Volterra

Cambridge Science Park: Economic Case for Cambridge Science Park North

[redacted]

A report by Volterra Partners, November 2019

Volterra

1 Executive Summary

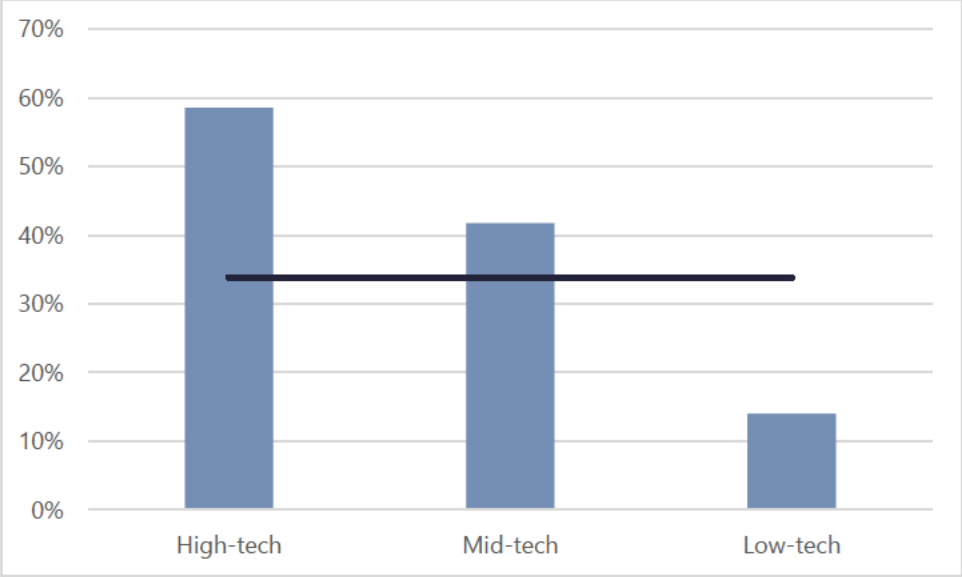
1.1 Volterra Partners has been commissioned by [redacted] Cambridge ('the client') to produce a research report that examines the economic importance of the technology sector, particularly the mid-tech sector, in both Cambridge and the UK as a whole. The aim of this report is to provide an evidence-based view as to whether there is an economic case to support the proposed masterplan for Cambridge Science Park (CSP), of which the client are the owners and custodians.

1.2 The economic restructuring of the UK away from manufacturing towards service sectors has been going on for the last century. Over this time service employment has overtaken manufacturing. Within the last decades however, the decline in manufacturing has stabilised and the manufacturing which remains is highly productive and valuable to the UK economy.

1.3 High-tech and mid-tech sectors classify employment outside of classic sectoral definitions, and are defined to contain some of the most productive parts of manufacturing combined with research & development focused service sectors.

1.4 The chart shows the 'exportability' by turnover of the technical industries. This shows that on average a third of manufacturing turnover is exported (shown by the line on the chart). For high-tech industries this rises to 59% and for mid-tech this is 42%. Just 14% of low-tech manufacturing turnover is exported. This exportability proportion is important as it represents something that can be exported to other countries, thus assisting in reducing the UK's balance of trade deficit. It is also an indicator of the innovative nature of these sectors, and their economic value.

Figure 1: Turnover-based Exportability



Source: ONS Turnover of Production Industries

1.5 The East of England is an economically important region, and Cambridge & South Cambridgeshire combined are a key employment node within this. Cambridge & South Cambridgeshire have grown at almost double the regional and national rate of growth,

and around half of the growth experienced has been in professional, scientific and technical sectors.

1.6 Cambridge is renowned as an area that fosters scientific and technological innovation within an institutional climate that exhibits academic excellence through expansive research and development practices. Consequently, there is already an obvious clustering of high- and mid-tech sectors in this area, and CSP plays a key role within this and contains a variety of firms that specialise in various fields relating to research and development, tech-manufacturing, or a hybrid of both.

1.7 On average nationally and regionally, high- and mid-tech employment combined constitute just 10-11% of total employment. In Cambridge this is higher, at 15%; in South Cambridgeshire this is still higher at 33%, and when the local area around CSP is considered, high- and mid-tech employment make up a staggering 68% of the total employment. This drives home the specific concentration of the employment supported at CSP.

Table 1: Employment distribution 2018

Area	Total employ-ment	High-tech employ-ment	High-tech % of total	Mid-tech employ-ment	Mid-tech % of total	% high- & mid-tech
CSP LSOA	9,000	2,900	32%	3,300	36%	68%
S. Cambs	86,800	8,300	10%	20,400	24%	33%
Cambridge	109,100	6,900	6%	10,000	9%	15%
East	2,880,400	91,700	3%	205,800	7%	10%
UK	26,840,500	985,500	4%	1,836,500	7%	11%

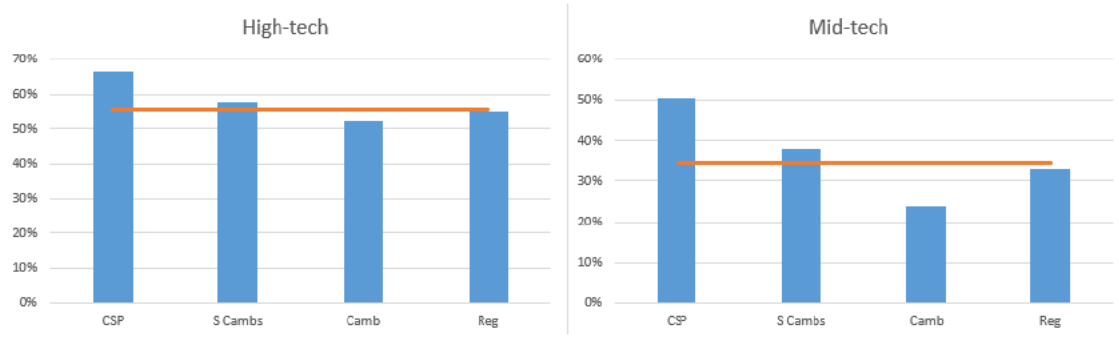
Source: ONS BRES, Volterra estimates of high- and mid-tech definitions (see appendix)

1.8 Not only is there a high prevalence of these sectors at CSP, CSP is also home to some of the more exportable subsectors within this. The chart below considers the employment-based exportability for different geographical areas – this is a measure of the speciality of different areas, factored by their exportability. This shows that CSP has considerably higher exportability than the national average in both high-tech and mid-tech sectors. South Cambridgeshire is similarly above the national average, although less evidently than CSP.

1.9 This is an indicator that even within the productive sectors of high-tech and mid-tech, CSP exhibits a greater concentration of highly exportable industries than the average for these already very productive sectors. This further indicates (a) that the sectors which choose to locate at CSP are highly valuable with high rates of exports, and (b) there is an environment at CSP which engenders productivity.

1.10 Given the national drive towards increasing productivity, retaining innovative industries and supporting growth in industries that can increase the UK's export base, this underlines the importance of CSP, not just to the Cambridge area, but also regionally and nationally.

Figure 2: Employment-based Exportability



Source: Volterra estimates based on ONS Turnover of Production Industries & ONS BRES industrial distributions

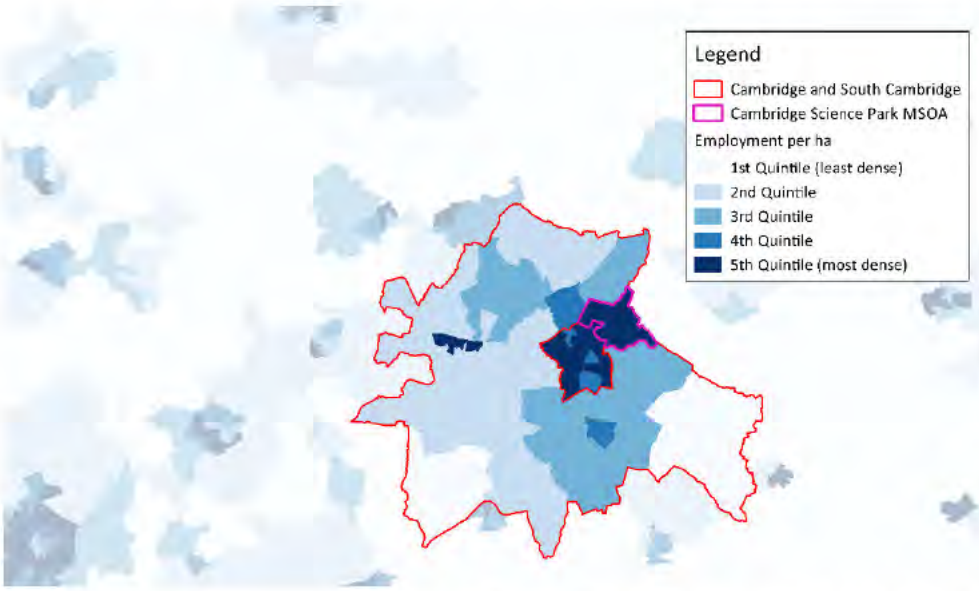
1.11 CSP has been home, in particular, to considerable high-tech employment growth. Whilst it also accommodates significant mid-tech employment, this has not grown at CSP at as fast a rate. In fact, the growth in the mid-tech sector has been more widely spread across the South Cambridgeshire district. It's therefore evident that whilst there is a high-tech and growing cluster specifically at CSP, mid-tech employment growth has to date occurred spread more widely across the South Cambridgeshire district.

1.12 The literature review and benchmarking against best practise global examples reveals that the most important things to growth of tech sectors are: investment, clustering, business support and physical space.

1.13 Lessons from tech clusters world-wide teach us the importance of diversification and collaboration, and that the biggest challenge is enabling the required delivery of commercial space in a planned and cohesive manner that these clusters need in order to enable them to grow.

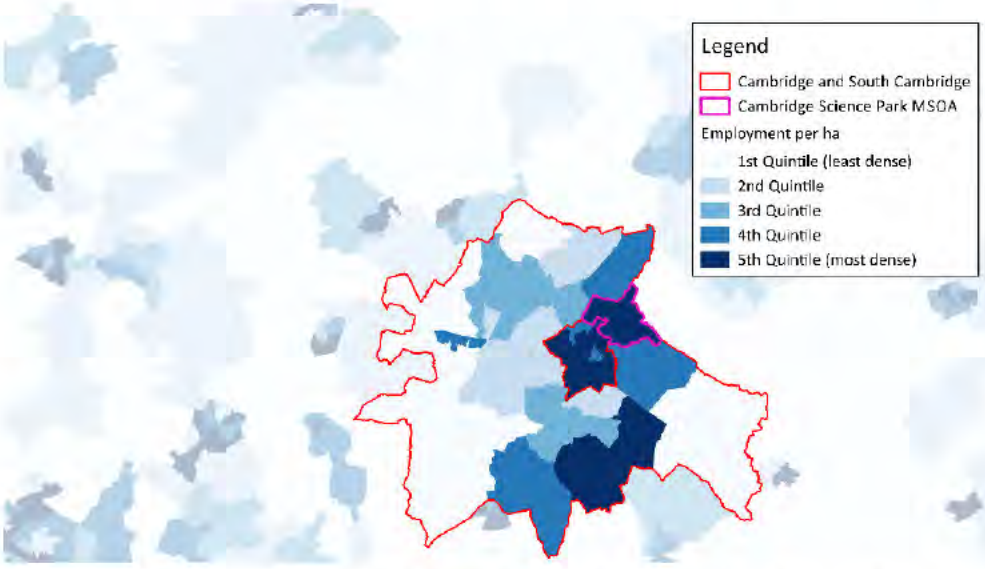
1.14 There is already an evident clustering of both high and mid-tech sectors in Cambridge, and specifically at CSP. Clusters exist because firms benefit from agglomeration economies – access to skilled workers, access to markets & supply chain, and the ability to benefit from knowledge spillovers. A science park with the supporting infrastructure to maximise and facilitate such benefits offers the best opportunity for new businesses to survive, innovate and flourish,

Figure 3: Employment density in high-tech sector – Cambridge focus



Source: ONS, 2018. Business Register and Employment Survey

Figure 4: Employment density in mid-tech sector – Cambridge focus



Source: ONS, 2018. Business Register and Employment Survey

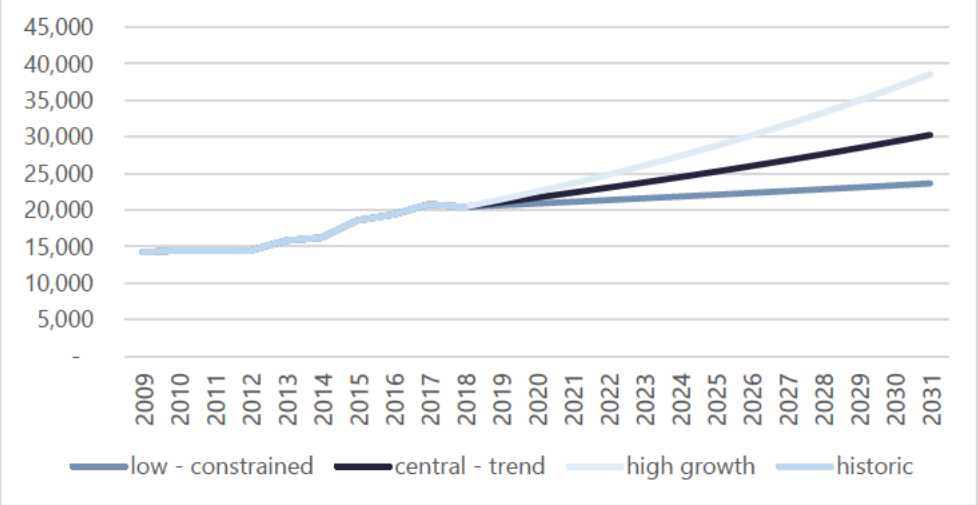
1.15 Cambridge Science Park can learn from the examples of best practise and build on the success it has already delivered through: investment by [redacted], business support linked to the existing CSP, access to appropriately skilled labour, (which can have the added benefit of positively impacting upon the local community),. But crucially this land needs to be allocated now so that future growth is not constrained.

1.16 Mid-tech firms need a slightly different physical space offering from high-tech. they are more cost sensitive and they require more physical space per worker. South Cambridgeshire has historically met this need. Increasing however there are examples of firms being crowded out and of more and more space being lost to other uses. If

sufficient land is not available for growth, the growth will be lost from South Cambridgeshire, and potentially even from the UK.

1.17 We have undertaken a scenario based forecasting exercise for mid-tech in this location. Three scenarios are presented – central trend based, low (constrained by space), and high growth (facilitated by a supportive cluster based growth node). Considered over the plan period to 2031, this would equate to growth in mid-tech jobs of between 250 and 1,000 each year, or between 3,200 – 18,100 to 2031. These three scenarios for jobs growth are shown in the chart.

Figure 5: Scenarios for mid-tech growth



Source: Volterra forecasts

1.18 Based on the floorspace requirements of mid-tech occupiers, this would be expected to require c. 80,000 - 450,000 sqm of new floorspace, which equates to c. 0.9m - 4.9m sqft of floorspace.

Table 2: Forecast growth in mid-tech employment and resulting demand for floorspace

Scenario	Employment growth 2018-2031	Per annum growth rate	Estimated floorspace requirement
Low growth – space constrained	3,200	1.1%	0.9m sqft
Central scenario – continuation of past trend	9,900	3.1%	2.6m sqft
High growth – supportive growth conducive strategy	18,100	5.0%	4.9m sqft

1.19 These forecasts deliberately present a very large range. There are many factors which contribute to whether the area can achieve the high growth scenario. If growth is not enabled and is instead constrained to meet the poorest of past performing levels, less space will be required. Linked to this however considerably fewer jobs opportunities are generated, along with their associated economic value and export-base.

1.20 If, however, growth is prioritised and planned, the past performance, speciality and evidence of strong clusters, provides confidence that significant growth could be achieved above and beyond the central scenario.

1.21 Approximately 1.5m-2m sqft of new space could be delivered at CSP2. As the literature and evidence demonstrates, these firms like to cluster and when they do cluster they are more productive, and thus delivering this quantum of floorspace in one location and integrated with CSP1 offers the potential to facilitate the higher scenario rate of mid-tech employment growth. The table below outlines the scale of employment which could be accommodated at CSP2 and the associated economic value of the proposed growth.

1.22 This shows that CSP2 could deliver c. 7,500 new jobs, contributing c. £470m in GVA each year to the economy, resulting in increased tax revenues of c. £165m.

Table 3: Economic potential of CSP2

Scenario	CSP1 now	CSP2 (lower)	CSP2 (upper)
Floorspace (sqft)	1.5m sqft	1.5m sqft	2m sqft
Jobs	c.7,500	c. 5,500	c. 7,500
Business rates (est.) (£m pa)	c. £15m pa	c. £11m-£16m pa	c. £15m-£21m pa
GVA value (£m)	£490m	c. £350m	c. £470m
Taxation revenue generated (£m)	£170m	c. £120m	c. £165m

1.23 CSP is full, and Bidwells evidence shows that South Cambridgeshire sites are getting harder to find, as more and more get converted into residential. At the central rate of growth (continuing on past trends), CSP2 would be full in c.6-10 years. The high growth scenario would suggest space at CSP2 would be full in 3-5 years which would represent an ambitious and rapid programme for growth. Even in the low growth scenario we would expect the space to be full within 20 years. The approach is aimed to be both ambitious in terms of creating a world-leading mid-tech cluster but also to support the long term growth goals of the area. Whilst there is considerable variation in the scale of potential growth in the three options, these options suggest that regardless of the growth scenario which unfolds, the space would become filled. The rate of take up and growth of the industry is highly interdependent upon available space and the condition for growth being enabled.

1.24 The overarching conclusion therefore is that there is already a strong, economically productive and important mid-tech cluster in this area. There are identified physical constraints to this growth continuing in the future. CSP has a track record of providing the business support and physical requirements that are needed for firms to cluster and in turn benefit from agglomeration economies. There is an opportunity to build on this and deliver much needed innovative, and exportable, economic growth which is important both to the local Cambridge economy but also more widely to the UK.

2 Introduction

Background and scope of work

2.1 Volterra Partners has been commissioned by [redacted] Cambridge ('the client') to produce a research report that examines the economic importance of the technology sector, particularly the mid-tech sector, in both Cambridge and the UK as a whole. The aim of this report is to provide an evidence-based view as to whether there is an economic case to support the proposed masterplan for Cambridge Science Park (CSP), of which the client are the owners and custodians.

2.2 In addition to providing a summary of the existing literature around the technology sector and a baseline economic profile of both Cambridge and the local area where CSP lies, this report also considers CSP's scope for expansion, presenting an economic vision for the future. This economic vision has been arrived at by examining historic economic trends, considering the specific characteristics of both the existing CSP and the proposals for expansion and comparing the area with other relevant comparators and benchmarks. The report then provides a judgement-based economic vision for what could be achieved here in the future based on these relevant characteristics, rather than simply a model-driven forecast.

Cambridge Science Park

2.3 CSP comprises 150 acres, 1.5 million square foot (sq ft) of predominantly high technology and laboratory buildings, employing c.7,500 people at over 100 companies. The park is famous worldwide for its research & development, as well as innovation, and has gone from strength to strength in accommodating businesses which contribute towards this. As shown in Figure 1, CSP lies to the North-East of the city of Cambridge, falling within the local authority district of South Cambridgeshire.

Figure 6: CSP in the context of the local area

Source: Google maps

2.4 As a consequence of this world-renowned reputation, and due to finite amounts of available commercial space at CSP, firms are increasingly finding it difficult to find enough space at CSP to satisfy their needs. This issue is particularly acute for companies in the 'mid-tech' sector, which consists of a growing group of firms working in Science and Technology sectors who not only require upfront design and research space but also have a need for manufacturing and distribution space within their commercial requirements.

2.5 Alongside the masterplan for the existing CSP, the client therefore sees a requirement for further floorspace to be provided for these 'mid-tech' firms at an expanded CSP (CSP2), in order to bolster the status of CSP and more generally the Science and Technology cluster in the Cambridge area. As part of the plan for CSP2, therefore, the client is planning to redevelop land off Milton Road adjacent to Mere Way for a commercial 'Mid-Tech Scheme', providing floorspace for a different type of occupier than the current offering at the majority of units within the existing CSP.

Structure of the Report

2.6 This report aims to succinctly collate the available literature and most recent data sources, in order to inform the economic vision for the future of the tech sector in Cambridge and more locally within CSP. Specifically, this report is structured as follows:

- Economic restructuring: provides an evidence-based description of the changing industrial focus of the UK's economy, including the definitions of high- and mid-tech and why they are important in terms of productivity and exportability.
- The importance of Cambridge and CSP: presents the data on employment growth and importance of the area in the wider context. It demonstrates the concentration of high- and mid-tech industries currently at CSP and their importance in terms of exportability.
- Growth in mid-tech: this section presents the growth trends in employment and productivity for high- and mid-tech sectors, highlighting the mid-tech growth experienced historically in South Cambridgeshire.
- What technology sectors need to grow: provides a summary of the findings of the available literature to date, related to what technology firms need in order to grow. This includes investment, appropriate space, business support and the benefits and evidence of clustering.
- Lessons learned from technology clusters: this section considers the key lessons that can be learned from 4 global case studies, in order to provide best practise examples to inform how to best achieve the economic vision for CSP.
- Spatial requirements & challenges: assesses the evidence around the spatial requirements of the mid-tech sector, and specifically focuses on the many demands on land in the area and the resulting shortfall of industrial space due to historic losses and allocations for residential.
- Forecasting the future - An economic vision: this section considers the trends in mid-tech and sets out three scenarios for future growth of this sector in South Cambridgeshire – a low constrained growth scenario, continuation of past trend, and a high growth scenario, presenting a range of different potential growth scenarios that could challenge the status quo, providing CSP with an aspirational economic vision.

3 Economic restructuring

There has been a long term and sustained restructuring of the UK economy away from manufacturing and towards services. This section looks at the productivity of remaining manufacturing, the definitions of the high- and mid-tech sectors, and their value to the economy in terms of exports.

The national shift in sectoral structure of the UK's economy

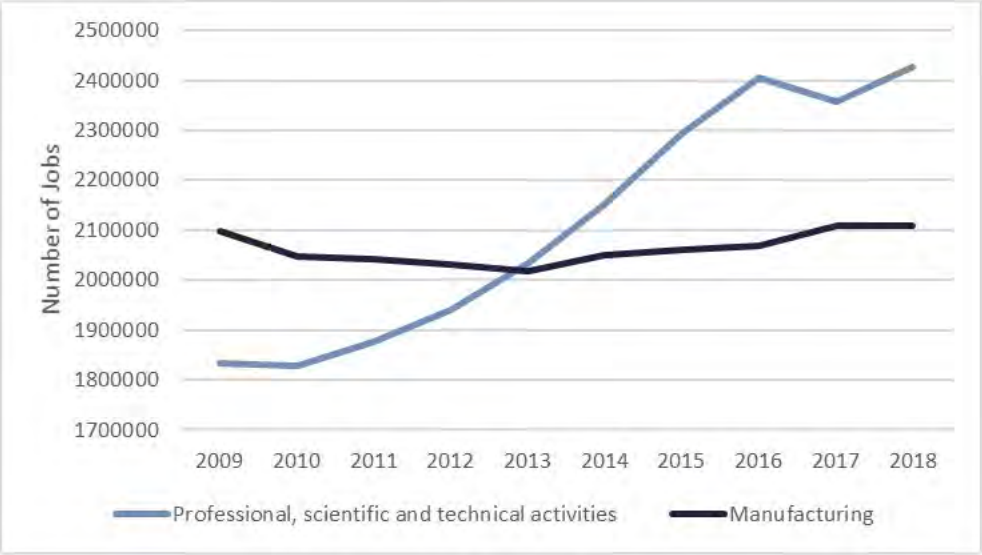
3.1 Over time and with the rise in production costs and global competition, the UK economy has shifted from the manufacturing sector to the services sector. Manufacturing employment in England for example, has declined from over 5.3m jobs in 1981 to c. 2.1m in 2018[1], falling from representing 30% of the country's employment to just under 8%. Over the same period service sector employment has grown significantly. These figures are just what consistent data allows us to analyse; many studies have shown that the decline in manufacturing has been going on for well over a century.

3.2 Over this same period of time, and linked to this changing sectoral structure, the UK has seen economic activity focus on urban locations – as service sectors prefer to be co-located and are less space intensive and so can be accommodated more densely. This has resulted in the rise in economic importance of cities. Not only do cities generate economic benefits through the clustering of knowledge intensive sectors, but they also have environmental benefits as more people being more densely co-located enables public transport solutions to service them, and this reduce the reliance on the car.

3.3 The last decade is particularly interesting however as it is during this time that two things have happened. Firstly, employment in professional scientific and technical activities have exceeded manufacturing in terms of absolute size (this has been true since 2013), and over the past decade, the decline in manufacturing employment has broadly stopped/stabilised (it has accounted for approximately c. 2m jobs consistently since 2009).

[1] ONS, 1981. Census of Employment employee analysis & ONS, 2018. Business Register and Employment Survey.

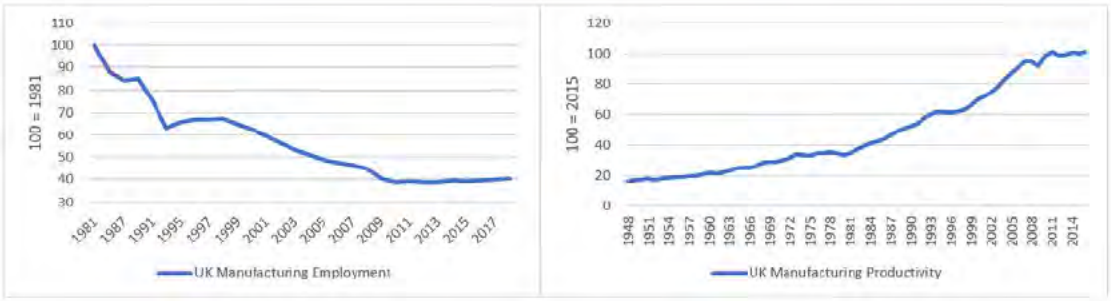
Figure 7: National employment trends



Source: ONS Business Register and Employment Survey 2018

3.4 **This long-term overarching trend in manufacturing also hides a more interesting story when you delve into the detail. Whilst employment levels have fallen, the productivity of certain subsets of manufacturing has actually risen. This is consistent with the most recent decade evidence – the manufacturing sectors which have remained, stabilised and even grown, have also seen a marked rise in productivity.**

Figure 8: Changes in manufacturing employment & productivity



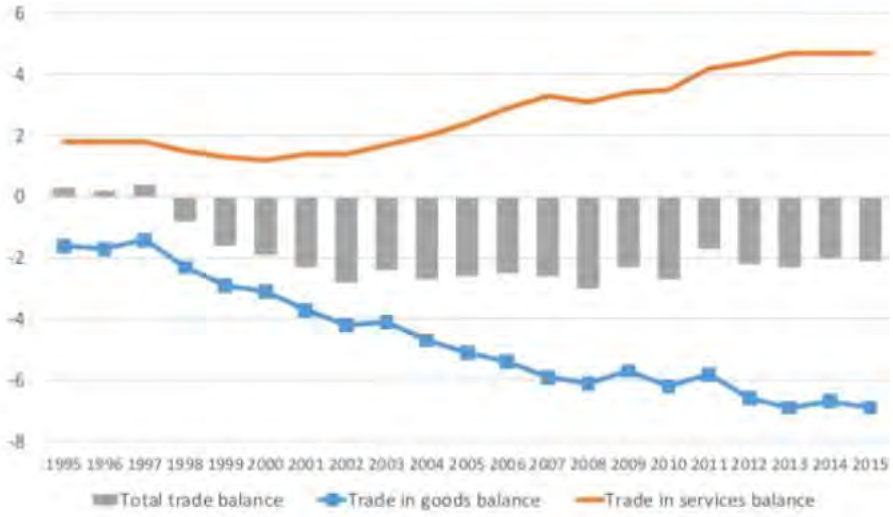
Source: ONS BRES & Census of Employment; ONS Labour productivity.

3.5 **So, whilst it's true that many manufacturing industries are no longer present in the UK – much of the large manufacturing that was done centuries ago is predominantly now done in lower cost countries – what is evident is that the manufacturing that does remain has focused towards very valuable and highly productive industries – as evidenced by the growing output per job in manufacturing industries over the past 30-40 years.**

Why does manufacturing matter?

3.6 **Manufacturing matters because the UK has gone from a positive to a negative balance of trade – this means we import more goods than we export. The chart shows the trade in goods and services – showing that we import more goods than we export (the blue line is below zero), and we export more services than we import (the orange line is above zero), but on balance the positive trade balance in services (the orange line) has not offset the negative trade balance in manufacturing (the blue line) since the mid-1990s. The Government's Industrial Strategy[2] states that it wishes to support growing and economically important industries and increase our export base.**

Figure 9: Annual trade balance as % of GDP



Source: ONS

Defining high- and mid-tech sectors

3.7 **The science and technology industry is a large and expansive industry, comprising of firms varying in scale and specialisms. It is also a sector which doesn't fit neatly into just manufacturing or service sector categories – its elements overlap with many of the classic definitions, making it hard to define.**

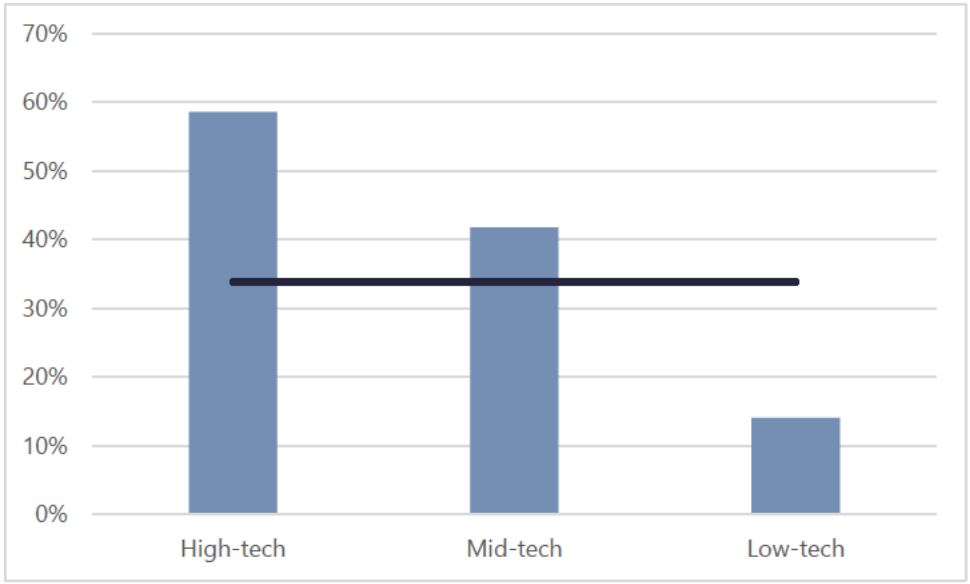
3.8 **The classification of these sub-categories is based on measuring the direct R&D intensity and indirect R&D intensity associated with intermediate and investment goods[3]. R&D intensity is defined as direct R&D expenditures as a percentage of production (gross output). Using this approach from the literature, has enabled us to approximate the levels of high- and mid-tech employment in various areas. The definitions are not perfect, and will no doubt change over time as this highly innovative sector continues to evolve and grow. But having a definition allows us to analyse relative performance and the extent of clustering in these industries.**

2 HM Government, 2017. Industrial Strategy – Building a Britain fit for the future.
[3] Hatzichronoglou (1997)

Exports from high- and mid-tech sectors

3.9 **Data from ONS allows us to assess the proportion of production in different industries that are exported. The chart shows the 'exportability' by turnover of the technical industries. This shows that on average a third of manufacturing turnover is exported (shown by the line on the chart). For high-tech industries this rises to 59% and for mid-tech this is 42%. Just 14% of low-tech manufacturing turnover is exported.**

Figure 10: Turnover-based Exportability



Source: ONS Turnover of Production Industries

4 The Importance of Cambridgeshire and CSP

Cambridge is renowned worldwide for its first-class university. This section looks at the economic importance of Cambridge, South Cambridgeshire, and CSP in particular, considering industrial specialties, exportability, and productivity, and thus overall importance and contribution to the national economy.

Growth in the East of England and the importance of Cambridge

4.1 **The East of England is an economically important region. It is home to 6.2m residents[4], accommodates c. 2.7m jobs[5] and contributes £145bn in economic output each year, meaning it is home to around 9% of the UK's population and economic activity. Cambridge is a key employment node in the Eastern region, being home to over 109k jobs. South Cambridgeshire is not far behind, with 87k jobs[6]. Together they represent a very strong and important part of the region's economy.**

4.2 **Nationally employment grew by 12% from 2009-2018, and the East of England slightly exceeded this, with growth of 13%. Cambridge and South Cambridgeshire however performed significantly better than this, with growth of 23% and 20% respectively. Indeed, outside of the London commuter belt, Cambridge has seen the largest jobs growth across the Eastern region.**

Table 4: Employment growth

Employment	2009	2018	% Growth
South Cambridgeshire	72,500	86,800	20%
Cambridge	88,900	109,100	23%
East	2,540,500	2,880,400	13%
UK	24,068,500	26,840,500	12%

Source: ONS BRES

4.3 **The East of England has seen significant growth in 'professional, scientific and technical services': over the decade from 2009 and 2018, 340k new jobs were created in the East of England, of which this sector contributed 110k jobs (a third of the growth). This reflects the wider national picture. In Cambridge and South Cambridgeshire combined this sector is even more important – it generated 17k of the 34k new jobs (50%) created over the last decade.**

4.4 **This growth is forecast to continue: the East of England Forecasting Model (EEFM) projects 17k new jobs and 50k new residents each year across the region. Whilst there are many drivers of and opportunities for growth in the region, there are also emerging**

[4] ONS, 2018. Mid-year population estimates.
[5] ONS, 2019. Annual Population Survey – Workplace Analysis.
[6] ONS, 2018. Business Register and Employment Survey.

concerns that put at risk this potential future growth – including lack of sufficient house building to support residential growth, skills mismatch between jobs and residents, and the continued need for investment in infrastructure in order to support the scale of growth.

4.5 Cambridge is renowned as an area that fosters scientific and technological innovation within an institutional climate that exhibits academic excellence through expansive research and development practices. Consequently, this has led to the emergence of a science and tech cluster in the Cambridge area that contains a variety of firms that specialise in various fields relating to research and development, tech-manufacturing, or a hybrid of both. Taking the manufacturing and information & communication industries together as a proxy for low- to high-tech sector, due to data availability for GVA, it was found that in 2015, the tech sectors accounted for 13% of employment in Cambridge/South Cambridgeshire area and 20% of GVA, indicating that they exhibited much higher levels of productivity in comparison to the overall economy's productivity[7].

4.6 Furthermore, an SQW report[8] also indicates that during the prolonged recessionary period between 2008 and 2012, the high-tech industry managed to reasonably maintain growth levels despite the overall economy suffering from low consumer/firm confidence and stagnant economic growth. This is another indication that the science and technology industry in Cambridge is a consolidated and vital component of the UK economy, as a main generator and driver of sustainable economic growth.

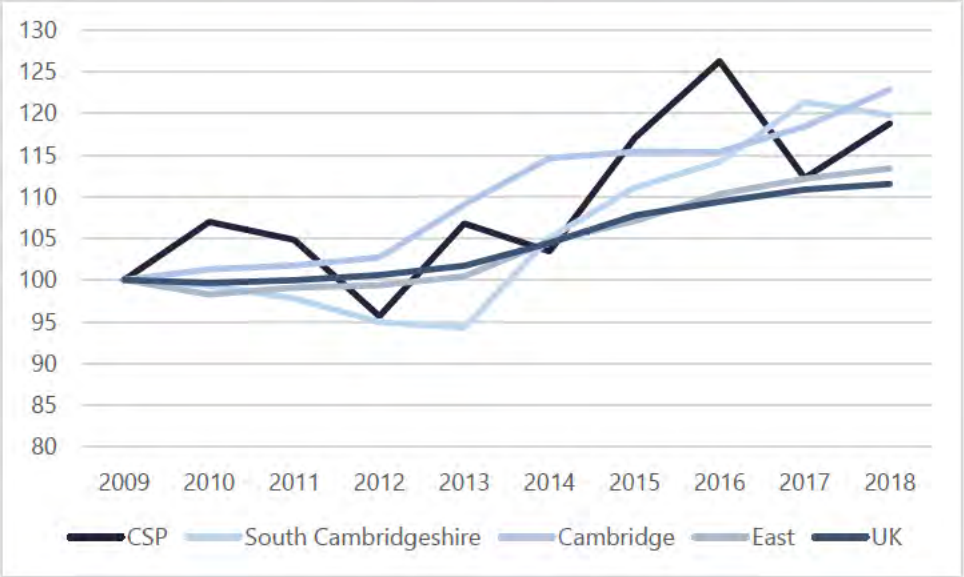
Cambridge Science Park

4.7 CSP comprises c.150 acres, 1.5 million square foot (sq ft) of predominantly high technology and laboratory buildings, employing an estimated c.7,500 people at over 100 companies. The park was founded in the 1970s by Trinity College. It is famous worldwide for its research & development, as well as innovation, and has gone from strength to strength in accommodating businesses which contribute towards this. CSP lies to the North-East of the city of Cambridge, falling within the local authority district of South Cambridgeshire.

4.8 Data on exact employment levels at CSP over time is not readily available, but it falls within a Lower Super Output Area (LSOA) for which employment estimates are available. This LSOA encompasses the CSP site to the South West of the A14 and Milton Rd junction, as well as some of Milton to the North East. The estimated employment in the LSOA was c. 9,000 jobs in 2018. CSP is estimated to support in the region of 6,500-7,500 jobs, and therefore accounts for c. 75-85% of employment in this LSOA and so it is thought to be a reasonable proxy for trends and structure in employment at CSP. The chart below compares employment growth trends at CSP (in the LSOA) with wider geographical areas. This shows that using this measure, CSP is estimated to have performed on a par with Cambridge and South Cambridgeshire, all of which have grown faster than the regional and national rates, with particularly strong growth in the second half of the decade.

[7] ONS, 2015. Business Register and Employment Survey; GVA by Industry.
[8] SQW, 2014. Employment Guidance for Area Action Plan.

Figure 11: Employment growth at different geographies



Source: ONS BRES

4.9 **When we dig into the sectoral detail, we find that CSP has a very clear speciality in high- and mid-tech employment. On average nationally and regionally, high- and mid-tech employment constitute just 10-11% of total employment. In Cambridge this is higher, at 15%; in South Cambridgeshire this is still higher at 33%, and when the local area around CSP is considered, high- and mid-tech employment make up a staggering 68% of the total employment. This drives home the specific concentration of the employment supported at CSP.**

Table 5: Employment distribution 2018

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UK	26,840,500	985,500	4%	1,836,500	7%	11%

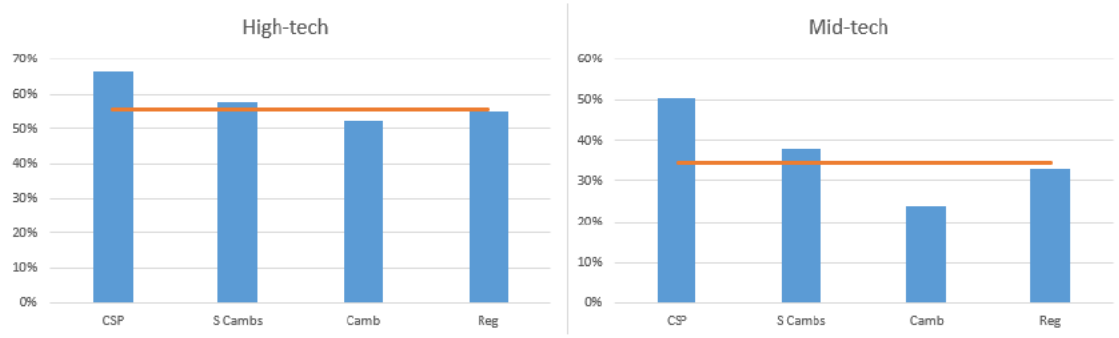
Source: ONS BRES, Volterra estimates of high- and mid-tech definitions (see appendix)

4.10 Linking back to the earlier data which showed the importance of these sectors in terms of their exportability, the chart below considers the employment-based exportability for different geographical areas – this is a measure of the speciality of different areas, factored by their exportability. This shows that CSP has considerably higher exportability than the national average in both high-tech and mid-tech sectors. South Cambridgeshire is similarly above the national average, although less evidently than CSP. The region and Cambridge are broadly on a par with the national average in terms of high-tech exportability.

4.11 This is an indicator that even within the productive sectors of high-tech and mid-tech, CSP exhibits a greater concentration of highly exportable industries than the average for these already very productive sectors. This further indicates (a) that the sectors which choose to locate at CSP are highly valuable with high rates of exports, and (b) there is an environment at CSP which engenders productivity.

4.12 Given the national drive towards increasing productivity, retaining innovative industries and supporting growth in industries that can increase the UK's export base, this underlines the importance of CSP, not just to the Cambridge area, but also regionally and nationally.

Figure 12: Employment-based Exportability



Source: Volterra estimates based on ONS Turnover of Production Industries & ONS BRES industrial distributions

5 Growth in high- and mid-tech

High- and mid-tech sectors are concentrated in CSP and are very valuable to the economy. This section looks at the rates of growth in these sectors within CSP as well as more widely.

Growth rates of high- and mid-tech sectors

5.1 **The table below shows the employment growth achieved in total employment, high- and mid-tech employment at CSP, South Cambridgeshire, the Eastern region and England over the last decade. This shows that employment growth in high-tech has been much more significant than general employment growth across all areas, whereas mid-tech has grown much more rapidly at the South Cambridgeshire district level.**

Table 6: Employment growth 2009-2018

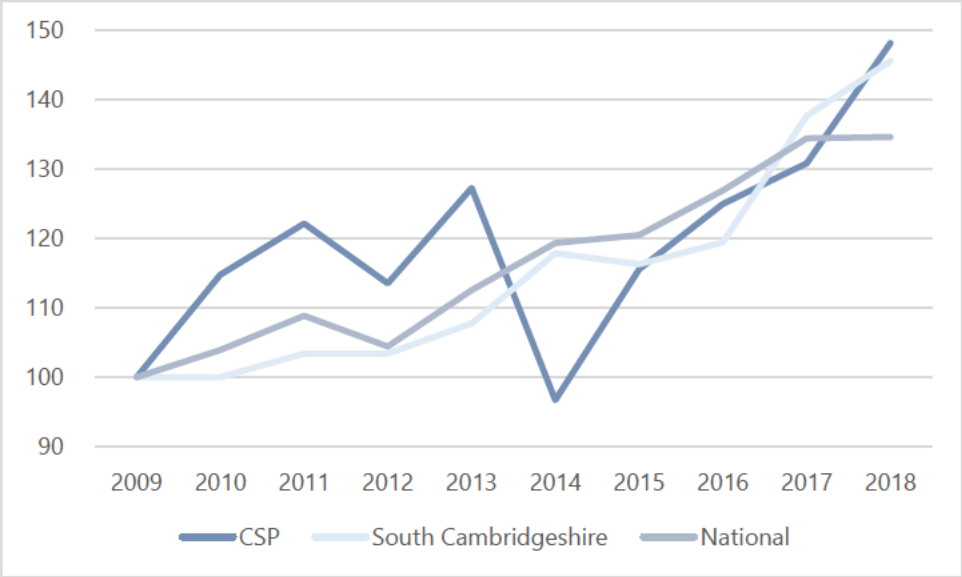
Area	Total employment	High-tech employment	Mid-tech employment
CSP LSOA	19%	48%	11%
South Cambridgeshire	23%	46%	44%
East	13%	22%	9%
UK	12%	35%	8%

Source: ONS BRES, Volterra estimates of high- and mid-tech definitions (see appendix)

Trends in high- and mid-tech employment at CSP

5.2 **The chart below shows the growth in high-tech employment at CSP, South Cambridgeshire and England. This shows that employment in this sector has grown much more rapidly at the district level, as well as specifically within CSP.**

Figure 13: Growth in high-tech employment [Index; 2009=100]

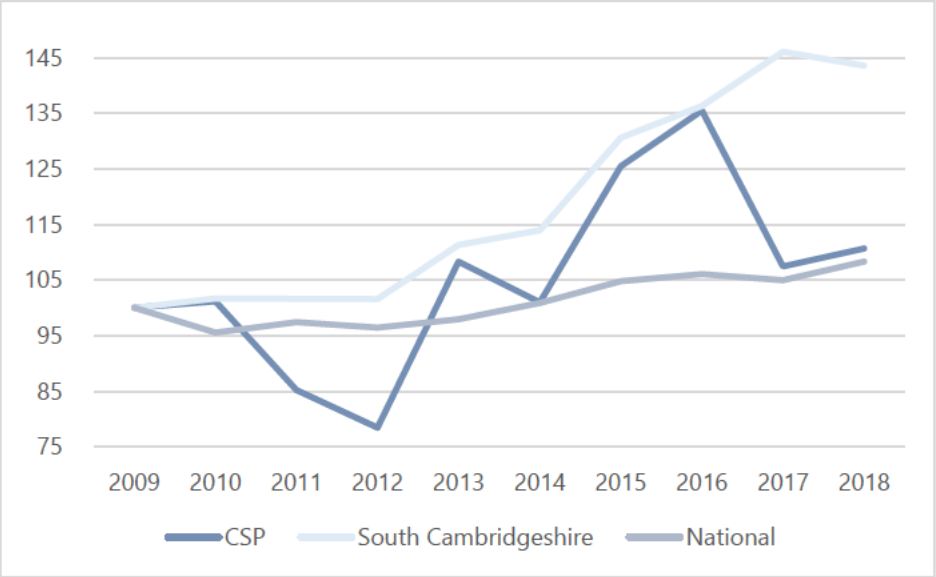


Source: ONS BRES, Volterra estimates of high- and mid-tech definitions (see appendix)

5.3 The next chart shows the slightly different story for the growth in mid-tech employment at CSP, South Cambridgeshire and England. This shows that employment in this sector has grown at a slower rate than high-tech across all geographies, but that it has grown much more rapidly at the district level than both CSP and the national picture.

5.4 In fact, whilst nationally mid-tech has only grown at a quarter of the rate of high-tech (and indeed below the rate of average employment growth experienced across the whole economy), across South Cambridgeshire, the growth in mid-tech has been almost the same as that in high-tech. This suggests that the district has managed to be a growth node for the mid-tech sector historically. It's clear however that whilst historically mid-tech firms located at CSP, this growth in mid-tech across the district has not occurred significantly at CSP, where the growth trends are broadly on par with national performance. So, whilst mid-tech tenants do currently support a significant quantum of employment at CSP, it is the high-tech firms which have driven the growth here, historically. The rising rents and low vacancy rates at CSP imply that the space currently and increasingly provided at CSP is not meeting the needs of mid-tech firms, for which the data clearly shows there is considerable demand.

Figure 14: Growth in mid-tech employment



Source: ONS BRES, Volterra estimates of high- and mid-tech definitions (see appendix)

Productivity of high- and mid-tech employment

5.5 **Average GVA per head in the manufacturing-side[9] of the mid-tech sector nationally was equal to c.£73k in 2017 compared to £139k in the high-tech manufacturing sector and the national average across all industries of £58k. Compared to this, the average GVA per head in the Science & Technology industries was £64k and £65k at the regional and national levels respectively.**

5.6 **In terms of growth, average GVA per head in the mid-tech manufacturing sector grew by over 50% between 2009 and 2017, whilst in comparison GVA per head grew by 3% in the high-tech manufacturing sectors and 18% on average across all industries over the same time period.**

5.7 **This shows that the mid-tech sector has experienced significant employment growth in the area, is valuable to the economy, and is growing in terms of this per unit value to the economy. This makes it an important and attractive industry to target for future growth.**

[9] Disaggregated data not available for the service industries within the mid-tech sector (see Appendix), so only an estimate for manufacturing-oriented mid-tech GVA is provided.

6 What Technology sectors need to grow

Looking at the trends in both the high- and mid-tech industries, it is clear that they have experienced significant growth, and are very valuable sectors contributing to the UK economy. This section considers what these sectors need in order to grow.

Investment

6.1 A significant driver of growth has been the increase in capital investment into the science and technology industries, which has enabled start-ups and established companies to develop new technologies through enhanced investment in R&D. This is supported by the experiences of Silicon Valley in California, where firms benefited from a large amount of readily available venture capital in the area, helping firms to grow at fast rates.

6.2 The growth of these industries is underpinned by such investment. Evidence shows however that the UK has fallen behind in terms of investment in these industries when compared against OECD countries and considered as a % of GDP.

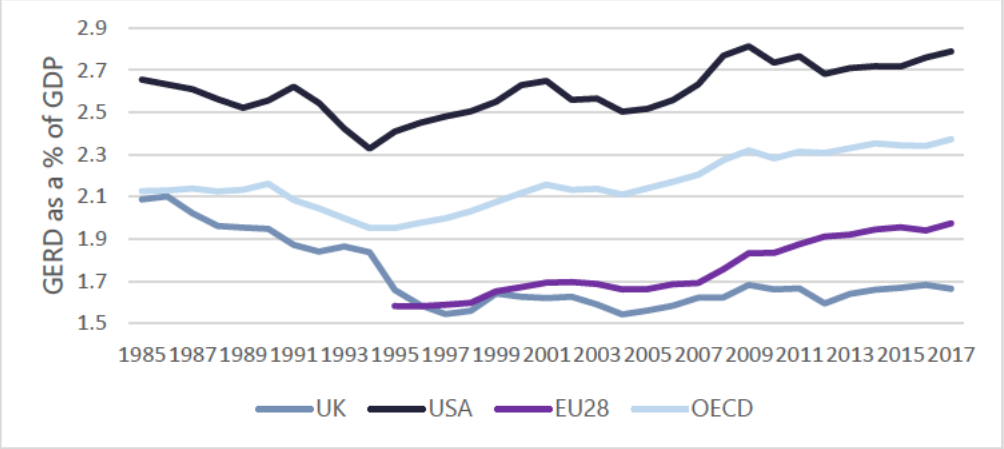
6.3 Figures show that for all OECD countries, Gross Domestic Expenditure on Research and Development (GERD) in the Science and Technology Industries stood at $1.2 trillion in 2017, which was 2.4% of total GDP in the OECD group, and represented a 30% increase from 2006 expenditure figures[10].

6.4 At the national level, however, GERD in the Science and Technology Industries within the United Kingdom was $43 billion in 2017, which was 1.7% of total GDP in the United Kingdom, and represented only a 15% increase from 2006 expenditure figures[11].

6.5 The chart below shows these rates of investment in R&D for the USA, OECD, EU28 and the Great Britain. This highlights that the UK has consistently invested a lower proportion of GDP, and that growth in investment has been much slower than other countries. Indeed, the data back to 1984 highlights that the UK used to invest on a par with the OECD countries but has since diverged and invests less now than it did forty years ago.

[10] OECD Statistics, Main Science and Technology Indicators
[11] OECD Statistics, Main Science and Technology Indicators

Figure 15: GERD in Science & Technology as a % of GDP



Source: OECD Statistics, MSTI Database

6.6 Investment figures show that in 2018 the UK received the fourth largest amount of scale-up investment after the US, China and India. Moreover, £6.3bn worth of venture capital investment was funnelled into the UK technology industry which was greater than any other European country[12].

6.7 Employment wise, the UK maintains its position as one of the main global destinations for tech talent, with the UK tech industry employing 5% of all high-growth tech workers globally, which places the UK economy ahead of Japan, France and India[13].

6.8 Given these figures, it is clear that the UK remains a hotspot for talent and an attractive place to invest. Universities like Cambridge, with a global brand and track record assist in attracting considerable investment to the UK.

6.9 It is also clear however that it must not rest on its laurels – the country has historically invested a lower proportion of GDP in R&D, and must continue to enable this sector to grow if it wishes to remain at the forefront of innovation. The UK tech industry is an integral part of the overall UK economy and hence needs to be a strengthened even further in the future.

Affordable and flexible Physical space

6.10 Just like the sectoral definition of high- and mid-tech is complex, so too is the type of space these industries require. High-tech firms typically require predominantly office-type space with a variety of amenities. In contrast, the majority of mid-tech firms require manufacturing and distribution floorspace to form part of their commercial units, in a hybrid-type office/laboratory industrial building. Essentially, an ideal physical space for a mid-tech firm would include a mixture of flexible office space, research & development space, and production space. As a result of this requirement for mixed uses, mid-tech firms often require larger, more versatile commercial spaces that have not previously been considered in the design of technology clusters and

[12] Tech Nation Report 2019
[13] Tech Nation Report 2019

science parks, leaving many mid-tech firms struggling to find commercial space that suits their needs. As the mid-tech industry continues to grow in Cambridge, this problem of space shortage will only become more acute, as current commercial floorspace offerings are too often insufficient to accommodate the expansive growth in the industry.

6.11 As highlighted in the experiences of the New York metro area (see section 7), the provision of additional physical space can often best be situated on the outskirts of an urban region, and these areas have the potential to be able to provide larger physical spaces at lower cost, suiting both mid-tech firms and start-ups alike.

Business support & Networks

6.12 Any new and growing sector and business start-ups require support to enable them to grow. Indeed, as well as financial ones, the key reasons for business failure of start-ups are: lack of appropriate leadership, business planning and management. These are all elements that entrepreneurs typically struggle with, and yet when they are provided with business support this can hugely benefit the individuals and the businesses that they run, enabling them to produce business plans, understand their markets, plan for the future, and interact and share knowledge with other firms.

6.13 One of the main successes of the Cambridge technology cluster has been the substantial amount of cooperation and communications between businesses and academic/public institutions that together form the cluster. A number of organisational networks have fostered collaboration within the cluster, including[14]:

- The Cambridge Network (representing the majority of the technology firms in the Cambridge area)
- One Nucleus (representing the bioscience community in Cambridge and London, and comprising 470 members)
- Cambridge Cleantech (represents firms who operate in areas such as renewables, environment and low carbon).
- Cambridge Wireless, with 400 members in the IT and telecommunications areas.
- Cambridge Ahead – a business and academic member organisation dedicated to maintaining the successful long-term growth objectives of Cambridge and its region.

6.14 Lessons appear to have been learnt from other examples of technology clusters around the world, where one of the key drivers of success has been encouraging collaboration, as partnerships between different institutions can encourage: sharing of best practise, drive innovation and provide businesses with both research assistance and other technical services.

[14] SQW, 2014. Employment Guidance for Area Action Plan

The importance of clustering

6.15 One major facet of the technological industry, which is an integral part of the success that has seen the industry grow significantly, is the fact that many science and technology-based firms tend to operate within close proximity of each other, otherwise known as clustering. Clusters can be succinctly defined as geographic concentrations of interconnected firms and institutions within a particular sector.[15] Other technology clusters around the world have reaped the rewards associated with clustering, including knowledge-spillovers, competition and complementary firms/industries, all helping to create agglomeration economies.

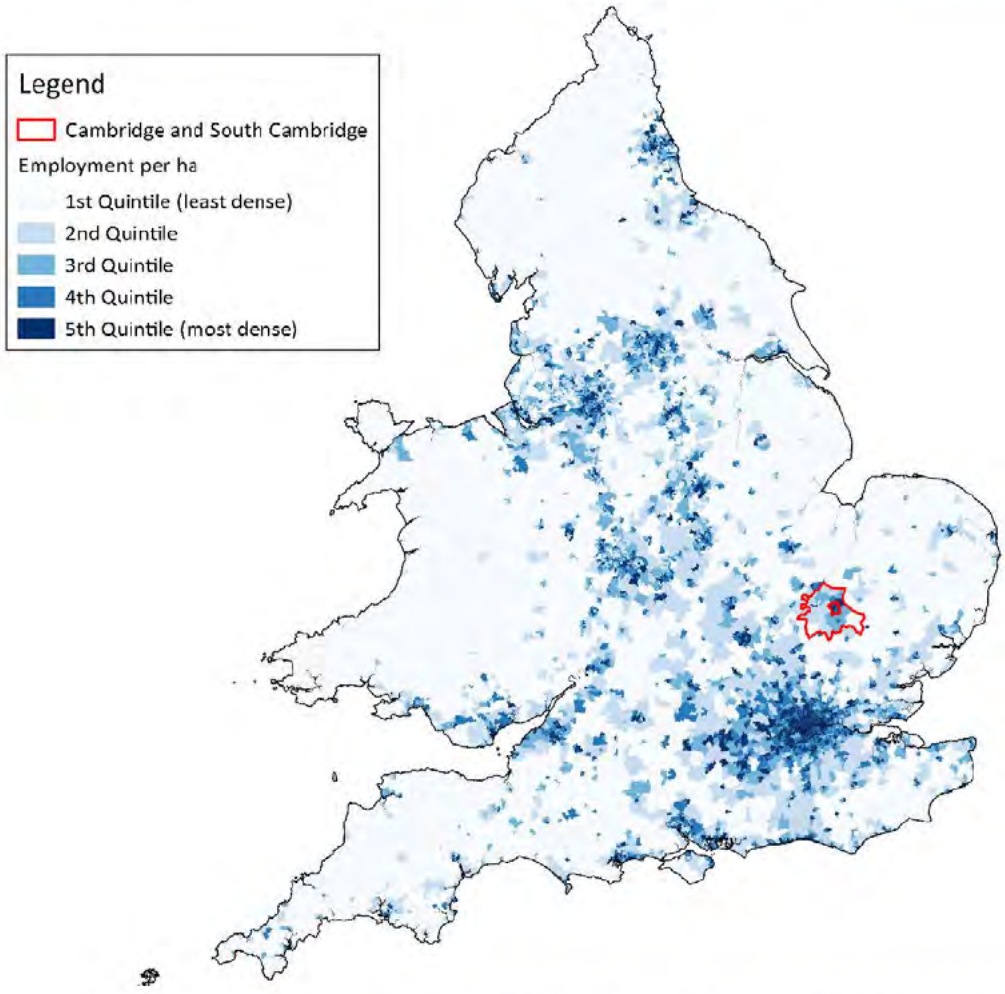
6.16 More specifically, according to the literature, the key benefits associated with the clustering of tech firms include (but are not limited to):

- Knowledge spillovers: Heterogeneous firms with varying competitive advantages interact with one another, leading to transfer of knowledge and best practise across firms over time.
- Access to labour: Highly-skilled workers are attracted to areas where clusters exist in the knowledge that a range of specialist employment opportunities will be readily available to them.
- Access to supply chains: Clustering can lead to a condensed supply chain, where firms from different industries co-locate, increasing efficiency. An example of this is in the Great Munich region, where high-tech and knowledge-oriented services firms have become integrated alongside more traditional manufacturing firms, enhancing the co-ordination of activity throughout the supply chain.

6.17 The maps provided in the figures below provide an overview of high-tech and mid-tech employment density[16] across the UK and more locally around the Cambridge area. As expected, tech jobs are generally clustered in urban areas around the UK, with a higher density in London and it surrounding regions. The MSOA in which CSP is situated is amongst the highest in Cambridge for both high-tech and mid-tech employment density.

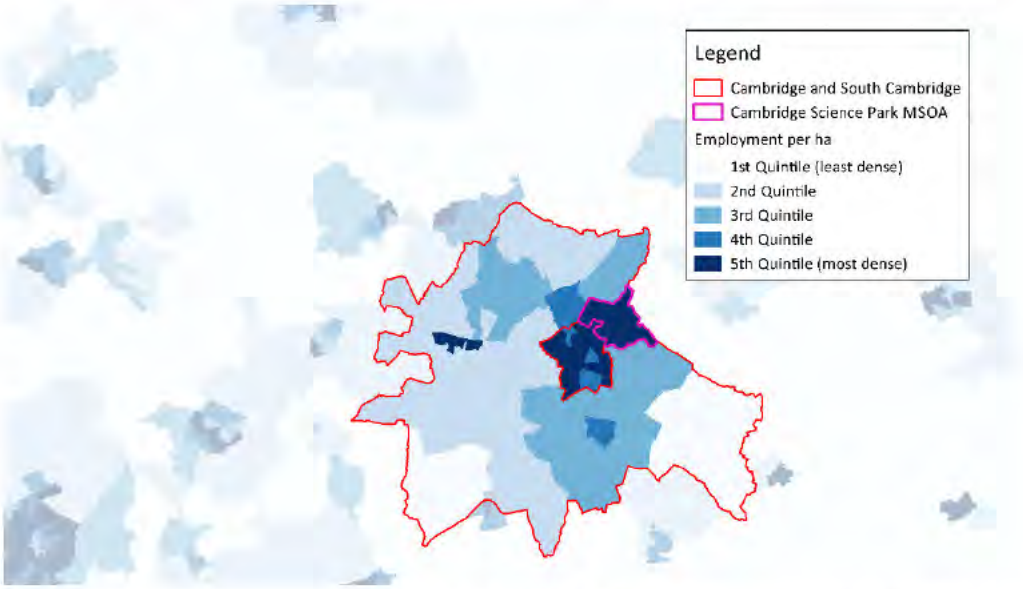
[15] Clusters and the New Economics of Competition (Michael Porter, 1998, p. 78)
[16] To plot employment density, ONS-defined Middle Layer Super Output Areas (MSOAs) are used, which are small-scale statistical areas defined by the ONS to improve the accuracy of statistical reporting.

Figure 16: Employment density in high-tech sector – national level



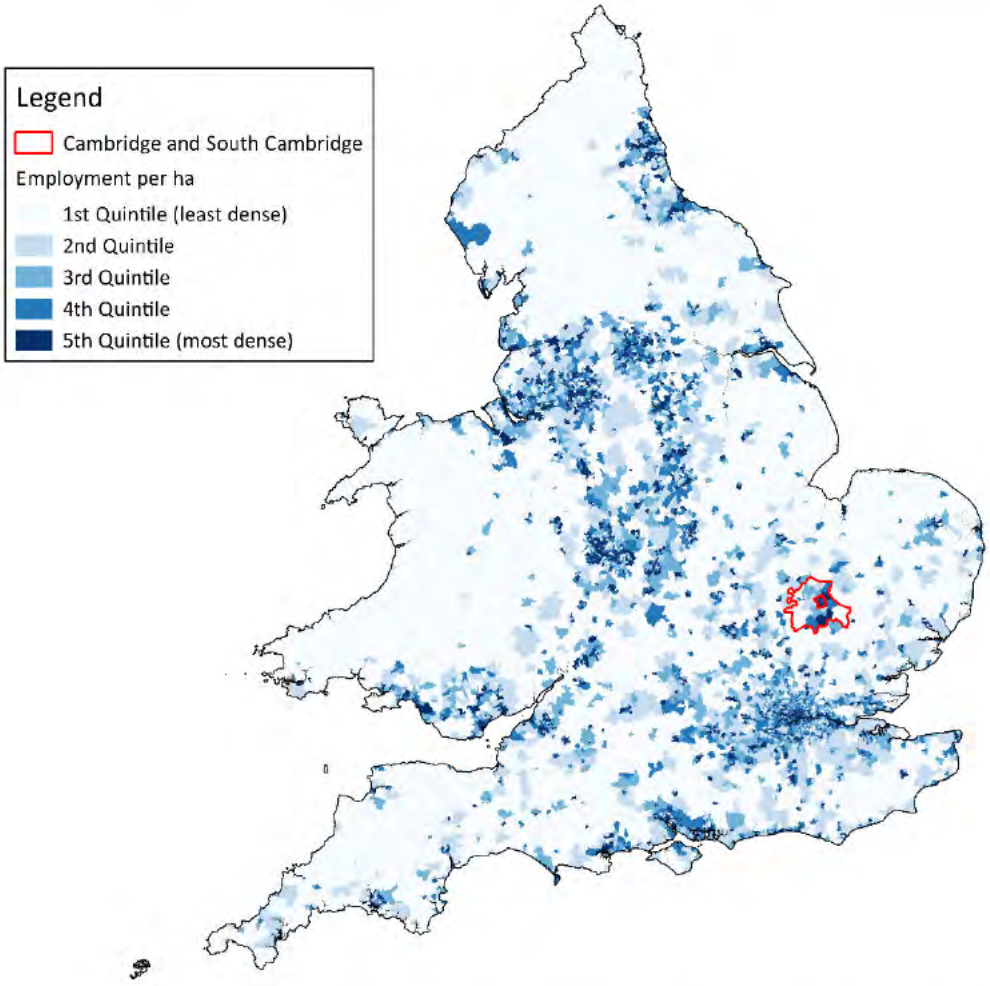
Source: ONS, 2018. Business Register and Employment Survey

Figure 17: Employment density in high-tech sector – Cambridge focus



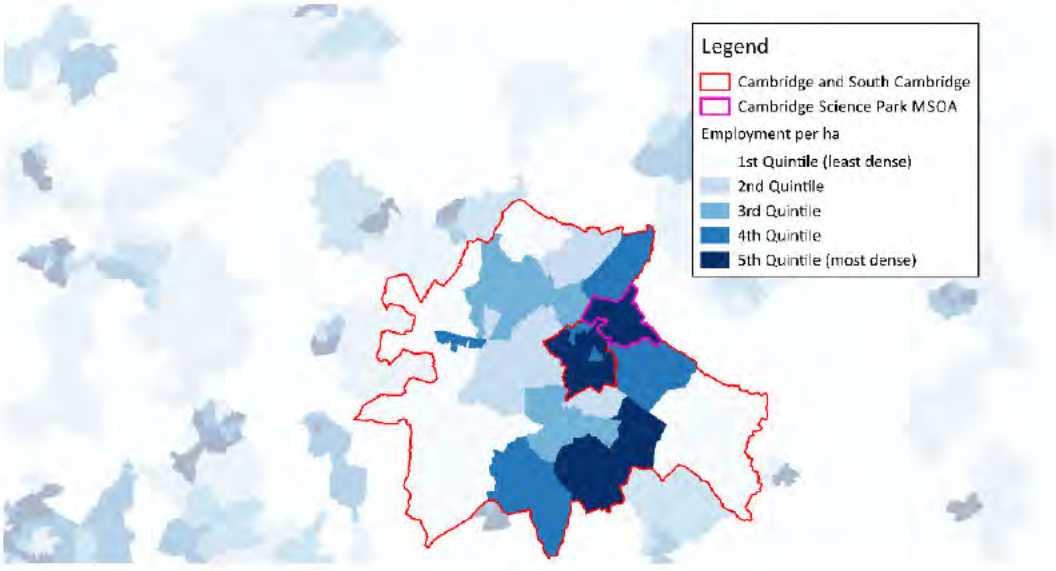
Source: ONS, 2018. Business Register and Employment Survey

Figure 18: Employment density in mid-tech sector – national level



Source: ONS, 2018. Business Register and Employment Survey

Figure 19: Employment density in mid-tech sector – Cambridge focus

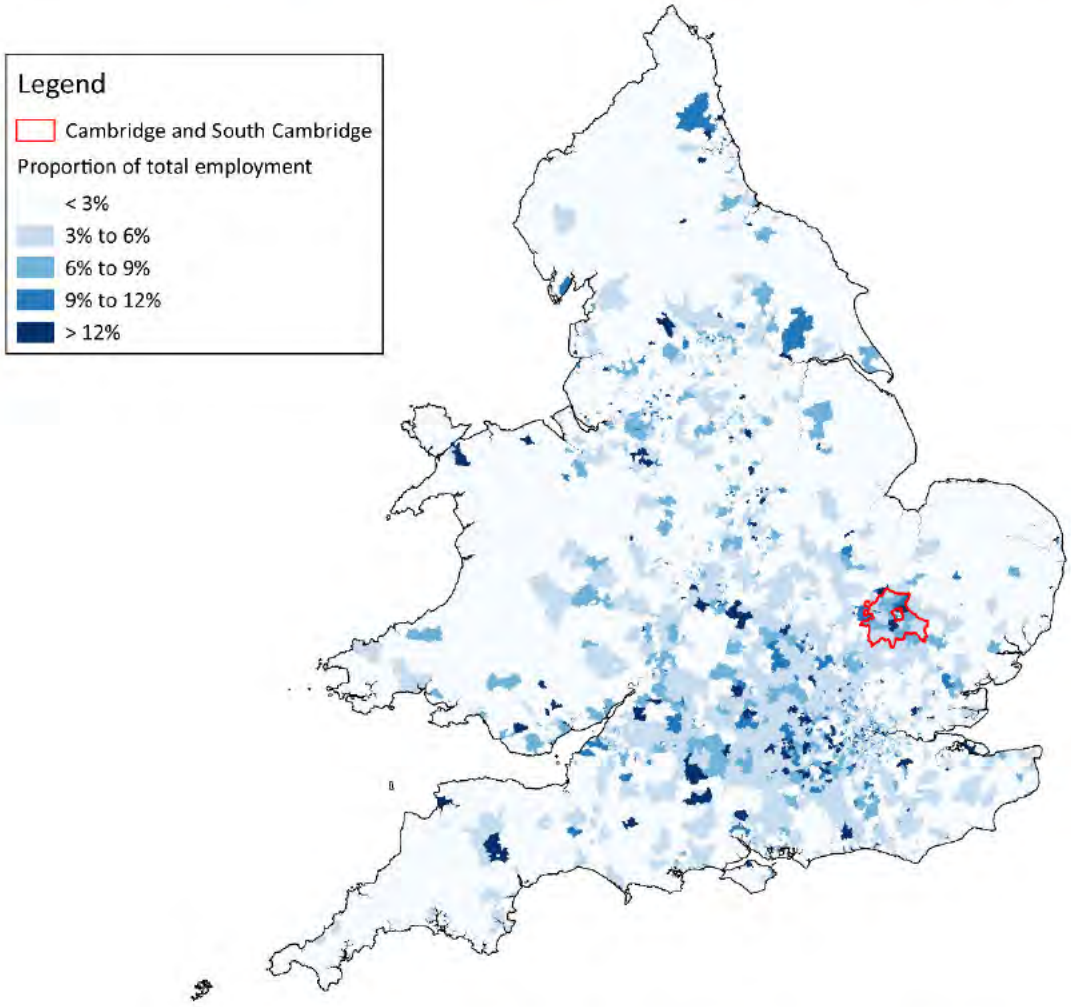


Source: ONS, 2018. Business Register and Employment Survey

6.18 In addition to analysing employment density (jobs per ha), a mapping exercise has also been undertaken to show the areas of the UK where a relatively higher amount of high-tech/mid-tech employment exists as a proportion of total employment in that area (delving in more detail into the figures presented in Table 2).

6.19 As the map in figure 16 shows, areas of disproportionately high proportions of high-tech industry employment exist predominantly in areas west of London (e.g. Oxford), as well as the Cambridge region itself.

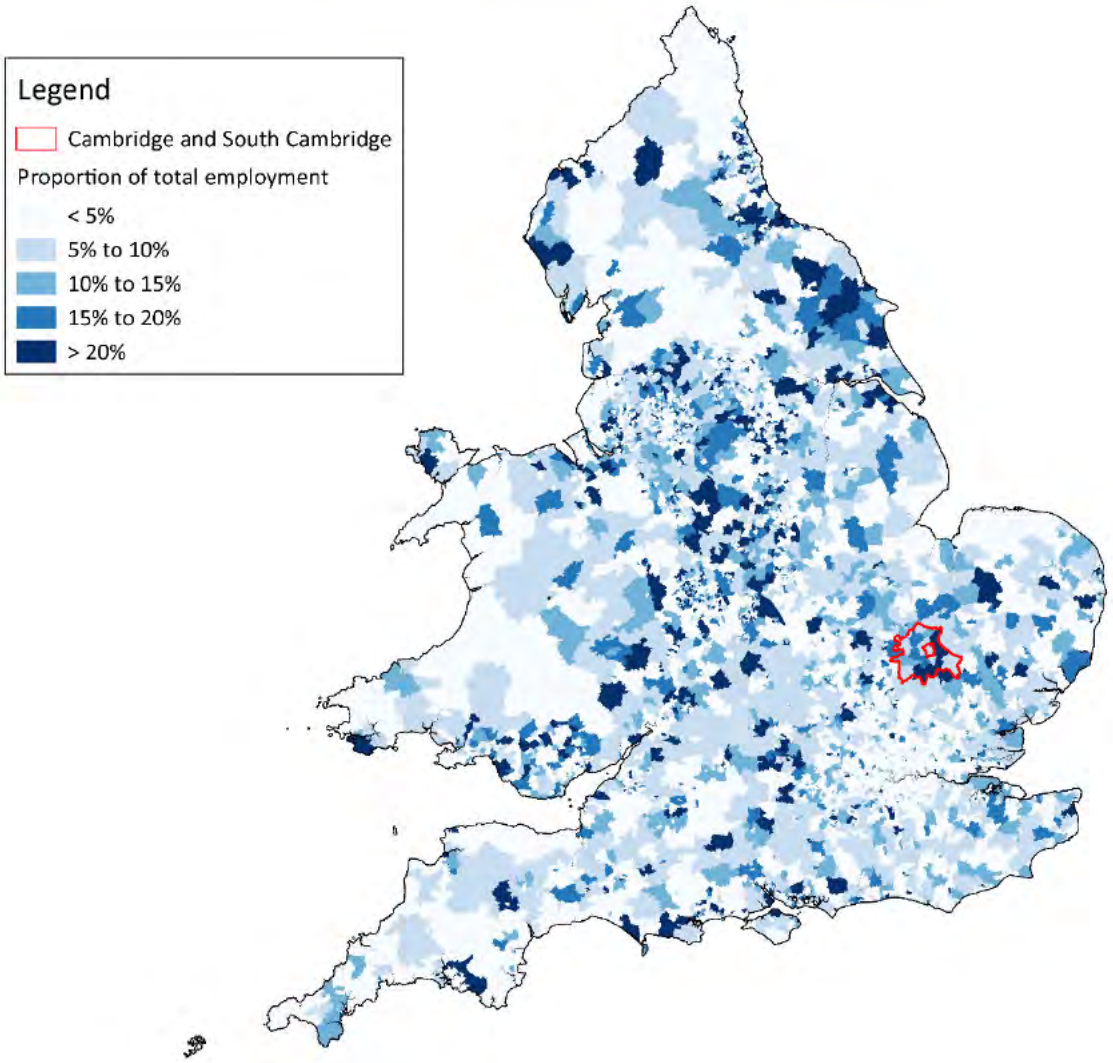
Figure 20: Proportion of high-tech employment as a % of total



Source: ONS, 2018. Business Register and Employment Survey

6.20 Figure 17 shows the proportion of mid-tech employment as a percentage of the total by MSOA. An interesting finding of this map is that in many areas, the mid-tech focused areas of employment lie on city fringes, rather than in cities themselves. This backs up the findings in the literature that suggests mid-tech firms, with their larger space requirements, may prefer to be situated in slightly lower cost urban areas, on the fringe of technology clusters rather than in the middle of them.

Figure 21: Proportion of mid-tech employment as a % of total



Source: ONS, 2018. Business Register and Employment Survey

7 Lessons learned from Technology clusters

Having detailed in the previous section what technology firms need in order to grow and succeed, this section focuses on lessons that can be learned from existing technology clusters around the world.

Case studies of successful technology clusters

7.1 A number of case studies of existing technology clusters are identified and provided in this section, in order to inform CSP of examples of best practise that can be learnt through the key lessons learnt from the experience of these areas. The areas that have been analysed in this section, based on research provided by the London Stansted Cambridge Corridor Growth Commission, include:

- New York City Metro Area;
- The Triangle, North Carolina;
- Silicon Valley, San Francisco; and
- Greater Munich, Germany.

7.2 The successes experienced and challenges faced by each of these four case studies are summarised in the table below. From the table it is clear that there are a few consistent themes experienced by some, if not all, of the tech clusters considered.

7.3 The key ingredients for success appear to be:

- Diversification: Whether this be diversification across industries or the size of firms within the area, ensuring that no single firm or sector dominates the area appears to be a vital factor in the success of these regions; and
- Collaboration: Not only between businesses, but also through partnerships with academic and the public sector, encouraging knowledge sharing and innovation.

7.4 The biggest challenge faced by these tech clusters appear to arise as a by-product of their own success, mainly through issues with managing rapid urban growth. This growth, or 'urban sprawl', can constrain infrastructure such as education institutions, commercial floorspace, and the transport system unless it is managed competently.

Area	Successes	Challenges
New York City Metro Area	- **Diversification:** shift towards high-tech jobs has helped to diversify the local economy and reduce economic dependence on the dominant sector (financial services). - **Utilisation of clusters in the (lower-cost) surrounding region:** Areas such as Long island and Hudson Valley have developed clusters to support central New York, through the provision of large spaces and lower rents, making these areas attractive for start-ups and technology manufacturing companies.	- **High costs:** Business and residential costs in the metro area are high, with real estate development slow and more expensive than elsewhere in the US. The metro area lacks both sufficient affordable housing and affordable commercial workspace for firms and their workers.
The Triangle, North Carolina	- **Cross-boundary collaboration:** In this case involving university partnerships, where the science park was established through a major collaborative venture between three major universities, leading to a reduction in destructive rivalries and hence resulting in knowledge spillovers and sharing of best practices. A campus was created to provide space for co-location and co-production between academic institutions and businesses. - **Targeting of specific firms:** The establishment of the Research Triangle Park ('RTP') publicly targeted 'new-line' industries (e.g. electronics, communications, engineering services etc.). Locating these specific firms in a single area has allowed them to form a knowledge-based cluster and become more competitive globally. - **Public sector influence:** A long-term commitment on the part of both the state and regional leadership that has allowed the RTP to flourish. A public-private partnership dedicated to keeping the region economically competitive has been established, with this partnership offering research assistance, technical services and other support services to maximise the region's competitiveness.	- **Managing growth:** Urban sprawl through rapid population growth has led to infrastructure in the area, including schools and road networks, becoming constrained through crowding and congestion.

Area	Successes	Challenges
Silicon Valley , San Francisco	- **Collaboration:** The valley benefits from a unique amalgam of world-class academic institutions, a highly-skilled private sector and a population of entrepreneurs, who have in some cases been willing to work collaboratively, making the competitiveness of the region unrivalled due to the positive effects of agglomeration economies. - **Research & Development:** Providing space for R&D activities help to ensure technology development is sustainable in the long-term. Many companies opt to locate their R&D and design centres in the region. - **Diversification:** Despite being the world's most famous tech cluster, the region benefits from not being dominated by a single large tech company or sector. The technology industry in Silicon Valley is highly diverse, driving innovation as different technologies combined to create unique products. It is not only diversity in sectors that is beneficial but also in size of firms. The existence of 'start-ups' is known to complement the corporate firms in the region.	- **Transport:** In the face of high levels of demand, historic under-investment, excessive numbers of transit operators, competing transport modes and the lack of a cohesive management strategy has led to problems with congestion and increased commuter journey times. - **Quality of life for workers:** Housing and rental prices are at an all-time high in the local area due to a lack of housing supply in the face of increasing demand. - **Skills mismatches:** Due to the fast-paced and evolving nature of the technology industry, there are often mismatches between the skill sets of workers and those required by employers in the region. - **Excessive business costs:** The region is an expensive location in terms of high labour, real estate and operations costs, which can be restrictive for firms.
Greater Munich, Germany	- **Diversification:** No single industry or firm dominates; instead, high-tech industries and knowledge-oriented services firms are integrated alongside traditional production firms. This has created conditions considered important for economic growth, such as (i) strong institutions; (ii) knowledge-sharing; and (iii) co-ordination of activity. - **Public sector influence:** Munich is known for having a critical mass of public research activity, through both its universities and stand-alone public research organisations. - **Historic transport:** Historically this has been advantage, with Munich have the best public transport offering of Germany's largest cities owing to substantial previous investment.	- **Urban sprawl:** A sprawling urban area is beginning to cause increasing levels of congestion and hence commuting times. Other pressures resulting from urban sprawl include high property prices, increased pressure on road networks and restrictions on lower-income people to settle in the city.

8 Spatial requirements and Challenges

The spatial requirements of mid-tech

8.1 The standard guidance for assessing the spatial requirements of different sectors, or the employment creation which might be expected to result from a given delivery of floorspace, is the Homes & Communities Agency Employment Density Guide. The guidance provides an employment density matrix which details approximate floorspace (sqm of GEA, GIA or NIA) per worker by use class (A, B, C and D use classes).

8.2 Employment land allocations allocate land to various classes, but increasingly as we've noted, innovative sectors need a variety of types of space, and don't fit neatly into any one given floorspace definition.

8.3 A subset of relevant densities drawn from that table are presented below.

Table 7: Employment Densities by use class

Use Class	Sub-category	Sub-sector	Density (sqm)	Notes
B1a Offices	General Office	Technology, media & telecoms (TMT)	11	NIA
B1b	R&D Space		40-60	NIA
B1c	Light Industrial		47	NIA
B2	Industrial & Manufacturing		36	GIA
B8	Storage & Distribution		70-95	GEA
Mixed B class	Small business space	Incubator	30-60	
		Maker Spaces	15-40	
		Studio	20-40	
		Co-working	10-15	
		Managed workspace	12-47	

Source: Homes & Communities Agency Employment Density Guide 3rd Edition, November 2015

8.4 However, the guidance acknowledges the changing nature of working patterns, and the fact that "employment density is much more closely aligned to the type of activity undertaken within the property rather than its location or building type".

8.5 In relation to the R&D and technologically advanced sectors, the guidance notes: "the R&D sector is a dynamic and broad sector, which reflects the significant technological and scientific advances which are shaping the evolution of the industrial sector. The sector can be considered to be split into two key directions; an innovation and science focussed direction which is associated with the knowledge economy and life sciences activity, and a more traditional industrial focussed direction which fits alongside manufacturing. The more traditional industrial focussed R&D sector, which sits alongside manufacturing uses, bears similarity with the Light Industry (Business Park) use types within the current density guide, however further analysis into the alignment of floorspace use will identify the level of alignment with the 47sqm FTE figure.. The nature of business parks has changed, with a lower presence of light industry activity and a greater focus on space for research and development and office activity. This is much more pronounced than suggested by previous guides with the growth of major new campus based research activities across the UK which tend towards the provision

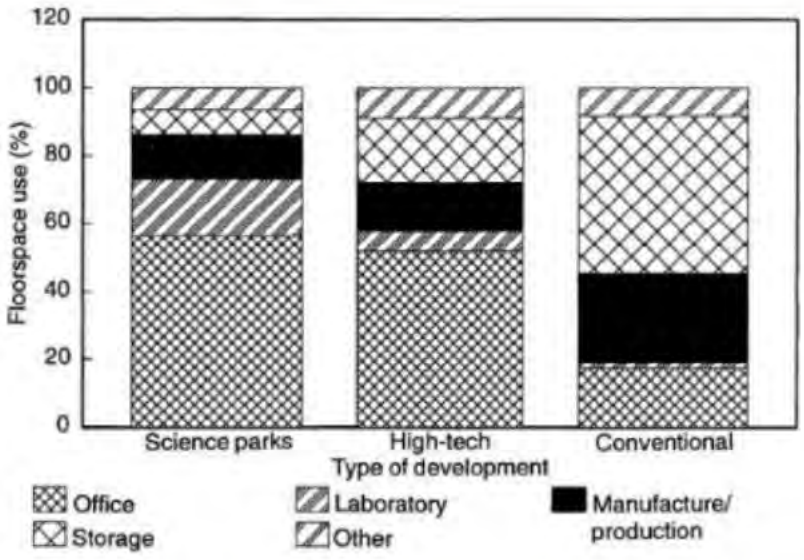
of B1a and B1b floorspace. The more innovation and science focussed R&D sector, associated with the knowledge economy and life sciences activity, incorporates pharmaceuticals, biotechnology, industrial technologies, creative industries, and technology, media and telecoms (TMT). This sector benefits significantly from agglomeration and the clustering of activity with similar uses and higher education institutions."

8.6 The guidance goes on to note that due to this uncertainty and the constantly evolving nature of this issue, the guidance requires "the user to exercise their professional judgement to identify any specific factors that may result in a different employment output than is shown in the general trends within the matrix."

8.7 With this in mind, we have considered various pieces of evidence. Firstly the starting point is the expectation that a high-tech science park would typically accommodate workers at densities somewhere between that of office, and that of industrial (ie between 12 and 36sqm per worker), with an expected mix of uses onsite ranging from offices, co-working and maker spaces, through to labs, studios, industrial and R&D space. A simple blended average across these use classes gives an estimate of 26sqm per worker. Given high-tech sectors would have a higher focus on office space and mid-tech would have a higher focus on R&D space, our initial expectation is that high-tech would fall within the range of 12-24 and mid-tech in the range of 24-36.

8.8 Next, literature identifies the mix of uses typically found on different types of business parks. This is set out in the chart below. It should be noted, however, that this comes from 1994 which, given the evolving nature of land use and working patterns, could mean that it is rather a dated evidence base.

Figure 22: Floorspace use by type of development



Source: Industrial Property: Policy & Economic Development, Rick Ball & Andy C Pratt, 1994

8.9 Using this split of uses, coupled with the densities guidance, we have arrived at estimates of the blended density at which the different types of use would be assumed to operate at. This results in an estimate of 19sqm per worker for science parks, 24sqm

for a high-tech development, and 38sqm for a conventional industrial estate. These fall at the higher ends of our first set of estimates. For the reasons noted (ie that the source is from 1994), it is unsurprising that this results in a higher estimate.

8.10 The next approach was to take the recorded levels of floorspace in the LSOA within which CSP falls from the VOA, adjusting for different use classes and definitions. We also undertook the same exercise for Evolution Business Park. This results in an estimated blended job density of 18-19 sqm per worker. Finally, we were given an average density of occupier by the client, which is an estimate of 18 sqm per job.

8.11 The evidence has shown that mid-tech has a greater reliance on industrial space than high-tech or standard science parks. Based on the densities guide estimates, the science park estimates (18-19sqm per job), and experience of existing mid-tech occupiers, we estimate therefore that the density per mid-tech job would be between 20-30 sqm per job, taking a mid range of 25 sqm per job.

Cambridge's spatial challenges

8.12 For the reasons described in the previous section, one of the most important factors in the location choice of technology firms is the clustering with other technology firms. Indeed, an empirical study of forty-four small and medium sized high technology manufacturing firms based on identifying the influence of various site-specific infrastructure requirements on their location behaviour, found that proximity to other high technology firms was the most important factor in their choice of location.[17]

8.13 Yet whilst this is a key factor in the location decision-making process, there are other factors that are also considered, including: cost of commercial space, access to a talented/skilled labour pool, affordability and availability of housing, size of commercial spaces, and commercial site amenities.

8.14 Demand for office and laboratory space has been increasing in Cambridge in recent years, with this trend only set to continue. The demand for this type of floorspace was reflected in its strongest six-monthly figure take up in the second half of 2016, where 388,900 sq ft of space was acquired by firms[18]. The demand is strongest within specific parks, with recent research by Bidwells showing that science & technology parks account for almost 61% of Cambridge's office and laboratory floorspace[19]. This high level of demand has been reflected in prices, with prime office rents rising over 28% from the end of 2015 to 2019, a 7.4% increase per year. The cost of commercial office space has now reached a new peak in Cambridge, equivalent to approximately £45 per sq ft.

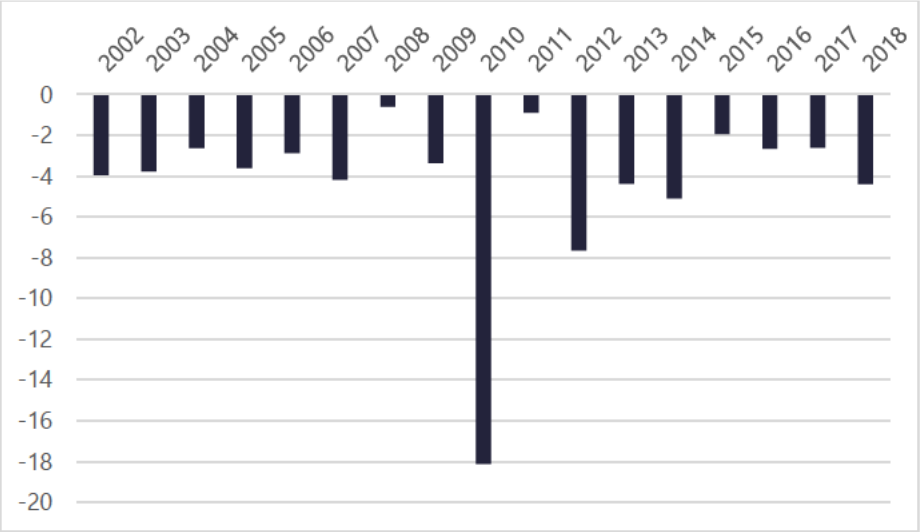
8.15 Furthermore, whilst Cambridge's technology parks have historically served technology firms well and allowed the formation of high-technology clusters, the existing commercial spaces in Cambridge increasingly do not match the requirements of mid-tech firms. This problem of lack of suitable commercial space in the area has been exacerbated by other forces at play in the market, including the loss of office stock to student and residential developments; the transfer of land allocations from

[17] Galbraith, Rodriguez & DeNoble, 2008. SME Competitive Strategy and Location Behaviour: An Explanatory Study of High-Technology Manufacturing.
[18] Bidwells, 2019. Our view on Cambridgeshire Offices & Labs.
[19] Ibid.

commercial space to education & public services uses; and the loss of B1 office space allocations to displaced users from Cambridge[20].

8.16 Bidwells report that the forecast requirement for B1(b) space in the 'Urban Area' from 2014-2031 ranges from 248,400 – 489,150sqm but that there is only 149,500sqm of space available. Regardless of the detail around types of space and occupancy, this provides a very stark picture of lack of available space to accommodate forecast demand. This suggests a shortfall of B1(b) space of between 99,000 and 340,000 sqm.

Figure 23: Amount (ha) of employment land lost on allocated land in South Cambridgeshire 1999-2002 – 2017-18



Source: Research & Monitoring – Cambridgeshire County Council

8.17 In addition to this loss to date, there are understood to be several industrial sites allocated for residential development in the area, which will only further exacerbate the problem of lack of appropriate and affordable space for growth in the mid-tech sector.

8.18 The space required by tech-firms, and the benefits of technology clusters, are not easily replicated, meaning that any shortages in supply of commercial in the Cambridge area could lead to globally-oriented technology firms wishing to expand being forced to relocate to other centres of excellence that offer the same clustering benefits as Cambridge, which in all likelihood will be outside of the UK.

8.19 Finally, it is not only the direct spatial challenge of a lack of commercial floorspace that local authorities in and around Cambridge need to be aware of and manage appropriately, but also issues with associated infrastructure shortages, such as housing stock (for firms' workers) and the transport network. Experiences from other technology clusters around the world show that constraints on other types of infrastructure can also impact the technology industry, deterring workers and reducing firms' access to a high-quality labour market pool through unaffordable house prices and increasing commuter journey times.

[20] Bidwells, 2014. Cambridge South (The Research and Development Market).

9 Future potential at CSP

Having established the prevalence and historic success of the mid-tech cluster at CSP and more widely across South Cambridge, this section considers three scenarios for future growth.

Scenarios for growth

9.1 There is considerable scope for growth in mid-tech in South Cambridgeshire, for the reasons set out in this report. Mid-tech is an innovative, changing and growing industry, making its growth hard to forecast.

9.2 Professional, scientific & technical services have historically exhibited growth at a far faster rate than predicted by trend-based models, and similarly manufacturing's decline was stemmed in ways which models did not predict (once the decline had started, it was predicted to continue). Put simply, there is considerable uncertainty in forecasting any such growth, due to the myriad of factors which underpin the delivery of such growth.

9.3 There is an evident cluster of mid-tech activity in South Cambridgeshire – almost a quarter of all South Cambridgeshire employment is classified as mid-tech (and a further 10% is high-tech).

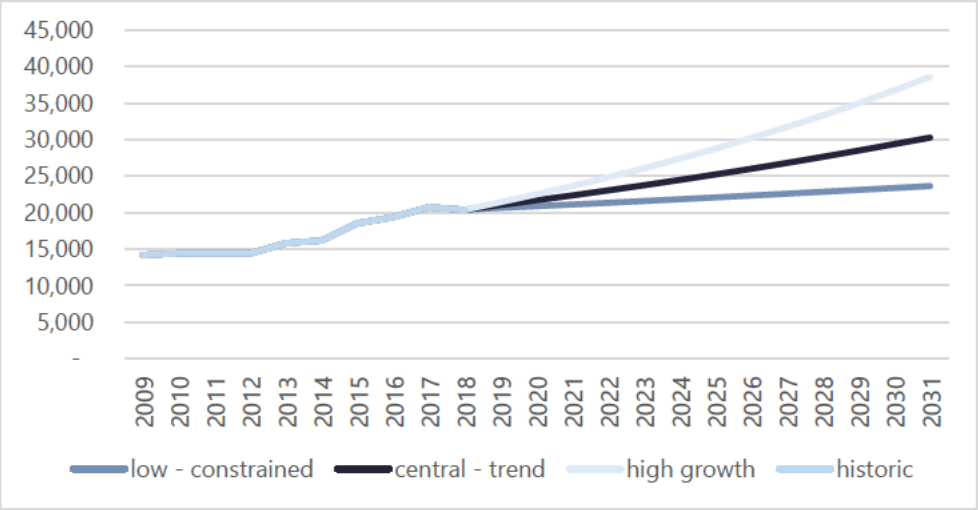
9.4 The mid-tech sector has also been growing particularly fast in South Cambridgeshire – at a rate of 4.1% average growth per annum, which compares to the UK wide rate of 0.9% (1.1% CSP). If the growth trend continues, we would expect jobs growth of c. 750 new jobs each year in mid-tech going forward. This is our central scenario. We now consider low and high scenarios around this.

9.5 As shown in the previous section however, as it stands there will be a constraint to growth due to the lack of floorspace coming forward to accommodate the identified growth potential. This floorspace constraint, inhibiting growth, would hold back demand. There has in the last decade been more limited growth in mid-tech employment at CSP due to the fact that it has become full and so prices have risen, attracting high-tech occupiers rather than mid-tech. If we project forward this constrained growth rate, we would expect jobs growth of c. 250 each year. This represents our low growth scenario.

9.6 Finally, the evidence suggests that the high- and mid-tech sectors which locate at CSP are more likely to be in export focused, high value sectors. The literature tells us that technology clusters grow more quickly and productively if they diversify, and facilitate growth through business support networks and collaboration. The environment at CSP is fully conducive to this, having already proved to work by incubating a valuable high-tech cluster to date. Were CSP2 to spearhead increased growth in mid-tech, we would expect there could over 1,000 new jobs each year. This is our high growth scenario.

9.7 Considered over the plan period to 2031, this would equate to growth in mid-tech jobs of between 250 and 1,000 each year, or between 3,200 – 18,100 to 2031. These three scenarios for jobs growth are shown in the chart.

Figure 24: Forecast for mid-tech growth



Source: Volterra forecasts

9.8 Based on the floorspace assumptions outlined in the previous section, this would be expected to require c. 80,000 - 450,000 sqm of new floorspace, which equates to c. 0.9m - 4.9m sqft of floorspace.

9.9 Approximately 1.5m-2m sqft of new space could be delivered at CSP2. As the literature and evidence demonstrates, these firms like to cluster and when they do cluster they are more productive, and thus delivering this quantum of floorspace in one location and integrated with CSP1 offers the potential to facilitate the higher scenario rate of mid-tech employment growth. The table below outlines the scale of employment which could be accommodated at CSP2 and the associated economic value of the proposed growth.

Table 8: Forecast growth in mid-tech employment and resulting demand for floorspace

Scenario	Employment growth 2018-2031	Per annum growth rate	Estimated floorspace requirement
Low growth – space constrained	3,200	1.1%	0.9m sqft
Central scenario – continuation of past trend	9,900	3.1%	2.6m sqft
High growth – supportive growth conducive strategy	18,100	5.0%	4.9m sqft

9.10 These forecasts deliberately present a very large range. There are many factors which contribute to whether the area can achieve the high growth scenario. If growth is not enabled and is instead constrained to meet the poorest of past performing levels, less space will be required. Linked to this however considerably fewer jobs opportunities are generated, along with their associated economic value and export-base.

9.11 If, however, growth is prioritised and planned, the past performance, speciality and evidence of strong clusters, provides confidence that significant growth could be achieved above and beyond the central scenario. In the high growth scenario, growth

could be delivered through a combination of allocated sites across the area, CSP could continue to facilitate high-tech growth, and then CSP2 would provide the required space for mid-tech.

9.12 CSP is full, and Bidwells evidence shows that South Cambridgeshire sites are getting harder to find, as more and more get converted into residential. At the central rate of growth (continuing on past trends), CSPs would be full in c.6-10 years. The high growth scenario would suggest space at CSP2 would be full in 3-5 years which would represent an ambitious and rapid programme for growth. Even in the low growth scenario we would expect the space to be full within 20 years. The approach is aimed to be both ambitious in terms of creating a world-leading mid-tech cluster but also to support the long term growth goals of the area. Whilst there is considerable variation in the scale of potential growth in the three options, these options suggest that regardless of the growth scenario which unfolds, the space would become filled. The rate of take up and growth of the industry is highly interdependent upon available space and the condition for growth being enabled.

9.13 This matters in terms of GVA and output for not just Cambridge but the UK as a whole. If mid-tech is not accommodated at locations such as CSP, evidence shows that it is struggling to find alternative premises in a disaggregated manner around South Cambridgeshire, and that it would benefit from clustering with the existing innovative firms at CSP.

9.14 Mid-tech growth will therefore be maximized if accommodated here at CSP due to the linkage to the other high-tech firms, and the business support network facilitated by CSP/Trinity.

10 Economic value of CSP and CSP2

7,500 workers are currently accommodated at CSP, contributing £490m to the economy. It is estimated that CSP2 could almost double this, accommodating up to 7,500 more workers contributing up to £470m more GVA each year.

10.1 **CSP currently accommodates c. 7,500 jobs in its 1.5m sqft of commercial floorspace. The business rates paid by businesses on the site are estimated at c. £15m per annum.**

10.2 **This economic activity contributes an estimated £490m in GVA to the economy every year, of which an estimated £170m accrues to HM Treasury through some form of taxation.**

Table 9: Economic contribution of CSP

Scenario	CSP1 now
Floorspace (sqft)	1.5m sqft
Jobs	c.7,500
Business rates (est.) (£m pa)	c. £15m pa
GVA value (£m)	£490m
Taxation revenue generated (£m)	£170m

CSP2's economic potential

10.3 **Approximately 1.5m-2m sqft of new space could be delivered at CSP2. As the literature and evidence demonstrates, these firms like to cluster and when they do cluster they are more productive, and thus delivering this quantum of floorspace in one location and integrated with CSP1 offers the potential to facilitate the higher scenario rate of mid-tech employment growth. The table below outlines the scale of employment which could be accommodated at CSP2 and the associated economic value of the proposed growth.**

10.4 **This shows that CSP2 could accommodate up to 7,500 new jobs if it delivers 2m sqft of commercial floorspace. It is estimated that the business rates paid by businesses on the science park would be c. £15m-£21m per annum.**

10.5 **This economic activity would contribute up to an estimated £470m in GVA to the economy every year, of which an estimated £165m would accrue to HM Treasury through some form of taxation, highlighting the considerable economic contribution CSP2 could make.**

Table 10: Economic potential of CSP2

Scenario	CSP2 (lower)	CSP2 (upper)
Floorspace (sqft)	1.5m sqft	2m sqft
Jobs	c. 5,500	c. 7,500
Business rates (est.) (£m pa)	c. £11m-£16m pa	c. £15m-£21m pa
GVA value (£m)	c. £350m	c. £470m
Taxation revenue generated (£m)	c. £120m	c. £165m

11 Appendix

Classification of Tech Services	Classification of Tech Manufacturing
High Tech Services	**High Tech Manufacturing**
Software publishing	Manufacture of basic pharmaceutical products and pharmaceutical preparations
Motion picture; video and television programme activities	Manufacture of computer, electronic and optical products
Data processing; hosting and related activities; web portals	
Other information service activities	
Research and experimental development on biotechnology	
Mid Tech Services	**Mid Tech Manufacturing**
Architectural and engineering activities and related technical consultancy	Manufacture of chemicals and chemical products
Technical testing and analysis	Manufacture of electrical equipment
Environmental consulting activities	Manufacture of machinery and equipment
Space transport	Manufacture of motor vehicles, trailers and semi-trailers
Quantity surveying activities	Manufacture of other transport equipment;
Other research and experimental development on natural sciences and engineering	Manufacture of coke and refined petroleum product
	Manufacture of rubber and plastic products
	Manufacture of other non-metallic mineral products
	Manufacture of basic metals
	Manufacture of fabricated metal products, except machinery and equipment
	Repair and installation of machinery and equipment

Source: Based on SIC2007 codes and ISIC REV. 3 Technology Intensity Definitions (OECD)

Disclaimer

Volterra

CSP Local Benefits and Local Plan Responses

[redacted]

A note by Volterra Partners, January 2020

Volterra

1 Volterra Responses on Socio-Economic to Local Plan Consultation

1.1 **The Greater Cambridge Local Plan Issues & Options 2020 consultation contains a number of questions directly relating to socio-economic issues. The questions deemed most relevant for socio-economic considerations are listed below:**[1]

Question 17) How should the Local plan help us achieve 'good growth' that promotes wellbeing and social inclusion?

Question 25) How important do you think continuing economic growth is for the next Local Plan? Please choose from the following options: Yes, strongly agree / Yes, somewhat agree / Neither agree nor disagree / No, somewhat disagree / No, strongly disagree.

Question 26) What kind of business and industrial space do you think is most needed in the area?

Question 27) Do you think we should be protecting existing business and industrial space?

Question 28) How should we balance supporting our knowledge-intensive sectors, with creating a wide range of different jobs? What kind of jobs would you like to see created in the area?

Question 29) In providing for a range of employment space, are there particular locations we should be focusing on? Are there specific locations important for different types of business or industry?

Question 30) How flexible should we be about the uses we allow in our city, town, district, local, and village centres? Very flexible / Somewhat flexible / Neither flexible nor inflexible / Somewhat inflexible / Very inflexible.

1.2 **The remainder of this section provides a response to each of these questions in turn. Section 2 then begins to build the narrative and evidence base around the benefits that CSP2 could have for local people.**

Question 17)

Question 17) How should the Local plan help us achieve 'good growth' that promotes wellbeing and social inclusion?

Volterra Response

1.3 **Given the broad scope of wellbeing and social inclusion socio-economics makes up only one of the disciplines that should be considered within 'good growth'. From a socio-economic perspective, a key factor affecting social inclusion is access to education and training opportunities for existing residents, which in turn facilitate the ability of those residents to access and reap the benefits of the jobs delivered by economic growth. Ensuring that residents have the opportunities to develop their education and training levels, such as those that would be afforded by CSP2 through job opportunities, apprenticeships and the development of the Cambridge Regional College, would be key to promoting wellbeing and social inclusion for Greater Cambridgeshire residents.**

[1] Question numbers given here refer to those given in the Sphere 25 Summary Note, as opposed to those listed on the Greater Cambridge planning website.

Question 25)

Question 25) How important do you think continuing economic growth is for the next Local Plan? Please choose from the following options: Yes, strongly agree / Yes, somewhat agree / Neither agree nor disagree / No, somewhat disagree / No, strongly disagree.

Volterra Response

1.4 **Continued economic growth is the only way for an area to achieve long-run improvements in socio-economic living standards of residents within Greater Cambridgeshire. Although the Local Plan has to balance additional considerations alongside this, economic growth should be at the forefront of local planning priorities to ensure Cambridge continues to develop as an internationally leading city. This will in turn underpin the ability to achieve better and more inclusive outcomes for current and future residents.**

Question 26)

Question 26) Do you think we should be protecting existing business and industrial space?

Volterra Response

1.5 **As a result of the constraints it faces, there is a significant shortage of both residential and commercial floorspace across Greater Cambridge. The excess demand for both use types has clearly resulted in increased pressure upon existing business and industrial space. The conversion of existing commercial space to residential development has only exacerbated this problem.**

1.6 **The business and industrial space within Greater Cambridge is a significant source of employment for local residents, and plays a key role in drawing commercial activity to the area. A lack of sufficient business and industrial space has the potential to increase rental rates and drive businesses out of the area. The Local Plan should not only seek to ensure that existing business and industrial space is protected in planning policy, but should seek the provision of additional floorspace wherever possible in order to maximise the economic growth it can facilitate.**

Question 27)

Question 27) What kind of business and industrial space do you think is most needed in the area?

Volterra Response

1.7 **Although there exists a need for a number of different commercial use types, Greater Cambridgeshire derives its international reputation as a leading city area from the knowledge-intensive businesses it supports. The shortage of sufficient and appropriate commercial floorspace for these businesses would threaten the economic advantage Greater Cambridgeshire holds in these industries, putting at risk the employment and economic activity they generate for local residents.**

Question 28)

Question 28) How should we balance supporting our knowledge-intensive sectors, with creating a wide range of different jobs? What kind of jobs would you like to see created in the area?

1.8 The existing knowledge-intensive sectors have enabled economic development for the Greater Cambridgeshire area and provided the area with its international reputation. Although it is clear that a range of types of jobs are necessary to provide employment for all existing residents, local planning policy should not support the development of these different jobs at the expense of these knowledge-intensive sectors. To encourage both economic growth and social inclusion for existing residents, the Local Plan should ensure that the knowledge-intensive sectors are supported and that residents have the greatest possible level of access to these employment opportunities, as well as the skills and opportunities to advance those skills which enable them to do so.

Question 29)

Question 29) In providing for a range of employment space, are there particular locations we should be focusing on? Are there specific locations important for different types of business or industry?

1.9 As a result of the historical and heritage constraints present in the city of Cambridge, there are limited opportunities for the development of employment space within the city centre. In order to address the shortages of employment space faced within the Greater Cambridgeshire area, planning policy should therefore focus on developing the space surrounding the city to enable further economic growth within the area.

1.10 Several examples already exist of successful employment locations outside the city centre, benefitting from the advantages of locating in proximity to a world-leading university but without the prohibitive cost of being in the city centre. These locations, particularly those with a higher level of transport accessibility, have the potential to generate employment at a greater density, enabling the connectivity and knowledge spillover benefits important for the knowledge-intensive industries Greater Cambridge supports.

1.11 Certain industries, particularly high- and mid-tech sectors, benefit particularly from clustering, meaning that the co-location of these industries with one another results in a better economic outcome, greater productivity and greater growth. The development of these locations which enable this clustering and growth should be a priority for planning policy, as has taken place in a number of other cities within the UK.

Question 30)

Question 30) How flexible should we be about the uses we allow in our city, town, district, local, and village centres? Very flexible / Somewhat flexible / Neither flexible nor inflexible / Somewhat inflexible / Very inflexible.

Volterra Response

1.12 **Flexibility in allowing a variety of use types is important to ensure that the development of the Greater Cambridge economy keeps up with changing business trends, in the context of a shortage of general commercial space. Local planning policy should balance this flexibility with the need to ensure established industries, such as the knowledge-intensive industries from which Greater Cambridgeshire benefits, have access to the network of supporting businesses they require.**

2 Local Economic Impact of CSP2

2.1 Previously Volterra have provided a report detailing the economic impact of the CSP2 proposals from a top-down perspective, outlining the economic rationale for the scheme and the aggregate benefits generated by it. The remainder of this section provides a high-level outline of some of the socio-economic issues present in the local area surrounding the proposals, and the local impact the proposals would have on these issues.

Local Area Context

Local Area Deprivation

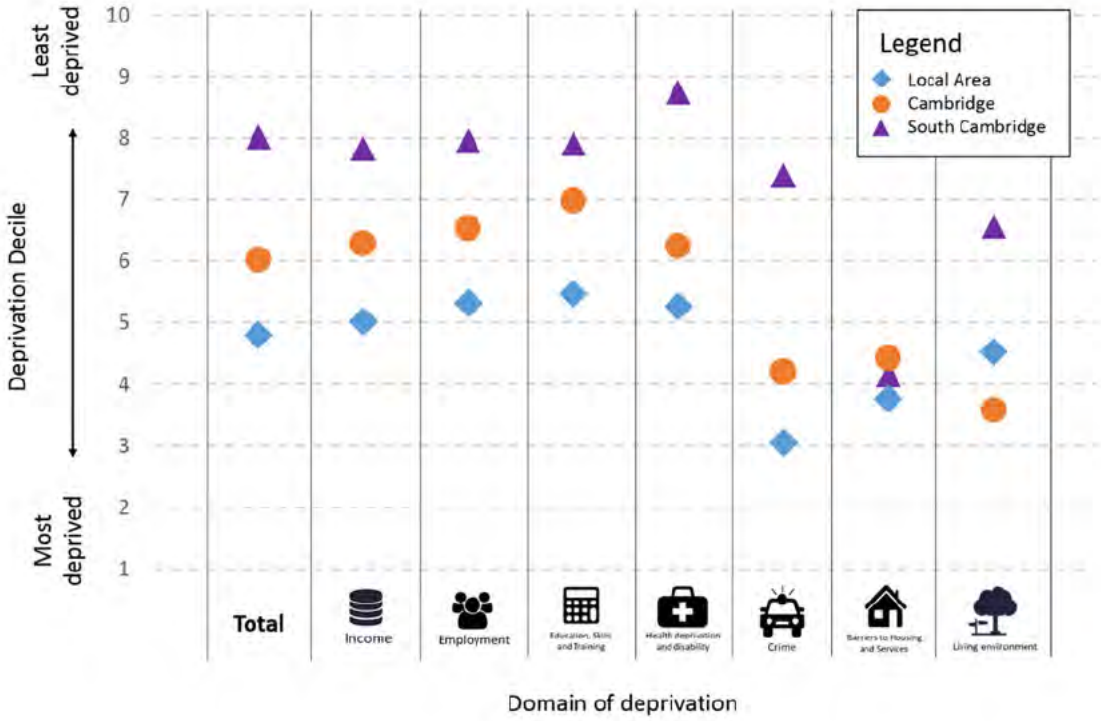
2.2 The Index of Multiple Deprivation is a measure produced by the Ministry of Housing, Communities and Local Government for the purpose of assessing the factors affecting the relative socio-economic exclusion faced by residents at local geographies. The measure combines a number of indicators of types of deprivation and provides an indication of which socio-economic areas (referred to as domains) a local area is performing relatively well/poorly in.

2.3 Under the Index of Multiple Deprivation (2019), it can be seen that the local area surrounding CSP is relatively more deprived than each of Cambridge and South Cambridgeshire on every domain with the exception of the living environment domain (see Figure 1).[2] As shown in Figures 2, 3 and 4 this is particularly driven by the neighbourhoods to the south of the CSP site.

2.4 The relatively higher levels of local deprivation imply that local residents face a greater level of socio-economic deprivation in terms of income, employment, education, health, crime, and access to housing and public services than the general population of Cambridge and South Cambridgeshire. To largest difference in deprivation between the local area and population of both Cambridge and South Cambridgeshire comes in the education, training and skills domain, in which the local area population has a deprivation ranking 15% in excess of Cambridge and 25% in excess of South Cambridge.[3]

[2] Here the local area is defined as the local statistical boundaries (lower super output areas) that fall within 250m of the CSP location. The ONS codes of the nine lower super output areas used are as follows: E01017975, E01017976, E01017977, E01017971, E01017979, E01017980, E01018274, E01033121, E01018259.
[3] MHCLG (2019) Indices of Multiple Deprivation.

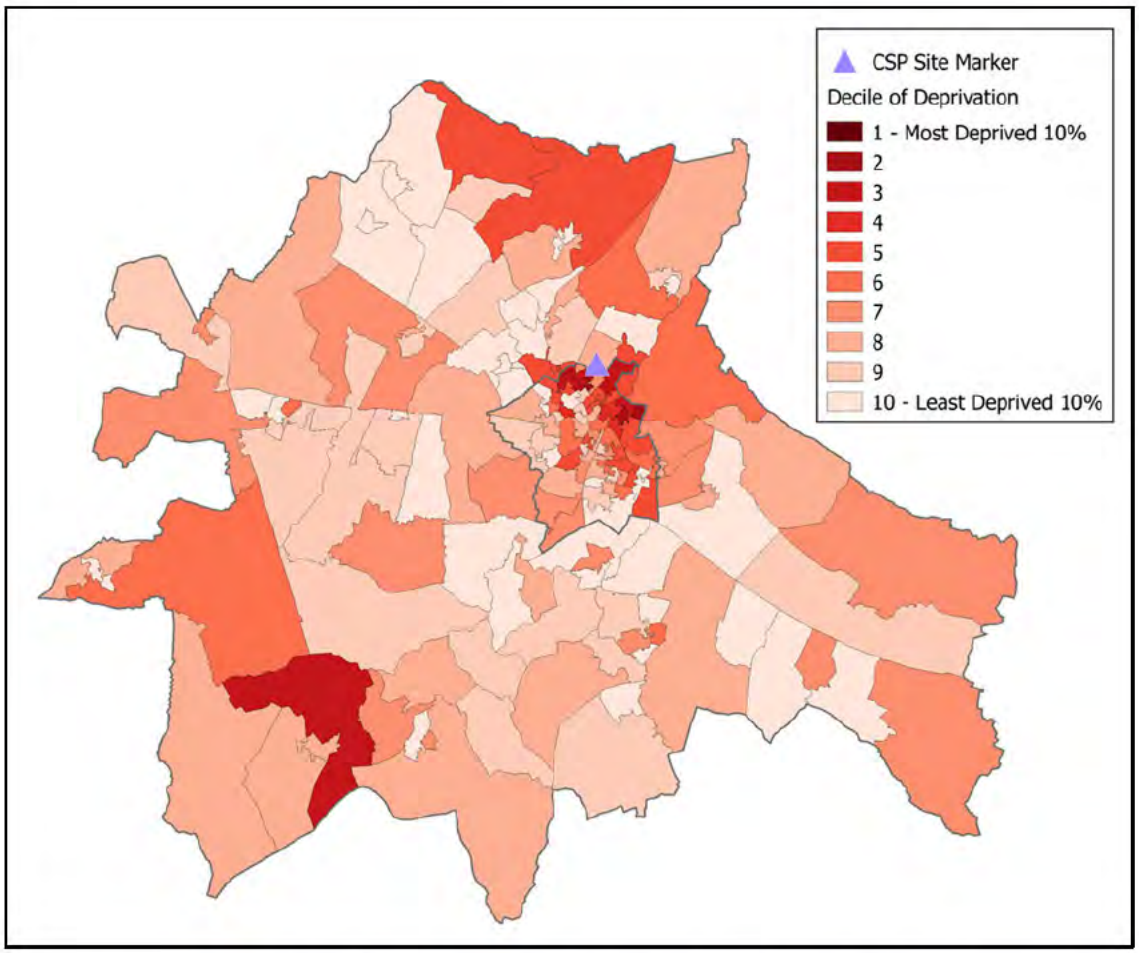
Figure 1: Local Area Deprivation



Source: Ministry of Housing, Communities and Local Government (2019) Index of multiple Deprivation Rankings.

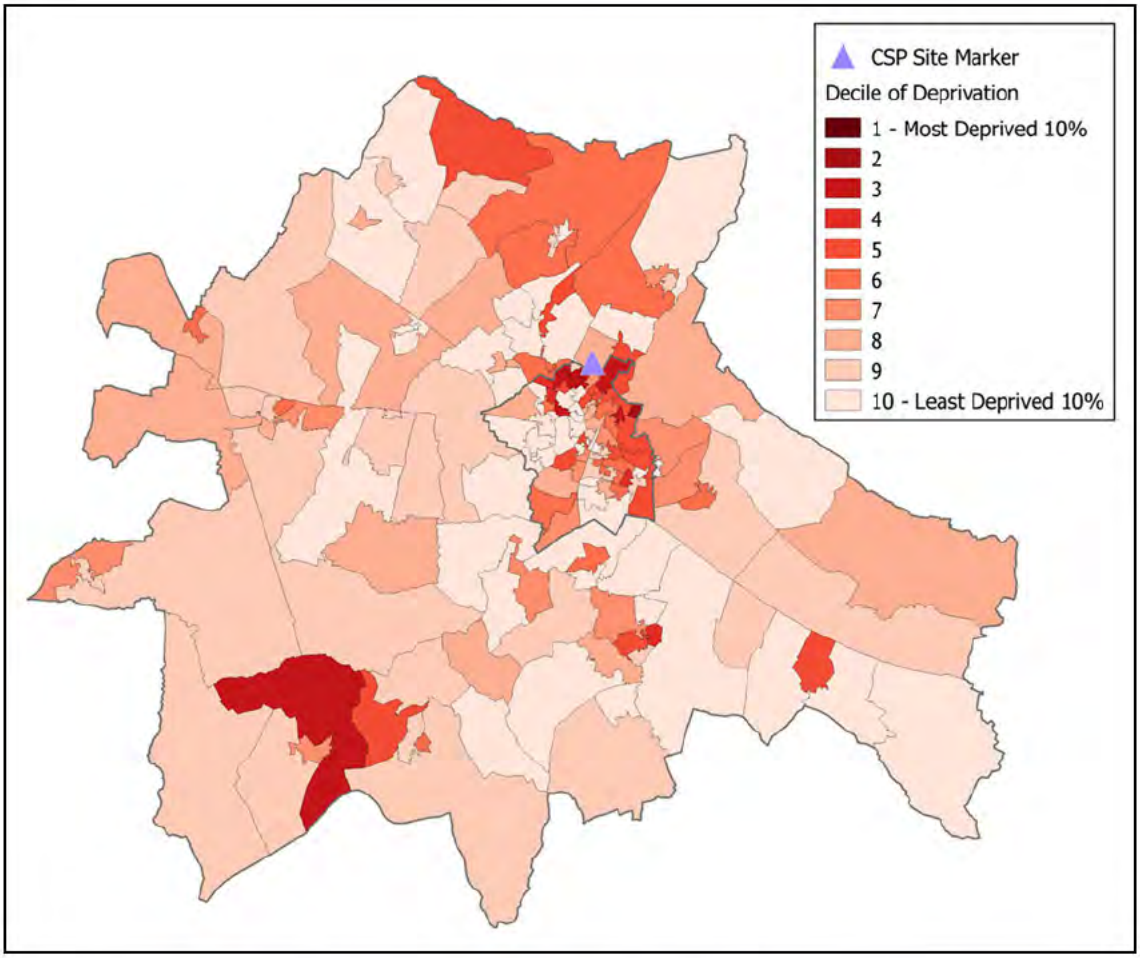
2.5 Figures 2, 3 and 4 show the spatial trends in deprivation for the overall, employment, and education, skills and training domains of deprivation respectively. The figures show that although much of Greater Cambridge in less deprived within these domains than the England average, pockets of deprivation exist for each domain in the area surrounding the CSP site. The areas local to the southwest and southeast of the CSP site, such as the King's Hedges, Chesterton and Arbury areas show relatively higher levels of employment and education deprivation.

Figure 2: Overall Index of Multiple Deprivation Ranking, 2019



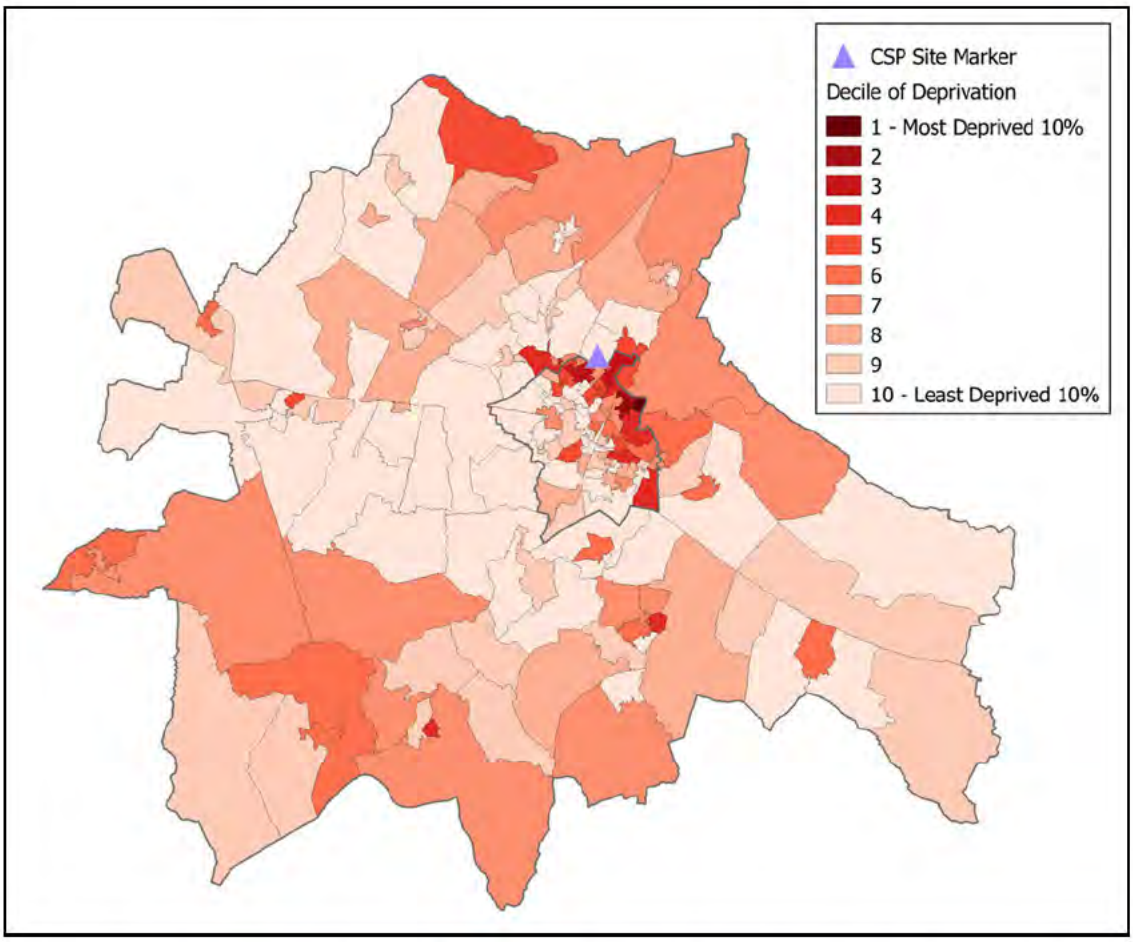
Source: Ministry for Housing, Communities and Local Government (2019) Overall Index of Multiple Deprivation.

Figure 3: Employment Domain of Deprivation Ranking, 2019



Source: Ministry for Housing, Communities and Local Government (2019) Employment Domain of Multiple Deprivation.

Figure 4: Education, Skills and Training Deprivation Ranking, 2019

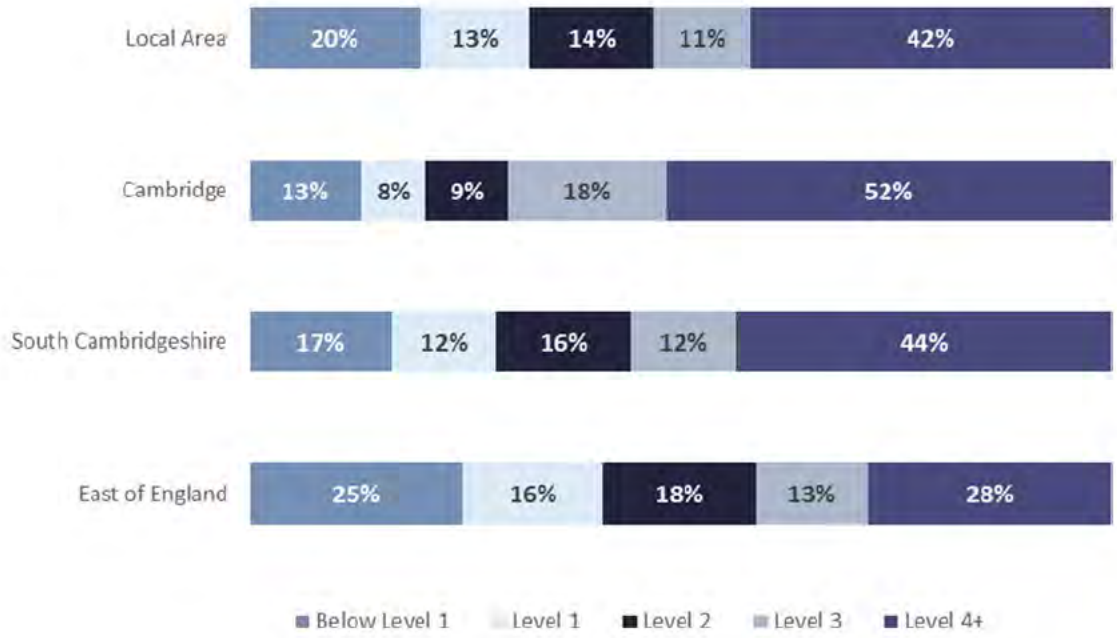


Source: Ministry for Housing, Communities and Local Government (2019) Education, Skills and Training Domain of Deprivation.

Education and Qualification Levels

2.6 In line with relatively higher deprivation in the education, skills and training domain of the Index of Multiple Deprivation when compared to Greater Cambridge, the educational attainment of residents within the local area can be seen to be below that of the overall Greater Cambridge area. Figure 5 shows the proportion of residents achieving, at a maximum, each of the National Vocational Qualification (NVQ) levels in each of the local area, Cambridge, South Cambridgeshire, and the East of England. Although educational attainment of residents in the local area is above that of the East of England average, it falls significantly below that of the Greater Cambridge average levels.

Figure 5: Resident Highest Educational Attainment by NVQ Level



Source: National Census (2011) Census Table KS501EW - Qualifications and students.

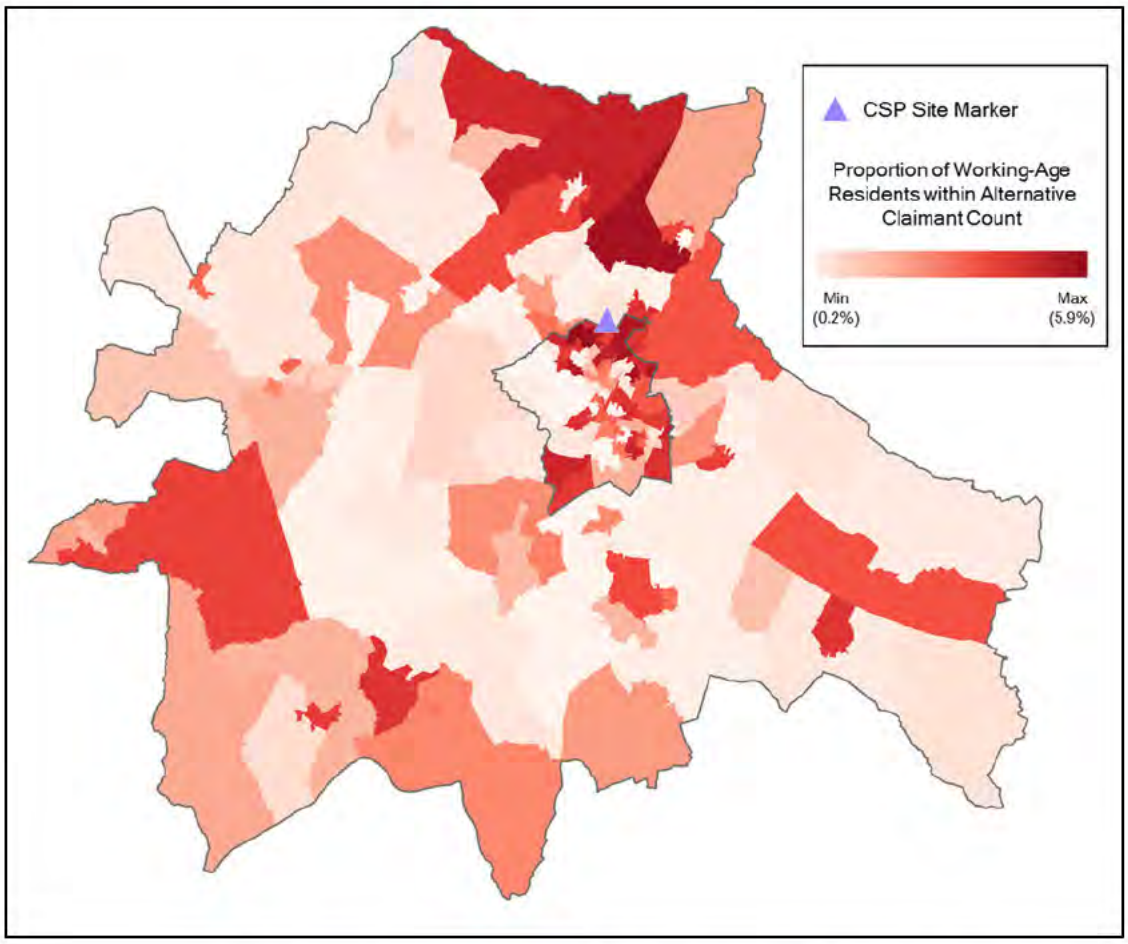
Local Unemployment

2.7 Currently, the unemployment rate within Greater Cambridge (2.0% as of September 2019) is relatively low compared to the regional and national levels (3.0% and 3.9% respectively).[4] As of September 2019 a total of 3,200 individuals are estimated to be unemployed within the Greater Cambridge area, with a relatively larger proportion of these deemed likely to be resident within the local area in line with local employment deprivation levels.[4]

2.8 At a local level, information detailing unemployment levels is limited to the number of individuals claiming employment-related benefits. Figure 6 details the proportion of working-age residents receiving employment-related benefits (as measured by the Alternative Claimant Count). In the local area surrounding the CSP site, a greater proportion of working-age residents are receiving employment-related income support than the Greater Cambridgeshire average. This is particularly true in the areas just to the southwest and southeast of the CSP site. A total of 2.6% of working-age residents within the local area were receiving income support in September 2019, significantly above that Greater Cambridgeshire rate of 1.4%.[5]

[4] ONS (September 2019) Model-Based Estimates of Unemployment.
[5] Department for Work and Pensions (2019) Alternative Claimant Count.

Figure 6: Proportion of Residents Receiving Employment Related Income Support



Source: Department for Work and Pensions (2019) Alternative Claimant Count.

Apprenticeships

2.9 Apprenticeships offer young people an opportunity for individuals to gain practical workplace-related skills and further their educational attainment without undertaking a higher education diploma or degree. It has been suggested in the Parliamentary Review of Post-18 Education and Funding that the promotion of apprenticeships can contribute to minimising the inequality present within education attainment.[6]

2.10 In 2015, the UK Government outlined a vision for achieving 3 million apprenticeship starts by 2020, reflecting the large benefits that arise from promoting workplace-based training. As acknowledged within the Cambridgeshire and Peterborough Combined Authority Skills Strategy Evidence Base Report (2018), investment into apprenticeships should be promoted by planning authorities as a means of "diversify[ing] options available to students [... and] to drive future economic growth."[7]

[6] Post-18 Education and Funding Review Panel (2019) Independent panel report to the Review of Post-18 Education and Funding.
[7] Department for Business, Innovation & Skills (2015) English Apprenticeships: Our 2020 Vision.

2.11 Within the academic year 2018/19, the latest year for which data are available, there were a total of 980 apprenticeship starts within Greater Cambridge.[8] This corresponds to 5.0 apprenticeship starts for every 1,000 workers across the area, less than half the apprenticeship start rate for the East of England (13.3 per 1,000 workers).[8]

2.12 Currently, the industrial sector that supports the largest proportion of apprenticeships in Greater Cambridge is the business, administration and law sector, which supports a total of 33% of all the apprentices enrolled in the academic year 2018/19. This is also the sector in which Greater Cambridge has the largest comparative advantage when compared to the England average. 5% more apprenticeships in Greater Cambridge are in the business, administration and law sector than the England average.

Table 1: Apprenticeships by Sector

Sector Subject Area Tier	Greater Cambridge	England
Agriculture, Horticulture and Animal Care	2%	2%
Arts, Media and Publishing	0%	0%
Business, Administration and Law	33%	28%
Construction, Planning and the Built Environment	6%	6%
Education and Training	1%	2%
Engineering and Manufacturing Technologies	20%	19%
Health, Public Services and Care	21%	24%
Information and Communication Technology	5%	5%
Leisure, Travel and Tourism	1%	2%
Retail and Commercial Enterprise	10%	12%
Science and Mathematics	0%	0%

Source: Department for Education (2020) Apprenticeships by Sector Subject Area.

2.13 The average completion rate of apprenticeships in Greater Cambridgeshire over the period 2014/15 to 2018/19 is 57.2%, marginally below the England rate of 57.8%.[8] To promote the education and training benefits offered by apprenticeship programs, there is scope to increase both the number of apprenticeship starts and the completion rate of apprenticeship programs across Greater Cambridge.

Impact of the Proposals

Jobs for Local Residents

2.14 Volterra have previous estimated that the delivery of the CSP2 proposals would result in the additional generation of 5,500 to 7,500 total jobs. This figure would contain a large number of profession service jobs, alongside supporting administrative and service occupations.

2.15 It is thought that a significant number of these jobs would go to local residents. Under existing commuting patterns at the 2011 National Census, 30% of the workers in the

[8] Department for Education (2020) Apprenticeships by Sector Subject Area.

local area live in South Cambridgeshire, with an additional 17% living in the authority of Cambridge.[9] Were these patterns to continue, the CSP2 proposals would result in between 3,100 and 4,300 jobs going to residents of the Greater Cambridgeshire area. It is thought that given the local transport links developed within the CSP2 proposals the proportion of local worker employed could potentially be larger than this.

2.16 Given the relatively higher rates of unemployment for residents in the local area surrounding the CSP site, the impact of the employment opportunities generated by the CSP2 proposals would be thought to disproportionately affect existing local residents.

Apprenticeship Delivery

2.17 With a total of 9,600 residents aged 16-18 currently living in the Greater Cambridgeshire area, the apprenticeship positions directly generated by the CSP2 proposals would likely go to a significant number of Greater Cambridgeshire residents.[10] Over the next 20 years (the period 2019-2039) the number of residents aged 16-18 in Greater Cambridgeshire is estimated to increase by 15%, resulting in an additional 1,500 residents of this age by 2039.[11] This increase for residents aged 16—18 is well average the average increase anticipated for all residents and will place additional demand on the further education programmes offered by the Cambridge Regional College and other local providers. The number of apprenticeship starts offered across Greater Cambridgeshire would have to significantly increase from current delivery levels to meet this predicted demand.

2.18 The CSP2 proposals would result in an increase in the number of apprenticeship positions available for local residents, creating an opportunity to reduce the level of education deprivation in the local area and upskill local residents. Were the additional jobs generated by the CSP2 proposals to result in the generation of apprenticeships at the existing Greater Cambridge rate of 5.0 starts per 1,000 workers, an estimated total of 275-375 additional apprenticeships would directly be created. If instead the CSP2 proposals were to delivery apprenticeships in line with the average rate for the East of England, a total of 715-975 apprenticeships would be generated.

2.19 In addition, the CSP2 proposals will contain provision for the development of the Cambridge Regional College. Under the CSP2 proposals, the expanded Cambridge Regional College would contribute additional education and training programmes, providing the opportunity to reduce the education, training and skills deprivation faced by local residents when compared to the rest of the Greater Cambridgeshire area. In the absence of additional education and training programmes such as those provided by the Cambridge Regional College under the CSP2 proposals, it is likely that residents in the local area would suffer greater education, training and skills deprivation relative to the rest of Greater Cambridge and the England average.

Local Supply Chain Benefits

2.20 The CSP2 proposals would ensure a greater availability of floorspace for businesses seeking to move to the area. However, in addition to directly benefitting businesses

[9] National Census (2011) Census Tables WF01BEW – Location of Usual Residence and Place of Work.
[10] ONS (2019) Population Estimates - Local Authority Based by Single Year of Age.
[11] ONS (2016) Population Projections - Local Authority Based by Single Year of Age.

moving into the site, further economic benefits would be felt by existing businesses in the Greater Cambridgeshire area.

2.21 Expanding the available floorspace within the CSP2 proposals will result in supply chain benefits, with additionally moved businesses reliant on services provided by other existing Greater Cambridgeshire businesses. The network of existing businesses providing specialist services would enable supply chain multiplier benefits to be felt by the local economy, as local businesses purchase from other local businesses.