Lancashire's Innovation Plan – 2023 to 2028

steer economic development

Final Report
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Lancashire's Innovation Plan – 2023 to 2028

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Executive Summary

Building on Lancashire's 2017 Innovation Plan, a refreshed Lancashire Innovation Plan (LIP) has been produced by Lancashire County Council and partners, supported by Steer Economic Development, to drive forward innovation across the County.

Since 2017's Plan, there have been significant socioeconomic shocks and longer-term changes in technology, ways of working, and trade priorities. COVID-19, Brexit, war in Ukraine, the continual and rapid digitalisation of industry, and shifts in political and social priorities towards low/net zero carbon together mean that now is the right time to refresh the 2017 Plan:

> The 2023-28 Lancashire Innovation Plan (LIP): A new, targeted, and ambitious LIP outlining how Lancashire will maximise its wealth of innovation capabilities to address the County and UK's socioeconomic challenges and seize on the opportunities of its distinct asset[1] base

Context

Innovation activity is dictated strongly by global trends, regardless of location. In the past 10 years, the primary drivers of innovation have been technological disruption and the convergence of industries, drawn together by technological advancement and digitalisation.

At a more granular level, the past five years of innovation activity have been dominated by significant global and national changes: Brexit, COVID-19, Net Zero imperatives, and now rising energy prices. These shocks, particularly COVID-19, accelerated digital adoption in businesses, of all scales, including SMEs in the North West[2] and Lancashire, are having pronounced effects.

Technology and market trends have wide ranging implications which all stress the importance of businesses and people adapting and developing new and transferable skills. This LIP seeks to ensure that Lancashire is driving for, engaged with, and visibly active in the adoption and application of new technologies and the innovations they depend on.

Alongside this, political priorities have shifted towards encouragement of place-based cluster development (e.g. through InnovateUK's Launchpad competition). There remains uncertainty around future government prioritisation, but a focus on cluster development and challenge led innovation looks set to continue.

In this context, Lancashire faces its own economic challenges, despite general improvements in its socioeconomic output since 2017. In summary these are:

Technological disruption and convergence with traditional sectors are driving the innovation scene, which Lancashire must adapt to

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[1] For the purpose of this LIP, we refer to an asset as an entity or organisation which does or will contribute(s) to advancement of innovation capabilities and capacity in Lancashire

[2] Made Smarter North West Pilot Evaluation, 2021

Lower growth rate in GVA output (34% growth since 1998 compared to 49% in the UK) and employment than the UK/GB (1.5% growth since 2015 compared to 2.7% for GB)[1]

Increasing productivity gap to the UK, which grew from 2015-2021 from 17 percentage points to 23

Talent attraction and retention challenges, with 24% of graduates remaining to work in Lancashire after graduation compared to 30% nationally

A skills gap, with the number of businesses reporting hard to fill vacancies doubling 2015-2019 to eight percent, and NVQ4+ levels trailing the UK by seven percent.

Alongside these socioeconomic challenges, this LIP also seeks to:

- **Adapt to the uncertainty of funding** for LEPs and the partner landscape in general, creating challenges in developing and implementing actions to progress innovation in the County;
- **Establish a clear narrative for Lancashire's strengths** and demonstratable evidence for why it is a good place for innovative businesses and people to move to and remain in;
- Reduce the gap in innovation capabilities in some of the larger prime employers and the SMEs in their supply chains;
- Catalyse agglomeration of innovation activities and opportunities for talent;
- Develop **networking** opportunities to help businesses develop broad and deep networks of contacts; and
- **Connect** Lancashire's key innovation assets internally and 'plug' them in to complementary assets beyond the County boundaries.

Some key opportunities are developing in Lancashire, which this LIP looks to build on; these include:

- **National Cyber Force.** Securing the UK's headquarters for military operations in cyber space in Samlesbury in 2021 was a huge win for Lancashire, which will directly employ 2,000 people in Lancashire by 2023. There is real potential for development of a Cyber Corridor in the North West, centred around Lancashire;
- **Smart specialisation – Staying Ahead.** Lancashire has key, evidenced strengths in Aerospace, Nuclear and energy production, and clear opportunities to specialise in Chemicals and Materials, Digital, Cyber and e-commerce, and Health. This LIP sets out actions to ensure Lancashire 'Stays Ahead' in these areas;
- **Smart Specialisation – New Routeways**. The clear strengths in Lancashire's innovation ecosystem and the unstoppable transformation of our economy through technology advancement presents opportunities for Lancashire to identify and enable innovation in the County at technology-industry 'convergence zones' where new routeways to specialisms can be capitalised on;
- **Net zero** is a clear national government priority area with potential for innovation across most sectors at a business level and in the generation of energy. Lancashire has strong capabilities in clean energy and nuclear, which the refreshed plan seeks to enhance and make more pervasive.

The Strategic Framework

The LIP's Strategic Framework, addresses these key challenges and opportunities around a Strategic Framework comprising the flowing components:

- A **Vision** which describes the County's long-term innovation intent;
- **Four Strategic Aims** which, define those objectives the LIP is seeking to realise:
  - *Grow:* How Lancashire will capitalise on its existing innovation capabilities and its potential new areas of innovation capability
  - *Broaden:* How the number of businesses actively committing to innovation can be developed and widened
  - *Connect:* Recognising the need for Lancashire and its innovation assets to be connected internally and plugged into wider UK and global innovation ecosystems
  - *Tell:* Ensuring that Lancashire's innovation capabilities are not only well known nationally and globally, but also able to influence the direction of travel of innovation activities
- Within each Strategic Aim, a series of **supporting objectives** which define the broad areas of practical activity to achieve the Aim; and
- A **defined suite of 12 actions to progress the Plan**, detailed in full with indicative costings in Appendix A.
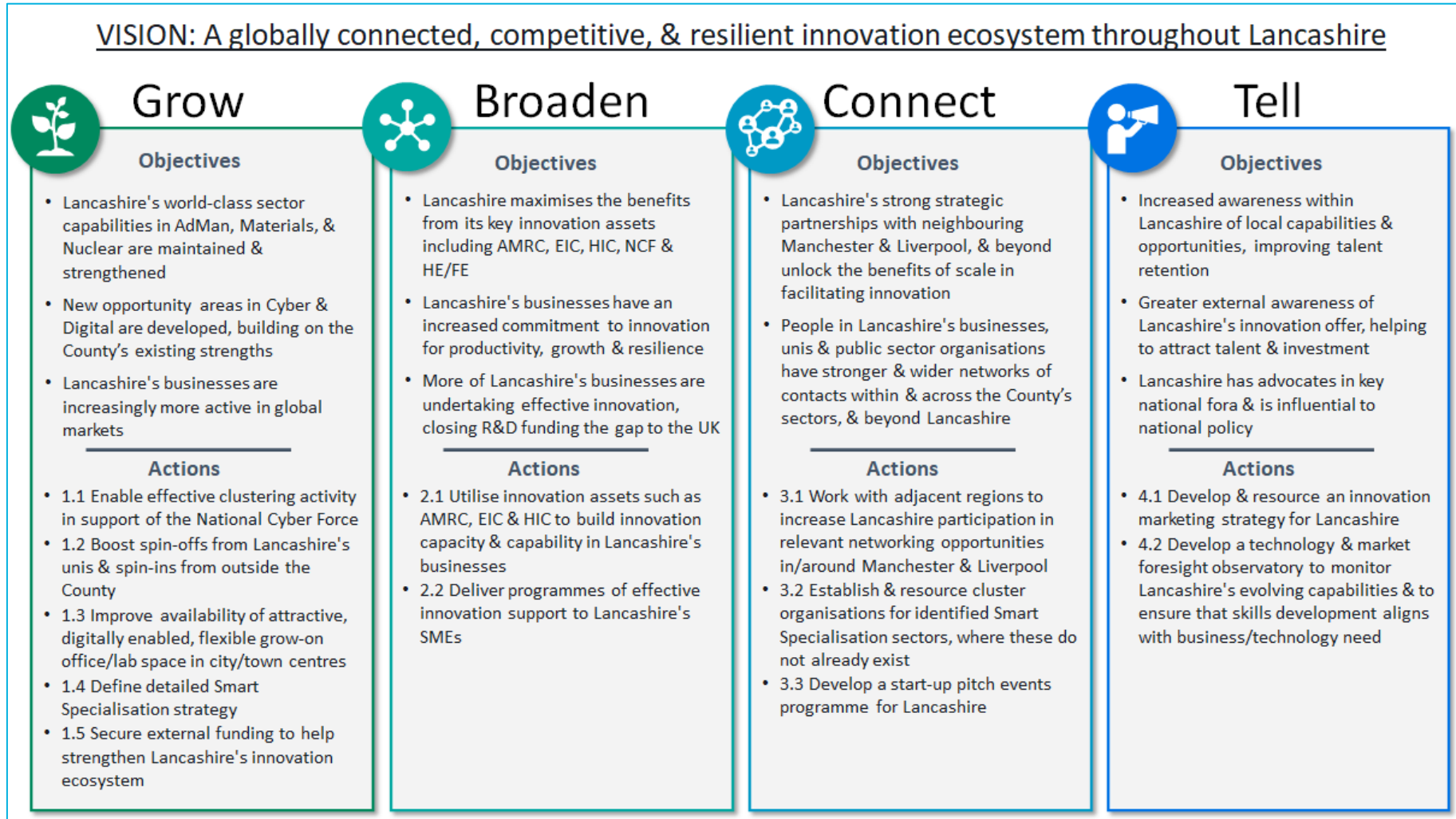
Implementation

Ensuring that this LIP delivers on its objectives, strong leadership, collaboration, and willingness to deliver change will be required. The LIP itself provided a strong base for this, having been developed in partnership with public, private, and academic stakeholders, but this must continue in implementation.

Furthermore, to ensure the actions taken forward in this LIP are targeted, rather than done for doing's sake, clear 'condition' indicators have been developed. This will ensure that the actions can be monitored collectively in their effectiveness at addressing Lancashire's challenges and capitalising on its opportunities (Table 5-1).

Timeline

This LIP is intended to provide the strategic agenda for innovation in the County 2023-2028. Market, technologies, and political contexts are likely to continue to evolve in the period, so the LIP needs to be flexible in detail but consistent in direction. The overall Vision will remain and the Strategic Framework with continue to guide actions across all partners. The development of a technology and market foresight observatory as one of the actions will in itself be crucial to guiding this.

Figure 1-1: 'Plan on a page' – Lancashire's Innovation Plan – 2023 to 2028

VISION: A globally connected, competitive, & resilient innovation ecosystem throughout Lancashire

Grow

Objectives

- Lancashire's world-class sector capabilities in AdMan, Materials, & Nuclear are maintained & strengthened
- New opportunity areas in Cyber & Digital are developed, building on the County's existing strengths
- Lancashire's businesses are increasingly more active in global markets

Actions

- 1.1 Enable effective clustering activity in support of the National Cyber Force
- 1.2 Boost spin-offs from Lancashire's unis & spin-ins from outside the County
- 1.3 Improve availability of attractive, digitally enabled, flexible grow-on office/lab space in city/town centres
- 1.4 Define detailed Smart Specialisation strategy
- 1.5 Secure external funding to help strengthen Lancashire's innovation ecosystem

Broaden

Objectives

- Lancashire maximises the benefits from its key innovation assets including AMRC, EIC, HIC, NCF & HE/FE
- Lancashire's businesses have an increased commitment to innovation for productivity, growth & resilience
- More of Lancashire's businesses are undertaking effective innovation, closing R&D funding the gap to the UK

Actions

- 2.1 Utilise innovation assets such as AMRC, EIC & HIC to build innovation capacity & capability in Lancashire's businesses
- 2.2 Deliver programmes of effective innovation support to Lancashire's SMEs

Connect

Objectives

- Lancashire's strong strategic partnerships with neighbouring Manchester & Liverpool, & beyond unlock the benefits of scale in facilitating innovation
- People in Lancashire's businesses, unis & public sector organisations have stronger & wider networks of contacts within & across the County's sectors, & beyond Lancashire

Actions

- 3.1 Work with adjacent regions to increase Lancashire participation in relevant networking opportunities in/around Manchester & Liverpool
- 3.2 Establish & resource cluster organisations for identified Smart Specialisation sectors, where these do not already exist
- 3.3 Develop a start-up pitch events programme for Lancashire

Tell

Objectives

- Increased awareness within Lancashire of local capabilities & opportunities, improving talent retention
- Greater external awareness of Lancashire's innovation offer, helping to attract talent & investment
- Lancashire has advocates in key national fora & is influential to national policy

Actions

- 4.1 Develop & resource an innovation marketing strategy for Lancashire
- 4.2 Develop a technology & market foresight observatory to monitor Lancashire's evolving capabilities & to ensure that skills development aligns with business/technology need

Source: Steer-ED, 2022

1 Introduction

Purpose

1.1 In Autumn 2021, Lancashire County Council (LCC), of behalf of the Lancashire Innovation Board (LIB), commissioned Steer-Economic Development (Steer-ED) to build on Lancashire's 2017 Innovation Plan and develop a refreshed Lancashire Innovation Plan (LIP) to drive forward innovation across the County.

1.2 Since the time of 2017's Innovation Plan, there have been significant socioeconomic shocks and longer term changes in technology, ways of working, and trade priorities. COVID-19, Brexit, the continual and rapid digitalisation of industry, and shifts in political and social priorities towards low/net zero carbon together mean that now is the right time to refresh the 2017 Plan:

> The 2023-27 Lancashire Innovation Plan (LIP): A new, targeted, and ambitious LIP outlining how Lancashire will maximise its wealth of innovation capabilities to address the County and UK's socioeconomic challenges and seize on the opportunities of its distinct asset[3] base

Method and Outline

1.3 This LIP, developed between November 2021 and September 2022, involved detailed consultation with 25 key stakeholders in the County, three workshop sessions with the LIB, and analysis of some 50 socioeconomic indicators. This document, which is the final form of the LIP contains the following:

- *Lancashire's socioeconomic trends and innovation context:* An updated summary of the economic context within which the refreshed 2023 LIP sits;
- *The Refreshed Strategic Framework:* a refreshed Strategic Framework around which actions and activities have and will be designed, to focus efforts on key areas
- *Actions:* A condensed and targeted set of actions to enable Lancashire's innovation objectives are achieved; and
- *Looking towards implementation – the things to get right:* a plan for how the actions proposed and any additional new actions can be operationalised and innovation progress monitored

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[3] For the purpose of this LIP, we refer to an asset as an entity or organisation which does or will contribute(s) to advancement of innovation capabilities and capacity in Lancashire

2 Lancashire's Socioeconomic Trends and Innovation Context

Headline Messages

Lancashire continues to face economic challenges, despite general improvements in its socioeconomic output since 2017. In summary these are:

Technological disruption and convergence with traditional sectors are driving the innovation scene, which Lancashire must adapt to

Lower growth rate in GVA output (34% growth since 1998 compared to 49% in the UK) and employment than the UK/GB (1.5% growth since 2015 compared to 2.7% for GB)[1]

Increasing productivity gap to the UK, which grew from 2015-2021 from 17 percentage points to 23

Talent attraction and retention challenges, with 24% of graduates remaining to work in Lancashire after graduation compared to 30% nationally

A skills gap, with the number of businesses reporting hard to fill vacancies doubling 2015-2019 to eight percent, and NVQ4+ levels trailing the UK by seven percent

Global Innovation Trends

2.1   Innovation activity is dictated strongly by global trends, regardless of location. In the past 10 years, the primary drivers of innovation have been technological disruption and convergence of industries, drawn together by technological advancement and digitalisation.

2.2   At a more granular level, the past five years of innovation activity have been dominated by significant global and national changes: Brexit, COVID-19, Net Zero imperatives, and now rising

energy prices. These shocks, particularly COVID-19, accelerated digital adoption in businesses, of all scales, including SMEs in the North West[4] and Lancashire.
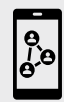
2.3   Technology is changing how traditional industries operate. Essential technologies including IoT, AR/VR, Blockchain, Drones/Robots, 3D printing and AI are being deployed across multiple sectors, leading to rapid change in how traditional sectors are operating at '*convergence zones*'. This Plan includes actions designed to enable Lancashire's innovation ecosystem to flourish in areas of industry/technology convergence where it already has strong capabilities.

Technology-industry Convergence Zones

Technology and retailing – online shopping/virtual stores/virtual and e-commerce

Computer-driven additive manufacturing technologies (3D printing) in multiple industries, including manufacturing, automotive, healthcare

Robotics – in mobility, assisted living/working

Computing and consumer products (e.g. wearable technologies, AI devices)

Converge of sensors with consumer products, deployed across industries (eye/touch/voice/gesture etc).

Convergence of technology and construction/built environment (linked to Smart Cities, 'innovate to zero', autonomous/connected vehicles)

Health and wearable, AI, sensor technology

2.4   Key drivers of technology trends in industry can largely be categorised into *market led* and *external drivers*. Market led drivers include the emergence of secure digitalisation, customisation/ personalisation (of products and services) and automation (e.g. AI, IoT, 3D printing). These trends have been accelerated by COVID-19 and overlayed by the need for new working practices and resilience in supply chains. Personalisation demand has rapidly increased through the COVID-19 pandemic, with customers increasingly demanding personalisation of products and services[5]. This poses challenges for businesses in that they both need to be local and personal (to feed demand), but global and at scale to ensure affordability.

2.5   External drivers include the imperative for low and zero carbon practices, health pressures (from long term ageing populations and shorter term health threats), and political influences (such as Brexit and the growing economic threat of China).

2.6   The multiple drivers of technology development highlight the importance of businesses having digital and technology 'starting blocks' in place to enable them to adapt to new and developing business models, market demands, working practices, and contextual changes. A key issue in Lancashire and the UK regarding low productivity is the disparity between

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[4] Made Smarter North West Pilot Evaluation, 2021

[5] **COVID increases the need to invest in and transform every part of the value chain**

productivity in large, highly digitalised firms and SMEs using more traditional production methods and business plans[6]; something this plan seeks to directly address.

2.7   Technology and market trends have wide ranging implications which all stress the importance of businesses and people adapting and developing new and transferable skills. This LIP seeks to ensure that Lancashire is cognisant of, engaged with, and visibly active in adoption and application of new technologies.

Policy Priorities

2.8   In March 2021, the UK government's Industrial Strategy approach to productivity, deployed from 2017, transitioned to the UK's Plan for Growth ('Build Back Better'[7]), which has a stronger emphasis on levelling up the economy, creating high value jobs, and maximising trading opportunities.

2.9   Build Back Better highlighted emphases on developing stimulative infrastructure, developing the UK's skills base to boost productivity, supporting and incentivising innovation, levelling-up, supporting the transition to net zero, and increasing Britain's global standing in markets. Green practices, as highlighted in Build Back Better, had already been a UK government priority, and was solidified in the government's Ten Point Plan[8] for accelerating net zero ambitions.

2.10   The UK Innovation Strategy[9], flowing from Build Back Better, is built on lessons from COVID-19 response, which recognises the importance of innovation. It also includes announcement of an Innovation Missions Programme, setting out to link science, industry, investment and world trade.

2.11   Brexit has had a significant impact on the UK's innovation funding landscape. The UK Shared Prosperity Fund (SPF) is set to replace the EU Structural Funds in 2022, but there remain uncertainties about how this will be administered in the medium- to long-term, and gaps in provision. Lancashire as a county performed well at winning ERDF funding, but as this source no longer exists, the approach to bidding for funding needs to be refreshed in this developing context. Further to this, the government's Levelling-up White Paper, outlined changes to the future of LEPs, with funding set to be directed more commonly through Local Authorities. This presents a key consideration for Lancashire's innovation Plan, with the £54 million SPF funding deployed in Lancashire through the 14 Local Authorities over five years.

2.12   The 2022 Levelling Up White Paper explicitly highlighted the importance of place in delivering Levelling Up ambitions, and in developing and supporting clusters of research and innovation excellence. One of the White Paper's 12 missions is investment in R&D outside the South East to strengthen the UK's position as a global hub of innovation and become a 'science superpower', while increasing the local benefits of R&D. Alongside this, UKRI's 2020-2027 Strategy highlights "World-class Places" as one of its five key objectives, which is reflected in

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[6] **OECD Compendium of Productivity Indicators**

[7] **Build Back Better: our plan for growth**

[8] **The Ten Point Plan for a Green Industrial Revolution**

[9] **UK Innovation Strategy: leading the future by creating it**

its budget, through continued support of the Strength in Places Fund. Across government papers and policy on innovation, the importance of world-class and/or world-leading research, innovation and places is fundamental. This means that it is more important than ever for Lancashire to focus on its established capabilities, and look for how these can deliver tangible national and local benefits.

2.13 Most recently, the UK Government's Autumn Statement in November 2022 prominently highlighted the central role for innovation in driving future economic growth. It signalled a reform of the structure of R&D tax reliefs, but the amount of support provided to innovative businesses through R&D tax reliefs is still forecast to increase. Critically, the Government confirmed that public spending on R&D will increase to £20 billion a year by 2024/25 (a cash increase of around a third compared to 2021/22) – and that it sees this as playing a crucial role in stimulating private sector investment.

Lancashire's Socioeconomic Context in Summary

2.14 Having set out the global and political situation in which this LIP sits, changes in the socioeconomic context in Lancashire since the 2017 LIP are also important in driving this Strategy. Broadly, despite several global shocks, Lancashire's socioeconomic position in 2022, is relatively similar to that in 2017, with the County facing familiar challenges:

- Low growth rate (employment and GVA) relative to the UK;
- Low productivity in relation to the UK and overseas;
- Low levels of R&D investment in SME's; and
- Large skills gaps in businesses.

2.15 However, these challenges have been confounded by additional externally driven circumstance changes. The widely reported and understood socioeconomic shocks as a result of Brexit, the COVID-19 pandemic, and the emerging challenge of dramatically increasing gas and electricity prices impacted the County from 2016, 2020, and 2022 respectively

2.16 The headline statistics for Lancashire's economy are presented in Table 2-1. Overall, there has been a general absolute improvement in most socioeconomic metrics since the LIPs economic baseline was constructed in 2017 but, relative to the NW and UK, there has been some divergence.

Table 2-1: Headline Statistics

| | Indicator | Geography | | | Source/Date |
		Lancs LEP	North West	UK	
Population & Employment	Working- age Population (WAP)	922.5k	4.57m	41.84m	ONS/2020
	Working-age Population (WAP) (%)	60.9%	62.1%	62.4%	ONS/2020
	Economic Activity Rate (WAP)	77.3%	77%	78.2%	APS/2021
	Employment Rate (WAP)	74.1%	73.1%	74.3%	APS/2021
	Employment Growth (WAP) (+/- since 2015)	+1.5%	+4.8%	+2.7% (GB, UK not available)	BRES/2020
	Total number of jobs	749K			ONS/2020
Productivity & Wealth	GVA per head	£22.8k	£25.6k	£29.6k	ONS/2021
	GVA per employee	£48.9k	£51.1k	£56.7k	ONS/2021
	GVA (+/- since 1998)	+34.3%	+47.5%	+49.1%	ONS/2021

	Indicator	Geography			Source/Date
		Lancs LEP	North West	UK	
Business &Sectors	Average Weekly Earnings	£553.50 pw	£575.20 pw	£620.80 pw	ASHE/2021
	Average House Prices	£157.5k	£181.3k	£270.0K	UKHPI/2021
	Total Active Enterprises	56.9k	293.5k	3.0m	BD/2020
	Business Birth Rate	12%	13%	12%	BD/2020
	Business Death Rate	9%	10%	10%	BD/2020
	Employment in Manufacturing (% of all jobs)	14.0%	9.7%	7.9% (GB)	BRES/2020
Skills	NVQ levels (% with L4+)	36.0%	38.6%	43.0%	APS/2020
	NVQ levels (% with no qualifications)	7.8%	7.6%	6.6%	APS/2020
	Employers with Skills Gaps (Now using "Number of Staff with Skills Gaps as a %"	6%	6%	5%	UK ESS/2019
	Employers with Hard-to-Fill Vacancies	8%	8%	8%	UK ESS/2019

Source: Various, see "Source/Date" column, 2019-2021

Population and Employment

2.17   Over the period 2016-2020, the small gaps that existed at the time of 2017's LIP have largely remained:

- the Working Age Population has remained slightly lower than for the UK and broadly the same as the NW;
- Economic activity and employment remain similar to but slightly behind the UK; and
- Employment growth has stayed below that of the NW and GB.

Productivity and Wealth

2.18   Innovation continues to be imperative for Lancashire's businesses to make headway in closing the productivity gap, which is proving resistant:

- The productivity gap with the UK highlighted in 2017's LIP has widened from 17 percentage points (pp) to 23pp (2015-2021); and
- Average weekly earnings has also remained below the UK, constituting around 89% of the UK average (the same as in 2014).

Business

2.19   Encouraging growth of innovative, highly productive businesses remains a priority.

- The number of enterprises in Lancashire increased 32% 2017-2022, but total R&D expenditure per person employed is less than half of the UK average spend[10]; and

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[10] Lancashire LEP is investigating this figure with Innovate UK (as of December 2021) to clarify whether it includes BAE Systems spend, which is significant

- Business birth rates and death rates have remained consistent since 2015, showing a small relative improvement, closing slightly the gap to the NW and UK average to 0pp and 1pp respectively).

Sectors

2.20 Lancashire has significant concentrations of activity in several important sectors, including Aerospace, Energy and Nuclear, Chemicals and Materials, and in some areas of the Digital and Health sectors.

2.21 By Location Quotient (LQ), "Other transport equipment", including Aerospace, is by far the most specialised sector in Lancashire in both GVA output and employment, showing over nine times as much relative output than the UK. The Chemicals industry in Lancashire is also highly specialised, with a GVA LQ in 2019 of 2.87 and employment LQ of 1.95. Chemicals, however, has a relatively small employment total (2% of Lancashire employment) and is projected to slightly contract relative to the UK by 2036.

2.22 Whilst looking at sectoral aspects of strategy, it is important to consider future growth potential. Of those sectors with technology/knowledge aspects projected to grow in GVA to 2036, Pharmaceuticals, Motor vehicles, and Other transport equipment have the highest forecast annual growth rates 2022-2036 (3.2, 3.2, and 3.0% respectively). Electronics and IT services also show strong annual growth rates, at 2.4 and 2.2% respectively, with Lancaster University performing excellently in REF 2021 for research power (top 16% of institutes).

2.23 Health is a large sector for employment in Lancashire and has some specialisation for employment (LQ = 1.20) and GVA (LQ = 1.16). This is a large and growing market with multiple technology convergence points, supported by university excellence in allied health professions (both Lancaster University and University of Central Lancashire rank in the top 20% of institutes for Research Power in REF 2021.

2.24 At a 5-digit SIC code level, Lancashire has high specialisation by employment in Construction of utility projects, with over 50% of the UK's employment in this SIC code area and a high LQ of 24.9. This includes construction of pipelines and power lines, sewer systems, reservoirs, pumping stations and power plants. Also at the 5-digit SIC code level, Lancashire is relatively specialised in the scale of employment in Processing of nuclear fuel, employing a tenth of the UK workforce and with an LQ of 4.7.

2.25 Additional notable areas of specialism highlighted by 3 and 5-digit SIC code analysis include:

- Manufacture of air and spacecraft and related machinery (LQ = 7.6), employing 14k people;
- Manufacture of plastics products (LQ = 1.8), especially plastics in primary forms (LQ = 9.1); and
- Wholesale of information and communication equipment (L.Q 1.8), driven by employment in Wholesale of electronic and telecommunications equipment (LQ = 2.2), and Retail trade not in stores, stalls or markets (LQ = 1.8), driven by Retail sale via mail order houses or via Internet (LQ = 1.7) which is indicative of strength in Ecommerce

Infrastructure and Assets

2.26   Lancashire has relatively strong digital infrastructure, with ultrafast[11] broadband coverage close to the England level at County level (68% of premises in Lancashire to 70% in England). Eight of the 15 districts have ultrafast broadband coverage above the England average, with six of these having more than 80% coverage. This is a strong and important base from which innovative businesses of all sizes can utilise, particularly given the increasing importance of digitalisation and the requirements for flexibility in working.

2.27   The importance of creating enabling conditions and missions for innovation, rather than being too directive on fixed sectors has been emphasised over the past five years in Lancashire. Since 2017's LIP, certain capabilities and sectors have emerged as stronger than envisaged and have developed around particular assets. For example, North Lancashire has seen clustering around Digital, Deep Tech and Electech, focused on environmental, Aerospace and Health markets. This area in particular has been bolstered by the research intensive focus of Lancaster University and University of Central Lancashire, the opening of Fraser House in Lancaster (a dedicated digital and tech focused coworking space) and highlighted by the growth of companies such as Miralis, LiNa Energy, NanoSun, Forsberg and Relative Insight.

2.28   Significant assets, including the AMRC (Advanced Manufacturing Research Centre at Preston), EIC (Engineering Innovation Centre) and HIC (Health Innovation Campus at Lancaster Uni) and the recently announced National Cyber Force (NCF) headquarters can act as focal points for Lancashire's innovation ecosystem. They will have an important role in creating clusters of innovative businesses, showcasing Lancashire as a place offering multiple opportunities for skilled workers.

Skills and Ideas

2.29   The percentage of people in Lancashire with degree equivalent qualifications and above (NVQ4+) is significantly below the NW and UK average. Despite having increased absolutely by 3pp (2015-2020), the gap to the NW and UK has widened by 1.5pp and 3pp respectively.

2.30   In terms of skills demanded by the county's businesses, the percentage of workers in Lancashire having skills gaps for the jobs they work is 6%, around the same as the NW and UK. The percentage of businesses with hard-to-fill vacancies is also similar to the NW and UK and doubled 2015-2019 to 8%. Just 22.7% of graduates from Lancashire work in Lancashire, compared to 65% in the UK and 97.5% for the UK (recognising that these are significantly larger geographies). Skills shortages appear to be a UK wide challenge, although retention of skills is significantly more challenging for Lancashire.

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[11] Ultrafast broadband = over 100 megabits per second download capability

Snapshot Innovation Indicators

Innovation indicators show room for improvement but that there is a promising base of innovative businesses in Lancashire. Currently, Lancashire ranks towards the lower end of the UK's International Territorial Level[12] 2 (ITL2) regions for key innovation metrics (

2.31   Table 2-2). However, despite having a low level of investment per worker, the number of businesses classed as being innovation active is relatively high, ranking 15 of 41 in the UK

Table 2-2: Snapshot Innovation Indicators

Innovation Metric	Lancashire latest value	Rank amongst UK ITL2 regions
Spin-offs from Lancashire universities	59	-
Innovate UK funding p.a.	£10 million	28 of 41
% of businesses that are innovation active	45.3%	15 of 41
% 16-64 year old population with NVQ4+ qualifications	35%	35 of 41

Source: see Table 5-1

The Qualitative view

2.32   Given the limited publicly innovation specific data available, in dept interviews with 25 key public, private and academic partners and stakeholders in and outside of Lancashire were conducted to help identify Lancashire's priorities for the next five years. These key findings fed directly into the development of the refreshed LIP Vision and Strategic Framework for the next five years of activity by the LIB and partners.

2.33   Set out below are the key challenges which this LIP seeks to address and opportunities that it seeks to capitalise on

Challenges

- Lancashire and the UK have significant **productivity challenges**, as highlighted in Section 2. The targeted deployment and leadership of talent has the most impact on productivity[13];
- **Uncertainty of funding** for LEPs and the funding landscape in general as a result of COVID-19 and Brexit creates challenges in developing and implementing actions to progress innovation in the County
- There needs to be a **clear narrative** for Lancashire's strengths and demonstratable evidence for why it is a good place for innovative businesses and people to move to and remain in;
- There is a disconnect between the innovation capabilities in some of the larger prime employers and the SMEs in their supply chains. More **clustering** is required;
- The universities in Lancashire have strong credentials, increasingly in STEM subjects, but **retaining graduates** in the County has proved challenging. Outside Aerospace, there is a

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[12] International Territorial Level: a geocode standard for referencing the subdivisions of the United Kingdom for statistical purposes. ITL 2 equates roughly to County level regions

[13] https://www.raconteur.net/business-strategy/how-to-boost-productivity-get-the-best-from-everyone/

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lack of agglomeration of businesses, compared to centres such as Manchester and Cambridge, which provide more opportunities for a more mobile workforce;

- Compared to large cities such as Liverpool and Manchester, **networking** opportunities to help businesses develop broad and deep networks of contacts are more developmental and multi-centric;

- Perceptions persist that the **innovation agenda is diluted and unfocused**. The component parts of the County's ecosystem need to be better connected; and

- **Disparity in connectedness**. Lancashire's key assets are not optimally 'plugged-in' to one another or complementary assets beyond the County boundaries.

Opportunities

- **National Cyber Force.** Securing the UK's headquarters for military operations in cyber space in Samlesbury in 2021 was a huge win for Lancashire, which will directly employ 2,000 people in Lancashire by 2023. Cyber is a key growth area for the military and in several linked sectors, including aerospace, automotive, and advanced manufacturing. Alongside GCHQ in Greater Manchester, there is real potential for development of a Cyber Corridor in the North West, centred around Lancashire;

- **Smart specialisation – Staying Ahead.** Lancashire has key, evidenced strengths in Aerospace, Nuclear and energy production, and clear opportunities to specialise in Chemicals and Materials, Digital, Cyber and e-commerce, and Health. These strengths are supported by key assets including the Engineering Innovation Centre, Health Innovation Campus, and AMRC, and a strong Technical Education Vision, which will be boosted by the opening of the Lancashire Institute of Technology in 2023. This LIP sets out actions to ensure Lancashire 'Stays Ahead' in these areas;

- **Smart Specialisation – New Routeways**. The clear strengths in Lancashire's innovation ecosystem as identified above have multiple crossovers (e.g. aerospace technology and security). The unstoppable transformation of our economy through technology advancement also presents opportunities for Lancashire to identify and enable innovation in the County at technology-industry 'convergence zones' where new routeways to specialisms can be capitalised on (e.g. Health and wearable, AI, sensor technology);

- **Net zero** is a clear national government priority area with potential for innovation across most sectors at a business level and in the generation of energy. Lancashire has strong capabilities in clean energy and nuclear, which the refreshed plan seeks to enhance and make more pervasive. Furthermore, forecasting from the Local Government Association shows Lancashire is set to have the highest growth (outside of London) in the number of Energy and Low Carbon jobs per head of the population, with more than 60,000 Low Carbon jobs by 2050

2.34 These challenges and opportunities are the foundation of this LIP's Strategic Framework, which addresses them around four key Pillars, which are detailed in the following section:
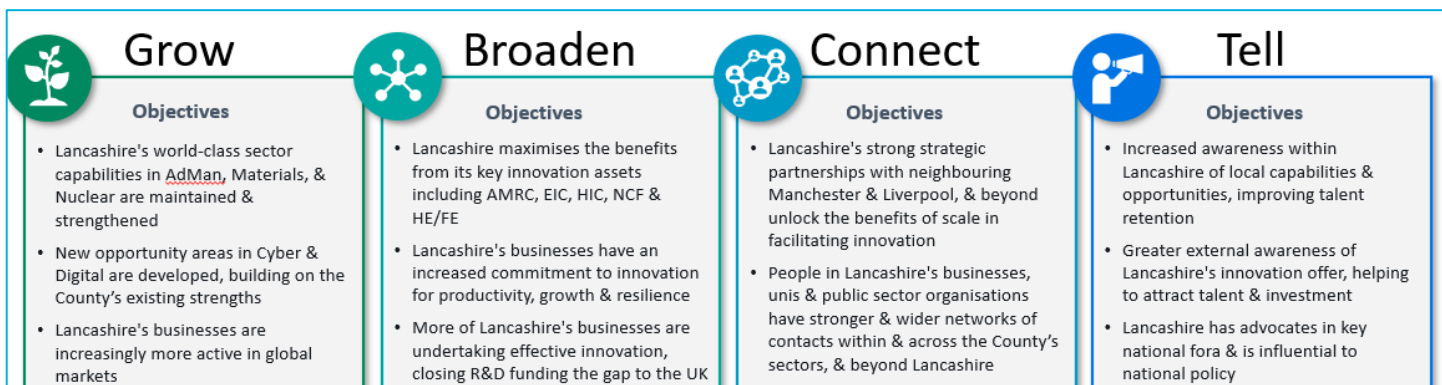
- *Grow:* How Lancashire will capitalise on its existing innovation capabilities – Staying Ahead – and its potential new areas of innovation capability – Routeways to Excellence

- *Broaden:* How the number of businesses actively committing to innovation can be developed and widened

- *Connect:* Recognising the need for Lancashire and its innovation assets to be connected internally and plugged into wider UK and global innovation ecosystems

- *Tell:* Ensuring that Lancashire's innovation capabilities are not only well known nationally and globally, but also able to influence the direction of travel of innovation activities

3 The Refreshed Strategic Framework

3.1   Within the context of the socioeconomic situation and the challenges facing and opportunities available to Lancashire, the LIB has developed a refreshed Strategic Framework which will guide implementation of the LIP and the actions that are taken forward in the next five years.

The Framework

3.2   To address the challenges and capitalise on the opportunities outlined above, we have developed a streamlined Strategic Framework, presented at the end of this Section, built on the following four Pillars:

Grow	Broaden	Connect	Tell
Objectives	**Objectives**	**Objectives**	**Objectives**
• Lancashire's world-class sector capabilities in AdMan, Materials, & Nuclear are maintained & strengthened • New opportunity areas in Cyber & Digital are developed, building on the County's existing strengths • Lancashire's businesses are increasingly more active in global markets	• Lancashire maximises the benefits from its key innovation assets including AMRC, EIC, HIC, NCF & HE/FE • Lancashire's businesses have an increased commitment to innovation for productivity, growth & resilience • More of Lancashire's businesses are undertaking effective innovation, closing R&D funding the gap to the UK	• Lancashire's strong strategic partnerships with neighbouring Manchester & Liverpool, & beyond unlock the benefits of scale in facilitating innovation • People in Lancashire's businesses, unis & public sector organisations have stronger & wider networks of contacts within & across the County's sectors, & beyond Lancashire	• Increased awareness within Lancashire of local capabilities & opportunities, improving talent retention • Greater external awareness of Lancashire's innovation offer, helping to attract talent & investment • Lancashire has advocates in key national fora & is influential to national policy

Source: Steer-ED, 2022

3.3   In more detail, these Pillars are as follows.

Pillar 1 – Grow

3.4   Lancashire has a unique innovation ecosystem, which has some clear strengths in areas which are undergoing transformational change through technological advancement, the need for clean growth, and market demands (e.g. Aerospace, Nuclear, and Chemicals and Materials). For these strengths to grow and 'Stay Ahead' in a changing environment, they need to be developed further, enhanced, and connected to complementary industries and markets.

3.5   The continual transformation of the economy and threat of external drivers will impact on how business is conducted in these sectors, the processes involved and techniques used in product and service development, and the skills people need to work in these industries. We recognise that Lancashire must proactively support its sectors of strength to keep them competitive in the face of technological, economic, political and market pressures.

3.6   Further to our existing strengths, we recognise the importance of developing and diversifying our economic base. That is why this Pillar ensures that we not only act to grow our existing strengths, but seek out cross-pollination of ideas which can create 'New Routeways' to

emerging sectors. Identifying and exploiting technology change and opportunities at sector crossovers is challenging, but we commit in this Innovation Plan to dedicate resource to identifying and nurturing emerging sectors to ensure Lancashire's businesses are poised and supported to capitalise on market opportunities globally.

3.7   This pillar will focus on delivering the following objectives:

- Lancashire's world-class sector capabilities in Aerospace, Advanced Manufacturing, and Nuclear are maintained and strengthened;
- New opportunity areas in Cyber & Digital and Health are developed in Lancashire, building on the county's existing strengths and expanding Electech sector; and
- Lancashire's businesses are increasingly more active in global markets

Pillar 2 – Broaden

3.8   Lancashire's and the North West's business base is behind the UK in investment in R&D. We recognise the importance of broadening the scale of R&D investment and the number of businesses innovating, particularly in our SME base. The Made Smarter Study and subsequent successful Made Smarter North West Digital Adoption Pilot, highlighted the importance of supporting our businesses to innovate. Lancashire's businesses were disproportionately active in the Made Smarter Pilot, reaping the benefits of improved efficiency, competitiveness, and energy savings which even small investments into innovation can bring.

3.9   Adoption of innovation is vital to build competitiveness and resilience in times of market, technology and political change and we are committed to ensure that more businesses across Lancashire receive the support they need to adapt, grow, and excel. We have high quality innovation assets across the county and recognise the importance of ensuring the benefits of these flow out to our business base, making a more productive and prosperous economy for all.

3.10   This Pillar will focus on delivering the following objectives:

- Lancashire maximises the benefits from its key innovation assets including AMRC, EIC, HIC, NCF & HE/FE;
- Lancashire's businesses have an increased commitment to innovation for productivity, growth & resilience; and
- More of Lancashire's businesses are undertaking effective innovation, closing R&D funding the gap to the UK.

Pillar 3 – Connect

3.11   Innovation requires exchange of knowledge and ideas. It also depends on access to talent, skills, facilities, and funding. Lancashire has a wealth of assets, but we recognise that equally important is connecting and building on these assets by implementing 'soft' infrastructures to enable the flow of knowledge and idea generation to permeate beyond the boundaries of individual assets and the County itself.

3.12   We need a step change in how we as a County connect with one another, with our neighbours in Greater Manchester and Liverpool, Yorkshire, Cumbria, and beyond. We recognise the need to build our networks both within and outwith the County to ensure that our assets, businesses, and people have access to a wider pool of knowledge, expertise and skills across an optimally connected functioning ecosystem.

3.13   This Pillar will focus on delivering the following objectives:

- Lancashire's strong strategic partnerships with neighbouring Manchester and Liverpool, and to the north in Cumbria and Southern and Central Scotland unlock the benefits of scale in facilitating innovation; and
- People in Lancashire's businesses, unis and public sector organisations have stronger and wider networks of contacts within & across the county's sectors, and beyond Lancashire

Pillar 4 – Tell

3.14 Up until now, there has been a lack of clarity within and outwith Lancashire on what the County's innovation 'offer' is. As a part of implementing the 2017 LIP, we now have leadership in place for the innovation agenda, through the Innovation Board, which we will mobilise to ensure that there is a cohesive, clear, and communicable vision for Lancashire.

3.15 Whilst other geographies have a clear sectoral focus (e.g. Liverpool and its Advanced Materials capabilities) or 'innovation champions' (e.g. Health and Social Care in Greater Manchester), Lancashire has struggled to promote its vision and thus is not well known as a 'centre for innovation excellence', outside its large Aerospace cluster. To address this issue, through this Pillar, we have a strong focus on developing, articulating, and effectively communicating our innovation narrative. This Pillar ensures we have the resources and capabilities deployed to marketing and communication of a coherent message to the right people.

3.16 This Pillar will focus on delivering the following objectives:

- Increased awareness within Lancashire of local capabilities and opportunities, improving talent retention, utilising preceding work including the Lancashire Skills and Employment Strategic Framework
- Greater external awareness of Lancashire's innovation offer, helping to attract talent and investment
- Lancashire has advocates in key national fora and is influential to national policy

Crosscutting Themes

3.17 Three cross-cutting themes will underpin and set the culture and delivery approach to the Pillars. These are as follows:

Digital Transformation

- This theme is about ensuring that awareness of digital technology and its ability to improve competitiveness, productivity and energy efficiency is communicated to people, organisations and businesses through all of the activities in this Innovation Plan. Lancashire has strong digital infrastructure, but the use of digital technology across almost all industries and activities will be crucial to ensuring we have the skills and capabilities to compete in a changing world

Decarbonisation and prioritisation of Low Carbon Technologies

- Lancashire has strong capability in clean energy, including in nuclear, hydrogen activities, and wind. A £75m commitment in the 2021 spending review to the Springfields nuclear manufacturing plant signals that alongside renewables, nuclear will be a key deliverer of decarbonisation of power generation. Further than this, though, existing technologies and sectors which Lancashire operates in have potential to deliver on clean growth commitments, including decarbonisation of aerospace, innovation of sustainable materials, and smart methods of manufacturing. Lancashire has much to contribute to

achieve local, regional, national and global sustainability, and this is an important theme across the four Pillars of our plan

Pervasive innovation, ensuring innovation becomes an all-encompassing way of thinking and working in the county in all that does

- Innovation is not just associated with technology and products. It also encompasses services and behaviours which encourages inclusivity and catalyses socioeconomic prosperity for all. For example, in the development of new or improved solutions to how organisations operate to make them more efficient and deliver improved services and products. Furthermore, this includes supporting and encouraging innovation within the SME base as a whole, which will build stability and competitiveness across our business ecosystems. As the Innovation Board, we want to lead by example, and ensure that the way we operate is continually agile and flexible to new ideas and ways of doing things. This Innovation Plan has been set in 2022, but it will be delivered across a five-year period. We will ensure our actions from this plan are continually reviewed and adapted where necessary or appropriate.

3.18   The full refreshed Strategic Framework, its objectives, and the actions proposed to achieve these objectives is presented below. The following Section summarises the rationale for these actions, with full Action Descriptions in Appendix A.

Our refreshed Strategic Framework

VISION: A globally connected, competitive, & resilient innovation ecosystem throughout Lancashire

Grow

Objectives

- Lancashire's world-class sector capabilities in AdMan, Materials, & Nuclear are maintained & strengthened
- New opportunity areas in Cyber & Digital are developed, building on the County's existing strengths
- Lancashire's businesses are increasingly more active in global markets

Actions

- 1.1 Enable effective clustering activity in support of the National Cyber Force
- 1.2 Boost spin-offs from Lancashire's unis & spin-ins from outside the County
- 1.3 Improve availability of attractive, digitally enabled, flexible grow-on office/lab space in city/town centres
- 1.4 Define detailed Smart Specialisation strategy
- 1.5 Secure external funding to help strengthen Lancashire's innovation ecosystem

Broaden

Objectives

- Lancashire maximises the benefits from its key innovation assets including AMRC, EIC, HIC, NCF & HE/FE
- Lancashire's businesses have an increased commitment to innovation for productivity, growth & resilience
- More of Lancashire's businesses are undertaking effective innovation, closing R&D funding the gap to the UK

Actions

- 2.1 Utilise innovation assets such as AMRC, EIC & HIC to build innovation capacity & capability in Lancashire's businesses
- 2.2 Deliver programmes of effective innovation support to Lancashire's SMEs

Connect

Objectives

- Lancashire's strong strategic partnerships with neighbouring Manchester & Liverpool, & beyond unlock the benefits of scale in facilitating innovation
- People in Lancashire's businesses, unis & public sector organisations have stronger & wider networks of contacts within & across the County's sectors, & beyond Lancashire

Actions

- 3.1 Work with adjacent regions to increase Lancashire participation in relevant networking opportunities in/around Manchester & Liverpool
- 3.2 Establish & resource cluster organisations for identified Smart Specialisation sectors, where these do not already exist
- 3.3 Develop a start-up pitch events programme for Lancashire

Tell

Objectives

- Increased awareness within Lancashire of local capabilities & opportunities, improving talent retention
- Greater external awareness of Lancashire's innovation offer, helping to attract talent & investment
- Lancashire has advocates in key national fora & is influential to national policy

Actions

- 4.1 Develop & resource an innovation marketing strategy for Lancashire
- 4.2 Develop a technology & market foresight observatory to monitor Lancashire's evolving capabilities & to ensure that skills development aligns with business/technology need

Source: Steer-ED, 2022

4 Actions

4.1   To deliver the LIP, we have developed 12 targeted actions to be delivered over the period 2023-2028. These are not the only actions being undertaken by partners in Lancashire, but they are specific and new, and will be delivered alongside partners' ongoing commitments in and to innovation in Lancashire. Some of these actions can be completed in the short term, and others will require ongoing commitment throughout the five years of this plan.

4.2   Focus on this refreshed LIP was on developing a manageable number of actions, to be delivered 2023-2028, designed to augment existing activity wherever necessary and to embody best of class approaches to innovation, which specifically fit the needs of the County.

4.3   Below, we summarise the rationales for the proposed 12 new actions to be taken forward, under each of the four strategic priorities. We provide full detailed descriptions of each action in Appendix A.

Grow

1.1 Enable effective clustering activity in support of the National Cyber Force at Samlesbury

4.4   The establishment of the National Cyber Force (NCF) at Samlesbury offers a 'game-changing' opportunity for Lancashire's economy, with a highly skilled workforce expected to rise to 2,000 people. Experience in Gloucestershire has been that the presence of GCHQ has helped create a vibrant community of security-related businesses in the area. There is an opportunity for Lancashire to build on NCF and existing research strengths at Lancaster University and University of Central Lancashire, to create a world-class cluster of cyber-related economic activity. Furthermore, GCHQ's presence in Manchester presents a real opportunity for the prospect of a Lancashire-Manchester Cyber Corridor.

1.2 Catalyse spin-offs from Lancashire universities, and 'spin-ins' from outside the County

4.5   Spin-offs from universities make an important contribution to a region's innovation ecosystem: helping to translate excellence in academic teaching and research into local economic benefit, strengthening the linkages between universities and local business, and demonstrating the impact of university research.

4.6   Lancashire should also seek to 'spin-in' innovative businesses to sites adjacent to its universities and innovation assets, through provision of access to facilities, support systems and networks.

1.3 Improve the availability of attractive, digitally enabled, flexible grow-on office/lab space in city/town centres

4.7   For many businesses in knowledge-intensive growth sectors, city/town-centre locations are preferred to out-of-town business parks. While there are some important developments offering offices for growing companies (such as Fraser House, Strawberry Fields, and The Landmark), there is relatively little in terms of attractive office accommodation in Lancashire's city/town centres for knowledge-intensive businesses growing beyond around 40 staff. This creates a risk of constraining the growth of companies, and/or losing scaling-up businesses to locations such as Manchester when they grow out of their current premises.

1.4 Define detailed Smart Specialisation strategy

4.8   Whilst other geographies have a clear sectoral focus (e.g. Liverpool and its advanced materials capabilities) or 'innovation champions' (e.g. Health and Social Care in Greater Manchester), Lancashire has struggled to promote its vision and thus is not well known as a 'centre for innovation excellence', outside its large Aerospace cluster. Good practice dictates that strategies for innovation should build on places' evidenced sectoral/technological 'embeddedness', 'connectedness', and 'relatedness', so that innovation activity drives out of the skills and capabilities of places, rather than simply copying what is being done by others.

1.5 Secure external funding to help strengthen Lancashire's innovation ecosystem

4.9   Lancashire has had notable successes in securing funding from the Lancashire Growth Deal with Government and other sources for innovation assets such as the AMRC, EIC and HIC, and several innovation support programmes have been funded by ERDF. However, the County has had less success in securing revenue funding from UK sources, and ERDF funding is ending; funding for its replacement the UK Shared Prosperity Fund has been provisionally allocated for Lancashire to the District/Unitary local authorities, each of which has submitted an Investment Plan. We need to ensure that there is appropriate UKSPF investment in innovation support and infrastructure, and improve Lancashire's 'hit rate' in securing innovation funding from Innovate UK and other UK Government innovation -facing funds.

Broaden

2.1 Utilise innovation assets such as AMRC, EIC, HIC to build innovation capacity and capability in Lancashire's businesses

4.10   Lancashire has significant innovation assets which can act as a focal points for development of clusters of innovative businesses, which will offer real and multiple opportunities for skilled workers. Businesses operating in sectors including aerospace, health, and cyber are highly dependent on innovation to be successful, which means there are real opportunities for supply chain innovation. Connecting Lancashire's assets together and with relevant leading organisations and institutes outside the county to build one functioning ecosystem. Lancashire's assets also need to function as gateways to collaboration with complementary assets outside the County, to increase the reach and influence of innovation in Lancashire's businesses.

2.2 Deliver programmes of effective innovation support to Lancashire's SMEs

4.11   The 2021 Evaluation of the Made Smarter Pilot showed that there is still low awareness of and uptake of digital technology and innovation in North West businesses. The North West also

has the third lowest percentage of innovation active businesses in England. However, the Made Smarter Adoption Programme North West Pilot was delivered successfully in Lancashire, with over 300 businesses in Lancashire given support through the programme. Of this support, a leadership programme and digital interns were found to be particularly helpful for SMEs. Furthermore, the pilot's signposting and awareness raising was highly valued by businesses engaging with it. Support of this kind is valuable in increasing R&D investment in SMEs, which typically invest less in innovation than larger firms.

Connect

3.1 Work with adjacent regions to increase Lancashire's participation in relevant networking opportunities in/around Greater Manchester (GM), Liverpool City Region (LCR) and beyond

4.12 The lack of a unified view on Lancashire's 'offer' and, at least until recently, unclear leadership for the innovation agenda means that Lancashire has remained introverted in its innovation activities. Neighbouring LCR and GM have clear innovation strengths which Lancashire's Advanced Manufacturing capabilities can complement (e.g. materials chemistry and low carbon in LCR, and health and social care and digital/cyber in GM). GM in particular has a history of strong innovation champions with access to Whitehall, which Lancashire could tap into. Innovation operates across boundaries, so Lancashire must not be restrained to looking inwardly for partnerships. Alongside this, aggregating the strengths/offer of the North into a challenge focused prospectus, giving a clear idea of the distinctive offer, will have more impact at a global scale.

3.2 Establish and resource cluster organisations for identified Smart Specialisation sectors, where these do not already exist

4.13 Lancashire's aerospace cluster, AMRC NW, EIC and the NCF are all headline assets which boost Lancashire's credentials in Advanced Manufacturing. Clean energy, Electech, and health are additional strength sectors of strength, with rapidly changing and emerging markets. To capitalise on the existing assets and help deliver on the aforementioned Smart Specialisation work, it will be important for key academic and business stakeholders, with sector knowledge of Lancashire, collectively identify and address challenges in the County.

3.3 Develop a start-up pitch events programme for Lancashire

4.14 Events in which start-ups bid for funds to a panel of experienced investors help to strengthen the innovation ecosystem: raising the profile of entrepreneurship, raising awareness of innovative people and companies in the region, linking start-ups to potential investors, and providing start-ups with advice and practice in pitching for funds.

Tell

4.1 Develop and resource an innovation marketing strategy for Lancashire

4.15 Lancashire offers a great quality of life and has many examples of successful innovative firms, but it struggles to attract and retain talent and investment, and even within the county there is a relatively low awareness of what's going on in terms of innovation. A more concerted effort is needed to raise external and internal awareness of innovation-related activity and successes in Lancashire, and to better position the county as a location for investment and for building businesses and well-paid careers. An

effective marketing strategy must also include a rebuttal function to respond to any negative news quickly and assertively.

4.2 Develop a technology and market foresight observatory to monitor Lancashire's evolving capabilities and to ensure that skills development aligns with business/technology need

4.16 A clear and present understanding of market and technology foresight as it relates to innovation will be key to informing and directing Lancashire's refreshed Innovation Plan. Building on existing foundations, the Innovation Observatory will be tasked with providing regular updates, briefings, and forecasts (as they relate to innovation) to Lancashire's Innovation Sub-Board, ensuring the latter's strategic and tactical thinking is based soundly in evidence.

Indicative Costs

4.17 Indicative costs for each action are given below, suggesting an investment in the order of c.£8 million over five years. These figures are subject to change but serve to confirm that significant funding and resourcing will be required to deliver the actions set out in this Action Plan.

4.18 Potential funders partners include the UK Shared Prosperity Fund (with c. £54 million core UKSPF funding allocated to Lancashire local authorities over three years), UK Research & Innovation (including the Research Councils, InnovateUK (e.g. Launchpad), and Research England), universities and local authorities, and large employers in the public/private sectors.

Table 4-1: Indicative costs of the proposed actions

Title	Indicative cost over 5 years (£)
1.1 Enable effective clustering activity in support of the National Cyber Force	3,000,000
1.2 Catalyse spin-offs from Lancs' unis & spin-ins from outside the County	1,300,000
1.3 Improve the availability of attractive, digitally enabled, flexible grow-on office/lab space in city/town centres	500,000
1.4 Define detailed Smart Specialisation strategy	365,000
1.5 Secure external funding to help strengthen Lancs' innovation ecosystem	250,000
2.1 Utilise innovation assets such as AMRC, EIC and HIC to build innovation capacity in Lancs' businesses	500,000
2.2 Deliver programmes of effective innovation support to Lancs' SMEs	500,000
3.1 Work with adjacent regions to increase Lancs participation in relevant networking opportunities in/around Manchester and Liverpool	200,000
3.2 Establish and resource cluster organisations for identified Smart Specialisation sectors, where these do not already exist	125,000
3.3 Develop a start-up pitch events programme for Lancs	500,000
4.1 Develop and resource an innovation marketing strategy for Lancs	500,000
4.2 Develop a technology & market foresight observatory to monitor Lancs' evolving capabilities and to ensure that skills development aligns with business/technology need	400,000
TOTAL	**8,140,000**

Source: Steer-ED, 2022

5 Looking towards implementation – the things to get right

5.1 Drafting strategies is easy; implementing them is hard. The situation will not be any different in Lancashire; successful implementation of this innovation strategy will only come about through drive, commitment, and hard work.

5.2 Lancashire does not, however, start from scratch. There is now a wide body of evaluation experience focusing on what makes for economic, efficient, and effective implementation. As partners take **the LIP** forward, these evaluation lessons will provide helpful pointers and short-cuts on how to do implementation well. More than any other, clarity on the *functions* and then the *forms* of implementation will the single most important consideration.

Functions

5.3 In *function* terms, and restating what we said in 2017 original LIP, implementation of **the refreshed LIP** needs to achieve the following:

- **A *real* understanding of the state of innovation in Lancashire, absolutely and relatively.** The evidence assembled in the course of drafting this Refresh provides a firm foundation to build on, but this will need to be refreshed regularly and, crucially, partners will need to move their focus on from the data numbers to the causes and explanations underlying these. Clarity of who is responsible for providing the data and identifying when new data becomes valid for comparison will be important;
- **A long-term vision of where Lancashire should, and could, be as an innovation economy**. This is particularly hard to do within the constraints imposed by public sector spending windows. It is vital in ensuring stability of the strategy, despite external changes and uncertainty, that the end point of our collective journey is understood and maintained. It is helpful to identify what levers are actually available and who owns them so that all parties are clear what may be achievable, rather than allowing subsequent actions to become just a wish list;
- **Robustness in making the hard choices resulting from our vision**. If Lancashire is going to move ahead and establish itself as a modern, diverse, and resilient innovation economy, then those activities underway that are not contributory will need to be left behind. Some simple prioritisation or categorisation of the actions will be helpful early on, so that people are challenged to consider how they can assist the implementation of those innovation actions that are most attractive;
- **Best of class design, implementation, and delivery of actions to take the strategy forward**. This will require looking way beyond Lancashire's borders to see how specific innovation challenges and opportunities have been addressed elsewhere. It may also mean, on occasions, facing up to the fact that delivery capability within Lancashire is not of the calibre or scale needed to tackle the particular innovation challenge we face, and

not being uncomfortable about securing solutions from elsewhere in the UK or further afield;

- **A real commitment to monitoring and evaluation**, so that the relevance locally of innovation strategy and action is constantly reviewed, and delivery impact evidenced and maximised (Some suggestions on how Monitoring and Evaluation should be taken forward are set out in the next Section);

- **The continuing enthusiasm of partners**, to ensure that the process of implementation remains consensual and inclusive, and that energies and resources are fully captured. Clarity of ownership of innovation actions between the partners is particularly beneficial. If there is a clear leader, let them lead. Where there is a collaborative action, spell out who will actually be responsible for galvanising activity; and

- **Consistent and influential presentation of Lancashire's innovation agenda**, as set out in the LIP, in sub-regional, regional, and national fora. the LIP must become established as the definitive statement of innovation intent in the area, if notice is to be taken of it and that it influences the development of the Lancashire 2050 strategy. Developing a common language or shorthand for the key actions so that everyone recognises them easily can be important to avoid confusion or unhelpful related actions being developed in parallel by partners.

Forms

5.4   Having agreed what the key *functions* demanded of the strategy are, then and only then, should attention focus on defining suitable *forms* by which these functions can be delivered. All too often, albeit with best intention, forms for implementation are agreed before functions have been properly specified. Again, we state the guidance we gave to 2017's original LIP.

5.5   Defining the form that strategy implementation should take, which could be at any point on the spectrum from part-time in-house local authority officer support through to self-standing innovation development company, is a matter for local partners. Again, however, any form will through its structure need to embody the following:

- *Legitimacy* **from, and** *accountability* **to, the businesses, people, and innovation communities of Lancashire.** Typically, this is realised through a wide partnership group, and in a Lancashire content should be designed to ensure ownership of, and support for, the Strategy from the totality of innovation partners in the County. Elsewhere, strategy partnerships can include up to 200 different representatives, formally assembling perhaps every six months for progress meetings. In the commercial world, such a partnership group would be conceptually akin to a company's shareholders. Again, it is important that accountability for actions is assigned to lead partners or one partner, wherever possible;

- *Strategic Leadership* **capable of charting the long-term path for the Strategy's direction and implementation.** Like a company's supervisory board, this group should be responsible for the overall strategic direction of the Strategy, and for championing Lancashire and its innovation regeneration priorities to key audiences. To be optimally effective, the Board needs to comprise individuals with a well-developed understanding of economic, social, and physical regeneration, and strong familiarity with the wider sub-regional, regional and national policy contexts. As the role of the Local Enterprise Partnership evolves, the Innovation Sub-Board should be the formal interface at senior level between the County, UK innovation agencies (such as UKRI, InnovateUK etc) and central government;
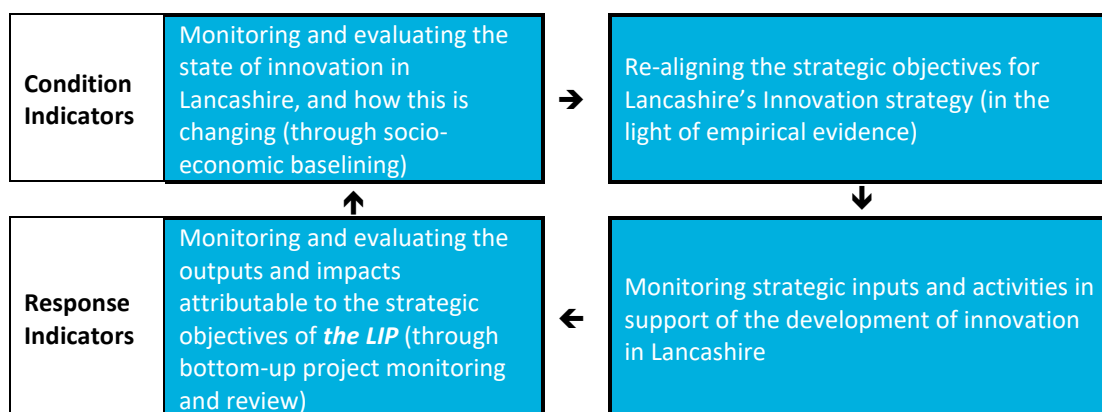
- An *Operational Executive,* which should have principal responsibility for overseeing, co-ordinating, and shaping the practical delivery of *the LIP,* and leading its monitoring and evaluation. It should not directly deliver the Framework, but rather should work closely with those partner agencies progressing actions, providing them with resources, support, and encouragement. The Operational Executive should have a crucial role in looking across delivery to make sure the various structural elements of *the LIP* cohere; it should also provide the administrative and secretariat requirements of the wider partnership. Public sector representation from partner organisations should be in the form of executive staff. The resources within the County to support the work of the Innovation Sub-Board provide the basis for this form, but it must be adequately resourced both in terms of capacity and capability; and

- A *Delivery Infrastructure***, responsible for taking forward those innovation actions defined by the LIP.** As far as possible, these actions should be delivered through the range of existing delivery bodies (such as the Lancashire Skills and Employment Advisory Panel and Skills Hubs), ideally working to clear Service Level regimes defined by the LIP to ensure excellence and innovation in delivery. In other cases, where the nature or scale of challenge of the action demanded that some new form of delivery was appropriate, this might involve forming a bespoke delivery vehicle, or buying a solution to the delivery challenge from the market. As mentioned earlier, it is helpful for all partners to be clear about prioritisation. Some actions will be pragmatic and achievable quickly, some will be challenging but worth developing now, and others will be ambitious and visionary. It is important to be clear on whether the delivery challenge is about function or form. Being clever about the form will not necessarily overcome a challenge that is about the function.

Monitoring and Evaluation

5.6   *The LIP* represents a new and bold approach to supporting and driving forward innovation in the County. The undertaking is a significant one – the challenges to be faced are stretching and the operational context will not be static. Changes will come from within the County in response to the Strategy and from elsewhere as the economic and policy environment for innovation changes. New funding opportunities may also materialise which are likely to have a direct impact on the aspirations set out in the Strategy.

5.7   To respond to these challenges, and to demonstrate progress, it is vital that the delivery of *the LIP* is underpinned with a robust Monitoring and Evaluation framework, which is able to provide intelligence, both in real time and in retrospect, on the changing strategic context and on the differences that the Strategy and its actions are levering.

Component parts of the Framework

5.8   To meet the above requirements, the Monitoring and Evaluation Framework will need two parts. A **top-down component** will monitor the changing state of conditions in Lancashire, requiring the use of *condition indicators*. The **second component will be bottom-up,** and will enable the Strategy's activities, outputs, and outcomes/impacts to be assessed using appropriate *Response Indicators*.

Condition Indicators	Monitoring and evaluating the state of innovation in Lancashire, and how this is changing (through socio-economic baselining)	➜	Re-aligning the strategic objectives for Lancashire's Innovation strategy (in the light of empirical evidence)
Response Indicators	Monitoring and evaluating the outputs and impacts attributable to the strategic objectives of *the LIP* (through bottom-up project monitoring and review)	⬅	Monitoring strategic inputs and activities in support of the development of innovation in Lancashire

Designing the Framework

5.9   The two components described above must be, as far possible, consistent and fit together well. To achieve this, the process of designing the final framework needs to be an iterative one with three distinct stages of development:

- **Sketching out the framework's main building blocks**. This will require:
  – Defining the principal *condition* indicators consistent with the Strategy's strategic objectives for innovation;
  – Specifying the *activity categories* that capture the contribution of actions on the ground;
  – Developing the *logic chains* that connect the inputs and activities to the outputs and outcome/impact measures within each activity category.
- **Populating the architecture of the framework with detailed indicators**. This will require detailed consultations with those partners involved in delivering specific Strategy actions, once these have been identified prioritised and scheduled
- **Specifying the complete framework in terms of monitoring and evaluation procedures**. In other words, an operational model and a schedule of actions that will need to be put in place to ensure that *the LIP* actually delivers on the ground. This stage will involve the preparation of guidance and rollout workshops to promote awareness and understanding.

5.10   Progressing these three stages of the Framework's development will be a significant undertaking, and will require the Strategy's partners to work closely and collaboratively at all levels. Reflecting this, it will be important early on in the life of the Strategy that resources be prioritised to enable this important task to be advanced.

Moving Forward

5.11   Until specific actions have been agreed and scheduled, complete with relevant response indicators, the Monitoring and Evaluation Framework cannot be fully populated. However, to give a flavour of what the framework might look like, we have set out below Condition Indicators for the key components of *the LIP's* Vision. In defining these, care needs to be taken to arrive at a set of Condition Indictors that reflects the challenges that *the LIP* is seeking to address, whilst ensuring an operationally manageable set of data.

5.12   To remind ourselves, our Vision is as follows:

A globally connected, competitive, & resilient innovation ecosystem throughout Lancashire

5.13   For a nationally competitive innovation economy, with Output, Productivity and Wage Rates at least as good as the UK's, and to ensure that progress towards achieving the objectives of the four pillars of the Strategic Framework are met, the key Condition Indicators set out in Table 5-1 will be monitored.

Table 5-1: Key Condition Indicators to be monitored by Lancashire County Council

Strategic priority	KPI	Latest data	Period for latest data	Source
Grow	Employment (and LQ) in key 'Smart Specialisation' sectors: • Selected aerospace SICs (303) • Selected nuclear/energy SICs (2446, 3511) • Selected chemicals/materials SICs (2016, 222) • Selected digital SICs (4791, 465, 4500, 62) • Selected health SICs (86)	14,000 (7.6) 2,250 (2.4) 6,750 (2.3) 21,000 (0.9) 66,000 (1.2)	2020	**Business Register and Employment Survey**
Grow	Spin-offs from Lancashire universities (of which supported graduate start-ups)	59 (55)	Academic 2020/21	**HESA**
Grow	Innovate UK funding p.a. (and rank out of ITL2 regions)	£10 million (28th of 41)	2020/21	**UKRI**
Grow	External funding secured for innovation-related activities	TBC		Monitoring data
Broaden	% of businesses that are innovation active (and rank out of ITL2 regions)	45.3% (15th of 41)	2018-2020	**UK Innovation Survey**
Broaden/Connect	Employment in SMEs engaged p.a. with: • AMRC • EIC • HIC • NCF • Innovation support programmes	TBC		Monitoring data
Grow/Tell	Number of inward investment enquiries p.a.	TBC		Monitoring data
Tell	% 16-64 year old population with NVQ4+ qualifications (and rank out of ITL2 regions)	35% (35th of 40)	12 months to December 2021	**Annual Population Survey**

A   Action Descriptions

A.1   The actions depicted in the refreshed Strategic Framework are laid out in more detail here. Each Action is given a fuller description fitted to a template which describes the following:

- Action area – Action name
- Rationale – Reason why the action is proposed
- Lead partner(s) – Who is proposed to lead the action
- Supporting partner(s) – Organisations recommended to support the action
- Proposed actions – list of activities proposed under the action
- Initial milestone(s) – times initial outputs from each action
- Indicative scale of funding over 5 years – indicative costs over 5 years for the action

A note on costings

5.14   Indicative costings of over the course of 5 years are presented for each action and are summarised below. These figures are subject to change but indicate that significant funding will be required to deliver all items. UKSPF funding (c. £54 million allocated to Lancashire Local Authorities) may have to be utilised to cover some additional costs.

Table 5-2: Indicative costing of actions

Title	Indicative cost over 5 years
Enable effective clustering activity in support of the National Cyber Force	3,000,000
Catalyse spin-offs from Lancs' unis & spin-ins from outside the County	1,300,000
Improve the availability of attractive, digitally enabled, flexible grow-on office/lab space in city/town centres	500,000
Define detailed Smart Specialisation strategy	365,000
Secure external funding to help strengthen Lancs' innovation ecosystem	250,000
Utilise innovation assets such as AMRC, EIC and HIC to build innovation capacity in Lancs' businesses	500,000
Deliver programmes of effective innovation support to Lancs' SMEs	500,000
Work with adjacent regions to increase Lancs participation in relevant networking opportunities in/around Manchester and Liverpool	200,000
Establish and resource cluster organisations for identified Smart Specialisation sectors, where these do not already exist	125,000
Develop a start-up pitch events programme for Lancs	500,000

Title	Indicative cost over 5 years
Develop and resource an innovation marketing strategy for Lancs	500,000
Develop a technology & market foresight observatory to monitor Lancs' evolving capabilities and to ensure that skills development aligns with business/technology need	400,000
TOTAL	**8,140,000**

Strategic Aim 1. Grow

Objectives

- Lancashire's world-class sector capabilities in Advanced Manufacturing, Materials, and Nuclear are maintained and strengthened
- New opportunity areas in Cyber and Digital are developed in Lancashire, building on the county's existing strengths
- Lancashire's businesses are increasingly more active in global markets

Actions

Action Title	**1.1 Enable effective clustering activity in support of the National Cyber Force at Samlesbury**
Rationale	The establishment of the National Cyber Force (NCF) at Samlesbury offers a 'game-changing' opportunity for Lancashire's economy, with a highly skilled workforce expected to rise to 2,000 people. Experience in Gloucestershire has been that the presence of GCHQ has helped create a vibrant community of security-related businesses in the area. There is an opportunity for Lancashire to build on NCF and existing university strengths to create a world-class cluster of cyber-related economic activity. Furthermore, the opening of GCHQ premises in Manchester presents a real opportunity for the prospect of a Northwest Cyber Corridor.
Lead partner(s)	- NCF - GCHQ - Lancashire LEP/Council
Supporting partner(s)	- Lancashire County Council - Blackburn with Darwen Borough Council - Blackpool Council - Lancaster University - Lancashire Skills and Employment Hub & Digital Skills Partnership - AMRC - University of Central Lancashire - Edge Hill University - BAE Systems - FE colleges and schools - Greater Manchester Combined Authority
Proposed actions	- Develop a joint GCHQ/LEP plan for cyber cluster development alongside the Lancashire Cyber Alliance - Subject to the cluster development plan, activities may include:

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Action Title	**1.1 Enable effective clustering activity in support of the National Cyber Force at Samlesbury**
	– Establishing a Cyber Advisory Group for Lancashire, possibly through the Lancashire Cyber Alliance
	– Establishing a cyber business incubator at/near Samlesbury, including space to act as a 'landing point' for NCF and external parties to come together (outside NCF boundaries)
	– Establishing a series of events to facilitate networking between NCF and external parties
	– Proactive attraction of cyber-related inward investment
	– Promoting Lancashire SME participation in cyber accelerator programmes
	– NCF influencing the design of relevant courses at Lancashire universities
	– Boosting the take-up of computing courses at Lancashire universities, linking with programmes including the CyberFirst schools programme
	– Promoting higher take-up and diversity of Computer Science students in Lancashire schools and FE colleges, including through Digital T Levels and Digital apprenticeships
	– Promotion of NCF and Lancashire as a place to live to ensure NCF can get the specialist expertise it needs
Initial milestone(s)	• Cyber cluster development plan agreed by November 2023
Indicative scale of funding over 5 years	• TOTAL: £3 million – £2 million over 5 years for promotion and networking activities – £1 million contribution to incubator facility

Action Title	**1.2 Catalyse spin-offs from Lancashire universities, and 'spin-ins' from outside the County**
Rationale	Spin-offs[14] from universities make a vital contribution to a region's innovation ecosystem: helping to translate excellence in academic teaching and research into local economic benefit, strengthening the linkages between universities and local business, and demonstrating the impact of university research. Lancashire should also seek to 'spin-in' innovative businesses to sites adjacent to its universities and innovation assets, through provision of access to facilities, support systems and networks.
Lead partner(s)	• Lancaster University

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[14] Here we use the **HESA definition** of spin-offs, which includes the following categories: spin-offs with some HE provider ownership; formal spin-offs, which are not HE provider-owned; staff start-ups set-up by active (or recent) HE provider staff but not based on IP from the HE provider; graduate start-ups set up by recent graduates (within two years), but only where there has been formal business/enterprise support from the HE provider; and social enterprises.

Action Title	**1.2 Catalyse spin-offs from Lancashire universities, and 'spin-ins' from outside the County**
	• University of Central Lancashire • Edge Hill University • AMRC
Supporting partner(s)	• Lancashire LEP • Boost Business Lancashire

Proposed actions	• Undertake best practice research to:
	  – Benchmark the level of spin-off activity from Lancashire's universities against that of UK peers
	  – Research the spin-off support available at the UK HEIs which have been most successful in generating spin-offs
	  – Assess whether and how spin-off support could be strengthened at Lancashire universities, bearing in mind their differing starting points/circumstances
	• Subject to the best practice research findings, actions may include creating a step-change in universities' prioritisation of spinout activity:
	  – Providing additional resource to universities' IP commercialisation teams
	  – Introducing annual Business Plan competitions for students/post-docs/alumni
	  – Introducing new funding mechanisms for pre-seed, seed and growth funding of university spin-offs
	  – Introducing new mechanisms for connecting technical expertise with business expertise within the universities

Initial milestone(s)	• Best practice research completed by March 2023 • First changes introduced for the 2023/24 academic year

Indicative scale of funding over 5 years	• TOTAL: £1.3 million (*plus £2.5 million seed fund*)
	  – £50k best practice research
	  – £500k for 2x FTE additional resource for 5 years
	  – £750k for annual competitions
	  – *£2.5 million seed fund*

Action Title	**1.3 Improve the availability of attractive, digitally enabled, flexible grow-on office/lab space in city/town centres**
Rationale	For many businesses in knowledge-intensive growth sectors, city/town-centre locations are preferred to out-of-town business parks. While there are some important developments offering offices for growing companies (such as Fraser House, Strawberry Fields, and The Landmark), there is relatively little in terms of attractive office accommodation in Lancashire's city/town centres for knowledge-intensive businesses growing beyond say 40 staff. This creates a risk of constraining the growth of companies, and/or losing scaling-up businesses to locations such as Manchester when they grow out of their current premises.
Lead partner(s)	• Lancashire County Council

Action Title	**1.3 Improve the availability of attractive, digitally enabled, flexible grow-on office/lab space in city/town centres**
	• Blackburn with Darwen Borough Council • Blackpool Council
Supporting partner(s)	• The district councils • Lancashire LEP

Proposed actions	• Consult with Tier 2 District Councils to assess what work has been done and identify gaps
	• Undertake a city/town centre office studies (x3 per annum allocated through LCC discretion) to:
	  – Review the current availability and quality of office space in the Districts, and known development plans for offices in these areas, in the context of the current Local Plans
	  – Assess the future demand for offices in these areas, including office features required under new flexible working conditions
	  – In consultation with relevant property owners and developers including incubator spaces such as Fraser House and the Councils, assess the feasibility of increasing the supply of high quality 'office of the future' accommodation in these areas, e.g. through refurbishment of existing office stock, conversion of industrial premises, or new builds into modern, flexible, digitally equipped/operated spaces
	  – Identify a shortlist of opportunities to be progressed

Initial milestone(s)	• Establish selection process for town centre office studies by May 2023 • Initial City/town centre office study completed by August 2023
Indicative scale of funding over 5 years	• TOTAL: £500k – £100k per annum to fund 3 district studies

Action Title	**1.4 Define detailed Smart Specialisation strategy**
Rationale	Whilst other geographies have a clear sectoral focus (e.g. Liverpool and its advanced materials capabilities) or 'innovation champions' (e.g. Health and Social Care in Greater Manchester), Lancashire has struggled to promote its vision and thus is not well known as a 'centre for innovation excellence', outside its large Aerospace cluster. Good practice dictates that strategies for innovation should build on places' evidenced sectoral/technological 'embeddedness', 'connectedness', and 'relatedness', so that innovation activity drives out of the skills and capabilities of places, rather than simply copying what is being done by others
Lead partner(s)	Lancashire County Council
Supporting partner(s)	Lancaster University University of Central Lancashire Relevant industry experts (e.g. at AMRC, EIC, HIC)

Action Title	**1.4 Define detailed Smart Specialisation strategy**
	Key academic experts (e.g. at University of Manchester and Warwick)
Proposed actions	• Finalise collectively identification of a limited number of Sector Specialisms which Lancashire has an evidence-based competitive advantage in • Develop and communicate a clear, concise, and focused vision and set of objectives for specialisation in Lancashire • Initiate a formal Smart Specialisation Plan process, engaging with industry experts to identify 'New Routeways' where Lancashire has an opportunity to become world leading in fields related to its identified strengths. New Routeways not to be limited to Smart Specialisation sector crossovers • Delegate responsibility to key knowledgeable actors in Lancashire to deliver the Smart Specialisation Plan • Finalise and communicate the findings of the 'New Routeways' identification process and produce a roadmap to achieving the Smart Specialisation objectives
Initial milestone(s)	• Agree the Smart Specialisation themes which the plan will focus support on within the Innovation Board by April 2023 • 'New Routeways' studies commissioned to industry experts (consultants, ideally with demonstrable industry knowledge) by August 2023 • Initial Smart Specialisation Roadmap produced and disseminated by April 2024
Indicative scale of funding over 5 years	• TOTAL: £365k – 3x £75k New Routeways studies – £65k 0.5 FTE Resource over 5 years coordination

Action Title	**1.5 Secure external funding to help strengthen Lancashire's innovation ecosystem**
Rationale	Lancashire has had notable successes in securing funding from the Lancashire Growth Deal with Government and other sources for innovation assets such as the AMRC, EIC and HIC, and several innovation support programmes have been funded by ERDF. However, the County has had less success in securing revenue funding from UK sources, and ERDF funding is ending; funding for its replacement the UK Shared Prosperity Fund has been provisionally allocated for Lancashire to the District/Unitary local authorities, each of which has submitted an Investment Plan. We need to ensure that there is appropriate UKSPF investment in innovation support and infrastructure, and improve Lancashire's 'hit rate' in securing innovation funding from Innovate UK and other UK Government innovation -facing funds.
Lead partner(s)	• Lancashire LEP/County Council • Lancaster University • University of Central Lancashire

Supporting partner(s)	• Blackburn with Darwen Borough Council, Blackpool Council and the 12 District Councils
Proposed actions	• Coordinating with the district and unitary authorities on innovation-related UKSPF and UKRI interventions to ensure effective and successful securing of funding across multiple authorities
	• Maintaining close contacts with policy-makers in areas relevant to the Smart Specialisation sectors, to influence thinking on innovation support, and ensure early visibility of new innovation-related funds
	• Ensuring that relevant parties are alerted to the availability of potential innovation funding sources as they become available, with a particular focus on the Smart Specialisation sectors
	• Offering a free innovation bid review service to Lancashire SMEs, councils and universities, through which external specialists can help shape and improve the quality of bids for innovation funding
	• Maintaining data on funding sources and Lancashire's bids for innovation funding, including outcome and any feedback received, to help improve future bids
Initial milestone(s)	• Initial database of current innovation funding sources and recent bids populated by July 2023
	• Innovation bid review service up and running by January 2024
	• District Councils commit certain portion of UKSPF funding towards innovation focused activities from April 2025
Indicative scale of funding over 5 years	• TOTAL: £250k
	− 1 x FTE for 5 years

Strategic Aim 2. Broaden

Intended Outcomes

- Lancashire maximises the benefits from its key innovation assets
- Lancashire's businesses have an increased awareness of the benefits of innovation for productivity and growth
- More of Lancashire's businesses are undertaking effective innovation

Actions

Action Title	**2.1 Utilise innovation assets such as AMRC, EIC, HIC and recently announced NCF to build innovation capacity in Lancashire's businesses**
Rationale	Lancashire has significant innovation assets which can act as a focal points for development of clusters of innovative businesses, which will offer real and multiple opportunities for skilled workers. Businesses operating in sectors including aerospace, health, and cyber are highly dependent on innovation to be successful, which means there are real opportunities for supply chain innovation. Connecting Lancashire's assets together and with relevant leading organisations and institutes outside the county to build one functioning ecosystem. Lancashire's assets also need to function as gateways to collaboration with complementary assets outside the County, to increase the reach and influence of innovation in Lancashire's businesses
Lead partner(s)	Lancashire LEP/County Council
Supporting partner(s)	AMRC EIC HIC NCF Relevant District Councils
Proposed actions	- Ensure representation of key Lancashire assets on the Innovation Board - Offer firm-level Innovation audits and innovation vouchers to diagnose innovation challenges which providers can address[15] - Innovation assets in Lancashire function as gateways for businesses to research collaborations, influential thinking, funding bids, and links to assets outside the County (e.g. CPI (Materials/packaging, LCR), Materials Innovation Factory

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[15] **Invest NI Innovation Vouchers Scheme Evaluation**

Action Title	**2.1 Utilise innovation assets such as AMRC, EIC, HIC and recently announced NCF to build innovation capacity in Lancashire's businesses**
	(digitally enabled materials discovery/development, LCR), Graphene Engineering Innovation Centre (Advanced Materials, GM))
	• Build business and external networks from key Lancashire assets to increase informal idea and knowledge exchange opportunities between assets and to businesses
Initial milestone(s)	• All key Innovation Assets have representation on Innovation Board by July 2023
	• Innovation audit/voucher model in place by March 2024
	• Business needs and wants incorporated into core asset activities as standard by April 2025
Indicative scale of funding over 5 years	• TOTAL: £500,000
	– £100k ringfenced per annum over 5 years

Action Title	**2.2 Deliver programmes of effective innovation support to Lancashire's SMEs**
Rationale	The 2021 Evaluation of the Made Smarter Pilot showed that there is still low awareness of and uptake of digital technology and innovation in North West businesses. The North West also has the third lowest percentage of innovation active businesses in England[16]. However, the Made Smarter Adoption Programme North West Pilot was delivered successfully in Lancashire, with over 300 businesses in Lancashire given support through the programme. Of this support, a leadership programme and digital interns were found to be particularly helpful for SMEs. Furthermore, the pilot's signposting and awareness raising was highly valued by businesses engaging with it. Support of this kind is valuable in increasing R&D investment in SMEs, which typically invest less in innovation than larger firms.
Lead partner(s)	• Lancashire County Council
Supporting partner(s)	• Lancaster University
	• University of Central Lancashire
	• Made Smarter
	• AMRC
Proposed actions	• Dedicated FTE resource to increase signposting to Made Smarter and similar programmes to
	• Develop "one stop shop" clear online portal to enable businesses to be directed to suitable advisors and/or support programmes

[16] UK Innovation Survey Report 2021

Action Title	**2.2 Deliver programmes of effective innovation support to Lancashire's SMEs**
	• Work with Lancaster University Business School to expand access to leadership training programmes for SMEs through promotional activity to increase uptake in Lancashire's SME community
	• Utilise Made Smarter North West's 3 year programme extension to prioritise continuation of funded internship placements for students in Lancashire's universities to gain summer and post-graduation experience. This scheme acts as a matchmaking service between students and businesses and provides funded internships for specific research or capacity building projects
Initial milestone(s)	• Advisors appointed by May 2023
	• Web portal functional by November 2024
Indicative scale of funding over 5 years	• £600k additional funding
	– 2 x FTE Innovation Advisors over 5 years
	– £100k web development

Strategic Aim 3. Connect

Intended Outcomes

- Lancashire's strong strategic partnerships with neighbouring Manchester and Liverpool, and beyond unlock the benefits of scale in facilitating innovation
- People in Lancashire's businesses, universities and public sector organisations have stronger and wider networks of contacts within and across the county's sectors, and beyond LancashireActions

Actions

Action Title	**3.1 Work with adjacent regions to increase Lancashire's participation in relevant networking opportunities in/around Greater Manchester (GM), Liverpool City Region (LCR) and beyond**
Rationale	The lack of a unified view on Lancashire's 'offer' and, at least until recently, unclear leadership for the innovation agenda means that Lancashire has remained introverted in its innovation activities. Neighbouring LCR and GM have clear innovation strengths which Lancashire's Advanced Manufacturing capabilities can complement (e.g. materials chemistry and low carbon in LCR, and health and social care and digital/cyber in GM). GM in particular has a history of strong innovation champions with access to Whitehall, which Lancashire could tap into. Innovation operates across boundaries, so Lancashire must not be restrained to looking inwardly for partnerships. Alongside this, aggregating the strengths/offer of the North into a challenge focused prospectus will have more impact at a global scale
Lead partner(s)	• Lancashire County Council
Supporting partner(s)	• Lancaster University • University of Central Lancashire • Edge Hill University • Relevant innovation partners (e.g. AMRC NW, EIC, NCF, HIC) • LCR CA • GMCA
Proposed actions	• Arrange a programme of meeting events between key representatives from Lancashire, LCR and GM to discuss complementary priorities and activities • Annual formal summit between NW geography innovation leads • Seek out funding opportunities in collaboration with representatives from LCR, GM, and associated assets farther afield (e.g. AMRC, Sheffield)

Action Title	**3.1 Work with adjacent regions to increase Lancashire's participation in relevant networking opportunities in/around Greater Manchester (GM), Liverpool City Region (LCR) and beyond**
	• Publish half-yearly thinkpieces with neighbouring geographies on socioeconomic challenges and how the NW can/is addressing these • Produce targeted prospectus in conjunction with neighbouring geographies identifying how collectively the region has capacity and capability to produce solutions to UK/Global challenges (e.g. decarbonisation of aerospace, new materials discovery etc.)
Initial milestone(s)	• Programme of half-yearly Innovation meetings arranged with neighbouring geographies by May 2023 • Allocation of FTE resource to pursue joint/collaborative bids for central government funding with neighbouring geographies by March 2024 • Publication of first annual thinkpiece by March 2024 • Publish joint prospectus by September 2024
Indicative scale of funding over 5 years	• TOTAL: £200k – (0.6 FTE annual resourcing per annum plus £50,000 for prospectus development)

Action Title	**3.2 Establish and resource cluster enablers to identify potential and support development of clusters**
Rationale	Lancashire's aerospace cluster, AMRC NW, EIC and the NCF are all headline assets which boost Lancashire's credentials in Advanced Manufacturing. Clean energy, Electech, and health are additional strength sectors of strength, with rapidly changing and emerging markets. To capitalise on the existing assets and help deliver on the aforementioned Smart Specialisation work, it will be important for Lancashire to dedicate resource to identifying new potential cluster areas and help to support and enable their growth, as well as collectively identify and address challenges in the County
Lead partner(s)	• Task and Finish group members in or under Innovation Board
Supporting partner(s)	• Lancashire LEP/County Council • Relevant Industry partners • Lancaster University • University of Central Lancashire • Edge Hill University • AMRC
Proposed actions	• Resource cluster enabler activities, including cluster identification, network building, barrier identification, funding coordination • Develop voluntary Cluster Organisations to be led by a 'Champion' and be formed of a select group of subject/sector experts (max 5)

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Action Title	**3.2 Establish and resource cluster enablers to identify potential and support development of clusters**
	• Cluster organisations to develop problem statements which activities will be designed to tackle
	• Cluster organisations present their problem statements to the Board and develop activities to address these
Initial milestone(s)	• Cluster organisation areas identified by August 2023
	• Initial cluster organisation leads appointed by November 2023
	• Initial problem statements developed and agreed by January 2024
	• Full time cluster enabler resource appointed by August 2024
Indicative scale of funding over 5 years	• TOTAL: £125k
	– 0.5x FTE cluster enabler resource

Action Title	**3.3 Develop a start-up pitch events programme for Lancashire**
Rationale	Events in which start-ups bid for funds to a panel of experienced investors help to strengthen the innovation ecosystem: raising the profile of entrepreneurship, raising awareness of innovative people and companies in the region, linking start-ups to potential investors, and providing start-ups with advice and practice in pitching for funds.
Lead partner(s)	• Lancashire LEP/County Council to procure specialist facilitator
Supporting partner(s)	• Lancaster University
	• University of Central Lancashire
	• Edge Hill University
	• Federation of Small Businesses
	• Sector/Cluster Groups
	• AMRC
Proposed actions	• Map existing activities and develop further the Innovation Challenge, which provides seed prize money and mentorship to very early stage entrepreneurs
	• Undertake a feasibility study to:
	– Research best practice in establishing/running such events
	– Gauge interest from potential pitchers and investors
	– Scope out the programme, including the frequency and timing of events, the target size and selection criteria for cohorts, the composition of the investor panel, the roles of the universities, pre-event training, and post-event follow-up activity
	– Develop costings and identify potential funding sources
	• Subject to the feasibility study findings:
	– Secure funds required
	– Appoint a project manager and establish the project team
	– Recruit first investor panel
	– Recruit first cohort of pitching companies
	– Undertake any pre-event training for the first cohort
	– Plan, promote and host the first event

	– Undertake any post-event follow-up with the first cohort – Establish the programme for future events
Initial milestone(s)	• Feasibility study completed by June 2023 • First pitch event held by September 2023
Indicative scale of funding over 5 years	• TOTAL: £500k – 2x FTE over 5 years – 10x pitch events over 5 years

Strategic Aim 4. Tell

Intended Outcomes

- Increased awareness within Lancashire of local capabilities and opportunities, improving talent retention
- Greater external awareness of Lancashire as a place for innovation and growth, helping to attract talent and investment
- Lancashire has advocates in key national fora and is well-connected into national policy

Actions

Action area	**4.1 Develop and resource an innovation marketing strategy for Lancashire**
Rationale	Lancashire offers a great quality of life and has many examples of successful innovative firms, but it struggles to attract and retain talent and investment, and even within the county there is a relatively low awareness of what's going on in terms of innovation. A more concerted effort is needed to raise external and internal awareness of innovation-related activity and successes in Lancashire, and to better position the county as a location for investment and for building businesses and well-paid careers. An effective marketing strategy must also include a rebuttal function to quickly and assertively respond to negative news
Lead partner(s)	• Lancashire LEP/County Council/Marketing Lancashire
Supporting partner(s)	• Lancaster University • University of Central Lancashire • Edge Hill University • GCHQ • NFC • AMRC • Lancashire Skills and Employment Hub
Proposed actions	• Continue promotion of the annual Innovation Festival, which was developed after the 2017 LIP. • Develop a detailed innovation marketing strategy for Lancashire, addressing the target audiences of potential inward investors, Lancashire business owners and employees, entrepreneurs and employees who may potentially relocate into the county from elsewhere, students at universities in Lancashire and neighbouring geographies, and UK policy makers. • Work with the Lancashire Skills and Employment Hub to build Lancashire's talent pipeline – by 'growing our own', reskilling

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Action area	**4.1 Develop and resource an innovation marketing strategy for Lancashire**
	and upskilling Lancashire's residents, and by attracting talent to the County and retaining all talent.
	• If appropriate, strengthen the representation for innovation-related activity and the Smart Specialisation sectors on the Marketing Lancashire Board, and ensure that the executive team has sufficient expertise and resource to undertake the additional activities required.
	• The innovation marketing strategy may include e.g.:
	– Undertaking market research to understand selected audiences' awareness/perceptions of Lancashire and of the channels that influence them via an online survey targeted at innovative leads at businesses (e.g. promotion via LinkedIn)
	– Working with Lancashire cluster organisations and universities to increase exposure for relevant news through publicising key achievements
	– Boosting participation of Lancashire businesses at high profile national conferences in relevant sectors
	– Developing and publicising an Innovation Prospectus with a high profile ministerial launch event
	– Reviewing/revising the promotional information on relevant websites (e.g. Marketing Lancashire and Invest in Lancashire), including their Search Engine Optimisation for pertinent search terms
Initial milestone(s)	• Innovation marketing strategy agreed by March 2024.
Indicative scale of funding over 5 years	• TOTAL: £500k – 2x FTE over 5 years

Action area	**4.2 Develop a technology and market foresight observatory to monitor Lancashire's evolving capabilities and to ensure that skills development aligns with business/technology need**
Rationale	A clear and present understanding of market and technology foresight as it relates to innovation will be key to informing and directing Lancashire's refreshed Innovation Plan. Building on existing foundations, the Innovation Observatory will be tasked with providing regular updates, briefings, and forecasts (as they relate to innovation) to Lancashire's Innovation Sub-Board, ensuring the latter's strategic and tactical thinking is based soundly in evidence
Lead partner(s)	• Lancaster University Management School (lead, not yet approached)
Supporting partner(s)	• University of Central Lancashire School of Business and Management (not yet approached) • Lancashire County Council (secretariat, not yet approached)
Proposed actions	Dashboard and 2X Innovation Briefing Reports produced on a six monthly cycle by the Observatory. The H1 report will be taken by correspondence at the Innovation Sub Board, with its H2

Action area	**4.2 Develop a technology and market foresight observatory to monitor Lancashire's evolving capabilities and to ensure that skills development aligns with business/technology need**
	counterpart involving formal presentation and facilitated discussion at the Sub Board. The H1 briefing will adopt a 3-5 year forward views on innovation prospects and how these affect the County's innovation agenda, whereas the H2 counterpart will provide a more detailed 20-year forward forecast on the innovation issues.
Initial milestone(s)	• Define formal work programme for the Observatory, and cost-out budget • Secure operating budget from funders • Procure Lancaster University Management School as lead organisation • Work collaboratively with the Lancashire Skills and Employment Advisory Panel to shape skills priorities • Launch Observatory activity in Q1 2023 • Observatory operationally in place by Q2 2023 • First innovation briefing and observatory dashboard provided by end H1 2022
Estimated annual budget	• TOTAL: £400k – £80,000 pa recurring for as long as the Observatory operates

Control Information

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