DRAFT: Lancashire Local Industrial Strategy: Evidence Base
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Introduction to this Evidence Base

- This evidence base has been produced to support the development of Lancashire’s Local Industrial Strategy (LIS).
- The purpose of this evidence base is to:
  - Set out key economic data on Lancashire’s economic performance and trajectory;
  - Identify Lancashire’s key strengths, weaknesses, opportunities and threats; and
  - Support the selection and development of policies and priorities to drive productivity in Lancashire.
- To do this, the evidence base provides:
  - An overview which provides an introduction to the overall scale and nature of Lancashire’s economy, along with key economic trends and projections, which set out the context within which the LIS is to be developed and delivered;
  - An overview of the policy environment and key drivers of technological change;
  - Summaries of the data on performance in relation to the five Foundations of productivity:
    - Business Environment;
    - Ideas;
    - People;
    - Infrastructure; and
    - Place.
  - Each section begins with an introduction and a summary of key messages before outlining key data and evidence.
- The Evidence Base does not include propositions to tackle threats and weaknesses or build on strengths to take opportunities – it highlights strategic priorities.

- The evidence base has been developed by Lancashire Local Enterprise Partnership with support from Steer Economic Development.
- It has been prepared using a range of evidence sources available to the LEP, including:
  - National datasets, including Office for National Statistics (e.g. for business, labour force and demographic data), Higher Education Statistics Agency, Arts Council England (e.g. LEP-level cultural dashboard);
  - Local evidence on strengths, weaknesses, opportunities and threats, e.g. locally produced strategies and plans covering energy, employment and skills, technical education, innovation, culture, visitor economy; and
  - Forecasts using the Greater Manchester Forecasting Model – developed by Oxford Economics – which provides trend data and projections at the Lancashire level.
- In addition to quantitative and published policies, plans, and strategies the evidence base also draws on findings from stakeholder consultations, including:
  - An online survey to gather stakeholder views on key strengths, weaknesses, opportunities, and threats;
  - Workshops – including:
    - The Skills and Employment Advisory Board;
    - A ‘reality check’ workshop on the ‘first cut’ of this evidence base;
    - A business-focused workshop, arranged by the local Chamber of Commerce and attended by over 80 local businesses to identify business priorities for the LIS;
    - A workshop to identify and agree strategic priorities and enabling imperatives for the LIS; and
  - Around 20 one-to-one stakeholder interviews to identify strengths, weaknesses, opportunities and threats.
Executive Summary
Executive Summary: Headline Evidence

- Lancashire is a polycentric county with a population of c.1.5 million and a total Gross Value Added (GVA) of £30.8 billion p.a. It has a working population of just under 1 million (62% of its total population, in line with North West and UK averages). Its economic activity rate is 78% and its employment rate is 74% – equal to the UK and just ahead of the North West.

- It is a relatively self-contained area in terms of commuting – 12% of its workforce commutes in to Lancashire and 14% of residence work outside the area.

- GVA has risen 39% since 1997. This is 6 percentage points fewer than the North West and 10 percentage points fewer than the UK.

- Its GVA per head is £19,600 p.a. £2,200 p.a. below the North West average and £9,400 p.a. below the UK average – demonstrating a challenge for delivering inclusive growth and shared prosperity.

- Average weekly earnings are £480, relative to £502 in the North West and £541 in the UK, however, there are significant variations by local authority district.

- Lancashire has a lower share of high-skilled workers (those qualified to NVQ4+) in its workforce than North West and UK averages.

- Lower levels of worker productivity and lower skill levels are key factors in the relatively low weekly earnings of Lancashire residents.

- Lancashire has a lower business density than regional and national averages. Its business birth rate runs at 2 percentage points below the North West and UK average of 14%, and a business death rate of 9% in line with the UK average and 1 percentage point below the North West average.

- Employment is concentrated in Preston, Blackburn with Darwen, Blackpool, Lancaster, South Ribble, and Fylde – see next slide.

Where do Lancashire residents work within Lancashire?
- 13% in Preston
- 9% in both Blackpool and Blackburn with Darwen
- 8% in Lancaster
- 7% in South Ribble
- 6% in Fylde
- Less than 5% in each of the remaining LAs

Where do Lancashire’s residents work outside of Lancashire?
- 14% of Lancashire’s residents work outside of Lancashire

Lancashire relative to North West and UK

- Average House Prices (2017)
- Economic Activity Rate (WAP, 2017)
- Employment in Professional, Scientific & Technical (% of all jobs, 2015)
- Employment Rate (WAP, 2017)
- Employment in Manufacturing (% of all jobs, 2015)
- Business Death Rate (2015)
- Business Birth Rate (2015)
- Proportion of WAP with NVQ L4+ (2016)
- GVA per head (2015)
- GVA per employee (2015)
- GVA Growth (1997-2015)
- Average Weekly Earnings (2014)

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steer economic development

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6 | August 2019
Executive Summary: Key Business Clusters and Innovation Assets

Lancashire’s by business clusters by sector

The Arc of Prosperity

- There is a concentration of innovation assets and business activity in key sectors along the West to East corridor (M55-M6-M65).
- There is also a substantial concentration of assets around the Lancaster University and UCLAN Campuses.

Lancashire’s Innovation Assets

- There are clusters of Advanced Manufacturing and Engineering in Samlesbury/Warton (South Ribble), Fleetwood (Wyre), Burnley, Lancaster and Preston.
- Lancashire is home to the single largest concentration of Aerospace activity in the UK, with clusters in Burnley, Fylde, Pendle and the Ribble Valley as well as Samlesbury and Warton.
- Energy and Environmental assets form part of the North West Coastal Arc of nuclear and clean growth assets, including nuclear at the two power stations at Heysham (Lancaster), and Preston, plus a broad range of renewable businesses.
- Tourism clusters are in Blackpool and Lancaster supplemented by a dispersed rural offer.

The Lancashire Innovation Plan identifies 54 innovation assets that support and enable innovation, including:

- Advanced Manufacturing (15 assets);
- Digital (6 assets);
- Energy (5 assets);
- Aerospace (5 assets); and
- Health (5 assets).
Executive Summary: Sectoral specialisms and projected changes

### Sectoral change

- Lancashire’s economy has a specialism in Manufacturing, a relatively high concentration of Public Sector activity, and a low concentration of high-value added Service activities.
- Its GVA specialisms are in Manufacturing (Location Quotient of 1.9) and Agriculture (LQ 1.6).
- There are, however, significant variations in the industrial structures of Lancashire’s Local Authority Districts.
- Economic projections using the Greater Manchester Economic Forecasting Model indicate that Lancashire is likely to see significant changes in employment patterns with:
  - Growth in the following high-value sectors: Information and Communication, Professional Services, Real Estate, and Construction;
  - Growth in the following low-value sectors: Administrative support, Arts;
  - Decline in the following high-value sectors: Manufacturing, Financial Services, Water, Electricity, and Transportation and Storage; and
  - Decline in the following low-value sectors Agriculture, and Public Administration and Defence.

### Occupational change

- Projections suggest the following occupations will grow by more then 5% over the next 20 years: Culture, Media & Sports Occupations; Business & Public Service Professionals; Business & Public Service Associate Professionals; Skilled Construction & Building Trades; Science & Technology Professionals; Customer Service Occupations; and Leisure & Other Service Occupations.
- With declines of more than 5% in the following occupations: Textiles, Printing & Other Skilled Trades; Science & Technology Associate Professionals; Administrative Occupations; Teaching & Research Professionals; Secretarial & Related Occupations; Elementary Occupations: Trades, Plant & Storage related; Process, Plant & Machine Operatives; Protective Service Occupations; and
- Skilled Metal & Electrical Trades.
Executive Summary: Headline Analysis

Without action Lancashire’s productivity gap with the UK will widen and its employment will decline, posing a challenge to delivery of inclusive and sustainable growth.

Business As Usual is not enough, if Lancashire is to: (a) attract and retain workers, e.g. via cross-cutting programmes to extend working lives through health and wellbeing and re-training; and (b) cross-sector initiatives to utilise current assets and knowledge, e.g. orphan IP in HEIs and businesses to tackle new challenges or respond to new opportunities.

Partners in Lancashire need to support businesses and workers to adapt to but also to make the future.

To do this, Lancashire needs to build on digitalisation programmes for businesses, e.g. Made Smarter in manufacturing, and training for workers, e.g. the Digital Skills Partnership, to build agility, adaptability, and resilience in the economy.

Lancashire currently lags England in terms of business density and start-up survival rates – but the economy requires new businesses in new sectors if it is to develop new routes to excellence.

The LIS needs to reflect the diversity and distinctiveness of Lancashire’s places in terms of different: Offers for the visitor economy Quality of life offers to attract and retain workers Natural assets e.g. for energy and agriculture Business clusters e.g. Health Innovation, emergent Digital and Creative clusters.

Opportunities for and challenges to growth in Lancashire vary significantly by place, based on location, connectivity, quality of life and historic economic roles.
Emerging Priorities for Action

**An agile workforce, fit for the future**
Upskill & reskill the workforce across all age groups & sectors to respond to sectoral and occupational change – with a focus on movement from declining to rising employment sectors & higher-level skills and extending healthy working lives.

**Start-ups, Scale-ups and internationalisation to make the future**
Raise business density, start-ups, survival rates. Build on Scale-up success. Growth across all sectors with a focus on adding value to existing goods & services & inventing new goods & services to drive productivity.

**Harness supply-chain strengths to stay ahead**
Supply chains serving Aerospace, Automotive, Marine and Energy sectors are fusing due technology (digital) & materials (light-weighting) convergence. Given supply-chain rationalisation, firms need support to innovate to stay ahead in these sectors.

**Energy Opportunities to build new excellence**
Use Lancashire’s concentration of Low Carbon Energy assets, e.g. nuclear, wind, marine, & battery technology to attract inward investment & research collaboration to build new excellence based on existing strengths. Plus, Shale gas – if exploitable.

**Distinctive Places**
Place-specific assets and vulnerabilities require bespoke place-based responses e.g. (a) Coastal and Rural Visitor Offers, (b) Cultural/leisure offers to attract and retain residents, (c) Property markets to attract/retain businesses and workers.
Enabling Imperatives required to deliver the LIS

Leadership & governance
Reinforce leadership to build investor confidence & represent local diversity

Local capability & flexibility in delivery
Invest in local delivery capability to enable local variation in delivery to meet local priorities

Global outlook
Develop a global/international outlook for businesses & citizens: ‘Think Global First’

Foresighting
Capacity for to undertake & anticipate Market & Technology Foresight

21st C Infrastructure
Future-proofed infrastructure for net-zero carbon & digital connectivity
Overview of the Lancashire Economy
Introduction

Outline of this section

• This section provides an overview of Lancashire’s economy.
• It covers:
  • ‘Vital Statistics’ which provide a snapshot of Lancashire’s performance using key metrics relative to the wider North West Region (which provides relevant regional context) and the UK to provide an overall comparator;
  • Economic Structure which provides a headline overview of industrial structure, key employment sectors and relative specialisms;
  • Headline data on population, GVA, employment, and productivity trends and projections to provide an indication of the direction of travel and the scale of the challenge and opportunity in Lancashire;
  • Projections of sectoral and occupational change to 2038 which provide information on the likely transformations that local businesses and workers will experience in the future and therefore both the threats and opportunities that the LIS needs to address;
  • A headline assessment of inclusive growth, which provides an indication of the challenge of generating inclusive growth and the areas where Lancashire performs well compared to its peers.
Key messages

- Lancashire is a polycentric county with a population of c.1.5 million and a total Gross Value Added (GVA) of £30.8 billion p.a.

- It is a relatively self-contained area in terms of commuting – 12% of its workforce commutes into Lancashire and 14% of residence work outside the area – with employment concentrated in Preston, Blackburn with Darwen, Blackpool, Lancaster, South Ribble, and Fylde.

- It has a working population of just under 1 million (62% of its total population, in line with North West and UK averages).

- Its economic activity rate is 78% – equal to the UK average and just above the North West average.

- Its employment rate is 74% – equal to the UK and just ahead of the North West.

- Its GVA per head is £19,600 p.a. £2,200 p.a. below the North West average and £9,400 p.a. below the UK average – demonstrating a challenge for delivering inclusive growth and shared prosperity.

- GVA has risen 39% since 1997, this is 6 percentage points fewer than the North West and 10 percentage points fewer than the UK.

- Average weekly earnings are £480, relative to £502 in the North West and £541 in the UK.

- Thus, Lancashire has reasonably high levels of economic activity and employment, but a lower level of productivity per worker than the North West and UK. While there has been growth in GVA, Lancashire’s GVA growth rates have not kept pace with regional and national averages. Thus, the productivity gap has widened over the past two decades.

- Lancashire has a lower business density (the number of businesses per 10,000 population) than regional and national averages. Its business birth rate runs at 2 percentage points below the North West and UK average of 14%, and a business death rate of 9% in line with the UK average and 1 percentage point below the North West average.

- Lancashire has key specialisms. Based on its contribution to K UGVA, Lancashire’s specialises in Manufacturing (Location Quotient of 1.9) and Agriculture (LQ 1.6).

- Overall, Lancashire has a lower share of high-skilled workers (those qualified to NVQ4+) in its workforce than North West and UK averages.

- Lower levels of worker productivity and lower skill levels are key factors in the relatively lower weekly earnings of Lancashire residents – however, there are significant variations in earnings between places in Lancashire.

- Based on the finding of the Inclusive Growth Monitor developed by the Joseph Rowntree Foundation, Lancashire has some way to go in terms of its prosperity and economic inclusion relative to other LEP areas.
The Vital Statistics

- The chart opposite provides an at-a-glance view of Lancashire’s economy. It shows that Lancashire accounts for around:
  - 18% of the North West’s GVA;
  - 1.8% of UK GVA;
  - 20% of the North West’s population; and
  - 2.2% of the UK’s population.
- Lancashire’s economic activity and employment rates are in line with the UK and exceed that of the North West – given historically high rates of employment in the UK this indicates strong performance.
- But, Lancashire’s:
  - Share of workers with higher level skills is 5.4% below the UK average;
  - Share of employees in professional, scientific, and technical occupations is 3% below the UK average;
  - GVA per employee is around 83% of the UK average;
  - Weekly earnings are around 88% of the UK average; and
  - Share of total R&D expenditure per person employed is just under one-half of the UK average.
- While headline employment figures are strong, Lancashire has a productivity gap with the UK (and the North West). Thus, the LIS needs to consider how to raise GVA per worker, increase the share of workers with higher level skills, and increase the share of professional, scientific and technical occupation.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Lancashire</th>
<th>North West</th>
<th>UK</th>
<th>Source/Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total GVA</td>
<td>£30.8bn</td>
<td>£167.2bn</td>
<td>£1,756.1bn</td>
<td>ONS/2016</td>
</tr>
<tr>
<td>Total Population</td>
<td>1.484m</td>
<td>7.224m</td>
<td>65.648m</td>
<td>PE/2016</td>
</tr>
<tr>
<td>Working-age Population (WAP)</td>
<td>914.5k</td>
<td>4.5m</td>
<td>41.4m</td>
<td>APS/2016</td>
</tr>
<tr>
<td>Working-age Population (WAP) (%)</td>
<td>62%</td>
<td>63%</td>
<td>63%</td>
<td>APS/2016</td>
</tr>
<tr>
<td>Economic Activity Rate (WAP)</td>
<td>78%</td>
<td>76%</td>
<td>78%</td>
<td>APS/2017</td>
</tr>
<tr>
<td>Employment Rate (WAP)</td>
<td>74%</td>
<td>72%</td>
<td>74%</td>
<td>APS/2017</td>
</tr>
<tr>
<td>Employment Growth (WAP) (+/- since 2007)</td>
<td>+3%</td>
<td>+6%</td>
<td>+8%</td>
<td>BRES/2015</td>
</tr>
<tr>
<td>GVA per head</td>
<td>£19.6k</td>
<td>£21.8k</td>
<td>£29.0k</td>
<td>ONS/2015</td>
</tr>
<tr>
<td>GVA per employee</td>
<td>£42.1k</td>
<td>£45.5k</td>
<td>£50.8k</td>
<td>ONS/2015</td>
</tr>
<tr>
<td>GVA Growth (+/- since 1997)</td>
<td>+39%</td>
<td>+45%</td>
<td>+49%</td>
<td>ONS/2015</td>
</tr>
<tr>
<td>Average Weekly Earnings</td>
<td>£480pw</td>
<td>£502pw</td>
<td>£541pw</td>
<td>ASHE/2014</td>
</tr>
<tr>
<td>Proportion of WAP with NVQ L4+</td>
<td>32.6%</td>
<td>33.9%</td>
<td>38.0%</td>
<td>APS/2016</td>
</tr>
<tr>
<td>Total Active Enterprises</td>
<td>43.3k</td>
<td>259.7k</td>
<td>2.6m</td>
<td>BD/2015</td>
</tr>
<tr>
<td>Business Birth Rate</td>
<td>12%</td>
<td>14%</td>
<td>14%</td>
<td>BD/2015</td>
</tr>
<tr>
<td>Business Death Rate</td>
<td>9%</td>
<td>10%</td>
<td>9%</td>
<td>BD/2015</td>
</tr>
<tr>
<td>Employment in Manufacturing (% of all jobs)</td>
<td>13%</td>
<td>9%</td>
<td>8%</td>
<td>BRES/2015</td>
</tr>
<tr>
<td>University spin-outs/start ups since 2000</td>
<td>27 (1% UK)</td>
<td>156 (7%)</td>
<td>2,293</td>
<td>Spinouts UK/2017</td>
</tr>
<tr>
<td>Patent Applications (2005-2017)</td>
<td>1,130 (1.7% of UK, 22.8% of NW)</td>
<td>4,970</td>
<td>64,800</td>
<td>IPO/2017</td>
</tr>
<tr>
<td>Employment in Professional, Scientific &amp; Technical (% of all jobs)</td>
<td>5%</td>
<td>7%</td>
<td>8% (GB)</td>
<td>BRES 2015</td>
</tr>
<tr>
<td>Total R&amp;D Expenditure (£ per person employed)</td>
<td>£525</td>
<td>£1,093</td>
<td>£1,070</td>
<td>Eurostat + BRES/2011</td>
</tr>
<tr>
<td>Average House Prices</td>
<td>£143k</td>
<td>£157k</td>
<td>£225.3k</td>
<td>UKHPSA + UKHPI/2017</td>
</tr>
</tbody>
</table>

It should be noted that these aggregate data mask significant variation within Lancashire. This is explored later in the document – both in terms of employment, earnings and income by place and by sectors.
Benchmarking – NW & UK

- Working-age Population (WAP, %, 2016)
- Average House Prices (2017)
- Economic Activity Rate (WAP, 2017)
- Employment Rate (WAP, 2017)
- Employment in Professional, Scientific & Technical (% of all jobs, 2015)
- Employment in Manufacturing (% of all jobs, 2015)
- GVA per head (2015)
- GVA per employee (2015)
- Business Death Rate (2015)
- Business Birth Rate (2015)
- GVA Growth (1997-2015)
- Proportion of WAP with NVQ L4+ (2016)
- Average Weekly Earnings (2014)

- Lancashire
- North West
- UK
Economic structure

The table opposite provides a high-level breakdown of sectors in Lancashire. It shows each sector’s relative share of Lancashire’s GVA and employment, along with GVA per job, and the degree of specialisation relative to the UK as measured by GVA and employment share.

It shows:

- Lancashire’s main specialisms in terms of GVA contribution are Manufacturing and Agriculture, and in terms of employment Manufacturing stands out as particularly significant;
- Underrepresentation in Financial Services (in both GVA and employment);
- Manufacturing, Wholesale and Retail, Human Health and Social Work, and Education as significant sources of employment at scale; and
- Manufacturing, Wholesale and Retail, Human Health and Social Work and Real Estate (which is subject to anomalies in GVA calculations) are significant contributors to Lancashire’s GVA.

What Works Centres guidance on developing a LIS argues that it is unlikely that LEPs can successfully influence the industrial structures of their economies, as opposed to provide a competitive business environment, build on existing strengths and tackle long standing barriers to growth. The LIS needs to reflect on how it can build productivity in this context.

### Table: Sector Breakdown

<table>
<thead>
<tr>
<th>Sector</th>
<th>Share of total GVA (%)</th>
<th>Share of total employment (%)</th>
<th>GVA per job</th>
<th>GVA LQ</th>
<th>Employment LQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real estate</td>
<td>13</td>
<td>1</td>
<td>379,199</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Electricity</td>
<td>1</td>
<td>0</td>
<td>135,220</td>
<td>0.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Water supply; sewerage</td>
<td>1</td>
<td>1</td>
<td>84,045</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Financial services</td>
<td>3</td>
<td>1</td>
<td>73,241</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>20</td>
<td>12</td>
<td>65,807</td>
<td>1.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Public administration and defence</td>
<td>6</td>
<td>5</td>
<td>52,159</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Information and communication</td>
<td>3</td>
<td>3</td>
<td>47,922</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Construction</td>
<td>6</td>
<td>7</td>
<td>38,369</td>
<td>1.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Wholesale and retail trade</td>
<td>13</td>
<td>15</td>
<td>37,760</td>
<td>1.2</td>
<td>1.0</td>
</tr>
<tr>
<td>Agriculture</td>
<td>1</td>
<td>1</td>
<td>34,923</td>
<td>1.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>3</td>
<td>4</td>
<td>32,411</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Professional services</td>
<td>5</td>
<td>6</td>
<td>31,532</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>Education</td>
<td>6</td>
<td>9</td>
<td>29,235</td>
<td>1.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Other services</td>
<td>2</td>
<td>3</td>
<td>28,586</td>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>Human health and social work</td>
<td>10</td>
<td>15</td>
<td>27,760</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>0</td>
<td>0</td>
<td>21,415</td>
<td>0.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Accommodation and food</td>
<td>4</td>
<td>7</td>
<td>20,528</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td>Arts</td>
<td>1</td>
<td>3</td>
<td>20,005</td>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>Administrative and support</td>
<td>3</td>
<td>7</td>
<td>17,531</td>
<td>0.6</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Source: GMFM, 2018
Higher value sector specialisms

The table below provides an overview of some of Lancashire’s sector specialisms. Sector specialisms have been determined by assessing the proportion of Lancashire’s employment in a given sector against the proportion of England’s employment in that same sector to highlight concentrations of employment that deviate from the national average (i.e. locational quotient analysis).

The table provides detail of sector specialisms likely to be engaged in high-value added economic activity to focus in more detail on Lancashire’s economic strengths. The highlighted sector specialisms indicate that Lancashire has existing specialist strengths within four of the SEP’s overarching priority sectors: advanced manufacturing, creative & digital, construction, and energy & environmental. Identifying opportunities to build on these existing high-value sector specialisms will be vital to supporting economic growth and developing the LIS.

<table>
<thead>
<tr>
<th>Higher value sector specialism</th>
<th>Lancashire LEP</th>
<th>England</th>
<th>LQ</th>
<th>% of national employment in Lancashire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction of utility projects for electricity and telecommunications</td>
<td>7,000</td>
<td>13,000</td>
<td>22.0</td>
<td>54%</td>
</tr>
<tr>
<td>Extraction of natural gas</td>
<td>100</td>
<td>300</td>
<td>13.6</td>
<td>33%</td>
</tr>
<tr>
<td>Manufacture of air and spacecraft and related machinery</td>
<td>13,500</td>
<td>71,500</td>
<td>7.7</td>
<td>19%</td>
</tr>
<tr>
<td>Manufacture of electrical and electronic equipment for motor vehicles</td>
<td>275</td>
<td>2,250</td>
<td>5.0</td>
<td>12%</td>
</tr>
<tr>
<td>Manufacture of communication equipment</td>
<td>1,125</td>
<td>12,000</td>
<td>3.8</td>
<td>9%</td>
</tr>
<tr>
<td>Processing of nuclear fuel</td>
<td>1,000</td>
<td>11,000</td>
<td>3.7</td>
<td>9%</td>
</tr>
</tbody>
</table>
Headline population data

Population density of Lancashire

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Lancashire</th>
<th>North West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (sqm.)</td>
<td>1.4m</td>
<td>7.1m</td>
</tr>
<tr>
<td>Population</td>
<td>1.5m</td>
<td>7.3m</td>
</tr>
<tr>
<td>Population Density (per 10,000 sqm.)</td>
<td>4.7</td>
<td>5</td>
</tr>
<tr>
<td>Population Density Index (England=100)</td>
<td>115</td>
<td>122</td>
</tr>
</tbody>
</table>

Population density by Local Authority District

- Lancashire has a population of:
  - c. 1.5 million people
  - A population density of 4.7 people per 10,000 sqm, which is a little below the regional average of 5, but above the England average of 4.1.
- However, population density varies significantly between Local Authority Districts – Blackpool has the highest population density at around 40 people per 10,000 sqm, while Ribble Valley has the lowest population density at around 1 person per 10,000 sqm.
- Thus, Lancashire experiences both the challenges of sparsely populated areas including access to services and opportunities, along with issues of urban concentration. The LIS therefore needs to respond to the challenge of delivering inclusive growth for both rural and urban areas.

Source: Census 2011
GVA growth trends and projections

- Lancashire has achieved significant growth in GVA since 1991.
- However, Lancashire’s GVA growth has not kept pace with that of the North West or the UK.
- Thus, the ‘productivity gap’ between Lancashire and the UK has widened rather than narrowed over the past 25 years.

- The Greater Manchester Forecasting Model’s (GMFM) projections of GVA growth for Lancashire to 2038 (based on Oxford Economics’ model) show that Business As Usual (BAU) in Lancashire is likely to lead to a further widening of the productivity gap with the UK.
- Thus, a challenge for the LIS, in the first instance, is how to stop the productivity gap with the UK widening, and then how to narrow the gap as part of wider efforts to re-balance the UK economy.
Employment trends and projections

• Lancashire’s economy generated employment growth in the period 1991-2016.

• This growth tended to be below the UK trend but above that of the North West – and with periods of relative over or under-performance.

• *Lancashire’s economy appears to experience greater fluctuations around national and regional trend employment trends. And sometimes Lancashire’s labour market moves counter to UK and North West trends. Thus, a challenge for the LIS is how to build resilience in to Lancashire’s economy.*

• Overall employment projections, using the GMFM, show employment in Lancashire is likely to fall by a couple of percentage points in the period to 2038, assuming BAU – driven by the interaction of demographic as well as economic shifts.

• This projection runs counter to employment projections for the UK and North West.

• *Thus, given these projections, Business As Usual is likely to generate relatively fewer job opportunities in Lancashire than in the past. A challenge for the LIS will be, first, how to ensure the Lancashire economy continues to generate employment, and, second, to grow, attract and retain skilled workers.*
Productivity trends and projections

- Overall, worker productivity in Lancashire rose in the period 1991-2016 from around £31,000 p.a. to £42,000 p.a.

- But the gap between Lancashire’s GVA per worker and the rest of the UK widened – setting a tougher challenge for the period to 2038.

- Based on previous performance, projections of worker productivity in Lancashire from 2017-2038 show continued growth.

- But, under Business As Usual the productivity gap with the rest of the UK is set to widen.

- Thus, the LIS needs to identify transformational rather than incremental opportunities to drive productivity, if long-term structural trends are to be reversed.

Worker productivity 1991-2016

- Productivity gap £4.1k per job in 1991
- Productivity gap £6.9k per job in 2007
- Productivity gap £7.4k per job in 2016

Worker productivity 2017-2038

- Productivity gap £7.3k in 2017
- Productivity gap £10.5k in 2038
Projected Sectoral change

- While What Works Centre guidance advises against LEPs seeking to change industrial structure, it is important that the Lancashire LEP and its partners understand the changes in industrial structure that are likely to occur over the next 20 years.

- The next slide shows projected change in GVA and employment by high-level sectors (identified in the GMFM) for the period 2017-2038.

- Projected change in GVA is shown on the vertical axis, and projected change in employment is on the horizontal axis.

- The projections show that the key sectors in Lancashire fall into one of three categories:
  - ‘Expanders’ which are projected to generate increases in GVA and employment to 2038;
  - ‘Adjusters’ which are set to experience increases in GVA along with decreases in employment to 2038; and
  - ‘Shrinkers’ which will experience decreases in both GVA and employment to 2038.

- The size of each ‘bubble’ represents the scale/significance of GVA of a given sector in 2017.

- The projections suggest that Lancashire’s:
  - ‘Expanders’ with a relatively high GVA per worker include: Information and Communication, Professional Services, Real Estate, and Construction – it should be noted that with the exception of Construction these are not areas where Lancashire currently demonstrates a specialism;
  - ‘Expanders’ with relatively low GVA per worker include: Administrative support, Arts – currently, Lancashire does not show a GVA or employment specialism in either of these sectors;
  - ‘Adjusters’ include: Manufacturing, Financial Services, Water, Electricity, and Transportation and Storage – these are all sectors with relatively high GVA per worker, furthermore Lancashire has employment and GVA specialisms in Manufacturing and Water; and
  - ‘Shrinkers’ include: Mining and Quarrying, Agriculture (currently a significant GVA specialism but not exceptional in employment terms), Public Administration and Defence (currently a GVA and employment specialism).

- The scale and rate of projected sectoral change will pose challenges to the LEP and local partners in particular in designing and delivering support to:
  - Supply chain businesses which are reliant on firms that are Adjusters or Shrinkers to help them to diversify their client base/markets – e.g. supplying firms in other sectors where technology convergence allows, and/or exporting to new overseas markets;
  - Workers in firms that are in the Adjusters or Shrinkers categories to transition to new sectors and roles – this will include reskilling to move sectors or upskilling to take new roles within their existing sector where remaining roles require higher-level skills;
  - Places (e.g. business and innovation parks, and towns and high streets) to allow these to stay ahead where they are currently strong and design routes to excellence where current strengths allow them to take new opportunities; and
  - Expanders to ensure that they have the skills, premises, connectivity, finance, and business support/advice necessary to realise their productivity and employment potential.
Projected Sector Shapes

Adjuncters

Change in GVA

80%

60%

40%

20%

0%

-20%

-40%

-60%

Manufacturing

Energy

Mining and quarrying

Agriculture

Public administration and defence

Other services

Education

Accommodation and food

Real estate

Wholesale and retail trade

Construction

Arts

Administrative and support

Professional services

Information and communication

Financial services

Human health and social work

Source: GMFM, 2018

Size of bubble = GVA 2017
Projected Occupational change

• As well as changes in sectoral composition, occupational structure of the labour market is also projected to change.

• Projections show increases in the following occupations:
  • Culture, Media & Sports Occupations;
  • Business & Public Service Professionals;
  • Business & Public Service Associate Professionals;
  • Skilled Construction & Building Trades;
  • Science & Technology Professionals;
  • Customer Service Occupations;
  • Leisure & Other Service Occupations;
  • Corporate Managers;
  • Caring Personal Service Occupations;
  • Managers / Proprietors in agriculture & services; and
  • Health Professionals.

• The following occupations are projected to experience decline:
  • Transport & Mobile Machine Drivers & Operatives;
  • Textiles, Printing & Other Skilled Trades;
  • Science & Technology Associate Professionals;
  • Administrative Occupations;
  • Teaching & Research Professionals;
  • Secretarial & Related Occupations;
  • Elementary Occupations: Trades, Plant & Storage related;
  • Process, Plant & Machine Operatives;
  • Protective Service Occupations; and
  • Skilled Metal & Electrical Trades.

The percentage change between the percentage of people working in each occupation in 2017 and the 2038 projections for the percentage of people working in each occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>2017</th>
<th>2038</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 Culture, Media and Sports Occupations</td>
<td>1.60%</td>
<td>1.90%</td>
<td>18%</td>
</tr>
<tr>
<td>24 Business and Public Service Professionals</td>
<td>3.70%</td>
<td>4.20%</td>
<td>14%</td>
</tr>
<tr>
<td>35 Business and Public Service Associate Professionals</td>
<td>5.20%</td>
<td>5.80%</td>
<td>10%</td>
</tr>
<tr>
<td>53 Skilled Construction and Building Trades</td>
<td>3.60%</td>
<td>4.00%</td>
<td>9%</td>
</tr>
<tr>
<td>21 Science and Technology Professionals</td>
<td>3.80%</td>
<td>4.10%</td>
<td>7%</td>
</tr>
<tr>
<td>72 Customer Service Occupations</td>
<td>1.50%</td>
<td>1.60%</td>
<td>7%</td>
</tr>
<tr>
<td>62 Leisure and Other Personal Service Occupations</td>
<td>2.40%</td>
<td>2.50%</td>
<td>6%</td>
</tr>
<tr>
<td>11 Corporate Managers</td>
<td>6.30%</td>
<td>6.60%</td>
<td>5%</td>
</tr>
<tr>
<td>61 Caring Personal Service Occupations</td>
<td>8.70%</td>
<td>9.10%</td>
<td>5%</td>
</tr>
<tr>
<td>12 Managers / Proprietors in agriculture and services</td>
<td>4.10%</td>
<td>4.40%</td>
<td>5%</td>
</tr>
<tr>
<td>22 Health Professionals</td>
<td>4.20%</td>
<td>4.40%</td>
<td>4%</td>
</tr>
<tr>
<td>92 Elementary Occupations: Clerical and Services related</td>
<td>9.90%</td>
<td>10.20%</td>
<td>3%</td>
</tr>
<tr>
<td>51 Skilled Agricultural Trades</td>
<td>1.20%</td>
<td>1.20%</td>
<td>3%</td>
</tr>
<tr>
<td>32 Health and Social Welfare Associate Professionals</td>
<td>1.30%</td>
<td>1.40%</td>
<td>1%</td>
</tr>
<tr>
<td>71 Sales Occupations</td>
<td>6.10%</td>
<td>6.10%</td>
<td>-1%</td>
</tr>
<tr>
<td>82 Transport and Mobile Machine Drivers and Operatives</td>
<td>4.60%</td>
<td>4.40%</td>
<td>-5%</td>
</tr>
<tr>
<td>54 Textiles, Printing and Other Skilled Trades</td>
<td>2.90%</td>
<td>2.70%</td>
<td>-6%</td>
</tr>
<tr>
<td>31 Science and Technology Associate Professionals</td>
<td>1.50%</td>
<td>1.40%</td>
<td>-6%</td>
</tr>
<tr>
<td>41 Administrative Occupations</td>
<td>8.70%</td>
<td>8.00%</td>
<td>-7%</td>
</tr>
<tr>
<td>23 Teaching and Research Professionals</td>
<td>4.60%</td>
<td>4.20%</td>
<td>-7%</td>
</tr>
<tr>
<td>42 Secretarial and Related Occupations</td>
<td>2.20%</td>
<td>2.00%</td>
<td>-9%</td>
</tr>
<tr>
<td>91 Elementary Occupations: Trades, Plant and Storage related</td>
<td>2.00%</td>
<td>1.70%</td>
<td>-13%</td>
</tr>
<tr>
<td>81 Process, Plant and Machine Operatives</td>
<td>4.40%</td>
<td>3.70%</td>
<td>-15%</td>
</tr>
<tr>
<td>33 Protective Service Occupations</td>
<td>1.20%</td>
<td>1.00%</td>
<td>-16%</td>
</tr>
<tr>
<td>52 Skilled Metal and Electrical Trades</td>
<td>4.30%</td>
<td>3.50%</td>
<td>-18%</td>
</tr>
</tbody>
</table>

Source: GMFM, 2018
Inclusive growth

- Local Industrial Strategies need to address the issue of inclusive growth.
- Colleagues at the universities of Sheffield and Manchester have developed the Inclusive Growth Monitor for the Joseph Rowntree Foundation.
- It uses a range of indicators to assess both prosperity and economic inclusion – see table opposite for the indicators included in the index.
- These indicators are weighted to reflect their relative importance.
- To devise the scores each indicator is normalised so that the LEP with the best outcome for a given indicator receives a score of 1 and the LEP with the worst outcome receives a score of 0. Each dimension (containing three indicators) notionally has a maximum score of 3 and a minimum score of 0. Each theme (containing three dimensions) has a notional maximum score of 9 and a minimum score of 0.
- To assess change over time normalised change scores are calculated based on the percentage change on the underlying indicator scores between 2010 and 2015 – the most up-to-date analysis available.
- The next slide shows change data for Local Enterprise Partnership areas.
- The chart shows that Lancashire has some way to go both in terms of prosperity and economic inclusion relative to other LEP areas – with a relatively strong performance in housing affordability its main strength.
- It should be noted that these scores are relative scores – they do not necessarily reflect absolute changes in worklessness or fuel poverty, for example.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Dimension</th>
<th>Broad Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Inclusion</td>
<td>Income (Score 0 Min – 3 Max)</td>
<td>Out of work benefits</td>
</tr>
<tr>
<td></td>
<td>Living costs (Score 0 Min – 3 Max)</td>
<td>In-work tax credits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low Earnings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Housing affordability (ownership)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Housing costs (rental)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fuel poverty</td>
</tr>
<tr>
<td>Labour Market Inclusion</td>
<td>Unemployment</td>
<td>Economic Inactivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Workless households</td>
</tr>
<tr>
<td></td>
<td>Output Growth (Score 0 Min – 3 Max)</td>
<td>Output (GVA/capita)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private sector businesses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wages/earnings</td>
</tr>
<tr>
<td>Prosperity</td>
<td>Employment (Score 0 Min – 3 Max)</td>
<td>Workplace jobs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>People in employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Employment in high-tech sectors</td>
</tr>
<tr>
<td></td>
<td>Human Capital (Score 0 Min – 3 Max)</td>
<td>Higher level occupations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intermediate and higher level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Educational attainment</td>
</tr>
</tbody>
</table>

Source: Inclusive Growth Monitor, 2017: Local Enterprise Partnerships, Inclusive Growth Analysis Unit, University of Manchester
Inclusivity in economic performance, change over time

Change in Prosperity, 2010-2015
\[ \text{Change in Inclusion, 2010-2015} \]

Source: Inclusive Growth Monitor, 2017: Local Enterprise Partnerships, Inclusive Growth Analysis Unit, University of Manchester
## Inclusivity in economic performance, 2015

<table>
<thead>
<tr>
<th>Theme</th>
<th>Dimension (Score 0 Min – 3 Max)</th>
<th>Broad Indicator (Score 0 Min – 1 Max)</th>
<th>Lancashire</th>
<th>Cheshire &amp; Warrington</th>
<th>Cumbria</th>
<th>Greater Manchester</th>
<th>Liverpool City Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Inclusion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>Out of work benefits</td>
<td></td>
<td>0.33</td>
<td>0.75</td>
<td>0.58</td>
<td>0.33</td>
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<tr>
<td></td>
<td>In-work tax credits</td>
<td></td>
<td>0.07</td>
<td>0.60</td>
<td>0.53</td>
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<td>0.20</td>
</tr>
<tr>
<td></td>
<td>Low Earnings</td>
<td></td>
<td>0.07</td>
<td>0.37</td>
<td>0.19</td>
<td>0.23</td>
<td>0.16</td>
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<tr>
<td>Living costs</td>
<td>Housing affordability (ownership)</td>
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<td>0.96</td>
<td>0.76</td>
<td>0.94</td>
<td>0.93</td>
<td>0.98</td>
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<tr>
<td></td>
<td>Housing costs (rental)</td>
<td></td>
<td>0.95</td>
<td>0.88</td>
<td>0.96</td>
<td>0.87</td>
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</tr>
<tr>
<td></td>
<td>Households in fuel poverty</td>
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<td>0.48</td>
<td>0.69</td>
<td>0.33</td>
<td>0.50</td>
<td>0.41</td>
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<td>Unemployment</td>
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<td>0.25</td>
<td>0.25</td>
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<tr>
<td></td>
<td>Economic Inactivity</td>
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<td>0.18</td>
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<tr>
<td></td>
<td>Workless households</td>
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<td>0.60</td>
<td>0.60</td>
<td>0.33</td>
<td>0.00</td>
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<tr>
<td>Output Growth</td>
<td>Output (GVA/capita)</td>
<td></td>
<td>0.09</td>
<td>0.49</td>
<td>0.20</td>
<td>0.16</td>
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<tr>
<td></td>
<td>Private sector businesses</td>
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<td>0.30</td>
<td>0.64</td>
<td>0.86</td>
<td>0.22</td>
<td>0.00</td>
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<tr>
<td></td>
<td>Wages/earnings - FT workers</td>
<td></td>
<td>0.21</td>
<td>0.28</td>
<td>0.40</td>
<td>0.27</td>
<td>0.29</td>
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<tr>
<td>Employment</td>
<td>Workplace jobs - Jobs density</td>
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<td>0.30</td>
<td>0.87</td>
<td>0.70</td>
<td>0.30</td>
<td>0.03</td>
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<td></td>
<td>People in employment</td>
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<td>0.31</td>
<td>0.77</td>
<td>0.77</td>
<td>0.23</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Employment in high-tech sectors</td>
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<td>0.47</td>
<td>0.42</td>
<td>0.11</td>
<td>0.58</td>
<td>0.63</td>
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<tr>
<td>Human Capital</td>
<td>Higher level occupations</td>
<td></td>
<td>0.21</td>
<td>0.48</td>
<td>0.07</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>Intermediate and higher level skills</td>
<td></td>
<td>0.55</td>
<td>0.82</td>
<td>0.68</td>
<td>0.59</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td>Educational attainment at GCSE/KS4</td>
<td></td>
<td>0.33</td>
<td>0.50</td>
<td>0.33</td>
<td>0.22</td>
<td>0.11</td>
</tr>
</tbody>
</table>

Source: Inclusive Growth Monitor, 2017: Local Enterprise Partnerships, Inclusive Growth Analysis Unit, University of Manchester
Overview of key technological drivers of technological change and the policy environment
Introduction

Outline of this section

• This section provides a brief:
  • Introduction to the policy framework within which the LIS has been developed and will be delivered.
  • Summary of key market and technology drivers.
  • Summaries of relevant Sector Deal setting out national-level opportunities on which Lancashire can build.

Key messages

• The following slide depicts a policy hierarchy that outlines key European, UK, Northern Powerhouse, Lancashire LEP and district level policies.
• The hierarchy highlights key documents and statements that the LIS needs to reflect and to which it must respond.
• Key Lancashire-level strategies which are driving activity at the local level and upon which the LIS will build include the:
  • Lancashire Innovation Plan;
  • Lancashire Energy Strategy;
  • Lancashire Visitor Strategy;
  • Lancashire Cultural Strategy;
  • Lancashire Skills & Employment Strategic Lancashire Framework;
  • Technical Education Strategy; plus
  • High Value Manufacturing Science and Innovation Science and Innovation Audit;
  • North West Coastal Arc Clean Growth Science and Innovation Audit;
  • North West Nuclear Arc Science and Innovation Audit.
• Work on the Greater Lancashire Plan is being undertaken concurrently with development of the LIS. The two process will inform each other, e.g. in terms of assumptions around land use, location of developments; balancing economic, social and environmental considerations; and balancing urban and rural needs and opportunities.
• Lancashire’s diverse economy can contribute to delivery of key sector deals in Aerospace, Automotive, Nuclear, Offshore Wind, Construction, Tourism, Artificial Intelligence, and Life Sciences.
Policy hierarchy

Europe
- Europe 2020
- Horizon 2020

UK
- Industrial Strategy
- Government Plan for Growth
- Export and Inward Investment Strategies
- Transport Investment Strategy
- Housing Policy (inc. Infrastructure Fund)

NP
- Northern Powerhouse Partnership ‘Powerhouse 2050’
- NPIER
- 2070 Commission
- Strategic Transport Plan

Lancs/LEP
- Strategic Economic Plan
- ESIF Strategy
- Innovation Plan
- Energy Strategy
- Greater Lancashire Plan
- LIS
- HVM & Clean Growth SIAs
- Visitor Strategy & Cultural Strategy
- Skills and Employment Strategic Framework
- Technical Education Strategy

Local
- Local Economic Growth Strategies
- Local Plans
- Local Transport Strategies
- Local Housing Strategies
Market and technology drivers

- **Key global technology drivers**
  - The McKinsey Global Institute has highlighted a number of key disruptive technologies that will drive change in economies, including:
    - Ubiquitous connectivity leading to the creation of new products, services and processes across all sectors/markets;
    - Cloud technology enabling the growth of internet-based services;
    - The ‘Internet of Things’ driving demand for additional functionality in a wide range of items as well as helping generation of new processes, products, and services;
    - The automation of ‘knowledge work’ removing roles which were previously regarded as the sole domain of humans;
    - Advanced Materials, with a wide range of functions and properties in many markets, including health, energy, transport and engineering;
    - Advanced Robotics changing production processes and logistics based on advances in machine vision, artificial intelligence, machine-to-machine communication, sensors and actuators;
    - Autonomous/near-autonomous vehicles, e.g. drones, submersibles, cars and trucks will revolutionise transportation and logistics;
    - 3D Printing/additive manufacturing allows on-demand production for consumers as well as business-to-business applications;
    - Next-Generation Genomics will use big data analytics in the sequencing and modification of genetic material, helping to revolutionise human health care and animal/plant agriculture;
    - Advanced Oil and Gas Exploration and Recovery, making possible the extraction of oil and gas from previously unexploitable reserves;
    - Renewable Energy will enable energy generation without contributing to man-made climate change; and
    - Energy Storage technologies, e.g. lithium-ion batteries and fuel cells, will transform the scope for electric and hybrid vehicles, and may transform the scale at which renewables are able to meet demand for electricity.
Sector Deals: Aerospace and Automotive (2018)

Aerospace
• Has an annual turnover of £35bn, largely from international exports, and provides over 120,000 highly skilled and well-paid regional jobs. The North West Aerospace Alliance is based in Preston, Lancashire, and 92% of the sector is based outside London and the South East.
• The aerospace sector can play an important part in meeting R&D investment commitment of £3.9bn in the period to 2026. The UK Aerospace Research Consortium was established to increase collaboration between universities, academia and industry.
• Future Flight programme – joint industry and government (from the Industrial Strategy Challenge Fund) with investment up to £125m, 38,000 large passenger aircraft worth around £4.65tn needed globally over the next 20 years. A focus on the need for innovation in increasingly electric, environmentally friendly aircraft technologies, that allow clean growth.
• Supply chain competitiveness and growth programme – supporting (through training and streamlining business processes) over 70 SMEs to increase productivity, joint industry and government funding of £20m.
• National Aerospace Technology Exploitation Plan – matching governments £10m investment to help boost R&D projects led by SMEs, plus £13.7m from wider Aerospace R&T programme.

Automotive
• Provides over 390,000 good quality jobs in vehicle manufacturing and supply chain. Generated over £40bn of export revenue in 2016, producing 1.7 million vehicles. Half of UK automotive exports go to the EU. The sector has benefitted from the EU market and is highly integrated in the supply chains where components crossing borders several times.
• Supply chain competitiveness and productivity improvement programme - £16m funding available, subject to business case, for an industry-led national supplier competitiveness and productivity improvement programme.
• Faraday Battery Challenge – £246m over 4 years to drive electric vehicle battery technologies research and innovation.
• Advanced Propulsion Centre - £500m available over 10 years to 2023, matched by industry, to research, develop and industrialise new low-carbon automotive technologies in the UK.
• Automotive R&D - £225m from 2023 to 2026 to support R&D in the sector, matched by the sector for collaborative R&D.
• CAV (Connected and Autonomous Vehicles) testing environment - £250m including £150m for R&D and £100m for CAV testing infrastructure.
• New £2.5bn investment fund incubated in the British Business Bank to drive investment in innovative and high potential businesses.
• Transforming Cities Fund - £1.7bn for intra-city transport.
• Charging Infrastructure Investment Fund - £400m (joint government and private investors) for electric charging points infrastructure, and R&D.
Sector Deals: Nuclear (2018) and Offshore Wind (2019)

Nuclear

- Nuclear provides a reliable source of low-carbon, baseload electricity for the UK economy, it provided 20% of all electricity in the UK in 2016. There are 15 operating reactors across the UK and the sector is concentrated into clusters around the UK including the decommissioning hub in Cumbria and the innovative fusion research centre, Culham, Oxfordshire.

- Contributes £12.4bn to the UK economy and 87,000 jobs. The nuclear domestic market is worth £75bn and global markets £100bn (waste and decommissioning) and £1.2tn (new build) up to 2035.

- Government is committed to investing:
  - £56m for R&D for advanced modular reactors
  - £86m for a National Fusion Technology Platform at Culham in Oxfordshire
  - £40m thermal hydraulics facility in north Wales as part of the Nuclear Innovation Programme developing and deploying advanced nuclear technologies
  - Up to £10m for a new national supply chain and productivity improvement programme

- The Nuclear sector is committed to:
  - Investing £12m initially as part of the advanced manufacturing and construction programme to demonstrate and embed new advanced capabilities in the UK supply chain
  - Provide £20m (£10m funding and £10m contribution-in-kind) for a national supply chain and productivity improvement programme

Offshore Wind

- The UK is a global leader in the offshore wind sector with the largest installed offshore wind capacity in the world. While shifting to clean growth, consistent with the Clean Growth Grand Challenge, the government and sector aim to maximise the advantages for UK industry. By 2030 there is expected to be a huge expansion of offshore wind, building up to 30GW of offshore wind domestically could constitute over £40bn spending on infrastructure in this time.

- Government:
  - Will allocate up to £557m for future Contracts for Difference, where auctions will take place biennially.
  - Strength in Places Fund – competitive £115m fund for collaborative bids to support areas to build on their science and innovation.
  - The Humber LEP sets an example of LEPs capability to maximise opportunities in offshore wind – investments made in expert skills and business support through its Growth Deal and the Hull and Humber City Deal.

- Sector:
  - Investment in Talent Group to develop skills needs and corresponding curricula and accreditation to deepen the skills base. It will also set targets with the government to increase the number of apprentices in the sector (end of 2019).
  - The sector will make cumulative infrastructure investments of over £40bn to 2030 to deliver a low-cost, clean energy system.
  - The sector will invest up to £250m over the next 10 years in building a stronger UK supply chain, establishing the Offshore Wind Growth Partnership (OWGP) to support productivity and increase competitiveness.

Construction
• Approximately 3.1 million people work in the UK’s construction sector, and in 2016 it added £138bn in value to the UK economy. The sector deal aims to improve productivity in the construction industry.

• Government will invest £170m from the Industrial Strategy Challenge Fund (ISCF) in the Transforming Construction: Manufacturing Buildings programme while the sector will invest £250m aligned with the ISCF Transforming Construction: Manufacturing Better Buildings programme.

• Government will invest £34m to scale up innovative training models across the country to support the delivery of 1.5m new homes by 2022.

• The sector will invest as planned in the National Infrastructure and Construction Pipeline contributing, alongside government investment, to more than £460bn in infrastructure. This includes investment in energy, utilities, digital infrastructure, housing, schools and healthcare infrastructure.

Tourism
• In 2018 the UK attracted 38 million international visitors, who added £23bn to the economy. Forecasts predict a 23% increase in visitors by 2025. 130,000 hotel rooms will be built over the next 5 years to accommodate them.

• Government will pilot up to five new Tourism Zones to increase visitor numbers which will receive a range of support. It is also investing in multiple projects to enhance visitor experience across the Museums, Heritage and Arts sectors.

• Government will launch a £250k competition to improve broadband connectivity in conference centres.

• Government has provided £40k to the Tourism Alliance in England to research the industry to inform advisory services. The British Tourist Authority will work with the industry to create a new, independent Tourism Data Hub to better inform the sector of visitor preferences.

• Employers will commit over £1m of funding retention and recruitment in the sector, and the sector will increase the percentage of the workforce receiving in-work training.
Sector Deals: Artificial Intelligence and Life Sciences (2018)

Artificial Intelligence

- The government commits a package of up to £0.95bn support for the Artificial Intelligence sector.

- Government will invest:
  - Next Generation Services Industrial Strategy Challenge - £20m
  - Industrial Strategy Challenge Fund - £93m into the robotics and AI in extreme environments programme.
  - GovTech fund - £20m to support tech businesses to provide government innovative public sector efficiency solutions.
  - EPSRC funding for research related to AI totalling £425m.
  - £406m in skills, a National Centre for Computing, and a National Retraining Scheme initially investing in digital skills.
  - £1bn to develop 5G mobile network and extend full fibre broadband.
  - Enterprise Investment Scheme and Venture Capital Trusts - £7bn over next decade for innovative knowledge intensive businesses.
  - £21m in Tech City UK over four years to become Tech Nation - supporting regional tech companies and start-ups.

- Industry:
  - Match funding for AI solutions across key sectors.
  - Invest up to £12m anticipated funding to support Next Generation Services Industrial Strategy Challenge.
  - Commit to £69m of industry funding for development of robotics and AI in extreme environments.
  - Globan Brain (Japan) opening first European HQ in the UK with intentions to disseminate £35m to UK deep-tech start-ups
  - BT and Ulster University investing in a new £29m AI R&D cluster.
  - IQE is to invest £38m to develop a high compound semiconductor as part of the £1.2bn City Deal.
  - Start-ups across the UK can utilise Digital Catapult’s ‘Machine Intelligence Garage’ to access expertise affordably and drive AI adoption.

Life Sciences

- A collaboration including more than 25 organisations across biopharma, medtech and diagnostics, charities and academia with the NHS as a key partner. The life sciences industry contributes over £70bn a year and 240,000 jobs to the UK economy.

Government will:

- Increase investment in R&D to 2.4% of GDP by 2027.
- Invest £146m support and grow medicines manufacture, doubling capacity at current centres, new advanced therapies treatment centres and innovation centres for medicine manufacture.
- Implement the Accelerated Access Review to streamline pathways for new technologies in the NHS and support small and medium-sized businesses - £86m funding.
- Commit £79m of funding to develop a cohort of healthy participants to a to enable research.
- Invest £50m in a digital pathology and radiology programme.
- Invest £37.5m for a network of regional Digital Innovation Hubs.

Industry:

- UCB is investing £1bn in one of their two global R&D UK hubs over five years.
- Over £200m of new investment from a range of companies including GW Pharmaceuticals, Roche, Celgene, IQVIA Ltd and Oxford Biomedica.
Business Environment
Introduction

Outline of this section

• This section provides an overview of Lancashire’s business environment. It covers:
  • Business density;
  • Business start-up and survival rates – including variations between Local Authority Districts;
  • Scale-up data on fast-growing businesses;
  • Sectoral mix – including variations between Local Authority Districts;
  • Business population by size of business;
  • Key sectors by Local Authority District;
  • Worker productivity by Local Authority District;
  • Export activity;
  • Priority sectors identified in the Strategic Economic Plan; and
  • Supply chains.

• In addition to national datasets identified in the introduction, it draws on the:
  • Lancashire Local Enterprise Partnership, Strategic Economic Plan
  • Enterprise Research Centre’s, UK Local Growth Dashboard, 2018

Key messages

• Business density in Lancashire is marginally higher than the North West average but it is lower than that of England.

• The proportion of the business stock that is made up of new businesses is significantly lower in Lancashire relative to regional and national averages.

• On the whole, Lancashire’s Local Authority Districts underperform in terms of business births and 5-year survival rates, when compared to the England average – however, the picture of business births and business survival varies significantly between Local Authority Districts.

• In terms of fast-growing Scale-up businesses, Lancashire outperforms the England average for Scale-ups from <£500k to £1m, but underperforms relative to England for businesses that are moving from £1-2m to £3m+.

• A smaller proportion of Lancashire’s business are micro-businesses than in England and the North West – conversely, a higher proportion of its businesses employ 10-49 staff.

• Lancashire’s economy has a specialism in manufacturing, a relatively high concentration of public sector activity, a low concentration of high-value added service activities – however there are significant variations in industrial structure between Lancashire’s Local Authority Districts.

• The Priority sectors identified in Lancashire Strategic Economic Plan are: Advanced Manufacturing, Construction, Creative & Digital, Energy and Environment, Financial & Professional Services, Health and Social Care, and Visitor Economy.

• Data on exports at local authority level are limited. Mid and East Lancashire are the largest exporters of goods. Experimental data on service exports show that Lancashire performs strongly on service exports as a proportion of its GVA.
Business density relative to regional and national averages

- There are 52,070 businesses in Lancashire, 260,060 businesses across the North West, and 2.3m businesses across England as a whole.
- Business density in Lancashire is marginally higher than the North West average but is significantly lower than the England average.
- The proportion of the business stock made up of new businesses is significantly lower in Lancashire relative to regional and national rates – indicating a relative lack of entrepreneurial activity in Lancashire.

Business survival and Scale-ups

**Business survival rates at 3 and 5 years**

- Lancashire lags slightly behind the North West and England in terms of its business survival rate at 3 years.
- Its relative performance is weaker in relation to business survival after 5 years – where it sits three percentage points behind the England average.

**Three year business survival**

<table>
<thead>
<tr>
<th>Region</th>
<th>Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lancashire</td>
<td>59%</td>
</tr>
<tr>
<td>North West</td>
<td>60%</td>
</tr>
<tr>
<td>England excl. L</td>
<td>61%</td>
</tr>
<tr>
<td>England</td>
<td>60%</td>
</tr>
</tbody>
</table>

**Five year business survival**

<table>
<thead>
<tr>
<th>Region</th>
<th>Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lancashire LEP</td>
<td>41%</td>
</tr>
<tr>
<td>North West</td>
<td>43%</td>
</tr>
<tr>
<td>England excl. L</td>
<td>43%</td>
</tr>
<tr>
<td>England</td>
<td>45%</td>
</tr>
</tbody>
</table>

Source: Business Demography & Business Counts, ONS 2010-2016

NB: Figures rounded to the nearest percentage point.

**Scale-ups**

- The Enterprise Research Centre’s UK Local Growth Dashboard draws on data from the Business Structure Database to highlight Scale-up performance (firms growing by 20% by employment a year over three years) by LEP area relative to the England average.

- The UK Local Growth Dashboards shows data for Lancashire in 2017:
  - 2.3% of Start-ups Scaling <£500k to £1m + in 3 years 2014-17 (%) – relative to an England average of 1.9%; and
  - 6.2% of Scaling Survivors £1-2m to £3m+ in 3 years 2014-17 (%) – relative to an England average of 7.5%.