develop closer local links between R&D and early stage product and therapy development in life sciences and the local health and care system, opportunities exist to drive commercial and health benefits locally as well as globally. The impact of the local health and social care sector on the wider inclusion and growth goals is also crucial. It benefits everyone to keep staff well, and there is good evidence that there are opportunities for better using employee assistance schemes and occupational health schemes to keep people in work and reduce pressure on the care system;

► **Education:** Education is a key UK export. Recent Department for Education statistics¹⁵ found the value of UK education-related exports to be £18.8bn in 2014. This figure grew by 18 per cent between 2010 and 2015. The University of Cambridge's reputation attracts many students from abroad - when these spend money in the UK, it registers as an export contribution to the national economy. The region is home to other key higher and further education institutions including Anglia Ruskin University, and the College of West Anglia. Due to the prestige of Cambridge, there are numerous language schools, and colleges offering preparatory courses, which attract students from around the world;

► **Visitor economy and business tourism:** The area is home to key visitor attractions such as Ely Cathedral and the city of Cambridge which make a significant contribution to the local economy and natural assets including Wicken Fen and the Great Fen Project are increasingly important to the visitor offer. However, Cambridge struggles with the weight of tourist attraction at times, and like many world cities, 'over-tourism' is a risk. Many of the market towns and villages surrounding Cambridge have rich visitor opportunities, which if developed into a more coordinated offer can bring in revenue and create real economic opportunities. Business tourism is very important as well and has an important impact on the

growth and productivity of other sectors in the economy, especially in knowledge intensive industries. In Greater Cambridge a lack of large conference facilities hampers potential growth here, as international enquires are turned away due to the lack of sufficient capacity; and

► **Construction:** Much of the development in Cambridgeshire and Peterborough is fuelling strong growth in the construction sector. This gives an important opportunity to drive productivity and growth across the sector, adopting new techniques and technologies. The local area has numerous examples of good building quality, such as the University of Cambridge's development at Eddington, which reuses surface level water, reducing wastage and minimising flood risk. Government has also invested in the Centre for Digital Built Britain at Cambridge University, a core partner in the Construction Innovation Hub designed to support the transformation of the construction sector, and the Construction Industry Training Board (CITB) is relocating to Peterborough.

The subsequent sections of this strategy set out the actions that will be taken against each of the foundations of productivity to support further business growth and productivity gains, building on local existing strengths and emerging trends. These actions will support all sectors.





Ideas

Deliver an economy-wide, place-based innovation and growth eco-system.

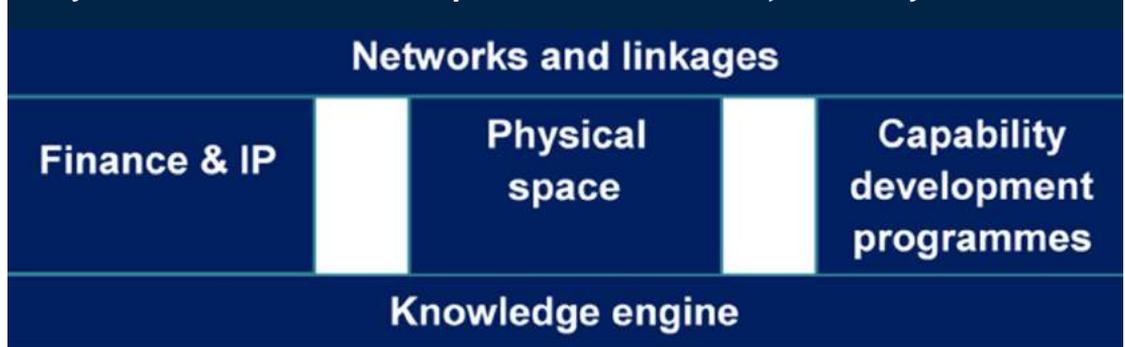
Cambridgeshire and Peterborough is a global centre of highly diverse and successful innovation, representing one of the UK’s greatest assets for idea generation and commercialisation. R&D funding by UK Research and Innovation (UKRI) in the UK is the highest outside of London within Cambridgeshire and Peterborough¹⁶. Its future success is key to the UK achieving the commitment set out in the Industrial Strategy of 2.4 per cent of GDP invested in R&D by 2027, and 3 per cent in the longer term.

The priorities and interventions of this Local Industrial Strategy are collectively intended to maximise the potential of

some of this area’s greatest assets, through enabling the future success of the local centres of innovation - most notably Greater Cambridge - whilst also actively working to spread innovation across more of the economy, moving firms and sectors up the value-chain.

To achieve this, the evidence and recommendations from the CPIER and the 2017 East of England Science and Innovation Audit have been considered and interventions have been tailored in ways that will support clusters of innovation to grow and that are bespoke to places and sectors.

Figure 8 The Innovation Ecosystem model as developed through the CPIER



Evidence and barriers

Productivity growth is heavily dependent on the introduction of innovative new products and services and the ideas and the circumstances which give rise to them. Whilst much process innovation happens in situ in offices and laboratories in companies wherever they are, the nature of innovation is changing more generally in a way that is becoming more context sensitive. If the major innovations of the motor age happened in a handful of places and a small number of large companies, the model of today is more complex, diverse and more broadly based. So, place matters intrinsically for innovation.

Greater Cambridge is one of the world's most effective and diverse innovation systems. Innovation ecosystems need knowledge engines that drive development. These include research institutions like universities at the high end, and education providers at an earlier point in the system. It also includes the businesses, professional service advisors, and supply chains which generate clusters of specialisms that draw in interest and expertise.

Across Cambridgeshire and Peterborough this knowledge engine operates to the highest of levels within Greater Cambridge. The University of Cambridge provides one of the best research institutions in the world, and a pivotal anchor for innovation in the city and beyond.

Combined with the area's private R&D labs and public sector research establishments such as the Medical Research Council Laboratory of Molecular Biology, this provides the region with a formidable research base.

Knowledge institutions can be found in other clusters in various stages of maturity, such as the recent Agri-tech Innovation Hub, sponsored by the National Institute of Agricultural Botany (NIAB), which was brought forward with Local Enterprise Partnership investment. The Combined Authority proposals to make the case for creating a new university in Peterborough which could, over time, become the knowledge engine in the north of the region.

This model of innovation sees the knowledge engine as the foundation for three pillars of policy, namely finance and intellectual property, physical space and capability development programmes.

The picture on availability of, and access to, finance and intellectual property is mixed. Cambridge has a deep pool of early stage finance through the likes of Cambridge Angels and Cambridge Capital Group, but even here firms report low levels of access to scale up capital and growth strategy support.

The University is seeking to address this market failure by supporting Cambridge Innovation Capital and private sector investors - such as Amadeus and Ahren - are important players, but elsewhere there is a lack both of seed finance and an absence of the collaborative approach to innovation which seems to be so important a part of Cambridge's success.

The requirements for physical space, like finance, have stages. What a business needs in its start-up phase is different to its needs as it matures and grows. It is vital, if an innovation ecosystem is to be effective for there to be variety and availability at every stage. There is evidence that Greater Cambridge could benefit from more start up and particularly scale up space, which are less likely to attract private sector funding given the risk profile and need for more commercially focussed wet labs for product development and testing. The Combined Authority and Greater Cambridge Partnership are working to support this. Peterborough has a significant shortage of business space and especially incubator space, important to encourage entrepreneurs to set up and locate. The Fens lack suitable move-on space and also the tailored innovative spaces that can link to specific sectors and can support wider start up and innovation activity in market towns.

In terms of capability development, both the finance and property offers in Greater Cambridge are more developed than those elsewhere. In Peterborough there is need which could be met linked to the proposed new university and growth support proposed through the Mayor's Endowment for Global Growth (EGG). The Fens are similarly in need - focused on sectors including agri-tech and advanced manufacturing. One key reason for the differential development of the areas which reflects the strength of the innovation and growth eco-systems in each area is the strength of networks and linkages in each area. Cambridge has highly effective networks: the links between incubators, venture capital, mentors and entrepreneurs are essential to the 'Cambridge Phenomenon'. In Peterborough there is greater a need to establish the sort of functional mentoring, advisory, coaching and supply chain networks that have made Cambridge so successful. The Fens needs to encourage firms who compete to collaborate and build knowledge.

Interventions

Ambition

To deliver an economy wide place-based innovation and growth eco-system

To drive progress towards achieving this priority, Cambridgeshire and Peterborough will:

▶ Improve networking and linkages:

- establish the Innovate 2 Grow Network, bringing together leading entrepreneurs, innovators, mentors and coaches with growing firms to strengthen linkages across the area;
- establish new networks and strengthen existing networks in specific towns and cities;
- support businesses, universities and other partners to collaborate to maximise public and private investment, including R&D funding in the four major growth opportunities identified above and to support the supply chain innovation which will be needed across many sectors; and
- establishing a Fens Business Network.

▶ Improve funding for Intellectual Property exploitation:

- Consider options to develop a Mayoral Innovation and Growth Investment Fund, targeted at growth firms to fill gaps in the equity and loan market to break into new markets and support innovation and productivity gains. Particularly

in places where access to finance is more difficult. This will provide equity and loan investment to firms already accessing growth coaching and support to break into global markets and transform their productivity through innovation;

- expansion of the Eastern Agri-tech Research, Development and Prototyping Growth Initiative, enabling direct funding support to more firms; and
 - establishing an SME Innovate 2 Grow Fund to promote R&D, innovation and commercialisation of ideas - offering match funding to SMEs to write bids to access R&D and innovation grants.
- ▶ Improve the amount of physical space for businesses to set up and grow, including:
- continue to work to develop at least four new Innovation Launchpads. These will be the focal point for innovation cluster development. Focussing on product development to support key growth sectors - bringing together established firms with training, R&D, and incubation facilities. These will be focused on key sectors such as agri-tech, artificial intelligence and advanced manufacturing innovation; and
 - supporting new start up, incubation, and scale-up space where market failures are identified.

- ▶ Introduce new programmes of support for businesses
 - developing a CPCA-wide innovation and growth support eco-system, harnessing the growth, innovation and productivity expertise within the Knowledge Engine of Cambridge to create 1,000 Global Growth Champions;
 - establishing Micro Innovation Systems in market towns, in specific locations to be identified by the Market Town Strategies, that integrate the improved business networking infrastructure local partners propose to create, with the Global Growth Champion support services, the proposed growth investment funding into specific new market town business growth space.

Working with local partners across the Arc Cambridgeshire and Peterborough will also:

- ▶ Harness the collective strength of the Arc’s research base will be essential. The new Arc Universities Group will act as the focal point from cross-Arc collaboration on science and research, identifying and delivering joint R&D projects and providing a pipeline of talent to knowledge-intensive businesses.
- ▶ Strengthen its ability for businesses to commercialise ideas coming out of its universities and others. Key to this will be a network of ‘Living Laboratories’ that both trial technologies linked to new developments across the Arc and help address the Grand Challenges.

Arc partners will also use assets such as Harwell, Silverstone and Cranfield to establish new networks that support the convergence of technologies across sectors and seek to develop emerging districts such as West Cambridge.

- ▶ Seek to grow its role as a global research and innovation hub, acting as a UK magnet for international talent, R&D, Foreign Direct Investment and research collaborations. The LEPs and MCA will work with the Department for International Trade, the Arc Universities Group and others to channel foreign investment in the assets and projects that will make the biggest impact on Arc-wide and UK growth.

Government is working in partnership with Cambridgeshire and Peterborough to support the delivery of this priority by:

- ▶ Agreeing a Devolution Deal with local partners that provides new powers over transport, planning and skills, £600m investment fund over 30 years to grow the local economy and a further £170m to deliver new homes.
- ▶ Investing £146.7m Local Growth Fund to the area which has delivered, for example:
 - £1m investment to support a new innovation campus at the Cambridge Biomedical Campus; and
 - £500k investment into the MedTech Accelerator, set up to facilitate the early stage development of innovations in the broad area of medical technology.

- ▶ Investing £153m to support research and innovation in Cambridgeshire and Peterborough through Innovate UK's competitive bidding rounds.
- ▶ Defra and Cambridgeshire and Peterborough will take forward a new partnership, with Defra providing advice on best practice in and Cambridgeshire and Peterborough exploring opportunities to stimulate a step change in rural innovation more broadly.
- ▶ Supporting research and development of new transport systems and technologies across the Arc through investment by the Centre for Connected and Autonomous Vehicles, the Office for Low Emission Vehicles (OLEV), UKRI, Zenzic (formerly known as Meridian Mobility) and Innovate UK.
- ▶ Working with the LEPs within the Arc and other local partners, including England's Economic Heartland, to:
 - build on the Arc's existing role as a testbed for new transport technologies, such as automated vehicles and drones, working with government and Zenzic to access existing research and development support, and identify further opportunities to trial new mobility services within the Arc; and
 - support local authorities within the Arc to implement the Principles of the Future of Mobility Urban Strategy, providing guidance on design and planning to ensure new communities are designed and built to enable new approaches to mobility.



People

Improve and grow the local skills base to support a successful, globally competitive economy and labour market grounded in high-skilled and better-paid jobs, increased productivity, and growing strong, sustainable communities.

The Cambridgeshire and Peterborough Combined Authority has developed a Skills Strategy Framework that aims to improve and grow the local skills base to support a successful, globally competitive economy and labour market grounded in high-skilled and better-paid jobs, increased productivity, and growing strong, sustainable communities. This Skills Strategy sets out the actions that will be undertaken to drive this foundation of productivity forward. It has three key themes:

- ▶ achieve a high-quality offer tailored to the needs of the three sub-economies;
- ▶ empower local people to access education and skills to participate fully in society, to raise aspirations and enhance progress into further learning or work to help them stay and progress in work; and
- ▶ develop a dynamic skills market that responds to the changing needs of local business.

A summary of the evidence and actions of the Skills Strategy Framework follows.

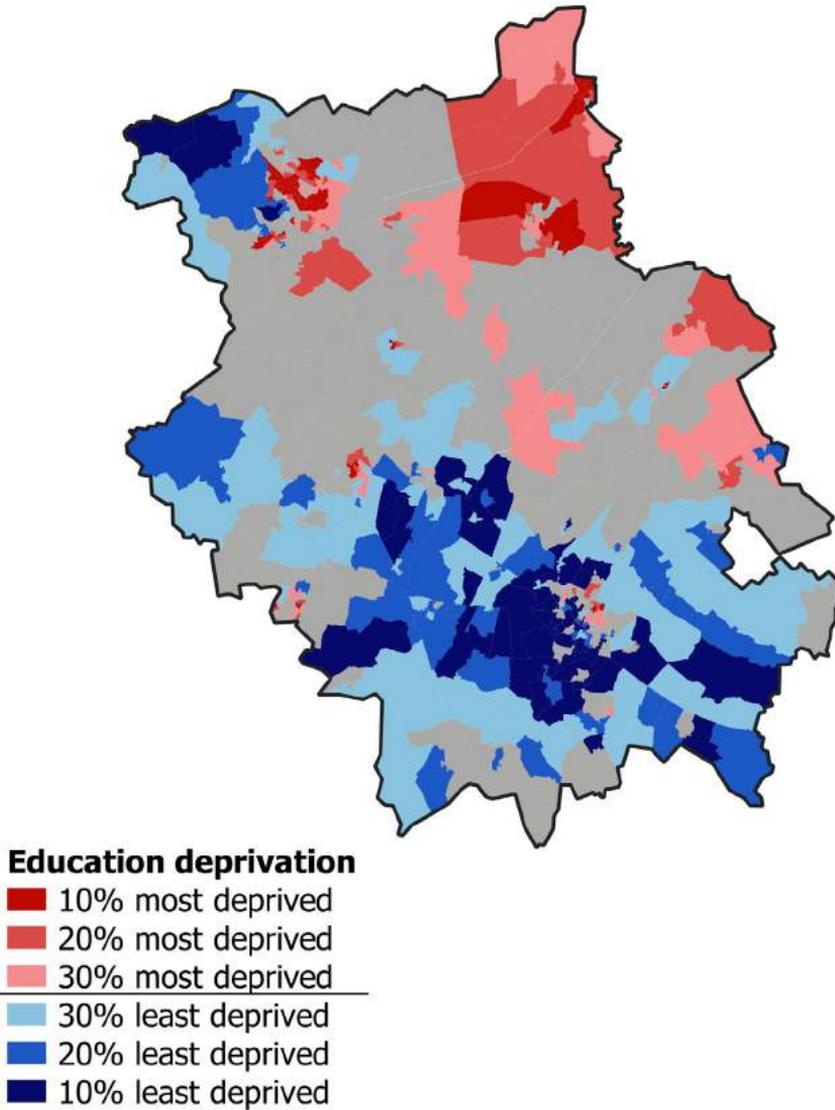
Evidence and barriers

The Cambridgeshire and Peterborough economy is largely successful - GVA growth has outpaced that in the region or nationally consistently over recent years.

But its three different sub-economies have different needs, and that is particularly true for this first Foundation of Productivity. The interface between demand for labour and places plays out in consequentially different ways. The evidence base for the area's Skills Strategy builds upon the CPIER to describe this issue in detail. Together with the Combined Authority's Public Service Reform programme, the approach to skills will involve local partners working with government to explore ways to overcome both deep-rooted social challenges and the implications of rapid growth on local public services in the context of significantly reduced public funding.



Figure 9 Education Deprivation



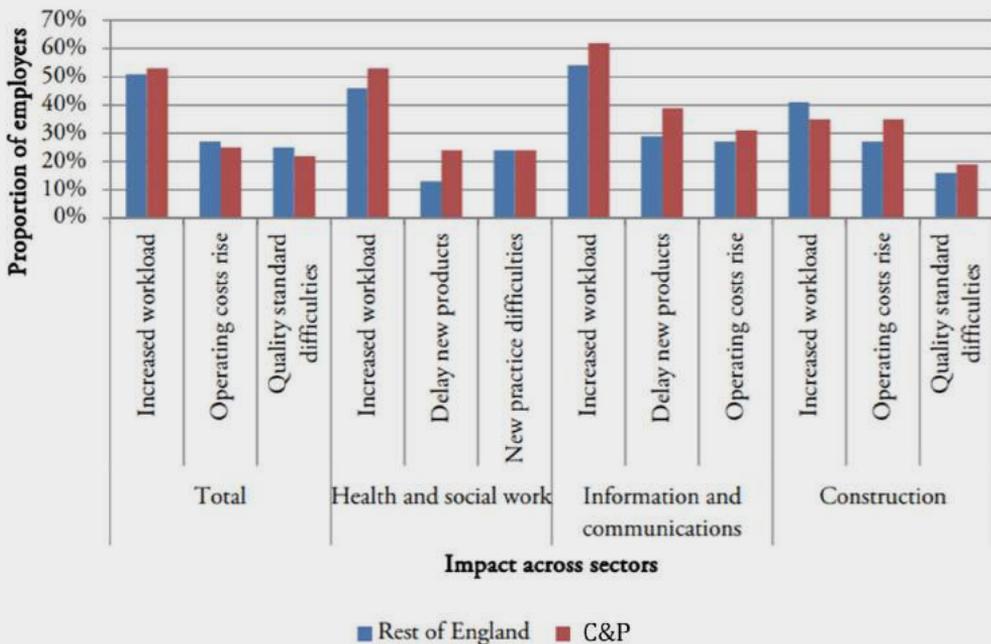
The actions in the Local Industrial Strategy and the Skills Strategy show how local partners are working across the different parts of Cambridgeshire and Peterborough, with those communities at each end of this spectrum and those

in between, ensuring that the education and skills offer of the area is adapting to enable employers in each economy to get the skills and abilities they need from the resident workforce, who in turn have access to high quality and well-paid work.

Nothing is more foundational for people than their education, which is why it is important, if not central, to this Strategy. Within Cambridgeshire and Peterborough, educational outcomes are highly uneven. South Cambridgeshire has some outstanding educational outcomes for example, whilst East Cambridgeshire and Fenland score 308th and 241st respectively out of 324 Local Authorities in England - hence why government has declared them a Social Mobility Opportunity Area. The map, on page 48, shows how educational deprivation is unevenly spread. If some of the schools of Cambridgeshire and Peterborough are not equipping young people with these outcomes, they can't play their

part in the economy of the area. If so, aspiration and achievement will remain low, removing the ability of further education and the Apprenticeship Levy to work in the way intended, and too much of Cambridgeshire and Peterborough will remain locked in a low skill, low pay equilibrium, structurally unable to provide the absorptive capacity the high growth areas of Greater Cambridge and Peterborough very much need. Raising educational outcomes across the whole areas is essential to rebalancing the economy of Cambridgeshire and Peterborough and the delivery of the goals in this strategy.

Figure 10 UK Employee Skills Survey



Technology, the rise in data driven approaches, the rapid move to 'servicisation' and new markets are rapidly changing the skills that businesses need and will continue to do so. Skilled labour shortages are in issue for many sectors, including construction, health and care, a range of STEM related firms. The CPIER shows that these shortages are having a greater impact on a wider range of businesses than in other regions and England as a whole. This includes on metrics such as increasing workload, creating higher operating costs in the information technology and construction sectors, and meaning delays in new products coming forward - therefore acting to slow down innovation and business growth potential. Cambridgeshire and Peterborough partners have therefore agreed a skills strategy that focusses on the overall responsiveness of the skills system and ensuring that people of all ages have the information and training (or retraining) needed to adapt and learn new skills.

Priorities

Based on the evidence the Cambridgeshire and Peterborough Skills Strategy Framework sets out six core priorities:

- ▶ **Staff shortages in priority sectors** - improving the availability of trained staff in technical and management roles;
- ▶ **Perception vs reality** - improving the perception of some sectors and industries and improving

career and vocational pathway promotion in schools and colleges;

- ▶ **Plugging the skills gaps** - improving connections between education and qualifications and skills and jobs by ensuring all young people have access to quality careers advice and guidance to make informed choices at transition points and linking careers to curriculum to provide the support young people need to make choices at GCSE and A level;
- ▶ **Engagement in STEM subjects in schools/colleges** - embedding the importance of STEM subjects in schools/colleges to raise awareness of jobs/qualifications that are available within growth sectors including manufacturing, engineering, life sciences, agri-tech, digital and information technology, construction and health and social care;
- ▶ **Connecting the disconnected** - improve connections with the labour market for those that currently risk missing out, through support, transition programs, wellbeing support and community groups, with a specific focus on retraining, including for older people; and
- ▶ **Improving the evidence and evaluation base** - it is imperative that local partners are highly successful through the devolved projects they currently run. Measuring impact and evaluating outcomes effectively, ensuring that the investment yields, or wherever possibly exceeds, the return expected will be essential.

Interventions

Ambition

Improve and grow the local skills base to support a successful, globally competitive economy and labour market grounded in high-skilled and better-paid jobs, increased productivity, and growing strong, sustainable communities.

To drive progress towards achieving this priority, Cambridgeshire and Peterborough will:

- ▶ Establish the Skills Advisory Panel to provide local labour market intelligence to support adult funding decisions and engagement with providers.
- ▶ Implement changes to the devolved Adult Education budget to change how it is invested and the related outcomes for individual opportunity and business needs.
- ▶ Undertake an in-depth evaluation of actions being taken as part of the Opportunity Area in Fenland and East Cambridgeshire, to inform future locally led interventions which may be developed through focussed work on market towns in the area.
- ▶ Continue to develop a Work Readiness and Aspiration Pilot: intensive interaction in schools in areas of deprivation, to reduce NEETs. Local partners will review the findings of an independent pilot and consider locally led plans to expand beyond the small number of schools currently engaged, to an economy-wide scheme.
- ▶ Create a Skills, Talent and Apprenticeship Hub: connecting employers, providers, and learners.
- ▶ Create a Skills Brokerage Service, bringing together demand and supply through a new dedicated service.
- ▶ Establish an Apprenticeship Ambassador Network, a voluntary network of business champions encouraging businesses to overcome reticence to create apprenticeships and encourage uptake.
- ▶ Provide sector specific support by continuing to deliver the CITB Construction Hub to provide on-site training for workers from declining sectors and military veterans.
- ▶ Look at scope to create a new university in Peterborough, that will attract highly skilled, productive individuals to the city, and develop the skills of the local population.

Working with local partners across the Arc Cambridgeshire and Peterborough will also:

- ▶ Review labour market intelligence across the Arc, to gain a better understanding of how skills provision is currently delivered and funding utilised. This will include working closely with the Department for Education through local Skills Advisory Panels and providers across the Arc to consider how local provision supports the ambitions set out throughout these strategies;
- ▶ Work with local employers to increase apprenticeship uptake across the Arc, supporting employers to maximise their Apprenticeship Levy contributions and drive social mobility.
- ▶ Work with local employers to support the effective role out of T levels and utilise local labour market intelligence to work with providers to consider how the local T level offer will support local businesses.
- ▶ Establish an Arc-wide skills marketplace, enabling the LEPs to continue to build on the positive working relationships with the Careers and Enterprise Company and other careers services. This will utilise the evidence provided by each Skills Advisory Panel, connecting businesses with skills providers and people with targeted support including apprenticeships, STEM skills, T levels, technical and degree apprenticeships.

Government is working in partnership with Cambridgeshire and Peterborough to support the delivery of this priority by:

- ▶ Agreeing a Devolution Deal with local partners that provides new powers over transport, planning and skills, £600m investment fund over 30 years to grow the local economy and a further £170m to deliver new homes.
- ▶ Devolving the Adult Education budget to Cambridgeshire and Peterborough.
- ▶ Implementing the Work and Health Programme, a collaborative initiative between government (through the Department of Health and the Department of Work and Pensions) and places to support people to find and keep a job.
- ▶ Funding the Health and Social Care Progression Academy via DWP to support progression within and across this priority sector.
- ▶ Investing £146.7m Local Growth Fund to the area which has delivered, for example:
 - a new state of the art training facility at Alconbury Weald Enterprise Zone to deliver technical, advanced and higher vocational skills in manufacturing, engineering, advanced construction and high-technology industries; and
 - creation of new training facilities at West Anglia Training Association in Huntingdon, specifically a 'mock-up' motorway facility and civil engineering academy.

- ▶ Working together to explore ways to increase the number and range of apprenticeships across multiple sectors. This will ensure the Apprenticeship Levy produces the benefits for which it is intended and to better support those employers to effectively utilise their levy.
- ▶ Government will commit to discussing with local partners how best to make the case for creating a new university in Peterborough. Pending successful discussions, fundraising will be taken forward locally.



Infrastructure

Drive productivity growth through infrastructure

The national Industrial Strategy notes that 'having modern and accessible infrastructure throughout the country is essential to future growth and prosperity'. The capacity of infrastructure is the limit of what is possible - without continually updating and improving infrastructure to meet businesses' needs, other attempts to boost business productivity and output will have rapidly diminishing returns. But better infrastructure doesn't just enable. It can effect change, by giving confidence to investors and companies that the success of an area is a project the government is willing to put its money behind. And infrastructure spending should itself be considered an investment - the financial and social returns of strategic infrastructure projects will repay the initial outlay many times over.

The Devolution Deal with government has provided Cambridgeshire and Peterborough with funding and powers to deliver the locally important infrastructure needed to drive growth. The Combined Authority has responsibility for a devolved transport budget and government also provided a further £95m from the Transforming Cities Fund, to put towards improvements in transport.

The Combined Authority and partners have recognised that infrastructure is a broad issue comprising transport, housing, digital connectivity and energy. All of which are experiencing critical issues in Cambridgeshire and Peterborough that is constraining growth potential.

Evidence and barriers

Insufficient infrastructure is hampering productivity growth. As part of the CPIER, a survey of businesses in the area was carried out by PWC to understand what the most important issues for them were. Poor infrastructure was repeatedly identified as a brake on growth in the area. The findings were striking and even with the Greater Cambridge Partnership's ambitious future investment strategy, comprising c.£600m programme of transformative infrastructure up to 2031, including Phase 1 Cambridge Autonomous Metro schemes that are due to be delivered in the early 2020s, much more is needed. Thirty per cent of businesses surveyed felt that digital infrastructure was constraining their growth. Transport was another often-cited limitation, businesses stressing that 'better road networks and finding a solution to reduce traffic congestion in Cambridge' was a top priority.

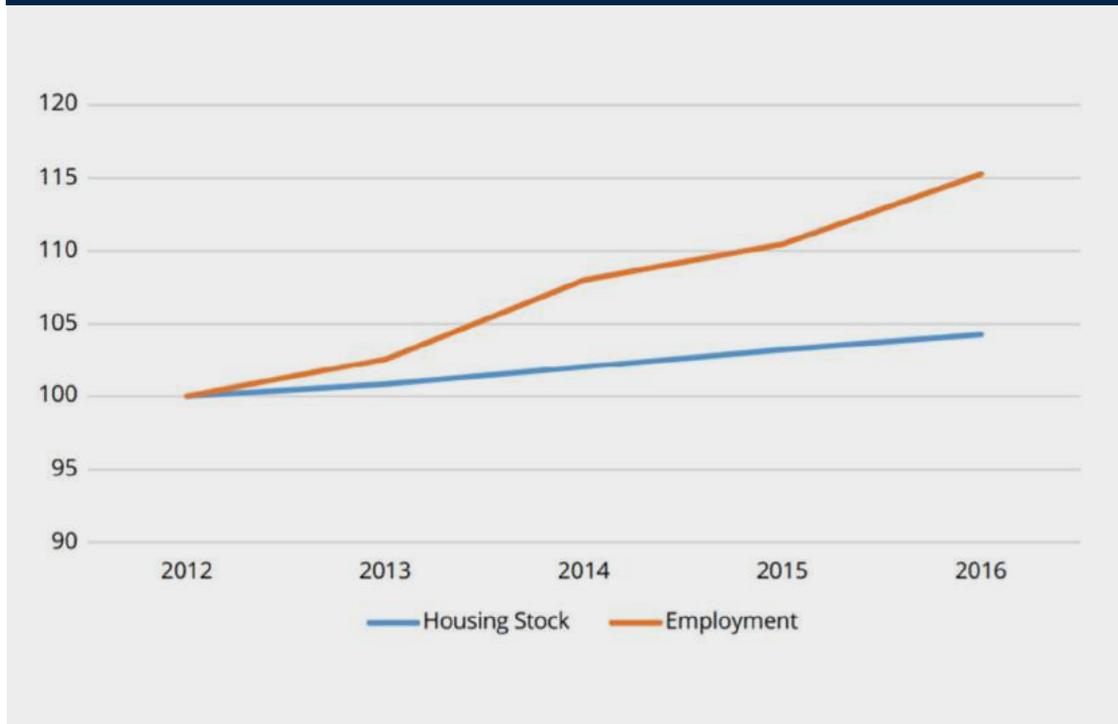


The clear growth in demand for transportation into Cambridge can be seen by looking at the number of entries and exits to Cambridge station, which has almost tripled since 1997/98. The travel to work area (TTWA) of the city has 'expanded since 2001 more than any other TTWA in England'¹⁷.

Closely tied to issues around transport are housing difficulties - with transport infrastructure often being key to opening up new areas for housing across the whole area. As shown in the diagram, employment growth has been consistently outpacing housing growth, especially in the south of the area.

Employment growth is closely linked to demand for housing, with much of the employment need being met by people moving to the area. The CPIER identifies both the need to increase the rate of housing delivery and the need to develop housing which meets a range of needs, such as 'intermediate' housing for those who don't qualify for social housing but are unable to get on the housing ladder. These housing issues are not just important for quality of life, but have been identified as a key problem in business surveys.

Figure 11 Growth in employment and housing stock, 2012=100



To meet this need, the Cambridgeshire and Peterborough Combined Authority Housing Strategy has established a £40m revolving fund, which allows the Combined Authority to go beyond the Devolution Deal target of 2,500 affordable homes. The Combined Authority will also use the Spatial Framework and direct investment in new settlements to encourage extra affordable housing provision, including by developing homes for first time buyers with price target based on earnings.

Having the right energy infrastructure is essential for growth, to meet the needs of businesses and to support the development of well-functioning, attractive places to live and work. Already around Cambridge, further development and growth locations are significantly constrained due to lack of electricity capacity. The expected shift towards electric vehicles will add further pressure to the network as well as creating new opportunities. The Combined Authority also wants to ensure that improvements in energy infrastructure benefit residents, increasing the affordability of supply and contributing to addressing fuel poverty.

Environmental infrastructure is also essential in enabling continued economic development. Over one third of the Cambridgeshire and Peterborough area is at risk of flooding, and climate change and sea level rise will exacerbate this risk.

The success of the agri-food economy is also linked to water supply and waste water management. Planning and investment in flood resilience and water management delivers long term returns on investment and is essential to support continued growth.

The area's strengths in research, artificial intelligence and digital will assist businesses in adapting and becoming more resilient to environmental change. The provision of significant numbers of new homes also provides the opportunity for sustainable development, in how communities operate and through design, construction and ensuring a net gain in biodiversity.

Local partners are committed to investment in infrastructure in a way that addresses wider goals of air quality, energy provision and use, biodiversity, resilience and adaptation to climate changes.

This Local Industrial Strategy supports the move towards more sustainable methods of production, energy systems, water management and modes of transport. In addition, it encourages businesses to adopt a natural capital approach, taking decisions in the light of their net environmental impact.

Interventions

Ambition

To drive productivity growth through infrastructure.

To drive progress towards achieving this priority, Cambridgeshire and Peterborough will:

- ▶ Seek to realise the ambitions in the locally agreed strategies:
 - Cambridgeshire and Peterborough Combined Authority Business Plan 2019/20;
 - Greater South East Local Energy Strategy; and
 - Connecting Cambridgeshire Delivery Plan.
 - Local Transport Plan
- ▶ Continue to deliver the Greater Cambridge City Deal worth £1bn, to improve local infrastructure in Cambridge City and South Cambridgeshire.
- ▶ Complete the Cambridgeshire and Peterborough Strategic Bus Review, on the basis of which a Bus Task Force is being established to examine opportunities for an improved future service.
- ▶ Continue the rollout of the Smart Cities initiative to Market Towns, along with ongoing work by Connecting Cambridgeshire to increase superfast broadband coverage.

Working with local partners across the Arc Cambridgeshire and Peterborough will also:

- ▶ Collaborate with Department for Transport, Highways England, East West Rail Company and England's Economic Heartland to expand the economic benefits of planned strategic transport links and improvements to the Major Roads network across the Arc and develop the first-mile-last-mile connections across the Arc.
- ▶ Work with government to develop a shared evidence base for the current and future energy needs of the Arc, including through the identification of opportunities to test new energy policies or approaches within the Arc.
- ▶ Work with government to identify and diffuse best practice on digital infrastructure planning in the Arc and explore opportunities to align new transport infrastructure with digital infrastructure in the Arc. This will aim to support industry to accelerate the roll-out of full fibre networks, enabling accelerated growth of 5G technologies across the Arc.

- ▶ Work to standardise public data where possible, and with support from government policy experts, to ensure that the opportunities to collect and capitalise on data are utilised - with a view to addressing Grand Challenges around the future of mobility, the ageing society, and clean growth.
 - ▶ Work with government across the wider Oxford-Cambridge Arc to explore proposals for new approaches to funding infrastructure, as set out in Government's response to National Infrastructure Commission Report at Autumn Statement 2018.
 - ▶ Investing £146.7m Local Growth Fund to the area which has delivered, for example;
 - £22m to support Ely Southern Bypass; and
 - Improvements to Bourges Boulevard in Peterborough.
 - ▶ Continue to deliver the Greater Cambridge City Deal worth £1bn, to improve local infrastructure in Cambridge City and South Cambridgeshire.
 - ▶ Funding CPCA to develop local energy strategies and supporting implementation via the South East Energy Hub.
 - ▶ Funding the Connecting Cambridgeshire programme, jointly invested into by local authorities and the Combined Authority.
- Government is working in partnership with Cambridgeshire and Peterborough to support the delivery of this priority by:**
- ▶ Agreeing a Devolution Deal with local partners that provides new powers over transport, planning and skills, £600m investment fund over 30 years to grow the local economy and a further £170m to deliver new homes.
 - ▶ Investing £95m from the Transforming Cities Fund.
 - ▶ Investing in significant new transport infrastructure through East West Rail and the Expressway, and first-mile-last-mile connectivity, as detailed in the Joint Statement on the Arc published at Spring Statement 2019.

Business Environment

Increase productivity, changing the spatial distribution of growth and supporting an increase in business growth and skills levels across the whole of the local economy

The evidence, challenges and opportunity

Cambridgeshire and Peterborough has a dynamic business environment. Between 2012 and 2017, there were over 25,000 businesses born here, compared to just under 20,000 businesses dying. The start-up culture and business creation capacity is strong, but so too are the factors that make early-life business survival challenging; not least cashflow. There has been a growth in turnover of companies in the area over the last six years of at least two per cent per annum, with over 10 per cent in South Cambridgeshire.

There is a good track record of supporting indigenous high growth firms, supported by dense networks in the Greater Cambridge economy between entrepreneurs across sectors, educational establishments, and the groups which have developed and play a key role on the life of the city and business environment. This is reflected in the type of business growth clustered in Greater Cambridge with agglomeration benefits around high value industries including life sciences and digital.

However, as set out in previous sections, delivering the overall growth ambitions means that action must

be taken to increase productivity, changing the spatial distribution of growth and supporting an increase in business growth and skills levels across the whole of the local economy.

The historical growth dynamic must be changed. The local innovation growth hotspot of Cambridge is global in its intellectual and market reach but more localised in its economic and societal impact. Greater Cambridge has some of the highest levels of entrepreneurship, where firms are created and scaled to take advantage of new business models, new forms of business and customer value and some of the fastest growing global markets. It is home to a high concentration of high-growth technology firms enabled by a world-class innovation and growth support eco-system.

The conditions that make Greater Cambridge a success need to be spread and replicated - primarily the peer-to-peer and commercial marketplace for innovation, growth, productivity and market access support, complemented by relatively easy access to growth finance.



A new approach to business support

Cambridgeshire and Peterborough will create a new Global Growth Service, bringing together a range of interventions to provide support to help businesses set-up and grow. This will include access to mentors, coaches, exporting expertise and new funding such as grants and loans. The Growth Hub will be the foundation for further development of the local growth support offer and market, which local partners will develop to provide further, targeted, growth support to firms in specific places. This reflects need to spread growth more evenly across cities, market towns and rural areas. The current Growth Hub will continue its role in focusing on the 'long tail' of low-productivity firms, providing typically between one and three hours of light-touch support to smaller (the vast majority of current customers being micro-firms) and lower growth potential firms, ensuring inclusive support is available for all types of business. The Growth Hub will continue to remain free and impartial as the first point of contact.

This will be an evolution of the Growth Hub and Signpost2Grow. The new service will pro-actively target businesses by segment, sector, their growth potential and their leaders' personal experience and characteristics, to increase capacity for growth.

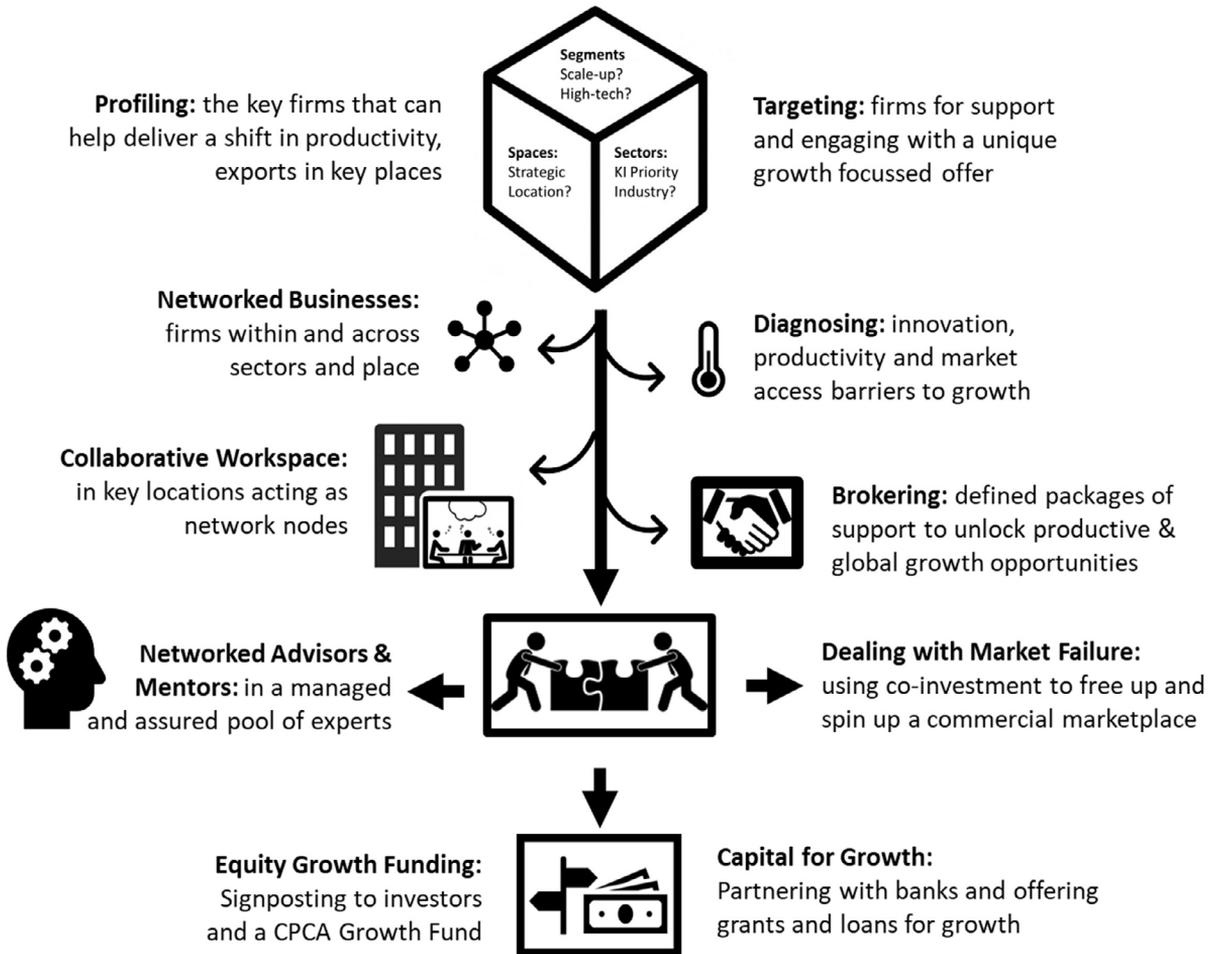
Primarily, this enhanced business growth support will be available to at least 250 firms per annum and over 1,000 by 2024, with an emphasis on sectors and clusters in Greater Peterborough and The Fens.

Secondly, to support productivity growth in the two sub-economies where it is currently lower, namely Greater Peterborough and The Fens, the enhanced support will be structured so that it delivers growth in the firms supported, that is more productive than the firms' previous baseline business.

Thirdly, export growth will be supported from 30 per cent to 35 per cent of GDP across the area, by delivering growth in the firms engaged, that is more export intensive than their baseline business.

Figure 12 shows how the Combined Authority will integrate the different elements of the new business support offer, targeting place and firms. A new Growth Company will be created to provide capacity and drive forward the proposed Growth Service. Its role will be to shift the growth dynamic to create more sustainable growth and de-risk growth. It will guide investment and interventions more strategically through innovative use of funding and business models.

Figure 12: The Combined Authority's new business offer



Interventions

Ambition

Increase productivity, changing the spatial distribution of growth and supporting an increase in business growth and skills levels across the whole of the local economy.

To drive progress towards achieving this priority, Cambridgeshire and Peterborough will:

- ▶ Create a new Global Growth Service targeted at the places and firms that will have the most impact - operational from 2020 and working with 250 firms per year. This will be delivered through a new Cambridgeshire and Peterborough Growth Company, an arms-length and commercially sustainable, not-for-profit business to bring together the Growth Hub, Signpost2Grow and the new Global Growth Service.
- ▶ Introduce a new 'Trade & Investment Service' featuring an integrated and customer-focused approach to co-ordinating the Global Growth Grants and Loans with the support offered by the Department for International Trade and Buyer Credit (financing overseas customers to buy British goods) and other products from UK Export Finance.
- ▶ Establish a Global Investor Service focused on landing new firms into Peterborough and Greater Cambridge.
- ▶ Create an Inaugural Growth Investment Fund targeted at growth firms to fill gaps in the equity and loan market to break into new markets and support innovation and productivity gains. Particularly in places where access to finance is more difficult.
- ▶ Introduce a Global Growth Champions Programme, targeted at life science and digital sectors.
- ▶ Continue to invest in the Cambridge Compass Enterprise Zone.
- ▶ Work with the Small Business Commissioner to launch a new programme to improve business survival rates for start-up and early stage firms, including a plan for a new economy-wide payments policy for SMEs.
- ▶ Encourage local businesses to adopt natural capital principles.

Working with local partners across the Arc Cambridgeshire and Peterborough will also:

- ▶ Work with government, within existing budgets, to develop improved, joined-up business support for high-growth firms across the Arc, developing an Arc-wide offer to different kinds of business.
- ▶ Work with the British Business Bank to help SMEs in the Arc to access the finance they need to grow their businesses. Local partners across the Arc will also explore the existing landscape and any gaps in finance for businesses, as well as the establishment of an Arc-wide business angel network to better engage with early-stage investors.
- ▶ Work with government to develop a shared understanding of market failures in creating new commercial premises within the Arc, bringing together a range of analysis already being undertaken locally, regionally, and nationally.
- ▶ Work with the Department for International Trade to encourage greater trade and inward investment, building on existing engagement at LEP level and including the development of an Oxford-Cambridge Arc Internationalisation Delivery Plan.

Government is working in partnership with Cambridgeshire and Peterborough to support the delivery of this priority by:

- ▶ Agreeing a Devolution Deal with local partners that provides new powers over transport, planning and skills, £600m investment fund over 30 years to grow the local economy and a further £170m to deliver new homes.
- ▶ Investing £146.7m Local Growth Fund to the area which has delivered, for example;
 - ▶ the Eastern Agri-Tech Growth Initiative which is supporting the development of new and innovative ideas within this growing sector; and
 - ▶ £16.1m of Growing Places Funding to support businesses in creating jobs.
- ▶ Continuing to support the Cambridgeshire and Peterborough's Growth Hub to provide high quality business support across the county.
- ▶ Supporting the development of the Alconbury Enterprise Zone.

Places

Tailor and customise intervention to meet the distinctive needs of the three different areas of the local economy – Greater Cambridge, Greater Peterborough and The Fens.

Economic activity does not take place in a vacuum. In the past place has often been left out of nationwide economic strategies, its inclusion as a foundation of productivity recognises a fundamental truth: how places work affects how their people and businesses work. One of the central findings of CPIER is that the Combined Authority area is not one, but three distinct economies - Greater Cambridge, Greater Peterborough and The Fens. This can be seen from observing travel to work patterns and examining concentrations of sectors. This insight is central to any economic strategy for the area, as it recognises that different economies have different opportunities and challenges and therefore must be treated differently. These are not bounded areas, it is not absolute where one economy stops and another starts.

The Greater Cambridge Economy

Greater Cambridge is a jewel in the crown of the UK economy. It extends out beyond the city to the rural towns and villages which surround it, and over time have become more and more connected to the city. This economy is generally prosperous, with high skills and wage levels. With its prestigious university at its core, it generates many new indigenous businesses

and attracts many international firms to operate in the area, eager to capitalise on the wealth of talent and innovative potential. Similarly, it is home to Anglia Ruskin University which has a strong reputation attracting many students to the city.

Through various waves of innovation-based growth, Greater Cambridge has cemented its position as one of the top Innovation Growth Clusters in the world, with multiple sector based sub-clusters and networks some also with a global profile. It is the centre of this area's life sciences, digital and technology, education and visitor economies.

The Greater Cambridge economy extends out in a number of directions across strategic corridors, such as the life sciences sector which extends south through the M11/A1 innovation corridor to London and westwards to Huntingdon - which also plays a significant role in the sector - and out across the Oxford-Cambridge Arc. It will continue to be local centre of inward investment, high quality apprenticeships, jobs and infrastructure investment.



Science parks and incubators have largely been subject to excess demand, and the city is a high performer in measures of innovation, such as patents per head. The city has also developed a globally pre-eminent and rich business networking culture, which brings together entrepreneurs from different disciplines and backgrounds, leading to types of knowledge spill-overs and cross-sector collaboration that drive business growth. Many of the big tech businesses (such as Amazon, Apple, Google, and Microsoft) have located in the city centre, in a clear sign of its appeal to world-leading companies.

However, success has come at a cost. Infrastructure which was designed for a small town is struggling to cope with the weight of commuters looking to work in the city. Strong employment growth has resulted in large numbers of people moving to the area. And this rapid influx of high salary workers has had some negative consequences: average house prices have risen from three to thirteen times average income in the last twenty years, and Cambridge has been identified as the most unequal city in the UK. But with the removal of these constraints Greater Cambridge has the clear ability to increase its already significant contribution to the UK economy.

The Greater Peterborough Economy

Peterborough is one of the youngest and fastest growing cities (by population) in the UK. It has grown rapidly since the arrival of the East Coast main line, firstly as a centre of the brickmaking industry, and more latterly, a centre for high-end engineering. It has also developed specialisms in professional services, agri-tech, logistics and distribution (complemented by its strong road and rail connectivity) and environmental sectors, such as water management.

Peterborough is a centre of clean growth and as an Environmental Capital is an exemplar for the future sustainable growth of the whole economy, with best practice being rolled out. It was named World Smart City in 2015 (beating Moscow and Dubai) and has since further invested in pioneering approaches to a circular economy which this strategy will look to support and spread across the whole region.

Peterborough has suffered, however, from poorer skills outcomes than the south of Cambridgeshire, with relatively low levels of degree-level qualifications, and is in the bottom ten cities in the UK for people with no formal qualifications¹⁸. This is partly due to the lack of a university in the city. Peterborough is also beginning to attract investment from some London-based companies looking to move professional and financial functions out of the capital. But for a city of its potential, it still attracts relatively low investment.

The Fens

The Fens is an area with a history rich in innovation, developed over generations through necessity of creating success in demanding natural conditions. The very land itself is a testimony to the ingenuity of engineers and the calculated risk taking of funders, who recognised the potential that use of pumping technology and water management techniques could have to create an area of fertile farmland. The Fens contain much of the UK's best farmland, and an associated industry of agriculture, agri-tech, and food manufacturing has grown up as a result - carrying the legacy of ingenuity into modern-day industry. The Fens are also home to a network of market towns, such as March, Wisbech and Littleport, which each have their own unique character and industrial specialisms and plentiful natural capital. Many diverse businesses continue to be based in The Fens, based on local innovation and entrepreneurship.

Nonetheless, The Fens have some unique economic challenges. The distance of some of the market towns from local cities, combined with poor transport infrastructure, has meant that populations are ageing as young people move away, and there can be a sense of economic isolation.

There is a high rate of 'high employment, low productivity' business, which manifests itself in low skill rates and reduced wages. There are few interactions between businesses, and a lack of open engagement between firms, which reduces the scope for innovation.

In addition to these economic challenges, there are also environmental risks, including water management risks for agri-food businesses. Much of the area is below sea level, and rising sea levels and increased incidences of heavy rainfall will further increase the risk of flooding. The CPIER recognises flood risk infrastructure as enabling infrastructure. If this infrastructure were not in place, and ceased to function, the economic cost would be between £7.3bn and £8.8bn. Understanding future flood risks, and identifying and delivering options for managing water sustainably for the future is therefore critical to the area's economic success.

Interventions

Ambition

To tailor and customise intervention to meet the distinctive needs of the three different areas of the local economy - Greater Cambridge, Greater Peterborough and The Fens.

To drive progress towards achieving this priority, Cambridgeshire and Peterborough will:

- ▶ Work collectively to overcome the acute growth constraints facing Greater Cambridge and support the innovation-led economy to grow further both locally and into the wider region:
 - The Combined Authority is committed to exploring how the longer-term growth of Cambridgeshire and Peterborough could be supported through new and innovative transport interventions. The Combined Authority, working with the Greater Cambridge Partnership, commissioned work to establish the in-principle viability of a Cambridgeshire Autonomous Metro (CAM) network which could support sustainable growth in and beyond Cambridge City. Local partners will continue to develop the business case for the CAM, exploring which models can build on existing investment to enable private sector investment for the proposed scheme.
- deliver the key infrastructure projects, notably the A10 and A505 Corridors as well as Cambridge South Station;
- implement the Greater Cambridge Life Sciences Accelerator Scheme, this will support budding new companies and help deliver necessary lab space;
- academics and businesses will be brought together to establish Greater Cambridge as the preferred global base for firms from across the world to create and adopt the digital and life science technologies of tomorrow. This will be supported through collaboration across the Arc and the establishment of a Global Artificial Intelligence Conference and a National Innovate to Grow (I2G) Conference in the city;
- introduce the new Global Growth Champions Programme. This network of 400 champions will work actively with the Greater Cambridge Partnership to target businesses in both the life science and digital sectors to accelerate their growth;
- increase apprenticeships through the introduction of a new Skills Brokerage Service, working with the Greater Cambridge Partnership;
- continue to invest in the Cambridge Compass Enterprise Zone to further enrich the business ecosystem and learn from these to inform other interventions; and

- alleviate perceived barriers to growth, such as regulation, by enhancing the Better Business for All Programme and promoting Primary Authority to all businesses.
- ▶ Improve skills, growing the high-productivity business base, and attracting investment in Greater Peterborough:
 - examine scope to create a new university in Peterborough, that will attract highly skilled, productive individuals to the city, and develop the skills of the local population;
 - Develop a masterplan for the redevelopment of the Peterborough Station Quarter, the masterplan will be used by local partners to attract investment and occupiers, both private and public sector, to deliver high quality jobs and business space as part of this City centre project.
 - introduce a new Global Growth Champions Programme of 350 champions that will work actively with Opportunity Peterborough to target businesses in key sectors in and around the area that will grow, become more productive, and trade more globally;
 - continue to work to develop Innovation Launchpads in areas such as agri-tech or artificial intelligence enabled logistics;
 - introduce a Skills Brokerage Service that will boost uptake of apprenticeships, especially in the advanced engineering, business and logistics sectors; and
- deliver the Work Readiness and Aspiration Pilot that will work by leading on intensive engagement with local schools to drive up aspiration and attainment and prepare young people for work.
- ▶ Deepen business networks and develop supported clusters to improve productive, business growth in The Fens:
 - develop The Fens Business Growth Network that will provide opportunities for collaboration between businesses to drive productivity growth and will evolve new clusters and networks of businesses linked together through the 250 Global Growth Champions local partners will create in The Fens;
 - develop market town masterplans for growth, tailoring economic policy for each market town, and increase the attractiveness of the towns for the new generation of lifestyle entrepreneurs;
 - create an Advanced Manufacturing Innovation Launchpad that will bring together local supply chain businesses, international R&D institutes, national training providers and partners with global market access;
 - encourage innovation and early stage growth in conjunction with the National Libraries Intellectual Property Centres in Cambridge and Peterborough and assist the creation of additional IP centres in market towns and rural areas;

- improve infrastructure, notably the A47 upgrade, a vital transport intervention for the North of the Combined Authority (especially for the market towns of Wisbech and March);
- expand the Eastern agri-tech Growth Fund by £4m, this will enable direct funding support to more firms in The Fens; and
- CPCA will continue to review options for providing business space for agri-tech Innovation such as that previously invested in the NIAB Innovation Hub in Soham.

Working with local partners across the Arc Cambridgeshire and Peterborough will also:

- ▶ Consider ways to contribute towards the government's Clean Growth Grand Challenge mission to at least halve the energy use of new buildings by 2030, supporting the Arc's wider ambition to create clean, energy efficient and sustainable communities for all.

Ensure that the environment in the Arc is left in a better state for future generations:

- ▶ embodying England's 25 Year Environment Plan which sets out our comprehensive approach to improving landscapes and habitats, and the aspiration to move to a policy of net environmental gain in future;
- ▶ engaging with government to co-design a local natural capital planning approach for the Arc, ensuring that the wider work on productivity is aligned;

- ▶ using intelligent and sensitive design in new housing and infrastructure developments; and
- ▶ considering ways to maximise environmental expertise across the Arc and to empower the business community to champion and support the Arc's natural assets.

Government is working in partnership with CPCA to support the delivery of this priority by:

- ▶ Agreeing a Devolution Deal with local partners that provides new powers over transport, planning and skills, £600m investment fund over 30 years to grow the local economy and a further £170m to deliver new homes.
- ▶ Supporting - through the Cambridgeshire and Peterborough Devolution Deal - £4.1m of investment to accelerate the growth of St Neots as part of the St Neots Masterplan, the first Market Town in the Combined Authority to complete one.
- ▶ Investing £146.7m Local Growth Fund to the area.
- ▶ Establishing a Greater Cambridge City Deal worth 1bn, which is working alongside the Combined Authority to ensure that the recommendations of the CPIER and the needs of this sub-economy are effectively responded to locally.

- ▶ Investing over £650m, since 2010, through Homes England, to support housing delivery across Cambridgeshire and Peterborough.
- ▶ Working with the Department for International Trade and other local partners, the Combined Authority will seek to maximise trade and investment opportunities within the area, forming a chapter of the wider Arc Internationalisation Plan. This will include a Greater Peterborough Inward Investment Pilot to actively market Peterborough and in collaboration with the Greater Cambridge Partnership building on the work already undertaken by private sector partners in Cambridge to boost Outward Promotional Activity to sell the Cambridge brand in more global markets.
- ▶ In partnership with the Environment Agency and other flood risk management authorities, producing a jointly owned strategic plan for managing flood risk, considering climate change and sea level risk, and take steps locally to support the delivery of the resulting option for managing flood risk in The Fens.



Priorities across the Oxford-Cambridge Arc

This Local Industrial Strategy has started to set out how shared priorities for Cambridgeshire and Peterborough fit with a wider range of activity being taken forward locally, regionally and nationally.

The Oxford-Cambridge Arc cuts across boundaries and affects each of the four areas in the Arc in similar ways. These offer government and local partners the opportunity to act at scale with a consistent approach across the Arc and, as with the preceding local priorities, they can be structured around the foundations of productivity:

- ▶ **Ideas** - Innovation, including the Future of Mobility
- ▶ **People** - Skills
- ▶ **Infrastructure** - Energy and Digital
- ▶ **Business Environment**
- ▶ **Places** - including Environment

Local partners will work together collaboratively across all of these Foundations to ensure that the implementation of the four Local Industrial Strategies maximises the economic potential of the wider Arc region as a whole.

Ideas

The Arc has unrivalled science and technology capabilities - from the renowned research centres in Oxford and Cambridge, to their surrounding technology campuses such as Harwell, and commercial testbeds

in the 'Connected Core' of the Arc. Bringing these many assets together at scale would create a driver of growth and innovation for the UK.

However, the Arc is not yet a single innovation ecosystem and has potential to drive greater economic growth and productivity: more can be done to connect its numerous assets in a manner which demonstrably adds value. Achieving this will involve both building existing strengths such as life sciences and providing the best environment possible for the emergence of disruptive technologies. The prize is higher R&D investment in support of the Industrial Strategy's 2.4 per cent R&D target, UK leadership in transformative technologies, and a continued post-EU Exit future as a global centre for science, research and innovation.

In order to achieve this, Arc partners will work with government, UK Research and Innovation and others on the following priorities:

- ▶ Harnessing the collective strength of the Arc's research base will be essential. The new Arc Universities Group will act as the focal point from cross-Arc collaboration on

science and research, identifying and delivering joint R&D projects and providing a pipeline of talent to knowledge-intensive businesses.

- ▶ The Arc will strengthen its ability for businesses to commercialise ideas coming out of its universities and others. Key to this will be a network of 'Living Laboratories' that both trial technologies linked to new developments across the Arc and help address the Grand Challenges, developed by industry and local partners across the Arc. Arc partners will also use assets such as Harwell, Silverstone and Cranfield to establish new networks that support the convergence of technologies across sectors and seek to develop emerging districts such as West Cambridge.
- ▶ Finally, the Arc will seek to grow its role as a global research and innovation hub, acting as a UK magnet for international talent, R&D, Foreign Direct Investment and research collaborations. The LEPs and MCA will work with the Department for International Trade, the Arc Universities Group and others to channel foreign investment in the assets and projects that will make the biggest impact on Arc-wide and UK growth.

As outlined earlier, the Arc's R&D strengths also makes it well placed to address the Future of Mobility Grand Challenge, with many assets such as Culham, Cranfield, Millbrook and Silverstone playing an important role in developing and testing new transport technologies.

To achieve this, government will work with the LEPs and MCA within the Arc and other local partners, including England's Economic Heartland, to:

- ▶ Utilise the considerable R&D assets within the Arc to meet the Future of Mobility Grand Challenge and government's Road to Zero strategy. This will put the UK at the forefront of the design and manufacturing of zero emission vehicles, supporting government's commitment to end the sale of new conventional petrol and diesel cars and vans by 2040;
- ▶ Build on the Arc's existing role as a testbed for new transport technologies, such as automated vehicles and drones, working with HMG and Zenzic to competitively access existing research and development support, and scoping further opportunities to trial mobility services within the Arc.
- ▶ Support local authorities within the Arc, as set out in the Future of Mobility Urban Strategy, by providing guidance on design and planning to ensure new communities are designed and built to enable new approaches to mobility.

People

The Arc is starting from a strong position with a well-functioning labour market - across the Arc employment is high compared to national averages and education attainment rates are generally good. The Arc is home to many world-leading higher education institutions that drive the knowledge rich economy.

It is vital that the Arc continues to build on this solid foundation in order for all people and communities across the Arc to have access to these opportunities and businesses have access to the workforce they need to meet future ambitions.

Businesses across the Arc consistently cite attracting and retaining a sufficiently skilled workforce as a particular challenge. Through the newly established Skills Advisory Panels, LEPs will bring local employers and skills providers together to understand current and future skills needs and put in place activity to address these local challenges. Through these Panels the four LEPs and government will work together to understand the challenges that businesses across the Arc face in securing the workforce they need to meet their future ambitions.

Whilst recognising the strong overall employment position of the Arc, it is also essential that work to drive growth across the region considers how best to address inequalities and challenges certain groups face in accessing and progressing in the labour market. Delivering transformational growth necessarily requires actions to support the key growth sectors identified in the economic context chapter above. But doing so in an inclusive and sustainable way will also require all partners to consider how best to: encourage good quality employment across the whole economy; support progression for those in low pay and low skilled employment and, support workers to stay in employment when they are at risk of losing their jobs due to issues

such as age, health or automation.

To do this the LEPs and Combined Authority will continue to build on the well-established relationships with local partners to address these deep-rooted challenges. This will include ongoing engagement with Jobcentre Plus, local education providers and community organisations.

Across the Arc, through Skills Advisory Panels, LEPs will work with government to:

- ▶ Review labour market intelligence across the Arc, to gain a better understanding of how skills provision is currently delivered and funding utilised. This will include working closely with the Department for Education and providers across the Arc to consider how local provision supports the ambitions set out throughout these strategies.
- ▶ Work with local employers to increase apprenticeship uptake across the Arc, supporting employers to maximise their Apprenticeship Levy contributions and drive social mobility. Work with local employers to support the effective role of T levels and utilise local labour market intelligence to work with providers to consider how the local T level offer will support local businesses.
- ▶ Coordinate the work of Skills Advisory Panels to bring together training providers from across the Arc, with a view to establishing an Arc-wide skills marketplace. This will build on the LEPs' positive working relationships with the Careers and

Enterprise Company and other careers services, and work to improve provision across the Arc. This will utilise the evidence provided by each Skills Advisory Panel, connecting businesses with regional and national skills providers and people with targeted support including apprenticeships, STEM skills, T levels, technical and degree apprenticeships.

There will also be continued collaboration across the higher education sectors through the Arc Universities Group to ensure alignment between the higher education offer and the emerging needs of breakthrough businesses, including top quality leadership and management training supported by the business school network.

Infrastructure

The Arc as a whole is already experiencing infrastructure constraints - especially in energy, transportation, water and housing. Realising shared ambitions around economic and community growth will require the development of the right infrastructure to meet the needs of existing and new communities, supporting the economy of the Arc and championing the UK's global competitiveness.

As well as getting the basics right, there is the opportunity for a step-change in connectivity. Government and Arc partners are working to deliver East-West Rail and the proposed Expressway which are central to enabling the long-term housing and business growth ambitions within the Arc. However, greater connectivity will not be fully delivered without the challenge of the 'first-mile-last-mile' being addressed. The Arc suffers from significant congestion which local partners are looking to address through innovations such as the proposed Cambridge Autonomous Metro and Luton DART (Direct Air Rail Transit).

The LEPs have already produced local energy strategies, documenting the energy needs of their local areas. These will be the starting point to consider the energy needs of the Arc as a whole, drawing in new evidence, joining up local energy strategy delivery and using the opportunities created through the growth of the Oxford-Cambridge Arc as a catalyst for a transformation of energy generation, distribution and use across the Arc.

Digital and data coverage in the Arc is good relative to much of the UK - with world-leading infrastructure in some of the region's specialist facilities - though it remains patchy, especially in rural areas. This holds back growth given the opportunities for knowledge-intensive home-working and 5G-enabled innovations in the rural economy throughout the Arc.

The area's natural capital and environmental infrastructure underpins and supports the local economy, offering flood protection and providing clean water and natural spaces. The changing climate will affect existing infrastructure resilience and future infrastructure needs, requiring us to create climate resilient places and infrastructure. In addition, the Arc presents a unique opportunity to deliver flood risk and water management through strategic activity across local authority and LEP boundaries.

The growth anticipated across the Arc gives us a chance to test innovative approaches to: improving digital and data connectivity; minimising energy demand and increasing energy supply; and addressing the Grand Challenges. The scale of growth also offers the chance to explore new ways of coordinating and funding the delivery of new infrastructure across the Arc. To seize these opportunities, the Arc Local Industrial Strategies announce that:

- ▶ local partners will collaborate with Department for Transport, Highways England, East-West Rail Company and England's Economic Heartland to expand the economic benefits of planned strategic transport links, improvements to the Major Roads network and the first-mile-last-mile connections across the Arc;
- ▶ government and local partners will conduct a review of recent evidence work at local, regional and national-level, to develop a shared evidence base for the current and future energy needs of the Arc. This could provide opportunities to test new energy policies or approaches within the Arc;
- ▶ government and local partners will work to identify and diffuse best practice on digital infrastructure planning in the Arc and explore opportunities to align new transport infrastructure with digital infrastructure in the Arc. This will aim to support industry to accelerate the roll-out of full fibre networks, enabling accelerated growth of 5G technologies across the Arc;
- ▶ local partners will work to standardise public data where possible - such as through the opportunity created by local government unitarisation in Buckinghamshire and Northamptonshire - and with support from government policy experts, to ensure that the opportunities to collect and capitalise on data are utilised. This will be done with a view to addressing Grand Challenges around the future of mobility, the ageing society, and clean growth; and

- ▶ government and local partners will work together across the wider Oxford-Cambridge Arc to explore proposals for new approaches to funding infrastructure, as set out in government's response to National Infrastructure Commission Report at Autumn Statement 2018.

Business environment

The Arc is home to a dynamic business base and a range of high-growth and innovative firms. However, businesses across the Arc still encounter barriers to growth, particularly in accessing the support they need to scale-up rapidly, securing the right finance and access to the right commercial premises to start and grow.

The Arc's collective ambition is to become a world-leading ecosystem for high-growth businesses: with an environment that enables them to commercialise technologies, grow to scale, and export. Central to the Arc's approach will be developing a Global Growth Network of internationally-focused businesses, scale-ups and sectoral clusters. Together, this will foster a breakthrough growth region and a driver for the UK economy.

Partners across the Arc will work with government and others across the following priorities:

- ▶ local partners will work with government, within existing budgets, to develop improved, joined-up business support for high-growth firms across the Arc. Central to this will be a network of the four Growth Hubs across the Arc, who will work

with existing support programmes to develop an Arc-wide offer to different kinds of business. They will profile the firms that can deliver the biggest shift in growth, productivity and exports in places, diagnosing barriers to growth in the firm's capacity to innovate and increase productivity. As part of this, Arc partners will identify new ways to establish peer-to-peer networks linking firms within and between sectoral clusters;

- ▶ local partners and the British Business Bank will work together to help SMEs in the Arc to access the finance they need to grow their businesses. Local partners across the Arc will also explore the existing landscape and any gaps in finance for businesses, as well as the establishment of an Arc-wide business angel network to better engage with early-stage investors;
- ▶ local partners will work with government to develop a shared understanding of market failures in creating new commercial premises within the Arc. This will bring together a range of analysis already being undertaken locally, regionally, and nationally. This will ensure that the right premises are planned for, prioritised locally within any bids for future government funding, and built; and

▶ finally, partners across the Arc will work with the Department for International Trade to encourage greater trade and inward investment. This will build on existing engagement at LEP level and include the development of an Oxford-Cambridge Arc Internationalisation Delivery Plan and quarterly meetings of the Arc-wide trade and inward investment group. However, much more needs to be done if the Arc is to reach its potential as a global player able to compete with innovation-growth zones like Seoul, Helsinki, San Francisco and Toronto. This will include an Arc presence at MIPIM Cannes in March 2020 and an updated capital investment led Oxford-Cambridge Arc Brochure and Investment Prospectus which identifies investable opportunities. Work will also continue to better integrate Arc sector propositions into the Department for International Trade's sector and market priority campaigns, linking the Arc's key sectors into the ten highest potential export and inward investment markets to drive Arc growth globally. This will involve analysis of available data on success across the Arc by sector and market. Each of the partners will work with the Department for International Trade to develop a LEP-level 'chapter' for the Internationalisation Delivery Plan, based on the priorities and assets set out in their Local Industrial Strategy.

Places

Taken as a whole, this package of Arc-wide interventions, which sits alongside existing interventions being progressed by government and local partners, will support sustainable growth across the region, benefitting its residents, communities, businesses and the country more widely. Delivering transformational growth in this way will create opportunities across the Arc - spreading the benefits both to its prosperous centres and its more deprived communities, and across its urban and rural areas.

Doing so will require a holistic approach and partnership working with government and industry, to achieve growth and improve place-making, developing sustainable, resilient and culturally vibrant communities. This aims to provide a high quality of life for residents - now and in the future. The scale of growth envisaged across the Arc also offers the opportunity to plan for and build exemplar developments with high design standards; places where people want to live and work.

Heating and powering buildings accounts for 40 per cent of the total energy usage in the UK. By making new communities within the Arc more energy efficient and embracing smart technologies, energy demand and household bills can be cut, and economic growth boosted while meeting the country's targets for carbon reduction.

Conserving and enhancing the natural environment is at the heart of ambitions for the Arc; growth offers an opportunity for environmental enhancement, in turn driving productivity and innovative place making. Government and local partners have agreed to embed 'natural capital' thinking throughout the approach to the Arc; harnessing nature to adapt to climate change, manage flood risk and deliver broader benefits to businesses and communities.

Working through existing partnerships, government and partners across the Arc will:

- ▶ consider ways to contribute towards the government's Clean Growth Grand Challenge mission to at least halve the energy use of new buildings by 2030, supporting the Arc's wider ambition to create clean, energy efficient and sustainable communities for all.

As the national Industrial Strategy set out, we will work not just to preserve, but to enhance our natural capital - the air, water, soil and ecosystems that support all forms of life - since this is an essential basis for economic growth and productivity over the long term. To ensure that the environment in the Arc is left in a better state for future generations, local partners and government agree that:

- ▶ England's 25 Year Environment Plan sets out our comprehensive approach to improving landscapes and habitats, and the aspiration to move to a policy of net environmental gain in future. The policy for the Arc should embody this approach

in line with national policy, so local partners will work with government to explore opportunities for local delivery of the Plan within the Arc, including considering issues such as climate resilience, water management and biodiversity net gain;

- ▶ local partners will also engage with government to co-design a local natural capital planning approach for the Arc, ensuring that the wider work on productivity is aligned;
- ▶ intelligent and sensitive design should be used in new housing and infrastructure developments to create or enhance habitats in line with national policy; and
- ▶ government and the LEPs will also consider (i) ways to maximise environmental expertise across the Arc, creating opportunities to share best practice across public and private sectors; and (ii) how to empower the business community to champion and support the Arc's natural assets, working together to attract and retain the skilled workforce of the future.

Implementation and Evaluation

This Local Industrial Strategy will set the direction for the Cambridgeshire and Peterborough economy. Built upon solid foundations of clear evidence, it highlights where the Combined Authority and government will work together to maximise key strengths and tackle major challenges.

Governance

At the local level, the Combined Authority's Business Board will lead the implementation of this Local Industrial Strategy through its existing governance and delivery structures, embedding the Local Industrial Strategy priorities into the Combined Authority's annual Delivery Plan and wider programme of activity. The Cities and Local Growth Unit will work with the Business Board to engage government in delivery at the local level as necessary.

At a regional level, the four LEPs, supported by the Ministry of Housing, Communities and Local Government Oxford-Cambridge Unit and Cities and Local Growth Unit, will collaborate through the productivity group of the wider Oxford-Cambridge Arc governance to deliver the shared Arc level commitments set out in all four Local Industrial Strategies for the Arc.

This work will report to the Arc Leader's Board, ensuring this workstream is aligned to shared work on place-making, connectivity and the environment, as well as central government's national governance structures, such as the Local Industrial Strategy Implementation Board and the cross-Whitehall Oxford-Cambridge Arc inter-departmental board and Arc advisory group.



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.

To demonstrate progress towards the long-term vision set out by this Local Industrial Strategy, the Strategy contains a number of specific actions. Where these actions are locally-led, these will be drawn from local budgets which exist for those purposes; where actions are shared between the Combined Authority 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 the Combined Authority. As detailed in this Strategy, the Combined Authority 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.

The Combined Authority will comply with all of the monitoring and evaluation requirements of each particular funding source, in addition to the wider requirement to monitoring the implementation of the Local Industrial Strategy as a whole.

Monitoring outcomes

As well as setting out specific short-term actions, this Local Industrial Strategy has also set out the Combined Authority's long-term aspirations and the specific outcomes local partners are aiming to achieve. These will help guide future action and evaluate progress. The implementation of this Local Industrial Strategy will support local partners' ambition, outlined in the Cambridgeshire and Peterborough Devolution Deal, for

- ▶ economic output to increase by nearly 100% over the next 25 years;
- ▶ inclusive and evenly occurring growth across the broader base of the economy, with marked improvements in productivity, greater exports and an increase in high value jobs;
- ▶ jobs and skills opportunities being available for all individuals and higher-skilled and better-paid jobs created for all residents across the economy's cities, towns and rural areas, leading to greater economic growth, as well as individual opportunity and prosperity;
- ▶ businesses thriving in new and expanded clusters and networks across the whole economy, replicating the key conditions that have made Cambridge a global leader in innovative growth;

- ▶ safe and adaptive transport systems supporting an expanded workforce and economy, supporting progress towards local partners' ambition for residents having easy access to a good job within 30 minutes by public transport;
- ▶ local delivery of the 25 Year Environment Plan; and
- ▶ housing being affordable, and communities that are desirable places to live and work.

In order to ensure the opportunities in this Local Industrial Strategy are met, the Combined Authority will monitor the progress of the outlined commitments by developing a local Implementation Plan setting out clear milestones, deliverables and timings for the actions set out in this strategy. In line with the national Local Enterprise Partnership Assurance Framework, the Combined Authority Business Board will produce an annual delivery plan and a qualitative end-of-year report to evaluate how they and other partners have contributed towards achieving Local Industrial Strategy objectives.

Evaluation

The government is committed to devolution where there is a strong evidence base, robust governance and delivery track-record in place. Robust evaluation is an essential element of demonstrating these competencies.

Local Industrial Strategy ambitions are monitored through a two-pronged framework. First, there will be a set of SMART Business Board deliverables, which will be measured and reported on as part of the Business Board's Annual Delivery Plan. Second, there will be a set of wider economic indicators, which the LEP can track and report on, and which will - if deviating from projected trajectories - serve as a prompt for discussions with the Combined Authority Business Board, government and other stakeholders around possible corrective action. It will examine opportunities to embed evaluation into programmes and policies where possible. The Combined Authority Business Board will also continue to assess the latest evidence on 'what works' for interventions, in collaboration with independent experts.

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