

Cambridgeshire & Peterborough Advanced Manufacturing Strategy

April 2021

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- Aamir Khalid - Chief Executive at TWI
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- Tom Hennessy - Chief Executive at Opportunity Peterborough

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1 Executive Summary

- 1.1 The Advanced Manufacturing & Materials sector is an important sector within Cambridgeshire & Peterborough, representing a large proportion of employment and is relatively more productive than the area as a whole. Despite the strength of the sector, the Cambridgeshire & Peterborough Local Economic Recovery Strategy (LERS) identified that the wider manufacturing sector has been one of the hardest hit by the Covid-19 pandemic and stated that for the sector to fully recover and grow into the future, it needs to be better connected to the opportunities of the post-pandemic era.
- 1.2 This document sets out two main recommendations to create a strong ecosystem that enables the sector to maximise growth and development post-pandemic, along with a set of immediate actions:
- First, **to build a new, publicly-funded support programme for companies in the sector** that integrates technology-roadmapping with intensive assistance for leadership teams. This will ensure more businesses can seize future opportunities and successfully navigate the business development challenges of transition to net zero, new technologies and working practices.
 - Second, to **improve the skills pipeline**, to ensure that the skills required by employers are supplied by education and training providers, addressing the existing misalignment and strengthening the skills base.

Summary of immediate actions

The following actions should be commissioned and completed within the next 12 months.

- Publish a future opportunities roadmap which can be used with businesses to inform their future growth ambitions.
- Produce a 'London Underground style' guide to Advanced Manufacturing and Materials sources of funding, support and networks for the region.
- Commission and implement the programme design for Cambridgeshire & Peterborough's 'Make It Smart' integrated business support package (implementation to take longer than next 12 months).
- Produce a review and gap analysis of existing supply and demand for skills to inform where future provision should be targeted.
- Continue to support the development and roll-out of the Smart Manufacturing Alliance as the single network for manufacturing businesses, working in collaboration with other manufacturing organisations.
- Review the place marketing offer and work with partners to establish a single voice for the different offers in the area.

Advanced Manufacturing & Materials strategy: interventions and next steps

The below diagrams set out the interventions and next steps set out in the Cambridgeshire & Peterborough Advanced Manufacturing & Materials sector strategy. Figure 1 describes the package of interventions set out in the strategy, whilst Figure 2 outlines the immediate actions that should take place over the next 12 months and the steps to take over the following 2 to 3 years.

Figure 1: the interventions required

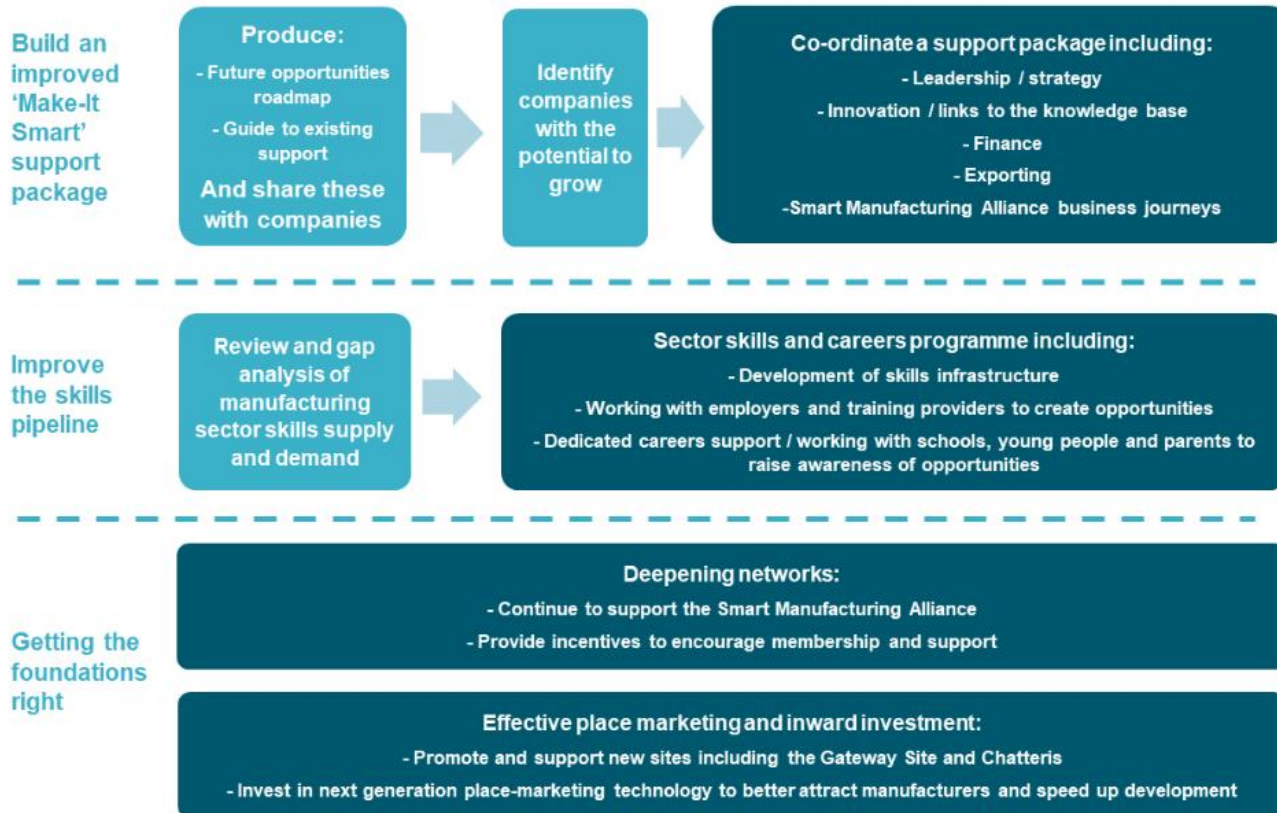


Figure 2: actions and next steps

- Over the next 12 months:**
- Publish a futures opportunities roadmap which can be used with businesses to inform their future growth ambitions.
 - Produce a 'London Underground style' guide to Advanced Manufacturing and Materials sources of funding, support and networks for the region.
 - Commission the programme design for Cambridgeshire & Peterborough's 'Make It Smart' integrated business support package.
 - Produce a review and gap analysis of existing supply and demand for skills.
 - Review the local place marketing offer.
- Over the next three years:**
- Implement the 'Make It Smart' business support package.
 - Implement a sector skills and careers programme based on the findings of the sector skills review.
 - Continue to support the growth and development of the Smart Manufacturing Alliance
 - Work with partners to establish a single place marketing voice for the different offers in the area.

2 Introduction & background

- 2.1 This Strategy presents a series of recommendations to enable the growth and development of the Advanced Manufacturing & Materials sector within Cambridgeshire & Peterborough. Advanced Manufacturing & Materials has been identified as one of the four priority sectors within the Cambridgeshire & Peterborough Local Industrial Strategy (LIS)¹, thanks to the combination of Peterborough's rich history of manufacturing with Cambridgeshire's status as a globally-recognised centre for technology, knowledge and research.
- 2.2 This document is the culmination of a long period of work, which began with the Cambridgeshire & Peterborough Independent Economic Review (CPIER)². This identified the sector as being of strategic importance to the area's growth ambitions. In 2019, Hethel Innovation³ produced an evidence base and strategic overview of the sector for the Combined Authority and partners, identifying the need to create a strong ecosystem to support sectoral growth.
- 2.3 Following the Hethel report, in November 2020 Metro Dynamics convened an Advanced Manufacturing & Materials workshop on behalf of the Cambridgeshire & Peterborough Business Board. The workshop brought together key individuals from the sector in Cambridgeshire & Peterborough to consider the long-term outlook. In March 2021 two further workshops with local partners were held to build on the November discussion. These two workshops were able to consider the priorities for the sector more fully in light of the Brexit trade agreement, the Government's March 2021 budget, and a clearer prognosis for the Covid-19 pandemic and vaccine rollout. The workshops drew heavily on the Q1 2021 LERS refresh.
- 2.4 Alongside this, the Smart Manufacturing Alliance - a joint venture between Opportunity Peterborough and the CPCA - has been established as a result of the recommendations of the Hethel report, in order to establish a networking organisation to support and drive the creation of a world class advanced manufacturing ecosystem in Cambridgeshire and Peterborough. The CPCA has invested £715,000 of Local Growth Funds to support this work.
- 2.5 This Strategy document therefore brings together an existing body of work and discussion and sits alongside the refreshed LERS.
- 2.6 The remainder of this document is structured as follows:

¹ Cambridgeshire & Peterborough Local Industrial Strategy (2019)

² Cambridgeshire & Peterborough Independent Economic Review (2018)

³ Advanced Manufacturing & Materials Sector Strategy, Hethel Innovation (2019)

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- **Section 3** provides an overview of the sector as it currently stands and where it is headed.
 - **Section 4** presents future opportunities and challenges facing the Advanced Manufacturing & Materials sector.
 - **Section 5** sets out an aspiration for the sector.
 - **Section 6** discusses the initiatives needed to grow the sector and provides a list of actions.

3 Where we are now

3.1 Advanced Manufacturing & Materials⁴ is an important sector within Cambridgeshire & Peterborough. It is a sector that employs a large number of people within the area and productivity per job is significantly higher than the Cambridgeshire & Peterborough average. Yet it has been affected by Covid-19 and Brexit, and perhaps more importantly faces business and skills challenges that if left unaddressed, put the future of the sector at risk.

An important and growing sector

3.2 As of 2019 (the most recent data available) **Cambridgeshire & Peterborough was home to 3,270 manufacturing and engineering firms employing 51,400 people**⁵⁶. Since 2010 employment within the sector has grown by 3,810 jobs, or 8.0%. Within this, **advanced manufacturing⁷ accounted for 1,770 firms employing 22,200 people**, representing 54% of the businesses and 43% of the jobs within the wider manufacturing sector⁸. Advanced manufacturing employment has grown by 2,430 jobs, or 12.3%, so at a faster rate than the wider manufacturing sector.

3.3 Cambridgeshire & Peterborough is home to major businesses such as Avingtrans, Baker Perkins, Bradshaw Electric Vehicles, Domino Printing Sciences, Hutchinson, Lawrence David, Marshall Aerospace, OAL, Peter Brotherhood, PhotoCentric 3D, ProCam, Rapidrop, Royal HaskoningDHV and Xaar. It is also home to the UK headquarters of major global firms such as Caterpillar, Hexcel Composites and Qualcomm, as well as major global firms within pharmaceuticals, such as AstraZeneca. This business base spans sub-sectors including pharmaceuticals and biotech, engine development, aerospace, energy and printing.

3.4 The Cambridgeshire & Peterborough Local Industrial Strategy (LIS) identified Advanced Manufacturing & Materials as one of the four strategic growth sectors, alongside Life Sciences, Agri-Tech and Information Technologies, based on the CPIER outlining the area's specialism in these sectors. The 2017 East of England Science and Innovation Audit described the sector as being “of foundational importance to the other themes” (those being the other growth sectors) as well as containing institutions and organisations which form the sector itself.

⁴ In this section for the initial employment and business count data we use a 5 digit SIC code definition of Manufacturing & Engineering and Advanced Manufacturing as set out in the appendix. For the GVA data (and any employment data linked to GVA) we use the corresponding 2 digit SIC codes for Manufacturing & Engineering, so 10-33 and 71.

⁵ ONS (2020) Business Register & Employment Survey

⁶ Sector defined in Appendix 1

⁷ Sector defined in Appendix 1

⁸ ONS (2020) Business Register & Employment Survey

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- 3.5 The sector has seen strong business growth. Across Cambridgeshire & Peterborough the number of businesses in the advanced manufacturing sector was up 42% on 2010. This outpaced England as a whole which saw 35% growth across the same period. SMEs⁹ account for 99% of all advanced manufacturing businesses within Cambridgeshire & Peterborough, in line with England as a whole.
- 3.6 Particular sub-sectors where employment within Cambridgeshire & Peterborough is significantly high include the manufacture of engines and turbines (20% of England's employment is within Cambridgeshire & Peterborough), with firms such as Perkins Engines, the manufacture of air and space craft (with employers including Marshall Aerospace), health diagnostics (e.g. Psynomics, a University of Cambridge spin-out) and carbon capture (e.g. Cambridge Carbon Capture). Approximately 75% of advanced manufacturing employment across the geography is located within South Cambridgeshire, Cambridge, and Peterborough¹⁰, much of which is in specific clusters of excellence.

Productivity and the impact of COVID

- 3.7 The region's manufacturing and engineering output has exceeded the overall growth rate of the Cambridgeshire & Peterborough economy. In 2018¹¹ manufacturing & engineering GVA within Cambridgeshire & Peterborough stood at £4.9bn¹², accounting for 18.9% of overall GVA within Cambridgeshire & Peterborough, compared to 18.1% back in 2010. Manufacturing's GVA growth has been higher than overall GVA growth within Cambridgeshire & Peterborough, growing by 28.4% from 2010-2018, compared to an overall GVA rise of 23.1%.
- 3.8 Furthermore, the growth of manufacturing & engineering GVA within Cambridgeshire & Peterborough (28.4%) has significantly outpaced the sector's growth across England as a whole (9.4%). Given that GVA has risen faster than employment, average labour productivity in the sector has risen, with GVA per job rising from £74,300 to £88,400, or a rise of 19.1%. Crucially, productivity per job is 59% higher than the average across all sectors in Cambridgeshire & Peterborough.
- 3.9 Data on local employment in the sector runs to 2019, and it is important to consider the impact of Covid-19 and Brexit. Nationally, PAYE employment in manufacturing declined 4.6% from January 2020 to January 2021, almost double the rate of decline across all sectors, making it one of the worst affected sectors¹³. Vacancies also declined and even by December 2020 the vacancy level in Cambridgeshire & Peterborough within manufacturing was 17% below February 2020 levels, despite a

⁹ Defined as businesses with less than 250 employees

¹⁰ ONS (2020) Business Register & Employment Survey

¹¹ Latest data available

¹² ONS (2019) Regional Gross Value Added. Adjusted for inflation using 2016 money values

¹³ ONS Earnings and employment from Pay As You Earn Real Time Information. Note: data is only available at national level. Also note that changes in PAYE employment tends to overstate manufacturing employment change as the sector has relatively little self-employment compared to other sectors.

19% rise in vacancies across Cambridgeshire & Peterborough as a whole, suggesting the sector has been hit especially hard by Covid-19 and Brexit.

- 3.10 Manufacturing is vulnerable to supply disruptions from Covid-19 and Brexit, even if the final demand for products holds up. Whilst a trade deal with the EU was reached in December 2020, there is still potential for significant disruption in the sector in 2021.

A challenging outlook

- 3.11 The national investment outlook within the sector remains challenging. Make UK's Q1 2021 Manufacturing Outlook¹⁴ reported that, nationally, investment is expected to decline within the next 12 months, although the Electronics sub-sector is expecting to see a 32% rise in investment year on year.
- 3.12 Crucially however, the trend is worse amongst smaller businesses, with those with a turnover of less than £10m expecting a 5% fall in investment, compared to a 7% rise for those with a £25m+ turnover. SMEs make up the majority of Cambridgeshire & Peterborough's manufacturing sector, so a reluctance or inability to invest poses the risk of not remaining at the forefront of innovation and embracing new technologies.
- 3.13 The manufacturing sector is also experiencing skills challenges that existed pre-Covid but are likely to have been exacerbated by the pandemic. In the 2019 Employer Skills Survey¹⁵, manufacturing had the joint highest skill-shortage vacancy density of any sector in the country, with 36% of vacancies proving hard to fill due to applicants lacking the required qualifications, skills or experience (average across all sectors: 24%). Whilst this data is only available at the national level, this percentage grew sharply from 29% in 2017, suggesting growing skills shortages within the sector. Furthermore, manufacturing is one of the four sectors nationally with the highest number of workers aged over 50 (along with health, retail and education)¹⁶, many of whom will have skills that need updating or re-training as the sector evolves.
- 3.14 Locally, business confidence amongst manufacturers in the region within which Cambridgeshire & Peterborough falls (East of England) was the second lowest of all the regions of England, only ahead of London & South East¹⁷. If manufacturers within Cambridgeshire & Peterborough are less confident than in other areas, this may negatively impact relative investment levels.
- 3.15 However, more positive feedback from the recent Make UK Regional Board monthly poll¹⁸ suggests that the region that includes Cambridgeshire & Peterborough (the East of England) is the most buoyant in the country. 56% of the manufacturers surveyed

¹⁴ Make UK Manufacturing Outlook 2021 Quarter 1

¹⁵ ONS Employer Skills Survey (2019)

¹⁶ CIPD (2019), Ageing Gracefully: The Opportunities of An Older Workforce.

¹⁷ Make UK Manufacturing Outlook 2021 Quarter 1

¹⁸ Make UK March 2021 East of England Regional Board monthly poll

across the region in the March 2021 survey are fully operational, with a further 28% operating at 75% to 99% of pre pandemic levels. The issues that are most important to the businesses surveyed are the ability to predict future order and demand levels, and operating Covid-secure workplaces and managing testing.

3.16 All of this paints a picture of a vital sector that has grown and become more productive over the past decade, but has faced challenges due to Covid-19 and Brexit. Long-term challenges remain around skills and business’ ability to innovate and embrace future opportunities. **The sector remains hugely significant in employment and GVA terms to Cambridgeshire & Peterborough, and it will be vital to ensure that the sector is able to capitalise on the emerging opportunities** which are the subject of the next section.

4 Future opportunities and challenges

4.1 Stakeholders have identified two main areas of opportunities and challenges within the Advanced Manufacturing & Materials sector: around improving the **product** offering and the **skills** offering.

Figure 1. Summary of opportunities and challenges

	Opportunities	Challenges
Products	<ul style="list-style-type: none"> - Potential to further tap into unique local knowledge base - Capitalise on government 2.4% R&D spending target 	<ul style="list-style-type: none"> - Maintaining pace with emerging technologies - Engagement with business support
Skills	<ul style="list-style-type: none"> - Opportunity to develop skills in emerging technologies and become world leaders - Engagement with young people to pursue careers in innovative sector 	<ul style="list-style-type: none"> - Alignment of training provision with skill needs - Linking the quality of training provided to employer requirements

Future opportunities and challenges: products

- 4.2 The knowledge base within Cambridge is strong and will remain so in the future. There is immense innovation happening locally, which the sector could tap into, creating a virtuous cycle by enabling the knowledge base to commercialise ideas more quickly.
- 4.3 The sector has an opportunity to capitalise on the UK government's push for investment in emerging technologies, with the government setting a target for R&D spending to reach 2.4% of GDP by 2027. There is the opportunity to align this increase in R&D spend with local strengths within Cambridgeshire & Peterborough, such as energy and health diagnostics, carbon capture and new nuclear.
- 4.4 The long-term focus for many businesses is on 'clean' growth, investing in technology, and ultimately transforming traditional industry. There is a challenge for firms who are supplying components into industries that make products that are being phased out, around evolving and embracing new technologies. There is a risk that the sector will suffer from an inability to seize future opportunities and transition to new markets and maintain pace with emerging technologies. In order to do this businesses need to be able to innovate and bring new products to market. Evidence suggests that small firms, who make up the vast majority of the Advanced Manufacturing & materials businesses within Cambridgeshire & Peterborough, can gain important industry knowledge and skills from collaboration with universities and research institutes. But they are less likely than their larger counterparts to develop these links¹⁹.
- 4.5 Whilst there are a number of individual business support schemes already in place, stakeholders consulted feel that these are often not well signposted or co-ordinated with each other. It is also often unclear where one scheme starts and another ends, all of which means that the capability that can be delivered is diluted.
- 4.6 There is particular concern around companies that do not engage actively with business support schemes or membership associations as it is harder to understand their pressures and needs. Meanwhile larger employers and exporters will have more of an international perspective, so there is question around how to continue to compete against overseas producers.
- 4.7 Addressing the business support issue through establishing effective grassroots networks will be key to the sector being where it wants to be, at the forefront of research and development, embracing new technologies.

¹⁹ Johnson (2020). University-Industry Collaboration: Are SMEs Different? ERC SOTA Review.

Future opportunities and challenges: skills

- 4.8 If the Advanced Manufacturing & Materials sector within Cambridgeshire & Peterborough continues along the path it is currently on, it is at serious risk of not having the skills that are going to be demanded by employers in a modern, post-pandemic climate.
- 4.9 Stakeholders at the March 2021 workshop identified two priorities within the skills agenda: **alignment**, and **quality**:
- The **alignment** issue is where significant investments in education are not necessarily aligned to future skills needs. Gap analysis has shown a significant disconnect between the disciplines people are being trained in and where skill need is growing²⁰. This can often lead to people entering different industries to which they were trained in, meaning they are less 'job-ready', and employers are required to pick up the slack, which often requires costly re-training.
 - The **quality** issue reflects a feeling that there is a mismatch between the way training is delivered in UK training providers and how employers would prefer it to be delivered. One of the motivations behind investing in the Advanced Manufacturing Research Centre was some disillusionment with the way training is delivered within traditional training providers.
- 4.10 These two skills concerns pose the risk of sectoral growth being constrained by a lack of access to skills. If the sector continues along its current path within Cambridgeshire & Peterborough it will not house the skills that will be in demand by employers. This will constrain the growth of existing companies within the area, and act as a deterrent for manufacturers looking to set up business or re-locate, as they will instead look towards other areas where the skill supply is more aligned to demand.
- 4.11 There is a need for the sector to do more to engage young people and show them that a career within the sector is one worth pursuing. It is equally important to engage with the education and training sector to address the mis-alignment. More will be outlined on the process of doing so later in this document.
- 4.12 Alongside the issue of up-and-coming talent, there is also a risk around updating the skills of existing staff. Stakeholders identified the risk that many staff will need to be re-trained as their current skills will become obsolete by the evolution of the sector. A failure to re-train will lead to a left behind workforce and a skills shortage for manufacturers.
- 4.13 There are multiple skills initiatives already in place through organisations such as the Metalcraft Advanced Manufacturing Training Centre and the new Anglia Ruskin University Peterborough Campus (which is not specific to the manufacturing sector).

²⁰ Deloitte (2018). 2018 skills gap in manufacturing study: Future of manufacturing: The jobs are here, but where are the people?

The existing provision is good, but even more is needed to further enhance the pipeline of skills, whilst learning the lessons from unsuccessful initiatives such as the iMET training centre, so that Cambridgeshire & Peterborough is an area that can provide the skills required by manufacturers in the future.

5 Where we want to be

- 5.1 Cambridgeshire & Peterborough needs to be at the forefront of future opportunities and establish itself as a world-leading sector in cutting-edge technology and product development. Doing this requires maintaining existing specialisms and strengths within the sector across the three economies of Cambridgeshire & Peterborough, particularly the practical application of innovation in cutting-edge products. But it is also crucial for the sector to grow and embrace the opportunities available in the post-pandemic economy.
- 5.2 Cambridgeshire & Peterborough sits within the wider Oxford-Cambridge Arc and some of the targets in the Arc's strategy²¹ are important to consider when looking at Advanced Manufacturing & Materials sector strategy, specifically:
- Bringing employers and skills providers together to understand the current and future skills needs, and planning provision to meet them.
 - Maximising the economic benefits of new transport, energy and digital infrastructure within the Arc.
 - Developing an improved business support and finance programme for high growth companies, a shared approach to commercial premises and an Internationalisation Delivery Plan to encourage greater trade and inward investment in the Arc.
- 5.3 Two of the LIS ambitions also relate specifically to the sector:
- Expand and build upon the clusters and networks that have enabled Cambridge to become a global leader in innovative growth.
 - Drawing on existing skills and capabilities, the Combined Authority can provide impetus to development of advanced manufacturing across the region.
- 5.4 These targets draw upon existing strengths and capabilities within the region to develop the sector, so should influence the sector strategy. Both targets should involve the development of strong networks, to share knowledge and ideas to drive innovation forward within the sector, so Cambridgeshire & Peterborough is at the forefront of developing new, cutting-edge products and services.
- 5.5 The LIS also identifies a specific opportunity within scale-ups, with the West Cambridge site in collaboration with the Institute for Manufacturing and Engineering Department suggested as potential pilot site. This is the creation of facilities in close proximity to local universities and research institutes, where ideas can be developed and taken to the market. Using the power of networks and the existing knowledge

²¹ The Oxford-Cambridge Arc ambitions (2019).

base within the area will drive innovation and help the area improve the commercialisation of intellectual property.

- 5.6 Cambridgeshire & Peterborough should also look to collaborate with other centres of excellence such as the Centre for Process Innovation (CPI) in Tees Valley, to demonstrate and grow the UK's strengths in advanced materials. Scale-Up Engines, as suggested in the LIS, will help to support commercialisation of IP and strengthen the pathways to supply chain and market entry.

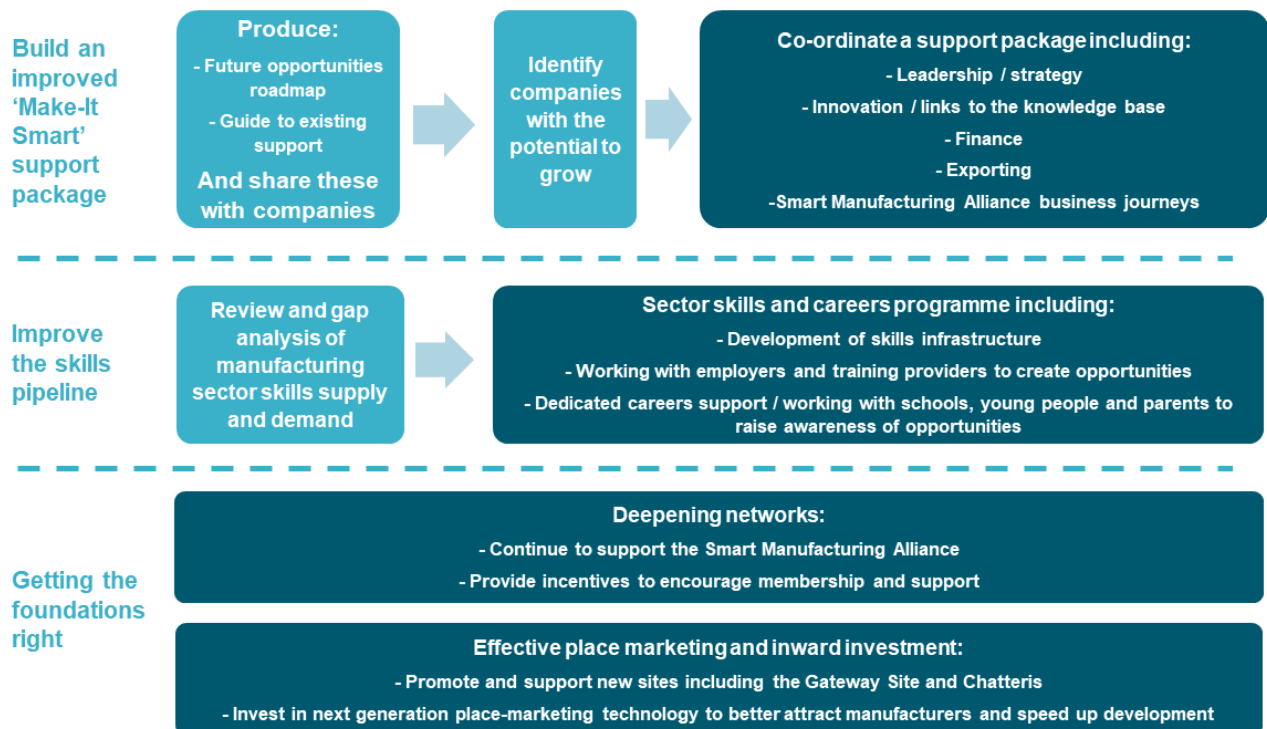
A competitive position

- 5.7 There are a range of businesses - both small and large, who are interested in growing. The issue they face is that they do not always know how to grow, and often do not have good connections to the existing innovation base, such as research institutions. There is also a skills disconnect, with the existing skills base not meeting the demands of employers, and some skills becoming obsolete in the modern market. In order for the sector within Cambridgeshire & Peterborough to get to where it wants to be, it needs to address these two issues.
- 5.8 Stakeholders agreed that for Advanced Manufacturing & Materials within Cambridgeshire & Peterborough to become the globally-competitive sector it wants to be, it needs to:
- Identify and focus on the SMEs with the potential for sustained growth - the 'optimists', who are going to drive innovation and development.
 - Map the technologies, products and services that the sector is transitioning to (e.g. net-zero, I4.0). This would enable a business support intervention aimed at guiding companies through the transition period, including research and data on future opportunities, process support and leadership and management coaching.
 - Package and co-ordinate manufacturing interventions around leadership, people, and technology. Part of this is supporting businesses prior to them engaging with the Institute for Manufacturing (IfM), with 'Made Smarter' seen as a good model.
 - Do more to encourage people to look at careers in manufacturing and to ensure there is the supportive environment developing the skills for the future.
- 5.9 Whilst all of these priorities are about driving the sector forwards, innovating and embracing new technologies, they also reflect the importance of networking and collaborating. Effective networks allow businesses to connect with other businesses as well as research and knowledge institutions to innovate and bringing new products and technologies to market. It is essential to the future growth of businesses within the sector and the sector as a whole and the resulting innovation is what will place Cambridgeshire & Peterborough at the cutting edge of global research and development.

6 An action plan for the future

6.1 Consultations with stakeholders have made it clear that there is a need for a **business support package** and an **improved skills pipeline**. Whilst there are business support and skills schemes in place, the alignment between them is relatively weak, meaning the ecosystem is not working as effectively as it could do.

Figure 2. The interventions required:



Build an improved 'Make-It Smart' support package

6.2 The first intervention proposed is the enhancement and alignment of existing business support schemes to build an improved 'Make-It Smart' support package that lets ambitious firms grow through implementing new products and processes.

6.3 This would build on existing services in place, such as the Business Growth Service and the new Opportunity Peterborough Smart Manufacturing Alliance, and would identify companies who have the desire and potential to grow and provide a package of support including leadership training and networking opportunities to link the businesses to other innovation and research institutions, alongside investment and technical support.

6.4 An initial step to take here is to **produce a future opportunities roadmap** for the to identify opportunities related to new technologies that may be relevant for local businesses – for example arising from green technologies, Industry 4.0 / automation technologies, artificial intelligence, new materials, etc. The output from this will be a

roadmap which could form the basis for a campaign around future-readiness, and be supported by a series of checklists and a one-to-one coaching support – similar to the ‘get ready for Brexit’ suite of interventions.

- 6.5 Stakeholders are clear that working through this with leadership teams within firms would be a good way of thoroughly embedding these ideas within companies. The Institute for Manufacturing provides road-mapping support²² and should be engaged in this process to ensure that we are drawing on their experience.
- 6.6 In recommending this, stakeholders recognised that whilst there are a number of individual support schemes already in place, these are often not well signposted or co-ordinated with each other. They may be exclusive to some parts of the Cambridgeshire & Peterborough geography, or to certain sub-sectors. The support landscape can appear fragmented and hard to navigate for businesses. In addition, some types of support - such as Innovate UK funding – are perceived to have become more competitive, meaning the chances of receiving funding have fallen.
- 6.7 Therefore an action to take here to clarify the sources of funding available is to **produce a guide to Advanced Manufacturing & Materials sources of funding, support and networks** available in Cambridgeshire & Peterborough, in the form of a ‘London Underground’ style map on a page, clearly showing the different sources of support available.
- 6.8 These two interventions will enable a range of conversations with businesses in Cambridgeshire & Peterborough, as well as with existing partners and providers. This will enable partners to **identify firms in the sector with the capacity to grow**. These firms will be the target group for the support package on offer, though others might self-select, and the sector as a whole can benefit from the road-mapping and support mapping activities described above.
- 6.9 In terms of the support itself, ‘Make-It Smart’ provision will be tailored to the needs of individual firms and will consist of a mixture of:
- **Leadership / coaching / mentoring** – helping the top teams within firms to plan and execute their growth journey, and manage and respond to new challenges.
 - **Strategic planning** – helping companies formulate plans to respond to the opportunities identified via roadmapping.
 - **Strengthening innovation** - stakeholders agreed that firms gain important knowledge and skills from collaboration with universities and research institutes, and smaller firms are usually less likely to do this. Utilising KTPs and better networks with knowledge partners, support will enable smaller firms with growth potential to access innovation support. Likewise, helping firms in the

²² Roadmapping, Institute for Manufacturing: <https://engage.ifm.eng.cam.ac.uk/roadmapping/>

sector by building 'routes in' to innovation drivers such as Accelerators, BootCamps and Test Beds would be beneficial.

- **Finance & Exporting** – providing technical support and guidance to help companies to access finance and to export their products to international markets. Support might also involve direct provision of finance for investment or export – either as a targeted grant or a loan.

6.10 Making this happen will involve working with the different elements of existing support provision and the partners that run these programmes, and helping to make these more seamless. Strong key account management will be needed to monitor and engage with firms to ensure they are getting the support they need. Providing a long-term institutional basis for this support will avoid the challenge of constant reinvention which can make the support landscape difficult for companies.

Improve the skills pipeline

6.11 The second intervention proposed is to improve the skills pipeline, building a skills ecosystem that supports sectoral growth. This is to ensure that the skills demanded by manufacturing employers are able to be supplied within the Cambridgeshire & Peterborough area, and improving the alignment between the skills demanded by employers and the courses offered by education and training providers.

6.12 An initial action here is to **produce a review and gap analysis of existing supply and demand for skills**, to illustrate the strengths and weaknesses of current provision and inform exactly where interventions should be targeted. This should include discussion with local partners, local businesses in the sector, and local education providers. It should be informed by the recent skills analysis which has been undertaken as part of the LERS.

6.13 Depending on the outcome of this review, interventions could then include:

- **Developing skills infrastructure** to provide the required level and type of training. This might include online / remote learning infrastructure where the barriers relate to access to education. The Smart Manufacturing Alliance has pledged to create a training brokerage service to provide its members with access to affordable training, including its own internal courses and workshops.
- **Working with employers to create opportunities for young people** – including work experience, apprenticeships, and traineeships.

6.14 **Working with employers and training providers to raise awareness of employment opportunities** – working with schools, young people and parents to drive long-term demand to work in the sector. This might include open days, visits to schools and colleges, and better careers education information advice and guidance (CEIAG). The Smart Manufacturing Alliance has stated it will **collaborate with the Skills Service** to increase awareness of manufacturing careers and change the

perception of the industry. Involving the sector in these initiatives – and creating and maintaining the links between employers and training providers – will be essential to the success of this activity. This links in with Cambridgeshire & Peterborough’s intention to make employers more central to the skills offer and to ensure that skills demand informs local provision.

6.15 Cambridgeshire & Peterborough is in the early stages of reviewing the skills strategy and adult education provision, including a focus on priority sectors. There is a need to deploy budgets more flexibly through interventions such as continuous learning, and to better align public and private investment in careers services. Action taken here should align with the refreshed skills strategy, determining how the area can grow its skills pipeline, so the sector has the skills when and where it needs them.

Getting the foundations right

6.16 This strategy is fundamentally about creating the conditions across the Cambridgeshire & Peterborough area to grow a stronger Advanced Manufacturing & Materials ecosystem to support growth. A stronger ecosystem would better attract inward investment and create new opportunities for local employment. Developing this stronger ecosystem depends on getting two key foundations right.

6.17 **Deepening networks** is the first of two foundations that cut across the interventions. Stakeholders repeatedly made the point that additional networking opportunities and linkages would be highly beneficial. Improving networking should include business-to-business linkages, business-to-academia linkages, and business-to-training provider linkages.

6.18 Actions that support this could include:

- Continuing to invest in the success of the new Smart Manufacturing Alliance as a Cambridgeshire & Peterborough network for the sector that collaborates effectively with other local and national groups (e.g. Opportunity Peterborough, Chambers of Commerce, MakeUK etc). CPCA has already invested £715,000 of Local Growth Funds into the alliance. A specific action to support its success should be to establish and support the network’s industry advisory board.
- Providing incentives to encourage membership of networks - such as offering business rate discounts against membership fees (where not already applied).

6.19 Providing a small amount of administrative resources and other resources such as meeting room space on a reliable basis will be important for ensuring the long-term success of this work.

6.20 More broadly, the work of the CPCA to link the area’s manufacturing sector into regional initiatives such as the Oxford-Cambridge Arc, Midlands Engine and the Innovation Corridor, and national strategies such as Build Back Better, will also be crucial.

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- 6.21 The second foundation is **effective place marketing and inward investment**. There were concerns raised by stakeholders that the area does not market itself, and its key investment opportunities, as well as other areas. New sites such as the Gateway Site in Peterborough and the new manufacturing park in Chatteris have the potential to attract inward investment and help local firms to grow if promoted and supported correctly.
- 6.22 Opportunity Peterborough already works to attract inward investment into Peterborough and can collaborate with bodies such as the Smart Manufacturing Alliance, Growth Works and Local Authorities to promote the attractiveness of the area's offer to this sector specifically. The Smart Manufacturing Alliance is well positioned to contribute promotional activity for Cambridgeshire and Peterborough and engage with potential investors throughout the inward investment pipeline.
- 6.23 A practical action that could be taken by Cambridgeshire & Peterborough is to invest in next generation place-marketing technology, such as virtual reality tours for investors and planning committees, to support local economic development teams across its geography, to better attract manufacturers, and speed up development control processes. Also running supply chain competitions involving some of the larger companies already in the UK. Co-ordinating programmes and schemes to create one louder, aligned voice will more effectively promote the area as a place to do business successfully.

Summary of immediate actions

The following actions should be commissioned and completed within the next 12 months.

- Publish a future opportunities roadmap which can be used with businesses to inform their future growth ambitions.
- Produce a 'London Underground style' guide to Advanced Manufacturing and Materials sources of funding, support and networks for the region.
- Commission and implement the programme design for Cambridgeshire & Peterborough's 'Make It Smart' integrated business support package (implementation to take longer than next 12 months).
- Produce a review and gap analysis of existing supply and demand for skills to inform where future provision should be targeted.
- Continue to support the development and roll-out of the Smart Manufacturing Alliance as the single network for manufacturing businesses, working in collaboration with other manufacturing organisations.
- Review the place marketing offer and work with partners to establish a single voice for the different offers in the area.

7 Appendix: AM&M Definition

The definition of the manufacturing sector and the Advanced Manufacturing & Materials sector used in this Strategy is consistent with the definitions used in the Local Industrial Strategy and the LERS.

For the purposes of this analysis the Manufacturing sector has been defined using the following 5 digit Standard Industrial Classification (SIC) codes:

- 10110 to 33200
- 71121 to 71129

For the narrower Advanced Manufacturing & Materials sector, the following SIC codes were used:

- 25610 to 25620
- 26511 to 26702
- 27110 to 27510
- 27900 to 28110
- 28410 to 28490
- 29100
- 29310
- 30110 to 30910
- 33120 to 33160
- 33200
- 71121 to 71129

