PRIVATE MEETING

Monday, 25th March 2019
2.30p.m – 4:30p.m.

TWI Ltd, Granta Park, Great Abington, Cambridge, CB21 6AL

AGENDA

Number	Agenda Item	Chair/ Lead Member/ Chief Officer	Papers	Pages
1.	**Part 1 – Governance Items**			
1.1.	Apologies and Declarations of Interests	Monitoring Officer	Oral	**-**
1.2.	Minutes of the Meeting on 28th January 2019	Monitoring Officer	Yes	3 – 7
1.3.	Forward Plan	Monitoring Officer	Yes	8 – 12
2.	**Part 2 – Strategy and Policy**			
2.1.	Local Industrial Strategy	Andy Neely / John T Hill	Yes	13 – 212
3.	**Part 3 – Funding and Growth Fund**			
3.1.	Growth Deal Project Proposals	Director Business & Skills	Yes	213 – 215
3.2.	Growth Programme Update	Director Business & Skills	Yes	216 – 219
3.3.	Assurance Framework	Director Business & Skills	Yes	220 – 222
4.	**Part 4 – Date of next meeting**			
4.1	Date: 28th May 2019 – 2.30pm, Council Chamber, The Grange, Nutholt Lane, Ely, CB7 4EE (East Cambs District Council)	Chair	Oral	**-**

All decisions, when made by the Combined Authority, will be conditional pending confirmation from Government that local growth funds have been released for allocation by the Business Board.

Membership

The Board currently comprises

Public Sector Members

Name	Position	Body
James Palmer **Substitute** Cllr Steve Count	Mayor	Cambridgeshire and Peterborough Combined Authority
Cllr Charles Roberts **Substitute** Councillor Anna Bailey	Deputy Mayor and Portfolio Holder for Economic Growth	Cambridgeshire and Peterborough Combined Authority

Private Sector Members

Member	Sector	Organisation
Austen Adams	Advanced Manufacturing	Stainless Metalcraft/Peter Brotherhood
Douglass Cuff	Life Sciences and Healthcare	BioMed Realty
William Haire	Agri-tech	East of England Agricultural Society
Aamir Khalid	Advanced Manufacturing and Skills	The Welding Institute (TWI)
Mark Dorsett	Advanced Manufacturing	Perkins Engines/ Caterpillar UK
Andy Neely	Education	University of Cambridge
Tina Barsby	Agri-tech	NIAB

The Business Board is committed to open government and supports the principle of transparency. With the exception of confidential information, agendas and reports will be published 5 clear working days before the meeting. Unless where indicated, meetings are not open to the public.

For more information about this meeting, please contact Dawn Cave at the Cambridgeshire County Council on 01223 699178 or email dawn.cave@cambridgeshire.gov.uk .

CAMBRIDGESHIRE & PETERBOROUGH COMBINED AUTHORITY BUSINESS BOARD: MINUTES

CAMBRIDGESHIRE & PETERBOROUGH COMBINED AUTHORITY

Date: Monday, 28th January 2019

Time: 2.30pm – 4:10pm

Location: Huntingdonshire District Council offices, Huntingdon

Present: Aamir Khalid (Chairman), Austen Adams, Councillor Anna Bailey (substitute for Councillor Charles Roberts), Tina Barsby, Douglas Cuff, William Haire and Andy Neely

24. APOLOGIES AND DECLARATIONS OF INTERESTS

Apologies had been received from Mark Dorsett, Mayor James Palmer and Councillor Charles Roberts.

Members were reminded that all decisions, when made by the Combined Authority, were conditional pending confirmation from government that local growth funds had been released for allocation by the Business Board. It was noted that following a successful meeting with the Government, civil servants were in the process of producing final documentation to be signed off by the Secretary of State for Business, Energy and Industrial Strategy, the Rt Hon Greg Clark, which was due to completed shortly.

Doug Cuff declared a disclosable interest agenda item 3.1, Growth Deal Project Proposals January 2019, (Minute no. 28). He was not present whilst the item was discussed or for the vote.

Councillor Bailey also declared an interest as the County Council Member for the division of Ely South with regards agenda item 3.1, Growth Deal Project Proposals January 2019, (Minute no. 28).

25. MINUTES OF THE MEETING HELD ON 26TH NOVEMBER 2018

The minutes of the Business Board meeting held on 26th November 2018 were agreed as a correct record and signed by the Chairman.

26. FORWARD PLAN

It was noted that an item had been omitted on the Forward Plan for the meeting on 25th March 2019, which would be a report seeking the Business Board's final approval of the Local Industrial Strategy and the recommendation for its approval by the Combined Authority Board.

The Board was also informed that the review of remuneration for private sector members would be completed in late February and that a report would be presented at the meeting on 25th March 2019. One member expressed a desire for the remuneration committee to discuss the issue with Board members before making conclusions, which was agreed by the Director of Business & Skills. **Action required**

After clarification of these two additional items for the meeting on 25th March 2019, it was resolved to note the Forward Plan.

27. LOCAL INDUSTRIAL STRATEGY – FIRST DRAFT

The first draft of the Local Industrial Strategy (LIS) was presented to the Board to provide members with the opportunity to participate in the development of its content and overall direction. Members were informed that following the publication of the national Industrial Strategy in December 2017, attention had progressed to considering how to incorporate the national agenda on a local level and that the resulting evidence based approach undertaken by the Cambridgeshire and Peterborough Combined Authority (CPCA) would lead to a compelling LIS to present to the Government. It was emphasised that the strategy was based on the strengths of the Cambridgeshire and attempted to build from them and develop them as part of a 'bottom up' philosophy.

Members were reminded that along with Mayor James Palmer and as part of the Devolution Deal, they were aiming to double output over the next 25 years, which would require attacking the growth agenda in a particular way. The three priorities were identified as recalibrating the growth dynamic, removing constraints to the growth of Greater Cambridge and achieving a better integration of industry across the area. It was suggested that working towards employment-driven growth was problematic and that the focus should shift towards a productivity-driven growth, by tackling productivity issues on a localised basis, supporting a wide range of sectors and working with Central Government and the Oxford-Cambridge arc.

Discussing the draft strategy, members praised its clarity and structure, as well as the bottom up, evidence based philosophy, thanking Metro Dynamics and the wider Combined Authority for producing it in such a short period of time. It was noted that LIS's of other local authorities were often targeted sales pitches solely aimed at receiving greater investment and while it was acknowledged that this was a fundamental objective of the document, the Board was keen for it to contain substance over style. The authors of the strategy emphasised that there were still sections to be added, including one on the opportunities and strengths that already lie within the region, such as life sciences and agritech, that would show how the strategy also aimed to make it a better area to live, learn and work in. Members agreed that the strategy might benefit from such softer content that promoted the communities and what it would feel like to live here in the future.

Looking at the finer detail of the LIS, it was suggested that there could be greater clarity over the term 'agritech', with members of the board that specialised in the area offering their assistance. Being such a key part of the strategy, it was important to avoid any confusion. The same was considered over economic issues, as it was noted that the strategy would not only be read economists and therefore it was important to adapt the content for all readers. Members also recognised that increasing productivity was not a question of doing things faster, increasing automation and using less people because the whole process was based on innovation, skills and agility, which required a people-based approach. It was suggested that this message could be included to emphasise that the aim was 'better for less' instead of 'more for less'. There were doubts expressed over the intention to work with 500 companies, arguing that such a high number might reduce overall effectiveness and that it might be worthwhile to operate with a more targeted model.

In discussing the next stages of the process, the Board agreed that it would be productive to take the more solidified strategy back to local authorities and businesses across the region to seek their support and affirmation of its direction. It would then return to the Business Board for their approval at the next meeting on 25th March 2019 with greater validation before final approve from the Combined Authority Board on 27th March 2019. That would complete the local stage of the process and discussions would begin on attaining Government support before the official launch in May 2019.

It was resolved to:

> Discuss and comment on the draft of the Local Industrial Strategy – providing steer for officers in developing the next version.

28. GROWTH DEAL PROJECT PROPOSALS

The Business Board received a report on the first two projects to have completed the internal and external assessment stages of their applications for Growth Deal funding.

Having separated the two applications into separate decisions to accommodate the caveats put forward by the Board, it was resolved to:

a) Consider the reports by external assessors of projects submitted for Growth Deal Funds.

b) Recommend Bid A to the Combined Authority Board for approval.

c) Recommend Bid B to the Combined Authority Board for approval, subject to there being recognition of the source of the funds from the Business Board by the recipient and that two conditions precedent are satisfied before any funds are released

d) Note the summary of Small Grants approved under delegated powers.

29. (DRAFT) ANNUAL DELIVERY PLAN FOR BUSINESS AND SKILLS

The Business Board considered the draft Annual Delivery Plan for Business and Skills having been advised that a final draft would be produced for the Board's approval at the meeting on 28th May once the Local Industrial Strategy and the Skills Strategy had been finalised. Attention was drawn to the Business and Skills team's five main activities, which were development of key strategies, management and delivery of strategic funds, direct support to businesses, business space provision and management, as well as the commissioning and management of skills programmes. It was noted that the Measures of Success listed on page 83 of the report were only indicative as the final measures would be drawn from the finalised Local Industrial Strategy.

It was resolved unanimously to:

a) Consider the content of the draft Annual Delivery Plan.

b) Recommend that the Combined Authority Board note the draft Annual Delivery Plan for Business and Skills.

30. RURAL COMMUNITY ENERGY FUND – MANAGEMENT AND ADMINISTRATION

The Business Board received a report detailing the management and administration of the Rural Community Energy Fund (RCEF). At the previous meeting on 26th November 2018, the Board approved the principal of the Combined Authority acting as the Accountable Body for the RCEF but requested a further report on its management and administration.

After expressing their appreciation for the clarifications, the Board resolved to:

Agree that the Greater South East Energy Hub assumed the RCEF management role, administered the fund and employed the Community Energy Advisor.

31. BUSINESS BOARD FUTURE PLANNING

Having sat on the Business Board for three meetings, members were invited to discuss how they felt the Board could operate in either more effective or different ways.

A discussion was held over the possibility of Board members being allocated portfolios in order to sponsor their particular topics during Board meetings and beyond. Members were concerned that assigning portfolios might detract from the objective of working to join sectors together and may lead to less attention being paid by members to issues that lay outside their respective portfolios, although they were open to the idea of championing certain projects or strategies.

One member suggested that it would be helpful for the Board to receive updates on the Combined Authority's approach to supporting Business, as well as insight in to the Mayor's objectives. Members also expressed interest in being informed on the wider

impacts of the Board's decisions, noting that the outcome was arguably more important than the process. Becoming more informed about the industries and sectors discussed by the Board was considered to be desirable, with a proposal to visit businesses across the region to allow for members to educate themselves and subsequently make more informed strategic decisions. There was also a request for more representatives of the private sector to participate in meetings, rather than just Combined Authority officers.

A proposal was made that future Board meetings could be restructured to allow for a shorter formal meeting on items requiring a decision to be followed by more informal discussions on a wider range of topics. Members expressed enthusiasm for the idea, noting that it would allow for greater focus on strategy rather than reports. It was further suggested that meetings could be held in business locations around the region to encourage participation from the private sector and raise awareness of the Business Board, as well as its status, noting that the private nature of the meetings created uncertainty and mystery over what the Board did and how it worked.

It was reiterated that it would be desirable to provide the ability for members to attend the meetings via video conference. The Board noted that while such facilities would be advantageous, it was desirable for members to be present at the meetings. There was clarification that the Terms of Reference included attendance requirements but it was requested that there be more clarity, rigour and formality in the process. **Action required**

The Board also indicated that it was keen to develop relationships between its Members, with a proposal to receive each other at their own place of work to develop their understanding of each other and their individual knowledge and skills.

32. DATE OF NEXT MEETING

It was resolved unanimously to note that the date of the next meeting would be Monday 25th March 2019 and that the meeting would be held at Shire Hall in Cambridge.

It was noted that members had still not been informed of future meeting dates beyond 28th May 2019. They were informed that the meetings calendar for 2019/2020 had recently been confirmed and that the dates would be circulated shortly. **Action required**

Chairman

BUSINESS BOARD FORWARD PLAN

AS AT 15TH MARCH 2019

DECISION REQUIRED		DECISION MAKER	DATE DECISION EXPECTED	DECISION	PURPOSE	CONTACT DETAILS / REPORT AUTHORS	LEAD MEMBER
Business Board – 25th March 2019							
1.	**Minutes of the Meeting on 28th January 2019**	Business Board	25th March 2019	**Decision**	To approve the minutes of the last meeting as a correct report	Monitoring Officer for Combined Authority	Chair
2.	**Growth Deal Project Proposals**	Business Board	25th March 2019	**Decision**	Identified on CA Forward Plan as Key Decision for 27th March	John Hill, Director Business & Skills	Chair
3.	**Growth Fund Update**	Business Board	25th March 2019	**Decision**	To monitor and review programme performance and risks Recommend projects for approval to CA Board (if required)	John Hill, Director Business & Skills	Chair
4.	**Local Industrial Strategy**	Cambridgeshire and Peterborough Combined Authority	25th March 2019	**For consultation**	To recommend approval to CA Board	John Hill, Director Business & Skills	Chair
5.	**Assurance Framework**	Cambridgeshire and Peterborough Combined Authority	25th March 2019	**For consultation**	To recommend approval to CA Board	John Hill, Director Business & Skills	Chair

DECISION REQUIRED		DECISION MAKER	DATE DECISION EXPECTED	DECISION	PURPOSE	CONTACT DETAILS / REPORT AUTHORS	LEAD MEMBER
6.	**Forward Plan**	Business Board	25th March 2019	**Decision**	To note the forward plan	Monitoring Officer for Combined Authority	Chair
Business Board – 28th May 2019							
7.	**Minutes of the Meeting on 25th March 2019**	Business Board	28th May 2019	**Decision**	To approve the minutes of the last meeting as a correct report	Monitoring Officer for Combined Authority	Chair
8.	**Schedule of meetings 2019/20**	Business Board	28th May 2019	**Decision**	To agree schedule of meetings for 2019/20	Monitoring Officer for Combined Authority	Chair
9.	**Progress on Growth Fund Programme and Risk Register**	Business Board	28th May 2019	**Decision**	To monitor and review programme performance and risks Recommend projects for approval to CA Board (if required)	John Hill, Director Business & Skills	Chair
10.	**Growth Deal Project Proposals**	Business Board	28th May 2019	**Decision**	Identified on CA Forward Plan as Key Decision for 27th March	John Hill, Director Business & Skills	Chair

DECISION REQUIRED		DECISION MAKER	DATE DECISION EXPECTED	DECISION	PURPOSE	CONTACT DETAILS / REPORT AUTHORS	LEAD MEMBER
11.	**Annual Delivery Plan**	Business Board	28th May 2019	**Decision**	To approve the final version of the Annual Delivery Plan	John Hill, Director Business & Skills	Chair
12.	**Enterprise Zone Governance**	Business Board	28th May 2019	**Decision**	To approve renewed arrangements for the governance of the Enterprise Zones the Business Board is responsible for	John Hill, Director Business & Skills	Chair
13.	**Improving the Business Board gender and sector representation**	Business Board	28th May 2019			John Hill, Director Business & Skills	Chair
14.	**Remuneration Review**		28th May 2019			John Hill, Director Business & Skills	
15.	**Forward Plan**	Business Board	28th May 2019	**Decision**	To note the forward plan	Monitoring Officer for Combined Authority	Chair

SUBMIT YOUR COMMENTS OR QUERIES TO BUSINESS BOARD

Your comment or query:

How can we contact you with a response?
(please include a telephone number, postal and/or e-mail address)

Name ……

Address ……

……

Tel: ……

Email: ……

Who would you like to respond?

THE BUSINESS BOARD

BUSINESS BOARD	**AGENDA ITEM No: 2.1**
25 MARCH 2019	**PUBLIC REPORT**

LOCAL INDUSTRIAL STRATEGY

1.0 PURPOSE

1.1. This report brings forward the inaugural Cambridgeshire and Peterborough Industrial Strategy to the Board for comment and approval.

1.2. The Cambridgeshire and Peterborough Independent Economic Review (CPIER) launched by the Secretary of State for Industrial Strategy in October 2018 was the most thorough and in-depth analysis of the region's economy ever undertaken. This evidence base and set of strategic independent recommendations established the importance to the UK of a successful Cambridgeshire and Peterborough economy, and the importance within Cambridgeshire and Peterborough of an economy that is more inclusive.

1.3. Cambridgeshire and Peterborough is one of the first areas nationally to bring forward a Local Industrial Strategy to deliver on the ground the ambitions of the UK Industrial Strategy published in 2017. As such, this is a ground-breaking document – taking the results of the CPIER to pioneer new Government policy in a devolved area alongside a new model Business Board.

1.4. The Business Board have led the development of the Local Industrial Strategy, at the request of the Combined Authority Board. Local authorities, public sector partners, and the business community have been engaged in creating a strategy that sets out how the inclusive growth of the economy will underpin the area's vision as a leading place in the world to live, learn and work.

DECISION REQUIRED		
Lead Member:	**Andy Neely, Vice-Chair**	
Lead Officer:	**John T Hill, Director of Business and Skills**	
Forward Plan Ref: 2019/016	**Key Decision: Yes**	
The Business Board is recommended to: (a) Recommend the Cambridgeshire and Peterborough Industrial Strategy to the Combined Authority Board for approval (b) Recommend that the Combined Authority Board delegate to the Business Board and the Director of Business and Skills, in consultation with the Chair of the Housing and Communities Committee, to take the Industrial Strategy through the remaining stages of national sign-off, and refine. (c) Note the first Digital Sector Strategy for Cambridgeshire and Peterborough, independently produced to inform the Local Industrial Strategy, to be considered further by the Board at a future meeting.	**Voting arrangements** Simple majority of all Members	

2.0 BACKGROUND

2.1. The Combined Authority Board agreed the Growth Ambition Statement in November 2018 as a collective local mandate to implement the CPIER and established how this would happen through the range of strategies and plans to be brought forward by the Combined Authority and partners. For example, the Non-Statutory Strategic Spatial Framework is the mechanism through which the CPIER recommendations for reviewing housing need are being progressed.

2.2. The Local Industrial Strategy is a contributor to that Growth Ambition Statement. It is focussed on the interventions which will support business growth in a way that is global, productive, and inclusive.

A global capital of innovation and better living

2.3. The ambition within the LIS is a bold one, backed up by the evidence of the CPIER and other key sources. Across Cambridgeshire and Peterborough there exist centres of world-leading research and industry expertise in domains with huge market and societal value. These include;

- Life Science discoveries that transform ageing well
- AI and Data technologies transforming commercial and public life
- Energy and circular economy practices that pioneer Clean Growth
- Advances in sustainable and healthy food production brought about by Agri-tech

2.4. Not only does is this area leading the way on many of the Grand Challenges set out in the UK Industrial Strategy, it is doing so in a way which is bonding specialisms into a single innovation ecosystem which pioneers and exemplifies better living.

A bespoke response to the places that make up Cambridgeshire and Peterborough

2.5. In line with the findings of the CPIER, the Local Industrial Strategy has been deliberately developed to respond to the distinct economic characteristics and needs of our three economies: Greater Cambridge, Greater Peterborough, and the Fens.

2.6. Each of these areas is unique and as such requires a bespoke industrial strategy response as established within this LIS, and as it is hoped will evolve and develop from this point forward.

2.7. However, the connectivity and industrial integration across all of these areas and extending beyond the CPCA area in all directions is similarly an important factor – and this strategy seeks to facilitate these connections going forward.

Sectors that will lead our future economy

2.8. Also in line with the CPIER, and before that the East of England Science and Innovation Audit in 2017, this Local Industrial Strategy identifies and supports the growth of the sectors that will lead our future economy.

2.9. This includes the identification of four strategic growth sectors in knowledge intensive industries, as well five further supporting sectors. The LIS establishes that each strategic growth sector should be supported by the Combined Authority to produce a sector strategy which provides in-depth analysis of the opportunities, and makes recommendations for the public sector and private sector to consider going forward.

2.10. The first of these to be supported by the Combined Authority is the Digital Sector Strategy. This has informed the LIS and such is included as an annex in this report for information. It also contains a range of considerations beyond the LIS and therefore will be brought to the Board at a future point for more detailed discussion, as will sector strategies for Advanced Manufacturing, Agri-tech, and Life Sciences.

How the Strategy will be delivered

2.11. The Local Industrial Strategy is being co-produced with Government, to be delivered within existing local resources and powers.

2.12. The priority interventions set out in the LIS are therefore categorised into three types of delivery; those that are existing commitments and devolved functions, designed interventions which have funding strategies which will be commenced following the approval of the LIS, and interventions which will be invited from partners through a new call to the Local Growth Fund which will be issued following the approval of the LIS.

2.13. As part of the OxCam Arc the Combined Authority is pursuing a set of opportunities for Government co-investment into the Local Industrial Strategy, where further devolution and funding would accelerate and/or increase the impact of the UK Industrial Strategy within the Arc. These are also captured within the LIS, and these will be subject to further discussion with Government as each LIS within the Arc is taken through national sign-off in the period April to May. It is recommended that the CA Board ask the Business Board to lead the LIS through this process, and with the Director of Business and Skills give authority to make any minor amendments necessary during this process – in line with the core of the strategy agreed by the CA Board.

3.0 FINANCIAL IMPLICATIONS

The financial measures put forward in the Local Industrial Strategy describe existing commitments or measures, proposed interventions and a high-level delivery plan for bringing these forward for approval, and that the LIS will be the basis for a further call for Local Growth Fund investments from May 2019 onwards.

4.0 LEGAL IMPLICATIONS

There are no significant implications identified.

5.0 SIGNIFICANT IMPLICATIONS

There are no significant implications identified.

6.0 APPENDICES

6.1. **Appendix 1** – Draft Local Industrial Strategy

6.2. **Appendix 2** – Digital Sector Strategy – covering letter for information

6.3. **Appendix 3** – Digital Sector Strategy for Cambridgeshire and Peterborough – for information and future Board consideration

6.4. **Appendix 4** – Equality Impact Assessment

Source Documents	Location
East of England Science and Innovation Audit	http://www.cambridgeshirepeterborough-ca.gov.uk/assets/Business-Board/Archive/2017/EoE-SIA-REPORT-Final-14.09.17.pdf
Cambridgeshire and Peterborough Independent Economic Review (CPIER)	http://www.cpier.org.uk/
UK Industrial Strategy	https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future

DRAFT Cambridgeshire and Peterborough Local Industrial Strategy

[Final Draft for Board - 15 March 2019]

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1. Executive Summary

Our vision is for Cambridgeshire and Peterborough to be a leading place in the world to live, learn, and work. This Local Industrial Strategy sets out an industrial blueprint for our area which complements this vision. The actions in this strategy are essential for delivering our Devolution Agreement, and the Cambridgeshire and Peterborough Independent Economic Review (CPIER). We are committed to doubling our economic output (Gross Value Added or GVA) over 25 years. This is a stretching but achievable goal which captures the aspirations of our newly devolved area to take charge of its future with strong local leadership and world class assets.

Our approach is to focus our resources onto the generation of global, productive and inclusive growth. Building upon the foundations of our economy and producing a greater emphasis on better living. The Local Industrial Strategy has been developed following the CPIER – one of the most ambitious analyses ever undertaken of a place in the UK – and benefits greatly from the depth of public consultation, targeted engagement, and research it undertook. It stated unequivocally that Cambridgeshire is a project of national importance, and we feel deeply the local importance of inclusive growth.

This Strategy strengthens further the connection between this area and the global economy, as one of the first places in the country to bring forward a plan jointly developed with Government to deliver the ambitions of the UK Industrial Strategy on the ground. We have world-class strengths in areas as diverse as Artificial Intelligence (AI), food production, logistics, life sciences, clean energy, and advanced manufacturing – issues at the heart of the Industrial Strategy's Grand Challenges. Our strategy is to bring these to bear - together with our natural assets and the way we plan our physical growth - into an industrial ecosystem that collectively tackles the biggest challenges facing our society at home and across the world.

Our objective is to sustain our position as a global capital of innovation and better living**.** A place that makes breakthroughs in cutting edge science, technology and innovations in markets and business models, and translates them into global opportunities and local prosperity that change how we live our lives. This will include making a globally significant contribution to the societal and economic Grand Challenges that the Government sets out in its national Industrial Strategy:

- Life Science discoveries that transform ageing well
- AI and Data technologies transforming commercial and public life
- Energy and circular economy practices that pioneer Clean Growth
- Advances in sustainable and healthy food production brought about by Agri-tech

Demonstrating how all these advances can be achieved in one place, leading the way in sustainable and inclusive growth and attracting and growing the high-quality businesses which give our people good quality work.

Our Local Industrial Strategy is an important tool for delivering success. We aim to ensure that every business is able to reach its potential, and that the opportunities and benefits of growth reach deep into every part of the community. The Cambridgeshire and Peterborough economy is large, with a GVA of £22bn. As the 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, AI 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 fast, 38 minute, rail connection to London – are set to expand further through government and corporate relocations out of the capital. The Fens 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. Key to the success of our Industrial Strategy will be the tailoring and mix of our interventions to the needs of each of these very specific sub-economies.

Our priorities are to:

1. **Improve the long-term capacity for growth in Greater Cambridge** to support the expansion of this innovation powerhouse, and crucially reduce the risk of any stalling in the long-term high growth rates that we have enjoyed in the city region for several decades. We will do this by investing heavily in housing, supporting supply chain development, delivering transformational transport and infrastructure, whilst leveraging the strengths and better connecting this globally important and hugely successful cluster for the greater benefit of the other two economies and the UK. We also need to continue to support the Cambridge innovation ecosystem and support its continued efforts to attract international firms to the region.
2. **Increase the sustainability and broaden the base of our economic growth,** by identifying opportunities for high growth companies to accelerate business growth where there is greater absorptive capacity, beyond the current bottlenecks to growth in Greater Cambridge.
3. **Expand and build on the clusters and networks that have enabled Cambridge to become a global leader** in innovative growth by encouraging individual business leaders, sectors, and places to join together to build an economy-wide business support eco-system to promote business growth, greater productivity, better commercialised innovation, greater global market access and more effective skills development to deliver a more inclusive and resilient economy.

Our key challenges relate to the underlying need to raise productivity across our wider economy by: increasing levels of employment, but above all ensuring that Cambridgeshire and Peterborough grows more high quality jobs, improving business output and providing better opportunities and therefore outcomes for people.

Our opportunity is to scale our growth further to become a truly global player in some of the fastest growing sectors and markets across the world. This relates to how we see Cambridgeshire and Peterborough taking a leading role within the OxCam Arc and our other strategic corridors, linking our economy more effectively into the fastest growing global markets through the sharing of world-class innovation assets and the networking of our most exciting firms and entrepreneurs into an Arc-wide high-growth eco-system, to create a global offer capable of enabling the Arc to become the fastest growing area of the UK economy outside London and an innovation-based Global Growth Zone to rival San Francisco, Boston, Toronto, Helsinki, Tel Aviv, Beijing or Seoul.

Our interventions are specifically and carefully designed to achieve this and are based on a highly credible, independent, evidence base. They reflect that we are a Mayoral Combined Authority area and the primary role of the new Business Board. They have been developed to ensure that we have the foundations in place on which everyone involved in our economy can join to build our success together, **bringing growth, opportunity and prosperity to everyone**, across each of our three sub-economies. This means our LIS Delivery Plan is ultimately all about place, economic activity happens in our distinctive cities, towns and rural communities. The Programme Delivery Plan is set out in Annex 2. Here, we flag some of the key initiatives we are taking in relation to each of the five foundations.

Foundation #1 – Place summarises the three different sub-economies and what the evidence shows the main requirements in each of these are. It describes too the role of our pioneering approach to supporting our Market Towns as key players in industrial strategy.

> **Key Place Interventions.** The LIS brings together all of the interventions set out in the Combined Authority Business Plan, Greater South East Local Energy Strategy, the Connecting Cambridgeshire delivery plan and business cases for specific schemes. The LIS shows how they will be tailored and customised to the three different areas of our economy.

Foundation #2 – People looks at the steps that need to be taken through this Strategy and beyond it to improve levels of education and training, to ensure business has the supply of skills it needs and that our people are provided with more and better opportunities to fulfil their potential and share more equitably in our prosperity. Key skills initiatives include the development of a business-focused and technically-oriented University of Peterborough based on vocational and employer embedded delivery models, as well as a re-orienting of the Adult Education Budget to better align with

business and economic growth dynamics. We will also establish a Skills, Talent and Apprenticeship Hub, including Brokerage Services, to connect business needs, and skills providers, with the people and talent, to create the skills we need, at the right time, in the right sector, and the right place to drive our economy forward.

Key People Interventions. We will reshape the £11.5m Adult Education Budget, focusing courses on business, especially in areas of need, aiming to get 2,000 young people into further education or employment by 2022. We will deliver Peterborough University, with 2,000 students by 2022 and 12,500 by 2030. Our Skills Talent and Apprenticeship Hub will be operational by October 2019 and will increase the number of Apprentices to 5,000 by 2021 with 200 Employer Partners by 2024.

Foundation #3 – Ideas describes how the Local Industrial Strategy will provide the conditions for businesses to adopt and exploit new ideas either through incremental process innovation or the development of new businesses based on emerging technologies. Our priority is to ensure that the economic base of the area grows by harnessing innovation as a tool for business growth. We will ensure that both R&D and growth finance is in place and that Intellectual Property can be exploited. To do this and enable much more of our academics' and entrepreneurs' ideas get to market more effectively and at greater scale, we plan the creation of up to four new "**Innovation Launchpads**" based on, and partnered with, established world-class growth accelerators already successful in California, Cambridge and elsewhere. Here, diverse businesses will innovate, collaborate, cluster and connect into supply chains locally and customers globally. Our innovation launchpads will focus on key sectoral strengths in the region - Agri-Tech, Life Sciences, Advanced Manufacturing and AI Enabled Logistics. Geographically dispersed they will enable new economic activity across the region. To help our Innovation Launchpad firms along their growth journey we will ensure they are connected into our Global Growth Champion network of mentors, coaches and growth ambassadors.

Key Ideas Interventions. We will establish at least four new Innovation Launchpads, inviting bids from May 2019, delivering up to 450 new jobs in high value growth sectors in new commercial research and office space. Our Greater Cambridge Life Science Accelerator will receive its first applications in October 2019, and via 30 supported start-ups, lead to 2,550 jobs within five years. Our Eastern Agritech Growth Initiative is underway and will create or upskill 100 jobs leveraging £8m of private sector investment.

Foundation #4 – Business Environment outlines the steps we will take to deliver an integrated approach to business support. Our aim is to ensure that we have both the start-ups and scale-ups to drive our growth and productivity ambitions. That means more

businesses, more successful businesses, and the creation of more places with the ability to absorb economic growth in a sustainable way – clearly we need to support continued growth in Cambridge, but we need to match this with an emphasis on Greater Peterborough and the Fens which have lower productivity growth but currently, a greater capacity for growth in terms of infrastructure, transport and housing. We will ensure that our highest potential businesses have access to the right kind of space at every part of their evolution and access to growth coaching and support networks to help them maximize their opportunities and overcome their obstacles to growth around leadership, organisation, or market access. Key programmes include the creation of a network of 50 Innovation Fellows, an annual National Innovate to Grow (I2G) Conference and more than 1,000 Global Growth Champions to mentor other business leaders and entrepreneurs, acting as growth ambassadors across clusters, sectors and place. This will include access to expert, growth coaching as well as growth loans, equity investment and support to secure UK and international R&D funding and investment

Key Business Environment Interventions. We are establishing a Mayoral Endowment for Global Growth (The EGG). It will support a range of initiatives with an initial £18m budget aimed at engaging 3,000 businesses by 2024, creating 2,600 jobs and £1.3bn of CVA growth. Included in this is our Inward Investment Programme will support between 1500 and 2250 jobs by 2024.

Foundation #5 – Infrastructure looks at the evidence that inadequate infrastructure is having on the economy of Cambridgeshire & Peterborough. The views of businesses surveyed in the CPIER and engaged in the development of place and sector strategies is that this issue is already hampering growth and is set to increase as a problem over the next decade. In Greater Cambridge and across the south, the transport system struggles to manage the movement of people and goods. House prices have reached over 13 times average salaries. Elsewhere, particularly in and around the market towns, poor roads and infrequent and sporadic bus connectivity prevent the formation of what, elsewhere, might be considered normal patterns of travel and trade. Unlocking productivity growth is only possible if the right kind of connectivity is in place in these locations. Sustaining and de-risking the area's full potential for economic growth is reliant on transforming the transport, housing and infrastructure capacity in Greater Cambridge. As with our place interventions, the major infrastructure proposals we are developing are set out in the Combiend Authority's other major strategy documents.

Our ability to act and mobilise is an important feature of this Local Industrial Strategy. We are able to fund and implement the Delivery Plan set out in Annex 2 within 12 months. Our Delivery Plan for all the initiatives and interventions to be led by the Business Board through a dedicated Cambridgeshire & Peterborough Growth Company, has been developed and costed with the distinct principle of deliverability, within the funding and

resources we have available to us locally. This has required innovative and integrated approaches to funds available from the Combined Authority, the Local Growth Fund, ERDF, ESF and collaboration with local partners and investors. It is only the broader opportunity to scale our growth further, in partnership with the LEPs and HMG across the OxCam Arc that will require additional or new approaches to funding.

Our accountability for success is an underlying operational and cultural principle within this Local Industrial Strategy. All the objectives we have set ourselves and the related outputs and outcomes from the interventions to deliver them, have all been quantified. It is essential to both set a clear destination and to be able to measure milestone progress towards it over time. Clear outputs and outcomes from each of the interventions we will deliver have been established to achieve our broader vision and objectives. These are summarised in a table in Annex 2.

Outcomes: The overarching economic goal of the Combined Authority is to double economic output (GVA) over the next 25 years. Driving productivity is core to achieving this target and will require sustained investment over the long-term as well as action now. Strategy therefore sets out our ambition to increase productivity (measured by GVA/Hour Worked) to higher than the national average by 2024. A detailed delivery plan sets out how the specific outputs and outcomes that each intervention is designed to achieve. The majority of the actions in this Delivery Plan can be met from within existing local resources, but the long-term ambition on productivity and overall GVA assumes a continuation of existing local growth-related funding beyond 2023.

2. Purpose of the strategy

The heart of any economy is its industry. Businesses employ people, lead innovation, drive productivity improvements, and generate wealth. The effects of a thriving business environment are immediately apparent in any community, as are the opposite.

We address ourselves wholeheartedly to the Government's Industrial Strategy challenge to "create an economy that boosts productivity and earning power"[1]. Because we have already made excellent progress. And because we have the innovators, the entrepreneurs, the financial backing and the drive. But most importantly because we have the ability to get things done. Devolution has given Cambridgeshire and Peterborough a key advantage – to be able to be on the front foot of creating the conditions our businesses need to prosper.

This Local Industrial Strategy is not just a dash for any growth at any price. Growth must be sustainable, and avoid environmental damage, to ensure the long-term health of our area – both environmental and economic.

We have world-class strengths in areas as diverse as AI, food production, logistics, life sciences, clean energy, and advanced manufacturing – opportunities at the heart of the national Industrial Strategy. Our strategy is to bring these together, along with our natural and environmental assets and the way we plan sustainable physical growth (supporting in particular the pioneering focus on natural capital across the Oxford-Cambridge Arc) - into an industrial eco-system that collectively tackles the biggest challenges facing our society at home and across the world:

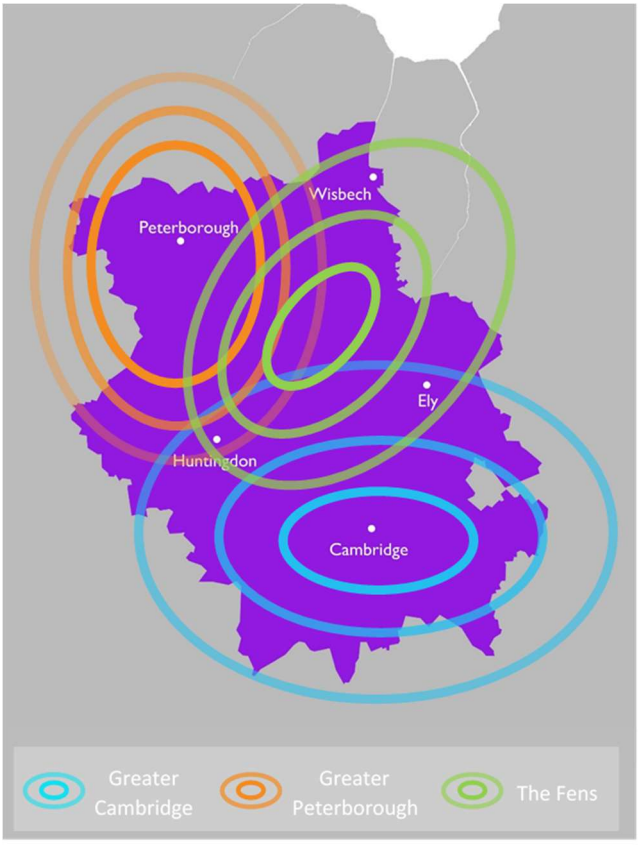
We will be known as a global capital of innovation that pioneers approaches for better living.

The Devolution Deal has set out a clear ambition to double our output in 25 years. Independent analysis has shown that this can only be achieved by strong increases in productivity – like so much of the UK our recent growth has been more driven by increasing the numbers of people in work than by increasing their ability to generate greater value.

This means we need to change the growth dynamic. At the moment, the diverse innovation hub that is Greater Cambridge is global in its intellectual and market reach but localised in its economic and societal impact. Businesses in the Fens lead the world in 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 industrial heritage and recent growth into universal prosperity.

[1] Industrial Strategy: Building a Britain Fit for the Future.

Our 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. The practical role of our Local Industrial Strategy must be to apply the technologies in which we are globally leading to solving these problems. Doing so will both deliver the growth we are seeking and ensure that we are growing in the right way: changing lives by improving them, and so doing good business.



That will require a change in how our three sub-economies work. Greater Cambridge is a hotspot. There are other patches of real brilliance in Peterborough, in Huntingdonshire, and in the Fens – but these hotspots are generally very isolated. This means we must help replicate some of the conditions that have made Cambridge so globally successful – 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. If we do that and ensure that the grand challenge technologies are being applied too, we will also make Cambridgeshire and Peterborough a better place in which to live as well as work and do business.

At the same time, we recognise that the success of Greater Cambridge, which has contributed so much already to tackling the nation's grand challenges, cannot be taken for granted. There are serious risks that without investment in the housing, transport and infrastructure the area needs, the global businesses there may take flight to more attractive global centres of innovation-based growth. It will also make it harder to achieve the 2.4% R&D target. Avoiding long term risks to the productivity and growth of our local and national economy requires us to focus on these issues in Greater Cambridge and its business base.

Therefore, our industrial strategy pays serious heed to the fifth foundation of productivity: place. The approach we take varies on the needs of our 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. Our Industrial Strategy responds to these, tailoring the application and mix of our 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 a flagship programme 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 piloted in Cambridge, or otherwise closely modelled upon what is working well there.

Our broad ambition for our area since the inception of the Combined Authority has been to be "the leading place in the world to live, learn and work." To this we now add a fourth aspect, implicit in the other three – to be **the leading place in the world to do business**. This Industrial Strategy shows how we will get there.

The Place of the LIS in our strategic programme

This Local Industrial Strategy represents the area of Cambridgeshire and Peterborough. It has been developed by the Business Board in partnership with the Combined Authority. Therefore, it sets out broad priorities for the area, and it introduces new interventions which will be delivered by the Combined Authority and Business Board working in partnership with our constituent local authorities and our business base. A wide range of partners will play an ongoing role in the delivery of the Strategy, with a wide range of activity that is not captured in this document.

The LIS is one of the key delivery strategies agreed by Cambridgeshire and Peterborough partners. The relationship between this and other key documents and strategies can be seen above.

The first foundational document is the Devolution Deal with Government, which established the Combined Authority and conferred a number of its key responsibilities. A target was set to double GVA over 25 years, in return for the new powers and funding.

The other foundational document is the CPIER, which gives a broad and thorough analysis of all facets of our economy. This provides us a solid understanding, new evidence, and makes many recommendations for top economic priorities.

The Combined Authority Growth Ambition Statement draws these two together. It sets out a local political mandate for how the powers conferred in the devolution deal will be used to enact the recommendations of the CPIER. It is clear that this will require close working with partners from the public and private sectors to deliver on the ambition. Local partners have established a multi-agency Growth Programme Board to collectively oversee the evolution and delivery of the Ambition Statement.

The Local Industrial Strategy is a primary document in addressing the following CPIER recommendations:

- Key Recommendation #1 – The GVA target should be tracked and measured
- Subsidiary Recommendation ii – In developing a Local Industrial Strategy, the Combined Authority should hold technical-level interviews with representative companies from KI sectors
- Subsidiary Recommendation iv – A Regional Fellows network should be established by the Combined Authority to strengthen networks across the area
- Key Recommendation #7 – 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.
- Subsidiary Recommendation xi – The Mayor and Combined Authority should jointly support pilot initiatives with one or more key sectors of the economy, to encourage employers to bring forward new and innovative proposals for increasing the skills supply with public funding to pump prime new employer-led provision
- Subsidiary Recommendation xii – High levels of investment are needed to ensure Peterborough University is a success, alongside a clearly defined offer centred around subjects which both integrate with the local economy and embrace new technologies
- Key Recommendation #12 – Regular meetings should be set up between those developing the Local Industrial Strategy, and those developing Market Town Masterplans, to ensure consistency
- Key Recommendation #13 – New collaborative ways of working need to be developed, which provide for tailored solutions to the needs of each of the three distinct economies Whilst overall strategic direction for the area rests with the elected Mayor, there needs to be effective representation for each economy

- Subsidiary Recommendation x): The Combined Authority should support and expand existing initiatives to work with employers and stakeholders of all sizes to gather more intelligence on the issue of workplace health and to frame recommendations for action. These are likely to include the nature of workplaces, monitoring of health, and work flexibility.

3. The Cambridgeshire and Peterborough Economy

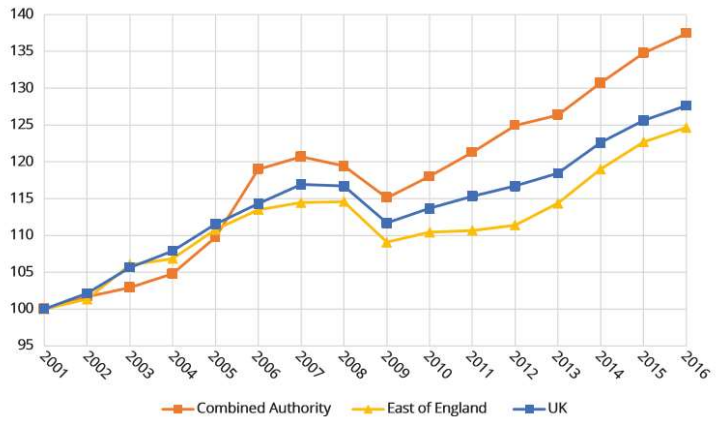
A detailed understanding of the economy of Cambridgeshire and Peterborough is the keystone of our LIS. We are not looking to invent new industries, put forward unsubstantiated aims, or adopt a 'build it and they will come' approach. Instead, we have developed a rich evidence base, which shows us where action needs to be taken.

This is found in the Cambridgeshire and Peterborough Independent Economic Review (CPIER)[2]. 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 free from political influence, 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 plans like the Local Transport Plan and the Non-Statutory Strategic Spatial Framework).

Our base engine - strong business performance

Businesses in our 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 1% per annum. This is not just true in the urban hotspots of Greater Cambridge and Peterborough, but right across the Combined Authority.

This has translated into strong growth in output, as measured by Gross Value Added (GVA). Strikingly, the region has bucked the wider regional trend of the East of England, to *outperform* the UK.

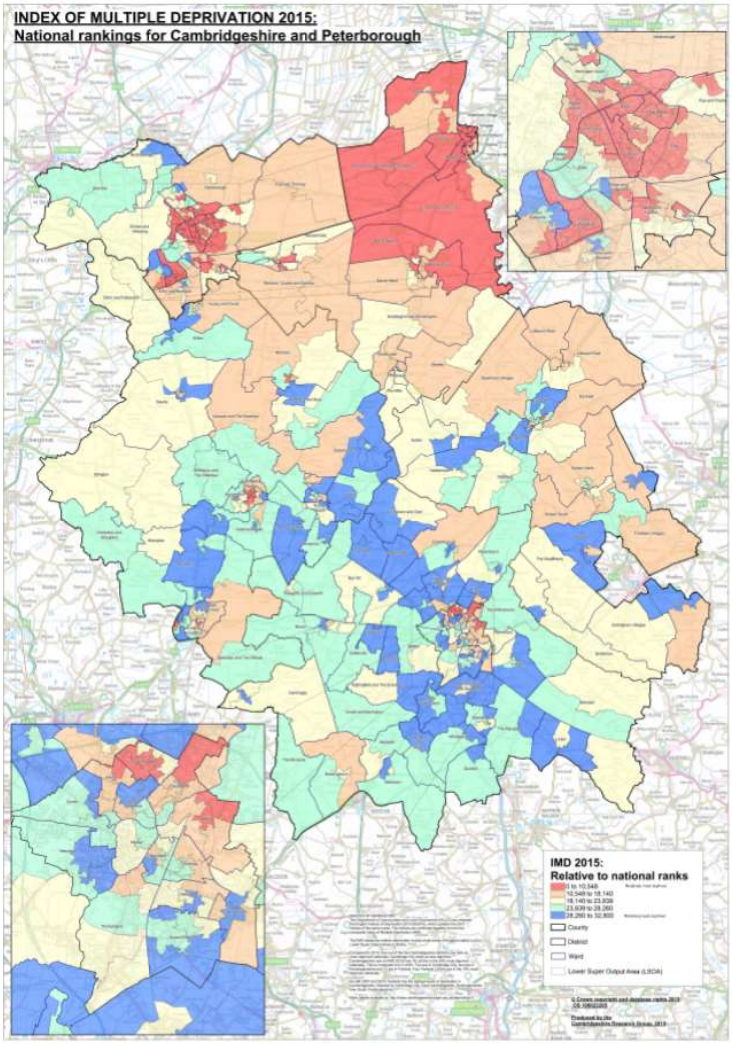


Real Gross Value Added (GVA) – index – 2001=100

[2] The CPIER final report can be found at http://www.cpier.org.uk/final-report/

An Inclusive Growth Challenge

Despite business growth having been strong everywhere recently, the economy of Greater Cambridge has been performing the most strongly. The positive effects of this have been felt in some 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 country.[3]

Furthermore, the pace of recent growth facilitated by a proactive coalition of local authorities has brought pressures on public service delivery across the whole county – which has also contributed towards a disparity between those who directly benefit from the local economy and those that don't. Historical underfunding through national formulas, the lag between actual growth and updated national estimates, and the flaws in producing those estimates (as highlighted by the CPIER research), all combine in Cambridgeshire and Peterborough with national austerity to amplify the pressures on public services that tackle inequality of opportunity at a root cause level. There is a need for increased resource for public services to ensure that forecast growth doesn't reduce access to the vital services which are so essential to the productivity of our people.

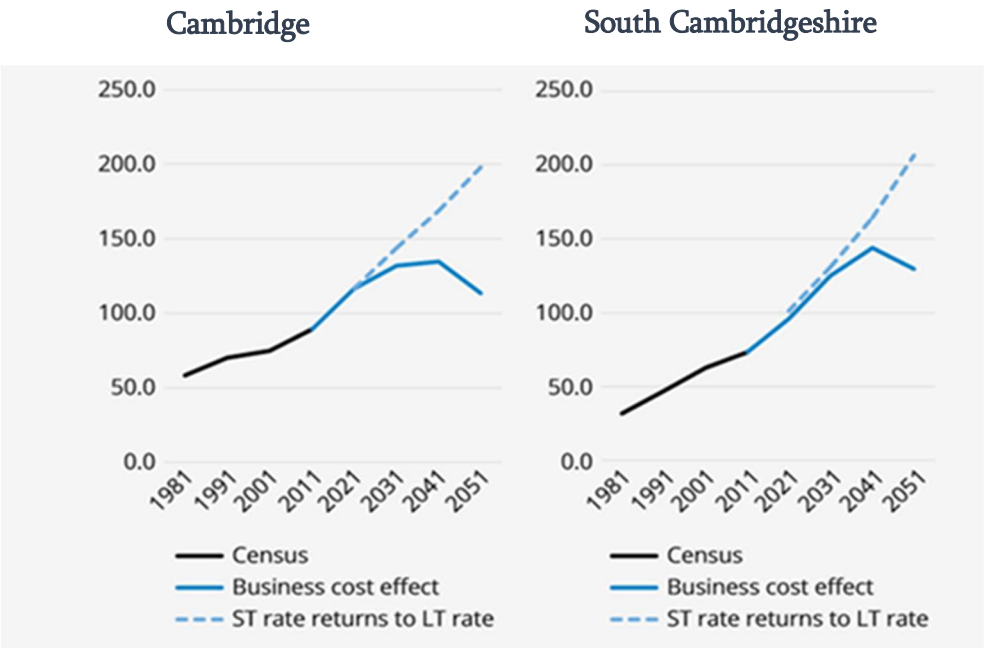
[3] http://cambridgeshire.wpengine.com/wp-content/uploads/2017/08/Cambridgeshire-and-Peterborough-2015-IMD-Map.pdf

In many ways, our area is a microcosm of the UK as a whole. It has a prosperous south, based around one principle 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. We want to use our Local Industrial Strategy to trial place-based business growth initiatives in this representative part of the UK which can potentially be rolled out, both across the OxCam Arc and the wider UK – both of which exhibit the same economic inequalities and disparities.

Significant 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. 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 10-15 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, severely hampering our ability to build new science facilities.

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

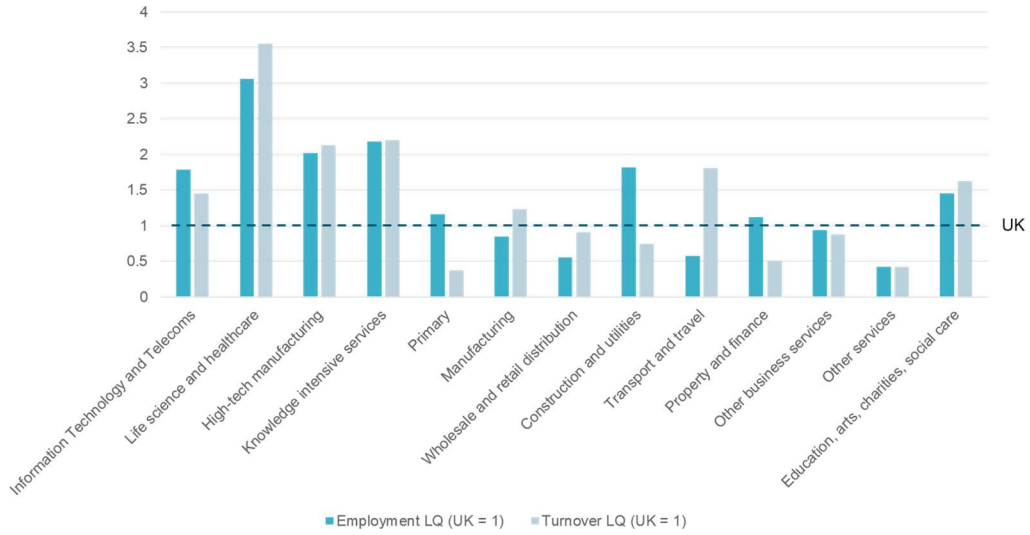
The detailed evidence base created for the CPIER shows that Cambridgeshire and Peterborough has specialisms in high-productivity, high value added, sectors.

We are particularly strong in life sciences and healthcare, high-tech manufacturing, knowledge-intensive services, and IT and Telecoms. These also directly contribute towards the UK's grand challenges and are important global growth markets. Based on this combination of existing strength and future growth opportunities we have identified four strategic growth sectors:

- Life sciences,
- Digital and IT
- Advanced Manufacturing and Materials
- 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 LIS framework, and will make recommendations for the consideration of the public sector and businesses alike.

Location Quotients for employment and turnover in businesses in Cambridgeshire and Peterborough



Source: University of Cambridge Centre for Business Research

Strategic growth sectors:

Life Sciences

A global centre for biomedical research and industry, at the forefront of international medicine discovery. An eco-system linking research and application in pioneering ways

which support people across the world to age better. 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. Therefore the growth of Greater Cambridge is intrinsically linked to the future success of this cluster. We welcome the announcement of a £45m investment for cloud computing software at the European Bioinformatics Institute in Cambridge, announced in the Spring Statement[4], in support of this.

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.

The Greater Cambridge cluster is the global HQ of AstraZeneca, with a market cap of c. $100bn, and the presence of other global industry leaders 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).

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. Our common interests in ageing unite us and together with practitioners, local authorities, industry, and voluntary organisations.

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

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.

The opportunity we seek to create

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 OxCam Arc. Locally in Cambridgeshire and Peterborough we 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, based on pioneering business scale-up approaches already proven in

[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785618/WMS_final_Commons.pdf

California, partnering with a global player to help start-ups and scale-ups get access to customers and markets world-wide. We want to support the sector with a Life Sciences Accelerator Scheme, and some infrastructure improvements – such as the A505 and Cambridge South Station – are particularly crucial for this sector.

Agri-tech

High tech solutions to agricultural productivity and sustainability challenges. Agri-Tech is any technology or science-based-innovation used to improve the productivity and sustainability of agriculture and horticulture. This includes related industries such as process engineering; packaging; mechanical, electrical and software engineering, and data management and processing.

Our region is poised to become the UK capital of this industry. We are leading the way domestically and internationally in a sector that innovates to solve society's biggest health and sustainability challenges and will be worth $300bn globally by 2021.

As the CPIER notes, the Agri-tech sector is of particular significance to the future growth of the Fens economy. The CPCA 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 international 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 key (and growing) data and the associated analysing/interpreting necessary for aiding key decision making will become ever more important. There is huge, untapped potential opportunities in the Fens and across the CPCA area for growing and strengthening this sector specialism, and by creating better connections with local clusters in clean growth, advanced manufacturing, AI 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 food and drink must be included as part of the overall STEM initiative.

Agri-tech in our region is increasingly operating as a successful innovation eco-system. We have the benefit of successful and growing networks, particularly Agri-Tech East, which is bringing closer collaboration between the scientific and

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

Reduce loss of quality or specification in store due to crop physiology, disease or storage conditions

research community and the businesses (including farmers and growers), operating across the supply chain. There is a recently established venture capital fund Cambridge Agri-tech, and we have many excellent examples of successful, pioneering research and development. There is the need to build on existing partnerships with other geographical areas.

38,000 people are currently employed in the Agri-Tech sector in our 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% over the next ten years. Our Agri-tech cluster has internationally significant research and development in both agriculture and food. This research base is also a significant provider of post graduate 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 global reputation of centres such as NIAB and the University of Cambridge. Firms in our 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.

The opportunity we seek to create

Our ambition is to establish our position as the UK capital of Agri-tech, particularly for pioneering R&D in plant science and precision agriculture, including crop bioscience, engineering/robotics and ICT-based systems. We will do this as part of a regional offer which connected with New Anglia (through an expansion of our joint Eastern Agri-tech Growth Initiative), the OxCam Arc, Greater Lincolnshire LEP, and other partners.

We will grow the innovation ecosystem strengths that the CPIER analysis shows will support the development of the sector, including by working with networks like Agri-tech East, developing new skills provision through the University of Peterborough, and building upon the emergence local presence of venture capital and investment funds.

Significantly we will be pursuing the development of an 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 CPCA strategic growth sectors which does not yet have central agglomerations which will be a key ingredient in its future success.

Digital and IT

An internationally recognised centre for AI and digital technology innovation. Establishing the CPCA area as the preferred base for firms 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.

The vibrancy and technological expertise of the Cambridgeshire & Peterborough area digital sector is a significant reason for the area's international attractiveness. The sector delivers almost 9% of the area's revenue and 8% of employment. Furthermore, it is the fastest growing knowledge intensive sector, increasing 10.4% over the last three years (compared to 6.6% for KI as a whole). Foreign direct Investment into the area and sector is strong and it is worth noting that when these projects occur, they generate twice the proportion of jobs than ICT FDI more generally across the UK.

A well-known example, ARM, was started in Cambridge with less than twenty employees and has grown into a global player valued at £24bn in 2016. Microsoft, Amazon, Google, Samsung, and Apple have all established bases in Greater Cambridge. Artificial Intelligence is also very prominent here – with companies such as the NASA spinout Beyond Limits choosing Cambridge for their international headquarters. More widely, firms are supported in the innovative growth by numerous technological assets, key amongst which is the new AI Supercomputer which is being used to support AI companies in developing next generation solutions.

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

The opportunity we seek to create

Our ambition is to establish Greater Cambridge 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 the work across the OxCam Arc with Government to support the delivery of the Grand Challenges – we will pursue the opportunity to host a global AI conference in Greater Cambridge. This represents a significant opportunity to increase the sector's growth both within our 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. 20% of business turnover generated in Peterborough comes from high-tech manufacturing (with a further 6% stemming from other manufacturing).

Prototype fabrications for the first 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 major industry research institutions such as TWI (The Welding Institute), the Cambridge Graphene Centre, and the Institute for Manufacturing (IfM) operating across the whole country as well as with firms locally.

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

The opportunity we seek to create

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 CPCA 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 ICT). But alongside its "foundational" importance, for the CPCA it has institutions and features which bond it together as a sector in its own right, and which this LIS will support specifically to grow.

This opportunity covers the whole region, where the existing base engine of world-leading firms can be supported to grow into bigger clusters and eco-systems with interventions such as a new Innovation Launchpad, the Growth Service, the University of Peterborough, and the development of a Fens Business Network. Drawing on skills and capabilities that already exist in some hotspots we can provide impetus to development of advanced manufacturing across the region. A specific opportunity, lies in scale-up, developing facilities closely coupled to our leading Universities where technologies can be developed and taken through the early stages of commercialisation. As part of the Growth Service we will seek to create Scale-Up Engines to support early stage commercialisation.

Key Supporting sectors

We have also identified five supporting sectors, where we can build upon our strong market position to create business growth and increase the sustainability of our wider economy further.

The subsequent sections of this strategy set out the actions we are taking against each of the foundations of productivity to support further business growth and productivity

gains, building on our existing strengths and emerging trends. These actions will support all sectors.

Logistics

The connectedness of parts of the region 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 UK's strong preference for 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. This will put the city at a distinct advantage over some more established distribution locations in the Midlands and East where logistics firms are finding it more difficult to recruit staff, as supply of labour local to the expandable logistics locations has failed to meet potential demand. Providing more and better logistics commercial space on the A1 West (Haddon) at Peterborough, where additional, contiguous housing is being developed around the Ortons', will 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. Through closer local links between our globally leading R&D and early stage product and therapy development in life sciences and our own health and care system we have important opportunities to drive commercial and health benefits locally as well as globally. The impact of our health and social care sector on our wider inclusion and growth goals is also crucial. It benefits all of us if we work together to keep our staff well, and there is good evidence that there are opportunities for better using employee assistant schemes and occupational health schemes to keep people in work and reduce pressure on the care system, for example through early interventions to improve mental health or reducing musculoskeletal illness through good use of in work advice and support. Existing organisations, like Cambridge University Health Partners, which brings together Cambridge and Peterborough NHS Foundation Trust, Cambridge University Hospitals NHS Foundation Trust and Royal Papworth Hospital NHS Foundation Trust can play a crucial role here.

Education

Education is a key UK export – recent Department for Education statistics found the value of UK education-related exports (including transnational education (TNE)) to be £18.8bn in 2014. This figure had grown by 18% since 2010[5]. Cambridge University's outstanding 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

[5] Department for Education: UK revenue from education related exports and transnational education activity 2010-2014 (released July 2017)

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

We are home to key visitor attractions – such as Ely Cathedral, the Holme Fen nature reserve, and of course, the city of Cambridge. 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.

Construction

Much of the development in Cambridgeshire and Peterborough is fuelling strong growth in the construction sector. This gives us an important opportunity to drive productivity and growth across the sector, adopting new techniques and technologies. We are also demonstrating the very best of building quality, such as the University of Cambridge's development at Eddington, which reuses surface level water, reducing wastage and minimising flood risk. We are engaging in the national industrial strategy through 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.

4. Our priorities

Our priorities arise from the key features of our economy. We have three principal ambitions, which will be delivered by the actions set out against each of the foundations of productivity in the subsequent sections.

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 and Life Science clusters. It's labour supply and research and innovation reputation are of the highest order. But there are worrying signs that some 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 we have enjoyed in the city for several decades. We will do this by investing heavily in housing, transport and infrastructure, whilst supporting efforts to increase inward investment. Keeping Cambridge strong is crucial as we can then leverage the strengths of this globally important and hugely successful cluster for the greater benefit of the other two economies.

Increase the sustainability and broaden the base of our economic growth. Growth has not been balanced across the Combined Authority, and growth in high value companies has been very unevenly spread. The three-economy nature of Cambridgeshire and Peterborough is a strength. Each economy has individual specialisms, which mean the area as a whole can and does lead the UK on multiple fronts. However, the current disconnects between the different economies represents a missed opportunity. By enabling them to work together more closely, our Local Industrial Strategy will look to widen the benefits of high growth in some areas, most notably in Cambridge, to others. We will connect up the business support networks and skills provision across the area 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 global success of Greater Cambridge has, for the most part, remained very localised. Whilst there are signs some non-knowledge intensive businesses are moving out of Cambridge to the wider area – we will act to ensure these other areas can also thrive. This means building on their industrial strengths and helping them hone a distinctive offer to help the firms with greatest potential in these places to achieve their full growth potential. Specifically, we 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 we will support innovative growth by encouraging individual business leaders, sectors, and places to join together to build an economy-wide business support eco-system to promote business growth, greater productivity, better commercialised innovation, greater global market

access and more effective skills development to deliver a more inclusive and resilient economy.

5. Driving productivity growth: the role of the Local Industrial Strategy

Productivity is both vital and elusive. Vital, because without productivity improvements, standards of living and long-term economic output will not increase. But also elusive – national productivity has remained largely static since the financial crisis. And productivity can be affected by multiple factors, both at the micro and macro level.

The need for productivity growth

There are two ways to grow an economy. The first is to increase *employment.* This could look like taking on more workers, and/or increasing the hours of the workers you have. The second is to increase *productivity.* This means that, even if the amount of hours worked stays constant, more is being achieved in those hours. (It is of course possible to have elements of both of these approaches.)

However, the outcomes of which model is adopted vary hugely. While an employment-driven model has the positive benefit of reducing unemployment, it is often associated with poor quality work, low wages, and workers experiencing stress and associated health problems from overwork. Furthermore, it cannot lead to a long-term increase in the overall productive potential of the economy – a short-term boost can be achieved by more work being done, but if, in the long-term, the quality of that work doesn't improve then growth will grind to a halt as resources are exhausted.

The productivity-driven model has much more positive outcomes. If people are generating more income, they will be better rewarded, leading to higher wages, better quality work, and an overall higher standard of living.

In the UK we have seen high employment but low productivity growth. The CPIER comments: "Future growth [in Cambridgeshire and Peterborough] will have to involve elements of both employment growth and productivity growth, with the dial pushed firmly in the direction of productivity improvement."[6]

Taken as a whole, our area has become less productive relative to the UK over the last five years. In 2012, GVA per hour worked (the best measure of productivity) was 98.9% of the UK average. By 2017, that had fallen to 94.9%, the biggest five-year fall for any Combined Authority area[7].

We are determined to reverse this fall. Therefore, we are setting ourselves a five-year target to reverse this trend:

Industrial Strategy Target:

To catch up with, and overtake, the national average for GVA per hour worked by 2024.

The Combined Authority is currently engaging with the Office for National Statistics to release local authority level GVA/Hour Worked data to establish a local dashboard for this target and understand sub-economic characteristics of this overall target.

Moving towards a productivity-driven model of growth to achieve this target will not be easy. But it is an important strategic position to drive socially inclusive and well as geographically inclusive growth – in support of the Combined Authority Public Service Reform programme.

The UK Industrial Strategy identifies five key foundations of productivity which we agree with and reflect in the structure of our Local Industrial Strategy.

[6] CPIER ref
[7] ONS: Subregional productivity: labour productivity indices by city region, Table A1 (February 2019 release)

6. Foundation #1 – Place

No economic activity takes place in a vacuum. While the importance of 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 is not one, but three separate 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. The boundaries are "fuzzy" – 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 OxCam Arc.

Science parks and incubators have largely been subject to excess demand, and the city hugely outstrips all UK competitors 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 giants (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 been achieved by 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.

Top priorities from analysis of the evidence base: 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.

Greater Cambridge has established a City Deal with Government worth £500m, 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.

The **Cambridge Autonomous Metro (CAM)** is the top infrastructure priority for this economy – rapid transit connectivity will cut costs for businesses and make living and working in the city more attractive for aspirational younger generations. This is the most strategic intervention within a package of measures including the **A10** and **A505 Corridors** which collectively transform connectivity into Greater Cambridge, as well as **Cambridge South Station** which will make the Biomedical Campus more accessible. The Combined Authority is working closely with the Greater Cambridge Partnership and other partners to collectively progress this package of measures.

The **Greater Cambridge Life Sciences Accelerator Scheme** – approved in principle by the Business Board – will build on our excellent track record in this sector by supporting budding new companies and helping deliver necessary lab space. Recent and further bids to the Local Growth Fund will support this sector and complement investments planned to transfer world-leading approaches to start-up business growth accelerators transferred in from California to guild a cluster of genomics related life science firms.

Academics and business 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 OxCam Arc and the establishment of a Global AI Conference and a National Innovate to Grow (I2G) Conference in the city.

The new Global Growth Champions programme will work actively with the Greater Cambridge Partnership to target businesses in both the life science and digital sectors to accelerate their growth, especially into global markets. Over 400 Global Growth Champions will be created, to mentor other business leaders and entrepreneurs, acting as growth ambassadors across clusters, sectors and the city. This will be supported by the coordination of the estimated 5,000 consultants, coaches and advisors across Greater Cambridge, into a pool of innovation, productivity and growth coaches and global market access experts, to support not just the high growth firms in Cambridge, but those across the other two sub-economies too. This will be a key feature within the Mayoral Endowment for Global Growth (The EGG).

Building on work already undertaken by the University we will collaborate with the Greater Cambridge Partnership and the Dept for International Trade to boost Outward Promotional Activity will enable us to sell the Cambridge brand in more global markets and put us in a strong position in the post-Brexit world, to consolidate Cambridge's global reputation and land more firms from across the world, into both Cambridge and surrounding research parks and towns.

Working between the Combined Authority and Greater Cambridge Partnership to **increase apprenticeships through services that better broker** talent into jobs through improved and more effective relationships between employers, providers and learners. GCP has recently commissioned Form the Future and Cambridge Regional College to launch an apprenticeship service that will increase apprentices across the city region. The service will do this by directly linking people looking for an apprenticeship position with businesses and educational establishments.

Continued investment in the Cambridge Compass Enterprise Zone to further enrich the business ecosystem, and the invitation to bring forward bids to the shared prosperity fund that increase the provision of business space that reflects Greater Cambridge's needs.

Continued support for **Cambridge Experiments** – one of the strengths of Cambridge is the constant experimentation in the innovation ecosystem. We should continue to encourage and support this to ensure that the innovation ecosystem constantly reinvents and improves itself. To support this we will create a **Cambridge Experiments Fund (CEF)** to support innovation in the ecosystem.

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 our whole economy. 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 the Combined Authority, with relatively low levels of degree-level qualifications, and is in the bottom 10 cities in the UK for people with no formal qualifications[8]. 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

[8] Centre for Cities, *Cities Outlook 2019*

functions out of the capital. But for a city of its potential, it still attracts relatively low investment.

Top priorities from analysis of evidence base: Improving skills, growing the high-productivity business base, and attracting investment

The new University of Peterborough will attract highly skilled, productive individuals to the city, and develop the skills of the local population. Critically, these skills will be provided in line with the needs of local industries. The proposed associated **Enterprise Zone** will ensure the University also builds a reputation for applied innovation and technology, with Agri-tech, Advanced Manufacturing and AI Applied Logistics specialisms to fuel the growth of these key sectors in the city.

The new Global Growth Champions programme will work actively with Opportunity Peterborough to target businesses in our key sectors in and around the area that will grow, become more productive, and trade more globally, as a result of direct support through the service. Peterborough's fastest growing firms in advanced engineering, financial and professional services as well clean technology will be provided with enhanced access to growth coaching and growth support networks to help them maximize their growth opportunities and overcome the leadership, organisational or market access challenges that hold them back. Over 350 Global Growth Champions will be created, to mentor other business leaders and entrepreneurs, acting as growth ambassadors across clusters, sectors and the city. This will include access to expert, global growth coaching as well as growth loans, equity investment and support to secure UK and international R&D funding and investment; all from a Mayoral Endowment for Global Growth (The EGG).

An Innovation Launchpad in areas such as Agri-tech or AI enabled logistics can be connected into the University Enterprise Zone to provide both R&D and growth finance to convert Intellectual Property into product and service sales across global markets.

A **Greater Peterborough Inward Investment Pilot** will look to actively market Peterborough as an opportunity to international investors, working with the Department for International Trade to develop compelling propositions. This will include global promotion of the city's strengths as a logistics hub and high value opportunities to invest in logistics commercial space on the A1 West (Haddon) at Peterborough. It will also include promotion of Peterborough within the UK and in particular to London businesses. There is significant opportunity to increase high value GVA and productivity growth in Peterborough, as a result of signaling improvements on the east coast rail line that will reduce journey times from London to just 38 minutes and raise passenger volumes to 5 million per annum. The CPCA and Peterborough City Council will work together on a master-planning exercise and feasibility study for a London Commuter Commercial Quarter. Opportunities include relocations out of London for back office functions from Government Departments and Agencies, as well as professional and financial firms. Median office rents in central London are £73psf and in outlying Boroughs £45psf. In a new potential London Commuter Commercial Quarter they would be just £17psf.

The **Skills Brokerage Service** will boost uptake of apprenticeships, especially in the advanced engineering, business and logistics sectors. The **Work Readiness and Aspiration Pilot** will work by leading on intensive engagement with local schools to drive up aspiration and attainment and prepare young people for work by facilitating engagement with local employers.

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 Ramsey, Wisbech, and Littleport, which each have their own unique character and industrial specialisms, and plentiful natural capital.

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.

Top priorities from analysis of the evidence base: Deepening business networks and developing supported clusters to improve productive, business growth

The **Fens Business Growth Network** 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 we will create in the Fens, targeting the specific size, age, sector and market focus of firms prevalent there. These *Fen Tigers* will also enjoy enhanced access to expert productivity and growth coaching as well as growth loans, equity investment for investments into growth capital and new more productive equipment and technologies, through the Mayoral Endowment for Global Growth (The EGG).

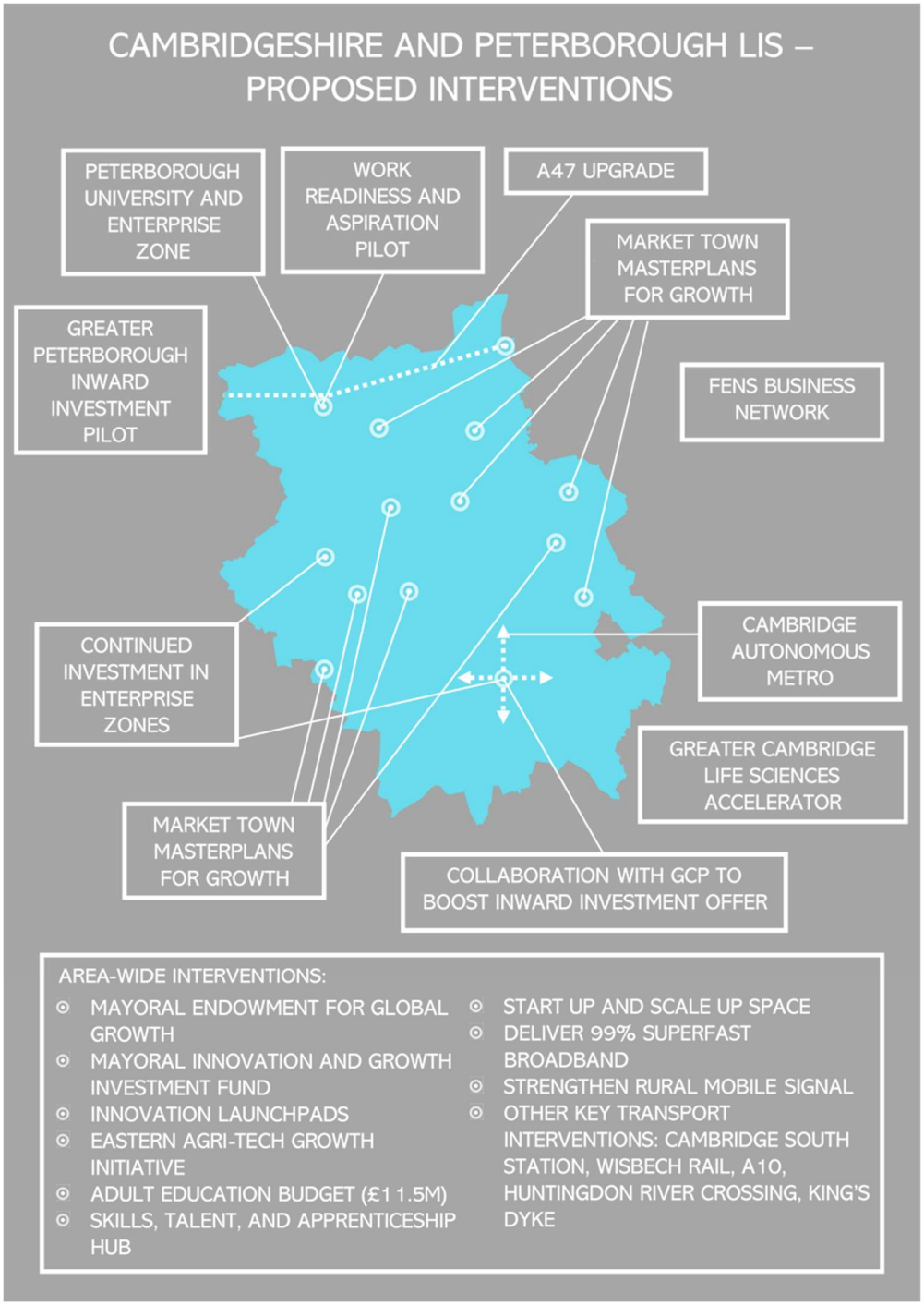
The **Market Towns Masterplans for Growth** will tailor economic policy for each market town, and increase the attractiveness of the towns for the new generation of lifestyle entrepreneurs

An **Advanced Manufacturing Innovation Launchpad** will bring together local supply chain businesses, international R&D institutes, national training providers and partners with global market access. This will include a new partnership between Make UK, TWI, iMET, the Institute for Manufacturing and a leading Advanced Manufacturing business in the Fens.

The **A47 upgrade** is a particularly vital transport intervention for the North of the Combined Authority (especially for the market towns of Wisbech and March). This will improve access for Fenland firms and communities to wider economic opportunities and markets.

The **Eastern Agri-Tech Growth Fund** expansion of £5m, will enable direct funding support to more firms in the Fens, and extending into Norfolk and Suffolk, building upon the track record of businesses in this region which have been able to grow as a result of R&D funding support. This will also support plans for the expansion of **business space for Agri-tech Innovation** such as that previously invested in the NIAB Innovation Hub in Soham.

A map, showing where some of the innovations will be located is set out below:



7. Foundation #2 – People

Our Approach

We have developed a Skills Strategy Framework that sets out the actions we are going to take to drive this foundation of productivity. It has three key themes:

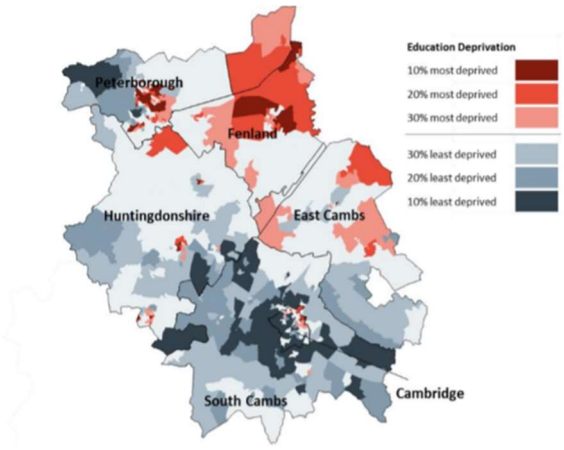
1. Achieve a high-quality offer tailored to the needs of the three sub-economies.
2. Empower local people to access education and skills to participate fully in society, to raise aspirations and enhance progress into further learning or work.
3. Develop a dynamic skills market that responds to the changing needs of local business.

The evidence and actions are summarised here.

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 the three different 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 CPCA Skills Strategy builds upon the CPIER to describe this issue in detail. Together with the Combined Authority's Public Service Reform programme, our approach to skills will involve local partners working with Government to 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.

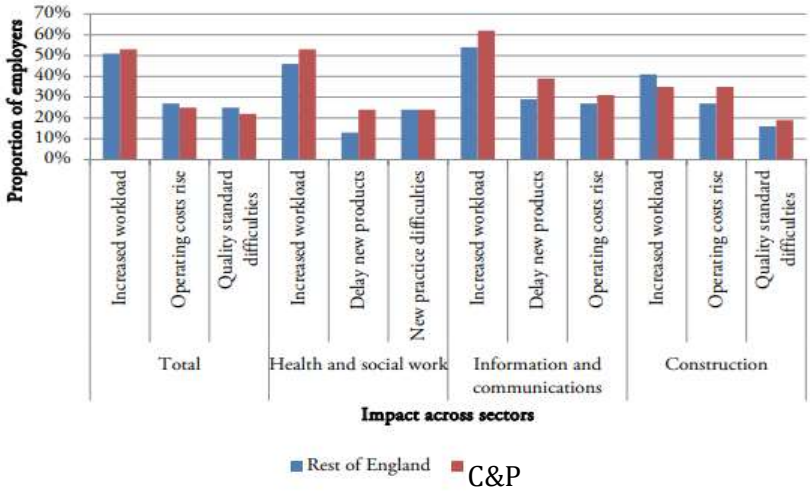


The actions in the LIS and the skills strategy show how we are working across the different parts of Cambridgeshire and Peterborough, with those communities at each end of this spectrum and those in between, ensuring that the education and skills offer of the area is adapting to enable employers in each 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 to if not central to the LIS. 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 the Government has declared them a Social Mobility Opportunity Area. The map, right, shows how educational deprivation is unevenly spread.

If some of the schools of Cambridgeshire and Peterborough aren't 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, the Apprenticeship Levy will fail to work in the way intended, and too much of Cambridge and Peterborough will remain locked in a low skills, 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 Cambridge and Peterborough and the delivery of the goals in the LIS



Source: UKCES Employer Skills Survey.

A lack of necessary skills is also having a greater impact on a wide range of businesses than in other regions and England as a whole. This includes on metrics such as metrics, such as increasing workload, creating higher operating costs in the IT and Construction sectors, and meaning delays in new products coming forward – therefore acting to slow down innovation and business growth potential.

Priorities

Based on the evidence our Skills Strategy Framework set out 6 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 & qualifications and skills & 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 - Embed 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 IT, 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.

Improving the evidence and evaluation base - It is imperative that we are highly successful through the devolved projects we currently run. Measuring impact and evaluating outcomes effectively, ensuring that the investment yields, or wherever possibly exceeds, the return expected will be essential.

Interventions

Education

Further work is needed to ensure that the young people of Cambridgeshire and Peterborough can operate in the modern world of work. This is an issue in all three local economies, including where educational outcomes are high. Too many young people still lack the experiences of team working, creative problem solving and the personal skills that are a key part of effective working. The Skills Strategy Evidence Base and the CPIER both suggest that one reason for this is that the skills offer funded through the public purse is not yet focussed enough on the opportunities for employers and the potential of both young people and adults that are seeking to re-enter employment or change careers.

We are committed to an in-depth evaluation of actions being taken as part of the Opportunity Area in Fenland and East Cambridgeshire, to inform future interventions which may be developed through our focussed work on market towns in the area.

The devolution of the Adult Education budget is in progress and radical changes to how it is invested and the related outcomes for individual opportunity and business needs satisfaction are underway. However, in addition, the CPIER recommended the devolution of skills funding for young people also.

One practical early action we propose to take to make progress on this issue, is the development of a Work Readiness and Aspiration Pilot: intensive interaction in schools in areas of deprivation, to reduce NEETs. Subject to independent evaluation of the pilot, the plan will be for expansion beyond the small number of schools currently engaged, to an economy-wide scheme that is able to focus its resources on the urban areas and rural towns suffering from the worst educational deprivation, lowest levels of youth aspiration and weakest links into employers, work and skills progression.

Skills

The current skills system within Cambridgeshire and Peterborough demonstrates that there is some degree of disconnection between schools, colleges and businesses. It is imperative that we map the current provision and ensure that outcomes of education and wider learning lead to employment, Further Education, Higher Education or further training.

There is a clear opportunity to make **More Effective Use of the Devolved Adult Education Budget**: better connecting adult skills provision with employment and the needs of our businesses, creating better opportunity for re-training and up-skilling in a dynamic modern marketplace.

Taking control of the Adult Education Budget (AEB) provides us with the tool to support learners to secure foundation skills, progression and diversification and is pivotal in supporting the needs of local people into employment. Improving workforce development is crucial to achieving the economic development of Cambridgeshire and Peterborough, particularly in those areas where levels of educational attainment are currently low.

But better provision alone will not provide the skills for our economy and ensure that business and able to access them. The labour market is very prone to information failure in which people, especially younger people, are unable to understand what is on offer or the benefits of investing their time and resources in identifying employment, skills and educational opportunities or differentiating between them to understand which creates the best life-chances for them individually. Similarly, employers can find it hard to access the people, skills and talent they need in a timely manner, especially small firms with limited time, networks and visibility. We will ensure that unsuccessful applicants to big employers can access other opportunities. Similarly, small firms need to be given access not just to their own apprentices but to share apprentices and pull down levy funding from the big employers

Young people need to be able to differentiate them to best match them to their needs, whilst older people looking for new careers and a return to employment, need to be able to construct skills development pathways into new sector and new jobs. So we will, through our Local Industrial Strategy, take a number of actions to build a systems approach to overcoming the current and enduring market failure in the skills marketplace including:

- We will create a **Skills, Talent and Apprenticeship Hub:** connecting employers, providers, and learners. Following initial public investment once operational there is the potential in the future for revenue generation.

- Learning from experience in the past, there should be the opportunity for specific brokerage to bring together demand and supply through dedicated skills brokerage. Building on existing schemes such as the Greater Cambridge apprenticeship brokerage scheme we therefore propose to create as part of this Hub a **Skills Brokerage Service:**

specialist activity building relationships between businesses, providers and learners creating a system which brings together all of these different interventions as part of a coherent system.

- One of the most challenging areas of matching need and opportunity is in relation to apprenticeships. The issue of demand for apprentices is most prevalent amongst SMEs who struggle to balance the value and effectiveness of a trainee, their need to be absent for 20% of the week and the costs involved. Hence, to overcome this continuing market failure, we propose to better unlock the apprentice levy funding within large firms and help it flow down more effectively to SMEs in supply chains and sector clusters. To achieve this **we propose alongside our partners in other Mayoral Combined Authorities in Greater Manchester and the West Midlands to agree with and pilot on behalf of the Department for Education (DfE), greater local freedom over the utilisation and management of underspend in the Apprenticeship Levy** to create a highly functional local levy marketplace that significantly increases the quantity and quality of apprenticeships in the MCA economy We will develop local mechanisms to ensure that this critical resource in overcoming the current market failure in apprenticeships, can be deployed effectively, including creating pooling arrangements between employers.

- However, more is needed to help employers to make apprenticeships available. So, in addition, we have created an **Apprenticeship Ambassador Network:** a voluntary network of business champions, encouraging businesses to overcome reticence to create apprenticeships, and encouraging uptake. This same approach has been highly successful for the Dept for international trade where they have used Export Champions as networked ambassadors and case studies in advertising to promote the benefits of international trade. We intend to apply this proven tool to promote the benefits of taking on apprentices amongst, particularly small firms.

- Further help is needed to get more people into apprenticeships, particularly targeting communities where accessibility and affordability are significant barriers. So we will create a **Mayor's Apprenticeship Challenge Fund**: offering financial incentives to help overcome barriers to uptake, including travel costs and expenses.

We will work across our growth sectors to co-design specific interventions that respond to specific needs. Since the inception of the Combined Authority and the Business Board we have so far launched:

- A **CITB Construction Hub:** on-site training hub at Alconbury, working across the county. Supporting the hard-to-reach, workers from declining sectors, and military veterans into careers in construction

- The **Health and Social Care Progression Academy:** DWP funding pilot to support progression within and across priority sector

The three priorities identified thus far: education, skills and young people and adults, will all require careful steering, balancing the needs of young and older workers and employers, ensuring that purposeful change in provision occurs in ways that help the provider community to adapt quickly, minimising disruption. Innovation is also needed in the way public money supports businesses in their training, promoting innovation, cooperation and joint procurement of skills across supply chains and sectors. For all these reasons, stronger leadership and governance is needed of this **systems approach** that we are adopting, via a **New Skills Advisory Panel** charged with overseeing the integrated system of interventions and reforms described. The Panel needs to be expert in skills but also in business with a heavy emphasis on innovation, experimentation and evaluation to promote new ways of supporting skill development. This Panel should also inform the future of Higher Education in the area.

Higher Education

There is a strong case and long held ambitions for Peterborough to have its own university, strengthening the City's economic assets, retaining talent, and driving growth. The University of Peterborough will be a high-quality employment-focused university for the city and region. It will acquire an international reputation for innovative technological approaches and face-to-face learning in applied technology and science. It will be characterised by outstanding student satisfaction and response to local needs. The curriculum will be led by student and employer demand as well as developing opportunities in the technological, scientific and business areas. Its buildings will be architecturally leading, flexible and environmentally friendly.

Within a year we intend to implement this vision through:

1. A procurement compliant competition, for the selection of the most appropriate curriculum offer to satisfy that requirement from a partner that can demonstrate the financial, academic and commercial capacity to deliver it
2. A specification for the buildings and equipment, with related capital and revenue costs, to deliver that offer in partnership with the selected partner.
3. The procurement of contractors to build and manage the university premises on the embankment site

By 2025 we intend that the new university on the banks of the Nene in Peterborough will be producing 2,000 graduates a year, rising to 10,000 by 2030, when it will become fully independent, as the University of Peterborough.

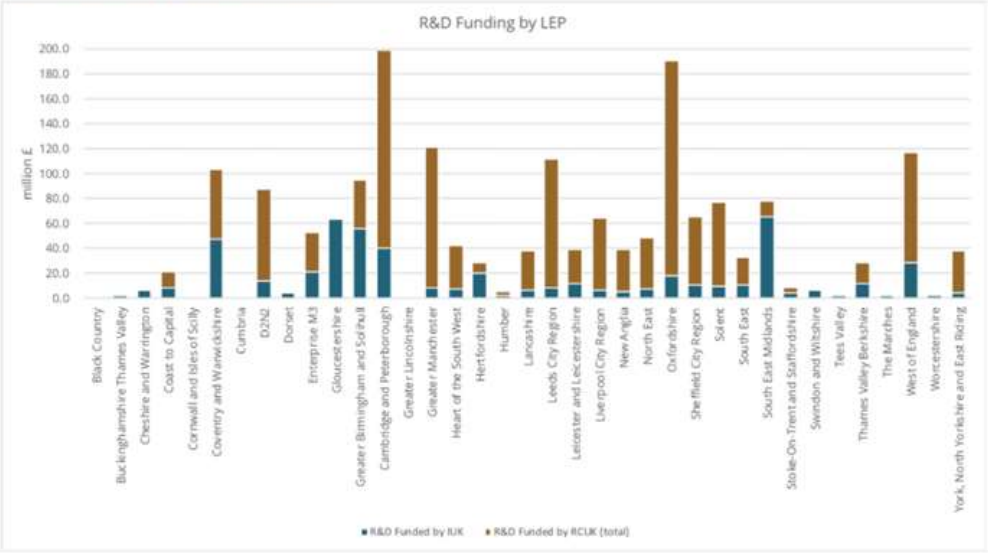
The Work and Health Programme is a collaborative initiative between Government (through the Department of Health and the Department of Work and Pensions) and local partners to increase the employment prospects of those with a long-term health condition or disability. The Cambridgeshire and Peterborough service was launched in January 2018, the Public Health team has played a leading role in this service and it will be a priority for the Combined Authority to integrate this activity into the wider industrial strategy programme. The programme has the following key objectives:

- Establish referral pathways between education/skills provider, health and social care organisations to the Shaw Trust Support Service. Receive performance monitoring information from DWP for the Shaw/Papworth Service and review progress and address local barriers to achievement.
- Develop with DWP referral pathways for ESA recipients to and from education/skill providers, health and social care services to other Job Centre Plus support packages
- Provision of training to Job Centre Plus staff to enable them to understand health conditions, their impact on motivation to work and to take appropriate action.
- Support employers to adopt workplace policies and interventions to support improvements in employee health and retain those with a health condition or disability
- Provide Workshops and training for education, health and social care staff across the system to increase their understanding and skills for supporting people with disabilities and long term health conditions back into work.

8. Foundation #3 – Ideas

Cambridgeshire and Peterborough is a global centre of highly diverse innovation, representing one of the UK's greatest assets for idea generation and commercialisation. Research and Development funding by Innovate UK and the Research Councils in the UK is the highest outside of London within the CPCA area as shown in the graph below.[9] Its future success is key to the UK achieving its target of 2.4% of GDP on R&D.

Figure 4: R&D Funding by LEP without London



The priorities and interventions of this Strategy are collectively intended to enable the future success of our centres of innovation – most notably Greater Cambridge – whilst also actively working to spread innovation across more of our economy, moving our firms and sectors up the value chain.

To achieve this, we have responded to the CPIER's analysis of the innovation ecosystem and the 2017 East of England Science and Innovation Audit to tailor our interventions in ways that will support clusters of innovation to grow and that are bespoke to places and sectors.

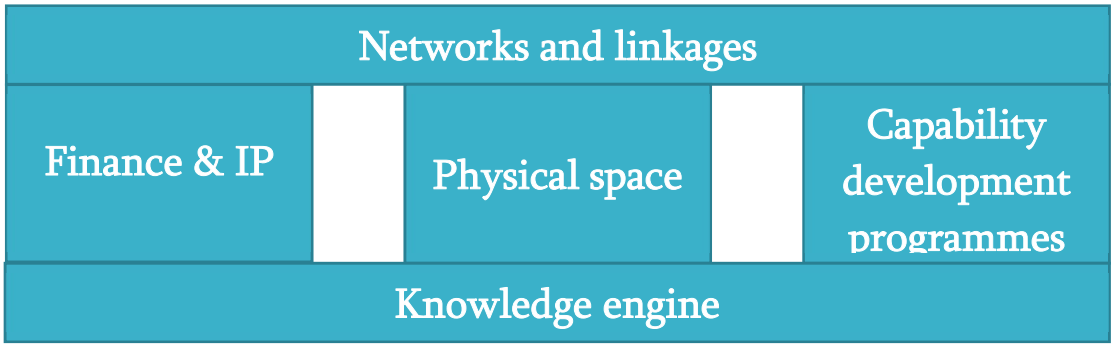
Evidence and Barriers

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

9 http://smartspecialisationhub.org/wp-content/uploads/2019/01/2.4-PLACE.pdf?utm_source=Newsletter+subscribers&utm_campaign=5bb89dc02c-EMAIL_CAMPAIGN_2019_01_14_11_13_COPY_01&utm_medium=email&utm_term=0_5ba091826c-5bb89dc02c-206124285

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.

The Innovation Ecosystem model as developed through the CPIER:



In Greater Cambridgeshire we have one of the world's most highly 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 – and 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 Business Board investment (pictured right). The Combined Authority proposals for a new University of Peterborough will, over time, become the knowledge engine in the north of the region, especially through the proposed university enterprise zone, which will be used to attract innovative small businesses and a range of business, innovation and productivity specialists to support cluster development.

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 **Finance and Intellectual Property** is mixed but nowhere is it as clearly excellent as might be desirable. Cambridge has the best endowment with 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.

Physical space like finance has stages. What a business needs in its start-up phase is different as it matures and grows. It is vital, if an innovation ecosystem is to be effective for there to be the right offer at every stage and of the appropriate kind.

There is evidence that Greater Cambridge needs 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 Greater Cambridge Partnership is 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 business space but perhaps also the innovative space that links 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, whereas 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

Putting all of these factors together in to a programme leads us to place-based innovation, integrated with our new business growth support programmes and funding sources, in the following broad areas of activity to deliver an **economy wide place-based innovation and growth eco-system.**

Networks and Linkages:

- **Harnessing the Global Growth Service** to bring together leading established players, entrepreneurs, innovators, mentors and coaches with growing firms that are receiving support from the Service to establish a "**Innovate 2 Grow Network**" to strengthen linkages across the whole area

- **Stimulating and enabling business groups** to come forward with proposals against future rounds of Local Growth Funding and the proposed UK Shared Prosperity Fund to

establish new networks and strengthen existing in specific towns and cities, whilst integrating all across the whole area through the proposed Innovate 2 Grow Network.

- **Supporting Businesses, universities and other partners to collaborate** to maximise public and private investment, including R&D funding, in the four major growth opportunities we have identified and to support the supply chain innovation required to make the most of the market potential.

- **Establishing a Fens Business Network** – with the Mayor and leading business figures from the region stimulating discussion with businesses from the Fens about how such a network could operate and link penitential start-ups and scale-ups into the Base Engine of growth and innovation support from within Greater Cambridge.

Funding and IP:

- **Expanding the Eastern Agri-Tech Research, Development and Prototyping Growth Initiative** which already operates across Cambridgeshire & Peterborough as well as New Anglia, by a further £5m (already committed to by the Business Board and NALEP in partnership), and **working with DEFRA** to explore opportunities to match local funding to stimulate a step change in rural innovation more broadly across the range of sectors established but failing to grow and innovate.

- **Working with local investors** to match contributions from the Local Growth Funding to create a new **Mayoral Innovation & Growth Investment Fund** to work alongside the Growth Service by providing equity and loan investment to firms already accessing growth coaching and support to break into global markets and transform their productivity through innovation.

- **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 domestically and from the European Union, to create and commercialise new technologies capable of driving transformative growth within their business and their markets.

Physical Space:

- **Stimulating the creation of new Innovation Launchpads** as nucleation points for innovation cluster development. Focussing on product development to support key growth sectors – bringing together established firms with training, R&D, and incubation facilities. Designing with input and learning from the on-patch success of such centres in Greater Cambridge – inviting bids to future rounds of the Local Growth Fund that establish such launchpads.

    - We will support and facilitate the creation of at least four new Innovation Launchpads that will establish clusters of innovation and commercialisation, rooted in market need.

- The evidence of the CPIER and regular feedback from local businesses and institutions in the development of this LIS is that our respective strengths in innovation and production are too often disconnected – especially outside of Greater Cambridge. Cutting edge research is too far from real life market need, and this is where our opportunity to facilitate a stronger ecosystem can have real impact.
- The Combined Authority will work directly with partners who are interested in bringing forward launchpad propositions, and will work to design funding packages for our strategic sectors liaising between local players and Gov Depts to secure funding and support related to the National Industrial Strategy's Grand Challenges of:
  - Advanced Manufacturing
  - Agri-tech
  - Life Sciences
  - Digital and Tech
  - Future of Mobility
  - Clean Growth
  - AI and Data
  - Ageing Well

The Combined Authority will work actively as propositions emerge to ensure that they contain the core components of such systems, drawn from the evidence of the CPIER and learning from those in the area who play a leading role in successful examples. Once in place, the Combined Authority will then play an active role on Launchpads, for example through the deployment of the Global Growth Service, funded through the Mayors Endowment for Global Growth and its related growth coaching and support.

- **Supporting new start up, incubation, and scale-up space** where market failures are identified – and where investable propositions are brought to the Combined Authority or overseas investors can be attracted in, to support the key new business parks being developed in Greater Cambridge and Greater Peterborough, including the new proposed University Enterprise Zone as part of the University project in Peterborough.

Programmes:

- **Developing an economy-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 (see business environment).

- **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 we propose to create, with the global Growth Champion support services, the proposed growth investment funding into specific new market town business growth space.

9. Foundation #4 – Business Environment

The evidence, challenges and opportunity

Overall, we are a dynamic business environment. Between 2012 and 2017, there were over 25,000 businesses born here, compared to just under 20,000 businesses dying. Our start-up culture and a business creation capacity is strong, but so too are the factors that make early-life business survival challenging; not least cashflow. We have seen growth in turnover of companies in the area over the last six years at least 2% per annum, with over 10% in South Cambridgeshire.

We have a strong 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 our overall growth ambitions means that we must increase productivity, changing the spatial distribution of growth and supporting an increase in business growth and skills levels across the whole of our economy.

We recognise the need to change the historical growth dynamic. Our 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.

So how do we leverage this world-class asset to the greater benefit of more of our citizens and a greater proportion of our place?

The answer is not to attempt to encourage or induce these firms to spread and relocate more broadly across our economy, because we know this does not work and they are unwilling to give up the clear benefits of the innovation and growth eco-system there.

Instead, we will focus on the spreading and replicating the conditions that helped bring about this global growth success story – primarily the peer-to-peer and commercial marketplace for innovation, growth, productivity and market access support, complemented by relatively easy access to growth finance.

Goals and Approach

Working across the whole economy, we will develop networks to connect the growth support resources of Cambridge, and elsewhere, to firms across the economy, creating a marketplace for growth support and growth finance, available to all our high potential firms, wherever they might be located. In doing so, we will create a world-leading business growth support environment for high-growth potential firms, where business ideas and business leaders can establish, grow to scale and find innovative routes into global markets.

This inclusive growth strategy is designed to shift more of our future growth into the wider economy, and diversify our economic base to mitigate any risks to our economy.

All our towns and cities will form a network of well-connected economic and business clusters centred on key sectors, collaborating across geographic boundaries and accessing world-class growth support. In addition, and irrespective of the growth support we provide, we expect that increasing connectivity between firms will lead to additional improvements in productivity through economies of agglomeration.

When connected and enabled through the marketplace of growth support we will create, including coaching, mentoring and finance, businesses in our towns and cities will interact within and between them in new ways that enhance their productivity, creativity and competitiveness. The business growth support eco-system we will build will create at least 1,000 Global Growth Champions; Entrepreneurs willing to mentor other business leaders and sufficiently credible and inspiring to act as Global Growth Ambassadors across clusters, sectors and place.

Critical to this will be the improved access to growth experts, global growth coaching as well as growth loans, equity investment and support to secure UK and international R&D funding and investment, that these Global Growth Champions will receive. It is this, that will enable them to "graduate" as Global Growth Champions and help them to recognise the mutual benefit of forming into a community of high-growth business leaders, offering other firms' advice, mentoring and partnerships into ventures and markets; as part of a Global Growth Alumni.

All the components and elements of this growth support eco-system and the potential it creates to build an alumni-community of Global Growth Champions for peer to peer support, will be financed through an innovative **Mayoral Endowment for Global Growth**.

The Global Growth Service it will create, together with the loan and investment funds that complement it, will become a sustainable asset for the Cambridgeshire & Peterborough economy, managed by an arms-length and commercially sustainable, not-for-profit business; **The Cambridgeshire & Peterborough Growth Company**. This will be established on the same legal, organisational and governance principles as Opportunity

Peterborough locally and the Greater Manchester and West Midlands Growth Companies, nationally.

The Global Growth Service will bring together a range of interventions into a new, targeted approach to business growth support. This will be an evolution of the Growth Hub and Signpost2Grow, which will continue to operate within the new service. We will do this through integrating the world-leading expertise we have across the economy to support businesses on a number of issues that are core to achieving growth, working with firms targeted by segment, sector, their growth potential and their leaders' personal experience and characteristics, to increase capacity for growth. This support will also be spatially targeted in those places with greater capacity to absorb economic growth in the next 3 to 5 years.

Primarily, we will provide enhanced business growth support 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 we will structure this enhanced support so that it delivers growth in the firms' supported, that is more productive than the firms' previous baseline business.

Thirdly, we will build on the major opportunities that exist to increase trade, supporting exports growth from 30% to 35% of GDP across the area, by delivering growth in the firms engaged, that is more export intensive than their baseline business.

Interventions

We will deliver the goals above through two strategic interventions, alongside and complementary to the innovation launchpads described in the ideas section above:

- **The Global Growth Service** targeted at the places and firms that will have the most impact on our goals – operational from beginning 2020 and working with 250 firms per year.
- **A Trade & Investment Service** featuring an integrated and customer focussed approach to co-ordinating our Global Growth Grants and Loans with the Export Grants (financing exporting advice) and the Export Buyer Credit (financing overseas customers to buy British goods) offered by the Department for International Trade. In addition, a **Global Investor Service** focused on landing new firms into Peterborough and Cambridge.
- **Acting as a trailblazer 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. This will be promoted by the Combined Authority as a Pioneer Adopter to encourage local supply chain primes and local authorities to adopt a new clause within their standard terms

and conditions for doing business with SMEs, that provides the right for all SME suppliers of goods and services to be able to access a free of charge arbitration service from the Small Business Commissioner on late payments.

Place Based Business Growth Support

A new **Global Growth Service** will **profile** key firms that can help deliver a shift in business growth, productivity and exports in places.

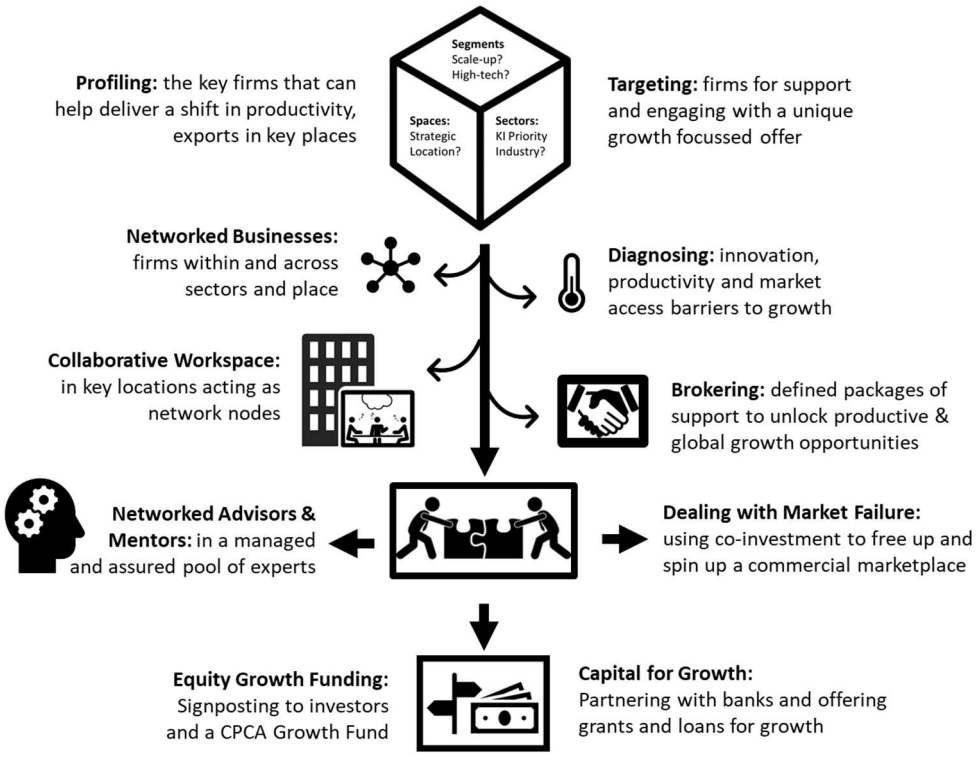
- **We will target firms for support** and engage them with a unique growth focused offer. We will **diagnose** barriers to growth in the firm's capacity to innovate, increase productivity and gain rapid and effective market access.
- **We will broker solutions to meet individual firm needs** through defined packages of support to unlock productive and global growth opportunities. And we will invest in **Collaborative workspace** in key locations to encourage sharing and learning and network businesses across sectors and places
- **We will address the market failure in the commercial marketplace** for professional services, coaching and advisory to small firms through the alternatives of;
    - a co-investment grant, to share with the supported firm, 50% of the costs of the coaching accessed, at point of purchase, or
    - a co-investment loan, to defer for the supported firm, 100% of the costs of the coaching accessed, to the point of potential benefit (assumed to be 24 months)
    - **We will build a commercial marketplace** and a managed and assured pool of experts that will act as **advisors and coaches** to firms receiving support. As the numbers of Global Growth Champions increases and the track record of the service is established, promoted and recognised by business, the marketplace will slowly become commercially self-sustaining, allowing the grant element to be backed out and the need for "top-up" public sector investment reduced.
    - **We will manage an innovation and growth investment fund** designed to offer "graduate" Global Growth champions, access to equity and loan growth finance to break into new markets, build new and more productive capabilities or support innovation and new product development.

Operationalising the approach

The diagram below shows how will integrate the different elements of our new business support offer, targeting place and firms. We are proposing to establish a new Growth Company 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.

The delivery models and interventions used by the Growth Company will be **piloted over a three-year period** and will include a **random control trial** to validate the interventions' effectiveness and additionality. The pilot will provide essential data for a technical and economic review of the impact of the Combined Authorities business and economic growth strategy.

If successful it will lead to the strategic application of the planned Shared Prosperity Fund, to roll-out the pilot into a full five-year programme to 2028.



The evidence for a co-investment approach

- The use of a co-investment grant, offered to firms to nudge them to take-up professional and commercially provided advice has been extensively studied by the Business and International trade departments, both of which attempt to provide forms with growth and export advice.
- Both the Department for Business, Energy and Industrial Strategy (BEIS) and the Department for International Trade (DIT) have run Random Control Tests on large SME populations to study the effectiveness of using co-investment grants to nudge smaller firms to increase the take-up rates on professional business advice.
- BEIS ran a large-scale programme between 2014-16 involving 26,000 SMEs with some provided with a co-investment grant and some randomly selected to be asked to pay the full costs of the growth and productivity advice they received.
- The Department for International Trade more recently ran a smaller RCT pilot for co-investment grants for commercially available export advice between 2017-18.

10. Foundation #5 – Infrastructure

The UK Industrial Strategy notes that "having modern and accessible infrastructure throughout the country is essential to our future growth and prosperity." We agree. The capacity of our infrastructure is the limit of what is possible – without continually updating and improving our infrastructure to meet our 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.

Whereas we have previously had to compete with other places for a share of national infrastructure investment, with devolution the government has placed its trust in us to deliver some of our infrastructure needs ourselves. We have responsibility for a devolved transport budget and have also been awarded £74m from the Transforming Cities Fund, to put towards improvements in transport.

The Combined Authority and partners have recognised that infrastructure is 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.

The Evidence – insufficient infrastructure is hampering productivity growth

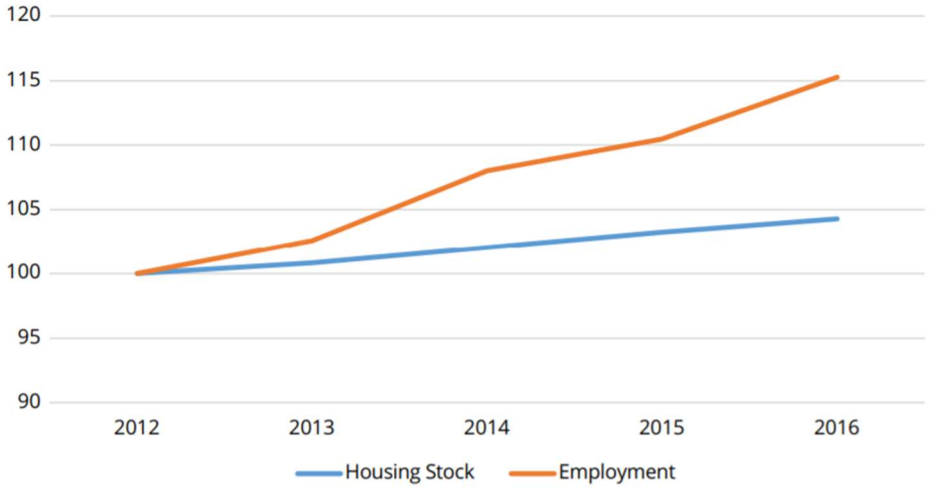
As part of the CPIER, a survey of businesses in the area was carried out by PWC to understand what the most important issues for them were. The findings were striking. Poor infrastructure was repeatedly identified as a brake on growth in the area. The findings were striking and even with the GCP's ambitious c. £600m programme of infrastructure investment already underway, including Phase 1 CAM schemes that are due to be delivered in the early 2020's, much more is needed. 30% 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."[10]

Transport is not just a problem in Greater Cambridge though. Many of the bus and train services to our market towns are infrequent, or finish early. Many of the main roads connecting up our urban centres are single carriageway, slow and dangerous, such as the A10 and A47. All of this is taking a real toll on businesses, with one commenting that "We constantly have people stuck in traffic either on the way to work or clients", and others noting that some new recruits were being put off by how bad the situation had become.

Closely tied to issues around transport are housing difficulties – with transport infrastructure often being key to opening up new areas for housing. As shown below, employment growth has been consistently outpacing housing growth, especially in the south of our 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 (though they are), but have been identified as a key problem in business surveys.

Growth in employment and housing stock, 2012=100



To meet this need, our housing strategy has established a £40 million revolving fund, which allows us to go beyond our Devolution Deal target of 2,500 affordable homes. We 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, able to meet the needs of our businesses and 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 (EVs) will add further pressure to the network as well as creating new opportunities. We also want to ensure that improvements in energy infrastructure

[10] https://www.cchpr.landecon.cam.ac.uk/Projects/Start-Year/2015/Refining-the-recent-release-of-the-ONS-Travel-To-Work-Areas/Experimental-review-of-the-Cambridge-Travel-to-Work-Area/Report

benefit our residents, increasing the affordability of supply and contributing to addressing fuel poverty.

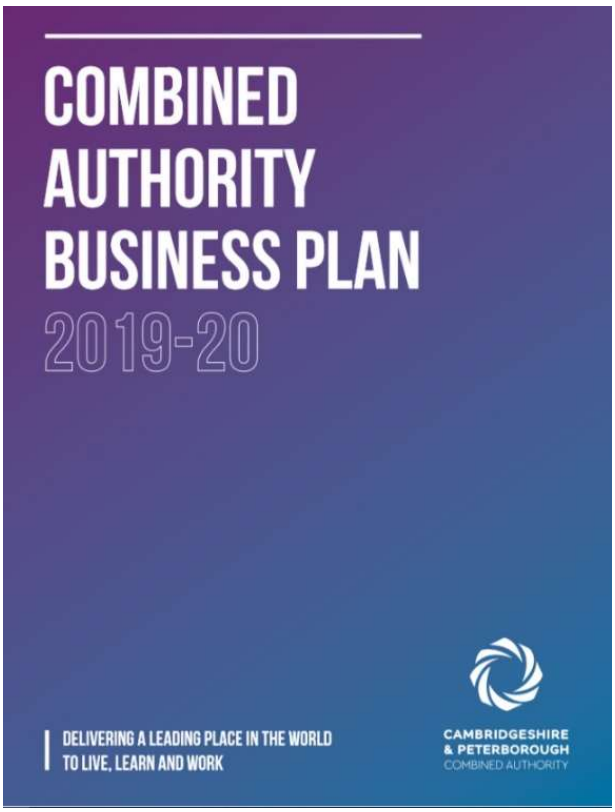
Interventions – unlocking productivity growth through infrastructure

The CPIER's 8th key recommendation is to implement a process for scheme prioritisation and development to ensure that the overall approach reflects the goal of doubling the size of the Combined Authority Economy, and over time better connecting the three economies of the area.

The CPCA and partners are delivering this recommendation, prioritising the infrastructure investments which will make a real difference. These are provided in more detail in our business plan[11].

The key projects which will really shift the local economy in a more productive direction are:

- The Cambridge Autonomous Metro (CAM)
- New stations at Cambridge South, Soham, and Alconbury serving business clusters
- The upgrading of the A10
- The full dualling of the A47
- The Third River Crossing in Huntingdon (to unlock significant amounts of new housing land)
- Re-established rail connectivity between Wisbech and March
- King's Dyke Crossing



The Greater Cambridge Partnership is making significant investment through the City Deal toward the infrastructure packages that will support the long-term growth of Greater Cambridge.

The Combined Authority has also commissioned a Strategic Bus Review, the basis of which a Bus Task Force is being established to examine opportunities for an improved future service

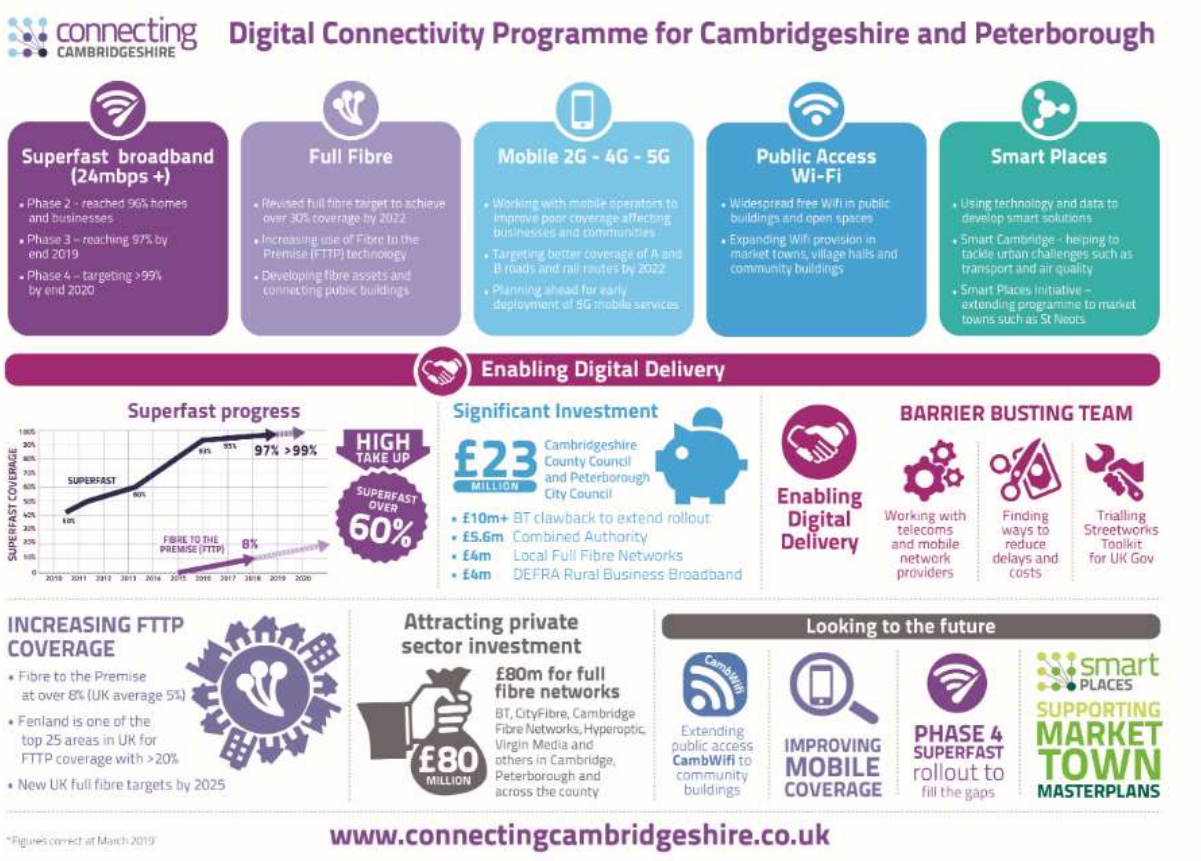
11 http://www.cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/CPCA-Business-Plan-2019-20-dps.pdf

which complements the above interventions. This bus service is of particular importance to the future success and prosperity of many of Cambridgeshire's Market Towns.

The recently adopted Combined Authority Business Plan (pictured above) sets out the schemes and interventions that are being brought forward as a matter of priority.

Continued improvements to digital connectivity are of significant importance and the Connecting Cambridgeshire programme, see below, has been jointly invested into by local authorities, the Combined Authority, and has utilised Government funding.

This programme has also seen – through the Combined Authority – the rollout of the Smart Cities initiative to Market Towns for the first time. (The targets below are currently under review).

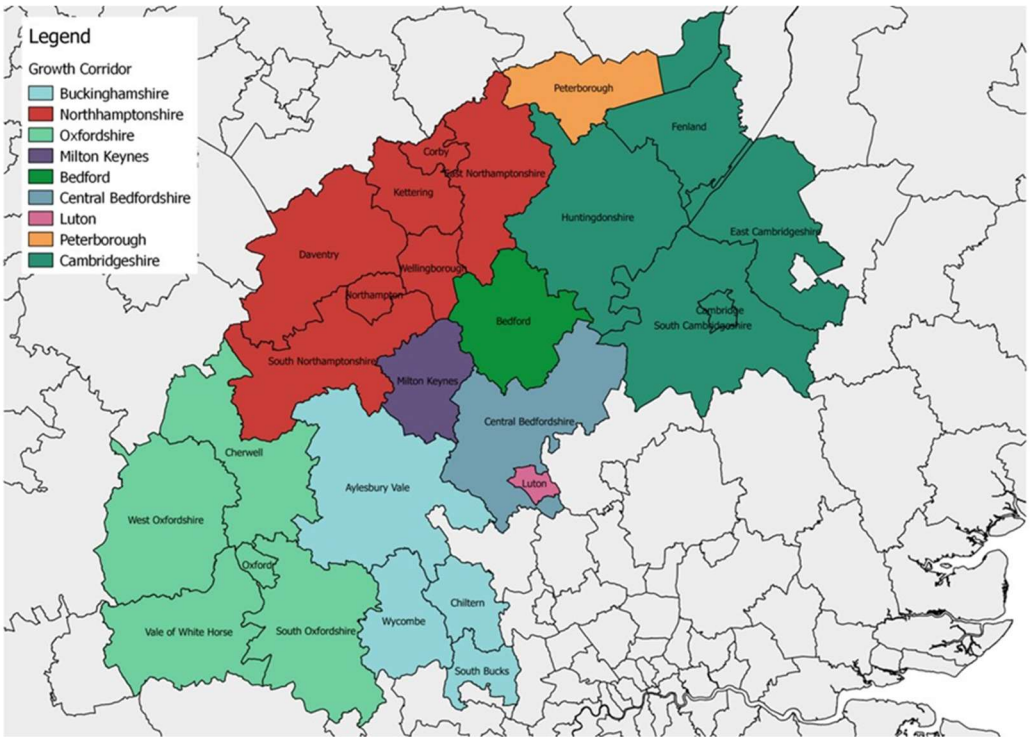


11. Collaborating to drive change: A joint strategy across the Oxford – Cambridge Arc

[The text in this section is in the process of being agreed across the OxCam Arc for inclusion in all LIS's]

> *"Our vision is for the Arc to be the world leading place for high-value growth, innovation and productivity. A global hub where ideas and companies are generated and thrive, home to exemplary models of 21st century development, with a high-quality environment and outstanding quality of life, and with a strong economic focus that drives inclusive clean growth."*

The Arc will be a breakthrough region for the new innovation economy. It will build on the distinctive assets and strengths from across the Arc to create an innovation economy that is more than the sum of its parts. Through its unique manufacturing specialisms and knowledge-intensive economy, the Arc will drive growth across the UK by harnessing technological change. This will drive improvements in productivity in our businesses and prosperity in our communities. It will provide the critical mass necessary to transform the Arc into the innovation powerhouse that will push the UK to the forefront of global competition in key markets and industries of the future.



It is an opportunity to traial place-based growth programmes in this part of the Arc and the UK, for wider rollout. CPCA is working with Government to explore the potential for match funding into the CPCA growth pilot, promoting the long-term sustainabilit of this approach across a footprint that brings true added value.

The Arc will be:

1) A place where specialist commercial knowledge and skills collide with world-leading research and development assets to shape existing and new industries.

The Arc is home to a wealth of unique assets, from world-class universities to globally-renowned industry clusters operating in knowledge-intensive sectors at the cutting edge of global research. When combined, our innovation assets are second to none and will push the UK to the forefront of global innovation in industries of the future.

2) A testbed for innovation that will shape the twenty-first century.

The Arc houses some of the most innovative places in the UK, and will become globally-renowned as a living laboratory for testing innovation and shaping places that harness and embrace new technologies. Together, we will build sustainable, technology-enabled communities based on an Arc with improved infrastructure connectivity and access. This will deliver breakthroughs in new and emerging industries that are shaping our futures.

3) A business growth-enabled environment where our academic ideas and inventions are rapidly commercialised and spun-out, whilst our most exciting entrepreneurs are supported to scale-up new services, products and markets.

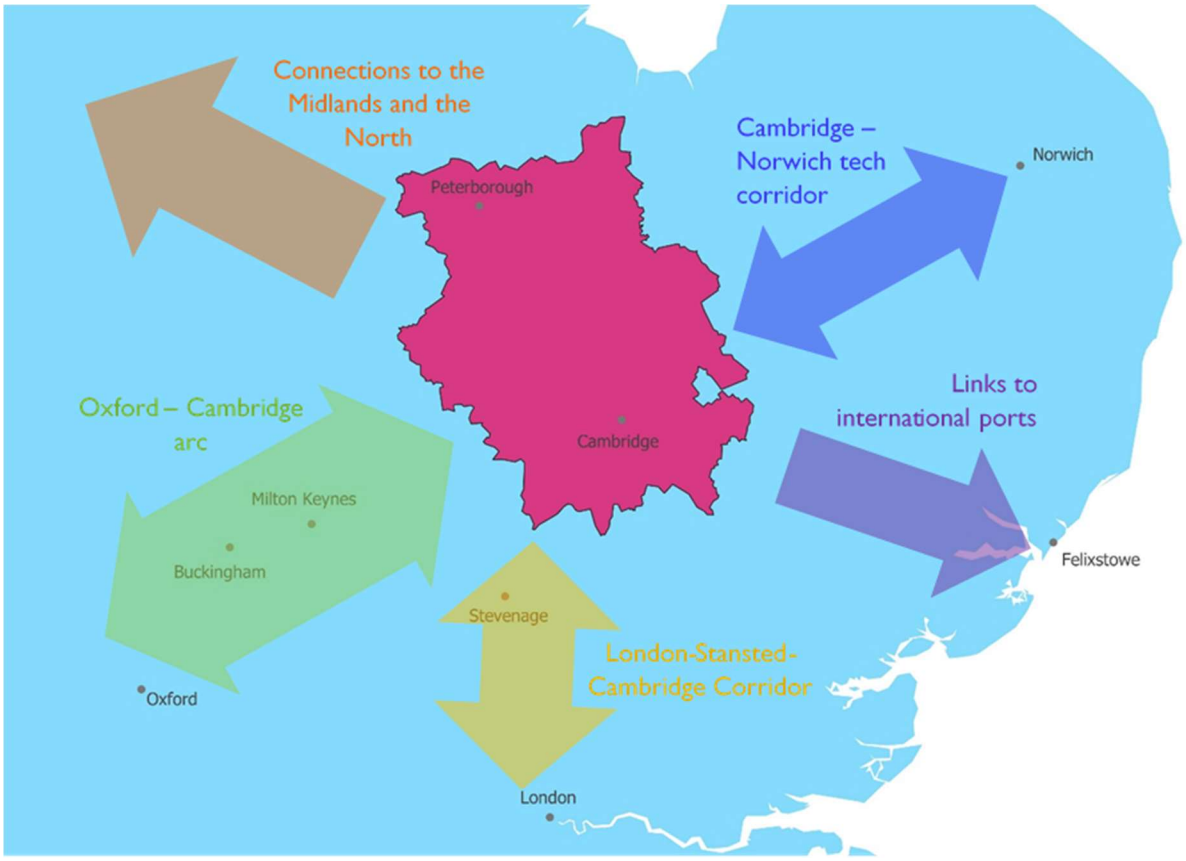
The Arc is already home to a high concentration of high-growth firms, a highly skilled and entrepreneurial workforce and a dynamic business base. Crucially, there is potential to scale up the operations of such firms given the right investment. Working across the Arc, we will become a world-leading hub for high-growth start-ups, but also a business environment that enables businesses to commercialise technologies and business ideas, grow to scale, and export internationally.

In doing so, the Arc has the potential to become a truly global player in some of the fastest growing sectors and markets across the world, linking our economy more effectively into the fastest growing global markets through the sharing of world-class innovation assets and the networking of our most exciting firms and entrepreneurs into an Arc-wide high-growth eco-system.

Central to this vision is building a network of sector-focused clusters across the Arc that, when connected through innovation and growth support, become more than the sum of their parts. Together, this network of clusters will foster a breakthrough region for growth through the new innovation economy that will become a driver for growth across the UK economy. The Arc will become a network of well-connected economic and business clusters centred on key industries and connecting across boundaries and accessing world-class growth support.Through their local Industrial Strategy, Cambridgeshire and Peterborough propose to pilot these ideas in the north of the Arc, financed through innovative combinations of local funding and resources to create an Endowment for Global Growth (EGG). The opportunity to proportionally match this funding centrally could create an Arc wide innovation and growth support eco-system.

Other key strategic corridors

The Arc is just one of the many key connections between our area and elsewhere. Cambridgeshire and Peterborough is the central nexus for many important corridors and national connections, which will play an active role in our future growth.



London Stansted Cambridge Corridor

This corridor, also known as the UK's Innovation Corridor, connects us 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 jobs, by 2036[12]. This Corridor – as referenced earlier – plays a significant role in the growth of the Life Sciences sector across our wider region.

The Business Board continues to invest in connectivity across this crucial corridor, including recent investment into the upgrade of the M11.

[12] LSCC report

Links to international ports

The East Coast ports, most notably Felixstowe, connect to the world, and are a key outlet for our exports. As we look to grow our export contribution to GDP, and thrive in the post-Brexit world, these links to the global marketplace put us in a strong position to trade.

Cambridge – Norwich Eastern Agri & Tech corridor

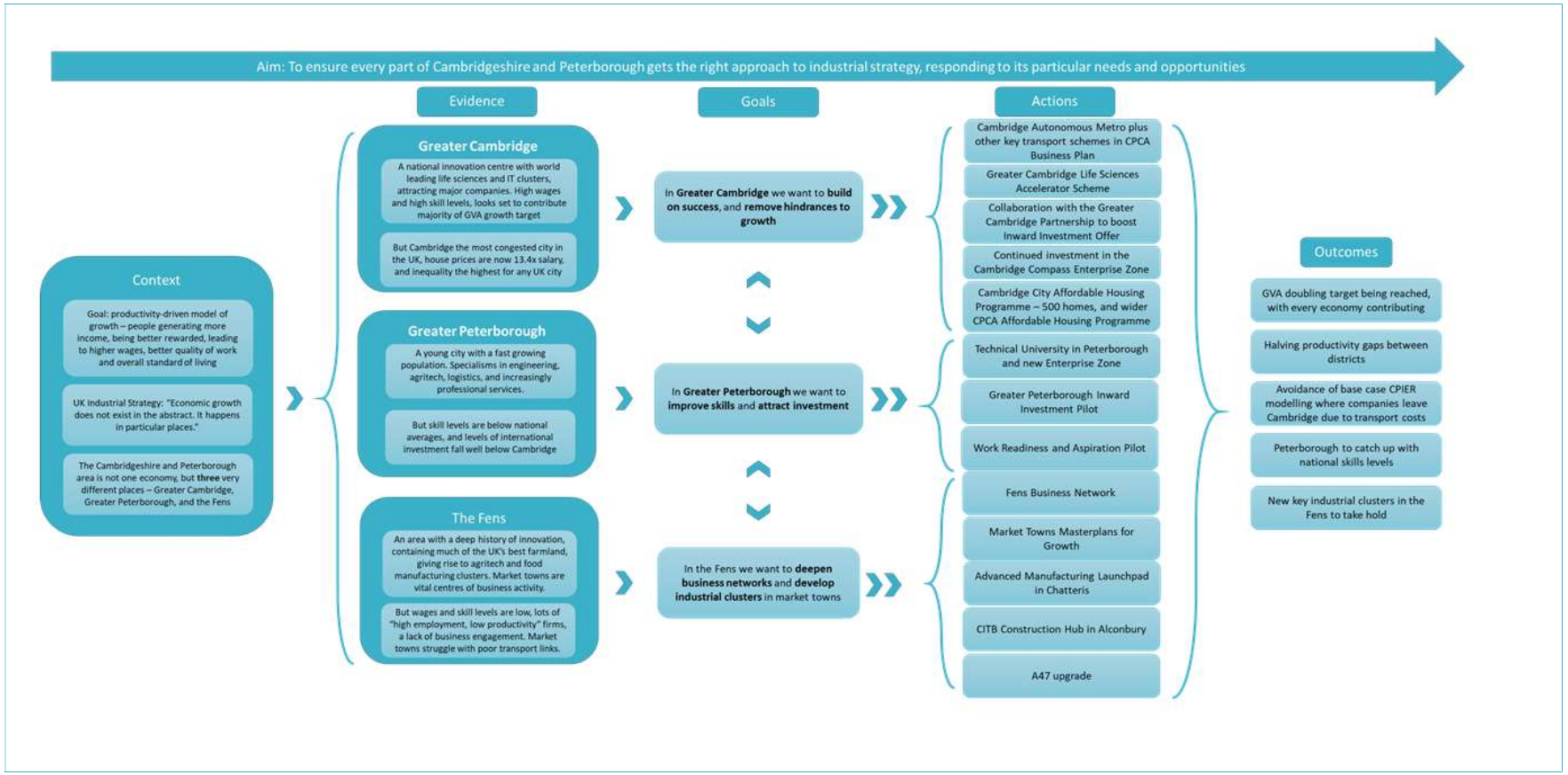
Our area shares many common business interests and sectors with Norfolk, most notably around AgriTech and food sciences, where the University of East Anglia is a world-leading research centre. This Corridor presents opportunities to work together, cementing the East of England as a global centre of excellence.

Connections to the Midlands and the North

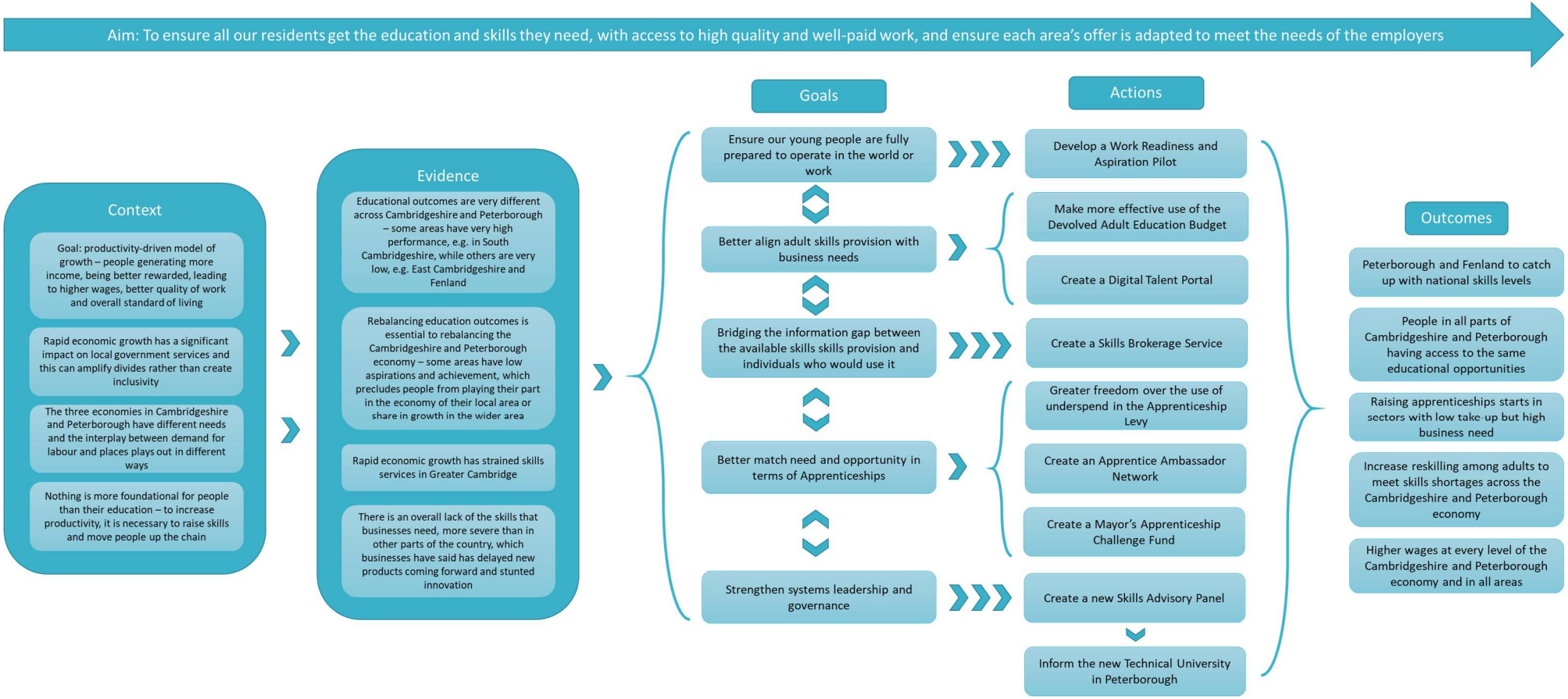
Just as important as our links south to London and east to Norwich, are our links to the Midlands and the North. These regional powerhouses are leading the UK in many areas of innovation and progress – by connecting into them through key transport links like the East Coast Mainline and A1 we stand to benefit from, and contribute to, their productivity growth.

Annex 1 – Evidence Base and Priorities

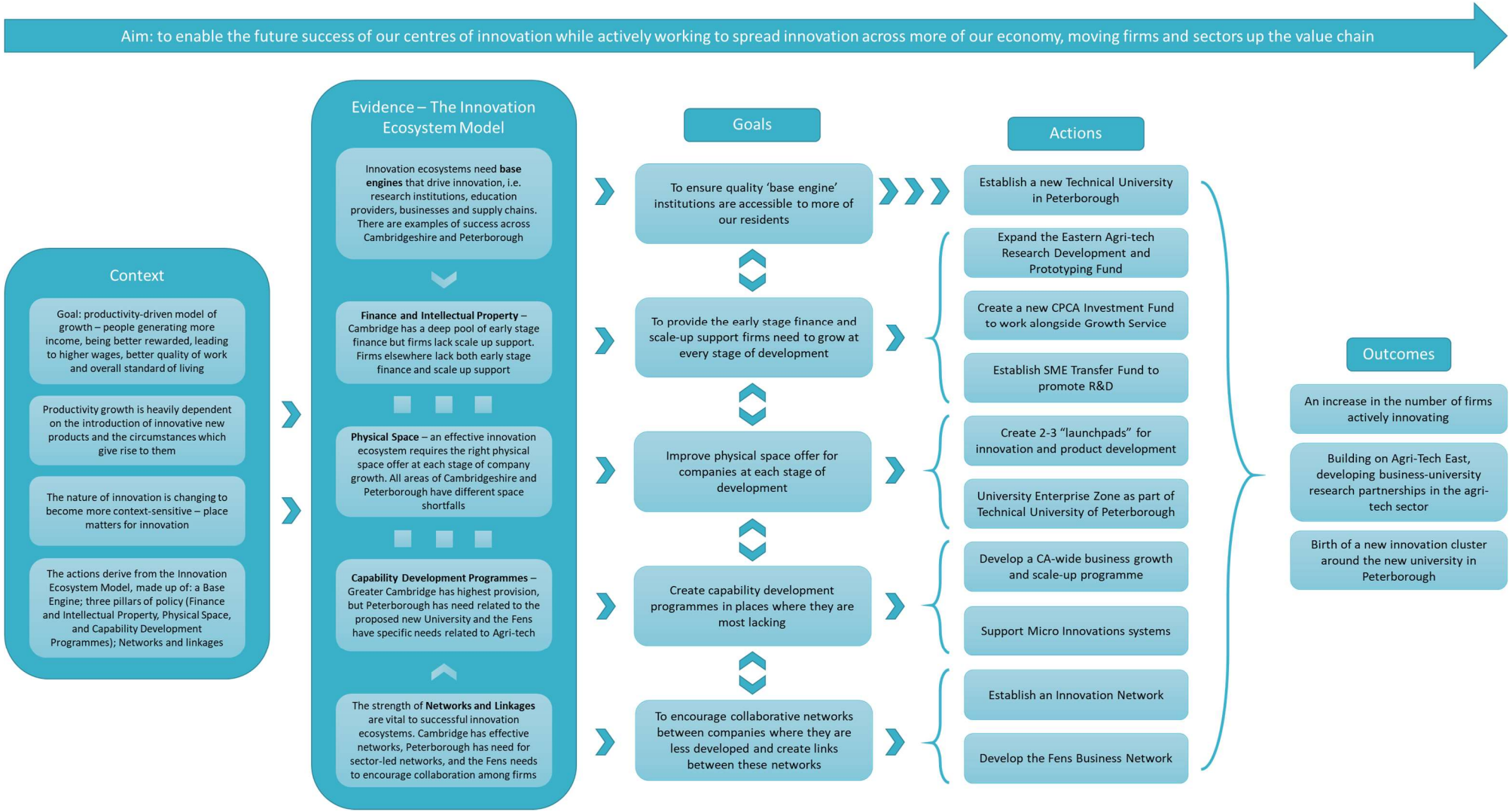
FOUNDATION #1 PLACE



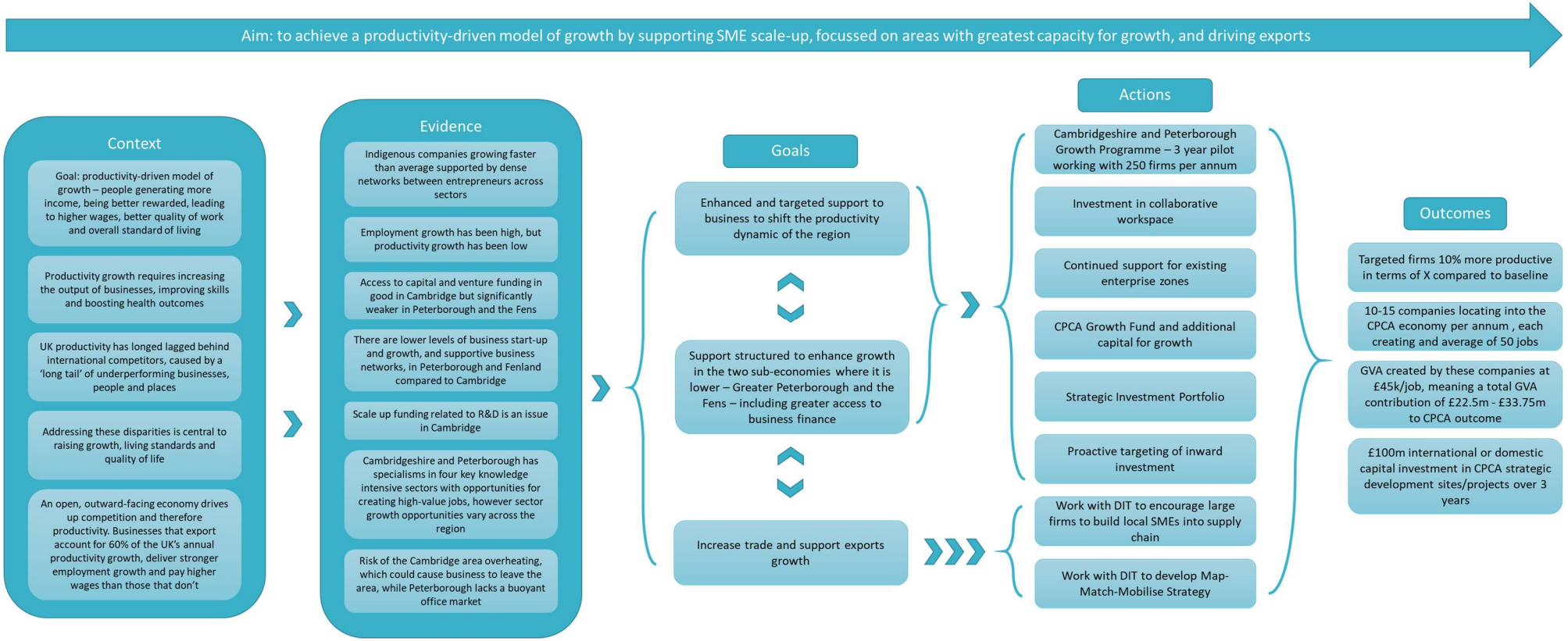
FOUNDATION #2 PEOPLE



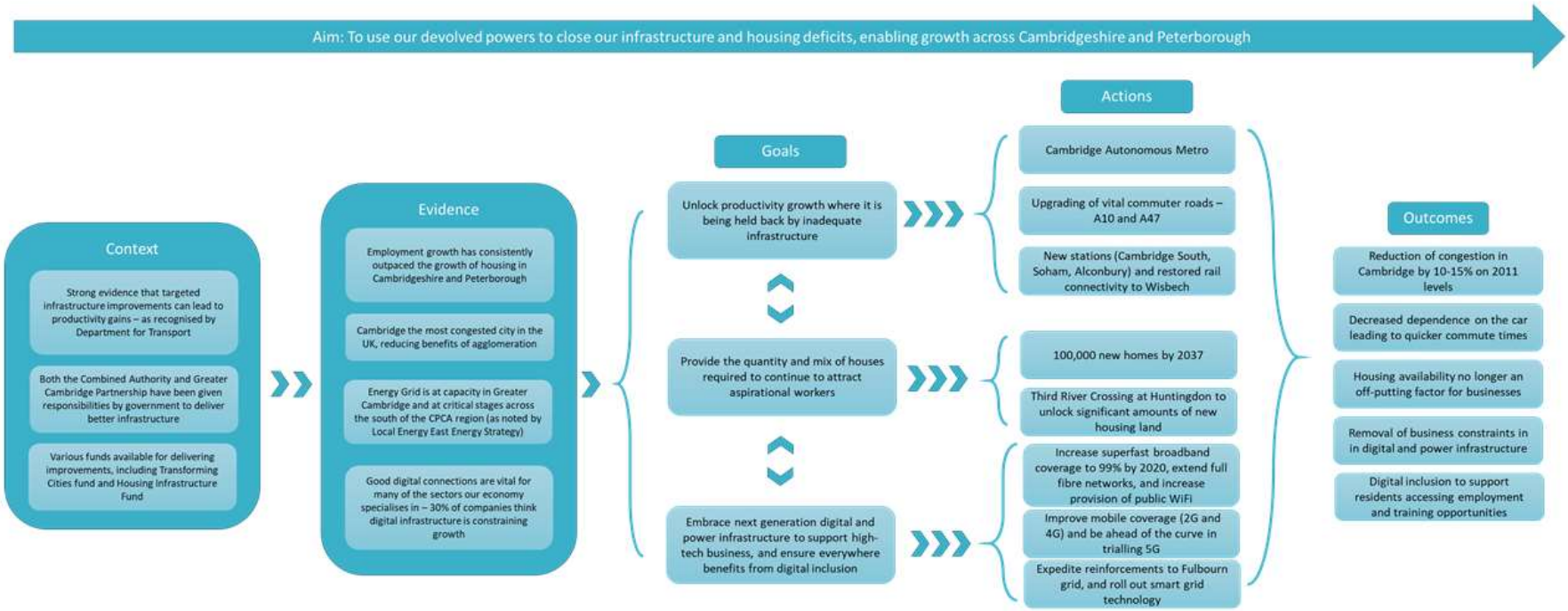
FOUNDATION #3 IDEAS



FOUNDATION #4 BUSINESS ENVIRONMENT



FOUNDATION #5 INFRASTRUCTURE



Annex 2 – Programme Delivery Plan

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
People	Adult Education Budget		£11.5m	From September 2019	• 75% of courses have a business or economy focus by 2025 • Increased % of AEB investment going into geographic areas of need by 20% in 2023 • 2,000 people a year who progress into further training or employment by 2022 • 5,000 leavers satisfied with their course by 2025	• Increase number of residents over 16 with a level 3 qualification from 30% in 2011 to 40% by 2031 • Increase the number of Peterborough residents with a Level 2 qualification from 82% in 2016 to the national average of 85% by 2024 • Increase the number of learning aims in Science, Maths, Engineering, Manufacturing, Construction, Health & Social Care from 4,328 in 2016 to 5,000 by 2024 • Increase the number of learners gaining employment outcomes	CPCA	All	Committed (devolved fund)

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
						from 29 in 2016 to over 200 by 2024			
	Peterborough University		£13.5m (Phase 1) TBC (Phase 2)	In Delivery	• Increase of higher education provision in Greater Peterborough and the Fens	• 2,000 students by 2022 • 6,000 students by 2025 • 12,500 students by 2030	CPCA / UCP	GP Fens	Committed (Phase 1)
	Skills Talent and Apprenticeship Hub		C. £3.2m CPCA £1.6m ESF Match £1.6m	October 2019	• 5,000 Employers engaged through the Skills Talent & Apprenticeship Hub by 2020 & 7,000 Employers engaged by 2024 • All 61 Schools and Colleges engaged and fully supported through Brokerage & STA Hub • Sector Pilots in all Priority Sectors to support skills demand • 100% Schools/Colleges offering IAG to ALL students	• Increased overall number of Apprentices from 3,940 in 2017/18 to 5,000+ by 2021 • Increased number of 16-18 & 19-24 year olds starting on an Apprenticeship (target TBC) • Increased number starting on Higher/ Degree Apprenticeships L 4 – L 7 (target TBC) • Jobs filled (non-Apprenticeship) through STA Hub/ Partners: ○ 50 Employers by 2020 ○ 100 Employers by 2021	CPCA – alongside local/sector partners	All – tailored within areas	Designed

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
					• Increased number of SMEs recruiting Apprentices • Number of individuals how have successful outcome as a result of using the Hub – 10,000 by 2024	○ 150 Employers by 2022 ○ 200 Employers by 2024			
Business Environment	Mayoral Endowment for Global Growth		£18m LGF *£3m Op Fund* *£5m Loan Fund* *£10m Investment Fund*	1 April 2020	• 3,000 businesses engaged by 2024 • 1,000 businesses supported with growth coaching becoming global growth champions • 1,500 businesses supported with growth mentoring through global growth champion alumni	• 2,600 jobs • £50,000 GVA/Head • £1.3bn GVA growth	CPCA	All	Designed intervention
	Inward Investment Programme		£1.3m £600k EZ £600k ERDF match £100k core	1 April 2020	• 10-15 businesses locating in the CPCA area per annum	• Average 50 new jobs created by businesses, at c. £45,000 GVA/Head • 1500 – 2250 new jobs by 2024 • £22.5m - £34m GVA	CPCA, co-delivered in GC and GP	GP GC	Designed

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
						• £100m external capital investment			
	Enterprise Zone and Peterborough University		TBC	1 April 2020	• Increased business space related to growth sectors • Increased research space related to growth sectors	• New jobs in high-value growth sectors (target TBC) • New products brought to market (target TBC) • GVA increase (target TBC)	CPCA and PCC	GP	Government discussion
Ideas	Innovation Launchpads (at least 4 new centres)		£2-3m LGF investment per launchpad	Bids invited from May 2019	• 70,000 – 100,000 sqm of new commercial business space • 15,000 sqm of new commercial research space	• 300-450 new jobs in high-value growth sectors (£45,000 GVA/Head) • £13.5m - £20.25m GVA growth	Various TBC	Fens GP	Invited
	Greater Cambridge Life Sciences Accelerator		£3m	First cohort applications Oct 2019	• 30 start-ups taken through accelerator	• 2,550 direct and indirect jobs within 5 years • 73,750 direct and indirect jobs within 10 years • Galvanise Greater Cambridge as world-leading Genomics hub	Illumina	GC	Committed
	Eastern Agri-tech Growth Initiative		£5m (£4m Business Board,	In delivery	• Increased numbers of enquiries and successful applications • Jobs created and protected: types of	• 100 jobs created and upskilled • Increased productivity & efficiency (GVA/Hour Worked)	CPCA	All	Committed

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
			£1m NALEP)		jobs & how they equate to NVQ scale and what are salary levels • For R& D activity; how may patents have been filed/granted • For R&D businesses; how many projects have resulted in products/ideas etc brought to market/implemented by the sector or acquired by other organisations; can we put a value to this • Support led to collaboration opportunities	• Private sector financial leverage of £8m • Intervention led to increased UK sales/market share/profitability, and if so what is the value of the increased sales • Increased export (target TBC) • Increased FDI (target TBC) • Intervention led to import substitution opportunities			
	Mayoral Innovation and Growth		See Mayoral Endowment for Global Growth						

Foundation of Productivity	Headline Intervention		Cost	Operational Timetable	Delivery Metrics		Lead Partner	Geography	Committed / Designed / Invited Scheme?
					Outputs	Outcomes			
	Investment Fund								
					•	•			
Infrastructure		Delivery detail contained within; CPCA Business Plan 2019-20, Greater South East Local Energy Strategy, Connecting Cambridgeshire delivery plan, and relevant business cases for specific schemes							
Place		Delivery captured above							
	The Combined Authority and Business Board will monitor and evaluate the impact of existing and new interventions as they launch as part of established accountability monitoring to the Combined Authority Board, in line with the governance established through devolution, the respective Assurance Framework, and practices that are underway. Progress against the Local Industrial Strategy will be included as a core aspect of the Combined Authority and Business Board's respective annual conversation and performance review with Government. Existing and new interventions established through the Local Growth Fund will also be subject to regular monitoring to Government, through BEIS.								

To
Business Board and CPCA Officials

Date: 15-03-2019

Dear Business Board

RE: **ICT/Digital Sector Strategy**

Please find accompanying this letter a final version of a Digital Strategy for Cambridgeshire and Peterborough which has been developed over the last four months, at the request of the CPCA.

The strategy has been written by CW (Cambridge Wireless) and Anglia Ruskin University along with the help and support of a large number of people who have freely given up their time. We are especially grateful to the members of the steering Commission, chaired by David Cleevely, who guided our work throughout; to the Centre for Business Research who provided essential underpinning data, and, of course, to the hard-working strategy team.

We hope that the strategy will speak for itself - it is a combination of primary evidence, collected through an extensive survey (much of the details of which are captured in the annex sections), a careful analysis of secondary sources and the input of a number of experts.

The strategy includes a number of recommendations for this crucial sector of the regional economy, and a sector that impacts every other vertical industry.

I would like to point out the following:

Artificial Intelligence the region has a huge opportunity to cement its position as a global centre of expertise in the development and commercial exploitation of Artificial Intelligence technology. This strategy urges the coordination of public and private sector energies to ensure this opportunity is grasped on behalf of the UK.

Networking has been identified as an essential underpinning for every one of the key domain areas covered in the strategy. The highly developed Cambridge culture of business-driven networks, where local organisations nurture ecosystems of expertise and mutual support, is one to be learned from and the methodology deployed across the region, but always according to the unique demands and business culture of individual districts.

We would suggest that practical steps can be made to quickly stimulate networking activity for the Digital Sector generating results in the following areas:

- connecting suppliers - such as contract manufacturers or engineering firms - to technology companies;
- stimulating the use of technology in vertical industries such as logistics and manufacturing;
- connecting networks of digital companies in the region with companies in specific technology hubs overseas;
- nurturing the habit of networking in areas where it is not so prevalent.

We would envisage a series of practical events, bringing participants together who might not otherwise have met. Each event would need to be well researched beforehand (for example carefully mapping supply chains in a specific interest area). Ultimately, we know that it is through the development of face to face interactions that effective partnerships and business will result.

We would also recommend that these events culminate in a larger Cambridge Technology Exchange conference and exhibition which drives interactions and showcases the technological prowess of the region.

Talent and Skills were identified as the priority area through our survey. A very clear recommendation made to the steering board by Philip Colligan of Raspberry Pi was not to develop regional initiatives that were of necessity sub-scale but to align with nation-wide initiatives wherever possible. Digital skills development is a major focus area for national Government. The Local Digital Skills Partnerships (DSP) programme provides access to resources from national Government to improve digital capabilities across the entire skills spectrum, from online literacy to the advanced knowledge needed to work in the digital sector. We recommend that the Combined Authority works with relevant local parties to apply to form a local Digital Skills Partnership for Cambridgeshire & Peterborough.

International investment and trade with Brexit uncertainties, international issues should be given particular focus. The region is an astonishing success story but the strategy identifies the pressing need, in a competitive world, to build a compelling Cambridge cluster brand and marketing programme which promotes the entire regional value proposition for technology investment, and targets major investments that will genuinely complement the regional ecosystem. This requires an effective regional inward investment sales function providing a concierge and retention/expansion service for corporate investors, working through existing business networks.

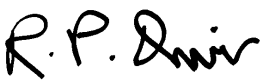
The strategy also calls for the region to develop relationships with technology hubs overseas, and encourage the larger technology companies to participate in outbound missions to demonstrate the motivation and expertise of the region, and support cohorts of new technology exporters.

CW (Cambridge Wireless) and Anglia Ruskin University would be interested in working up proposals in these areas, and we would be happy to discuss this strategy with Business Board members and officials at your convenience.

We understand that we will not promote or release this strategy until the Business Board has had a chance to review the findings. We will of course be sharing with the members of the Commission.

Finally, it would be useful to have a discussion on how the CPCA wishes the strategy to be released, and the positioning of the Digital Sector Strategy alongside the Local Industrial Strategy.

Yours sincerely



Robert Driver
For and on behalf of CW.

MARCH 15, 2019

A DIGITAL SECTOR STRATEGY FOR CAMBRIDGESHIRE & PETERBOROUGH

CW (CAMBRIDGE WIRELESS) & ANGLIA RUSKIN UNIVERSITY

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DRIVING REGIONAL PRODUCTIVITY THROUGH TECHNOLOGICAL INNOVATION, ADOPTION & INCLUSION

INTRODUCTION FROM THE CHAIRMAN

The Digital Sector Strategy represents a unique evidence base founded in primary research and secondary data, and extensive consultation with experts. It builds on strong foundations that already exist in Cambridgeshire & Peterborough, and our recommendations aim to further enhance this region as the global centre of cutting-edge and inclusive technology innovation. We will create and adopt the technologies of tomorrow, offer businesses exceptional talent at all levels and provide a highly networked ecosystem that has global impact, helping to establish the region covered by the Cambridge and Peterborough Combined Authority (CPCA) as the preferred base for firms from across the world.

CPCA has set a target of doubling its economic output as measured by GVA over 25 years, which means an annual growth rate of 2.81%. This is an ambitious target, and is above the average growth rate for the last 3 years (2013-14 to 2016-17) across all sectors of 2.25% (CBR). The creation and widespread adoption of digital technology are essential to achieving this ambitious goal. The recommendations set out in this Digital Sector Strategy will stimulate an already strong ICT sector in Cambridgeshire & Peterborough and will, we believe, provide a major contribution to meeting this growth target.

The digital sector is a significant part of the region's economy and has more than twice the employment in digitally intensive sectors compared to the rest of the country[1]. Cambridgeshire and Peterborough's digital sector represents 8.84% of the region's total business turnover and 8.22% of employment[2], compared to a national share of 3.5%. But, more than this, digital is an enabling sector whose products and services offer increased productivity to all other industries – including two of the region's most important: agriculture (centred on the rich land of the Fenlands) and manufacturing (the largest sector in the region totalling 23% of business turnover)[3]. We aspire for Cambridgeshire & Peterborough to be an area where digital technologies that are created here support every city, town, village and business to become prosperous in their own rights.

The Digital Sector Strategy's aims are to:

1. Significantly increase the contribution of the technology sector to the region's GVA;

[1] *The Digital Sectors After Brexit*, Frontier Economics for techUK. Note that 2014 employment figures show 3.5% of the total UK workforce on 'Digital Producing' industries, this compares to 8.22% of employment in the Information Technology and Telecoms industries within the Combined Authority in 2014/5 according to CBR figures], 2.35 times more.

[2] CBR 2016-17

[3] The same Frontier Economics report states that 'Digital Using' parts of the national economy represent 6.7% of all employment, adding this to the 'Digital Producing' figure of 3.5% means that over 10% of all employment in the UK is due to the digital industries.

2. Stimulate faster growth in other sectors through early and easy adoption of cutting-edge technology;
3. Ensure that the benefits of technology-based business growth is spread beyond the Greater Cambridge cluster and across the entire region;
4. Support the overarching aim of the Combined Authority in making Cambridgeshire & Peterborough a leading place in the world to live, learn and work.

The report has been developed according to a number of principles, agreed by the Commission, that should be borne in mind when reading these pages:

1. Each area within CPCA is different. Each will want activities tailored to its micro-economy and business culture, and each requires its own benchmark for what needs to be attained. This report offers actionable recommendations, but it is down to the deliverer to make these recommendations specific, measurable, actionable, realistic and timely - and localised.
2. We wish to build a flourishing marketplace. In a perfect economic environment market forces should theoretically suffice to promote higher productivity. However, where the market is functioning imperfectly, due to lack of information, network effects, spillovers, or other causes, this strategy recommends actions that local Government might take to help to create the conditions where enterprise can thrive.
3. Digital technology can increase productivity but it needs be conducted in a manner that is sustainable, equitable and that enhances quality of life among citizens of Cambridgeshire and Peterborough.

Networking has been identified as an essential underpinning for every one of the key domain areas covered in the strategy. The astonishing growth of the Cambridge sub-region has been enabled in part by a culture of business-driven networks, where local organisations nurture ecosystems of expertise and mutual support. The Commission believes that it is important to foster a similar approach, albeit adapted to the unique demands and business culture of individual districts, and we suggest that practical steps can be made to quickly grow and support networking activity for the Digital Sector.

Having reviewed the evidence, the Commission believes that this region is well-placed for digital success. With Greater Cambridge at the area's heart as an unparalleled centre of technological innovation, the region's manufacturing and logistics hubs offering a clear pathway for IoT and robotics testbeds, and Fenland offering great potential for trialling advanced agri-tech services, the potential for digital GVA growth is unmissable. But we must not be complacent. The Public and Private sectors need to act now to install the digital infrastructure, ensure talent pipelines, and create networking and knowledge transfer systems so that we can compete effectively. The rest of these pages provide recommendations to that end.

David Cleevely,
Chair of the Commission for the Digital Sector Strategy

EXECUTIVE SUMMARY

Cambridgeshire & Peterborough's digital sector is a valuable contributor to the region's economy, delivering almost 9% of the region's revenue and over 8% of its employment. Furthermore, it is the fastest growing knowledge intensive sector, increasing 10.4% in the three years to 2017 (compared to 6.6% for the knowledge intensive sector as a whole). The vibrancy and technological expertise of the region's digital sector is a significant reason for the region's international attractiveness, and it can boast double the % of ICT jobs from foreign direct investment projects to the national average (47% compared to 21, DIT statistics).

This success needs to be recognised and celebrated alongside the considerable contributions of other regional priority sectors, such as Life Sciences.

The digital sector is not without its challenges. At the time of writing Brexit is a threat, particularly to the already critical supply of skilled talent. The region's digital and built infrastructure is struggling to match the ambitious growth plans of local Government and businesses. Furthermore, the sector's stellar growth has focused on Greater Cambridge and risks being choked unless steps are taken to deliver affordable housing and fluid transport systems. And despite historic success with foreign direct investment, the region faces missing out to more organised regional competitors for international attention.

Opportunities should not be missed to encourage digital businesses to take advantage of establishment elsewhere in the region, and to nurture closer links with other important regional sectors, such as agriculture, manufacturing and logistics. This represents a significant opportunity to influence regional GVA: since it is not just the digital sector that benefits from the 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.

To this end, a Digital Sector Strategy has been pulled together to help the public and private sector capitalise on the existing strengths of Cambridgeshire & Peterborough's digital sector. Throughout, we have been aware that the continued growth will only happen if the collective efforts of the business community can be harnessed. We also recognise that the CPCA and National Government can have a substantial convening power, and provide essential, targeted, pump priming funding that can enable these efforts to succeed.

There are detailed recommendations against each of the nine domains covered in this report. However, these can be condensed into six key areas:

1. **Networking** is a solution for businesses to meet potential suppliers, partners and customers. It enables knowledge transfer and the inspiration of new ideas. It generates demand for a new technology. It is the best way to introduce new businesses and international interests to a local technology scene. For these reasons, networking has emerged throughout the development of this report as an essential underpinning for each of the domain areas. The highly developed Greater Cambridge culture of business-driven networks, where local organisations nurture ecosystems of expertise and mutual support, is one to be learned from and the methodology deployed across the region but always according to the unique demands and business culture of individual districts. Such a programme will require the expertise and contacts of existing networking firms, the support of local community influencers, and seed funding from the Combined Authority to de-risk delivery
2. The supply of a sufficiently **skilled workforce** across all levels of the digital sector is critical to the success of this region. Businesses already perceive a talent shortage, and this is only going to increase as vertical industries adopt increasing quantities of advanced technologies into their processes. Attention is needed by both the public sector and the business community to the development not only of STEM skills but also their creative use. We need to focus on the region's young people, on the retention of existing talent, and the upskilling of the adult population to enable all citizens to thrive in a digital world.
3. The region needs to act now to make its **digital infrastructure** internationally competitive and to provide the platform needed for local businesses to innovate. To attract cutting-edge businesses and significant international investments, we need to demonstrate world-class digital ambitions, with an aspirational target of at least 1GB/s broadband speeds across the region by 2022. No future infrastructure or housing project in the region should take place without installing the requirements of ultra-fast internet connectivity.
4. Cambridgeshire & Peterborough's GVA growth targets do not exist in isolation. The digital sector operates in an increasingly connected, collaborative and competitive national and **international environment**. We have great strengths, but when seeking foreign direct investment from firms also looking at California, Shenzhen and Singapore we need to do far more to stand out. The region needs to develop a professional and strategic approach to increasing and retaining foreign direct investment, as well as supporting local intermediary organisations to develop relationships with overseas technology hubs and encouraging partnerships and networking between companies.
5. The colocation of businesses and the provision of affordable **space** within which start-ups can seed and grow is essential for the establishment of effective knowledge transfer systems, accelerating the growth of the digital sector and increasing its impact on vertical markets. We support the idea of creating sector-led business hubs outside of the city of Cambridge that enable effective – and affordable – clustering of similar technology businesses alongside potential customers and partners. We also recommend an evaluation of the use of public buildings and empty high street premises with a view to establishing more vibrant co-working spaces and digital skills zones throughout the region.
6. Finally, the region has a huge opportunity to cement its position as global centre of expertise in the development and commercial exploitation of **Artificial Intelligence technology**. This strategy urges the coordination of public and private sector energies to ensure this opportunity is grasped.

TOP LEVEL RECOMMENDATION CHART

Domain area	Recommendation(s) for public sector	Recommendation(s) for private sector
Artificial Intelligence	CPCA to tailor specific actions and priorities to cement the national leadership position of the region for the national AI Grand Challenge.	Private sector and investors to play their part in the development of a regional AI strategy.
Talent & Skills	Ensure high quality digital education and training opportunities, ranging from digital literacy, advanced programming skills up to doctorates, as well as reskilling programmes, are available and accessible for young people, teachers and adults throughout the region.	Develop a region-wide culture of employer engagement in education to support the development of STEM skills in the next generation and showcase potential career routes with a scheme that involves the participation of employers.
Technology Infrastructure	Deliver a step-change in technology infrastructure ambitions by with aspirational targets of 1Gb/s broadband speeds across the region by 2022. Put in place internal processes that will support the private sector in turning Cambridgeshire & Peterborough into a world-class smart region at pace.	Inspire demand for advanced technology infrastructure by bringing citizen and business communities together and raising awareness of next-generation infrastructure capabilities through networking and workshops. Campaign for faster and more ambitious roll-out.
Supply Chain	Sponsor a researched programme of networking activities that helps the region to increase understanding of the value chains of digital businesses and to help remediate potential gaps and bottlenecks in the local supply market.	Provide more opportunities for digital businesses to meet local suppliers, and vice versa, through targeted face to face networking opportunities and intra-regional programmes.
High Impact Networking	Ensure appropriate physical space, connections and channels are available for businesses to network by transforming underutilised public infrastructure into co-working spaces or learning zones and supporting landlords in installing co-working spaces in high street spaces.	Established networking firms to deliver high quality events across the region while collaborating to build a comprehensive ecosystem of business development and knowledge transfer.
Entrepreneurship	Ensure the presence of high-quality, supportive spaces for start-ups to grow across the region, along with financial stimulus that encourages growth in desired areas, for example business establishment in non-Cambridge hubs, or digital businesses focused on products/services for Manufacturing / Agriculture / Logistics.	Established networking firms and universities to deliver knowledge sharing programmes across the region that match different stages of start-ups, from birth to scale-up, along with networking and mentoring opportunities.
Investment & Finance	Create a CPCA Digital Innovation Fund (similar to the Northern Powerhouse Investment Fund), supported by the British Business Bank, for digital start-ups with a particular focus on convergence activities and hubs outside Cambridge city.	Increase the visibility and accessibility of financial information & support throughout the region.
Application in industry	Conduct a study to understand the value chains of digital businesses and potential gaps and bottlenecks in the local supply market. Share this information publicly.	Establish Leadership Councils for Technology in Manufacturing, Logistics and Agriculture that identify opportunities and blockers and generally accelerate the deployment of technology in industry.
International: Foreign Direct Investment and trade	Build a compelling Greater Cambridge cluster brand and marketing programme that promotes the Cambridge value proposition and strategically targets major investments complementary to the regional technology ecosystem, ensuring that an effective inward investment sales and fulfilment function is being delivered across the region.	Support local intermediary organisations to develop relationships with overseas technology hubs and encourage partnerships and networking between companies. Encourage large regional technology companies to participate in outbound missions to

		demonstrate the expertise of the region, alongside cohorts of new exporters.
Knowledge Transfer	Develop Launchpads where the applications of new digital technologies and solutions can be trialled. These Districts should feature the latest technology infrastructure, should be accessible for start-ups and should focus on industries that are important to the Combined Authority economy, such as Manufacturing or Agriculture.	Working with existing communities for technology / industry, deliver more inter-sector networking opportunities across the region that connect industry with the technology community and academia.

METHODOLOGY

The recommendations within this strategy are evidence-based and leverage both primary and secondary, quantitative (facts, reports, databases, survey) and qualitative (survey, meetings, interviews, reports) sources of data.

COMMISSION

The Commission provided scope to the strategy, input and qualified ideas within the separate focus areas and provided comment and sign-off on the overall strategy document. The Commission was selected to be representative of the domains under consideration.

Commission		Supporters	
David Cleevely (Chair)	Raspberry Pi	John Hill	CPCA
Anne Bailey	Form the Future	Steve Clarke	CPCA
Richard Baker	GeoSpock	Daniel Thorpe	CPCA
Jon Bradford	The Bradfield Centre	Secretariat	
David Connell	University of Cambridge	Eleanor Brash	CW (Cambridge Wireless)
Peter Cowley	The Invested Investor	Bob Driver	CW (Cambridge Wireless)
Professor Diane Coyle	University of Cambridge	Dr. Jan Storgårds	Anglia Ruskin University
Dr Matthew Day	Anglia Ruskin University	Amy Wilson	Anglia Ruskin University
Professor Emanuele Giovannetti	Anglia Ruskin University	William Davies	Anglia Ruskin University
Noelle Godfrey	Connecting Cambridgeshire		
Faye Holland	Cofinitive		
Henk Koopmans	Huawei UK R&D		
Stephen Pattison	Arm		
Heather Richards	Transversal		
Shailendra Vyakarnam	Cranfield University		
Ann Wardle	Opportunity Peterborough		

SECONDARY DATA

The report references publications and data that are considered complementary to this strategy's primary data and provide a representation of the existing state of the digital sector in the region.

We are particularly grateful for the support of the Cambridge University Centre for Business Research, whose quantitative data, which informed so much of the CPIER report, also provided much of the underpinning for this report.

BUSINESS SURVEY

A survey was conducted between Monday 3 December 2018 and Friday 11 January 2019 to ascertain regional priorities, needs, obstacles and recommendations. There were 106 respondents from 94 different organisations in the following districts within the CPCA geography:

- **Greater Cambridge** – 39 respondents
- **Peterborough** - 17 respondents
- **Fenland** – 2 respondents
- **Huntingdonshire** – 6 respondents
- **South Cambridgeshire** – 23 respondents
- **East Cambridgeshire** – 6 respondents
- **External (but neighbouring) to CPCA** – 11 respondents

The survey assessed 11 key "domains", identified by the Commission and detailed later in this report. These domains are:

- Entrepreneurship
- Investment & Finance
- High Impact Networking
- Knowledge Transfer
- Links within the UK
- Talent & Skills
- Foreign Direct Investment
- International Trade
- Application in Industry
- Digital Infrastructure

Two of these domains (Foreign Direct Investment & Links within the UK) were later merged with two other domains (International Trade & Knowledge Transfer respectively). The results of the survey were analysed according to the dimensions of the business that responded. In particular:

1. The geographic location was filtered according to six areas: Greater Cambridge, East Cambridgeshire, Fenland, Huntingdonshire, South Cambridgeshire and Peterborough
2. The business position within the technology supply chain: ie whether a business is a creator, supplier, buyer, or unconnected.

These details are elaborated through this report and provide an essential component in our development of a tailored digital strategy that allocates resources efficiently, according to real

existing needs, where intervention exerts the strongest impact. The insights have been explored and qualified by the Commission.

SCOPE

1. **Definitions.** For the scope of this strategy, we define digital technology as:
   a) The development and supply of software, hardware and connectivity solutions
   b) The promotion of digital literacy and the ability for consumers and business to benefit from new digital services
   c) The demand for, and application of, new digital technology innovations into industry.

   We recognise that CPCA is developing separate strategies for life sciences, advanced manufacturing and agriculture. These sectors are users of ICT and digital technologies and major players in the knowledge intensive sector; however we are primarily focused on increasing the effectiveness of businesses within the ICT sector.

2. **Geography.** For the purpose of analysing the secondary datasets, this strategy has defined the Cambridgeshire and Peterborough regions as the postcodes within the six local authority districts that make up the Combined Authority area.
3. **Infrastructure.** We understand that housing and transport is being considered as part of a separate review. This strategy will not make recommendations in that area, other than to stress at the outset that if the digital sector is to thrive, necessary physical infrastructure must be in place to support high quality growth.
4. **Brexit.** Several domains under consideration in this Strategy are significantly impacted by Brexit, for example Talent & Skills, or Foreign Direct Investment. The outcome of Brexit is, at the time of writing, unclear. Recommendations related to Brexit-related challenges will not be made in this strategy other than to ask of local Government that they consider its implications and work with local business to smooth the transition to a post-Brexit Cambridgeshire & Peterborough.

BACKGROUND

Cambridgeshire and Peterborough Combined Authority (Mayoral) was formed in 2017 and consists of five district councils: Cambridge City, East Cambridgeshire, Fenland, Huntingdonshire, and South Cambridgeshire, one unitary authority, Peterborough, and one county council, Cambridgeshire.

The region broadly breaks into three distinct economic zones: the agricultural richness of the Fenlands that manages 50% of the UK's Grade 1 land; the young and rapidly expanding manufacturing hub of Peterborough and the technology (including digital & life sciences) centre of Greater Cambridge and South Cambridgeshire which produces the highest number of patents per 100,000 people in the UK[4].

A key feature of the region is that that there is no substantially developed large city, and therefore the region lacks the digital, transport and office infrastructure which highly urban environments offer. Around a quarter of the population lives in market towns such as Wisbech (pop. 32,489), St Neots (31,165), Yaxley (9,174) and Sutton (3,816)[6], the remainder in the main hubs of Peterborough, Huntingdon and Cambridge or in surrounding villages and countryside.

Economic growth has been, to date, higher in Cambridgeshire & Peterborough than in the rest of the East of England or the UK; this has been driven primarily through business expansion in Cambridge and South Cambridgeshire. Technology multinationals are investing in the area, including most recently Amazon, AstraZeneca and Samsung. According to the 2018 Tech Nation Report, companies are investing in the Greater Cambridge region due to the prevalence of highly skilled talent, its world leading academic institutions and its prized culture of knowledge transfer. Yet availability of talent is also flagged in the report as a key issue for the area – because the growth rate of supply does not match that of demand and because competition is exacerbated by the world-wide appeal of the existing local talent pools.

Across all sectors, the largest home-grown companies come from outside the digital sector, with Manufacturing (Marshall's), Utilities (Anglian Water) and Agriculture (Hilton Food, G's) featuring highly. The productivity of these

CPCA - Largest companies[5]	Turnover 2016-17
Marshall Motor Holdings PLC	£1.90Bn
Illumina Cambridge Limited	£1.51Bn
Osprey Acquisitions Limited (Anglian Water)	£1.24Bn
Hilton Food Group PLC	£1.23Bn
Arm Limited	£1.18Bn
Qualcomm Technologies International, Ltd.	£1.16BN
Mundipharma Medical Company Limited	£554M
Hexcel Composites Limited	£498M
G'S Group Holdings Limited	£444M

[4] Centre for Cities, Cities Outlook 2018

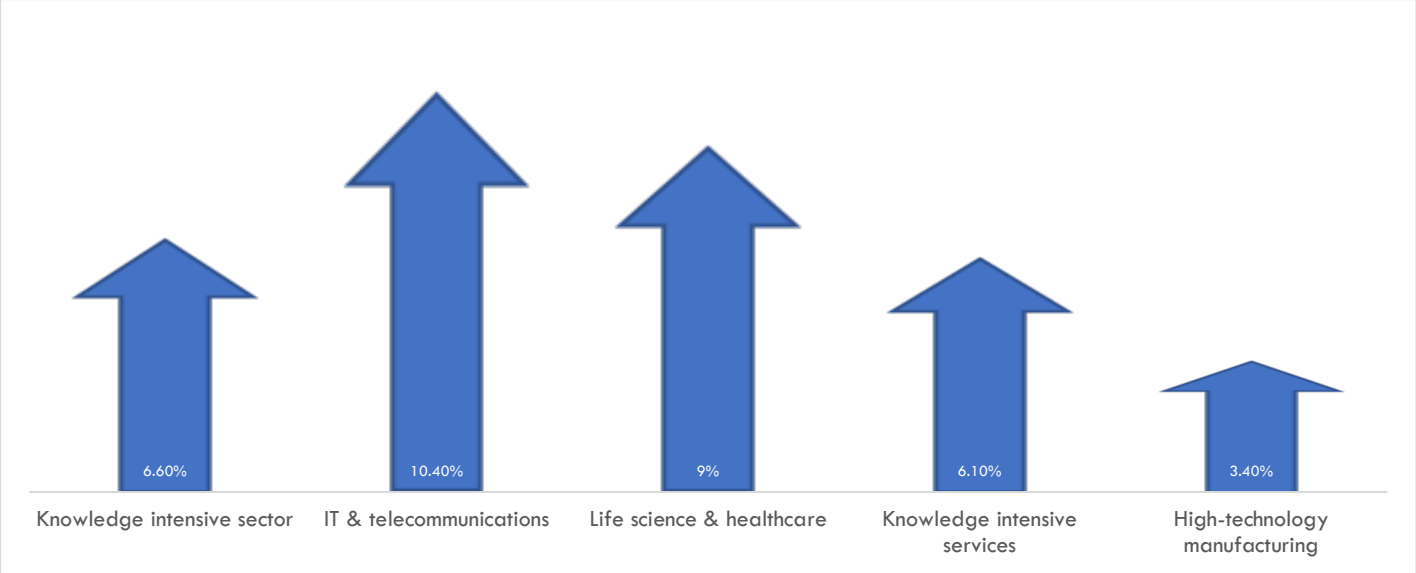
[5] Data from Cambridge Cluster Map, based on CBR. List includes companies headquartered, or with offices, in Cambridgeshire & Peterborough.

[6] Data from 2011 census and refers to Build Up Areas

organisations are, however, greatly influenced by new digital technologies created by the ICT sector such as sensors or artificial intelligence.

Nationwide, the digital sector contributed £130.5bn to the UK economy in 2017, accounting for 7.1% of UK GVA and increasing by 7.3% since 2016. This is faster growth than the GVA for the total UK economy, which increased by 4.8% since 2016[7]. Employment in the digital sector in 2017 comprised of 1.5 million jobs, a 16% increase on 2011. This compares to a 9% increase in the total number of jobs in the UK[8]. Regionally, the digital sector is the fifth largest revenue generator, accounting for 8.22% of total employment and 8.84% of turnover (CBR).

From CBR data we can see that the average growth rate of the Knowledge Intensive sectors in the CPCA areas in the past three years was 6.6%. The CPCA's disaggregated revenues growth rates of the different subsectors forming the Knowledge Intensive economy reveal a more nuanced dynamic: IT & telecommunications grew at 10.4%, life science & healthcare at 9%, high-technology manufacturing at 3.4% and Knowledge Intensive Services at 6.1 %. So, the largest subsector, high technology manufacturing, is also the one that grew at the lowest rate in the past years, and IT & telecommunications grew the fastest. 44.4% of ICT and Telecommunications employment for the region is centred in Greater Cambridge.



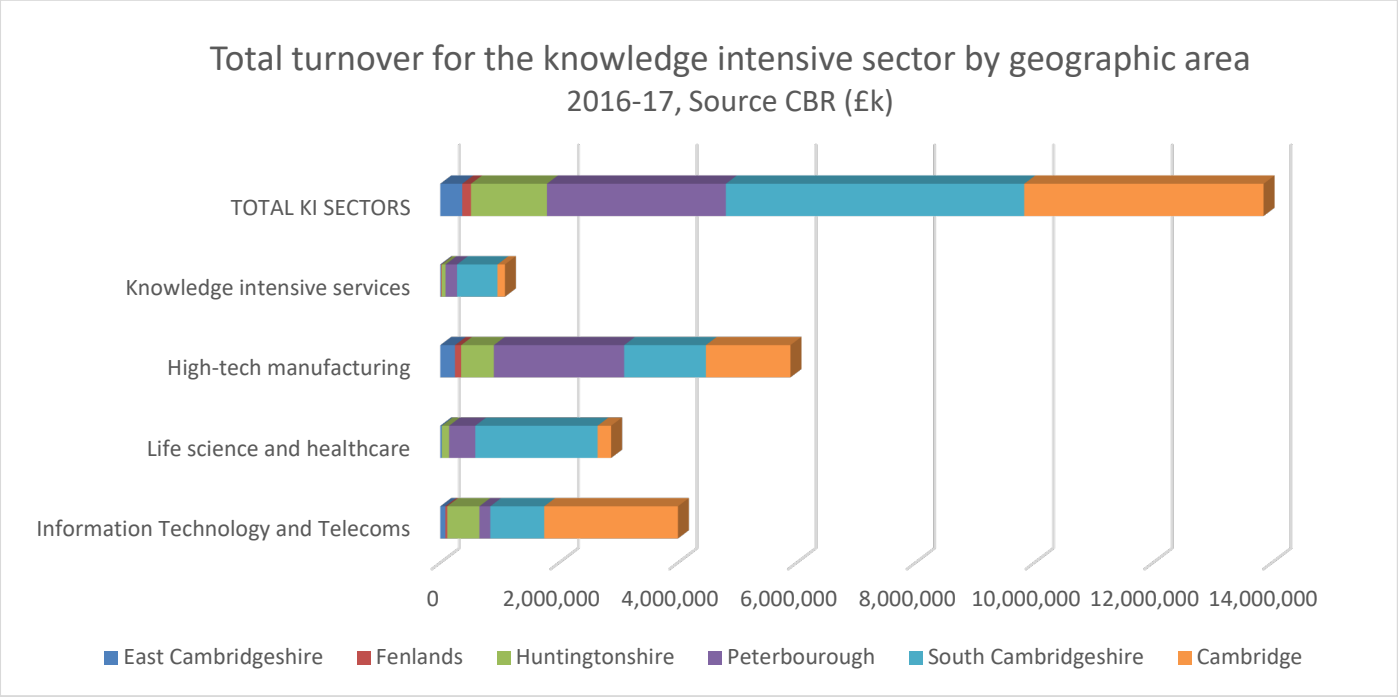
The figure below details the distribution of the turnover of the CPCA knowledge intensive sector, in 2017, subdivided by district. Focussing on the IT & telecommunications subsector, it shows that over 56% of the sector turnover in 2016-17 was based in Greater Cambridge and 23% in South

[7] DCMS Sectors Economic Estimates 2017: GVA

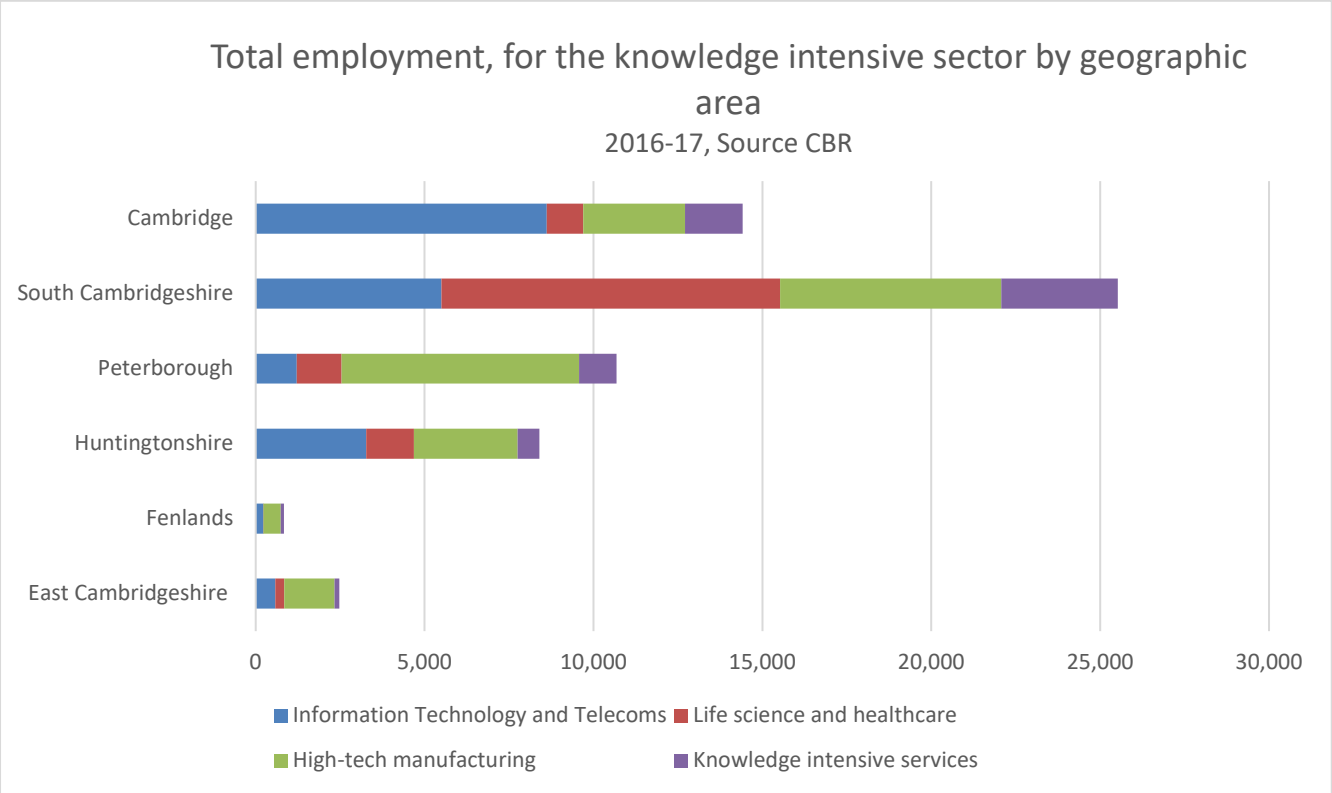
[8] DCMS Sectors Economic Estimates 2017: Employment

Cambridgeshire while only 1% was generated in Fenland (as highlighted in the subsequent pie charts).

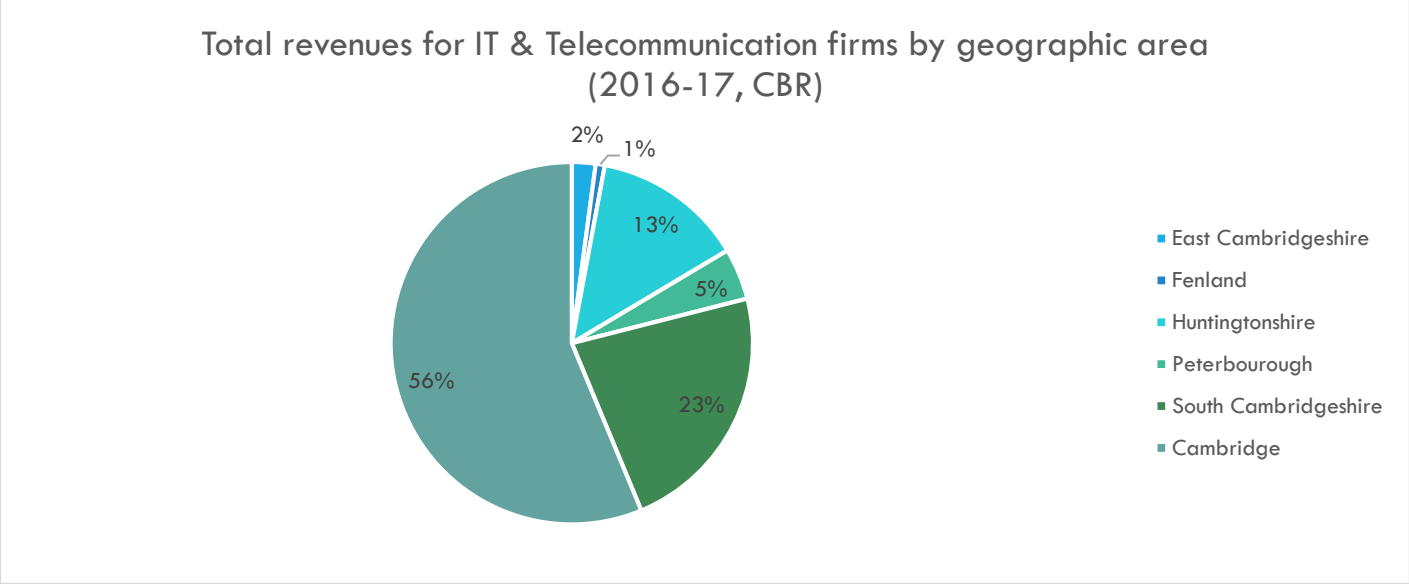
From the same graph, we can see that across all knowledge intensive industries, 29% of revenue during the same time period was generated in Greater Cambridge and 36% South Cambridgeshire, with still only 1% from Fenland. Peterborough claims a significant portion of knowledge intensive revenues (22%) due to the prevalence of high-technology manufacturing in the region.

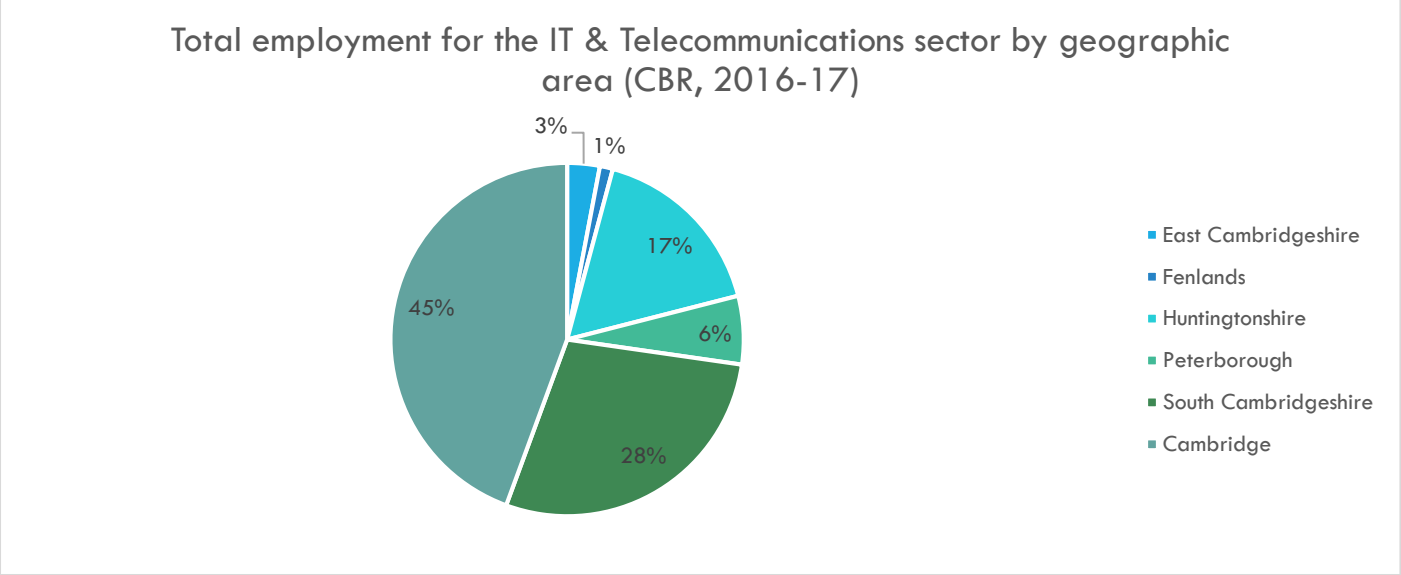


The table below shows employment figures by sector, broken down per region.



Extracting the data for just the IT & Telecommunications sector as the focus of this report, it can be seen that Greater Cambridge and South Cambridgeshire combined drew in 79% of total regional revenues for the ICT & Telecommunication sector, while Fenland produced 1%.





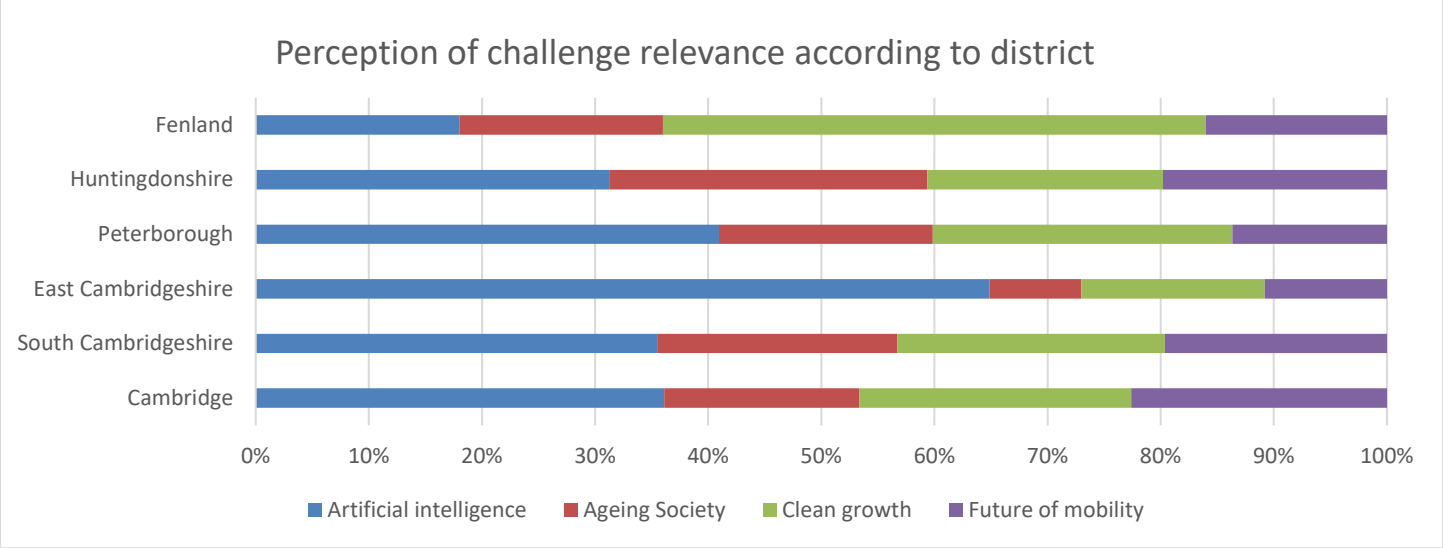
THE GLOBAL TECHNOLOGY SECTOR IN 2040

Cambridgeshire & Peterborough is well-positioned to be a global powerhouse in technology development and adoption. The region's unique portfolio of assets includes world-class academic institutions, a highly qualified pool of talent, a hub of multinational R&D centres and excellent facilities and support for networking. The opportunities for collaborating with Fenland's agricultural firms and Peterborough's manufacturing businesses are substantial.

However, maintaining this position in a rapidly developing global marketplace depends on the community understanding where this industry might be in 25 years' time, so that we can invest now in preparing the conditions for digital success.

In Autumn 2012, The Department for Business, Innovation and Skills announced an investment of £600M in the eight great technologies that support UK science strengths and business capabilities. These technologies were selected because the UK already has world-leading research in these areas, they have a range of applications across a spectrum of industries and they have the potential for the UK to be at the forefront of commercialisation. They include big data, satellites, robots & autonomous systems, synthetic biology, regenerative medicine, agri-science, advanced materials and energy storage.

This was followed in 2018 by the selection of four grand challenges that form the centrepiece of the Government's Industrial Strategy: Artificial Intelligence (AI) and data, ageing society, clean growth and the future of mobility. Within the Digital Sector Strategy Business Survey, respondents believed that Artificial Intelligence was the Grand Challenge against which Cambridgeshire and Peterborough is best able to align itself, although in Fenland there was a preference for Clean Growth. These findings clearly reflect the current specialisation of these two areas; Greater Cambridge with its high presence of businesses in the digital technology sector, and Fenland with its focus on agriculture expressing the potential this sector has for clean growth.



It is estimated that embedding AI and Data Science across the UK, while displacing some existing jobs, skills and professions, will create thousands of good quality jobs and drive growth to the tune of adding £232bn to the national economy by 2030[9]. Artificial intelligence was also the UK's fastest growing sector, with investment hitting a record £736m last year at an increase of 47 per cent compared to 2017[10]. Certainly, the prowess of this region in AI is demonstrated by the continued and significant overseas investments by global Tech giants, with Samsung and JD.com being just the latest examples, alongside homegrown players such as Darktrace, Prowler.io, Geospock, Speechmatics and many more.

If CPCA is to select a Grand Challenge against which the region could competitively align itself, the combination of the region's strength in artificial intelligence and the high growth potential of the market makes AI the obvious choice.

Nationally significant steps have been taken to develop an Office for Artificial Intelligence, with an Artificial Intelligence council which brings together respected leaders in the field from across academia and industry.

Regionally there is a great opportunity to coordinate world beating academic Innovation Research Centres along with globally significant corporate giants to encourage the development of new applications of AI, interoperability between AI systems, and to identify barriers to growth, and opportunities for collaboration on common issues - for example on data trust and ethics.

We recommend that the Combined Authority takes further advice on tailoring specific actions and priorities from this and other related strategy reports to boost and cement the national leadership position of the region in the Artificial Intelligence Grand Challenge.

[9] Industrial Strategy, November 2017

[10] Artificial Intelligence Industry in the UK 2018, Deep Knowledge Analytics

CONDITIONS FOR DIGITAL SUCCESS

At the outset of this research project, the Commission agreed to categorise results to eleven domain areas, each of which are deemed to be central to the creation of a highly productive digital sector and have been used as the foundation for our research.

Entrepreneurship **ENT**	Links within the UK **UK**	Export Strategy **EXP**
Investment & Finance **INV**	Talent & Skills **TAL**	Adoption within Industry **IND**
High Impact Networking **NET**	Foreign Direct Investment **FDI**	Digital Infrastructure **DIG**
Knowledge Transfer **KNO**		Supply Chain **SUP**

The Government's Industrial Strategy outlines five foundations of productivity: People, Place, Innovation, Ideas, Business Environment. Each of these relates to one or more of the domains under analysis in this report, as outlined in the table below.

	ENT	INV	NET	KNO	EXP	FDI	TAL	UK	IND	DIG	SUP
People	■		■	■			■				
Place			■					■		■	
Innovation	■	■							■		
Ideas	■	■	■	■			■		■		
Business Environment	■	■	■		■	■			■	■	■

Of course, none of the domains stand alone, as these five foundations of productivity provide the key linkages amongst them. Innovations, and their impact on productivity, often emerge from the ICT-centric innovation ecosystems composed by people, carrying ideas, interacting in business environments that are rooted in places[11]. Stimuli to one domain have the potential to generate multipliers and ripple effects in closely related areas. To this end, it is important to consider how the domains inter-relate and to consider where resources might be most effectively applied to have the most significant impact.

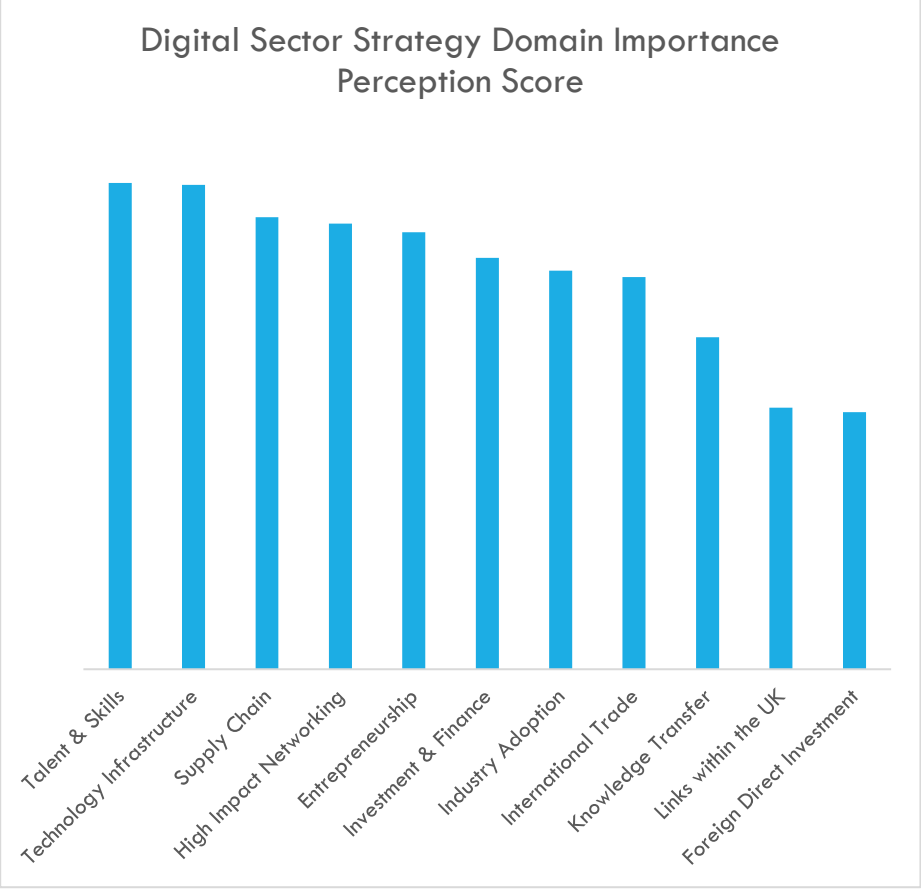
The table below models the relationships between domains and suggests that investment in High Impact Networking, Talent & Skills, Digital Infrastructure and Application in Industry have the potential to deliver the most wide-reaching effects:

Recommendations applied to this domain…	**…will have a positive impact on this domain**										
	ENT	INV	NET	KNO	EXP	FDI	TAL	UK	IND	DIG	SUP
ENT	■	■	■	■	■	■			■		■
INV	■	■	■	■			■				

[11] Giovannetti, E. (2017) "Digital Divide and Digital Multiplier: A Paradigm Shift through Innovation", in Lehr, W. and Sharafat, A, eds. "ICT-Centric Economic Growth, Innovation and Job creation" *International Telecommunication Union,* Geneva, ISBN, 978-92-61-24411-8

NET											
KNO											
EXP											
FDI											
TAL											
UK											
IND											
DIG											
SUP											

For each domain, an importance perception score has been obtained through the survey of 94 local businesses during which respondents were asked to select the three most relevant items for the future growth of the digital sector in the region. These are arranged by priority in the graph below:



Talent & Skills and Technology Infrastructure were perceived as having more significance than other domains, whereas Links within the UK and Foreign Direct Investment were perceived as less important. The Strategy team merged Foreign Direct Investment with International Trade to create an "International" chapter. Similarly, "Links within the UK" was merged with "Knowledge Transfer" as it was felt that the emerging themes were extremely closely aligned.

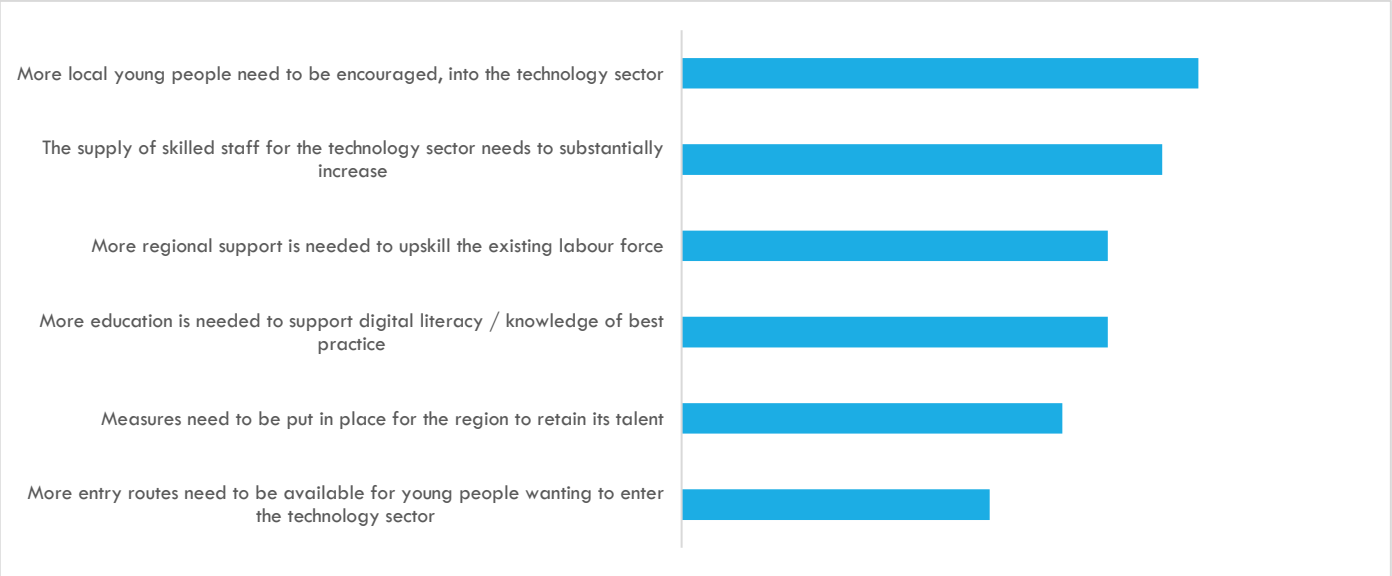
For each domain, evidence has been gathered from both primary and secondary resources.

A chapter is dedicated to each with our vision for where we should be, an overview of local perceptions uncovered in the Business Survey, recommendations for how this domain can be developed supported by a brief background on its current state in Cambridgeshire & Peterborough.

TALENT AND SKILLS

VISION

We believe that the region needs to deliver an economy for the modern world founded on significant investment in skills and education, where the digital labour force meets the needs of business at every stage of development. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
More local young people need to be encouraged, into the technology sector	4.57
The supply of skilled staff for the technology sector needs to substantially increase	4.53
More regional support is needed to upskill the existing labour force	4.47
More education is needed to support digital literacy / knowledge of best practice	4.47
Measures need to be put in place for the region to retain its talent	4.42
More entry routes need to be available for young people wanting to enter the technology sector	4.34

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA See Annex 1	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA See Annex 2
It is important to understand the demand and supply of skills (SUP) in the region and the changing needs of now and future. Growing skills pool 'organically' is a long process, from school, to universities (KNO) and to the job market (IND). The respondents refer to very different types of talent needed in the region (UK), e.g. via apprenticeships, BSc, MSc, or PhDs but one pattern is that a skilled person is a 'specialist' in a certain topic of need, mostly in STEM subjects (DIG). Respondents widely talk about investing (INV) more in the youth but not to forget 'adult' groups and teaching the teacher. When it comes to locations where talent is	A closer look at the geographic distribution of the answers, to this question shows that all six domains related to Talent and Skills are perceived as significantly important for the Fenland, four of them were selected in Huntingdonshire, three in Peterborough, two in South Cambridgeshire and one each for Cambridge and South Cambridgeshire. In detail, reporting these hypotheses in a decreasing number of districts for which the issue of high relevance we have that: • "The supply of skilled staff for the technology sector needs to substantially increase" is of key relevance to every region.

or wants to be, Greater Cambridge (UK) will remain a magnet but the idea of offering a high quality and balanced life style of the work force is becoming a selling argument of a location. Brexit is bringing uncertainty in recruiting talent (FDI).	• "More education is needed to support digital literacy / knowledge of digital best practice" is a relevant issue everywhere apart from East Cambridgeshire • "More entry routes for young people wanting to enter the technology sector need to be available" is a relevant issue in all districts apart from East Cambridgeshire. • "More local young people need to be encouraged to enter the technology sector", was a priority for Fenland, Huntingdonshire, South Cambridgeshire and Peterborough • "More regional support is needed to up-skill the existing labour force" in Fenland, Huntingdonshire, and Peterborough • "Measures need to be put in place for the region to retain its talent better" is of key relevance in Fenland, Peterborough and Greater Cambridge

RECOMMENDATIONS	
For public sector	**For private sector**
Ensure high quality digital education and training opportunities, ranging from digital literacy, advanced programming skills up to doctorates, as well as reskilling programmes, are available and accessible for young people, teachers and adults throughout the region. • Review the capabilities of schools and colleges to deliver high quality STEM education and, where necessary, establish programmes to upskill and appropriately resource teaching staff and classrooms. • Use the £12M CPCA devolved budget to deliver accessible, high quality and consistent adult education programmes related to digital skills, or through employer-led initiatives incentivised by public funding. These programmes should cover both basic digital literacy and more advanced digital proficiencies. • **Combined Authority to encourage digital businesses to co-create a bid to form a local Digital Skills Partnership, aligned with UK Digital Strategy (by April 2019)** • Establish Peterborough University as a high quality higher education establishment that engages with local business to deliver skills in line with the regional economy and aligned to the latest technology trends. • Increase the availability and attractiveness of alternative routes into the sector for example through effective use of apprenticeship grants. • Provide high quality space that promotes digital skills generation, for example by building on the current work underway reforming libraries into skills and co-working zones. • Conduct an in-depth study to understand the extent and causes of digital exclusion / illiteracy across the area.	**Develop a region-wide culture of employer engagement in education to support the development of STEM skills in the next generation and showcase potential career routes with a scheme that involves the participation of employers.** • CPCA to identify employer engagement programmes that are already effective, and rally increased industry support to it through brokerage, facilitation and incentivisation (such an incentive programme is especially important for SMEs who struggle to financially validate youth and early career engagement, but can offer value). • As businesses are encouraged to participate more with schools, ensure schools have the resources and processes in place to channel business engagement. • Resource region-wide after-school provision for young people with activities that teach relevant STEM skills • Encourage diversity in STEM school volunteers. • Establish and promote an effective communication route between digital business and education to ensure that the curriculum supports the needs of business.

BACKGROUND ON TALENT & SKILLS IN CAMBRIDGESHIRE & PETERBOROUGH

The contribution of digital skills to the performance of the economy is substantial. Skills are the foundation of productivity. Cambridgeshire and Peterborough has a slightly higher than national average qualification level but if we break that down to a district level, there is a large amount of variation. The city of Cambridge has a much higher than average rate of citizens with an NVQ4 and above, while Fenland has a far lower than average proportion of citizens with NVQ1 and above, and 25% of the citizenship of Peterborough have no qualifications[12]. This, perhaps, is why in the Business Survey the respondents from Fenland stressed the importance of all hypotheses.

	Cambridgeshire And Peterborough (%)	Cambridge (%)	Huntingdon (%)	Peterborough (%)	Fenland (%)	Great Britain (%)
NVQ4 And Above	39.0	46.9	25.3	20.2	14.9	38.6
NVQ3 And Above	55.7	63.0	36.6	31.0	25.3	57.2
NVQ2 And Above	72.9	72.2	52.7	47.2	42.3	74.7
NVQ1 And Above	85.4	79.4	78.3	62.6	57.9	85.4
Other Qualifications	8.0	6.2	7.8	8.9	6.9	6.9
No Qualifications	6.6	12.2	21.2	25.0	31.2	7.7

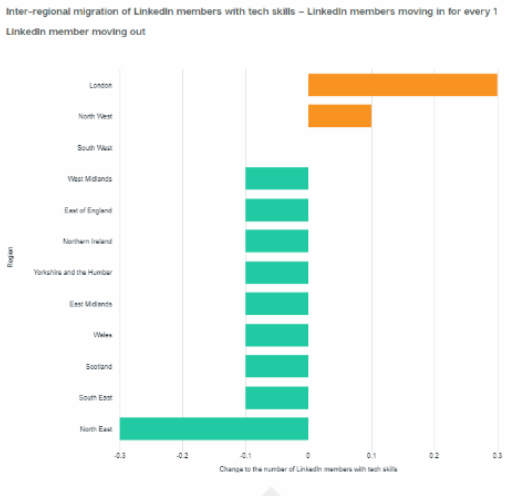
The Regeneris Skills report[13] identifies that education deprivation is concentrated in the north-eastern areas of the CPCA. Peterborough and Fenland in particular have acute and extensive challenges, with both featuring in the highest decile for education deprivation in England. There are also small clusters in Huntingdon and Greater Cambridge, although less significant in scale. By contrast, significant areas of Huntingdonshire, South Cambridgeshire and Greater Cambridge are in the lowest decile for education deprivation. This is broadly suggestive of a north - south split, with improved outcomes the further south one observes. It suggests that effort invested in improving Talent & Skills, starting with aspirations, for local young people should start in Peterborough, Fenland and relevant clusters in Huntingdon and Greater Cambridge.

The same report found that there is a smaller proportion of young people that are in full-time education in the CPCA area (24%), compared to England as a whole (33%). Though Cambridgeshire & Peterborough is known for its world-class further and higher education establishments, particularly those centred on Greater Cambridge, this is not necessarily translating into higher education participation amongst the resident population. There are also regional differences in 18-24 year olds in full time education.

[12] Nomis: Official Labour Market Statistics

[13] link to be provided when released.

7) London and the North West saw a net gain of members with tech skills in 2016. Other regions in the UK experienced a net loss of members with these skills.



The only regions in the UK to experience a net increase in digital skills in 2016 were London and the North West – all other areas saw a net decrease[14]. With its proximity to London, and the often higher salaries and broader opportunities offered by the capital, Cambridgeshire & Peterborough needs to act fast to compete by ensuring that the region offers the highest quality of life along with attractive opportunities for training and career progression. This includes building the physical infrastructure to deliver affordable housing for young people and minimise commuting time. A critical indicator of the impact and lack of affordable housing and cost of leaving is provided by the very low ranking of Greater Cambridge for graduate retention; the city currently ranks 38th out of 44 cities studied by HESA. Improvements to this figure is challenging but also provides an opportunity for the non-Cambridge districts in CPCA that, if suitably integrated into the networked economy, will be able to provide an appealing basin of attraction for the present outflows of graduates.

The impact of Brexit on the recruitment and retention of digital talent is a threat. Research by TechUK conducted in 2016[15] revealed that 45% of digitally intensive job vacancies were filled by international workers, and a quarter of the employees in the software and computer industry are foreign-born, with the majority coming from the European Union. To ensure that Cambridgeshire and Peterborough's businesses can continue to recruit from the highest quality talent pool and maintain international competitiveness, local Government must prioritise supporting businesses to efficiently handle recruitment and retention challenges that arise from Brexit.

The 2016 Digital Skills Report showed that the shortage of digital skills represents a key bottleneck for industry and is linked to one in five of all vacancies. At that point, 72% of large companies and 49% of SMEs were suffering technology skill gaps. There is a clear mismatch in the types of skill offered by the labour market and those demanded. In different ways and to different extents, this

[14] Tech Nation: Mobility of Talent

[15] The Digital Sectors after Brexit, TechUK, January 2017

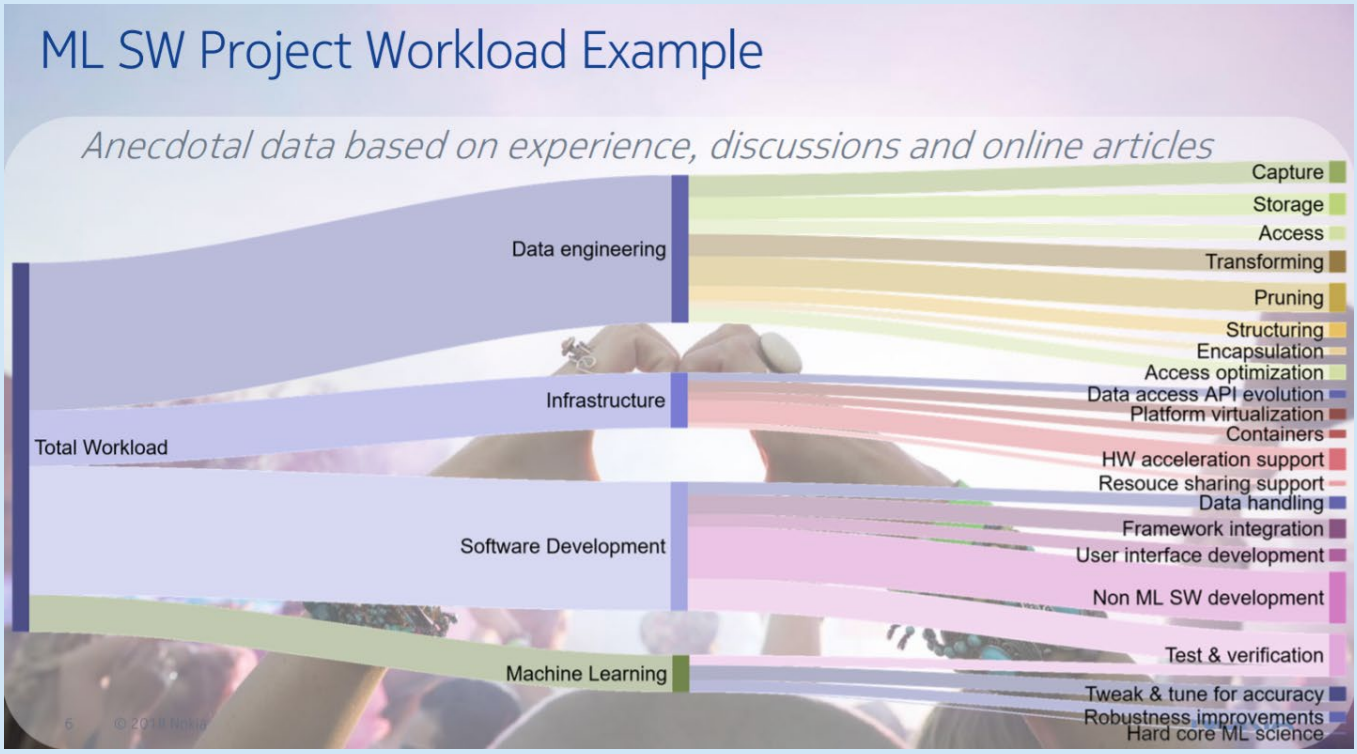
trend is likely to be holding back the growth of technology and non-technology companies alike. The Report highlighted the following skills gaps:

- Software developer
- Senior programme developers
- Data analysts / big data developers
- Artificial intelligence developers
- Computer aided design
- Cyber security
- Mobile and cloud computing
- Technology specific skills (e.g. high level technologynical knowledge of communications networks)

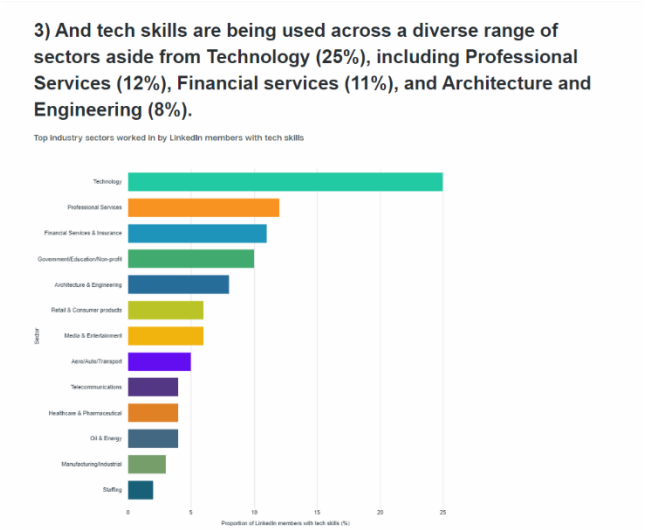
An insight into skills requirements

Artificial intelligence and data processing are expected to be a central part of the digital economy of the future. With Samsung, Qualcomm, Microsoft and Amazon already establishing global artificial intelligence R&D operations in Greater Cambridge, alongside home grown talent like Prowler.ai and Darktrace, the region is well positioned to be the leader in this field.

This will require the region to be able to supply newer skills in addition to programming: data management. The East of England Science and Innovation Audit identified skills, particularly related to data, as a gap in regional provision that needs to be fulfilled. The slide below focuses on a machine learning software project workload, presented by Nokia at CW Technology and Engineering Conference 2018[16]. It demonstrates that the largest proportion of time on a machine learning project is spent on data capture, storage, access, transformation, pruning, structuring and encapsulation.



[16] Machine learning: What's in it for communications networks, Nokia, September 2018



As more industries adopt digital technologies into their workflows, more strain will be placed on the supply of suitable talent leading to an ever increasing digital skills gap. Professional services, financial services and architecture/engineering are currently employing the highest numbers of digitally skilled professionals outside the technology sector (see chart, left)[17]. While these sectors are smaller within the Cambridgeshire & Peterborough economy compared to healthcare, manufacturing, retail and agriculture, it is still necessary to plan for an escalation in demand – especially given this strategy's goals related to convergence (see chapter on Adoption in Industry).

Qualification level	Percentage share		Forecast % change
	2012 actual	2022 projection	
QCF 7-8 (post-grad) **Masters and Doctorial level**	9.1	14.6	+60.4%
QCF 4-6 **University degree level**	27.6	33.1	+ 19.9%
QCF 3 **A Level**	19.9	17.6.	- 11.6%
QCF 2 **A-C GCSE level**	22.1	19.9	- 10.0%
QCF 1 **D-F GCSE level**	15.2	11.3	-25.7%
No qualification	6.1	3.5	-42.6%

Table 1 – Projected qualification demand for Eastern Region (UKCES 2015)
Source: Old Hall Associates Ltd Report to Peterborough Skills Partnership Group (July 2015)

In its Four-Year Plan, the CPCA identified that by 2022 the Eastern region will need 60.4% more masters and doctoral level qualifications and 19.9% more degree-level qualifications. This is a dramatic increase and will necessitate policies that retain talent, attract talent into the region, develop the needed skills and motivation within the region's young people and retraining the existing workforce.

The development of a supply of skilled programmers and other knowledge intensive workers to meet the needs of the digital economy is the main challenge facing the growth of the sector in Cambridgeshire and Peterborough today.

This Strategy recognises four different segments of digital users, each of which have their own skill levels and educational needs:

User group		Description	Education requirements
1	Digital Exclusion	The 11% of the UK population not connected to the internet and not using digital services on a regular basis.	• Connectivity, if not yet in place • Basic digital education
2	Basic	These are users who in their home or work life are able to securely use internet-connected devices for general browsing and communicating.	• General IT education
3	Workforce	These are users who use specialist digital services for home or work life, such as accountancy software, warehouse management tools, or photoshop.	• Regular information on new developments • Basic understanding of how programme works

[17] Exploring tech skills in the UK, Tech Nation

4	Professionals	These users design the tools used by the other user groups.	• Maths • Understanding of how computers work • Programming languages • Data management

We believe that it is imperative for the region to understand the extent of local digital exclusion and to support those without digital competencies or connectivity into the digital age through appropriate training and, where needed, infrastructure improvements. Too many services are moving to online models for individuals and businesses to maintain competitive efficiency without venturing online. An in-depth study which helps to ascertain the extent of digital exclusion and the impact on productivity, life chances and health and well-being in the CPCA area could be valuable, similar to one conducted to great effect by the Joseph Rowntree Foundation in Glasgow.

However, this Strategy is primarily concerned with ensuring that appropriate IT skills are present in the workforce of Cambridgeshire & Peterborough's future. To this end, sufficient educational provision for both young people and adults needs to be accessible either through the school, college and higher education system, or through employer-led training. At the same time, businesses need to have a clear process for engaging with the education system and for signposting what skills and knowledge it needs its future workforce to develop. One route to achieving this is through the Digital Skills Partnership, see inset above, which is a localised, nation-wide programme of joint public / private sector engagement on education. Alternatively, a more ambitious programme could be the creation of a CPCA Digital Skills Task Force, consisting of business, education and public sector leaders, that generates and actions specific

DIGITAL SKILLS PARTNERSHIP

A clear recommendation made to the Commission was not to develop regional initiatives that were of necessity sub-scale but to align with nation-wide initiatives where possible. Digital skills development is a major focus area for national Government. The **Local Digital Skills Partnerships (DSP) programme** provides access to resources from national Government, extending from the commitment of the UK Digital Strategy, to improve digital capabilities across the entire skills spectrum, from online literacy to the advanced knowledge needed to work in the digital sector.

Lancashire, the South West and West Midlands are already piloting the DSP programme, and the national Government has invited all other Local Enterprise Partnerships and Mayoral Combined Authorities to submit expressions of interest to form a Local DSP pilot. A further three will be selected by **April 2019.** A Local DSP Playbook has been created as a central resource to help regions to establish and run a successful Local DSP.

We recommend that the Combined Authority works with relevant local parties to submit an application to form a local Digital Skills Partnership for Cambridgeshire & Peterborough.

opportunities around the creation of digital skills among young people and adults; its mission would be to ensure that all businesses in the area are able to thrive through access to a consistent, high quality supply of talent.

YOUNG PEOPLE (PRE-18)

Providing high quality digital training to Cambridgeshire and Peterborough's young people provides a dual benefit. Firstly, a digital education with effective employability interventions can lead to the higher paid, more productive jobs of the Knowledge Intensive economy. Secondly, easing the recruitment challenges of local digital businesses by supplying a highly skilled digital workforce will improve their productivity.

To ensure that young people leave school with the skills that the digital economy values, we see that five important things must be in place

- **The curriculum must deliver what employers need.** To do this, employers need to feed back to schools through the appropriate mechanisms what they are lacking. The potential of T-Levels is recognised – as is the fact that despite there being a Digital route, no Cambridgeshire and Peterborough education providers are offering T-Levels within the first wave. The public sector needs to better signpost these feedback channels and encourage local digital companies to share their needs with the education sector.
- **Upskilling opportunities for teachers** – the Business Survey highlighted recommendations for ensuring that training opportunities are available to teaching staff in the region (of schools and higher education establishments) to ensure that the quality of education delivered is of the highest standard and in line with the skills and knowledge expected of business.
- **High quality extra-curricular provision must be available for activities that grow digital and soft skills (such as team work and creativity) within an inclusive environment**. Code Clubs and Robotics Clubs inspire young people and nurture their enthusiasm in a particular subject, as well as offering opportunities for soft skill development such as teamworking and creativity. The private sector needs to provide volunteers to support the teaching staff in delivery and to demonstrate available career paths. Diversity in volunteers should be encouraged.
- **Employers must engage with schools**. There are a myriad of programmes in the region supported by businesses such as Business in the Community, Form the Future and the Careers and Enterprise Company. The landscape can be confusing and inconsistent for both employers and schools, and it varies from district to district. It is far easier, for example, to generate STEM-based employer engagement in Greater Cambridge than in Fenland. Yet it is Fenland and East Cambridgeshire that has been identified by the Government as an "Opportunity Area" due to the low levels of academic achievement and social mobility – two factors which consistent employer engagement can help remedy. The Combined Authority needs to work with relevant organisations to identify employer engagement programmes that are effective and to rally increased support from local technology firms through brokerage, facilitation and, if needed to expand employer engagement to currently underserved areas, incentivisation.

- **A variety of career paths into the digital sector need to be supported by the business community.** The apprenticeship programme is subsidised by the Government and offers high quality on-the-job training without requiring that the employee take on the financial impact of a university degree; through apprenticeships it is possible for young people to develop competitive coding skills as well as effective soft skills. Anglia Ruskin University currently offers a digital apprenticeship programme, but uptake has been slow despite support from the likes of Bango and Aveva. Information needs to be easily available on the process for delivering apprenticeship programmes, and the Business Survey reflected the feeling that more (financial) support needs to be offered to SMEs so that they can take on interns or apprentices without losing efficiency.

ADULT (POST-18)

Adult education is an area over which the Combined Authority has budgetary control. With new technological advancements being deployed, the re-training and upskilling of adults to enable them to be more productive in their roles or move on to higher paid jobs, is of critical importance to increasing local productivity. Given the lead time for educating a young person to a digital-job-ready level, it is essential that the Combined Authority invests in and promotes digital retraining pathways for adults in parallel.

Adult education is available via part-time courses at, for example, Cambridge Regional College which has campuses in both Cambridge city and Huntingdon and offers courses in Software Programming and CyberSecurity Essentials. Meanwhile City College Peterborough offers IT Skills courses in its Adult Education portfolio and Peterborough Regional College offers courses on CAD and an Introduction to Programming. These courses are priced affordably and typically held at times that are convenient for workers.

The role of Universities in part-time adult education could be enhanced. The University of Cambridge's Institute for Continuing Education, for example, offers many humanities courses but not many computer science courses. Peterborough University has been identified by the Cambridgeshire and Peterborough Independent Economic Review as a growth opportunity for the region; this is especially important given Peterborough's low qualification rate outlined above. We hope that the University aims from the start to support the adult education work of City College Peterborough and Peterborough Regional College while providing high quality education to young people and engaging with local business to deliver skills in line with the regional economy and the latest technology trends.

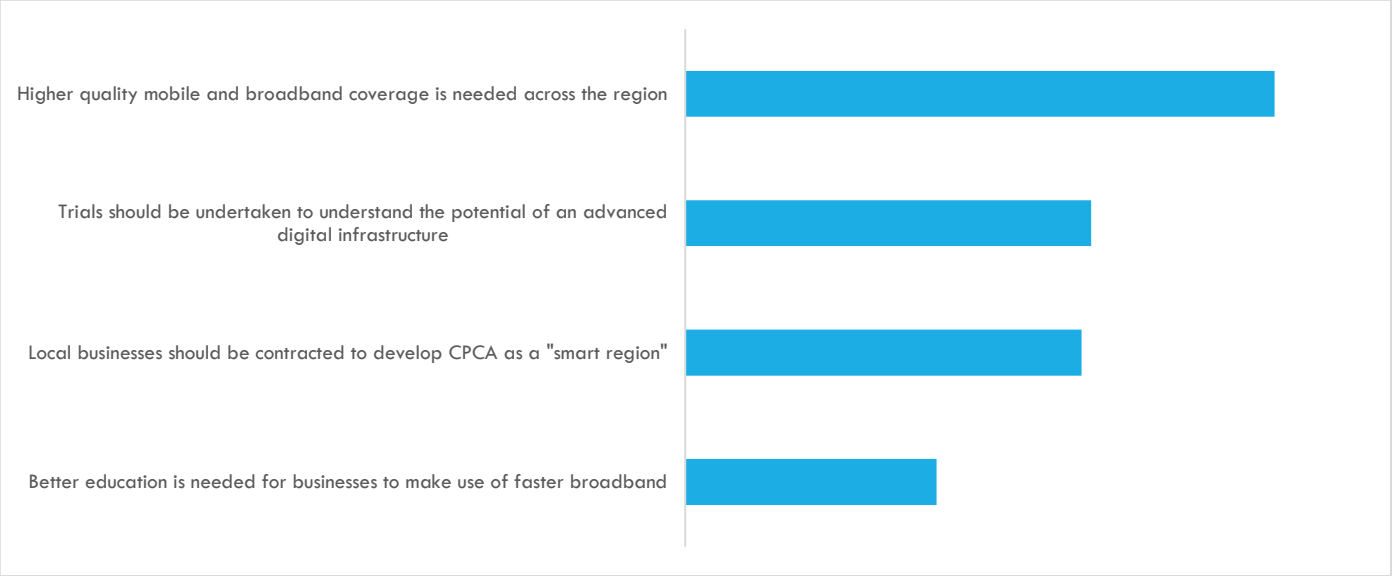
The Regeneris Skills Report concludes that employers across the CPCA area appear to be more willing to offer training to employees, in order to address skills shortages and recruitment problems, than national benchmarks, with over 70% providing some kind of training. There is also a greater propensity for firms to invest in on-the-job and online training compared to the average values for the whole England, although offsite training also plays a considerable role. Variance between Cambridgeshire and Peterborough is minimal, with employers in the latter generally more likely to

offer some form of training. This level of private sector investment in employee personal development needs to be maintained at the least. The current plans for the adult education budget are to prioritise digital literacy, qualifications up to Level 3, and the development of skills for Health & Care, Logistics, Construction and Manufacturing. We support the goals of digital literacy, and would recommend adding IT & Telecommunications to this list of priority sectors.

TECHNOLOGY INFRASTRUCTURE

VISION

The Digital Sector Strategy's vision is that the CPCA region becomes a region where telecommunications and digital infrastructure is understood to be an absolutely vital underpinning of the economy, and where local government acts as a catalyst to accelerate demand, encouraging the entry of private sector supply side solution providers. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Higher quality mobile and broadband coverage is needed across the region	4.42
Trials should be undertaken to understand the potential of an advanced digital infrastructure	4.04
Local businesses should be contracted to develop CPCA as a "smart region"	4.02
Better education is needed for businesses to make use of faster broadband	3.72

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA See Annex 1	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA See Annex 2
There are several practical issues mentioned in the survey results such as lack of mobile phone coverage in rural areas, on train lines, fibre cable not reaching to where businesses are (IND), or into new built environment (TAL). CPCA region should be better than average in connectivity, a test bed for 5G (INV), networks available in public places. More competition is asked for reducing the price of being connected to fast networks (IND).	The Survey's answers provide some interesting evidence on how the different districts perceive the relative relevance of the proposed priorities and Technology infrastructure needs. A gradient emerges where Fenland considers all four options to be of key relevance, Peterborough also attributes relevance to all the four same priorities but with an overall slight less intensity. Greater Cambridge and Huntingdonshire focussed on two key issues and East Cambridgeshire on one. In more detail, • "Higher quality broadband and mobile coverage is needed across the entire region", was a top priority for all areas apart from East Cambridgeshire

	• "Local businesses should be contracted to develop CPCA as a "smart" region" is particularly relevant for the Fenland, Peterborough and Greater Cambridge • "Better education is needed for businesses to understand how to make use of higher quality broadband (e.g. video marketing)", was a priority for respondents in Fenland, Huntingdonshire and Peterborough, while • "Trials should be undertaken to understand the cross-sector potential of an advanced digital infrastructure", seems to be critically relevant for Fenland, Huntingdonshire and Peterborough.

RECOMMENDATIONS	
For public sector	**For private sector**
Deliver a step-change in technology infrastructure ambitions with aspirational targets of 1Gb/s broadband speeds across the region by 2022. Put in place internal processes that will support the private sector in turning Cambridgeshire & Peterborough into a world-class smart region at pace. • Aspirational target Gb/s broadband speeds and 4G on all transport routes, business sites and dwellings by 2022. • Make next generation digital infrastructure an absolute requirement for all future transport, housing and commercial development projects • Review the efficiency of the structure, processes and regulations of local Government that affect the roll-out of full fibre infrastructure, mobile connectivity and smart city technology with a purpose to make public places more digitally immersive and accessible for citizens, visitors and businesses. • Combined Authority to continue to work with Connecting Cambridgeshire to explore how the Smart Cities programme is best extended out to and integrated across Market Towns • Provide the physical space and institutional goodwill for intelligent city technology innovation projects, making it as simple as possible for the private sector to trial new products and services. This strategy should prioritise the sourcing of technology from local firms and adopt an "Open Innovation" ecosystem approach e.g. citizen engagement, democratising data.	**Inspire demand for advanced technology infrastructure by bringing citizen and business communities together and raising awareness of next-generation infrastructure capabilities through networking and workshops. Campaign for faster and more ambitious roll-out.** • Grow the Digital Champion scheme to generate knowledge of and demand for Gb/s broadband schemes. • Work with local and national Government to deploy localised 5G testbeds and "Open Innovation Zones" that accelerate the development and adoption of new products, services and applications

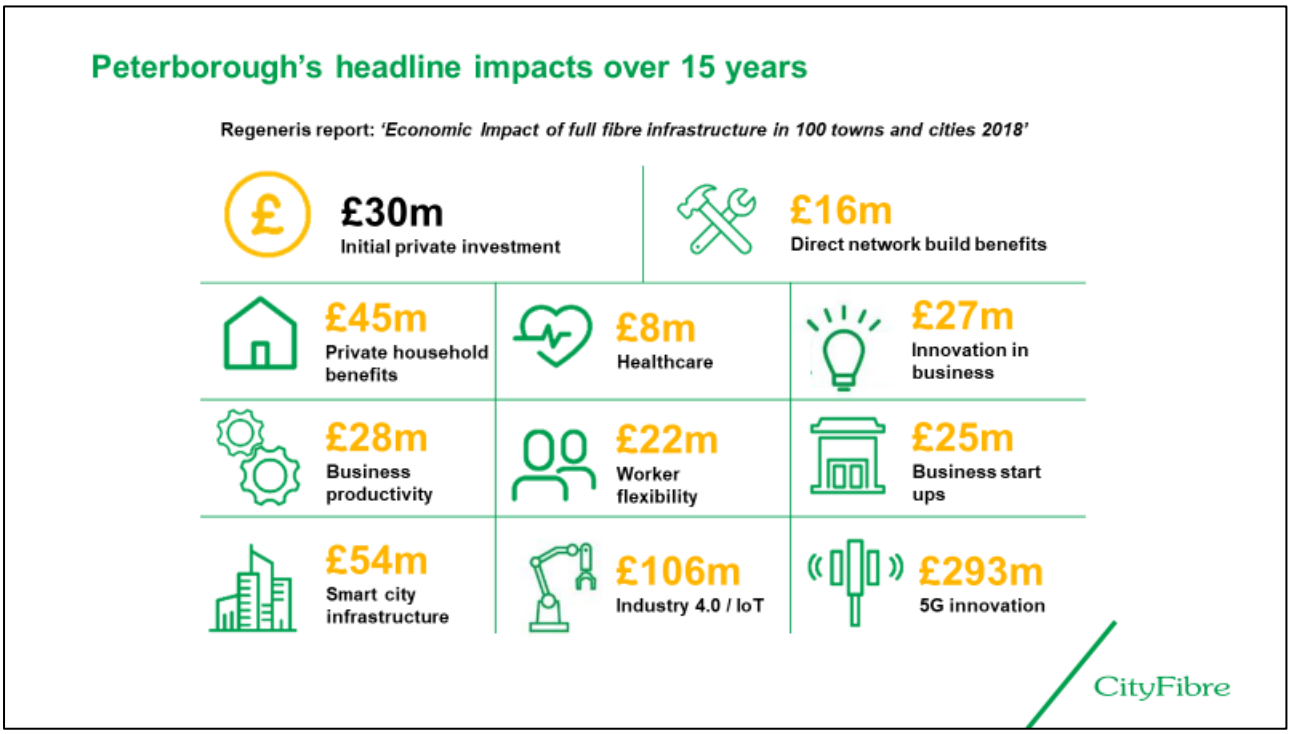
BACKGROUND ON TECHNOLOGY INFRASTRUCTURE IN CAMBRIDGESHIRE & PETERBOROUGH

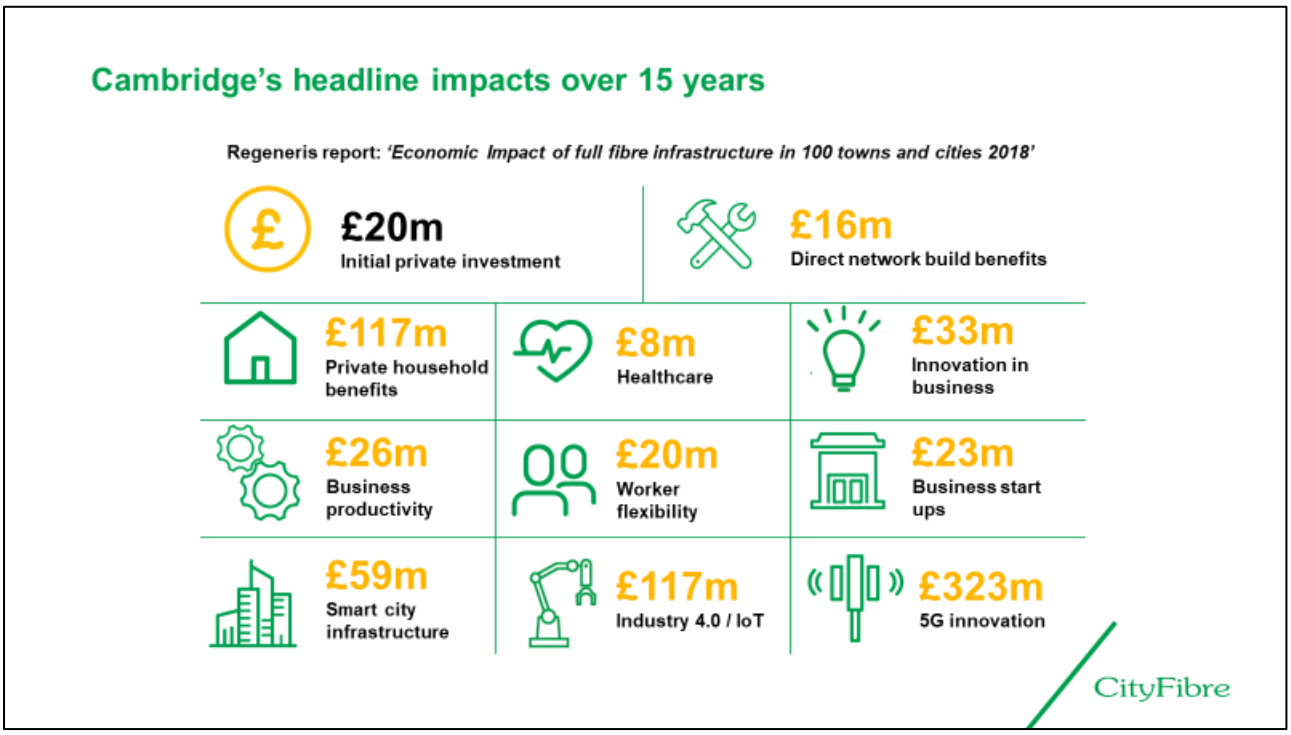
Today, digital infrastructures, and their interconnections, form the absolute foundations of the digital economy. A region that seeks to expand the productivity of its technology sector, such as Cambridgeshire and Peterborough, needs cutting-edge digital infrastructures to support and sustain that growth. Internet access is now widely seen as the fourth essential utility. It underpins our economic and social lives. It means that digital businesses can set-up and collaborate in an increasingly data-driven world, and users and citizens can enjoy a high quality of work and of life. Mobile internet connectivity enables commuters to work and communicate with stakeholders while

on the move, it enables businesses to transfer the large volumes of data rapidly and, possibly, securely, and it enables a wide range of newly emerging working patterns that, while posing some key questions on the nature of working relations, are also surely delivering valuable repercussions across wellbeing, leisure and health.

Next generation digital infrastructures are formed over fibre networks rather than legacy copper networks and through 5G fixed wireless access. In the Future Telecommunications Infrastructure Review, the Government outlined targets for half the country to have full fibre connectivity (which will deliver GB/s rather than MB/s speed) by 2025 and full access to it nationwide by 2033. There are mechanisms in place to support this roll-out, including the Government's £67M Gigabit Broadband Voucher scheme, announced in March 2018, which supports businesses and business parks to access the new gigabit fibre networks.

The 2018 report by Regeneris Consulting for CityFibre on The Economic Impact of Full Fibre Infrastructure in 100 UK Towns and Cities explores ten impact areas where full fibre can add to GVA and employment, including productivity improvements, innovation, flexible working and new business start-ups. The two graphics below detail the potential benefits of full fibre to Peterborough and Greater Cambridge over fifteen years based on information from that report. This includes £726M in total estimated benefits to Greater Cambridge and £608M in Peterborough.





There are already programmes ongoing in Cambridgeshire and Peterborough to improve mobile and broadband services including the Connecting Cambridgeshire and the CityFibre GigaBit City deals, Virgin rolling out fibre to thousands of homes in Chatteris and March, and Hyperoptic and CNF announcing plans for Greater Cambridge. This is good progress. As a result of the Connecting Cambridgeshire programme, for example, the county's superfast broadband coverage has gone from less than 60% in 2010 to over 96% by January 2018.

Ofcom's December 2017 Connected Nations report confirms that the two cities of Greater Cambridge and Peterborough are well served in terms of digital infrastructure, and generally have coverage above the England average. However, indoor and in-car coverage for 4G mobile voice and data services for all other areas of the county is below the England average. At 8%, full fibre (FTTP) coverage across Cambridgeshire and Peterborough is marginally above the national average for England but still low, particularly compared to other regions in Europe and well below, for example, South Korea.

For a region that is seeking to compete on a global stage and attract significant volumes of inward investment, this must be improved. In 2019/20, the Combined Authority is set to invest £2.1m on improving digital connectivity, working through Connecting Cambridgeshire. Priority planned investments include £1m to improve mobile coverage, £500,000 for full fibre, £200,000 to develop a 5G network, and £100,000 on public access Wi-Fi. This work will be aligned with the strategy for the economic development of market towns[18].

[18] Combined Authority Business Plan 2019-20

We recommend the entire region holds aspirational targets of 1GB/s or higher broadband speeds across the area by 2022 as well as 4G connectivity on all transport routes, residential areas and business parks. In order to achieve this ambitious target, we would encourage a review of the structure, processes and regulations of local Government that will enable and encourage the private sector to roll out the necessary digital infrastructure.

We understand that private companies are unlikely to prioritise investment in full fibre infrastructure in areas that may not offer promising financial returns. To address this challenge, a region-wide programme of **demand generation** for digital infrastructure must be pursued, building on the example provided by the local community Digital Champions, who have been encouraged and convened by Connecting Cambridgeshire to stimulate the Superfast Broadband roll out, and also the St Neots Smart Places Initiative who organised a three-day Future Takeover event for 193 local residents and businesspeople that explored the role technology can play in creating a 'smart' market town. The aims of such a demand generation programme would be threefold:

- inspiration: creatively unlocking the realisation of what enhanced connectivity could mean for businesses and citizens
- consultation: understanding the unique requirements of the local eco-system.
- education: raising awareness of the benefits of GB/s internet speeds and digitalisation in general

The UK Government committed £200m in the 2016 Autumn Budget to develop the country's 5G infrastructure[19]. This includes the funding or test networks, and sector-specific trials, an Urban Connected Community programme in the West Midlands, and other programmes yet to be rolled out. Integral to DCMS' rollout plans is the national UK5G Innovation Network, headed by local membership firm Cambridge Wireless.

Cambridgeshire and Peterborough should leverage this national Government ambition and the strengths it has in the region to deploy an early 5G testbed & trials. Such a testbed would need to work with multiple businesses to maximise the impact of the new technology and generate a long term economic benefit for the area. It would involve providing the network infrastructure, but also enabling businesses to trial 5G devices and services on this network. Such a testbed would require the public sector to generate physical space as well as institutional goodwill for intelligent city technology innovation projects, making it as simple as possible for the private sector to trial, interact and learn to use, new products and services through the adoption of "Open Innovation" principles.

[19]5G mobile networks may deliver £173bn in UK GDP growth between 2020 and 2030 according to FCCG (2017). 'UK Strategy and Plan for 5G & Digitisation –Driving Economic Growth and Productivity'. FCCG estimates are based on global contribution of 5G from GSMA (2017). 'The Mobile Economy' and the net benefit of investment in 5G in the UK.

The UK5G Innovation Network and DCMS' Phase 1 Trials

Set up to accelerate the adoption of 5G in the UK, UK5G facilitates communication and cooperation between organisations involved in the rollout of 5G infrastructure and services. It works hand in hand with the six phase 1 trials funded by the Department for Culture, Media and Sport. These trials offer influential insights into what cities and rural areas might achieve through 5G testbeds. For example the manufacturing testbed operated by the Worcestershire 5G Consortium is set to demonstrate 1% productivity improvements through the use of 5G technology. The Smart Tourism testbed in the West of England is engaging citizens in public spaces through augmented reality applications. And the 5GRIT testbed is utilising 5G-enabled high definition video feed from drones to examine farmland and identify irregularities in real-time.

The goal for the Combined Authority area should be that visiting potential investors come away with a genuine realisation that we are world-leading smart region. To strengthen and support this aim, the Combined Authority should continue to invest in increasing the "smartness" of the region, preferably by working alongside exemplar local companies[20].

The CPCA have reserved over £5m of capital expenditure over the next three years for Digital Infrastructure. With this budget, the Combined Authority has the potential to increase the quality of life for its inhabitants, make it an increasingly attractive area for potential investors and provide local technology entrepreneurs with a critically larger customer-based demand, necessary, when aggregated, to create initial critical mass and to support early stage growth.

Organisations such as Future Peterborough – which brought that city to success in the 2015 Smart City of the Year Award – and Connecting Cambridgeshire with the Smart Cambridge and Smart Places initiatives are all working in this field, and it is important to note that individual market towns are also currently generating their own digital infrastructure plans.

We recommend for these individual plans to communicate, interconnect and collaborate to make deployment more efficient, supported by an overarching strategy and a single barrier-busting body whose remit is to accelerate the development of Cambridgeshire & Peterborough as a smart region through the sharing of best practice and strategic engagement with infrastructure providers and Operators.

A key requirement here is that that for all private or public initiatives involving transport, housing or commercial development, ambitious and complementary digital infrastructure provision should now become an absolute planning necessity before permission to proceed is given.

This need for a collaborative, networked approach, highlights the significant challenge to the effective deployment of next generation digital infrastructure across the entire Combined Authority area: simply the number of different policy authorities and government bodies involved. The ownership of networks of assets is complex across the landscape and there are many historical examples of fragmented management one should learn from.

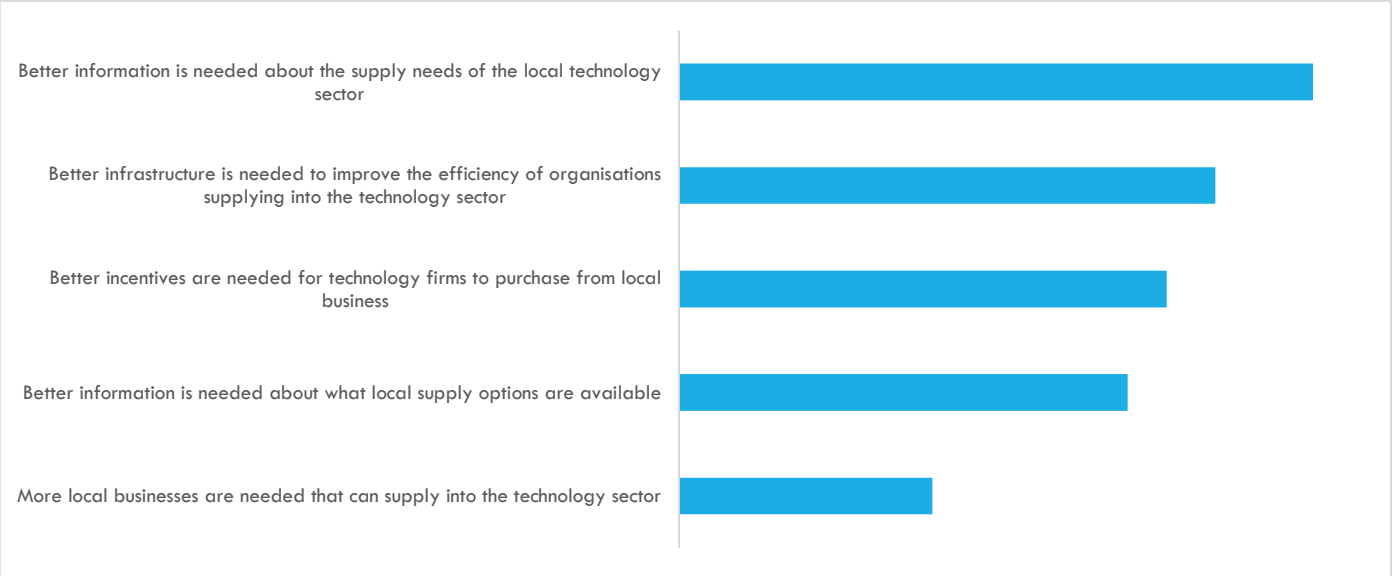
[20] A great example of this is Urban Data Project between Telensa, Microsoft and the Smart Cambridge team. https://www.telensa.com/news/telensa-announces-the-urban-data-project-with-cambridge-as-launch-partner-city

For example: lampposts are an asset that can be central to the deployment of smart solutions while being finely distributed across the territory, providing an extended network penetrating most of the corners of present urban landscapes. They might be owned by one of a number of local councils or by a long-term PFI contract; such fragmentation makes it difficult for a scheme that aims regionally and requires input from numerous external stakeholders to be effective. Different approaches can instead be followed as piloted, for example, by GovTechnology, the Singapore government agency in charge of a “Lamppost-as-a-Platform” pilot project, that is tendering business for ideas and solutions on using this platform.

SUPPLY CHAIN

VISION

The Digital Sector Strategy's vision is that the CPCA region becomes a region where more local firms complement the supply and demand needs of the local technology community. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Better information is needed about the supply needs of the local technology sector	3.95
Better infrastructure is needed to improve the efficiency of organisations supplying into the technology sector	3.85
Better incentives are needed for technology firms to purchase from local business	3.80
Better information is needed about what local supply options are available	3.76
More local businesses are needed that can supply into the technology sector	3.56

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA See Annex 1	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA See Annex 2
Companies go where they find the best value for meeting their needs (IND). This region is internationally connected (UK, EXP) and buying services from anywhere from the world (EXP) does not seem to be an issue. However, 'more' of connecting (NET) the both sides would be win-win. There should be more transparent knowledge sharing (KNO) of buyer needs. Also, improved access to suppliers to both public and private procurement (IND) would open opportunities for local companies (IND) to offer their products and services.	Peterborough, Fenland and Huntingdonshire set as key priorities "Better information is needed about what local supply options are available", and "Better information is needed about the supply needs of the technology sector" This identifies the need for bridging an information gap in these districts concerning local and technology sectors' supply chains. Greater Cambridge identifies the need to respond to an infrastructural need, captured in the priority: "Better

	infrastructure is needed to improve the efficiency of organisations supplying into the technology sector" Meanwhile operational improvements were considered of key relevance by Peterborough and Fenland, emphasizing the two statements "Better incentives are needed for technology firms to purchase from local businesses" and "More local businesses are needed that can supply into the technology sector".

RECOMMENDATIONS	
For public sector	**For private sector**
Sponsor a researched programme of networking activities that helps the region to increase understanding of the value chains of digital businesses and to help remediate potential gaps and bottlenecks in the local supply market.	**Provide more opportunities for digital businesses to meet local suppliers, and vice versa, through targeted face to face networking opportunities and intra-regional programmes.**

BACKGROUND ON SUPPLY CHAIN IN CAMBRIDGESHIRE & PETERBOROUGH

A well-advertised, open, accessible and utilised local supply chain is needed for high-value technology clusters to provide both direct benefit and indirect spillovers and externalities to the rest of Cambridgeshire and Peterborough[21]. The supply chain is key for the transfer of knowledge and ideas. It is not a simple linear process, but essentially a *networked* one, where parts of a product or of a service, can be reassembled and reconfigured, multiple times, and where the same actors can play different roles, as suppliers, customers or collaborators, especially for supply chains delivering the production of digital goods[22]. It is important to realise that such networked interactions, jointly forming the supply chains, are mutually beneficial to all parties.

"Ten years ago a report* identified that the East of England was highly successful at innovation yet lagging internationally in terms of economic output. **One of the key differences with comparable international regions was the lack of supply chains.** Since then, Cambridge and the wider region has had an influx of global corporations. Like the Eindhoven region 10 years ago, we need to develop a "create & make" policy, where start-ups can increase their success rate and grow into medium-size organisations by leveraging the presence of large companies and utilize their access to global markets."

Henk Koopmans, CEO Huawei R&D UK

*The Innovation performance of the East of England, EEDA March 2009.

CBR research from 2018 suggests that 10.8% of the value of supplies for local Cambridgeshire & Peterborough businesses across all sectors came from their local area (defined as being within thirty miles), whereas 27.8% came from overseas. This represents a missed opportunity that this strategy

[21] Giovannetti, E. and Piga, C. (2017) "The Contrasting Effects of Active and Passive Cooperation on Innovation and Productivity: Evidence from British Local Innovation Networks", International *Journal of Production Economics,* Volume 187, May 2017, Pages 102–112

[22] D'Ignazio A. and Giovannetti E. (2014) "Continental Differences in the Clusters of Integration: Empirical Evidence from the Digital Commodities Global Supply Chain Networks" *International Journal of Production Economics*, Volume 147-B, pp 486–497

recommends is addressed. However, analysing the nature and details of the supply chain of the technology industry in Cambridgeshire and Peterborough is a lengthy and data intensive task, and not one possible within the constraints of this strategy. We recommend that this is done by CPCA as a further research project.

As mentioned in the introduction, this strategy does not seek to interfere unnecessarily in the workings of the market. However, in the domain of Supply Chains two key features have been identified by the Commission and by respondents in the Business Survey which indicate the presence of a market failure, and could therefore benefit from support from Government and the business community.

1. Lack of information on suppliers in the region
2. Lack of information on the buying practices of local digital firms

These problems and barriers are not surprising as companies trading along complex supply chains are mainly doing bilateral trading, often based on relationships, not through anonymous competitive market places. Such bilateral trading takes place all along complex supply chains that involve high technology digital goods, be it a service or a commodity.

Moreover, the reality of facing just one supplier, or one customer, rather than a multitude of competing ones, may place this supplier, or customer, in a strong bargaining position, making it *unavoidable*. Such *unavoidability*, in a complex digital supply chain, can be compared to the role of an airport with no competing airports in a radius of 100 miles. When these effects, also known as market *dominance,* arise, economic theory tells us that regulators should carefully scrutinise for the possibility of their abuse, where such *dominant* positions are used to prevent new entry or to extract excessive rents.

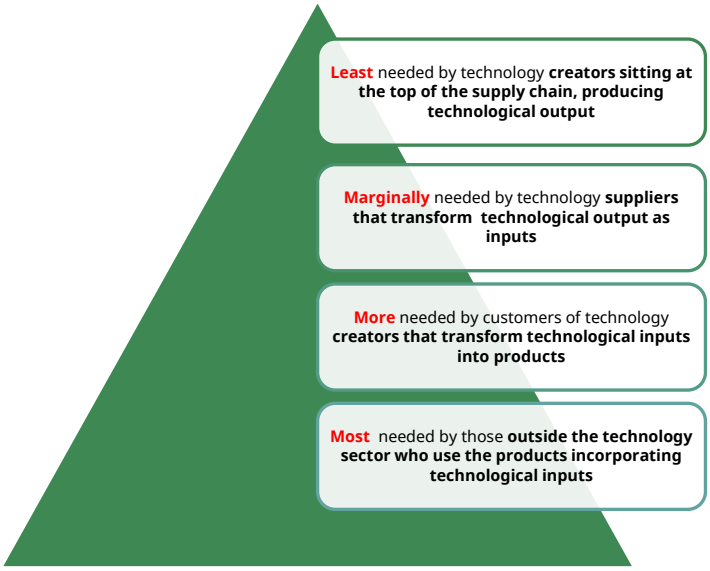
While the emergence of online platforms have initially reduced these risks, as they provide a larger set of exchange opportunities along the supply chains, when growing and becoming more successful, they also pose additional risks of *monopolisation* due to the high barriers to entry. Such barriers, potentially blocking new entrants, innovators and entrepreneurs, become steeper due to clear mechanisms, where *success bring more success*, as the number of customers on one side of an online platform enjoy higher benefits when there are more potential suppliers, on the other side of the platform. This happens, for example, when advertisers prefer to invest on social media platforms that allow them to reach more customers, hence providing these platforms, with more resources to expand and attract even more customers, leading, eventually, to a self-reinforcing process possibly, leading to the possible capture, and dominance, of the entire online market. [23].

Connecting local supply with demand, across digital platforms and face to face, is the key to unlocking this failure. There may well be companies already operating within the Cambridgeshire

[23] Rochet, J-C. and J. Tirole (2003), "Platform Competition in Two-Sided Markets", *Journal of the European Economic Association*, 1, 990–1029

and Peterborough area that could be better utilised by local technology firms. Carefully curated networking events for customers to meet suppliers will generate new opportunities and stimulate regional growth. Building connections between the region's districts will be key to ensuring that the supply pool is as broad as possible. **We feel there is an opportunity for the Combined Authority, working with local technology organisations, to support intra-regional "Trade Missions" that build connections between firms and establish new relationships.**

An additional relevant insight emerging from the quantitative analysis of the Digital Sector Strategy Business Survey shows that access to supply chain relevant information is perceived differently depending on where in the supply chain you sit. Technology creators feel the need for information less, while those outside the technology sector feel the need more. These supply chains roles can then be mapped into the district differences, discussed above, to obtain a clearer picture of the geographic distributions of respondent companies supply chain needs and roles.



The pyramid of information needs along the digital supply chain

The Digital Sector Strategy Business Survey suggests that for digital businesses, quality over cost or provenance is the most important factor; it also reinforces the fact that many digital businesses have an international perspective on sourcing. Therefore, to develop a healthy local supply chain for the technology community, these businesses need to be globally competitive, which means the local suppliers need visibility on what digital firms are currently buying, from whom and at what quality and price. In a functioning market, this knowledge will enable firms hoping to establish in the area to position themselves appropriately for success.

HIGH IMPACT NETWORKING

VISION

The Digital Sector Strategy's vision is that the entire region becomes a highly networked environment where organisations help bring the communities together and support them as they make the right connections. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:

	Importance perception score (/5)
More inter-sector networking opportunities need to be available	4.33
High quality business networking opportunities need to be more available across the entire region	4.20
Different formats of networking need to be deployed	4.11
More networking opportunities between CPCA and other districts need to be available	4.11

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA
See Annex 1	**See Annex 2**
Networking is happening within industry subsectors (IND), as well as across disciplines (UK). There should be more emphasis on attracting businesses (IND) and individuals (TAL) outside of the region to attend the events which often have the same local people attending (UK). Showcase the industry cluster (IND) and share knowledge (KNO) at events by high net worth individuals from successful businesses (IND). Different parts of the region have different needs for networking. An ecosystem is joined up collaborative network. Access to venues should be easy and the region would do better with more medium sized venues. Special topic events (IND) will survive if there is enough demand for them.	Networking has barriers that needs to be overcome in Fenland and Huntingdonshire Fenland identifies two priorities as critically relevant: • "High quality business networking opportunities need to be more available across the entire region", and • "More inter-sector networking opportunities need to be available (e.g. "agriculture meets sensors")" This last priority is also seen as critically important for Huntingdonshire.

RECOMMENDATIONS	
For public sector	**For private sector**
Ensure appropriate physical space, connections and channels are available for businesses to network by transforming underutilised public infrastructure into co-working spaces or learning zones and supporting landlords in installing co-working spaces in high street spaces. • Transform available or underutilised libraries/public spaces into co-working spaces or learning zones. • Using public sector asset redevelopment projects as an opportunity to create co-working spaces or learning zones, and by inviting landlords and developers to come forward with proposals to create commercial space that specifically supports flexible co-working and networking space • Pump prime underserviced networking areas of high potential to enable the delivery of high quality events that attract the desired delegates. Areas in need are inter-sector networking activities, intra-regional networking activities (see Supply Chain: Trade Missions).	**Established networking firms to deliver high quality events across the region while collaborating to build a comprehensive ecosystem of business development and knowledge transfer.** • Focus on areas of higher population density – for example Huntingdon and Peterborough – and patience will be needed to get it off the ground (ref. Alconbury). Work with Market Towns strategies to put in place community networking events where people live, with themes and content of universal appeal. • We support the CPIER recommendation for the creation of a regional Fellows Network to strengthen networks across the area and identify opportunities. In particular these Fellows Networks could bring together entrepreneurs in local support groups.

BACKGROUND ON NETWORKING IN CAMBRIDGESHIRE & PETERBOROUGH

"Networking represents the lifeblood of any ecosystem, helping to bind together all its constituent parts to allow information and knowledge to move quickly between each of the individuals. Greater connectivity and transparency not only helps to highlight and eject bad actors from the system, but also creates partnerships and value that otherwise simply would not happen"

Jon Bradford, The Bradfield Centre

The Greater Cambridge cluster's business networking culture is a unique phenomenon and one to which the innovation of the area, which boasts the highest number of patents per head of anywhere in the UK, owes a considerable debt. The transfer of knowledge and development of opportune business relationships through "chance" encounters at events are a hallmark of this region's success. It has been revealing that throughout the development of this Digital Sector Strategy "High Impact Networking" has emerged as the fundamental area for region-wide development. Bringing people together to share ideas and expertise is needed to stimulate demand for new digital infrastructure, to raise awareness among entrepreneurs of the investment models available to them, to accelerate the adoption of new technologies by industry, to develop relationships and partnerships overseas, and more. Only when a regular, high quality platform exists for businesses to meet new investors, partners, suppliers or employees will productivity really start to accelerate.

What is particularly special about the networking culture is that it is almost entirely privately funded. The business community contributes to its ongoing development through, not only fees and sponsorship, but also through very substantial commitment of time. The model is highly participative and 'bottom-up'. However, while this culture of high impact networking thrives in Greater

Cambridge and stimulates its local economy, it is far less prevalent in other districts of Cambridgeshire & Peterborough.

At present there are around 60 dedicated networking organisations in the Greater Cambridge area with prominent players listed in this table.

Networks	Focus Areas	Approx number of company members
Cambridge Network	General Business	1000+
CW (Cambridge Wireless)	Technology	400+
Cambridge Cleantech	Energy & environmental technology	391
One Nucleus	Life Sciences	470
Agri-Tech East	Agricultural technology	149
Digital People in Peterborough	Technology	Open to all
Opportunity Peterborough Bondholder Network	Business	200

They offer formal opportunities for high quality networking in general business areas, technology, energy efficiency, health-technology, agri-technology. These networking organisations work alongside organic, community-driven networking opportunities highlighted successfully in Tech Nation 2018 through Meet-Up data. The most popular Meet-Ups include Makespace Cambridge (2,246 attendees), Cambridge IoT (1,210) and Data Insights Cambridge (1,074). It has a larger Meet-Up scene than London when analysed proportionally to the number of tech workers.

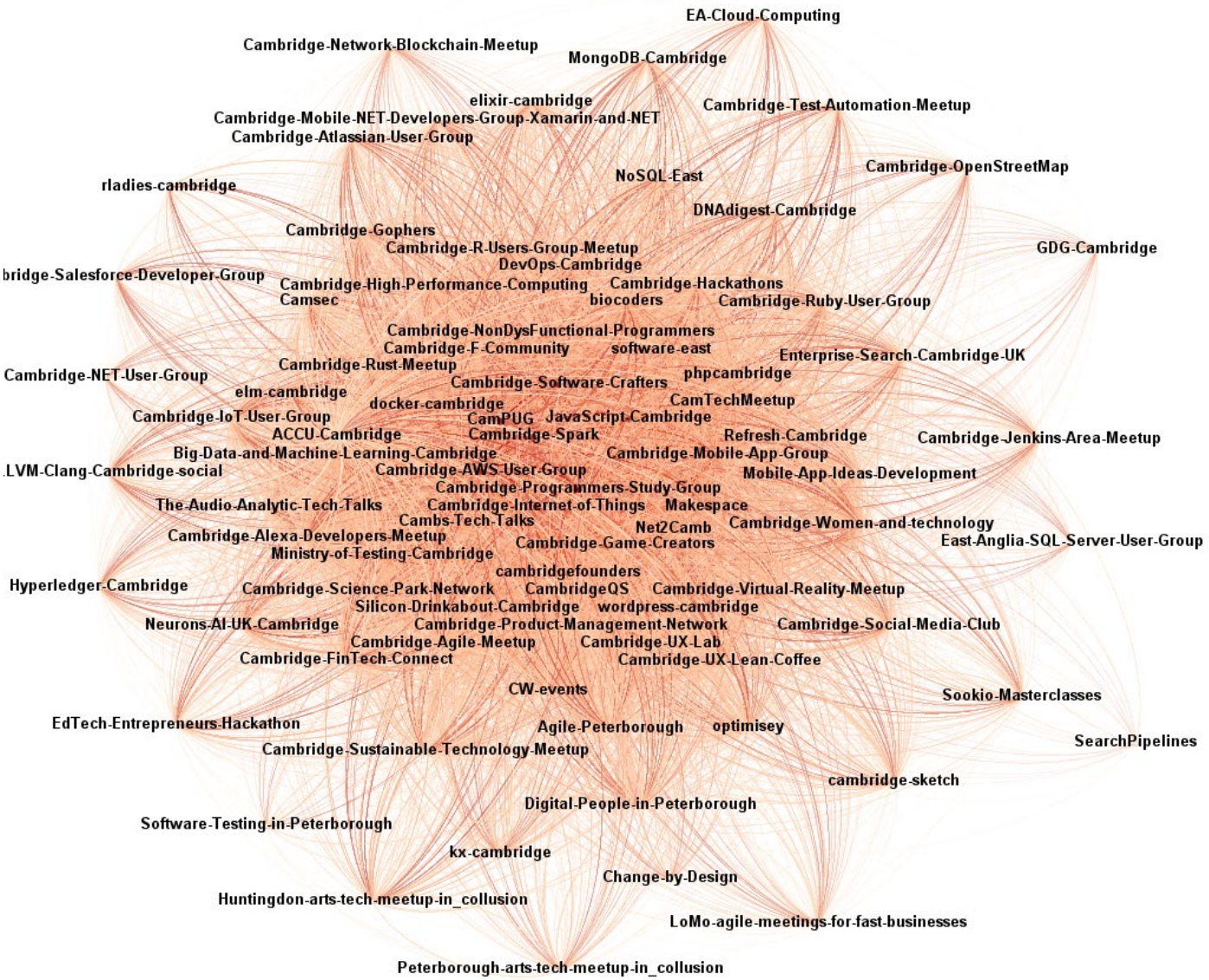
Geographically, the majority of networking opportunities, other than the traditional Chambers of Commerce activities, take place in the area around Greater Cambridge. It is necessary to offer relevant business networking opportunities in Peterborough, Huntingdon and the surrounding market towns to accelerate growth in these areas – especially as transport infrastructure around Greater Cambridge can render the accessibility of networking opportunities frustrating. CPIER recommends the establishment of a networking Fellows programme to support and advise on the development of effective, localised networking opportunities. This Strategy supports that recommendation, understanding that while growth needs to be stimulated it needs to be done in a manner that suits, while interconnecting, the local communities.

However what needs to be added is a focus on constructing bridges across localised networks, so that a larger Authority-wide "network of localised networks" can be formed. The Business Survey expresses the perception that, in Greater Cambridge in particular, there is little need for more networks to set-up. Rather, the local community need to be encouraged to participate in initiatives already in existence and those networking groups should collaborate with each other to stimulate inter-network opportunities.

Furthermore, there are gaps in the networking landscape where this "network of networks" can collaborate to deliver new events that fill as-yet unmet demand. One example of this would be more sessions that unite the technology sector with regionally important vertical markets such as manufacturing, logistics and agriculture. Another example would be delivering impactful networking activities in districts that have, to date, been under-served by networking firms. In such instances, existing organisations will need to be financially supported by the Combined Authority to pump prime this new culture of networking before attendance increases, sponsorship is found and the private sector can make it viable. Strengthening existing networks and encouraging collaboration,

rather than increasing fragmentation will serve to increase the quality of the networking opportunities available.

The Strategy team analysed the relationships between the Meet-Up networks in Cambridgeshire and Peterborough. The results, visualised in the image below, demonstrate how individuals participate in multiple networking activities. However, it also demonstrates clear outlier networks, such as Software Testing in Peterborough, that could be more tightly included into a wider ecosystem. When analysed alongside the offering of networking firms, gaps emerge such as the running of IoT related events in the area around Peterborough to connect technology firms with potential collaborators and customers in the manufacturing and logistics sector.



Connection map showing member-based links between meet-ups in the CPCA Area. If a member of one meet-up is also a member of another meet-up, a "bridge" is formed and mapped. Meet-ups with the most bridges are towards the centre.

Given the transport challenges of the region, the advancements made in recent years in remote communications and the popularity of online networking platforms, it is possible for businesses in Cambridgeshire & Peterborough to consider out-of-the-box ideas for addressing the geographic and transport challenges of networking. Video conferencing, webinars, online forums and digital communications tools can also support the educational element of networking and, to some extent, the connection-forming factor. However, we recognise the fact that open and trusting business relationships are founded on face to face contact, and that the "chance encounter" which is a hallmark of Greater Cambridge networking is much harder to replicate online.

Rebranding networking: the smart-working philosophy

Networking is powerful driver, but the word itself does not do the concept justice. "Purposeful networking" or "Smartworking" may be better. Smartworking is based on the idea that a start-up or established technology company should not only spend time in their lab developing their product, they need to get out and see the forest through the trees. For many entrepreneurs and developers, this requires a planned and sustained investment of valuable resources (both time and money) in meeting new people from different fields – and this at a time when there is a lot of pressure to not to spend time on anything other than the task(s) in hand! The people who tend to stay in are those who feel they don't get any added value from meeting people face-to-face, and that knowledge is found mainly in papers or on a website.

Networking provision needs to be made available and attractive to the next generation of technology professionals. There is a concern as to whether future engineers are able or willing to participate in the kind of networking previous generations have embraced, partially as a result of their experience of social media networks. Expectations are different, lengthy meetings during the working day often need to be replaced by short breakfast or early evening events, with highly participative groups, and an informal social feel.

Inter-organisational networking for junior engineers should be seen as central a part of the culture of a business as much as it is for senior commercial professionals. There is social strength in cohorts – the bonds that unite peers thrown into a new situation together – and this can be used by networking firms, acceleration programmes and incubators to unite junior professionals who are new to the region and form additional social capital between organisations.

High quality networking also relies on appropriate physical space being available. Not only is affordable space needed for community organisations to host events, but co-working spaces are required that inspire regular and informal conversation between businesses. The Bradfield Centre is a prime example of a building that has been constructed with networking at its heart.

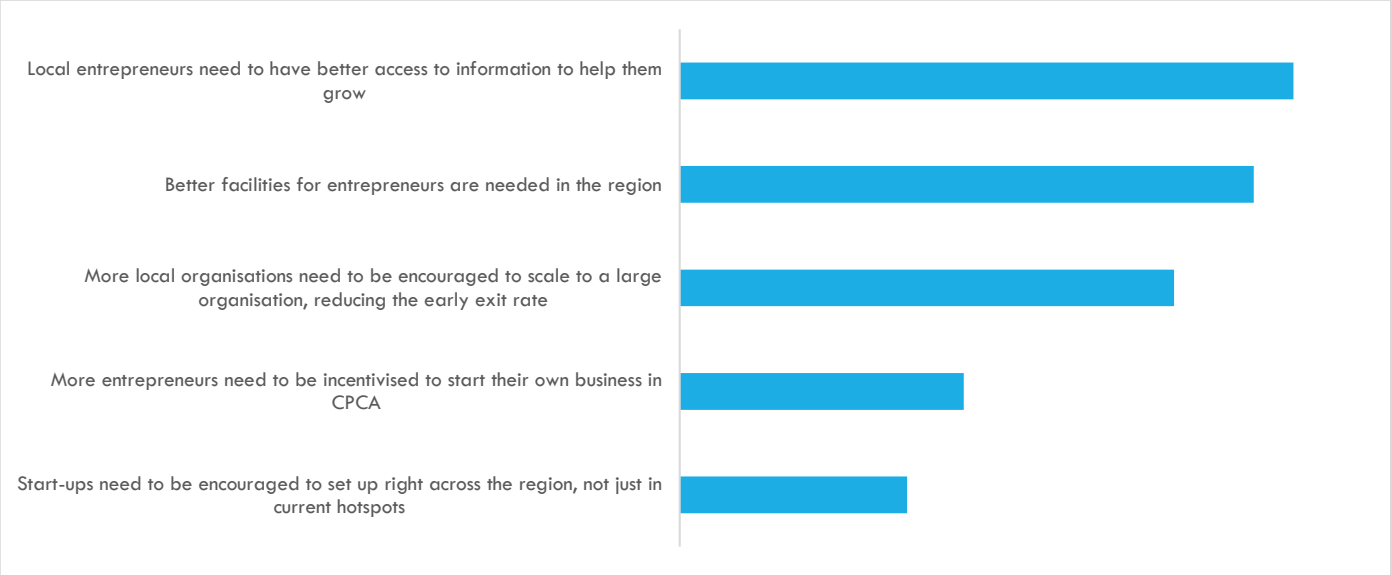
An international example of where this has happened to great success in another context is the Helsinki Central Library Oodi. This newly designed 185,677sqft space incorporates co-working, event venues and traditional libraries under one roof. It anticipates about 2.5 million users annually. Similar spaces need to be available in other urban areas of the region and the market towns, not only to provide affordable office space to start-ups but also to ease the process of organising networking opportunities.

Currently underutilised public spaces such as libraries could be remodelled to fulfil the co-working and networking requirements of high-growth businesses. Such a need for accessible space could also correlate with the Healthy High Street programmes that seek to re-purpose the centres of town given the decline in the physical retail market. Educating and incentivising landlords to tolerate the different income streams of co-working spaces would be the first step to making this happen.

ENTREPRENEURSHIP

VISION

The Digital Sector Strategy's vision is to have more entrepreneurial technology businesses in the region that scale up to larger enterprises and that stay in the region. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/5)
Local entrepreneurs need to have better access to information to help them grow	4.28
Better facilities for entrepreneurs are needed in the region	4.21
More local organisations need to be encouraged to scale to a large organisation, reducing the early exit rate	4.07
More entrepreneurs need to be incentivised to start their own business in CPCA	3.70
Start-ups need to be encouraged to set up right across the region, not just in current hotspots	3.60

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA See Annex 1	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA See Annex 2
Startups should be supported at different stages of their journey by mitigating some of the risks they take, easier access to funding (INV) and knowledge sharing (KNO). There should be more advice about access to funding and local tax incentives. The region should attract more founders and co-founders and the whole region should be promoted to new startups. Startups need affordable working space where they can network and get access to infrastructure (DIG).	Stronger needs exist in both Fenland and Huntingdonshire indicating an asymmetric distribution of entrepreneurship hotspots. In detail, Fenland's answers prioritise • "Start-ups needs to be encouraged to set up right across the region, not just in current hotspots" and • "Better facilities for entrepreneurial success are needed in the region (e.g. affordable offices)" While Huntingdonshire's answers prioritise

	• "More entrepreneurs need to be incentivised to start their own business in CPCA" and • "Local entrepreneurs need to have better access to information to help them grow"

RECOMMENDATIONS	
For public sector	**For private sector**
Ensure the presence of high-quality, supportive spaces for start-ups to grow across the region, along with financial stimulus that encourages growth in desired areas, for example business establishment in non-Cambridge launchpads, or digital businesses focused on products/services for Manufacturing / Agriculture / Logistics. • Provide high quality, supportive co-working space or launchpads for start-ups, for example by reinventing libraries into skills zones or transforming high street spaces into co-working and networking spaces, and reconsidering business rates for such space use (see High Impact Networking and Talent & Skills). • Create a CPCA Digital Innovation Fund (similar to the Northern Powerhouse Investment Fund and as a subset of the planned CPCA Innovation/Accelerator growth investment fund), supported by the British Business Bank, for digital start-ups with a particular focus on convergence activities and establishment in hubs outside Cambridge city. • Continue co-funding in accelerator, launchpads and incubator programs run by universities, charities, private organisations, and companies.	**Established networking firms and universities to deliver knowledge sharing programmes that match different stages of start-ups, from birth to scale-up, along with networking and mentoring opportunities throughout the region.** • Tailored capability programmes on culture, building a board, building teams, marketing, developing an international strategy, and support in finding the first customer. • Tailored programme for target high growth firms. • Establish entrepreneur mentoring programmes, led by local start-up Fellows. • Provide these education opportunities at a local level.

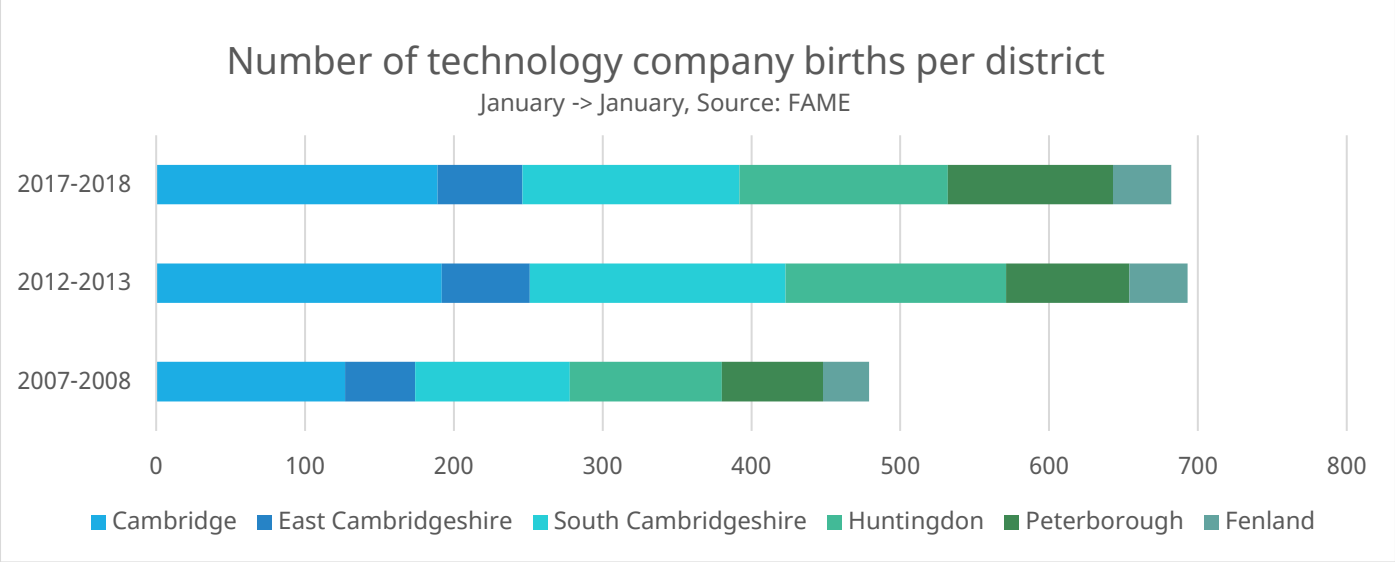
High levels of successful enterprise births and their temporal up-scaling, jointly, form the key determinants of high productivity for a region. They not only promise job creation, but attract inward investment, talent, co-founders and new ideas. Accelerator programs have had an important effect in increasing the valuation of the start-up companies which are often funded by ERDF (European Regional Development Fund) projects[24].

A sectoral analysis of technology start-ups in the region in 2017 using the fame database shows that the most common subsector for firms to start in is "Computer Consultancy" (144 start-ups), followed by "Business and Domestic Software Development (84 start-ups) and "Research and experimental development on biotechnology" (43 start-ups).

A geographical analysis of technology start-ups using the same source shows that within Cambridgeshire & Peterborough, Peterborough is the only region with more technology businesses starting up in 2017 than in 2012, South Cambridgeshire boasts the most growth in any one period with 70% more technology businesses being founded in 2012 than in 2007 and Fenland holds the fewest technology business start-ups of all areas. The geographical discrepancies in technology entrepreneurship are clear, and the Business Survey shows that there is a wish in the districts where

24 Accelerating the UK, Beauhurst

start-ups are less prevalent (Fenland, Huntingdonshire, Peterborough) to have more businesses encouraged to start in these areas, and for there to be local facilities to support this.



The *pulling* effect of Greater Cambridge's agglomeration cannot be denied, nor can the fact that physical proximity greatly improves networking and collaboration effectiveness. However, Greater Cambridge and South Cambridgeshire are not the only areas where start-ups can benefit from proximity effects. There is an opportunity to co-locate technology start-ups closer to similar organisations and their customer base by, for example, in establishing an agri-technology sandbox in Fenland.

Such physical proximity will also ease the process of knowledge transfer and accelerate the adoption of new technologies by industry. The Business Survey generated the insight that Fenland, Peterborough and Huntingdon place more importance in start-ups being encouraged to set up around the region than East Cambridgeshire, South Cambridgeshire and Greater Cambridge. To kickstart the process of encouraging technology start-ups to establish in vertical market-based hubs throughout the region, the Combined Authority may need to offer financial support. The creation of a CPCA Innovation Fund (similar to the Northern Powerhouse Investment Fund and as a subset of the planned CPCA Innovation/Accelerator growth investment fund) is recommended that will nurture digital start-ups with a particular focus on convergence activities in priority markets, and to help them establish in hubs outside of the City of Cambridge.

There is already provision for start-ups within Cambridgeshire and Peterborough in terms of networking, workspace, access to mentors, access to investors and opportunities to learn from experienced entrepreneurs (see table below for more details). However, this provision is Greater Cambridge and South Cambridgeshire focused, with only a few opportunities in Peterborough such as the Allia Future Business Centre and the University Centre Peterborough. The Business Survey generated the insight that Fenland in particular prioritises better facilities for entrepreneurs and Huntingdonshire believes that local entrepreneurs need to have better access to information.

Universities & research institutes	Investment firms	Incubators / Accelerators / Training Programmes	Competitions / Events
University of Cambridge	Cambridge Capital Group	IdeaSpace	PitchFest
Anglia Ruskin University	Cambridge Angels	Bradfield Centre	CW Discovering Start-Ups
Babraham Research Institute	CIC	Allia Future Business	Cambridge University Entrepreneurs
Wellcome Genome Campus	Cambridge Enterprise	Cambridge BioMedical Campus	Start-Up Science
University Centre, Peterborough	Amadeus Capital Partners	St John's Innovation Centre	Venturefest East
Medical Research Council	IQ Capital	Babraham Institute BioIncubator	
Leverhulme Institute	Delin	Barclay's Eagle Labs	
		CJBS Accelerate Cambridge	
		ARU REACTOR Gamification	

Despite the level of provision that is currently available in Greater Cambridge, the Business Survey suggested that the greatest priorities for accelerating entrepreneurship in the region are to provide better facilities and better access to information to help start-ups grow. Furthermore, as a respondent to the Business Survey succinctly puts it, for start-ups, "the best funding is a customer".

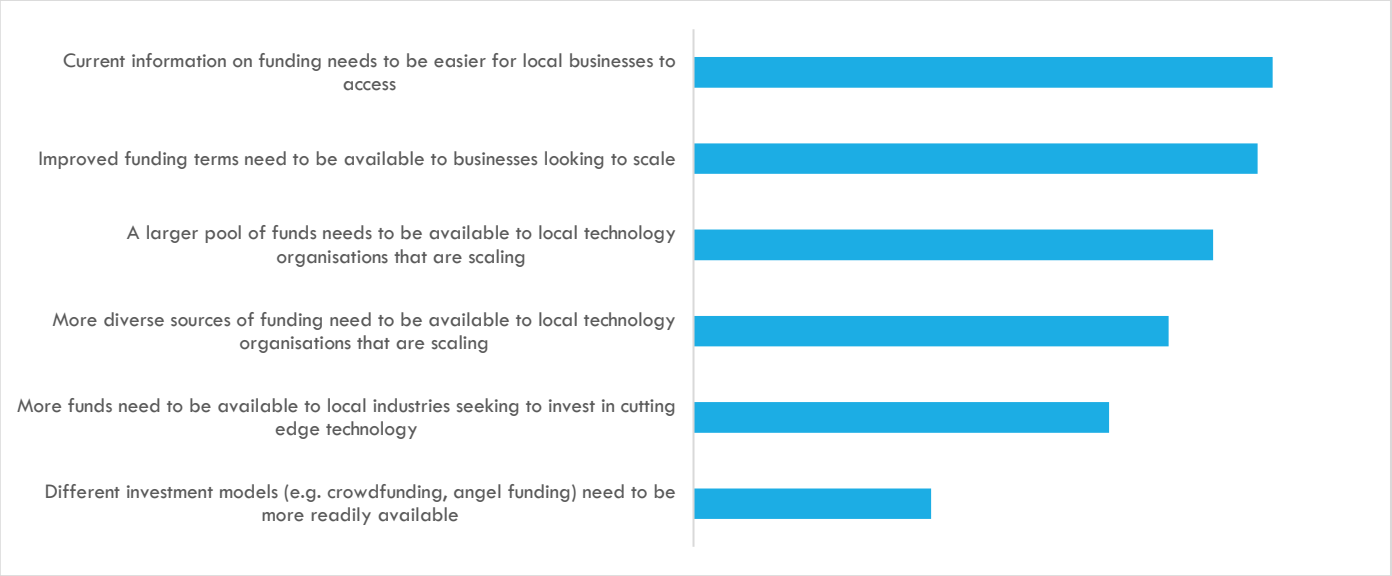
Basic market-oriented thinking would suggest that if a product or service is well positioned and well executed, the customers will come. However, it is worth noting that technology start-ups may struggle with having the skills and network to produce initial revenues. If there is a wish to encourage technology entrepreneurs to establish businesses across the region, provision of mentor programmes, investor access, education and networking events must be more readily available at a local level. The existing networking firms and higher education establishments are best placed to offer this service, with funding from the Combined Authority needed to reduce the risk of entering new markets. There is also an opportunity to establish more start-up co-working spaces in different areas of the region that solve the affordable office space, offering a "soft landing" for embryonic technology firms. One option for delivering on this is to transform underused public spaces such as libraries into effective start-up co-working or maker spaces.

The needs of scaleup business leaders remain clear and consistent. With ambition to grow and scale even further and faster, they want: talented workforces; opportunities to share and learn from successful peers; wider access to markets both at home and overseas; and access to growth finance that is 'patient' and 'smart'. Scale Up Institute Review, 2017

INVESTMENT AND FINANCE

VISION

The Digital Sector Strategy's vision is that the region has an abundance of strategic and patient financial resources to grow businesses. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Current information on funding needs to be easier for local businesses to access	4.19
Improved funding terms need to be available to businesses looking to scale	4.18
A larger pool of funds needs to be available to local technology organisations that are scaling	4.15
More diverse sources of funding need to be available to local technology organisations that are scaling	4.12
More funds need to be available to local industries seeking to invest in cutting edge technology	4.08
Different investment models (e.g. crowdfunding, angel funding) need to be more readily available	3.96

Insights from Qualitative analysis of survey data See Annex 1	Insights from Quantitative Analysis of survey data See Annex 2
There should be better access (NET) to different types of funding (national, international) which is connected to expertise (mentors, advisers) (TAL, KNO) in running and growing a business (IND). More advice and training are needed about different types of finance instruments, and tax breaks, especially for small companies (ENT).	All the different priorities were considered as a "top priority" in Fenland, clearly indicating a very wide set of needs around information and access to finance and investment. Meanwhile, Huntingdonshire identifies the need for "Improved funding terms for local businesses looking to scale" as the key priority, indicating the willingness to scale

RECOMMENDATIONS	
For public sector	**For private sector**
Create a CPCA Digital Innovation Fund (similar to the Northern Powerhouse Investment Fund and as a subset of the planned CPCA Innovation / Accelerator Growth Investment Fund), supported by the British Business Bank, for digital start-ups. This Fund should complement the offering of local angels and venture capitalists, but focus on: • encouraging set-up in non-Cambridge districts and in complementary hubs • supporting convergence projects • The Innovation Fund should support start-ups in generating prototypes if sourcing from local companies	**Increase the quality, visibility, accessibility of financial information & support** • Balanced, unbiased education on the various finance options for business growth needs to be locally accessible, with experienced entrepreneurs available to educate business leaders and encourage start-ups to be ambitious in their finance strategy. The proposed Fellows network (see Entrepreneurship) should help supply this need. • Support the formation and upscaling of local - as well as access to global - crowdfunding platforms • Local networking opportunities for angel investors for the purpose of knowledge sharing and attracting new investors.

BACKGROUND ON INVESTMENT & FINANCE IN CAMBRIDGESHIRE & PETERBOROUGH

The East of England Science and Innovation Audit claimed that Cambridge is a low risk place to make high risk investments, and that the East of England has the capacity to commercialise knowledge to a level that London cannot. On top of standard UK funding opportunities, there are a broad range of investment firms based in Cambridgeshire & Peterborough that target the technology start-ups that regularly spin out of the universities and consultancies in the region. Furthermore, there is a culture specifically in Greater Cambridge of successful entrepreneurs re-investing in the next generation of technology start-ups, offering both mentorship and money.

TECHNOLOGY INVESTORS BASED LOCALLY INCLUDE:

Name	Fact
Cambridge Angels	More than 60 high-net worth investors who have proven experience as successful entrepreneurs in technology, internet, software, hardware, digital healthcare and life sciences.
CIC	Focused on building healthcare and technology businesses
Amadeus Capital Partners	Focused on AI & machine learning, online consumer services, cyber security, digital health and medical technology, digital media, enterprise SaaS, fintech.
Cambridge Capital Group	Well-screened investment opportunities in hi-technology sectors such as engineering, internet, software, medtech, biotechnology, electronics, fintech and wireless communications.
University of Cambridge Enterprise Fund / Cambridge Enterprise	Investment in early stage technology companies as they spin-out of the University

However, feedback from the entrepreneurial community in reports (such as those conducted by the Scale Up Institute) and from this strategy's Business Survey highlight that the current level of financial information - and support - may be insufficient. Insights showed that more guidance should be freely accessible regarding the financial options available and, at its best, funding when granted should be linked to expertise and support. This could reflect the fact that while there are a wide range of '1:many' sources of information available (see inset, below), each business is different and

'1:1' knowledge sharing opportunities with an experienced financier or entrepreneur would be more beneficial and trusted. Balanced, unbiased education on the various finance options for business growth needs to be locally accessible through events, clinics or other activities, with experienced entrepreneurs available to educate business leaders and encourage start-ups to be ambitious in their finance strategy. This is possible for local networking firms to deliver.

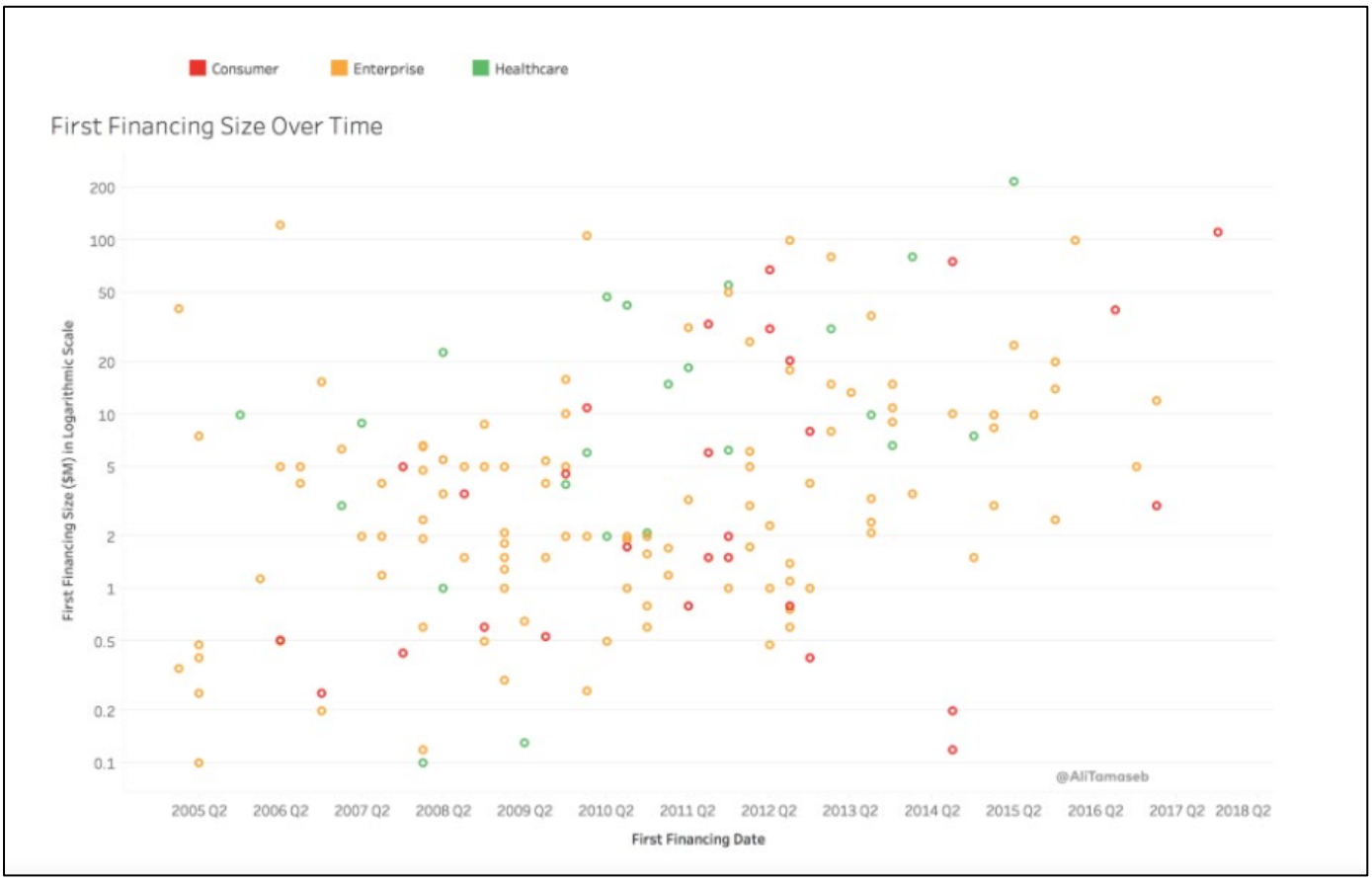
Sample sources of investment & finance information for start-ups

- Invested Investor website
- gov.uk: Finance and support for your business
- British Business Bank: Looking to start-up
- UK Business Angels Association website
- gov.uk: Business innovation – what funding you can get and how you can apply
- gov.uk - Innovation Loans and how to apply

For the sake of the international leadership ambitions of this strategy, we need to make international comparisons. The Audit claims that many firms are starting to look abroad for early stage funding where the attitude towards risk appears to be more forgiving – despite the aforementioned perspective of Greater Cambridge as a low risk place to make an investment!

There is the perception of greater readiness for venture capitalists in Silicon Valley, for example, to supply multi-million-pounds of capital to an unproven start-up compared to those in Cambridgeshire & Peterborough. In different business cultures, growth can be valued more highly than revenues, and that value provides ambitious entrepreneurs the cash they need to scale fast – cash which in the UK would only start to come more easily when revenue streams have been proven. As can be seen through the chart below, first investments for billion dollar firms have been getting incrementally bigger over the years in the United States[25]. This suggests that for Cambridgeshire & Peterborough firms to compete on a global market, deeper pools of resources across all stages of funding rounds needs to be available. Tax reliefs for angel investors, such as the Enterprise Investment Scheme. Similarly, networking and education among angel investors is important for knowledge sharing and encouraging more individuals into the practice of angel investment.

[25] Land of the "Super Founders"— A Data-Driven Approach to Uncover the Secrets of Billion Dollar Startups



Note logarithmic left hand scale for left hand chart.

Recent years have seen a rise in alternative funding methods (driven, incidentally, by improved digital functionality). Frontier Developments, for example, recently raised well over £1m through the Kickstarter crowdfunding platform for its "Elite: Dangerous" product. While online crowdfunding is now a recognised component of the early finance market for a new business and has grown significantly in recent years, recent research found that it is tough to reach a target and three quarters of all projects fail to do so[26]. Investor-led services such as the Cambridge-based Syndicate Room are helping to provide opportunities that have undergone due diligence offers an alternative model.

The latest data from the British Business Bank[27] suggests that 70% of smaller businesses would rather accept slower growth than take on external finance to accelerate growth. This trend, based on the mistrust caused by the 2008 crisis, needs to be explored in relation to the Cambridgeshire & Peterborough digital sector and if it is an issue then it needs to be reversed. Balanced, unbiased education on the various finance options for business growth needs to be locally accessible, with experienced entrepreneurs available to educate business leaders and encourage start-ups to be ambitious in their finance strategy. Some national initiatives are already in existence, for example

[26] Davies, W. E. and Giovannetti, E. (2018). Signalling experience & reciprocity to temper asymmetric information in crowdfunding evidence from 10,000 projects. *Technological Forecasting and Social Change* Volume 133, August 2018, Pages 118-131

[27] Going for Growth: Helping Small Firms Flourish through Access to Finance

The Treasury and British Business Bank's Referral Scheme, the Business Finance Guide and expansions in the coverage of the Enterprise Finance Guarantee and ENABLE.

Compared to the graph above which suggests that the majority of billion dollar, US businesses are venture-capital backed, the reality in the UK is that most small firms tend to not look beyond traditional banks to fund their business**.** In this instance, if credit is not approved (for example, due to risk) then the bank should signpost alternative funding options to the entrepreneur as a venture capitalist, typically, is a lot less risk averse than a bank.

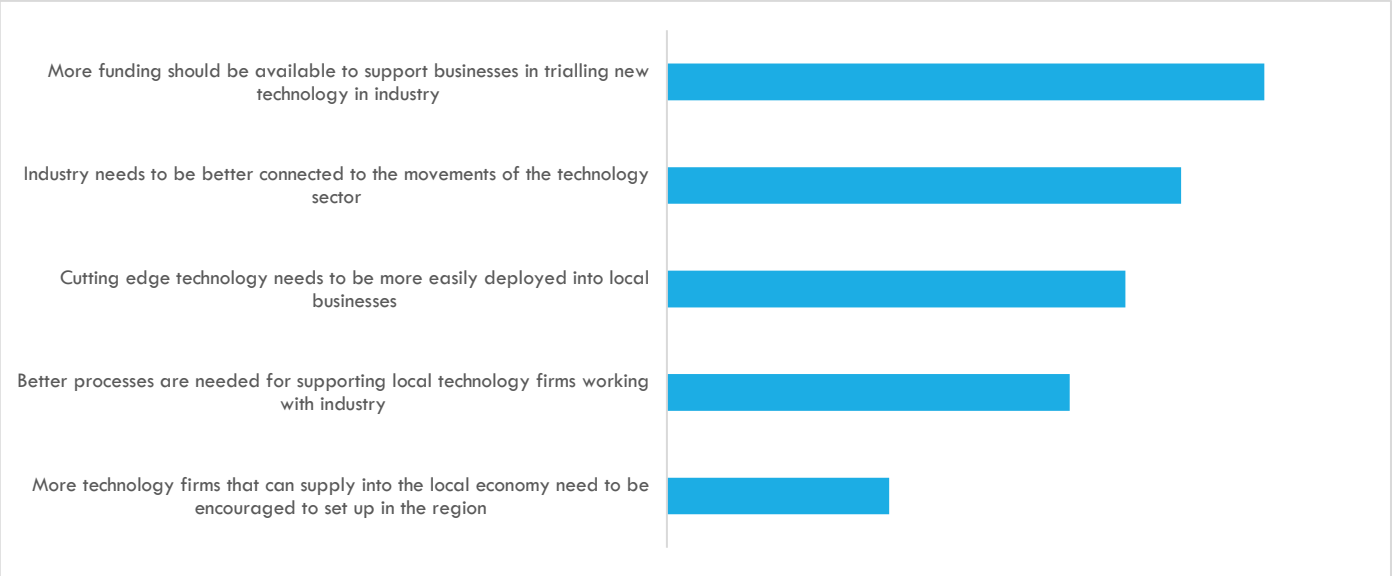
While advice on funding and scaling up can help, the most economically significant companies in Greater Cambridge (and elsewhere in the UK) have in nearly all cases developed their technology within a "soft company" model, using lead customer R&D funding to delay, minimise or avoid the need for venture capital. This in turn has enabled founders to retain control, avoid early trade sales and to grow sizeable full-function businesses. This applies to, for example, Domino Printing, Frontier, Xaar and CAT. To make adequate returns for its investors, venture capitalists must look for early trade sales which nearly always leads to the truncation of further growth and the acquisition of British businesses by foreign investors. These early trade sales are not necessarily to be avoided. However, there is a role for public sector policy to help entrepreneurs avoid venture capitalism if they wish to. Policy can aim at increasing lead customer funding for R&D and trials from both public and private sectors and at increasing other forms of non-dilutive start-up funding. This has the benefit of both enabling entrepreneurs that want to retain control to do so, and of de-risking more companies to the point where they are "venture-ready".

The creation of a CPCA Innovation Fund (with the remit to support start-ups developing technologies with potential applications in target sectors for the region such as ICT, manufacturing, logistics, agriculture, and to encourage locating in business hubs outside of the immediate Greater Cambridge cluster) has already been proposed in the Entrepreneurship chapter of this report. This Fund needs to complement the offering of local angels, venture capitalists and banks. It should be used to de-risk the creation of prototypes, and establish the public sector as a reference customer which the start-up can then utilise to raise further investment (or customers) elsewhere. This Fund exists to fill the current market lack of funding in convergence activities, with the goal that demonstration of success will encourage future private investment.

APPLICATION IN INDUSTRY

VISION

The Digital Sector Strategy's vision is that the CPCA region becomes a region where local technology companies deploy the latest technologies to transform vital industries. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
More funding should be available to support businesses in trialling new technology in industry	4.23
Industry needs to be better connected to the movements of the technology sector	4.17
Cutting edge technology needs to be more easily deployed into local businesses	4.13
Better processes are needed for supporting local technology firms working with industry	4.09
More technology firms that can supply into the local economy need to be encouraged to set up in the region	3.96

Insights from Qualitative analysis of survey data **See Annex 1**	**Insights from Quantitative Analysis of survey data** **See Annex 2**
Share knowledge (KNO, NET) and business opportunities (IND) to create and grow high quality technology companies (ENT) in new technology sectors.	This question addressed a more active pro-positive stance, asking to look at the critical elements needed to transform the future. Fenland considered all these technology issues of critical importance; so too did Peterborough and Huntingdonshire, though with slight less intensity. In detail, both • "Industry needs to be better connected to the movements of the technology sector" and • "Cutting edge technology needs to be more easily deployed into local businesses", were of key relevance for Fenland

	Peterborough and Huntingdonshire as well as Greater Cambridge • "Better processes are needed for supporting local technology firms working with industry" is critical for Fenland Peterborough and Huntingdonshire, South Cambridgeshire as well as Greater Cambridge • "More funding should be available to support businesses in trialling new technology in industry" is, as expected, relevant for all areas, even though with some variation in intensity, while • "More technology firms that can supply into the local economy need to be encouraged to set up in the region" was relevant for Fenland, Peterborough and South Cambridgeshire

RECOMMENDATIONS	
For public sector	**For private sector**
Create a CPCA Digital Innovation Fund (similar to the Northern Powerhouse Investment Fund and as a subset of the planned CPCA Innovation / Accelerator Growth Investment Fund), supported by the British Business Bank, for digital start-ups with a particular focus on convergence activities and establishment in hubs outside Greater Cambridge. .	**Establish Leadership Councils for Technology in Manufacturing, Logistics and Agriculture that identify opportunities and blockers and accelerate the deployment of technology in industry.**

BACKGROUND ON CONVERGENCE IN CAMBRIDGESHIRE & PETERBOROUGH

It was established at the start of this report that the highest revenue generators in the region were not technology organisations, but those in other sectors. This chapter of the strategy considers not how the technology sector can be made more productive, but how a vibrant and engaged technology community can be an enabler for productivity growth in local vertical markets such as agriculture, manufacturing and logistics.

Developments such as advanced telecommunications, sensor technology, mobile computing and artificial intelligence promise productivity improvements. A lot has been made of the benefits of the Fourth Industrial Revolution. Recent 5G trials in Worcestershire suggest that a "smart", 5G-connected factory floor could increase manufacturing output by 1% simply by improving the processes around machine maintenance – such growth will benefit the economy around Peterborough. A recent Deloitte report suggests that just 20.7 percent of firms rate themselves as "highly prepared" to address the emerging business models of the Fourth Industrial Revolution. Furthermore, virtual reality is transforming the product design and customer feedback loop, and additive technologies (3D printing) are delivering new product creation capabilities. In Cambridgeshire and Peterborough, 2659 businesses have been identified within the High Manufacturing and Materials sector, with a geographical distribution that focuses on the East of the region. These businesses are concentrated around Peterborough, St Neots, Cambridge, Huntingdon, Wisbech and March. One such organisation is Stainless Metalcraft, based in Chatteris, which

manufactures equipment for some of the world's most dangerous environments, including nuclear, oil & gas and petrochemical industries. The CPCA has identified that challenges in support for the manufacturing sector include lack of affordable start-up support and funding, limited scale-up advice and funding, lack of support in rural areas and limited grow on space at affordable prices[28].

Crops grown in the Fens

Crop	Acres grown in the Fens	Percentage of total English acreage
Vegetables grown in the open	72,000	37%
Potatoes	62,000	24%
Sugar beet	53,000	17%
Bulbs and flowers grown in the open*	5,500	38%

Source: June agricultural census 2006, DEFRA. *2004

The goal of the agricultural sector is sustainable intensification, and with Fenland operating 50% of the UK's Grade 1 land, Cambridgeshire and Peterborough hosts substantial operations by some of the world's leading agricultural and agri-technology companies including G's and Associated British Foods. Around 25% of Syngenta's research collaborations are in the UK with their UK HQ located in Cambridgeshire & Peterborough. This includes recent investments in a £2 million glasshouse and a £3.5 million facility for the automated formulation of agri-chemicals. A 2013 Governmental report for the agricultural sector showed that the sector is diverse and complex, making it difficult for individual institutions to make connections to develop new partnerships. At the same time, the UK has a highly-regarded basic research base but there has been a lack of funding for applied and translational research. This finding was echoed by the East of England Science and Innovation Audit. At least partly as a result, the UK's competitiveness in agriculture has been in decline for a number of years. Across the UK, the same report states that the top 10% of farms produce more than £180 output per £100 input while the bottom 10% fail to recover their costs. Differences in motivations and natural circumstances can partly explain this disparity. However, inconsistent levels of knowledge, slow uptake of technologies and perceived or actual barriers to knowledge transfer are often contributory factors. As an example of how technology could be deployed to improve outcomes for farmers, a recent trial showed that integrated soil-crop system management programme developed by Cui Zhenling and his team at the China Agricultural University, increased yield by 10% while cutting nitrogen use by a fifth. The Government has invested in a number of Agri-Technology centres, including Agrimetrics, the Agri-EPI Centre, CHAP and CIEL, but none are in the Cambridgeshire and Peterborough region despite Fenland and the surrounding area having such a strong and rich agricultural future. The networking organisation Agri-Tech East provides a strong focus for this sector.

[28] Hethel Manufacturing Sector Review

In the logistics sector, in 2005, radio frequency identification (RFID) tags were introduced in a bid to make the supply chain more efficient. This technology is attached to individual items so they can be tracked whilst in transit, retailers also use these tags in order to have a better overview of the stock they currently have in their warehouses or stores. More recently, companies have looked towards utilising automation software or cloud-based networks to improve efficiency across the supply chain. A benefit of cloud-based systems is that they are cheaper to install, they fix supply-chain problems at their source and can be used by companies across networks, regardless of the locality of the user. The logistics sector is working on introducing drones (or unmanned aerial vehicles) in order to make the delivery of goods cheaper and more efficient. For example, DHL is piloting its Parcelcopter 2.0 project, which uses drone technology to deliver time-sensitive goods (like medicine) to remote locations, quicker and more effectively than aeroplanes or ferries could achieve. Similarly, Amazon is at the forefront of developments with drones. Ocado's Customer Fulfilment Centres have transformed the efficiency of warehouses through the application of bespoke wireless technology and automated robots.

We suggest that leadership, coordination and funding is needed to accelerate the regional deployment of technology into vertical markets with a particular focus on agriculture, manufacturing, logistics and Healthcare. This leadership should come from business, with support from local government and funding from private sources and public sources, such as Innovate UK. We suggest the establishment of Cambridgeshire and Peterborough Leadership Councils for the sectors of Manufacturing, Logistics and Agriculture to identify opportunities for the regional deployment of technology in these industries, to monitor the potential rise of barriers and remove blockers collaboratively, to educate peers on best practice (for example with relation to intellectual property) and to coordinate funds for convergence activities.

The East of England Science and Innovation Audit identified unlocking investment in the process of convergence as a significant weakness of the region. Given that one of the routes for digital technologies to add significantly to regional GVA is through the adoption of more efficient technologies by industry, it is essential that there is sufficient and accessible funding to support this process. This strategy has already recommended the creation of a regional Innovation Fund that supports the establishment of start-ups - outside of the Cambridge City area – and funds specific projects that will demonstrate the capabilities of a new technology within its target sector. In such a way the public sector can help de-risk the process of developing new technologies for application in industry by becoming a potential funder, or reference customer, from which the start-up can prove concept and, from that point, more easily grow its revenues if the product is viable and the market exists.

Colocation and clustering is key to achieving application within industry at pace. Learnings can be taken from the agglomeration effects of Greater Cambridge. Space should be provided within Cambridgeshire & Peterborough for hubs that focus on target sectors such as manufacturing, agriculture and logistics, within which technology firms that target those markets can also reside. These hubs should be encouraged in science parks outside of Greater Cambridge, both to relieve the

stress on that city's infrastructure and to spread the benefit of high growth business throughout the region. To enable cross-sector idea pollination, each business park should have a community space able to support networking events, and sufficient transport infrastructure to enable access. Each business park should have a central communication system or co-ordinator that signposts opportunities and builds inter-organisational connections.

[NOTE: Health and Social care technologies are recognised as being a strategic vertical sector where digital technologies play an increasing role improving both efficiency and the quality of care, and where the region is extremely well positioned to lead applications. We understand a separate strategy is being developed for the Health and Life Sciences].

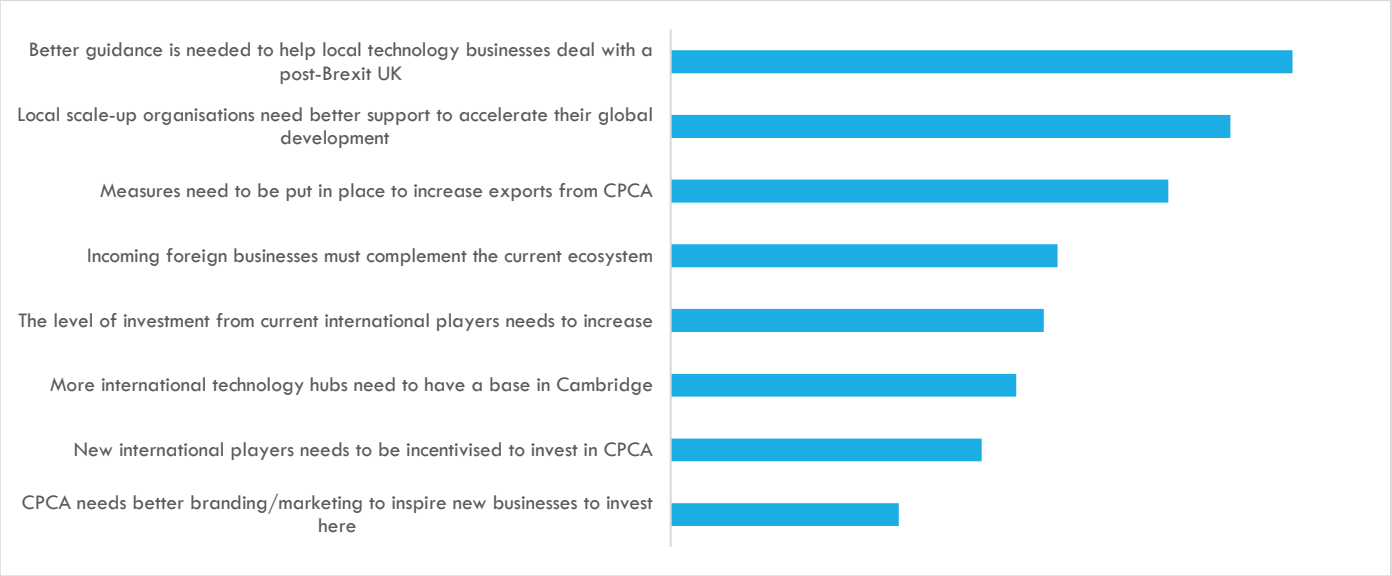
INTERNATIONAL - FOREIGN DIRECT INVESTMENT AND INTERNATIONAL TRADE

VISION

The Digital Sector Strategy's vision is that

- Foreign Direct Investment should continue to play a significant part in the sector's development, with major corporates increasing their commitment to the region, and new corporates complementing the technology eco-system.
- The proportion of CPCA export earnings from local technology companies in goods and services doubles in 5 years.

The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Better guidance is needed to help local technology businesses deal with a post-Brexit UK	4.20
Local scale-up organisations need better support to accelerate their global development	4.11
Measures need to be put in place to increase exports from CPCA	4.02
Incoming foreign businesses must complement the current ecosystem	3.86
The level of investment from current international players needs to increase	3.84
More international technology hubs need to have a base in Cambridge	3.80
New international players needs to be incentivised to invest in CPCA	3.75
CPCA needs better branding/marketing to inspire new businesses to invest here	3.63

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA See Annex 1	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA See Annex 2
Government should give grants (INV) for companies going international (EXP), to attend international trade fairs and meet customers and potential customers (NET, IND). Startups are born global (ENT) but they need advice about international trade (EXP), taxes. Brexit is causing uncertainty (EXP, INV). Foreign funding is used to scale up companies globally (EXP), to bring new knowledge (KNO) and connections (NET) to the region and wealth. Cambridgeshire & Peterborough should offer soft landing services to foreign companies considering this region for investment (EXP). When businesses visit Greater Cambridge they should see all opportunities (UK, INV) not just those in the city of Cambridge. Brexit uncertainty is a serious issue at the moment (EXP).	Fenland and Huntingdonshire express two key areas of concern, while East Cambridgeshire and Peterborough focus mainly on one. In detail • "Local scale-up companies need better support to accelerate their global development" is the top priority shared between Fenland Huntingdonshire and East Cambridgeshire • The next priority is "Better guidance is needed to help CPCA technology businesses deal with a post-Brexit UK" as a top priority in the Fenland and Peterborough • Finally "Measures need to be put in place to increase exports from CPCA", is of top importance for Huntingdonshire Foreign Direct Investment generates three areas of priority perceived as highly relevant. In Fenland this is: • "Incoming foreign businesses must complement the current ecosystem" In Huntingdonshire the highly relevant priorities are that: • "New international players needs to be incentivised to invest in CPCA" and • "The level of investment from current international players needs to increase" This final priority is also of key relevance for East Cambridgeshire.

RECOMMENDATIONS	
For public sector:	**For private sector:**
1. Foreign Direct Investment • Build a compelling Greater Cambridge cluster brand and marketing programme that promotes the Greater Cambridge value proposition for technology investment into the region. • As part of an agreed strategy, target major investments that will complement the regional technology ecosystem. • Ensure that an effective regional inward investment sales function is being delivered across the region by providing a concierge and retention/expansion service for corporate investors, working through existing business networks. 2. International Trade: • work through Department for International Trade (DIT) and local intermediaries to support bespoke programmes aimed at enabling scale-up companies to "go global".	1. International Trade: • Encourage large regional companies to participate in outbound missions to demonstrate the motivation and expertise of the region, and support cohorts of new technology exporters. • Encourage local intermediary organisations to develop relationships with 2-3 overseas technology hubs . [eg: Israel, Shenzhen, Silicon Valley, Singapore, Helsinki] and encourage partnerships and networking between companies.

BACKGROUND ON INTERNATIONAL IN CAMBRIDGESHIRE & PETERBOROUGH

ICT and digital businesses are naturally globally orientated. While there are customer and convergence opportunities both within the region and the UK, the largest opportunity for business growth sits internationally.

FOREIGN DIRECT INVESTMENT (FDI)

At the time of writing the landscape is uncertain. 50% of all Global FDI into Europe was captured in 2017 by UK, France and Germany, with the UK leading the pack. However, Brexit has had a dampening effect with logistics, financial services and HQs all down on previous levels, and a worrying acceleration in outbound investment to continental Europe. 30% of respondents to the EY 2018 European Attractiveness Survey of 502 global businesses in June 2018 state that Brexit will have an impact on their footprint or activities. But EY data also suggests that digitisation is revolutionising almost every industry, and foreign investors are launching numerous projects to provide digital services to their clients or streamline their own operations. The Digital Economy is perceived to be the most important sector in terms of driving growth.

Nationally, over the last 3 years the East of England accounted for 5.07% of all FDI projects, and 4.84% of all FDI jobs[29]. Meanwhile, over the last 2 years ICT/Digital sectors have accounted for 32% of all FDI projects and 21% of all FDI jobs[30]. For Cambridgeshire and Peterborough, the ICT/Digital sector remains a vital part of the attractiveness of the region to overseas investors. The table below consolidates 3 years of Foreign Direct Investment project successes, as reported to the Combined Authority/LEP and the Department of International Trade. It is worth noting the imbalance of foreign direct investment across the region, with Greater Cambridge and South Cambridgeshire hosting 90% projects and 95% of jobs.

Consolidated 3 year FDI Combined Authority/LEP statistics	2015-18 All Sectors Projects	2015-18 All Sectors Jobs	2015-18 ICT/Digital sector Projects	2015-18 ICT/Digital sector Jobs
Cambridge	66	2178	32	1551
East Cambs	9	179	2	53
Fenland	4	18	0	0
Huntingdonshire	11	215	1	28
Peterborough	17	416	2	42
South Cambs	51	1526	13	438
Grand Total	**158**	**4532**	**50**	**2112**
% share	100%	100%	32%	47%

[29] DIT Inward Investment Results

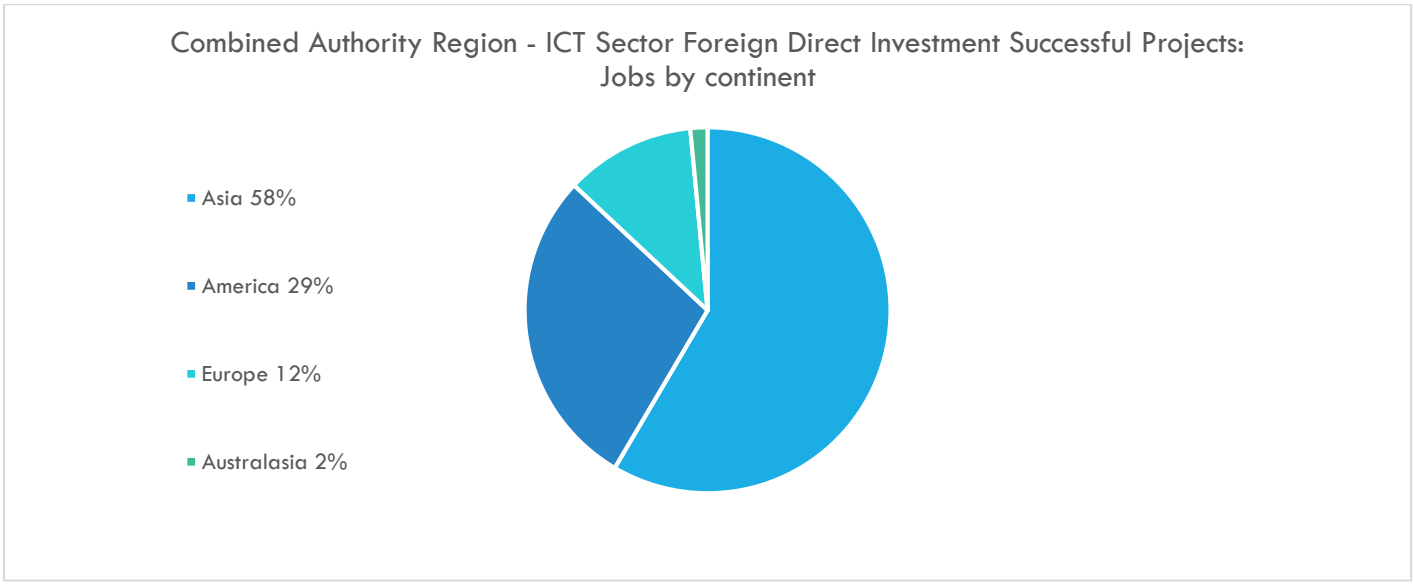
[30] DIT: Sector breakdown for involved FDI Projects 2016-18

32% of FDI projects between 2015-2018 going to the ICT/digital sector matches the national % share for ICT investment, but the region attracts over double the % of jobs (47% compared to 21%). Overseas ICT/Digital sector companies are continuing to locate substantial operations in the region, often R&D based.

For comparison, over the same period, the life science & healthcare sectors attracted 24% of all projects and 24% of FDI jobs created.

Country	ICT jobs created through FDI
Japan	717
United States	552
China	503
France	101
Canada	48

Geographically the top 5 countries over the last 3 years in terms of ICT Jobs created through FDI are listed in the table to the right, showing the dominance of companies from Japan, USA and China. The chart below explores the % distribution of these ICT FDI jobs by continent and shows that Asia accounts for nearly 60% of all technology-based investment into the region.



CBR research covering 2015-16 and 2016-7 confirms the importance of FDI to knowledge intensive companies in the Combined Authority area. Knowledge intensive (KI) companies are much more likely to be foreign owned than other (Non-KI) companies. According to CBR data, Peterborough has 67% of KI employment and 82% of KI turnover in foreign owned companies. Cambridge has 75% of KI turnover in foreign owned companies. Whereas Fenland has 5% of KI employment and 3% of KI turnover in foreign owned companies. It is critical to not underestimate the importance of foreign ownership on the knowledge intensive sector of the region.

Many major Technology corporations have a presence in the region (Google are relatively close by at their London Kings Cross HQ):

Amazon	**Microsoft**
Apple	**Nokia**
Citrix	**Qualcomm**
Huawei	**Samsung**
Intel	**Toshiba**
MediaTek	

Greater Cambridge has grown several global ICT/Digital businesses over the last twenty years. Many have been acquired by overseas companies (see the table to the right for some prominent examples).

Autonomy was founded in 1996, listed in 1998 and sold to HP for $11bn in 2011.

CSR was founded in 1998, floated in 2004 and sold to Qualcomm for $2.4bn in 2015

CSR sold its handset technology division to Samsung for $310m in 2012. Recently Samsung announced the opening of a new AI centre in Cambridge in May 2018.

ARM was founded in 1990, floated in 1998 and sold to Softbank Group for $31bn in 2016.

Aveva (formed out of the UK government funded CAD centre in 1994) and with revenues of £215m in 2017, agreed to merge with France-based Schneider Electric in 2018. Schneider Electric is now the largest shareholder.

The acquisition experience has not always been positive. A well-known example is how, in 2006 Motorola paid over £100m to buy TTPcom, then in 2008 laid off 155 staff, and pulled out shortly afterwards. Yet it is a mark of the 'stickiness' of the Greater Cambridge cluster that talented personnel stayed in the region and became absorbed into other technology companies or started their own businesses.

The region continues to grow global businesses. Frontier Developments, a gaming company founded in 1994, has a market value of £659m. Quixant, founded in 2005 and which produces products for gaming machines, has a market value of £295m[31]. Darktrace is latest example of extremely rapid growth: started only in 2013 the company was valued at $1.25bn in July 2018 and employs 800 people worldwide.

It is the combination of home-grown businesses and talent, with the very substantial investment made by large, international corporates into the local economy that makes the region so compelling - the agglomeration effects referenced in the recent CPIER report make Greater Cambridge in particular a highly desirable and prestigious place for an ICT/Digital business to be based.

And yet, the resources publicly invested in the Inward Investment function for the region remain extremely low in comparison to other parts of the country. For example, London & Partners have a budget of £12m, Marketing Manchester has a budget of £7.6m (not including MIDAS the FDI agency).

This means that there are few locally deployed assets to target specific companies to invest in the region, and very little attention given to how early visits from interested investors can be professionally concierged. Interviews during the development of the strategy confirmed that potential ICT investors sometimes did not explore the region because the ability to quickly and easily

[31] CBR

pull together a comprehensive and bespoke visit programme was not in place, in comparison to other UK regions. Interviews also suggest that sometimes investor visits can be somewhat haphazard, with no clear docking point and organisational lead.

Much inward investment will come from re-investment and expansion of existing operations. 64% of the jobs in 2017/8 came from re-investment. All these relationships need support on the ground, and local networking organisations can do this to a certain extent as part of their commitment to sustaining the cluster, but strong regional coordination and pipeline management is needed, along with triangulation through the DIT overseas network with the relevant overseas HQ.

The marketing, targeting and sales FDI functions represent a classic market failure, given there is no rationale for the local private sector to fund these activities, and the potential investor cannot be charged. The regional offer is so powerful, there is a great opportunity, along with effective marketing and organisation, to successfully and systematically target investors that will enhance the economy. As CPIER recommends, the UK Government should adopt a 'Cambridge or overseas' mentality towards knowledge-intensive (KI) business, recognising that in an era of international connectivity and footloose labour, many high-value companies will need to relocate abroad if this area no longer meets their needs.

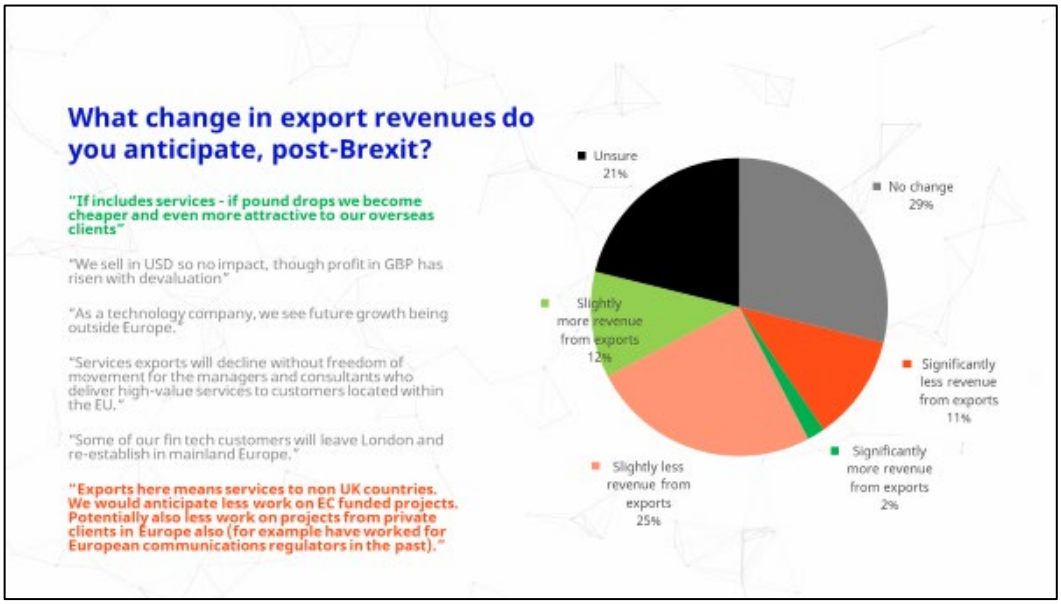
The key international marketing attribute for the region, when focussing on the ICT/Digital sectors, is undoubtedly the Greater Cambridge offer. The CPIER work highlights the fact that there are three distinct economies in the region - and it would be mistaken to dilute the extremely powerful marketing messages through amalgamation. Leading with the Greater Cambridge brand will benefit the rest of the region, since every investor is a potential supply chain opportunity also. Target audience will be C level leaders in target overseas technology companies, and their intermediaries.

Of course, a complementary and distinctive brand strategy also needs establishing for Peterborough and Fenland, but is likely not to lead with the ICT sector, and so is not examined here.

Much work needs to be done to clearly articulate the Greater Cambridge message and to provide guidance on what the technology ecosystem in the area offers, and how to engage meaningfully with the cluster. Despite multiple outward facing Greater Cambridge based organisations there is no clear pathway for potential inward investors, and this needs to be rectified.

INTERNATIONAL TRADE

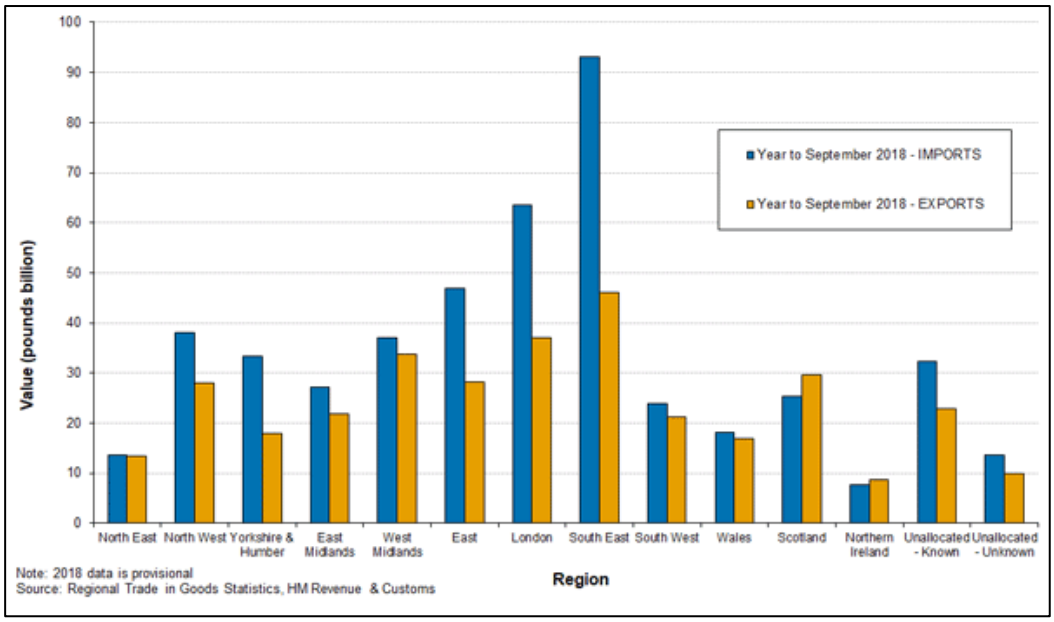
CW ran a Brexit Impact Survey[32] from 31 Oct – 16 Nov 2018 to ask Technology companies about their opinion on the effects of Brexit. See the chart to the right for a summary of their opinion on Export revenues.



It is certainly the case that having a vigorous ICT/Technology sector exporting goods and services will continue to be crucial for the region in the years ahead. According to the latest UK Government Export Strategy Overview, 90% of global development is expected to come from outside the EU over the next 10-15 years. The Digital Sector must seize the opportunity to look to markets - particularly in Asia and America.

Exports represent 35% of UK GDP and the East of England collectively is the third most significant region according to the latest HMRC statistics. The digital sector consists of 18.9% of service exports, which are in turn 35% of total trade.

The digital sector is often underreported in official statistics, a recent study shows the UK digital sector accounting for **24%** of all exports.[33]



[32] Link to be provided when published

[33] The Digital Sectors After Brexit, Frontier Economics for technologyUK

Key barriers related to business exports are (generally, across all UK sectors): not having the right contacts to find the appropriate partner or customer, payment risks, on-tariff barriers, and management skills in international trade.

Greater Cambridge based technology companies are often "born global". A quick survey of recent press announcements in Business Weekly shows companies active in numerous markets:

Company	Product	Export Market
CyanConnode (Cambridge)	Narrowband radio frequency mesh networks	Philippines, Ukraine
Sepura (Cambridge)	Digital radio specialist	Mexico
Bango (Cambridge)	Online payment	Chile, South Korea
Blighter Surveillance Systems	Radar & surveillance	India
UltraSoC	Embedded analytics	Asia
Pixel (Cambridge)	Radar	China

The DIT provides export services and information suitable for early stage companies, and can also connect companies to useful contacts and opportunities through their overseas network along with Export Finance if needed. In 2017/8 the DIT Technology Exports team supported 330 UK technology companies win 506 projects/contracts overseas.

Department for International Trade Case Study on SG Control's export growth in the Far East

SG Controls is a Cambridge-based company that designs and supplies equipment for the optical fibre manufacturing sector and is set to double the volume of products it makes following a surge in demand in China, Japan and India. SG Controls has been exporting its products since 1979 and is working with trade advisers from the Department for International Trade (DIT) and UK Export Finance (UKEF), who is supporting the company to fund its new ventures in the Far East. The company's international success led to the creation of 40 new jobs at its site in Newton in the last 18 months to cope with growing demand. "Working with the DIT enabled us to find a funding mechanism to satisfy our requirements and those of our customers, as DIT trade advisers work directly with UK Export Finance to provide support to our banks to allow them to issue guarantees to customers," says Ian McNulty, MD at SG Controls.

Businesses should be pointed towards the services that can be provided. With limited resources, focusing on scale-up companies that can quickly take advantage of global export opportunities makes sense, as well as strategically identifying a shortlist of target overseas markets.

Cultivating deeper links with ICT Technology hubs will also prove beneficial. Connecting networking organisations based in these hubs (eg: Israel Technology Hub) with local networking organisations, and supporting repeated trade missions and meetings will build relationships and drive partnerships and contracts. A focus on Asian markets will be particularly important here, especially given the proportion of FDI investment from Asia.

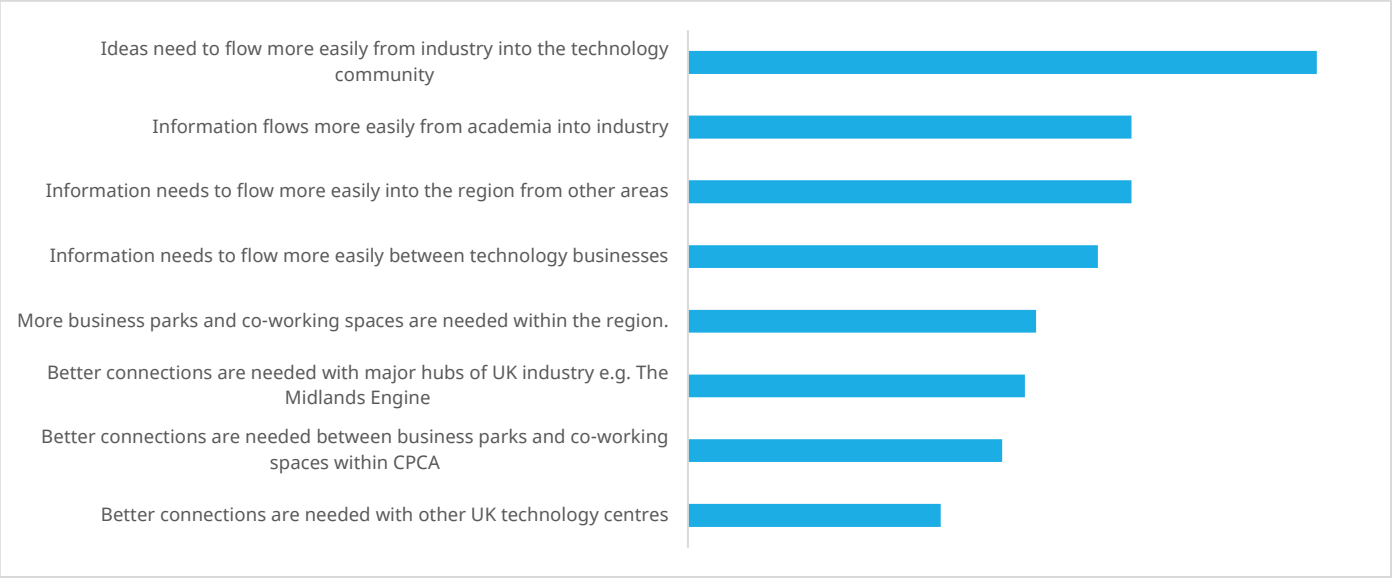
Finally, it is worth pointing out that digital transformation is radically affecting export processes. Digital companies can transform the productivity of companies in vertical industries, enabling expansion into overseas markets. Advanced digital solutions enable better access and management of international customers through B2B e-commerce platforms.

It is very welcome that the CPCA has announced in their Business Plan that a strategy will be developed aiming to secure funding for more enhanced, higher impact Trade and Investment activities starting in 2020/21. It is also noted that the CPCA will support Opportunity Peterborough's inward investment activities, delivering support to more companies in the North of the area. However, the current CPCA business plan allows only for £50K per annum against Trade & Investment functions out of the revenue budget, and this is clearly not enough. This strategy recommends that more resources need to be devoted to provide effective internationalisation programmes and projects.

KNOWLEDGE TRANSFER

VISION

The Digital Sector Strategy's vision is that knowledge and ideas can disperse successfully throughout the region. We also wish this to be a region where businesses of any sector can efficiently collaborate through linked networks of science parks and co-working spaces and where knowledge transfer between academia, technology firms and industry works seamlessly. The following hypotheses were explored in the Digital Sector Strategy Business Survey and their relative perceived importance is outlined below:



	Importance perception score (/ 5)
Ideas need to flow more easily from industry into the technology community	4.52
Information flows more easily from academia into industry	4.19
Information needs to flow more easily into the region from other areas	4.19
Information needs to flow more easily between technology businesses	4.13
More business parks and co-working spaces are needed within the region.	4.02
Better connections are needed with major hubs of UK industry e.g. The Midlands Engine	4.00
Better connections are needed between business parks and co-working spaces within CPCA	3.96
Better connections are needed with other UK technology centres	3.85

INSIGHTS FROM QUALITATIVE ANALYSIS OF SURVEY DATA **See Annex 1**	INSIGHTS FROM QUANTITATIVE ANALYSIS OF SURVEY DATA **See Annex 2**
Knowledge transfer between academia and industry can reduce risks and accelerate market entry (IND). Attention should be paid to IP Management, ownership and knowledge transfer processes	The respondents identified three key priorities for Fenland • "Ideas need to flow more easily between industry and the technology community"

(SUP). Funding collaboration between industry and academia should be encouraged (INV). Connecting the region (NET) with other regions is about bringing new skills, talent (TAL), business opportunities (IND) and businesses (INV) to the region. While businesses outside of the region are considering of locating themselves here, they should be shown other parts of the region than Greater Cambridge locations (NET).	• "Information needs to flow more easily into the region from other areas", and • "Information needs to flow more easily from academia into the technology community" Interestingly, two of these priorities are also perceived as significantly important in Huntingdonshire • "Ideas need to flow more easily between industry and the technology community" and • "Information needs to flow more easily into the region from other areas" The perception that "Ideas need to flow more easily between industry and the technology community", is also highly important in Peterborough. This domain of "Links within the UK" is of particular relevance to the Fenland, whose respondents selected four issues as critically relevant. Peterborough highlighted three areas and Greater Cambridge two. In detail: • "More business parks and co-working spaces are needed within the region", • "Better connections are needed between business parks and co-working spaces within CPCA" "Better connections are needed with other UK technology centres", was a priority in Fenland, in Greater Cambridge and in Peterborough

RECOMMENDATIONS

RECOMMENDATIONS	
For public sector	For private sector
Working with existing communities for technology / industry, deliver more inter-sector networking opportunities across the region that connect industry with the technology community and academia.	Develop Launchpads outside of Greater Cambridge where the applications of new digital technologies and solutions can be trialled. These Districts should feature the latest technology infrastructure, should be accessible for start-ups and should focus on industries that are important to the Combined Authority economy, such as Manufacturing or Agriculture.

BACKGROUND ON KNOWLEDGE TRANSFER SYSTEMS IN CAMBRIDGESHIRE & PETERBOROUGH

Knowledge transfer is the sharing process of learnings and skills between academia and the non-academic community, including business and the public sector. It is a key driver of economic growth and an important reason for Government investment in university research. Equally, for academics, the knowledge transfer system is a source of new ideas. While often measured in outputs such as university spin-out businesses and patents filed, there are far more elements to a successful knowledge transfer system including publication, collaborative research and academic consultancy.

Cambridgeshire and Peterborough, led by the University of Cambridge and Anglia Ruskin University, has a long-established knowledge transfer system that is a key contributing factor to this area being one of the most well-regarded technology innovation hubs in the world. The region's ecosystem has been a source for many globally competitive businesses like ARM and HP Autonomy. Its excellence in research has attracted inward investment from many global ICT businesses such as Microsoft, Huawei, Apple, Google, IBM – investment which is underpinned by outstanding research and teaching in the region's universities. (BEIS SIA, 2017)

As a world-class example for digital knowledge transfer, the University of Cambridge's Computer Laboratory and Cavendish Laboratory have been prolific sources of ICT and digital spin-out businesses. The Computer Laboratory has produced at least 200 companies including Acorn, Jagex, Ubisense and Raspberry Pi foundation.

Anglia Ruskin University (ARU) brings considerable research and teaching excellence, including in emerging specialisms such as internet of things, cybersecurity, computer science and digital gaming. ARU is well-known for its multi-disciplinary approach to university education and research, as well as entrepreneurship embracing industry collaboration e.g. via apprenticeships and effectively matching teaching activity to business needs.

In addition, UK Research Councils and charities have invested heavily in installing research centres in the region which have considerably augmented the strength of the area's knowledge ecosystem. These include the Sanger Institute, the Babraham Institute, the Laboratory for Molecular Biology (LMB) and the Wellcome Genome Campus.

A major source of funding for establishing and developing better knowledge transfer between academia, technology companies and industry in the region has been the European Regional Development Fund (now, of course, at risk). Programs like Innovate2Succeed, Serious Impact, Innovation Bridge, Keep+ and REACTOR have been contributing to digital innovations, especially among SMEs and start-ups.

One important mechanism of universities in supporting new business creation, other than spin-outs, is linking academia to industry to support early stage technologies companies by providing knowledge in different forms (academic expertise, business connections, mentoring, space and skills). The co-funding element of this mechanism via public and private funding has had a great impact on knowledge transfer[34]. As an example, Accelerate Cambridge is a programme run by CJBS (Cambridge Judge Business School) that has accelerated already over 100 early stage technology companies. Similarly, REACTOR (Anglia Ruskin University) has supported over 50 SMEs/Startups with their gamified, digital innovation.

[34] Accelerating the UK, Beauhurst

The mechanisms by which start-ups spin out of the major universities are already established and working well, particularly in the Greater Cambridge area. These include recruitment, knowledge sharing through networking, presenting at events, publication and collaborative research. However, the process through which businesses can collaborate with the university is less straightforward. It must also be noted that there are intra-regional discrepancies with the strength of the knowledge transfer system. It is currently centred around Cambridge city where the two main universities of the region have their main bases. The opening of the University of Peterborough offers a good opportunity for a similar system to be established in that city. The flow of information between academia, consultancies, start-ups and corporates must be nurtured across the region with relevant networking activities and knowledge sharing events for highlighted digital sectors, such as Artificial Intelligence (as per the Business Survey).

As a final note, it is R&D of the private sector that contributes the majority of funding to research activities in a commercial context. These activities have also had a great impact in recruiting and retaining world class talent and skills within the region, which has contributed hugely to the region's social capital and it is imperative that the region maintains and increases the level of private R&D in the region by supporting start-ups to scale and attracting foreign direct investment through ambitious regional marketing programmes.

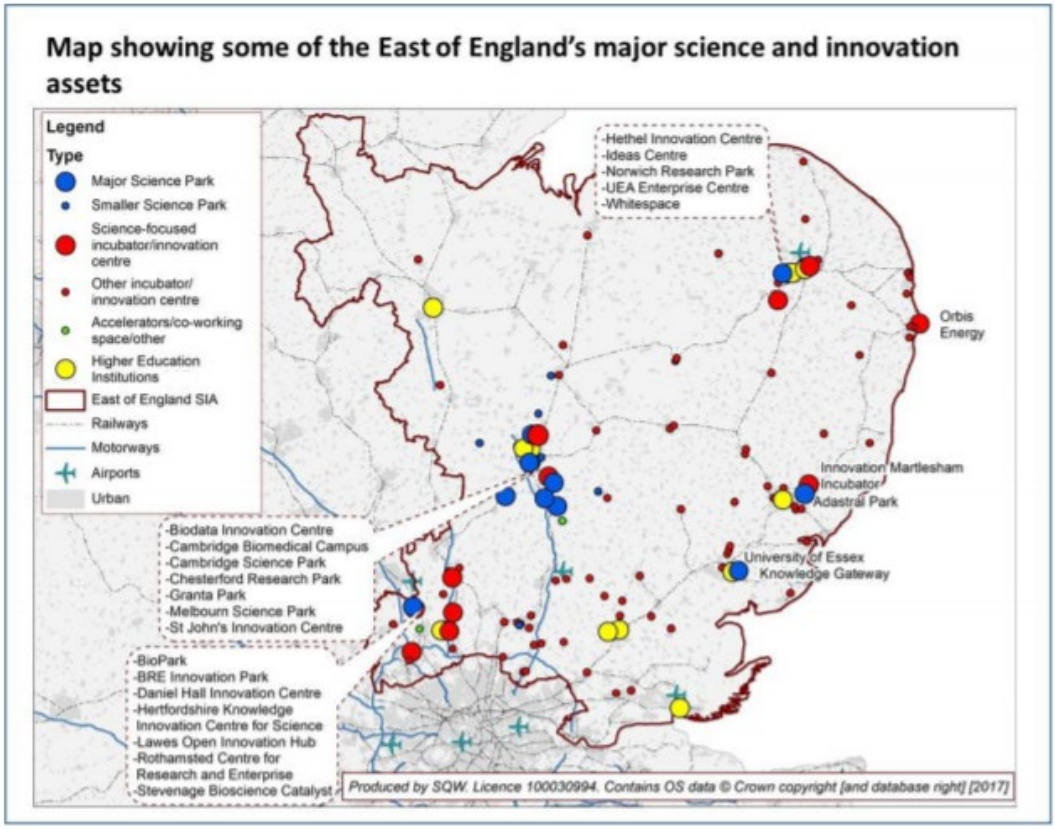
LINKS WITHIN THE UK

Cambridgeshire and Peterborough benefits from a number of key geographical and transport assets:

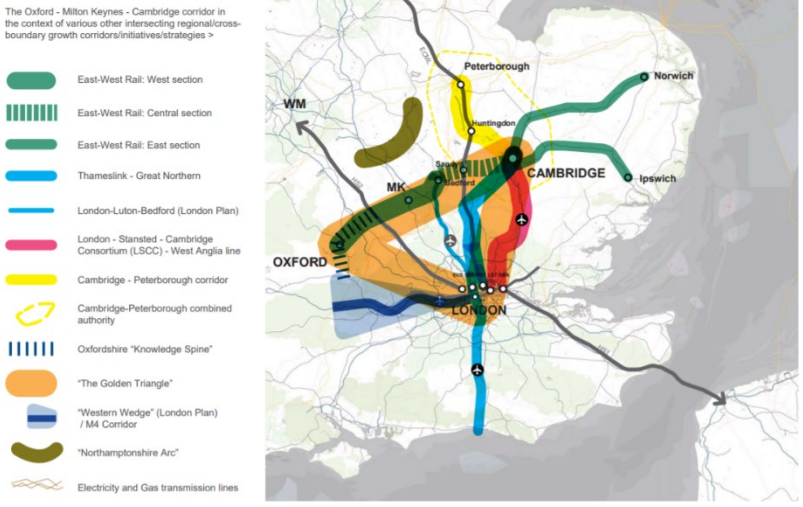
- The M11 provides rapid and direct access South to London and Stansted Airport
- Railways offer access to London from Peterborough in 51 minutes, from Cambridge in 49 minutes and from Huntingdon in 63 minutes. The new line from Cambridge via St Pancras offers direct route to the finance markets of the City.
- Stansted Airport provides access to international destinations
- The A1(M) to the East connects the region to London in the South and the Midlands and North East.
- The A14, which is currently undergoing significant improvement works, connects Cambridgeshire and Peterborough to Norfolk and Suffolk, including the technology hubs at Norwich and Ipswich and the busiest container port in the UK, Felixstowe, dealing with 42% of Britain's container trade.
- The A14 also connects Cambridgeshire and Peterborough to the Midlands Engine and the manufacturing hubs of Birmingham and the West Midlands.

There is huge potential in these assets to continue to grow Cambridgeshire and Peterborough's business connections. However, transport within the region remains an issue especially in more rural areas such as the Fenland. To enable businesses in the region to benefit from more efficient connections to stakeholders, networking opportunities and reduced commuting times,

improvements in transport infrastructure within the area must be the first priority. Individual market towns must be better connected, and travel within cities must be eased.



Cambridgeshire and Peterborough has the fortune to be involved in a number of prominent corridor plans that connect high growth areas and encourage collaboration. These include:



- **Cambridge Milton Keynes Oxford Corridor:** working to fix the housing and transport challenges of Cambridge by expanding towards Milton Keynes. Joining up the "golden triangle"
- **London Stansted Cambridge Consortium / Innovation Corridor**: This vibrant polycentric region provides a unique ecosystem of talent and business including Technology City, GSK, Google, Cambridge University, UCL, Raytheon, Wellcome and Microsoft.

- **Cambridge Norwich Technology Corridor:** has the potential to be home to an additional 26,000 additional jobs, 46,000 people and create value of an additional £2.75bn to regional economy.
- **Cambridge Ipswich Banana:** there is potential for links to be strengthened between the telecommunications and software hub of Ipswich and Cambridge.

If such plans are successful in their goals, they will serve to increase the supply of talent and productivity of Cambridgeshire and Peterborough's digital sector. This strategy supports and aligns itself with these plans.

END

ANNEX 1

Qualitative findings from primary data

Qualitative survey findings are collected from the survey respondents, board meeting notes, and brief interviews. They have been analysed at domain theme level, as well as in detail at comment level. As expected, domains become connected to each other in the responses. Below are the selected domains to which quotes are referred to.

Entrepreneurship **ENT**	Links within the UK **UK**	Export Strategy **EXP**
Investment & Finance **INV**	Talent & Skills **TAL**	Adoption within Industry **IND**
High Impact Networking **NET**	Foreign Direct Investment **FDI**	Digital Infrastructure **DIG**
Knowledge Transfer **KNO**		Supply Chain **SUP**

QUALITATIVE SURVEY INPUT ON TALENT AND SKILLS

It is important to understand the demand and supply of skills (SUP) in the region and the changing needs of now and future. Growing skills pool 'organically' is a long process, from school, to universities (KNO) and to the job market (IND). The respondents refer to very different types of talent needed in the region (UK), e.g. via apprenticeships, BSc, MSc, or PhDs but one pattern is that a skilled person is a 'specialist' in a certain topic of need, mostly in STEM subjects (DIG). Respondents widely talk about investing (INV) more in the youth but not to forget 'adult' groups and teaching the teacher. When it comes to locations where talent is or wants to be, Cambridge (UK) will remain a magnet but the idea of offering a high quality and balanced life style of the work force is becoming a selling argument of a location. Brexit is bringing uncertainty in recruiting talent (FDI).

> Quote: "Better digital skills training (IND) and support for young people at school, college, university is critical (KNO)."
>
> Quote 2:" I'm certainly feeling the problem of recruiting developers (IND, KNO), digital designers and digital marketers in this region (UK)."

Quote 3: “Life style is important also. If affordable housing and transport (DIG, INV) are not addressed the increase in salary that comes with skills and jobs (IND) is negated by the frustration of day to day life.“

Quote 4: “Cambridge City (UK) does tend to be a larger magnet for talent in the region, more needs to be done to show the advantages available to working for businesses around the region.”

Topic	Survey findings
Need for skills	Identify what specific skills are needed. Understanding what type of skills are pivotal. Adapt skills learning system to changing skills needs. Emphasise remote working due to the costs of transport. It is difficult to recruit developers. We need more BSc/MSc/Phds. Long ‘organic’ lead time from school education to industry. Provide more makerspaces, adult education, apprenticeships. Support businesses to recruit people.
Quality of living	Living costs are high, public transportation should be improved and flexible work conditions be offered. People want to stay in a place with great life style and balanced life between family and work.
Demographics	Even focus should be on skills development at the young age, digital skills support should be provided to adult groups too.
Locations	Ensure free movement of talented people. Demonstrate advantages working around the region. Cambridge is the talent magnet in the region. Create other than Cambridge, places where people can excel in their career.
Resources	Invest in skills development across the region. Teach the teachers about latest technologies.
Institutions	Education can be delivered not only by Universities but by other institutions and private companies.
Funding	High cost of university education Grants for SMEs/Startups to employ students. Offer grants to those who want to study STEM subjects.
Brexit	Brexit is already affecting recruitment.

QUALITATIVE INPUT ON TECHNOLOGY INFRASTRUCTURE

There are several practical issues mentioned in the survey results such as lack of mobile phone coverage in rural areas, on train lines, fibre cable not reaching to where businesses are (IND), or into new built environment (TAL). CPCA region should be better than average in connectivity, a test bed for 5G (INV), networks available in public places. More competition is asked for reducing the price of being connected to fast networks (IND).

> Quote 1: "Connectivity for the wider population (TAL) to get more support and investment (INV) across the community as a whole, particularly by improving public services and locations such as schools, hospitals, libraries etc."
>
> Quote 2: "A review of the not-spots as in Norfolk, to identify and prioritise areas for investment (INV)"
>
> Quote 3: "We need to be developing new technology for digital networks (e.g. 5G core), not just buying from USA and China (EXP)."
>
> Quote 4: "1) Mobile phone coverage would be useful in our postcode! (TAL) 2) Ensure coverage on all rail lines in the region 3) For any new build and not just for larger developments, to require Fibre to the Premises (IND, INV)."

Topic	Survey findings
Technology	Infrastructure is more than fibre cable only, it is also about better mobile connections, access to street lights, electric vehicles. Mobile phone coverage in rural areas as well as all rail lines. All new built environment should be connected to fibre networks. Region should be a testbed for 5G. More competition between providers is needed.
Role in the value chain	Embrace the emerging technologies within the region for the testbed purposes.
Locations	CPCA region should be higher than the national average in connectivity.
Models	Use connectivity and infrastructure to change people's behaviours (e.g. Smart cities). Shared leased lines for small businesses in rural areas, subsided.
Cost	Identify the areas that should need an investment. Incentivise providers to build fast fibre network.
Public places	Improve the connectivity in public places for public services and locations such as at schools, hospitals and libraries.

QUALITATIVE INPUT ON SUPPLY CHAINS

Connecting supply and demand

Supply **Supply chains** Demand

Companies go where they find the best value for meet their needs (IND). This regions is internationally connected (UK, EXP) and buying services from anywhere from the world (EXP) does not seem to be an issue. However, 'more' of connecting (NET) the both sides would be win-win. There should be more transparent knowledge sharing (KNO) of what are the needs of the buyers. Also, to give a better access to suppliers to both public and private procurement (IND) would open the opportunities for local companies (IND) to offer their products and services.

Quote 1: "In many digital supply chains, location is irrelevant as we're purchasing from worldwide suppliers (EXP)."

Quote 2: "Only once have I found a local company (UK) that could supply us, we bought them (INV)."

Quote 3: "The more local start up business (ENT) know about the need of and operational requirement (industrial standards) of large local customers (IND) the better."

Qutoe 4: "Too much emphasis on local companies supplying other local companies (UK, IND) worries me it looks parochial."

Topic	Survey findings
Demand	For many digital services, location is irrelevant. Do not buy inferior technology for the sake of cost, including from foreign companies. Buy from the best, if they are local that is great. It should be easier to find locally based suppliers. Only once have I found a local company that could supply us, we bought them.
Supply	Supply chain is key for the knowledge transfer and ideas. Support training, innovation and collaboration. Online portal to publish opportunities. It should be easier for local business to tender for public service calls.
Connecting demand and supply	National and international aspects of demand and supply. Networking between suppliers and customers. Support for encouraging local supply of certain products. The more local startups businesses know about the need the better.

	Emphasis on local companies is parochial. Many business can supply but the needs are not well known.

QUALITATIVE INPUT ON HIGH IMPACT NETWORKING

Networking is happening within industry subsectors (IND), as well as across disciplines (UK). There should be more emphasis on attracting businesses (IND) and individuals (TAL) outside of the region to attend the events which often have the same local people attending (UK). Showcase the industry cluster (IND), as well share knowledge (KNO) in events by high net worth individuals from successful businesses (IND). Different parts of the region have different needs for networking. An ecosystem is joined up collaborative network. Access to venues should be easy and region would do better with more medium sized venues. Special topic events (IND) will survive if there is enough demand for them.

Quote 1: “We need to invite successful startups (ENT) in Cambridge & London areas (UK) to deliver talks about digital skills (DIG) and inspire young generation (TAL) to avail this opportunity accordingly.”

Quote 2: “While there will always be a high concentration of tech businesses in the city, people need (SUP) help everywhere in the region (IND, UK, TAL).”

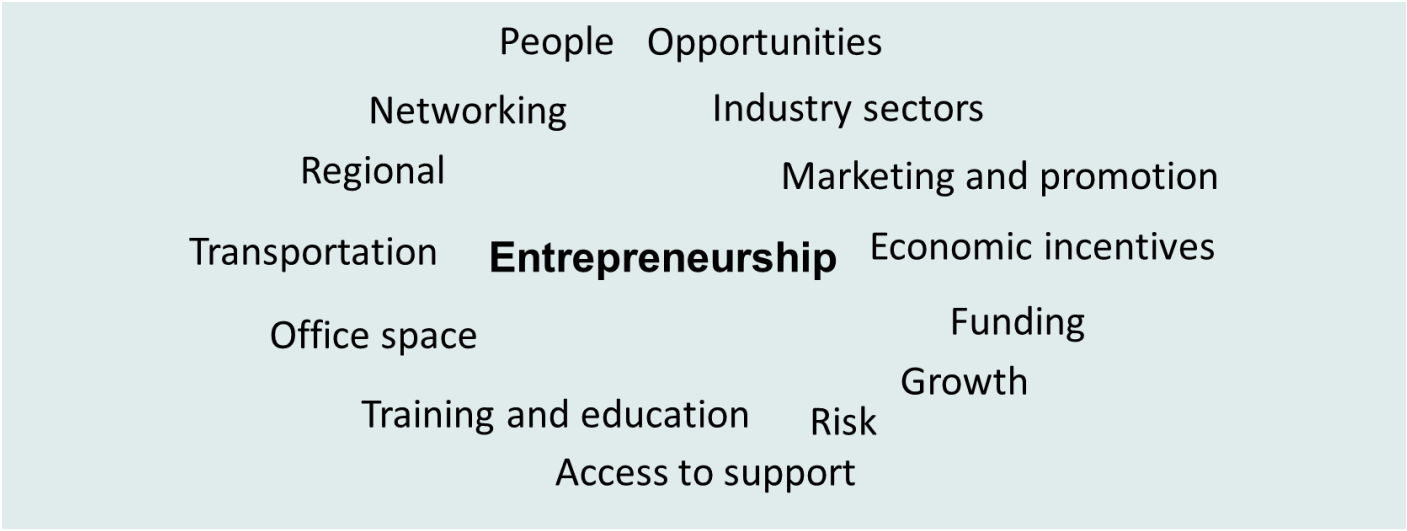
Quote 3: “Local networking (UK) is almost 'unimportant' as the amount of local customers (SUP) will always be small by the nature of our work.”

Quote 4: “Different parts of the region may have different appetites for networking.”

Topic	Survey findings
Attendees	Get dynamic companies which can bring cross market skills. Too few individuals are engaged and same people in the most events. Too many people trying to sell their services.
Type of networking	Networking should cover both the needs of online and face-to-face meeting needs. There could be a central hub where themes are discussed and opportunities shared.

	Events should be encouraged to invite successful startups from Cambridge and London to share experiences.
Regional aspects	Networking should be done in places with easy access. Different regions have different needs for networking. Networking should support the whole region to join, not just Cambridge. Local networking is not important at all. It is difficult to find a decent location for medium sized events. The volume of possible business is limited by the size of 'locality'.
Networking need and topics	Market forces will finally determine which themes will survive. Local companies to address local problems. Greater range of events. An ecosystem is a joined up network.
Organisers	The credibility of the organisation is imperative. There should be funding available to support existing networking groups to expand.

QUALITATIVE INPUT ON ENTREPRENEURSHIP



Startups should be supported at different stages of their journey by mitigating some of the risks they take, easier access to funding (INV) and knowledge sharing (KNO). There should be more advice about access to funding and local tax incentives. The region should attract more founders and co-founders and whole region should be promoted to new startups. Startups need affordable working space where they can network and get access to infrastructure (DIG).

> Quote 1: "Lowering the costs of office space and technology (DIG), increasing the available funding and support (INV), and increasing the follow-on business support beyond the first 12 months for new start ups."

Quote 2:"Create sector-specific (IND) opportunities for tech leaders (NET) to come together, share best practices and grow the sector as a whole."

Quote 3: "Key emphasis really needs to be on growth, specifically national and international sales (UK, EXP)."

Quote 4: "Getting more of the entrepreneurial spirit distilled into Fenland and East Cambs (TAL)."

Topic	Survey findings
People	Entrepreneurial spirit across the region should be embraced. Learn from people who have created successful business, or those who have failed. Access to affordable skills.
Opportunities	Create sector-specific opportunities and discover new ideas; share co-development opportunities.
Industry sectors	More startups on aging, climate change, sustainability, social enterprises
Marketing and promotion	Promote the region as place to setup a startup
Economic incentives	Give tax incentives to startups
Funding	Support raising funding to scale-up companies; and run 'the winners'. Give grants to early stage companies. Closing the gap between angel investments and VCs. Offer grants and soft loans, microgrants.
Growth	Support growth through national and international sales
Access to support	Facilitate the access to startup support
Training and education	Train future entrepreneurs to avoid reinventing and making mistakes.
Office space	Affordable office space
Transportation	Improve transport links, public in particular
Regional	Cambridge needs to be deemphasised
Networking	Support networking opportunities with more diverse participation through which entrepreneurs can connect to hubs, academia and the industry.
Risk	Try to support startups by mitigating risks of failure, including investment risk.

QUALITATIVE INPUT ON INVESTMENT AND FINANCE

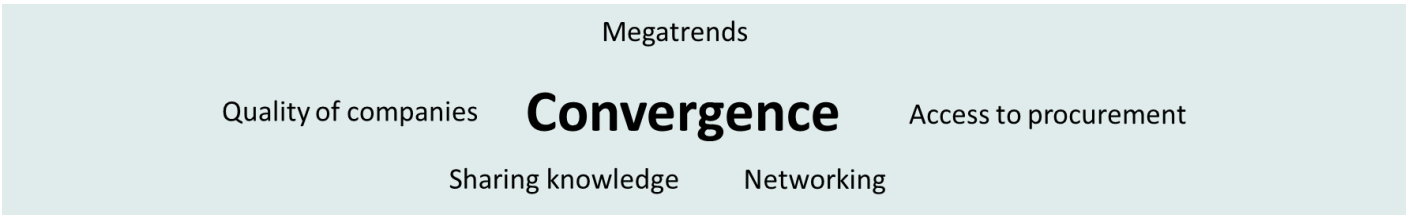
There should be better access (NET) to different types of funding (national, international) which is connected to expertise (mentors, advisers) (TAL, KNOW) in running and growing a business (IND). More advice and training is needed about different types of finance instruments, and tax breaks, especially for the small companies (ENT).

> Quote 1: "More focus on alternative investment (INV) models for early-stage startups. (ENT)"
>
> Quote 2: "The current system either means divesting ownership or gambling on high growth to repay loans and interest - neither results in a patient, lower and more sustainable rate of growth. Pooling growing businesses together (NET) as funding opportunities might help, along with making it easier to match businesses with groups of people (TAL) committing smaller individual amounts, matched by a large fund or organisation (IND), for example."
>
> Quote 3: "Create a favourable tax environment for small investors."
>
> Quote 4: "Local tax breaks, incentives or capital grants for cutting-edge equipment."

Topic	Survey findings
Investors	Pool of investors and funding is too small; London and international investors are needed. Attitude and approach towards funding of businesses should be improved. Traditional banks are not accommodating..
Office space	Investors should be close to businesses.
Networking	There should be centralized point of access to investors.
Startups&Businesses	Pooling growing business together. Understanding the stage of business is pivotal. Diversity of business builds resilience.
Training and education	More financial assistance, support and information about sources of funding is needed.
Policy	Government has a bad track record in investments. Local tax breaks. Market place will sort out this problem.
Financial instruments	Pooling of different types of investors to lower the risk. Public sector could commission innovation. New investment models and funding sources should be advertised.

	Novel investor categories. Crowdfunding training and alternative finance. Grants for micros startups. Angels could offer grants.
Access to finance	There is no lack of finance in the region for high quality companies. Lower the key barriers to access to finance. Customers are the 'best funding'.

QUALITATIVE INPUT ON APPLICATION IN INDUSTRY (CONVERGENCE)



Share knowledge (KNO, NET) and business opportunities (IND) to create and grow high quality technology companies (ENT) in new technology sectors.

Quote 1: "More research (KNO) should be done on identifying the current industry trends (DIG) for the local businesses (IND) in this region (UK)."

Quote 2:"It's the link (NET) between equipment makers (IND), technology developers, and process developers (TAL)."

Quote 3: The creation of hubs (NET) to cluster industry in sectors (IND, TAL) and/or related sectors."

Quote 4: "Speakers at business breakfast/ business friend networks (NET) to bring the new technologies (DIG) to the attention of the market."

Topic	Survey findings
Megatrends	We should look at what roles we have in the technology supply chain in supporting innovation and learning. The problem with cutting edge technology is that it is often demonstrations work. This is a competitive differentiator.
Sharing knowledge	Learn from and share best practices across sectors to identify industry trends. What is available and how accessible it could be?
Quality of companies	Great firms will survive, poor management will fail.

Access to (public) procurement	Small businesses should be involved easier to local public procurement opportunities and systems. Rewarding large business and government for buying from early stage innovators can help both sides.
Networking	Establish links between equipment makers, technology developers, and process developers. The creation of hubs to cluster industry in sectors. Speakers at business breakfast/ business friend networks to bring the new technologies to the attention of the market.

QUALITATIVE INPUT ON INTERNATIONAL TRADE

Government should give grants (INV) for companies going international (EXP), to attend international trade fairs and meet customers and potential customers (NET, IND). Startups are born global (ENT) but they need advice about international trade (EXP), taxes. Brexit is causing uncertainty (EXP, INV).

> Quote 1: "Support beyond existing DIT services, to research international market opportunities (EXP, INV), plus facilitate business introductions (NET), through grants (INV) to attend trade fairs, travel, marketing and communications (NET)."
>
> Quote 2: "In the digital sector international trade (EXP) should be seamless, technical barriers are low. "
>
> Quote 3: "Make grants (INV) available for market research in targeted areas (EXP), and use centralized resources to facilitate making first moves."
>
> Quote 4: "Fight Brexit to avoid a step-change downwards (EXP)."

Topic	Survey findings
Support exports activity	The support for businesses should be go beyond existing DIT services. There should be easy access to services and trainings including online resources. Facilitate business introductions and access to real demand. Provide support, advice in trade activities e.g. tax advice.

Quality of businesses	Create and develop high quality businesses that trade to foreign markets. Technology startups are mostly born global.
Finance	Create grants to attend trade fairs, travel, marketing and communications including trade missions.
Locality	Focus on developing skills and capabilities.
Brexit	Brexit uncertainty can create step-change downwards.
Publicity	Publish success stories, also failure.

QUALITATIVE INPUT ON FOREIGN DIRECT INVESTMENT

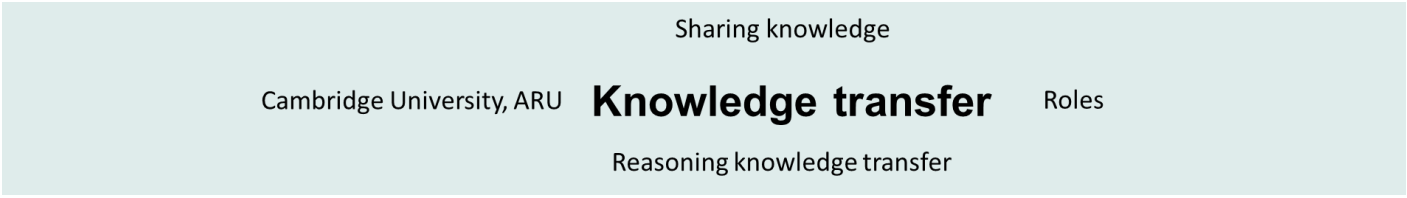
Region should offer soft landing services and advice to foreign companies (EXP) considering this region for investment. When businesses visit Cambridge they should be offered to see other places than city of Cambridge (UK, INV). The foreign funding is used to scale up the companies globally (EXP), to bring new knowledge (KNO) and connection (NET) s to the region and wealth. Brexit uncertainty is a serious issue at the moment (EXP).

> Quote 1:" There is a need to protect our region's technology assets (KNO) from purchase and asset stripping but investment in our research institutes and businesses (INV) is crucial to fund further development.
>
> Quote 2:" Areas beyond Cambridge (UK) should be advertised as easier access into Cambridge, also at international level."
>
> Quote 3:" The Foreign firms should be made adopt a few start-ups (ENT) to help them mentor them and grow."
>
> Quote 4:" In my experience, the attraction for foreign investment is to gain teams with unique skills (KNO) and experience rather than any other incentives."
>
> Quote 5: Providing a framework for investment, dealing with due diligence and terms (KNO) as well as introducing investors (INV) and entrepreneurs (ENT).

Topic	Survey findings
Awareness	Demonstrate unified presence at international events. Providing a framework for investment, dealing with due diligence and terms as well as introducing investors and entrepreneurs.
Costs	Foreign technology firms cause costs increase of running businesses.

Investments	Foreign investment should invest in research, businesses on a longer period of time. Areas beyond Cambridge should be advertised. Foreign investment often helps the companies to scale-up and go global markets.
Ownership	We should protect region's technology assets from acquisitions. Foreign firms should adopt, mentor and grow local startups.
Reasoning	Attraction for foreign investment is to gain teams with unique skills and experience. Firms will locate here because of the local talent.
Brexit	Make clear how Brexit affects foreign investments.

QUALITATIVE INPUT ON KNOWLEDGE TRANSFER



Knowledge transfer between academia and industry can reduce risks and accelerate market entry (IND). Attention should be paid to IP Management, ownership and knowledge transfer processes (SUP). Funding collaboration between industry and academia should be encouraged (INV).

Quote 1: "Support to share best practices (NET) and what excellence looks like in the development of innovation and IP, including reducing investment risk and accelerating market adoption."

Quote 2: "The universities (Cambridge and ARU) are getting much better at engaging with business (NET) in the region (UK), but it's still hard for smaller businesses (ENT) to collaborate on research and innovation work with them (SUP)."

Quote 3: "SMEs are very cautious talking to large companies because IP theft (ENT) is sadly common."

Quote 4: "The best way to transfer knowledge and experience is people (TAL). The more talent is attracted to, and grown in, the region the more easily business (IND) can learn from each other."

Topic	Survey findings
Sharing knowledge	Region should be showcasing local innovation and truly valuable information to support collaboration across sectors. Strategy should identify the more relevant channels to transfer knowledge. Encourage younger people to be involved in the knowledge transfer. Develop, define the culture of knowledge transfer.

Cambridge University Anglia Ruskin University	Harnessing the university IPR by working with smaller business Establish access to resources, skills and technology and support interaction between academia and the industry.
Reasoning knowledge transfer	Knowledge transfer can reduce investment risk, accelerate market adoption Industry and academia can bid for collaborative innovation funding. Develop processes that make knowledge transfer faster, time to market.
Types of knowledge transfer	Programs that fund knowledge transfer between industry and academia e.g. KTPs.
IP Management	How will IP transfer be managed which doesn't go to competitors. Value of IP.
Roles	Regional co-ordinator could work with InnovateUK, KTN, academia on connecting experts to local communities. Visualising the regional actors.

QUALITATIVE INPUT ON LINKS IN THE UK

Connecting the region (NET) with other regions is about bringing new skills, talent (TAL), business opportunities (IND) and businesses (INV) to the region. While businesses outside of the region are considering of locating themselves here, they should be also shown other parts of the region than only Cambridge and near-to Cambridge locations (NET).

> Quote 1: "Attracting more partnerships with tech businesses (INV) outside the region by improving the skills (TAL), facilities (DIG), events (NET) and support in the area."
>
> Quote 2: "Technology showcase events (NET). Trade 'Missions' to other networks."
>
> Quote 3: "Skills, industry knowledge exchange (TAL, KNO) and transport links are important."
>
> Quote 4: "Areas of rural development need to offer hi-tech business space (IND) to grow."

Topic	Survey findings
Partnership development	Attract more partners from outside of the region which benefit all parties involved.

Networking	Bringing opportunities to businesses in different locations in the region.
Assets and knowledge	Support improving skills that are interest beyond the region. Offer high quality facilities to network with local businesses
Events	Organise technology showcase events. Cross-discpline events that facilitates group thinking, collaboration and creativity in a sustained manner.
Venues and locations	Areas of rural development need to offer hi-tech business space to grow. Getting co-location of this expertise with industry

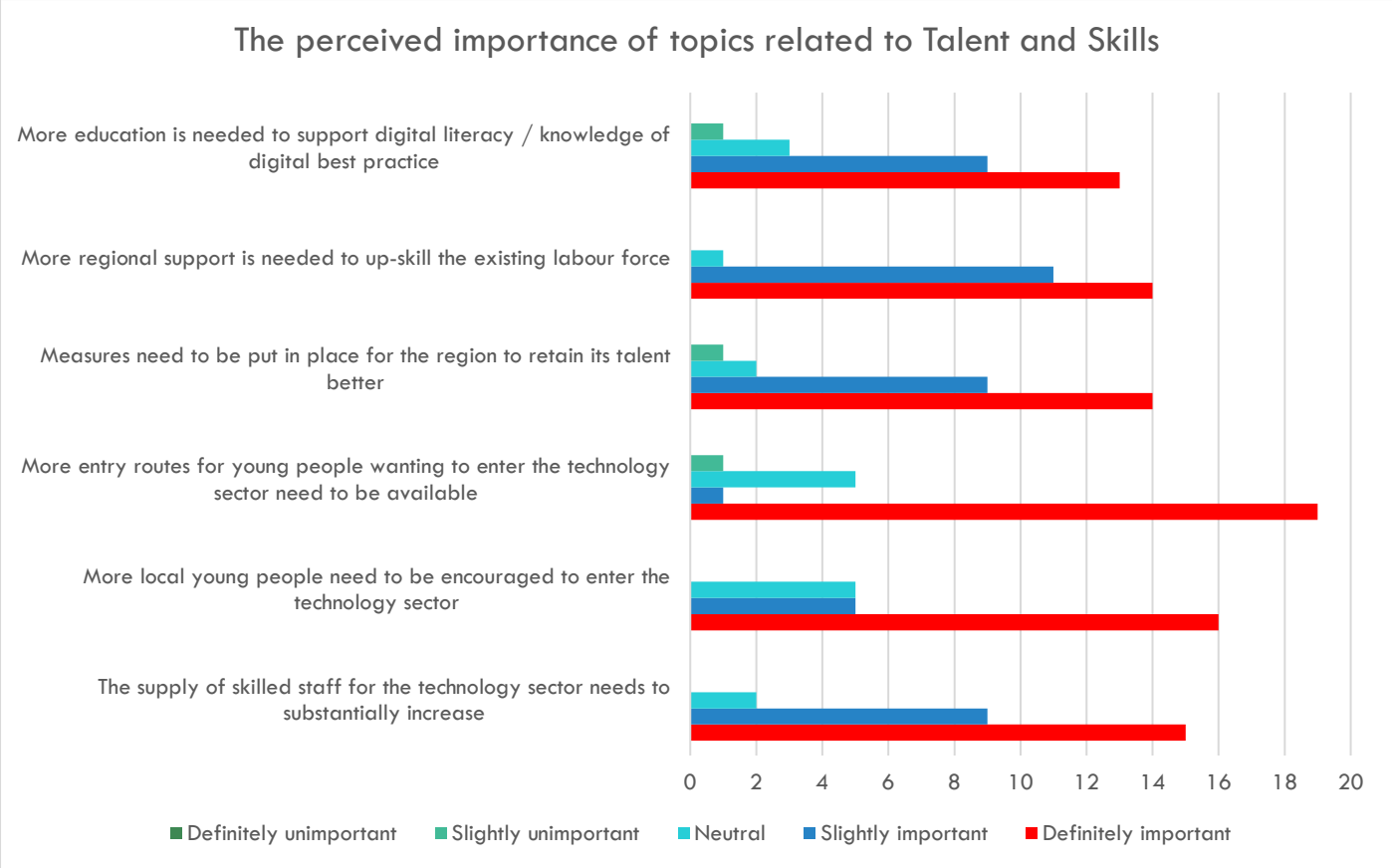
---End of Annex 1---

ANNEX 2

Quantitative findings from primary data

Quantitative survey findings were collected from the survey respondents and analysed at domain theme level. The charts below outline the overall perceived importance of the hypotheses that were being tested per domain, the geographical variation between respondents and variation caused by the respondent's position within the technology supply chain.

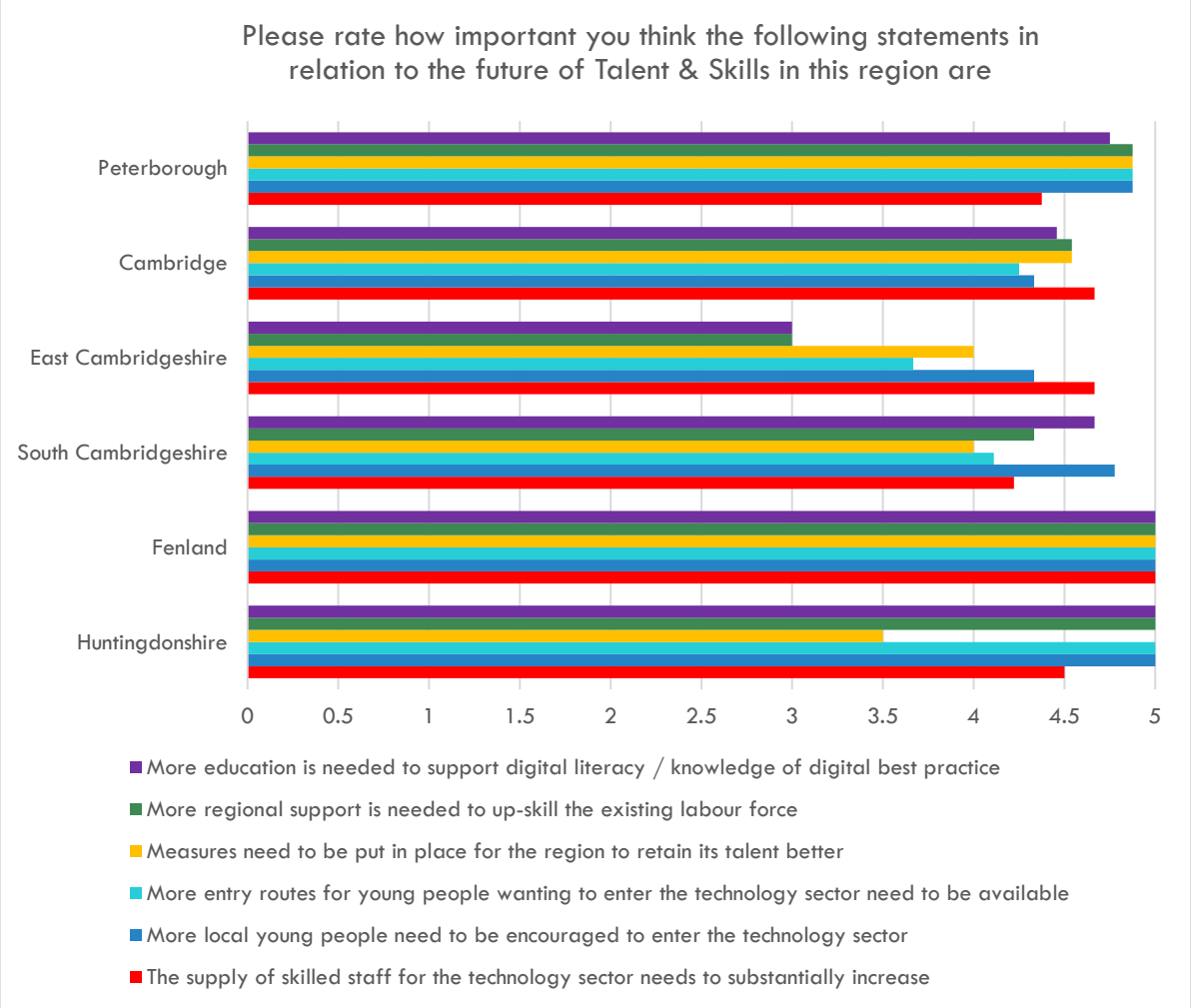
QUANTITATIVE INPUT ON TALENT AND SKILLS



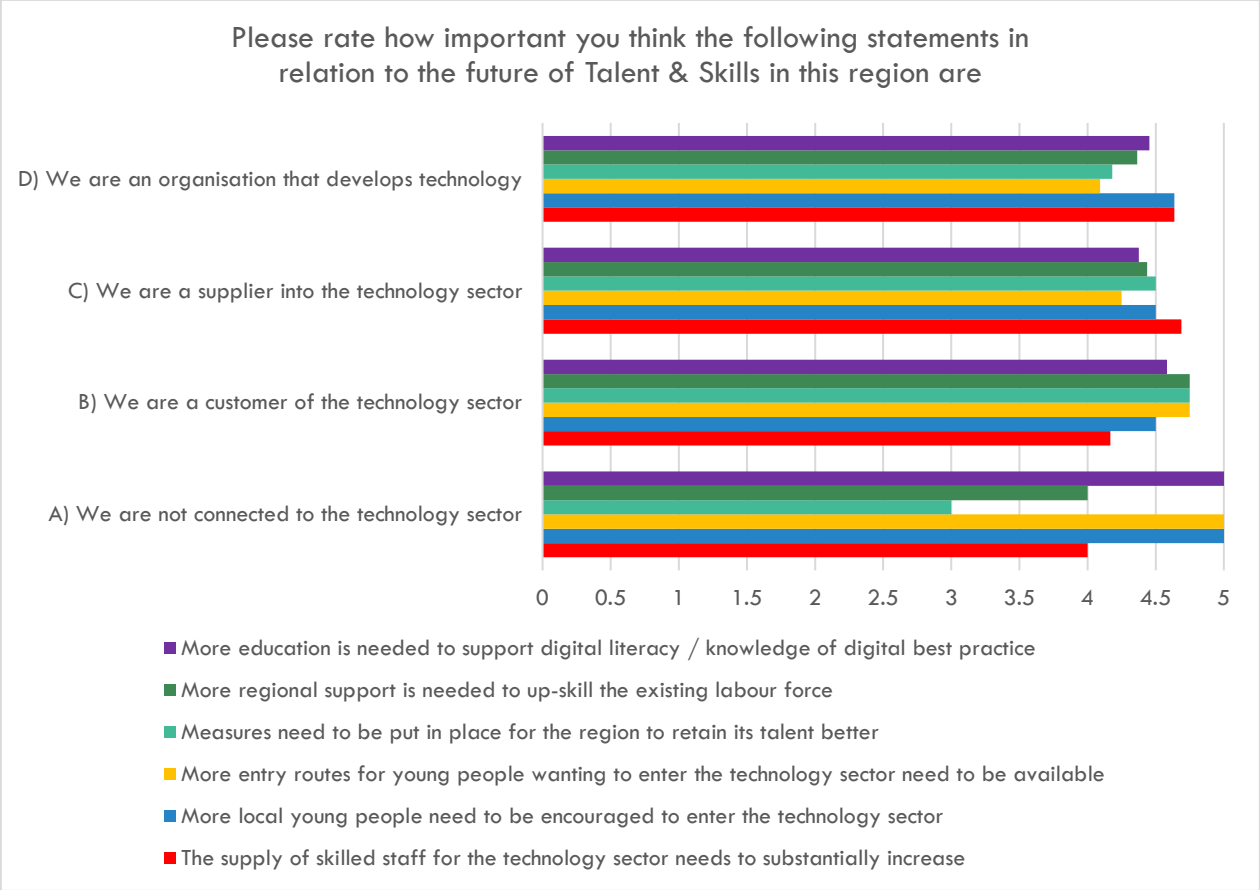
The results become more interesting when looking at the answers disaggregated at district level, one can see that Talent and Skills are perceived as significantly important along all the six priorities in the Fenland, four in Huntingdonshire, three in Peterborough, two in South Cambridgeshire and one each for Cambridge and South Cambridgeshire.

In detail,

- **More local young people need to be encouraged to enter the technology sector,** is particularly relevant in Fenlands, Hunts, South Cambridgeshire and Peterborough, (but it is still relevant also in Cambridge and East Cambridgeshire)
- **More regional support is needed to up-skill the existing labour force,** is relevant in Fenlands, Hunts, and Peterborough
- **More education is needed to support digital literacy / knowledge of digital best practice,** is a relevant issue everywhere apart from East Cambridgeshire
- **More entry routes for young people wanting to enter the technology sector need to be available,** is a particularly relevant issue in Fenlands, Hunts and Peterborough (but also relevant in Cambridge and South Cambridgeshire)
- **The supply of skilled staff for the technology sector needs to substantially increase,** is of key relevance to every region including Cambridge that clearly perceives this bottlenecks.
- **Measures need to be put in place for the region to retain its talent better,** is of key relevance for respondents in the Fenlands, Peterborough and Cambridge

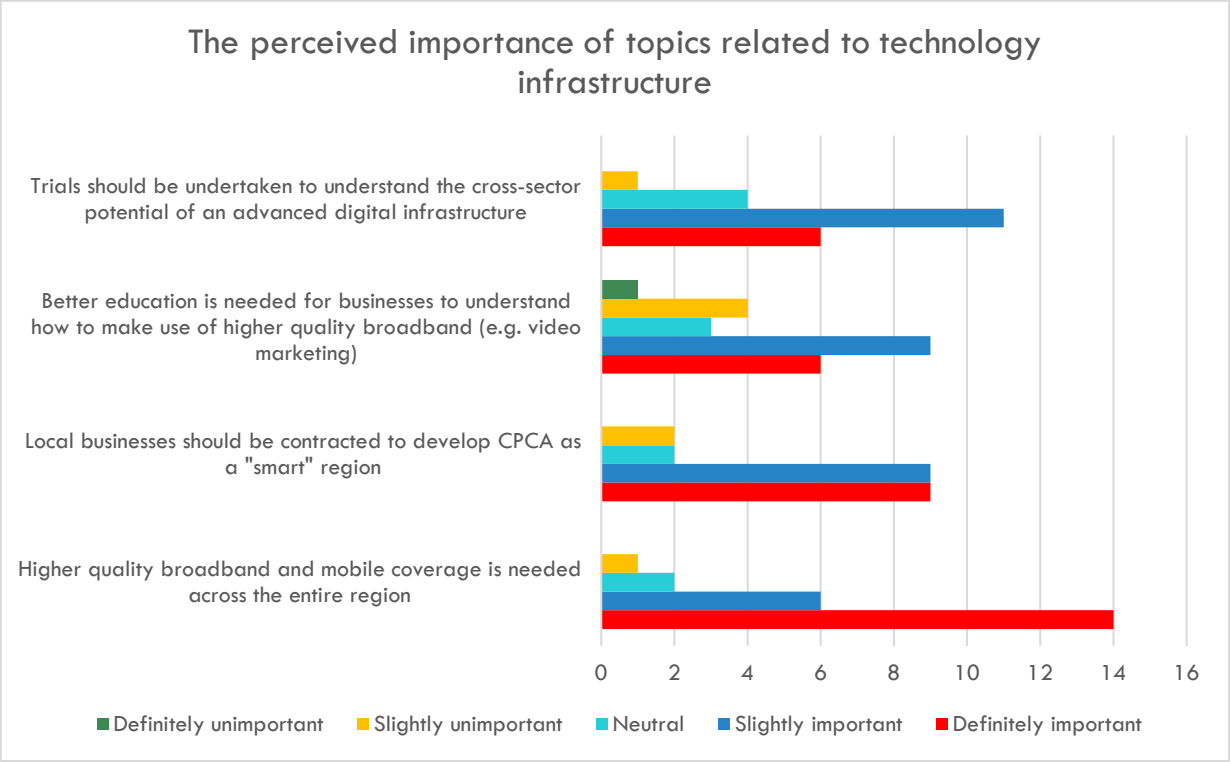


When disaggregating according to the role played in the technology values chain, one can see that the future of Talent and Skills in the Region is perceived as particularly relevant mainly by the respondents that are not connected to the technology sector, and that the key priorities for these respondents are: **More education is needed to support digital literacy / knowledge of digital best practice; More local young people need to be encouraged to enter the technology sector** and; **More local young people need to be encouraged to enter the technology sector.**



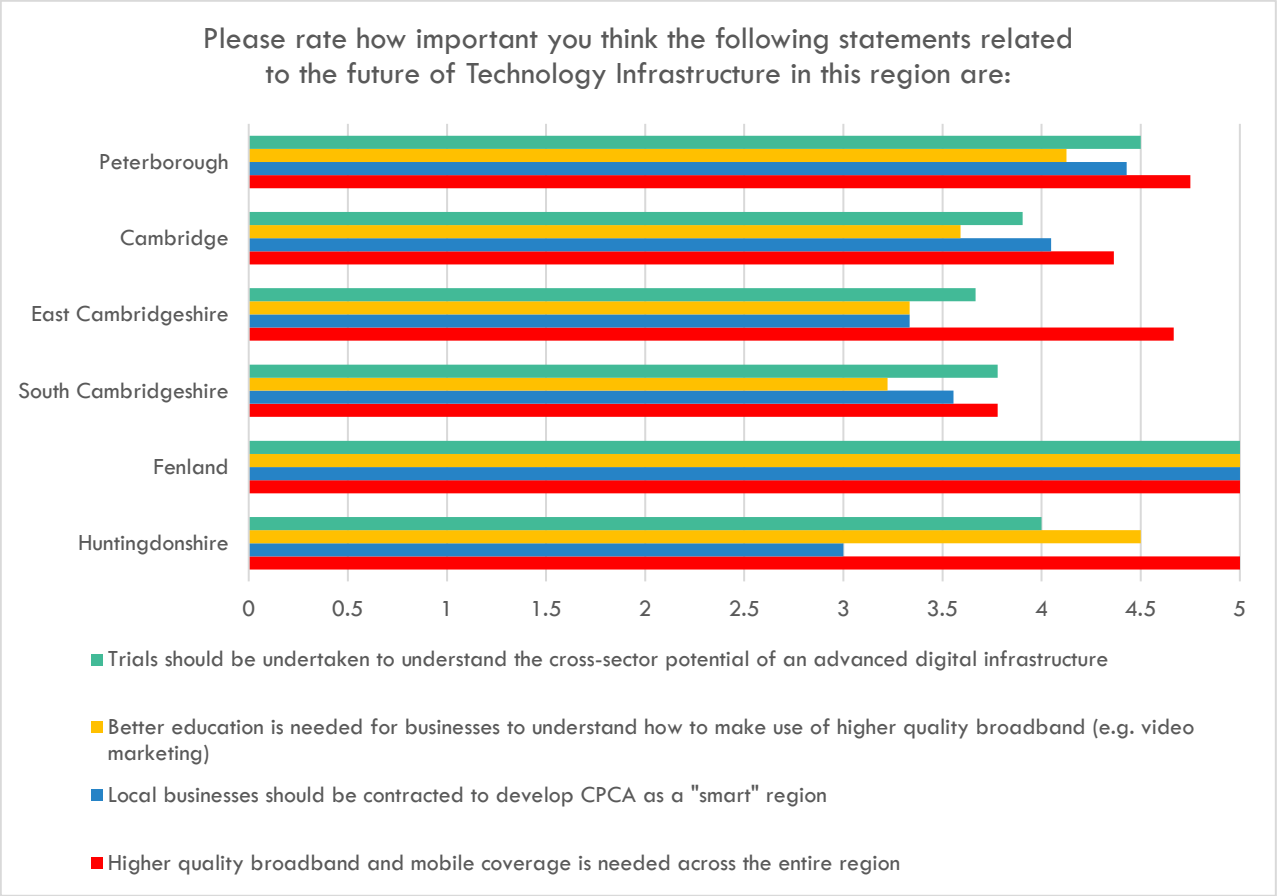
QUANTITATIVE INPUT ON TECHNOLOGY INFRASTRUCTURE

When looking at the perceived importance of topics related to technology infrastructure the aggregate responses show that **Higher quality broadband and mobile coverage is needed across the entire region, is the key priority.**

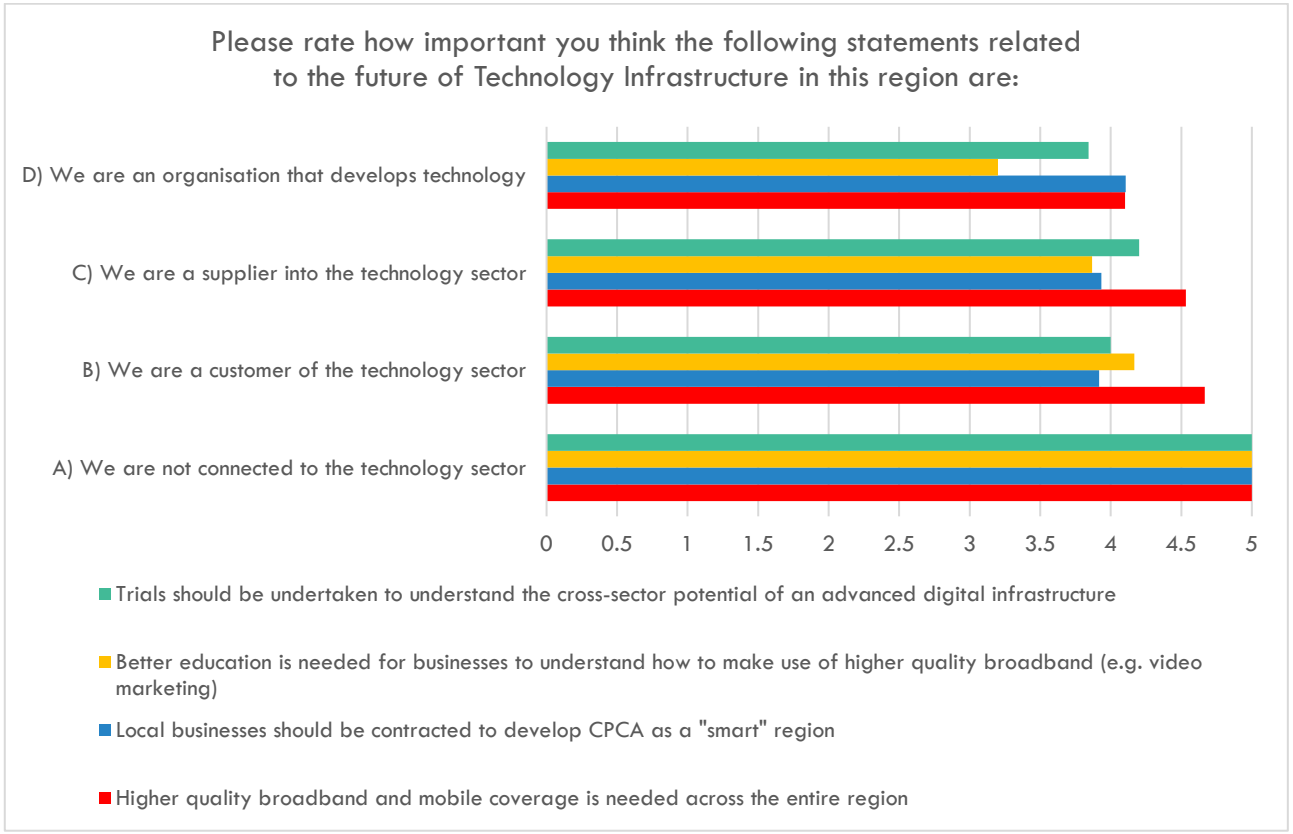


When looking at the disaggregated responses, however, the data show that the Fenlands considered all four options as of key relevance, Peterborough also but with slight less intensity, Cambridge and Huntington focussed on two key issues and East Cambridgeshire on one. In detail,

- **Higher quality broadband and mobile coverage is needed across the entire region**, was a top priority for all areas apart from East Cambridgeshire
- **Local businesses should be contracted to develop CPCA as a "smart" region**, is particularly relevant for the Fenlands, Peterborough and Cambridge
- **Better education is needed for businesses to understand how to make use of higher quality broadband (e.g. video marketing),** was a priority for respondents in Fenlands, Hunts and Peterborough, while
- **Trials should be undertaken to understand the cross-sector potential of an advanced digital infrastructure**, seems to be critically relevant for Fenlands, Hunts and Peterborough.

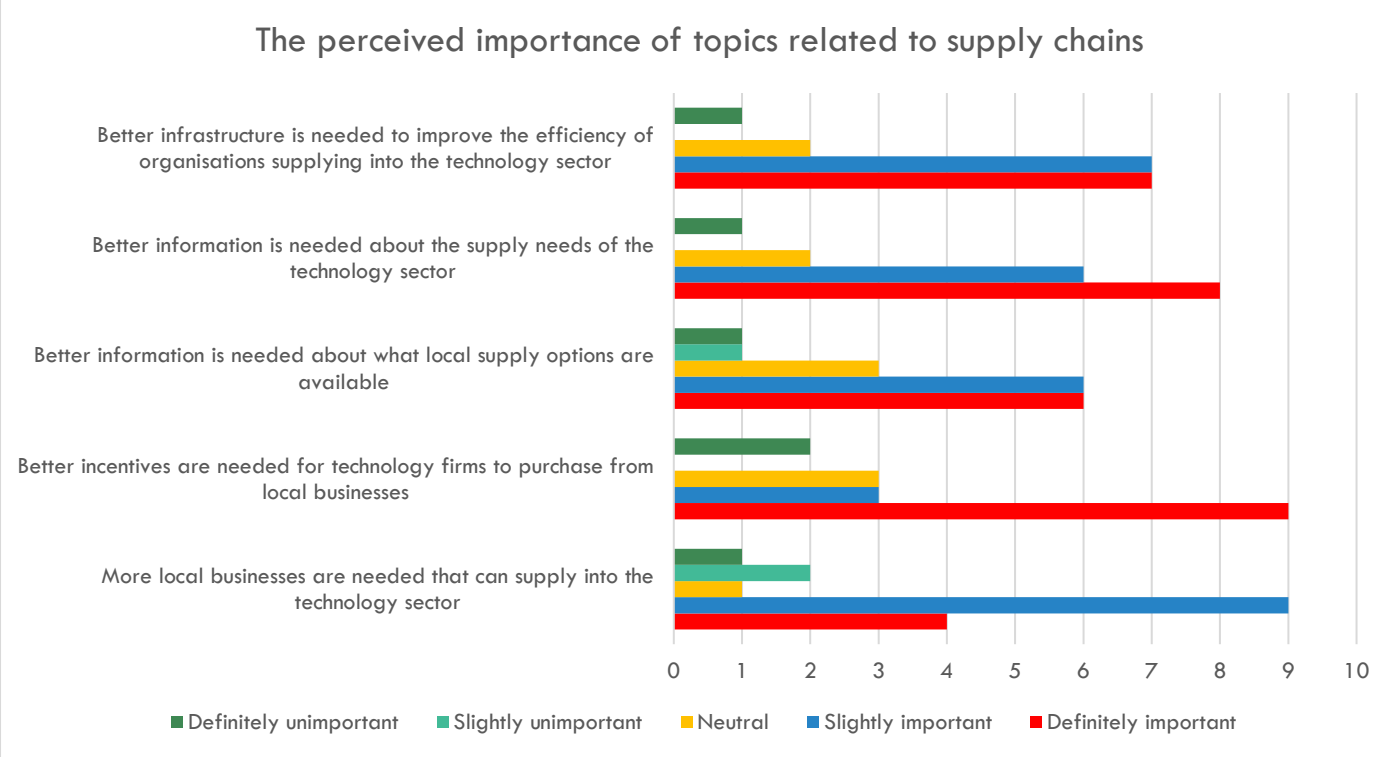


All the priorities were of higher relevance, for the respondents that considered themselves as not connected to the technology sector.

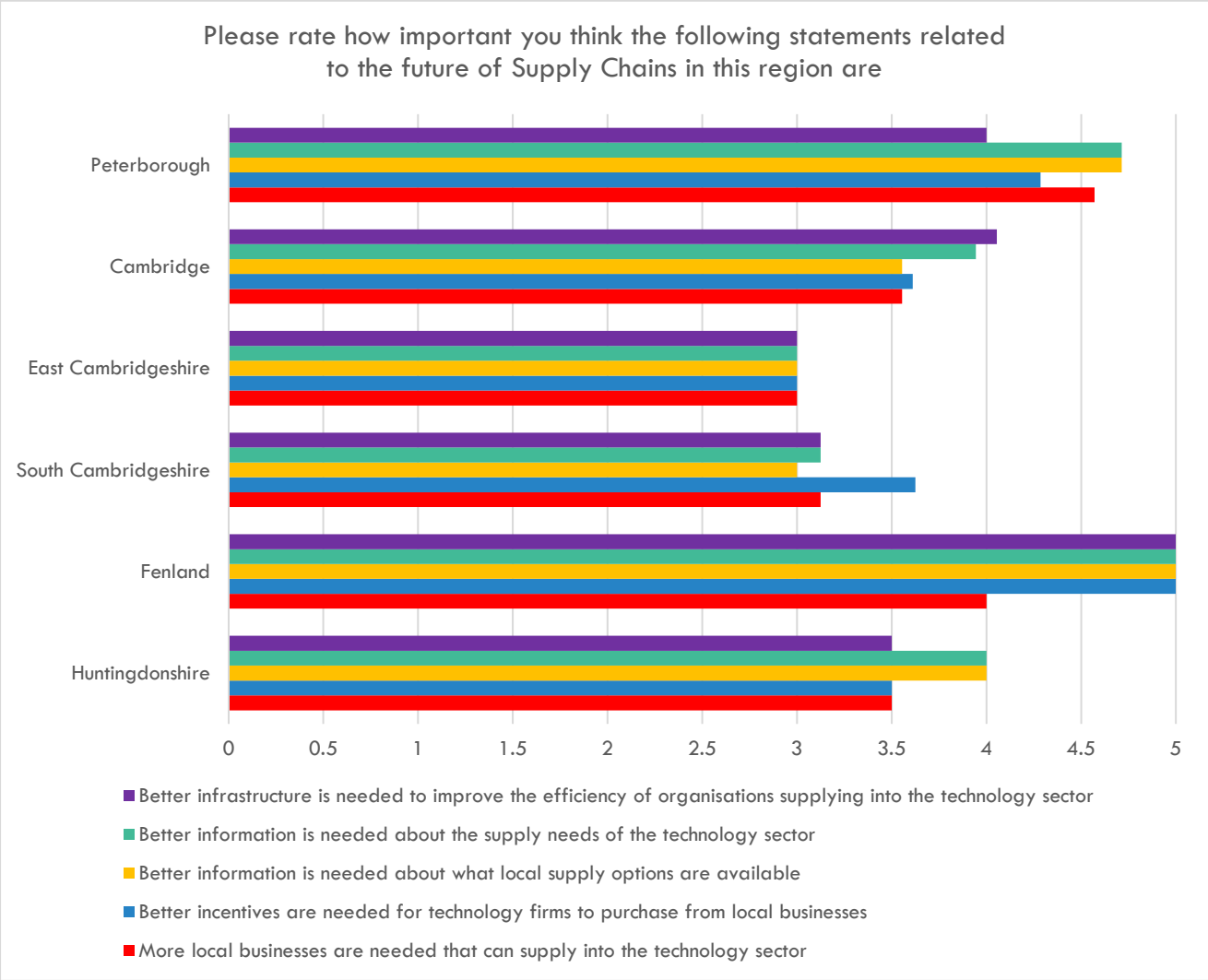


QUANTITATIVE INPUT ON SUPPLY CHAINS

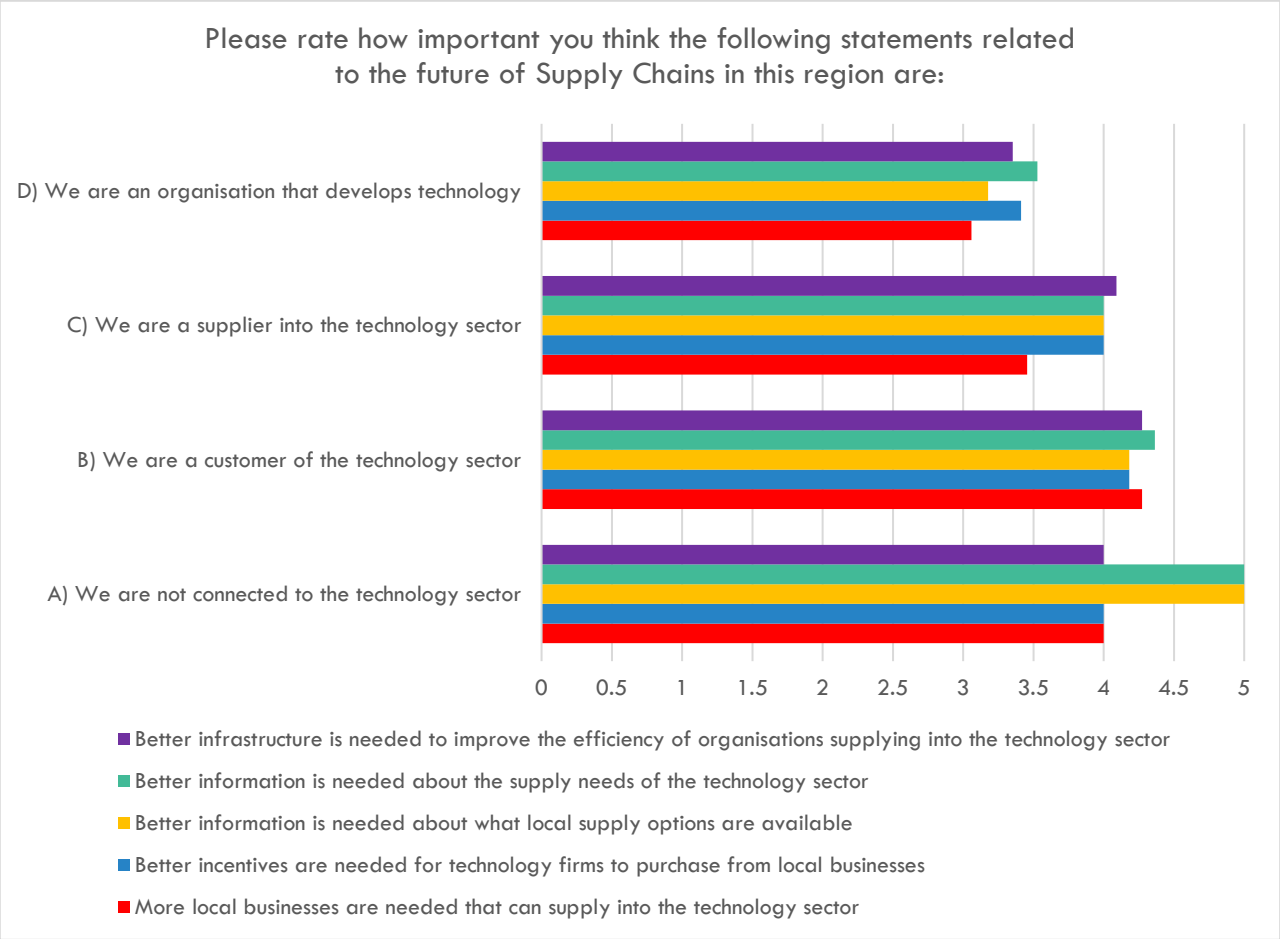
Moving to the perceived importance of topics related to supply chains, one can see that **Better incentives are needed for technology firms to purchase from local businesses,** is the top priority at aggregate level followed by **Better information is needed about the supply needs of the technology sector** and that **More local businesses are needed that can supply into the technology sector is also** relevant for a significant number of respondents.



- **Better information is needed about what local supply options are available**, and
- **Better information is needed about the supply needs of the technology sector,** were the priorities on supply chains for Peterborough the Fenlands and Hunts
- **Better infrastructure is needed to improve the efficiency of organisations supplying into the technology sector,** was a key priority for Peterborough the Fenlands and Cambridge
- **Better incentives are needed for technology firms to purchase from local businesses,** were of high relevance for Peterborough and the Fenlands and, finally
- **More local businesses are needed that can supply into the technology sector, was of high relevance only in** Peterborough and the Fenlands

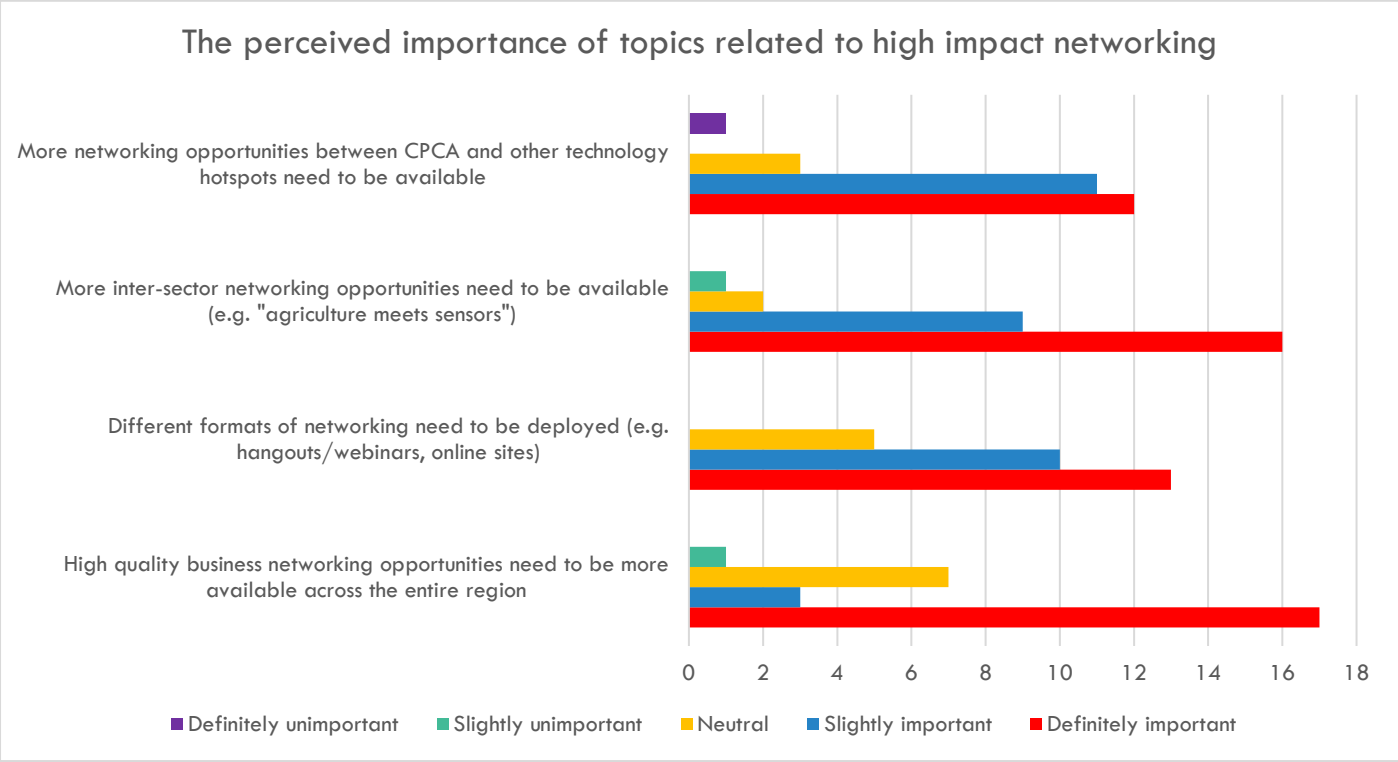


- When focussing on the role in the value chain, **Better information is needed about what local supply options are available**, and **Better information is needed about the supply needs of the technology sector,** were the key priorities, the relevance of which was particularly by the respondents that considered themselves as not connected to the technology sector.



QUANTITATIVE INPUT ON HIGH IMPACT NETWORKING

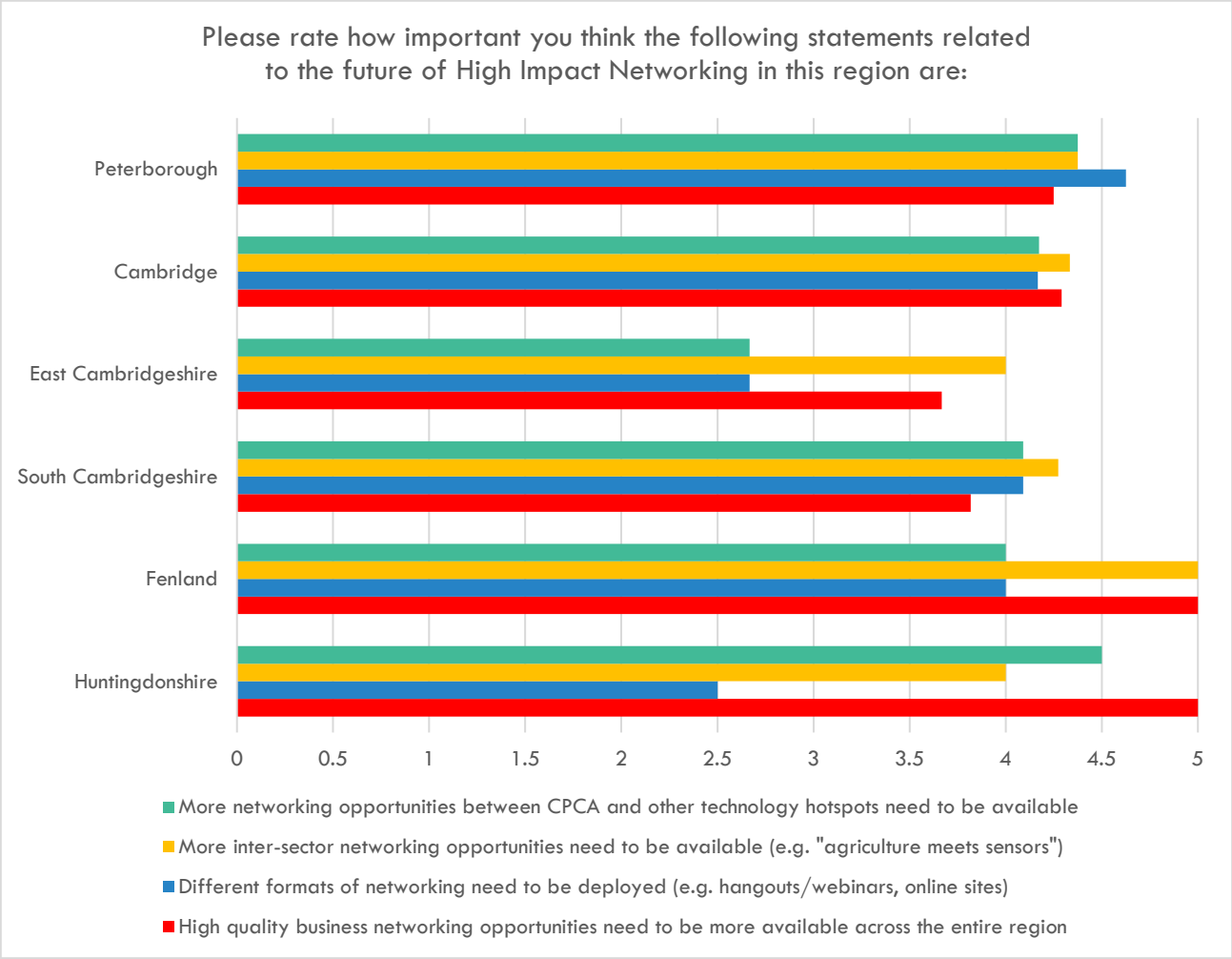
Moving to the perceived importance of topics related to high impact networking, one can see **that High quality business networking opportunities need to be more available across the entire region**, and
More inter-sector networking opportunities need to be available are the two top priorities at aggregate level.



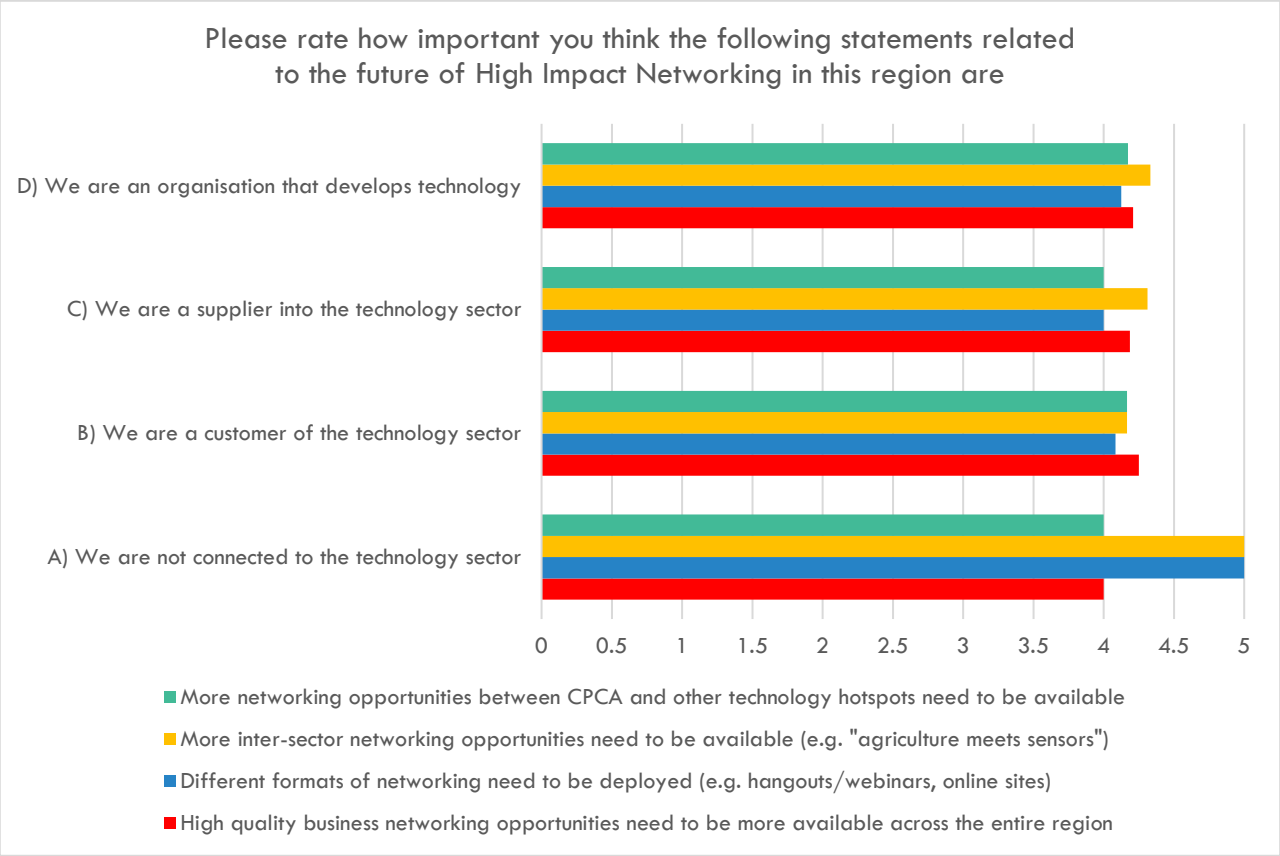
By looking at the geography data, The Fenlands identify these same two priorities as critically relevant:

- **High quality business networking opportunities need to be more available across the entire region**, and
- **More inter-sector networking opportunities need to be available** (e.g. "agriculture meets sensors")

This last priority is critically important also for Huntingdonshire

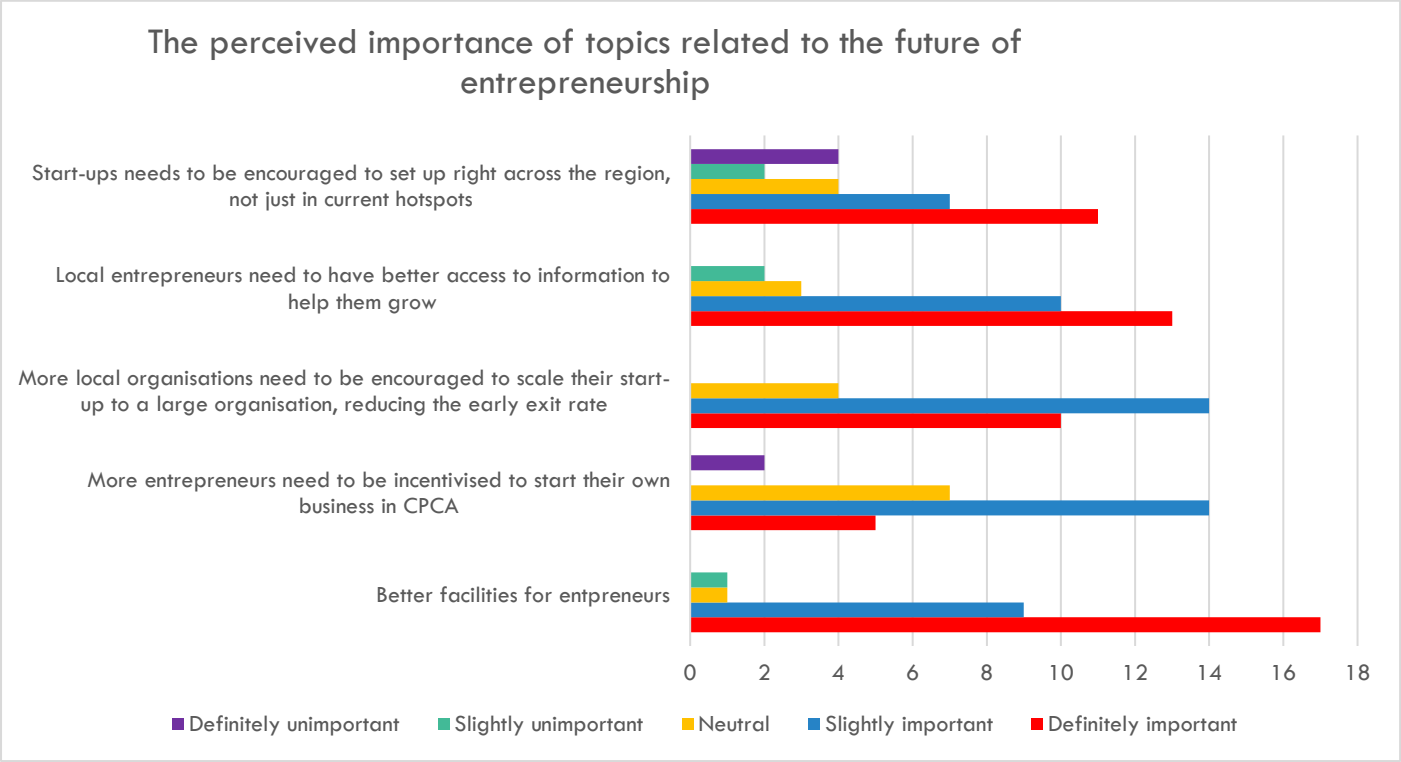


Similarly to the previous domains, the respondents not connected to the technology sector expressed the strongest needs, focussing in particular on **More inter-sector networking opportunities need to be available** and **on different formats of networking need to be deployed**



QUANTITATIVE INPUT ON ENTREPRENEURSHIP

Considering the perceived importance of topics related to the future of entrepreneurship, one can see that Better facilities for entrepreneurs was definitively important for a relevant number of respondents



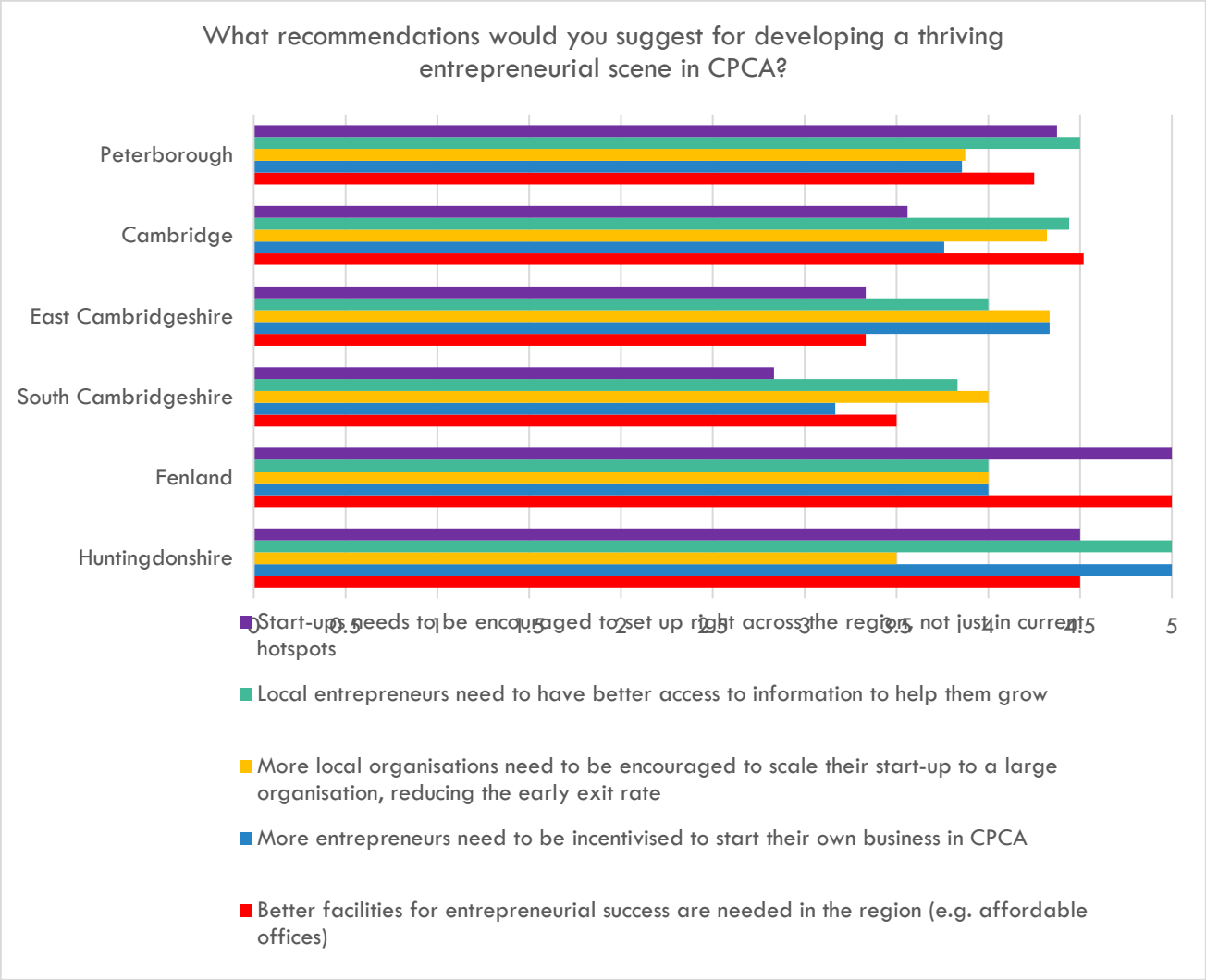
The Graphs below shows the geographic distribution of priorities for developing a thriving entrepreneurial scene in CPCA across areas. The Fenland's answers prioritise

- **Start-ups needs to be encouraged to set up right across the region, not just in current hotspots** and
- **Better facilities for entrepreneurial success are needed in the region** (e.g.affordable offices)

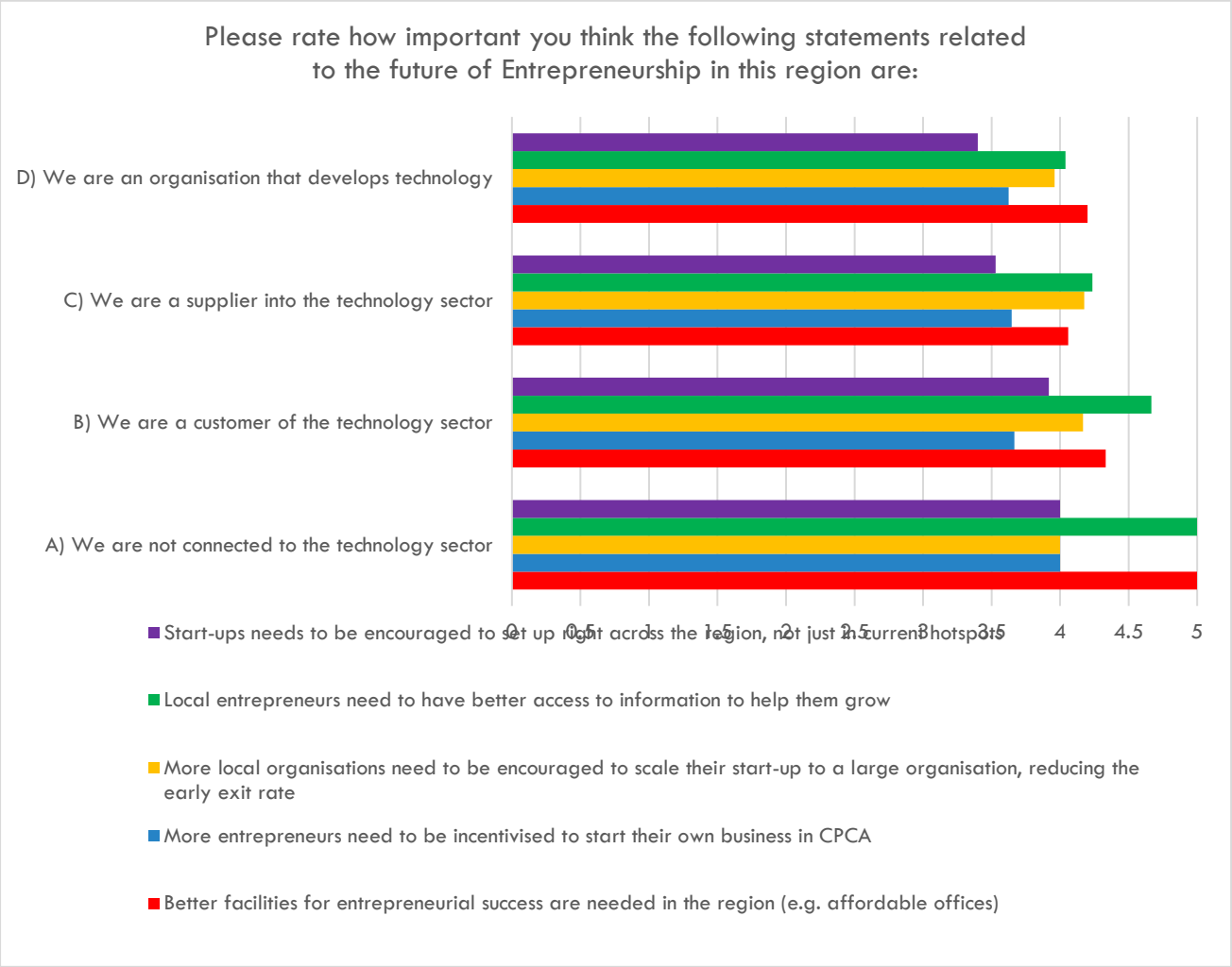
While Huntingdonshire prioritised

- **More entrepreneurs need to be incentivised to start their own business in CPCA** and
- **Local entrepreneurs need to have better access to information to help them grow**

Fenland/Peterborough/Huntingdon do place more importance in start-ups being encouraged around the region than East/South/Cam while the need for start-up facilities is highest in Fenland, followed by Cambridge

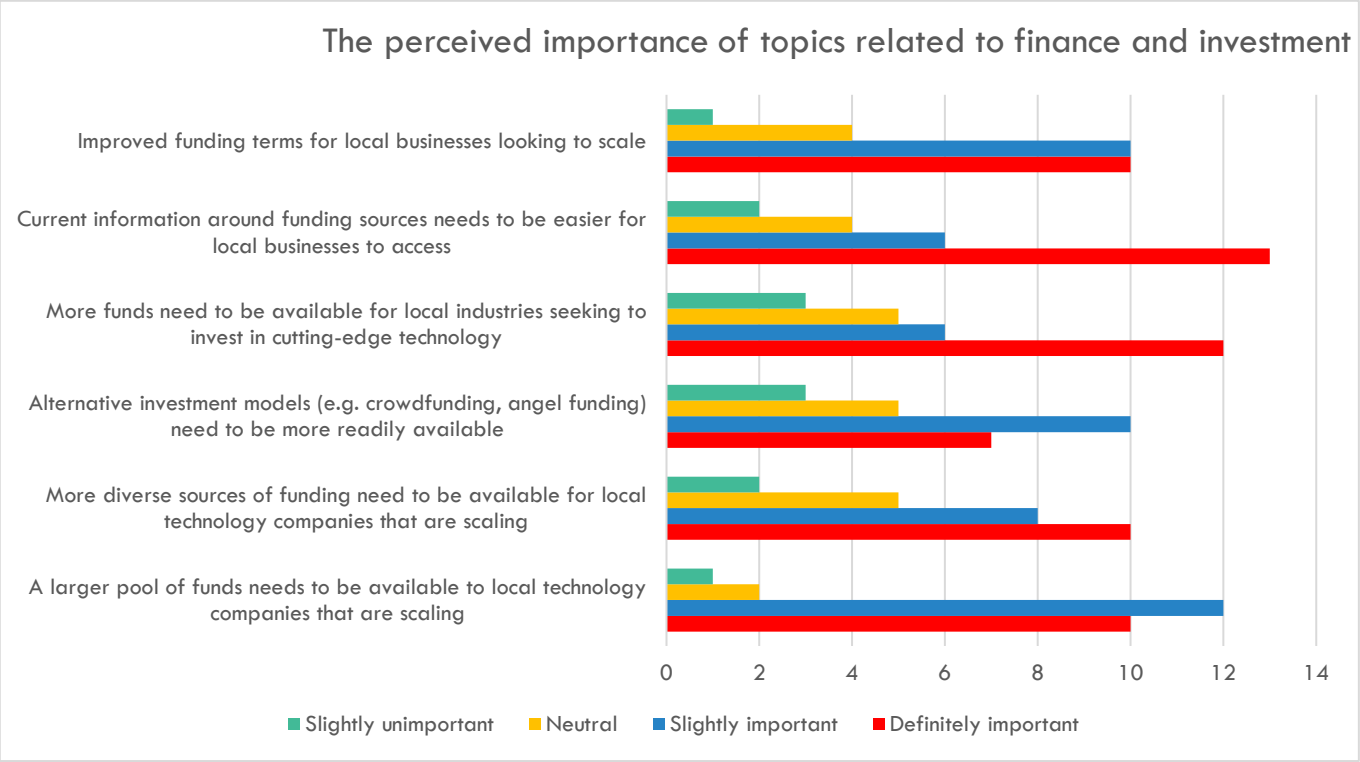


- Also when considering the priorities on entrepreneurship, the respondents non connected to the technology sector indicated the higher priorities as **Better facilities for entrepreneurial success are needed in the region** (e.g.affordable offices) and **Local entrepreneurs need to have better access to information to help them grow.**

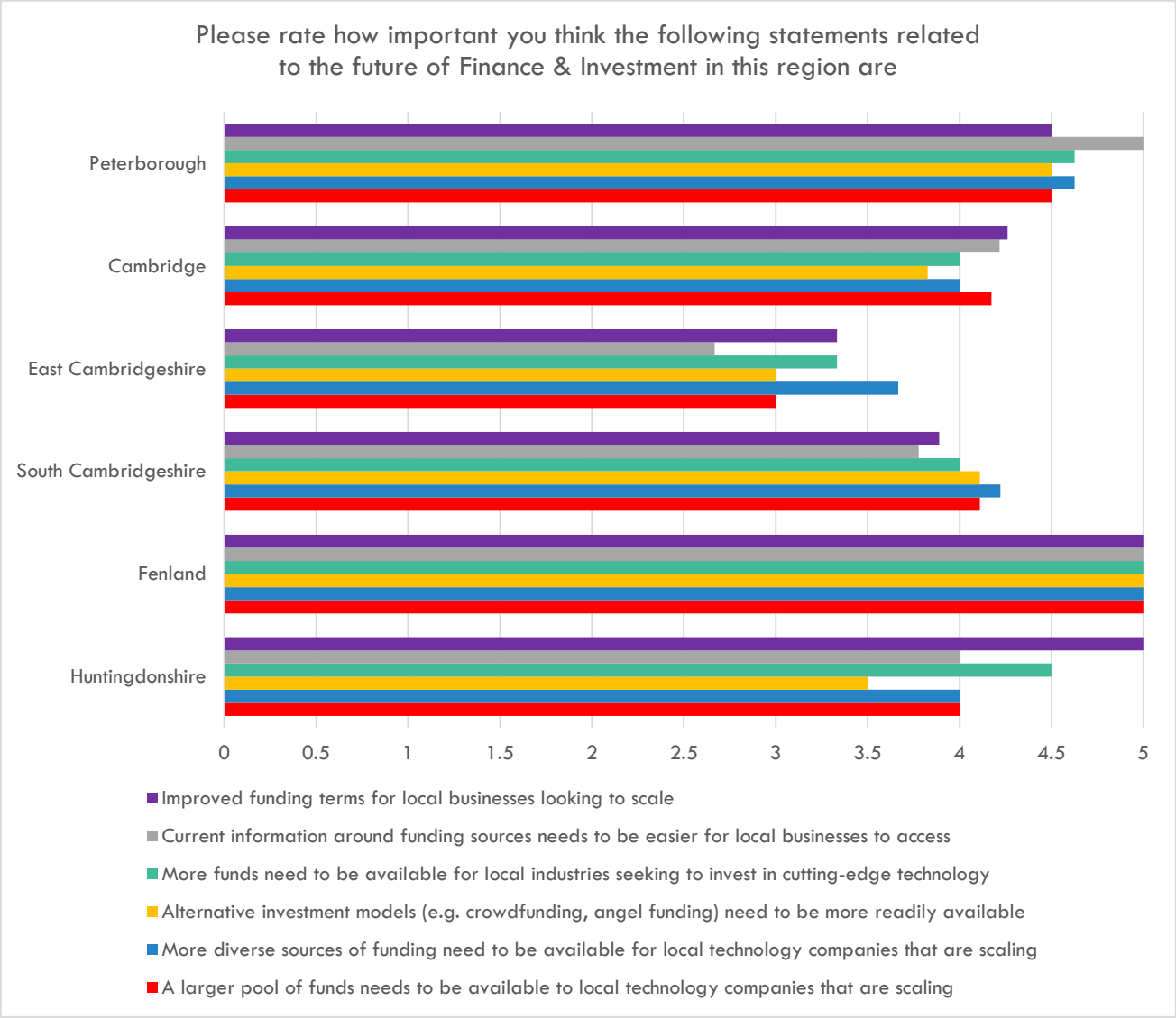


QUANTITATIVE INPUT ON INVESTMENT AND FINANCE

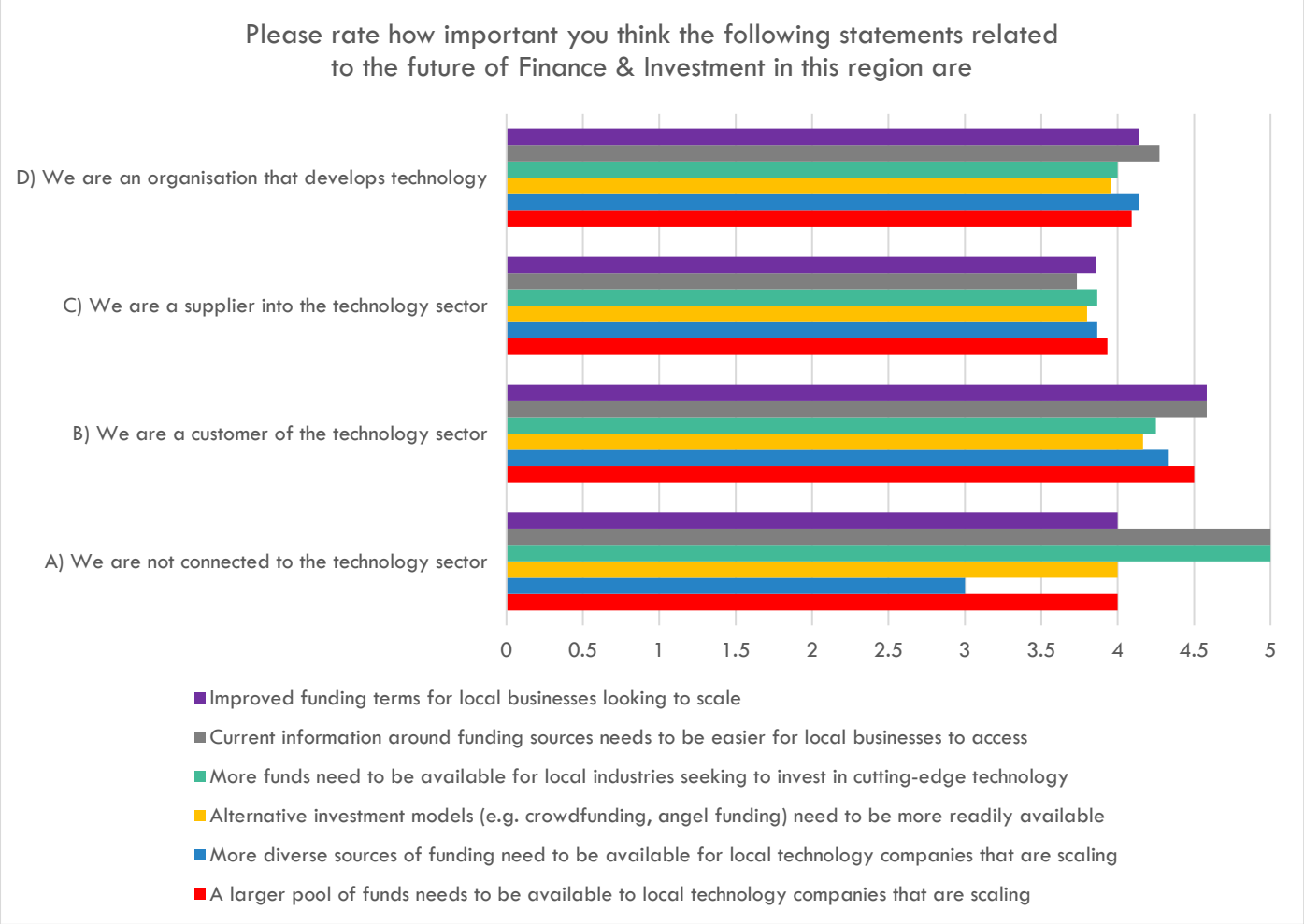
Moving to the answers on the perceived importance of topics related to finance and investment, once can see that the priorities at aggregate level are: **current information around funding sources needs to be easier local business to access** and **more funds need to be available for local industries seeking to invest in cutting edge technology**



When considering the disaggregated answers, at district level, one can see that, The Fenlands identify all these as top priorities, showing a very wide set of needs around finance and investment, while Huntingdonshire identifies the need for **Improved funding terms for local businesses looking to scale** as the key priority indicating the willingness to scale

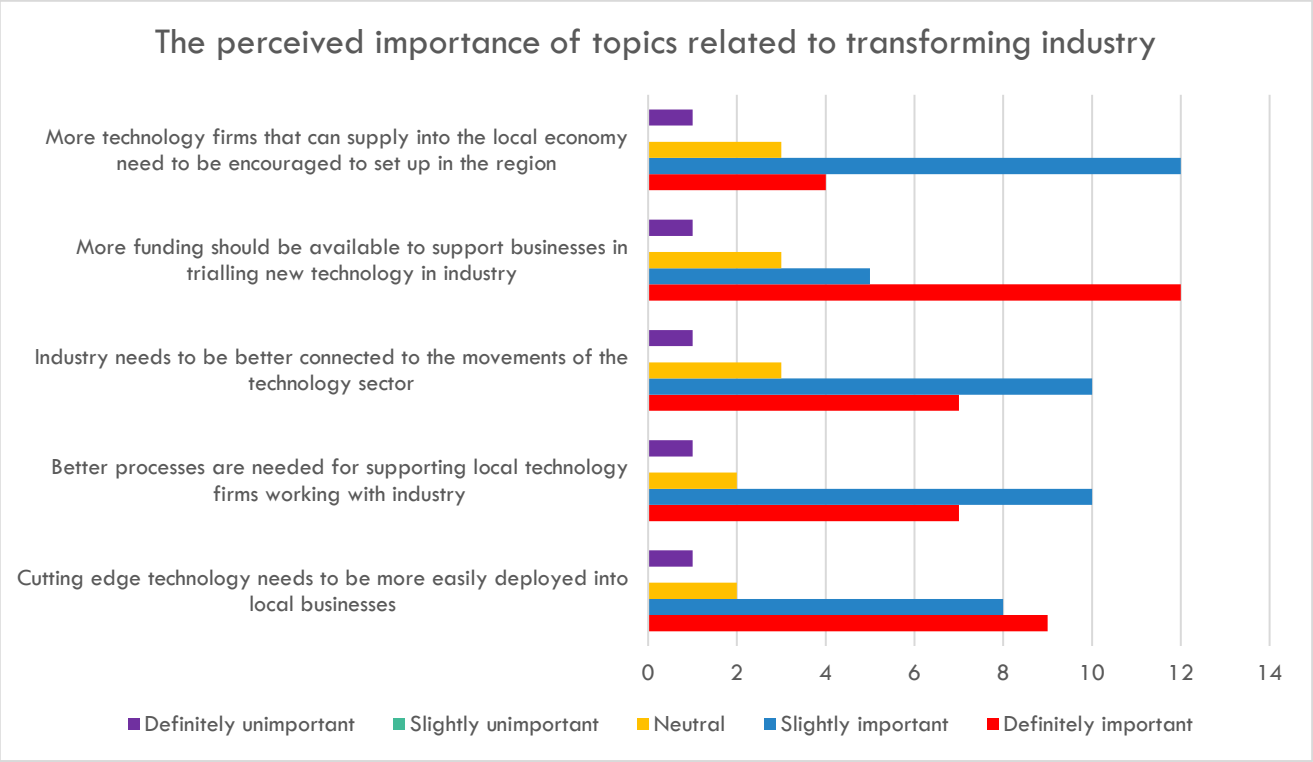


Again, focussing on the role in the supply chain, the respondents non connected to the technology sector indicated the higher priorities, a those on the **current information around funding sources needs to be easier local business to access** and **more funds need to be available for local industries seeking to invest in cutting edge technology.**



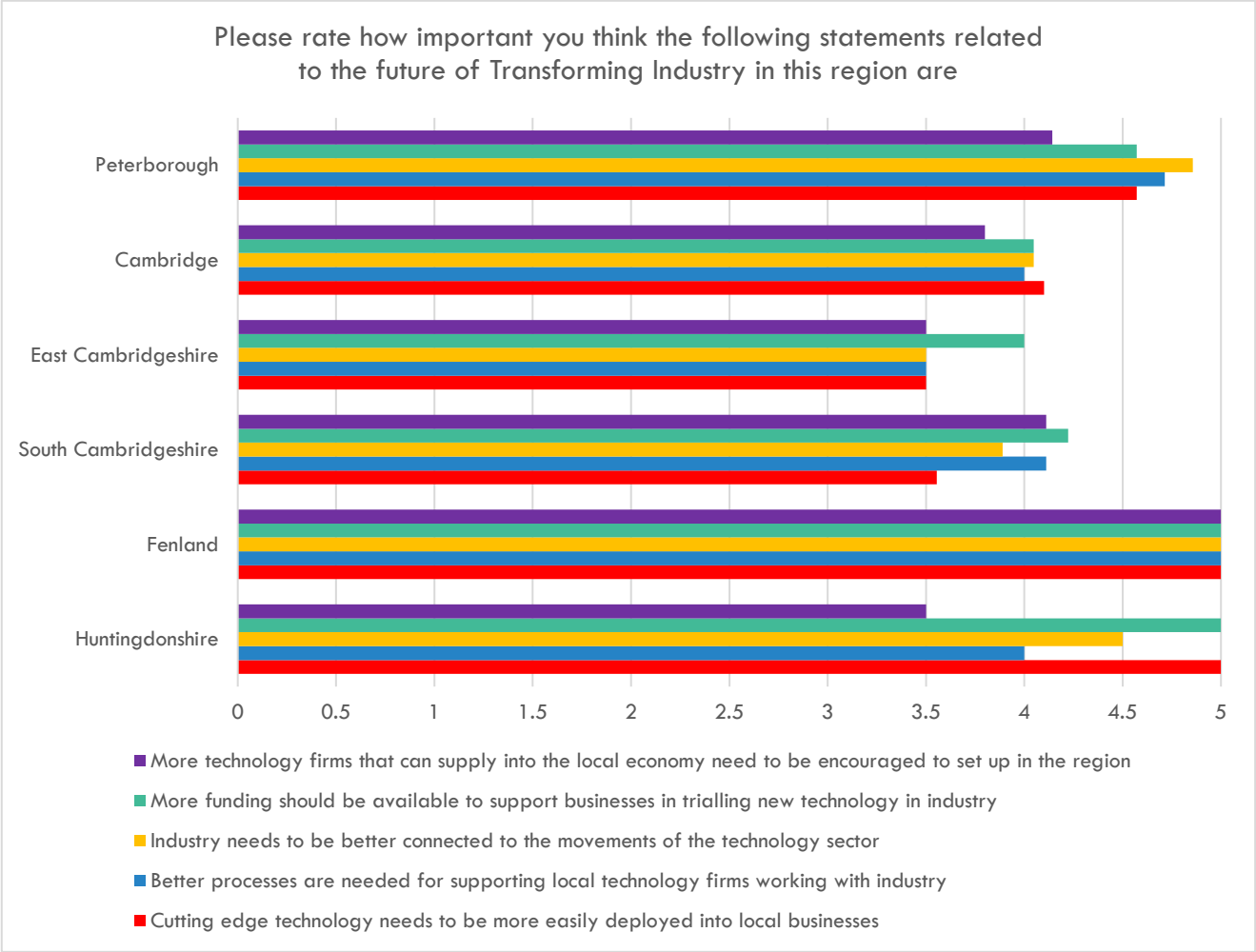
QUANTITATIVE INPUT ON APPLICATION IN INDUSTRY

Moving to the relevance importance of topics related to transforming industry, this question addressed a more active propositive stance, asking to look at the critical elements needed to transform the future. At aggregate leve, the key identified issue is **More funding should be available to support businesses in trialling new technology in industry,** followed by **More technology firms that can supply into the local economy need to be encouraged to set up in the region.**

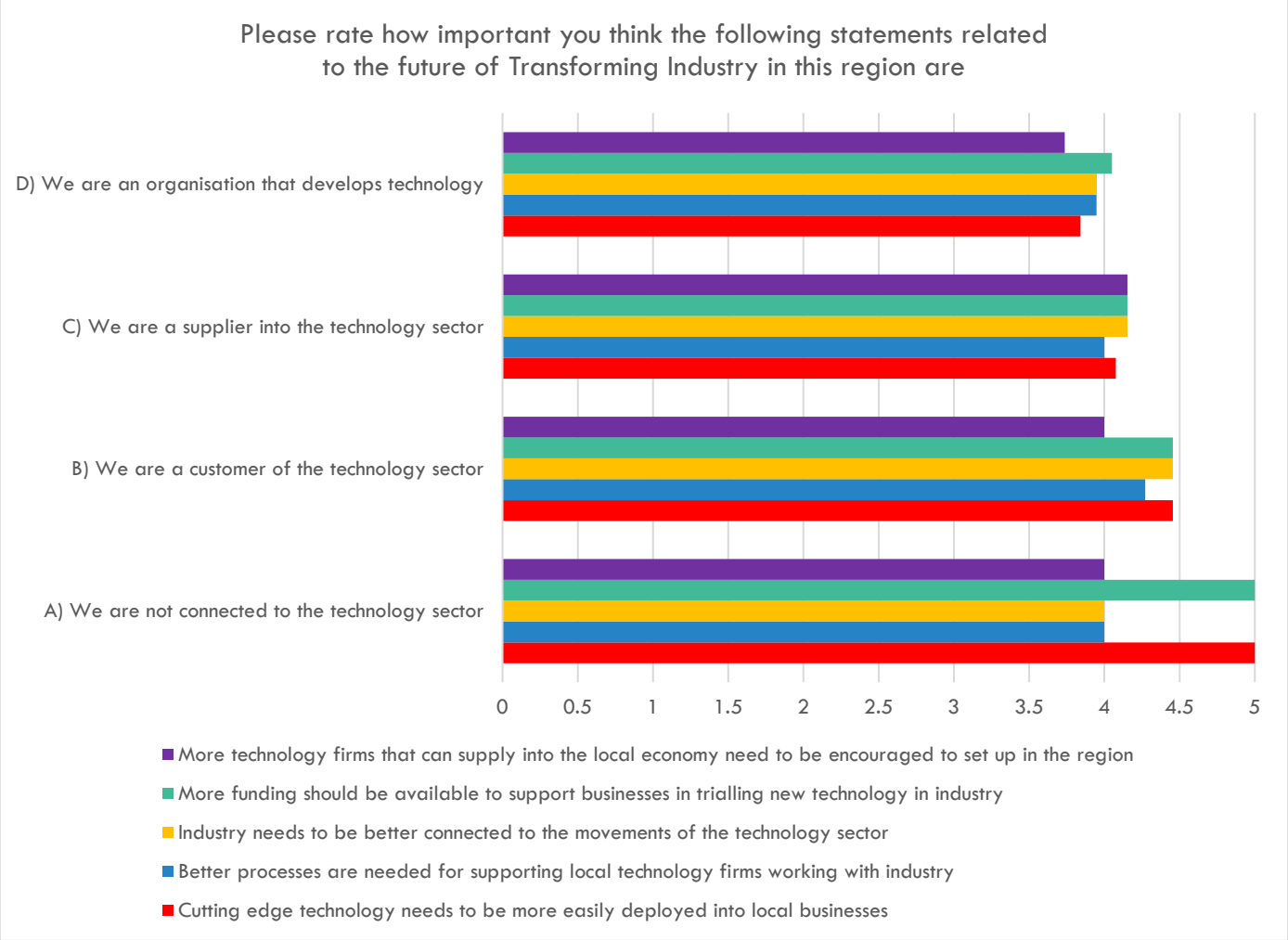


Shifting to focus on the district level, one can see that, again, the Fenlands considered all issues as being of critical importance as well as Peterborough and Hunts, though with slight less intensity. In detail, both

- **Industry needs to be better connected to the movements of the technology sector and**
- **Cutting edge technology needs to be more easily deployed into local businesses,** were of key relevance for the Fenlands Peterborough and Hunts as well as Cambridge
- **Better processes are needed for supporting local technology firms working with industry**, are critical for Fenlands Peterborough and Hunts, South Cambridgeshire as well as Cambridge
- **More funding should be available to support businesses in trialling new technology in industry** is, as expected, relevant for all areas, even though with some variation in intensity, while
- **More technology firms that can supply into the local economy need to be encouraged to set up in the region,** was relevant for Fenlands Peterborough and, South Cambridgeshire

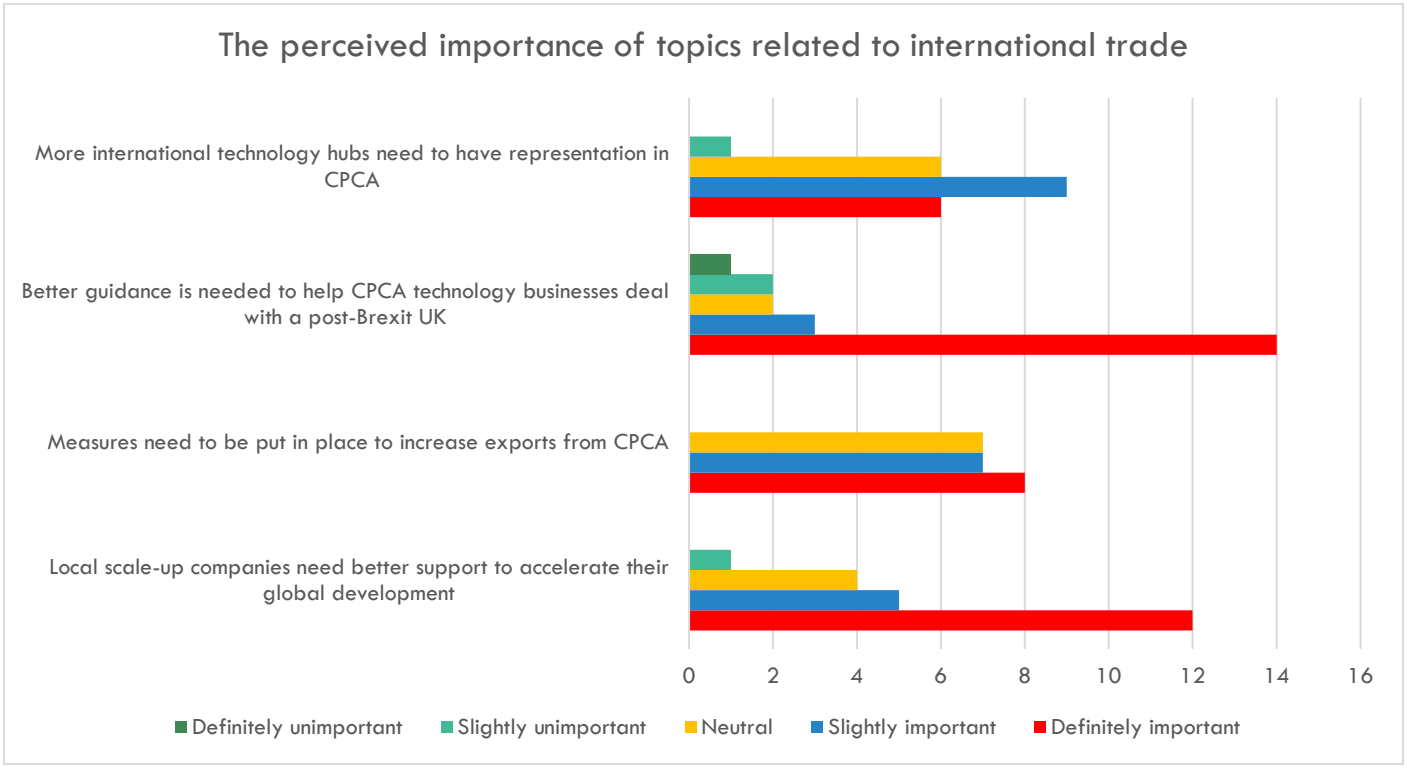


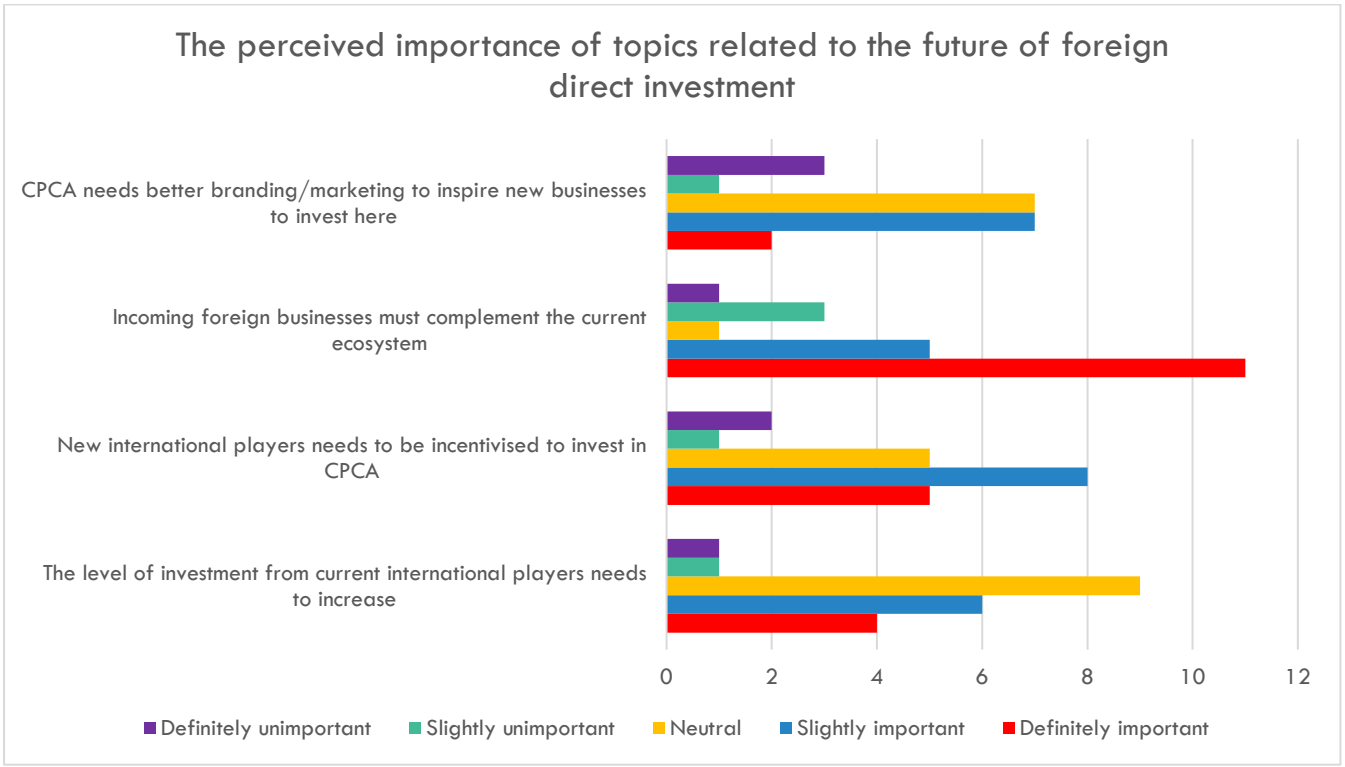
When focussing on the role in the supply chain, the respondents non connected to the technology sector indicated the higher priorities, are those prioritising the relevance of **More funding should be available to support businesses in trialling new technology in industry** and **Cutting edge technology needs to be more easily deployed into local businesses**



QUANTITATIVE INPUT ON INTERNATIONAL (TRADE AND FDI)

- Moving to the perceived importance of topics related to international trade and FDI the clear priority is **Better guidance is needed to help CPCA technology businesses deal with a post-Brexit UK,** followed by **Local scale-up companies need better support to accelerate their global development.** While concerning more specifically FDI the top identified priority was **Incoming foreign businesses must complement the current ecosystem**





Moving to the district analysis of these factors, the Fenlands and Huntingdonshire showed two key areas of concerns, East Cambridgeshire and Peterborough one.

In detail

- **Local scale-up companies need better support to accelerate their global development** is top priority and shared between Fenlands Huntingdonshire and East Cambridgeshire, next comes
- **Better guidance is needed to help CPCA technology businesses deal with a post-Brexit UK,** as a top priority in the Fenlands and Peterborough
- **Measures need to be put in place to increase exports from CPCA**, is of top importance for Huntingdonshire

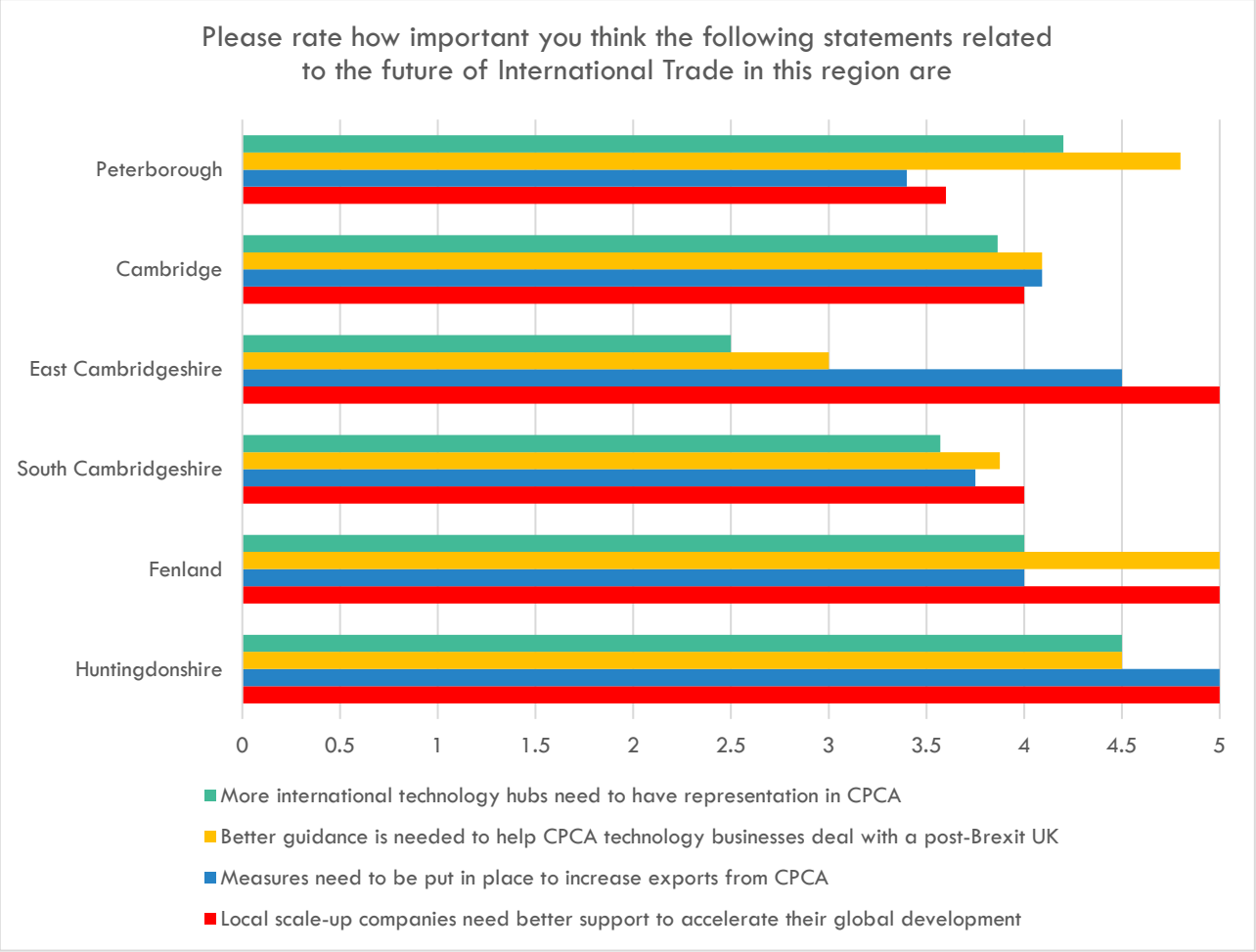
FDI presents three main areas of concern, perceived as highly relevant. In the Fenland, the key issue is that

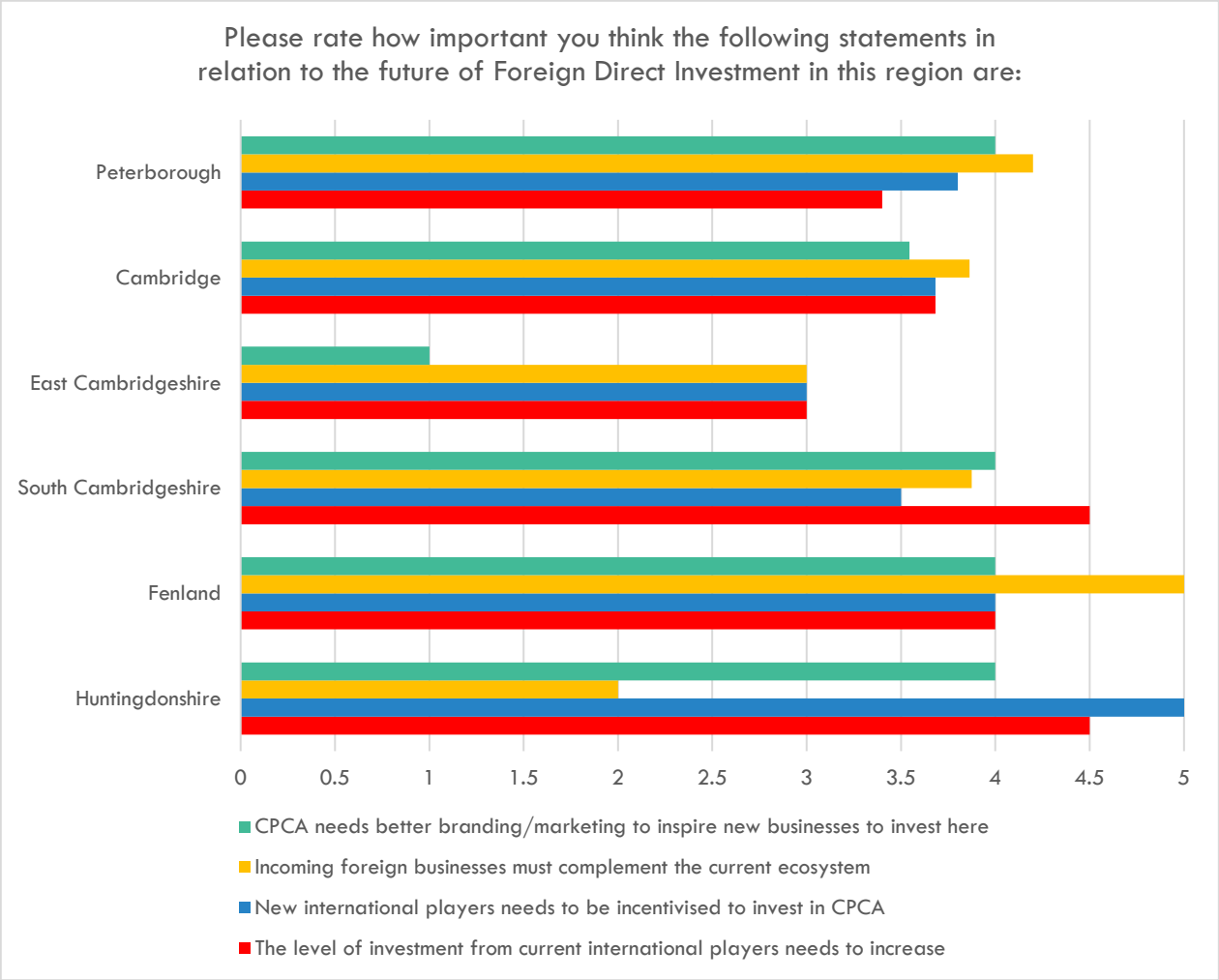
- **Incoming foreign businesses must complement the current ecosystem**

In Huntingdonshire is that

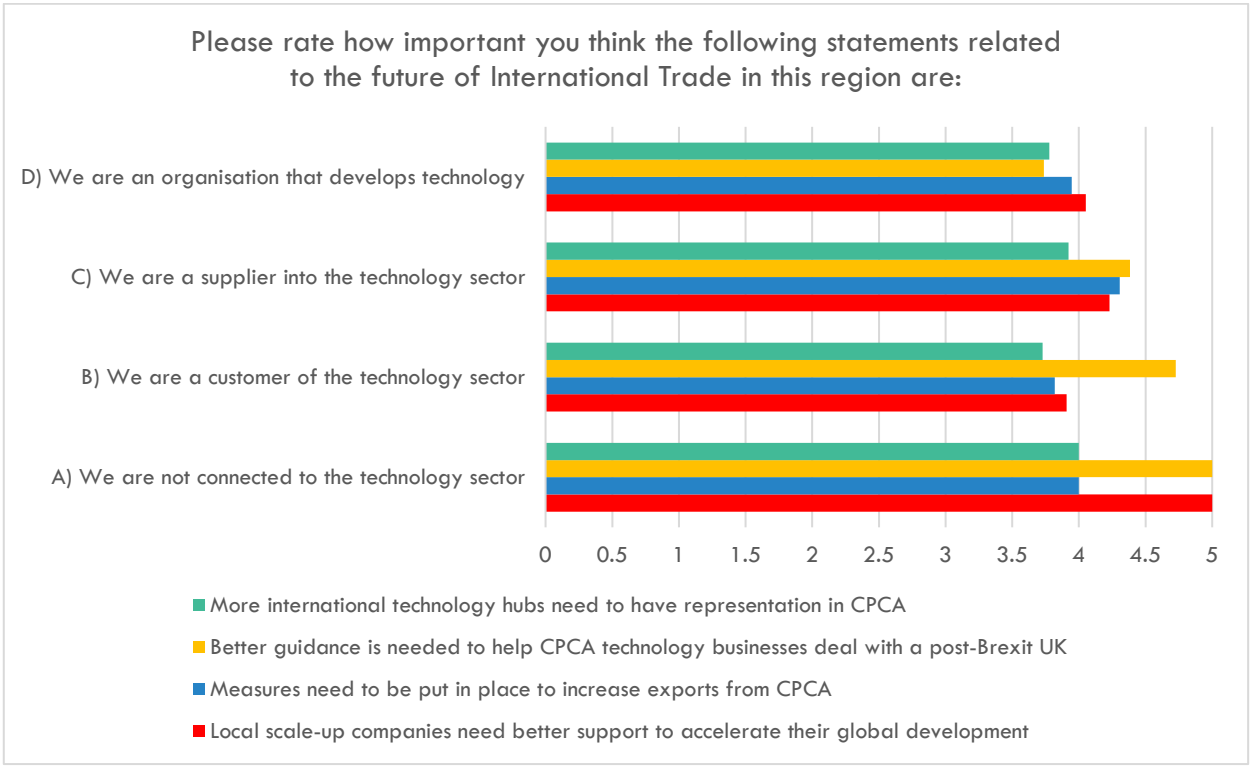
- **New international players need to be incentivised to invest in CPCA and**
- **The level of investment from current international players needs to increase**

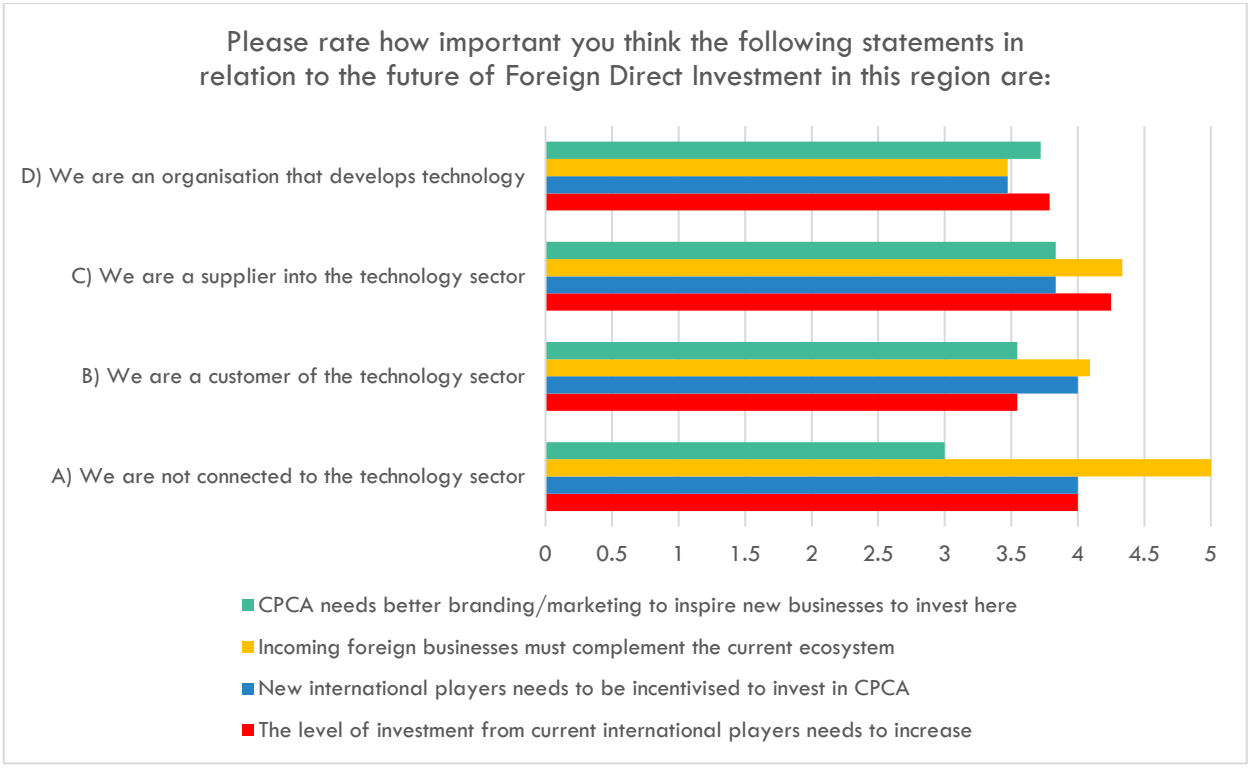
An issue, this last one also of key relevance for East Cambridgeshire.





Finally, the relevance of international issues according to the position in the supply chain sees again the respondents not connected to the technology sector see **Local scale-up companies need better support to accelerate their global development** and **Measures need to be put in place to increase exports from CPCA** as key priorities concerning the future of International Trade in this region and **incoming foreign business must complement the current ecosystem**, as the key priority concerning FDI



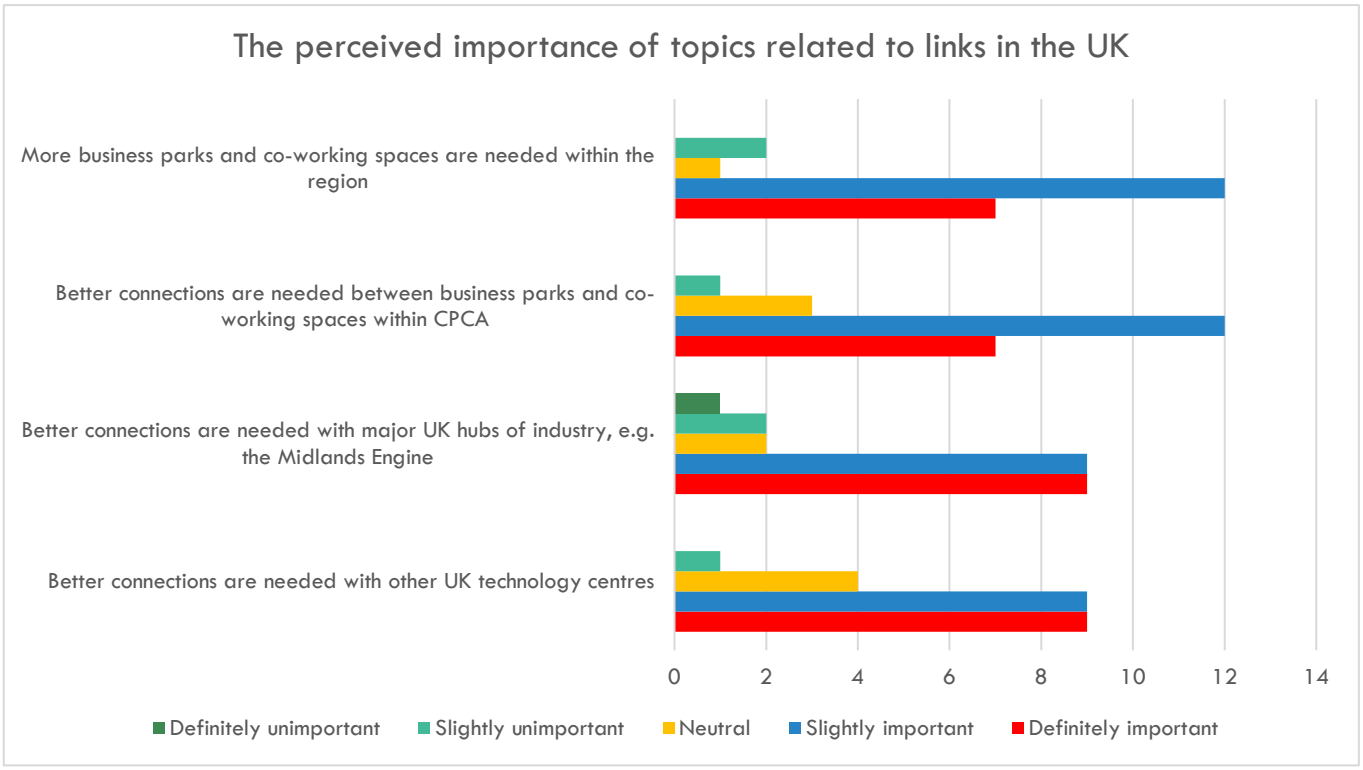


QUANTITATIVE INPUT ON KNOWLEDGE TRANSFER

The analysis concludes with the perceived importance of topics related to links in the UK. At aggregate level, one can see that **Better connections are needed with other UK**

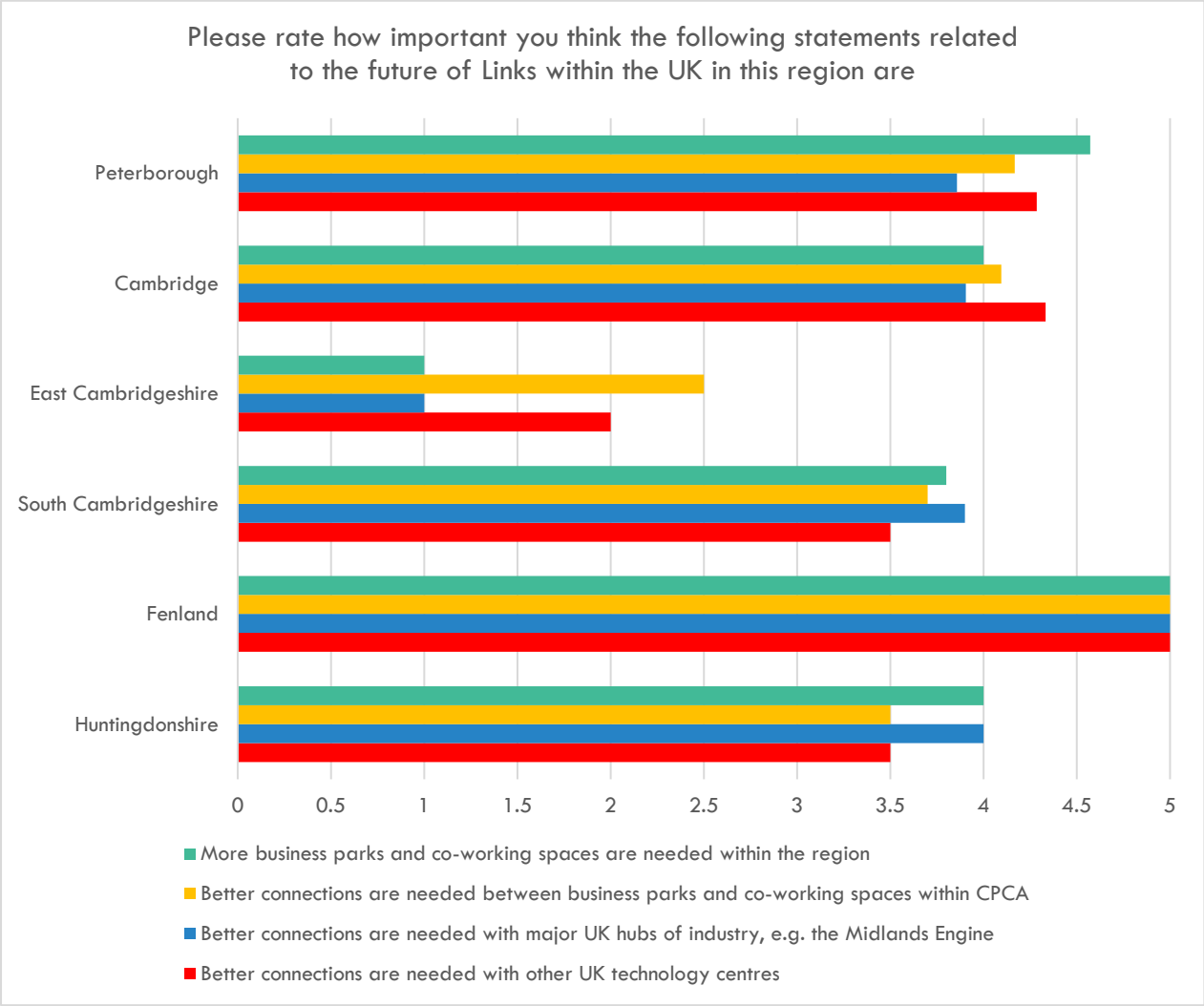
technology centres and **Better connections are needed with major UK Hubs of industry,** are perceived as definitively important by a majority of respondents

one can see that regarding the future of Knowledge Transfer in this region

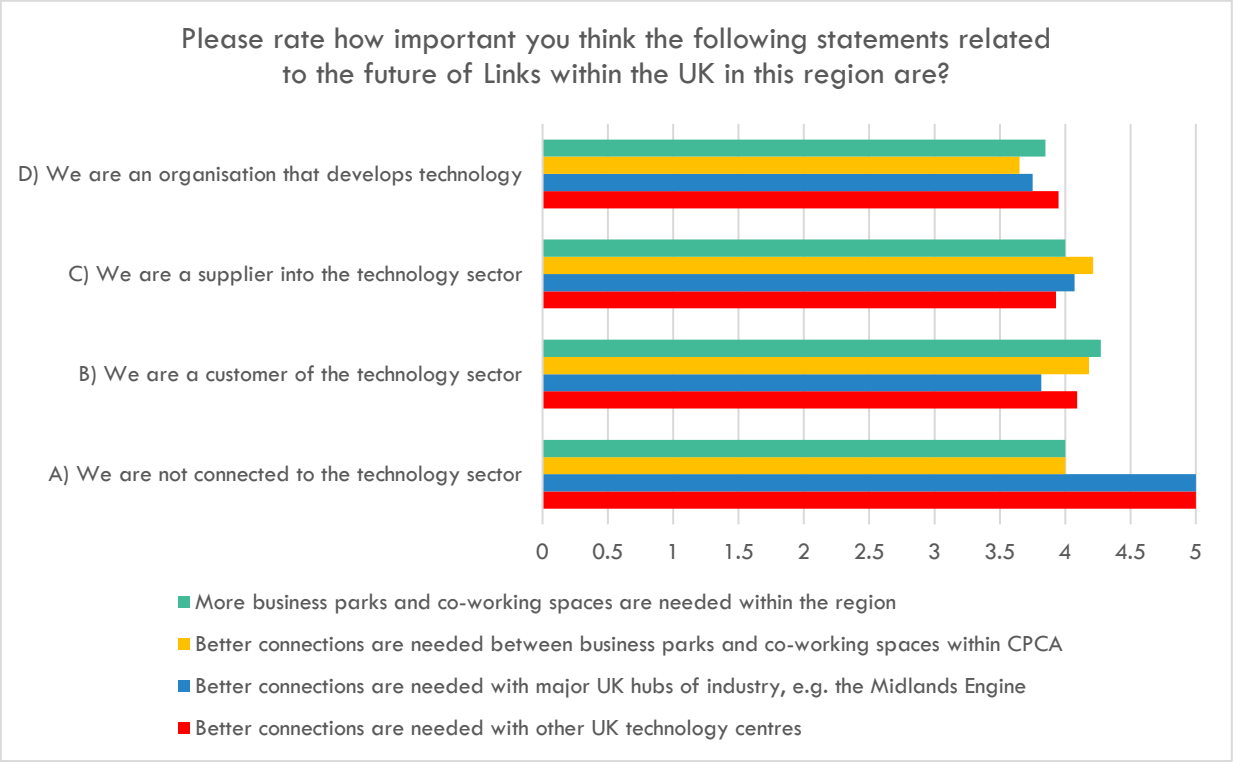


On a disaggregate level by district, the issue of Links within the UK is of particular relevance to the Fenlands, whose respondents selected all four issues as critically relevant, While Peterborough highlighted three areas and Cambridge two. In detail:

- **More business parks and co-working spaces are needed within the region,**
- **Better connections are needed between business parks and co-working spaces within CPCA**
- **Better connections are needed with other UK technology centres,** were all a key issues in the Fenlands in Cambridge and in Peterborough

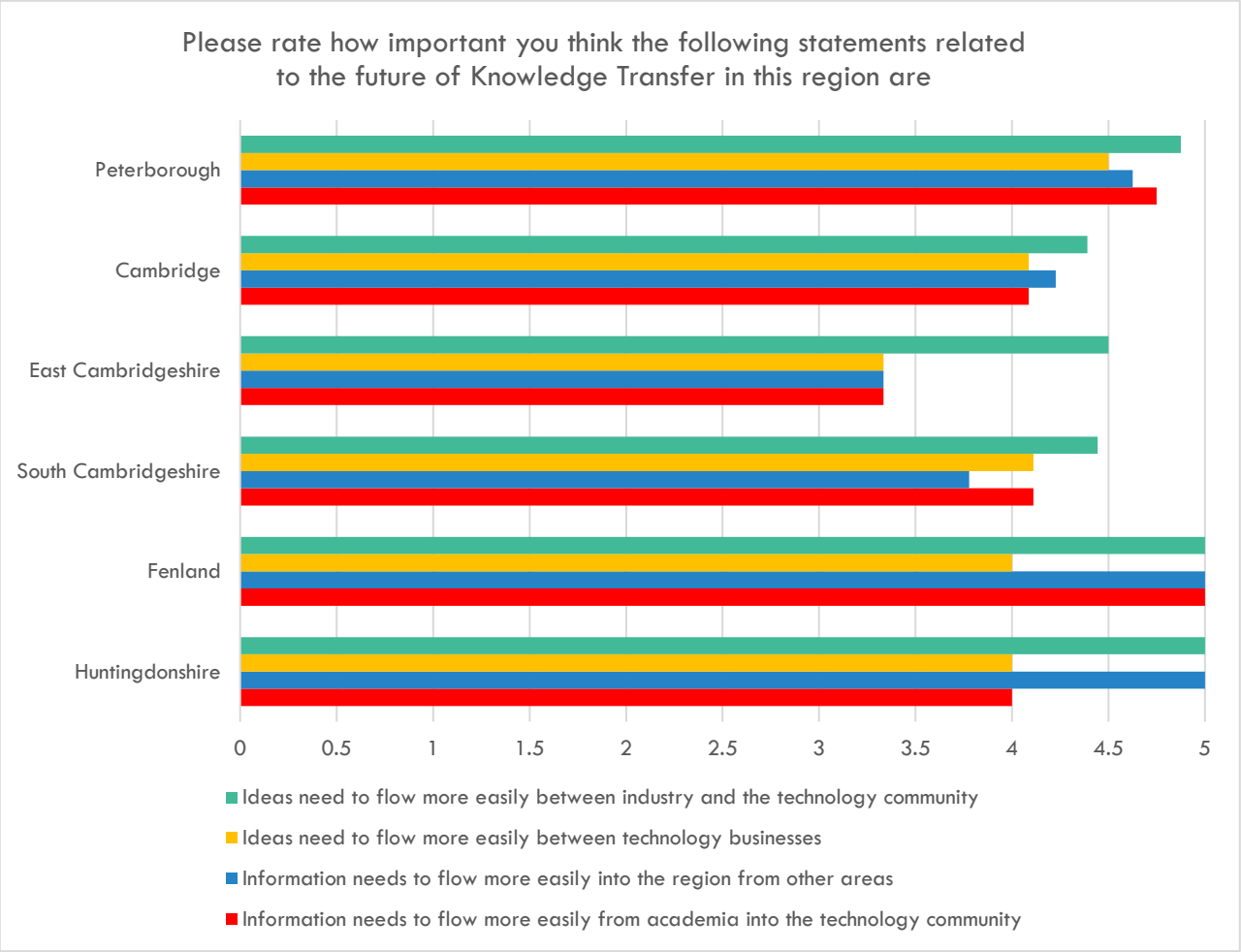


Concerning to the future of Links within the UK in this region, the respondents not connected to the technology sector identified again as top priorities **Better connections are needed with other UK technology centres** and **Better connections are needed with major UK Hubs of industry,**

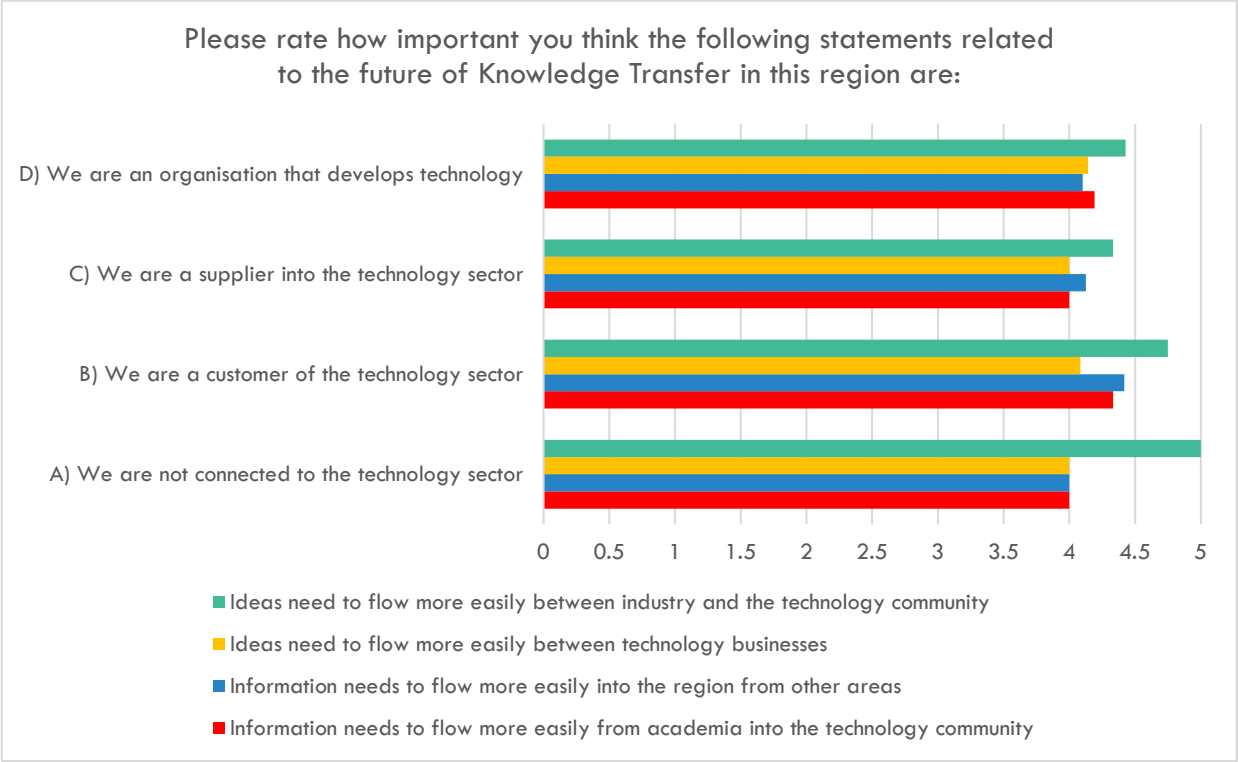


Moving to how important to the future of Knowledge Transfer in this region the following topics are, one can see that the Fenland have three key priorities

- Ideas need to flow more easily between industry and the technology community
- Information needs to flow more easily into the region from other areas, and
- Information needs to flow more easily from academia into the technology community
- Interestingly, two of these priorities are perceived are significantly important also in Huntingdonshire
- Ideas need to flow more easily between industry and the technology community
- Information needs to flow more easily into the region from other areas, and
- while also in Peterborough the perception that Ideas need to flow more easily between industry and the technology community, is highly important



While the role in the value chain identifies as key priority **Information needs to flow more easily from academia into the technology community** for the respondents not connected to the technology sector



---End of Annex 2---

Community Impact Assessment

Function			
Name of Project or policy	Local Industrial Strategy	**Combined Authority meeting date** ***If applicable***	27 March 2019
Service area responsible	Business and Skills		
Name of officer undertaking assessment	Dan Thorp		
Approved by Director / Assistant Director	John T Hill		

What are the aims and objectives of the proposal?

Briefly describe the aims and objectives of the proposal and what is changing and why. Description of proposal should include the relevance of the proposal to the general equality duties and protected groups. Document your reasoning for deciding whether or not a full assessment is required.

The Local Industrial Strategy (LIS) is a new document that has been produced to support the delivery of the Cambridgeshire and Peterborough Growth Ambition Statement, the achievement of the Devolution Deal. It is part of national Government policy within the UK Industrial Strategy, to have a Local Industrial Strategy for each part of the country.

The purpose of the LIS in this context is to set out how the economy of Cambridgeshire and Peterborough can grow in a geographically and socially inclusive way, with the underlying aim of increasing the productivity of our entire economy. The LIS includes a range of priorities and proposed interventions which are intended to achieve this aim.
The LIS takes as its structure the five foundations of productivity set out in the UK Industrial Strategy, and sets out proposed priorities and actions to support the development of the following;

- People
- Places
- Ideas
- Business Environment
- Infrastructure

The LIS is not a statutory document. It has been developed by the Business Board in collaboration with the Combined Authority Board.

The LIS has been developed with the enagement and input of local authorities, public services, and local businesses. It is an implementation of the Cambridgeshire and Peterborough Independent Economic Review (CPIER) which was developed following two rounds of public consulation, as well as targeted stakeholder engagement.

Stage 3 –Who will be affected by this proposal?

. *Describe what is changing and why*

The Local Industrial Strategy will positivelty impact people in Cambridgeshire and Peterborough, with its core focus on creating more and better job opportunities in the area, alongside skills and education provision which is more effective at helping people to access those opportunities.

The LIS uses the analysis of the Cambridgeshire and Peterborough Independent Economic Review (CPIER) and the Skills Strategy evidence base to understand these specific issues at a local level to Greater Cambridge, Greater Peterborough, and the Fens. With priorities and and interventions tailored to the specific needs of the communities in those places.

The Local Industrial Strategy also makes reference to the strategic issues related to economic growth, which have an impact on our communities. Such as the pressures faced by public services. The LIS references the work being undertaken locally to understand and address such challenges, and notes the role that Government should play.

Stage 4 – Scoping Exercise -
Identify the main sources of the evidence, both quantitative and qualitative, that supports your analysis in stage 3. This could include for example, data on the Combined Authority's workforce, equalities profile, results of recent relevant consultations, and any other sources of relevant information, local, regional or national.

Data Source (include link where published)	What does this data include?
Cambridgeshire and Peterborough Independent Economic Review (CPIER); www.cpier.org.uk	Evidence and analysis of the economy of the region, including how this impacts and is impacted by people and communities
Cambridgeshire and Peterborough Skills Strategy Evidence Base	Detailed evidence and analysis of the nature of the skills and education system in the region, and its relationship to economic growth
East of England Science and Innovation Audit http://www.cambridgeshirepeterborough-ca.gov.uk/assets/Business-Board/Archive/2017/EoE-SIA-REPORT-Final-14.09.17.pdf	Analysis of the major themes and sectors significant to the future growth of the high-productivity economy

UK Industrial Strategy https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future	Nationwide strategy detailing the Government's priorities for the growth of the economy

Stage 5 – Considering the above information, what impact will this proposal have on community or protected groups
Positive and negative impacts identified will need to form part of your action plan.

	Positive Impact	Negative Impact	Neutral Impact	Please explain the impact
Protected Characteristics				
Sex	x			The LIS is intended to create job and skills opportunities in all parts of Cambridgeshire and Peterborough, responding to the needs of the sub-regions that make up the county
Gender Reassignment	x			
Age	x			
Disability	x			
Race & Ethnicity	x			
Sexual Orientation	x			
Religion or Belief (or No Belief)	x			
Pregnancy & Maternity	x			
Marriage and Civil Partnership (note this only applies in relation to eliminating unlawful discrimination (limb 1))	x			

Stage 8 - Final impact analysis

The LIS overall is intended to have a positive impact across the county, and by extension across all communities. It is specifically stated within the LIS that the growth of the Cambridgeshire and Peterborough economy must be socially and geographically inclusive. The Stategy also sets out the importance for harnessing the innovations achieved within this local economy for the benefit of sustainability and healthy living, in this area and across the country. The strategy therefore sets out the contribution business and research from this area will make towards national Grand Challenge priorities, including Clean Growth and the Ageing Society.

As such the Local Industrial Strategy it is assessed to have a positive impact across the protected characteristics.

The LIS does not contain specific actions or interventions that are targeted at protected characteristics, except to set out how the Adult Education Budget will be deployed through new devolution to support adults into employment and progress in employment.

Stage 9 – Community Impact Assessment Review Log

Review approved by Director / Assistant Director		Date of review	
Review approved by Director / Assistant Director		Date of review	

Stage 10 – Publication

Ensure the completed assessment is published in accordance with the Combined Authority's policy.

THE BUSINESS BOARD

BUSINESS BOARD	AGENDA ITEM No: 3.1
25/03/2019	PUBLIC REPORT *This report has confidential appendices at item 3.1 of the Agenda*

GROWTH DEAL PROJECT PROPOSALS

1.0 PURPOSE

1.1. The Business Board is responsible for allocating the Growth Fund subject to ratification by the CA Board with the objective of creating new jobs and boosting productivity.

1.2. The Board are asked in this report to consider and make recommendations against new applications that have been submitted for these funds, based upon the independent external assessment undertaken.

Please note that the supporting papers for these applications contain exempt information under paragraph 3, Schedule 12a Local Government Act 1972

DECISION REQUIRED	
Lead Member:	**Chair of Business Board**
Lead Officer:	**John T Hill, Director, Business and Skills**
Forward Plan Ref: 2019/007	**Key Decision: Yes**
The Business Board is recommended to: (a) Consider the confidential reports by external assessors of projects submitted for Growth Deal Funds. (b) To recommend those schemes which are suitable to the Combined Authority Board for approval (c) To note the update on progress of projects that were approved at the January 2019 Business Board meeting and Small Grant Scheme	**Voting arrangements** Simple majority of all Members

2.0 BACKGROUND

2.1. Growth Deal and Growing Places funding is provided by Government to local areas to invest in projects that will create new jobs, increase productivity, and stimulate economic growth. A total of £146.7m has been provided to this area, with around £55m remaining to allocate.

2.2. The Business Board approved the Growth Prospectus in September 2018 as a call for new project proposals against this remaining funding; http://www.cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/Business-Board-Growth-Prospectus-201819-F.pdf. Expressions of interest were submitted to the Combined Authority in October and feedback provided to inform full applications. This prospectus made clear that the new opportunity for this round of bids to the Business Board aligned with the Combined Authority behind a single growth strategy for the area.

2.3. Following initial internal assessments for suitability, 7 of the 23 applications received were requested to submit full applications (business plans), 1 of the 7 projects withdrew their full application after appraisal leaving 6 full applications that have had an external appraisal against a clear set of criteria for Growth Deal Funds. The remaining 16 applications not invited to full application were advised on appropriate next steps and may subsequently submit revised applications for future consideration at a later date.

2.4. One of the proposals approved at last Business Board has decided not to proceed with their loan offer from Business Board after finding cheaper funding elsewhere to proceed with their project. The other project: Genomics Accelerator approved at last Business Board is still in negotiation around our proposed equity terms plus is undertaking due diligence with the other funding partners they are lining up. They are still hopeful of an October 2019 launch.

2.5. The second tranche of 4 project proposals that have completed the independent external assessment are brought to this Business Board for consideration and, if agreed, recommendation to the Combined Authority Board for approval. They are listed below:

2.6. An internal Officer summary of the four projects at full business case applying for funding is attached as a confidential exempt summary Appendix A of this report.

2.7. a) Applicant 1; Grant to build a new Incubator centre on a CPCA Enterprise Zone = £2.7m

b) Applicant 2; Loan to fit out new premises for High tech manufacturer = £120k

c) Applicant 3; Loan to facilitate creation of temporary business accommodation = £697k

d) Applicant 4; Loan to fit out Manufacturing suites for Cell therapies = £1.35m

2.8. Applications and Evaluations for these four bids are attached as confidential exempt appendices B, C, D and E of this report.

Small Grant Scheme

2.9 Small grant applications are being processed under delegated authority that was given to the Director of Business & Skills to approve small grants to SMEs between £2,000 and £20,000. This is subject to Section 151 Officer approval and regular reporting to the Business Board. These assessments are made in accordance with the Growth Deal

outcomes of new job creating at the rate of at least £10,000 of grant per new job, increased GVA from improvements in productivity or capacity and increased potential to export where possible, and alignment with priority growth sectors.

Over the period since the last Board meeting no small grant applications have been received under this delegated responsibility.

3.0 FINANCIAL IMPLICATIONS

3.1. The financial implications (loan and grant amounts sought) are detailed in the appendices. There are sufficient uncommitted funds in the overall Growth Funds budget to meet the up-front funding requests in this report without impacting other CPCA funding sources. Detailed financial impacts of loan arrangements will be negotiated with approved applicants based on recommendations from the appraisers and the Business Board.

4.0 LEGAL IMPLICATIONS

4.1. Loans or grants awarded are likely to fall under the General Block Exemption Regulations so are regulation compliant. As such, there are unlikely to be any State Aid implications.

5.0 SIGNIFICANT IMPLICATIONS

5.1. None

6.0 APPENDICES – Exempt under paragraph 3 of Schedule 12a Local Government Act 1972

6.1. **Appendix A** – Summary of four applications to be considered by Board

6.2. **Appendix B** – Report by external assessors and application (**Appendix B.1**) – Applicant 1

6.3. **Appendix C** – Report by external assessors and application (**Appendix C.1**) – Applicant 2

6.4. **Appendix D** – Report by external assessors and application (**Appendix D.1**) – Applicant 3

6.5. **Appendix E** – Report by external assessors and application (**Appendix E.1**) – Applicant 4

Source Documents	**Location**
None	Not applicable

THE BUSINESS BOARD

BUSINESS BOARD	**AGENDA ITEM No: 3.2**
25 MARCH 2019	**PUBLIC REPORT**

GROWTH PROGRAMME UPDATE

1.0 PURPOSE

1.1. The Greater Cambridge and Greater Peterborough Local Enterprise Partnership (GCGP LEP) negotiated three successive Growth Deals with Government between 2014 and 2017, securing £146.7m to deliver new homes, jobs and skills across the LEP area. This paper provides an update on the programme's performance since April 2015, a summary of the programme monitoring report to Government to end December 2018 and the current in-year position to end February 2019 for both the Growth Deal and Growing Places Funds combined.

1.2. Progress to 28 February 2018 shows;

- £67.51 million in Growth Deal payments made to date.
- An additional two projects approved by the Business Board in January 2019
- A further 4 projects being submitted to the Business Board in March 2019.
- forecast total contracted spend of £81.58 million.

DECISION REQUIRED	
Lead Member:	**Chair of Business Board**
Lead Officer:	**John T Hill, Director, Business and Skills**
Forward Plan Ref: N/A	**Key Decision: No**
The Business Board is recommended to: (a) Note the accumulative and in-year programme position to 28 February 2019 for Growth Deal and Growing Places Fund. (b) Note and recommend the Combined Authority Board agree the submission of the Growth Deal monitoring report to Government to end Q3 2018/19.	**Voting arrangements** Simple majority of all Members

2.0 BACKGROUND

2.1. The Growth Deal funds must be spent by 31 March 2021 but programme outcomes can be delivered beyond 2021.

2.2. In addition to Growth Deal, the Growing Places Fund is to establish a recyclable pot of grants and loans for projects delivering economic benefit across the region.

3.0 GROWTH DEAL PROGRAMME POSITION

3.1. At 28 February 2019, CPCA's Growth Deal programme has eight projects in delivery in 2018/19 the contracted forecast spend total is £81.58m.

3.2. The accumulative programme spend to the 28th February 2019 including completed projects is £67.51 million.

4.0 GROWTH DEAL MONITORING RETURN Q3 2018/19

4.1. The Business Board is required to submit formal monitoring returns to Government regarding Growth Deal performance and forecasts on a quarterly basis. The return for Q3 2018/19 was submitted by the 22nd February.

4.2. The Table 1 below shows the Financial Progress extracted from the programme dashboard which shows an accumulative total spend of £66.44 million at the end of December 2018.

Table 1) Growth Deal and Growing Places Fund Programme Position to 31 December 2018

Financial Progress								
LGF Award		2015-16 £21,100,000	2016-17 £33,625,463	17-18 £23,664,705	18-19 £16,705,458	19-20 £15,875,346	20-21 £35,737,637	Total £146,708,609
LGF Outturn	This Quarter		15-17	Financial Year 17-18	18-19	19-20	20-21	Total
Actual	£ 4,701,556		£ 24,867,379	£ 34,608,507	£ 6,965,900	£ -	£ -	£ 66,441,786
Forecast for year	£ 15,905,428		£ 24,867,379	£ 33,734,972	£ 15,905,428	£ 6,600,000	£ 5,520,000	£ 86,627,779
Progress towards forecast	30%			103%	44%	0%	0%	77%
LGF Expenditure								
Actual	£ 4,633,629		£ 35,239,639	£ 30,039,265	£ 7,186,300	£ -	£ -	£ 72,465,204
Forecast for year	£ 10,102,410		£ 35,239,639	£ -	£ 10,102,410	£ 6,600,000	£ 5,700,000	£ 57,642,049
Progress towards forecast	46%			-	71%	0%	0%	126%
Non-LGF Expenditure								
Actual	£ 418,939		£ 10,359,819	£ 12,584,247	£ 4,412,907	£ -	£ -	£ 27,356,973
Forecast for year	£ 18,883,137		£ 10,359,819	£ -	£ 18,883,137	£ 9,038,000	£ 996,000	£ 39,276,956
Progress towards forecast	2%			-	23%	0%	0%	70%
Total LGF + non-LGF Expenditure								
Actual	£ 5,052,568		£ 45,599,458	£ 42,623,512	£ 11,599,207	£ -	£ -	£ 99,822,177
Forecast for year	£ 28,985,547		£ 45,599,458	£ -	£ 28,985,547	£ 15,638,000	£ 6,696,000	£ 96,919,005
Progress towards forecast	17%			-	+40%	+0%	+0%	103%

4.3. A summary of the Q3 2018/19 return is attached as Appendix 1 to this paper. The full return has been approved by the S151 Officer and the Board is asked to agree that it can be submitted to the Local Growth Fund monitoring team within the Ministry of Housing, Communities and Local Government.

5.0 Financial Implications

5.1. BEIS have released the 2018-19 Local Growth Fund allocation to CPCA and have recognised the Business Board as the region's LEP as such the future funding allocation are expected to be received. This funding is ringfenced for the projects approved by the LEP historically and the Business Board going forward thus there is no call on wider CPCA resources.

6.0 Legal Implications

6.1. The Combined Authority has authority under section 1 Localism Act 2011 to exercise a general power of competence. The Combined Authority can exercise this power by virtue of the Cambridgeshire and Peterborough Combined Authority Order 2017. This power permits the Combined Authority to make grants to providers in order to deliver the terms of the devolution deal signed with Government

6.2. The Business Board is responsible for programme direction of the Growth Funds. The Combined Authority, as the Accountable Body, maintains the legal agreements with project delivery bodies.

6.3. The Legal Team shall be responsible for placing any required contractual arrangements, usually through its current partnering arrangements with the Local Authorities.

7.0 Significant Implications

7.1. The Growth Deal is a substantial funding agreement between the local area and Government, with scope for significant impacts on the growth of the local economy. Successful delivery has positive benefits to residents, businesses and workers within the Business Board area.

8.0 Appendices

8.1. **Appendix 1** - Summary of Growth Deal Return Q3 2018/19

Source Documents	**Location**
Business Board Local Assurance Framework	http://cambridgeshirepeterborough-ca.gov.uk/business-board/governance/
Business Board Growth Prospectus 2018/19	http://cambridgeshirepeterborough-ca.gov.uk/business-board/growth-funds/

Growth Deal Dashboard

LEP Name Greater Cambridge and Peterborough LEP

This Quarter: Q3_1819

Growth Deal performance	Area lead comments
G	

Deliverables Progress

Housing	This Quarter	15-17	Financial Year 17-18	18-19	19-20	20-21	21-22		Total
Houses Completed	0	200	0	0	0	0	-	-	200
Forecast for year	628	200	0	628	848	890	7,309		9,875
Progress towards forecast	0%		-	0%	0%	0%	-	-	2%

Jobs									
Jobs Created	0	61	720	42	0	0	-	-	823
Apprenticeships Created*	0	0	0	0	0	0	-	-	0
Jobs including Apprenticeships	0	61	720	42	0	0			823
Forecast for year	641	51	10	641	25	325	9,491		10,543
Progress towards forecast	0%		7200%	7%	0%	0%	0%	-	8%

* Apprenticeships included within jobs totals prior to 2017

Skills									
Area of new or improved floorspace (m2)	0	440	2,337	432	0	0	-	-	3,209
Forecast for year	0	440	2,142	0	0	0	0		2,582
Progress towards forecast	-		109%	-	-	-	-	-	124%
Number of New Learners Assisted	0	0	599	0	0	0	-	-	599
Forecast for year	56	0	674	56	104	192	613		1,639
Progress towards forecast	0%		89%	0%	0%	0%	-	-	37%

Transport									
Length of Road Resurfaced	0.0	0.0	6.0	0.0	0.0	0.0	-	-	6.0
Length of Newly Built Road	0.0	0.0	1.0	0.0	0.0	0.0	-	-	1.0
Length New Cycle Ways	0.0	0.0	2.5	0.0	0.0	0.0	-	-	2.5

LGF Award	2015-16	2016-17	17-18	18-19	19-20	20-21	Total
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Forecast for year	£ 28,985,547	£ 45,599,458	£ -	£ 28,985,547	£ 15,638,000	£ 6,696,000	£ 96,919,005
Progress towards forecast	17%		-	+40%	+0%	+0%	103%

Project RAG Ratings

Project Name	Previous Quarter Q2_1819	This Quarter Q3_1819	Project Name	Previous Quarter Q2_1819	This Quarter Q3_1819
Whittlesey Access Phase 1 King's D	A	G	-	-	-
Ely Southern Bypass	A	A	-	-	-
Bourges Boulevard Phase 1	G	G	-	-	-
Bourges Boulevard Phase 2	G	G	-	-	-
A47/A15 Junction 20	G	G	-	-	-
Wisbech Access Stategy	A	A	-	-	-
TWI (The Welding Institute) Expansi	G	G	-	-	-
Technical and Vocational Centre, Al	G	G	-	-	-
Agri-Tech Growth Initiative	G	G	-	-	-
Cambridge Biomedical Innovation C	G	G	-	-	-
Haverhill Innovation Centre	N/A	N/A	-	-	-
Peterborough Regional College Foo	G	G	-	-	-
Growing Places Fund Extension	A	A	-	-	-
Highways Academy	G	G	-	-	-
CITB Construction Academy	G	G	-	-	-
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Contractual Commitments (manual entry)

			15-17	17-18	18-19	19-20	20-21	Total
Forecast			£ 24,283,295	£ 35,192,590	£ 15,905,430	£ -	£ -	£ 75,381,315
Actual			£ 24,283,295	£ 35,192,590	£ 2,264,344	£ -	£ -	£ 61,740,229
Variance			+0%	+0%	-86%	-	-	-18%

Commentary

Q3 18/19 Return - Feburary 2019

The Business Board met in November 2018 and commenced approving growth deal applications following the October launch of the Growth Deal calls for Expressions of Interest. 23 EOI's were considered and 6 were requested to submit full business cases for the next January BB meeting.
Two small grants, the Junction 8 of the M11 funding and an extension granted for Lancaster Way Phase 2 were approved at the November BB meeting.

A new CPCA wide monthly project monitoring system was adopted in October enabling project managers to report monthly progress on projects.
Progress was made on all projects including the Haverhill Innovation Centre where negotiations with West Suffolk Council enabled the contractor to submit a full business case for appraisal by CPCA .

Wisbech, preliminary design is continuing to maintain programme timescales. Bourges Boulevard is virtually completed and in phased close down. Kings Dyke has progressed to Green following the purchase of the land and contract works commenced according to plan. Ely Southern Bypass was opened and in operation. Agreement to run a programme of deep dive evaluation and monitoring is confirmed and Officers are meeting with a potential contractor to deliver this piece of work for early next financial year.

Q2 18/19 Return - November 2018

Section 151 Officer Approved

Name **Robert Emery - Authority delegated by Noel O'Neill**

Signature

Date 18/02/2019

Accountable Body Head of Paid Services Approval

Name **Kim Sawyer (Interim CEO, Cambridgeshire and Peterborough Combined Authority)**

Signature

Date

THE BUSINESS BOARD

BUSINESS BOARD	AGENDA ITEM No: 3.3
25 MARCH 2019	PUBLIC REPORT

ASSURANCE FRAMEWORK

1.0 PURPOSE

1.1. The report asks the Business Board to approve a revised single Assurance Framework following the Ministry of Housing, Communities & Local Government's revised National Local Growth Assurance Framework for Mayoral Combined Authorities with a Single Pot and Local Enterprise Partnerships.

DECISION REQUIRED	
Lead Member:	**Chair of Business Board**
Lead Officer:	**Kim Sawyer, Interim Chief Executive**
Author:	**Darren Edey, Assurance Manager**
Forward Plan Ref: N/A	**Key Decision: No**
The Business Board is recommended to agree the revised single Assurance Framework which is in line with the Ministry of Housing, Communities & Local Government's revised National Local Growth Assurance Framework for Mayoral Combined Authorities with a Single Pot and Local Enterprise Partnerships. (Appendix 1 – to follow)	**Voting arrangements** Simple Majority of All Members

2.0 BACKGROUND

2.1. In July 2014, the Government negotiated a Growth Deal with all 39 Local Enterprise Partnerships (LEPs), which awarded a significant proportion of the £12 billion Local Growth Fund to LEPs.

2.2. Government produced a National Assurance Framework to ensure that every Local Enterprise Partnership had in place the necessary systems and

processes to manage the delegated funding from Central Government budgets effectively.

2.3. Each LEP then created a Local Assurance Framework which documented practices and standards which are necessary to provide Government and local partners with assurance that decisions over funding are proper, transparent, and deliver value for money.

2.4. Each LEP is required to review, refresh and sign off its Local Assurance Framework as the requirements set out in this Framework will be incorporated as a condition of funding in future Growth Deal grant offer letters.

2.5. LEPs must submit a letter from their relevant Section 73 Officer to MHCLG's Accounting Officer by 28 February each year, certifying that the LEPs Local Assurance Framework has been agreed, is being implemented and meets the revised standards set out in the National Assurance Framework.

2.6. The Greater Cambridge Greater Peterborough (GCGP) LEP's Assurance Framework was signed off as compliant by its old Accountable Body, Cambridgeshire County Council on the 28 February 2018.

2.7. To ensure that the Business Board was fully compliant with Government requirements, the Business Board on 24 September 2018 approved an interim Assurance Framework based on the previous GCGP LEP's agreed framework as the Government was due to publish revised guidance for Mayoral Authorities with a local enterprise partnership.

2.8. The Ministry of Housing, Communities & Local Government published revised Assurance Framework guidelines for Mayoral Combined Authorities in January 2019.

2.9. A single Assurance Framework for both the Business Board and the Cambridgeshire and Peterborough Combined Authority has been developed in line with the revised Government guidance. Previously both entities had separate Assurance Frameworks.

2.10. By creating a single Assurance Framework, we will have a robust, singular framework that brings cohesion to the work of the single Officer team, ensuring clarity, transparency and openness for Government, partners and members of the public around our governance and compliance processes, and a singular approach to the recommendation and decision-making processes of both Boards.

2.11. The new Assurance Framework meets the criteria set out in the revised guidance.

3.0 FINANCIAL IMPLICATIONS

3.1. All of the work has been carried out in-house, therefore there are no significant financial implications to this activity.

4.0 LEGAL IMPLICATIONS

4.1. The approval of this document will ensure the Business Board is compliant with the requirements of Government.

5.0 APPENDICES

5.1. **Appendix 1** – Assurance Framework (To follow)

Source Documents	**Location**
Business Board Assurance Framework - Business Board Meeting Minutes 24 September 2018	http://cambridgeshirepeterborough-ca.gov.uk/business-board/meetings/business-board-meeting-24th-september-2018/?date=2018-09-24
Revised National Local Growth Assurance Framework - Guidelines for Mayoral Combined Authorities with a Single Pot and Local Enterprise Partnerships	https://www.gov.uk/government/publications/national-local-growth-assurance-framework