

Our Economy 2018

With insights into global connections



Our Economy 2018

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Welcome from Andrew Hodgson, Chair, North East LEP

In March 2017, we published our refreshed North East Strategic Economic Plan (SEP), following a process of analysis and engagement with businesses, education and other economic partners. The SEP sets out how we, as a region, will create 100,000 more and better jobs by 2024.

At this time, we committed to further developing our economic evidence base to support regional economic policy making and to continue to refine the focus of the SEP as the economy changes. I am therefore delighted to welcome the publication of 'Our Economy'. This is the first annual update on our region's economic performance and provides a summary of progress to date against the targets set out in the SEP. There is an executive summary of this report available on our website.

Every time we publish this report, we will also take a deep dive into a key theme that is particularly relevant to our economy. This report focuses on the North East's role in the global economy, an important topic as we prepare for the UK's exit from the European Union and given that trade and export are a strong focus in the Government's Industrial Strategy. We recently set up the North East Economic Evidence Forum, which will provide a platform for new and collaborative research about

the North East economy in its national and international context. The forum is made up of representatives from the CBI, North East England Chamber of Commerce, IPPR North, regional universities, representatives from the seven local authorities, Bank of England and Analyst Network North East.

I am also excited to be able to launch the North East Data Hub in partnership with the North East Combined Authority (NECA). The Data Hub is a digital platform that gathers data from across the region on the economy and transport and allows users to access it in a simple, user friendly way.

I hope that you enjoy this report, find it a useful resource and have an opportunity to learn from or contribute to the debates and discussions which flow from it. I would like to thank the many organisations and individuals who have contributed to its content and the members of the North East LEP team who have co-ordinated the process and drawn it together.

Andrew Hodgson
Chair, North East LEP

“
Our Economy will provide
the focus for ongoing debate
and discussion to help
us address the economic
challenges and opportunities
the North East faces.
”



An overview from Victoria Sutherland, Senior Economist, North East LEP

The first 'Our Economy' report sets out how the North East economy is performing against a wide range of indicators. The indicators have been chosen to reflect the international evidence on what drives regional economic growth and the issues and priorities identified in the SEP. Key messages from the evidence include:

- Since the SEP was first published in 2014, the North East economy has grown, with increases in productivity and employment
- Good progress has been made against four of the six SEP targets, with employment increasing, especially in more highly skilled occupations. The gap with England excluding London on the employment rate and economic activity rate has reduced
- There have also been improvements across a wide range of indicators such as business births, the unemployment rate and the qualifications' profile of residents
- The areas that require action to improve performance of the North East economy include increasing the number of jobs, increasing the skills and employability of residents, helping businesses to grow and

encouraging innovation and investment – reinforcing the priorities identified in the SEP.

'Our Economy' has also explored the role of the North East in the global economy. This has highlighted how interconnected the North East is to the rest of the world. It is important that partners across the North East work to strengthen international relationships and support businesses to maximise the opportunity that international markets bring to our region.

The evidence in this report will influence our programme of work to deliver the SEP and we encourage our partners to also make use of this resource.

We are aware that there are some data gaps within our region and we will work with partners over the next twelve months to address these.

Victoria Sutherland
Senior Economist, North East LEP

“
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Introduction

The North East LEP area covers seven local authority areas:

County Durham

Gateshead

Newcastle

North Tyneside

Northumberland

South Tyneside

Sunderland

Traditionally, the North East economy was dominated by mining and manufacturing. Manufacturing remains an important part of the regional economy.

It is growing with clusters in automotive and medicines, and is increasingly advanced in profile. The wider regional economy has grown, developed and diversified over the last 40 years.

In addition to the manufacturing base, the North East has:

- Key assets in the energy sector, in particular in offshore energy and in other energy technologies and utilities
- A strong life sciences sector including medicines' manufacturing, science and research and a strong and innovation-focused health service
- A rapidly growing digital and creative sector with a number of specialisms
- Strengths in a number of services sectors including financial professional and business services, education and transport and logistics
- A higher proportion of employment in the public sector than other areas. Over and above the services of our local authorities, we have strong education and health services, and a concentration of shared service and back office functions for government and other agencies
- The North East also has a strong tourism and cultural sector and food and rural sectors reflecting the extensive rural area.

The Our Economy report

Provides an annual overview of the North East LEP area economy and how it is changing over time

Provides a resource for partners to inform decision making

Positions the North East for future opportunities, including those arising from the Industrial Strategy White Paper.

A deep dive into the North East in the global economy

As well as providing an overview of the North East economy. Each year, Our Economy will review a topic in more depth. This year's report has examined the region's connections to the global economy.

Trade in goods and services, international investment, business and academic networks and other international connections are critically important to the prosperity of region.

Data on the North East's international connections will support partners in the region to plan for the post-Brexit period.

Notes on the use of data

Throughout this report, it should be noted that:

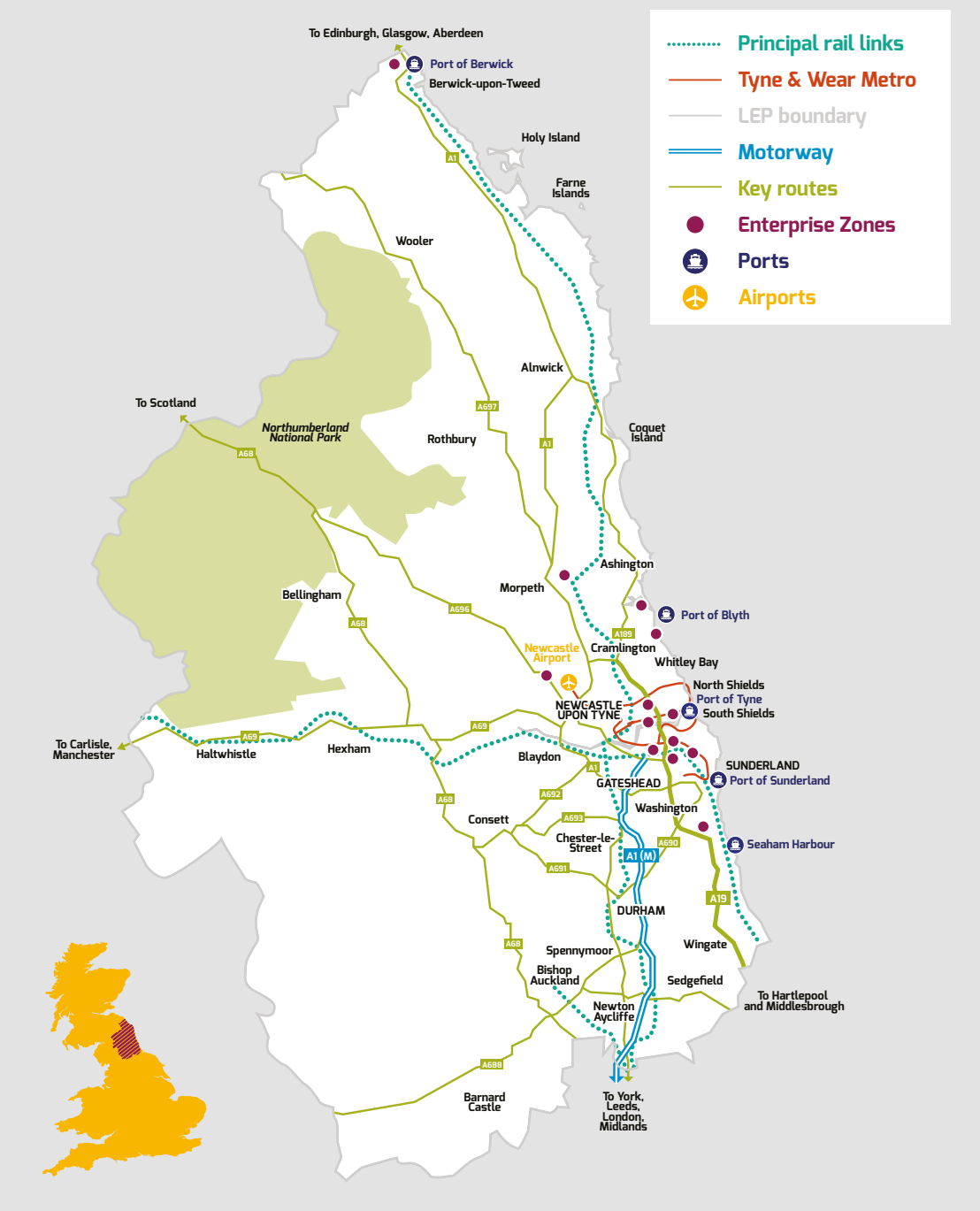
- The most recent available data has been used. This is generally for 2016 or 2016/17
- Change over time has been measured since 2014, to reflect the publication date of our SEP
- The North East LEP area has been benchmarked against England excluding London in line with our SEP targets. Where possible and it adds value, comparative data has also been provided for the other core city LEP areas. In a small number of cases, where data was not available for England excluding London, England or the UK have been used as an alternative benchmark
- Not all datasets are available at a LEP level. Where LEP level data is

not available, data for the North East region as a whole, which includes the Tees Valley LEP area, has been used. To differentiate, where these are used, we refer to the North East region. A clear priority going forward is to work with data providers to encourage them to publish more data at a LEP level

- Where data has a monetary value such as GVA and value of loans, nominal values have been given, which means that data has not been adjusted to account for inflation
- From time to time data sources available to the North East LEP will change as a result in change in the ways in which data is collected or reported by ONS or other data providers. We will keep the data sources under review and where necessary will change the indicators we use or report in consultation with the North East Economic Evidence Forum.

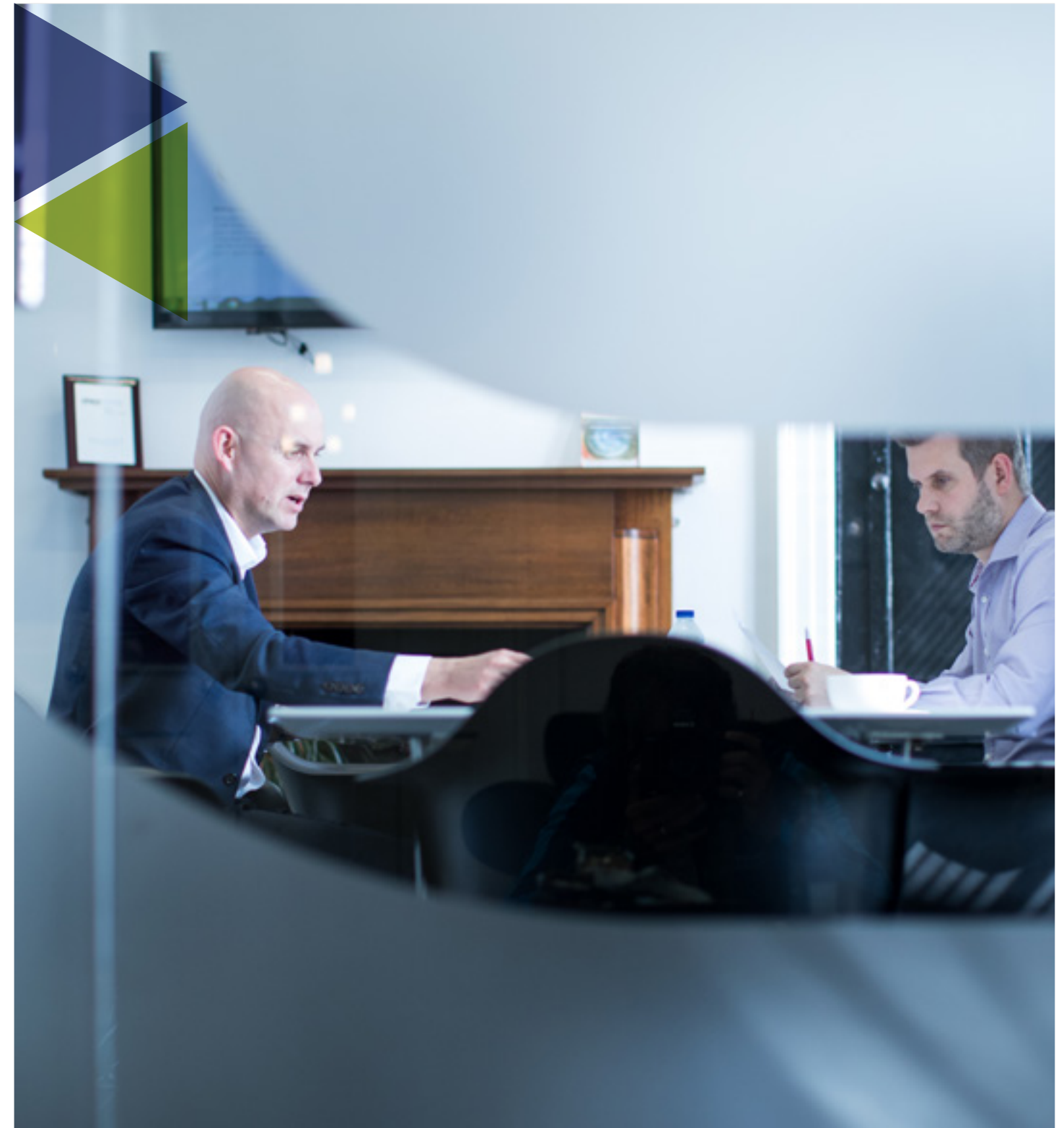


Map of the North East LEP area



Section 1

Update on
SEP targets



Update on SEP targets

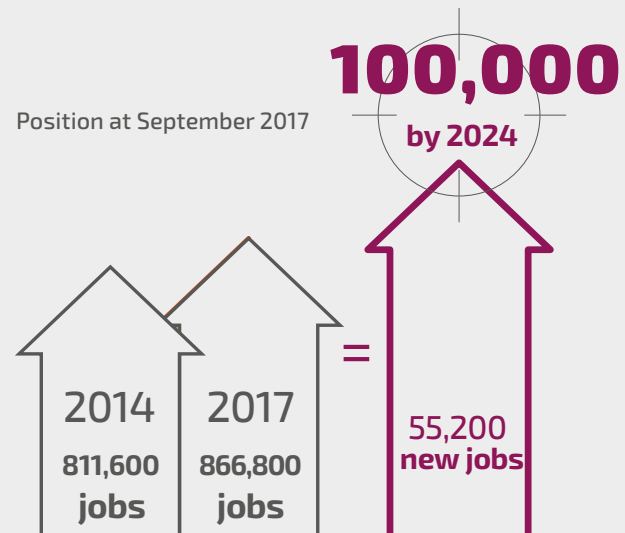
The SEP sets out six targets for the region to achieve between 2014 and 2024. Here is an update on how we are doing.

The SEP sets two targets that relate to creating more and better jobs for the North East LEP area.

More jobs

In 2014, there were 811,600 jobs in the North East LEP area. The aim is to increase this by 100,000 to 911,600 by 2024.

Progress: By September 2017, the total number of jobs in the North East LEP area had increased by 55,200.

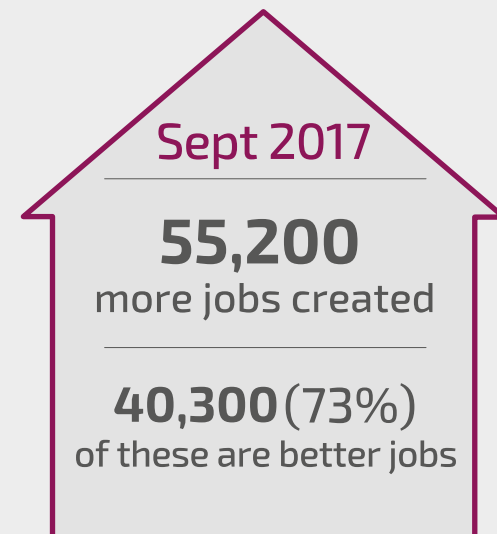


Source: Annual Population Survey - Workplace Analysis (Nomis)

Better jobs

We want 70% of the additional 100,000 jobs to be 'better jobs'. Better jobs are defined as managers, directors and senior officials; professional occupations (such as civil engineers and doctors); and associate professional and technical occupations (such as laboratory technicians and graphic designers).

Progress: Of the 55,200 additional jobs since 2014, 73% 40,300 are 'better jobs'.



Source: Annual Population Survey - Workplace Analysis (Nomis)

We also have four targets that compare the North East LEP area performance with English averages, excluding London.

Private sector employment

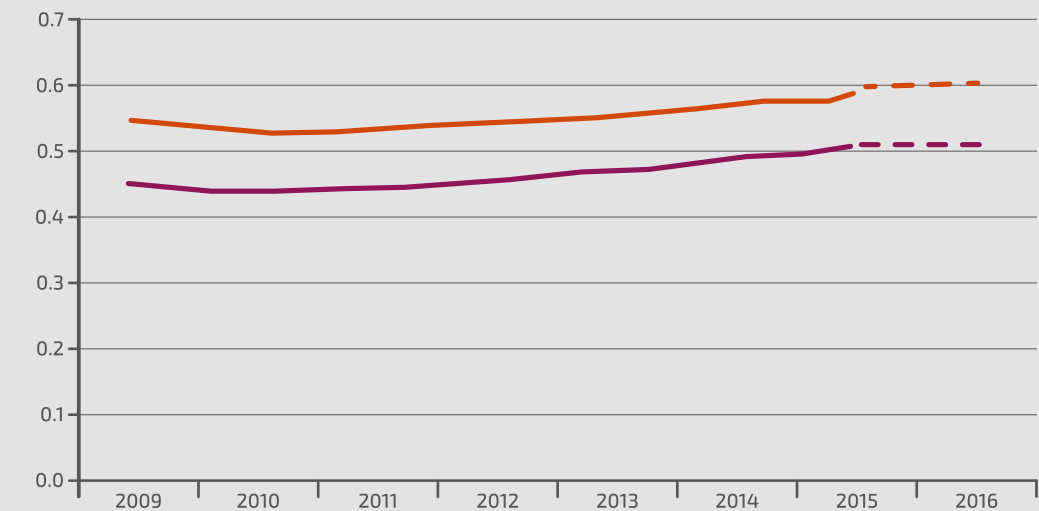
We want the number of private sector jobs per head in the region to increase and close the gap with England excluding London by 50% by 2024.

This target is based on data from the Business Register and Employment Survey (BRES). Between 2014 and 2015, the gap between the North East LEP area and England excluding London had reduced by 16%.

In 2016, the businesses counted within BRES was broadened to include businesses with employment counts of less than 20 that paid PAYE but not VAT. Data was published for both 2015 and 2016 using the new coverage. Unfortunately, this means there has been a discontinuity in the availability of data to measure against this SEP target indicator. We propose to continue to measure against this target using the revised dataset, with 2015 as a revised baseline year.



Progress: Between 2015 and 2016, the gap had widened on this measure. This reflects a small increase in private sector employment per head across England excluding London, whilst the rate remained stable in the North East LEP area.



— North East LEP — North East LEP (revised method) — England excl. London — England excl. London (revised method)

Source: Business Register and Employment Survey - (Nomis)

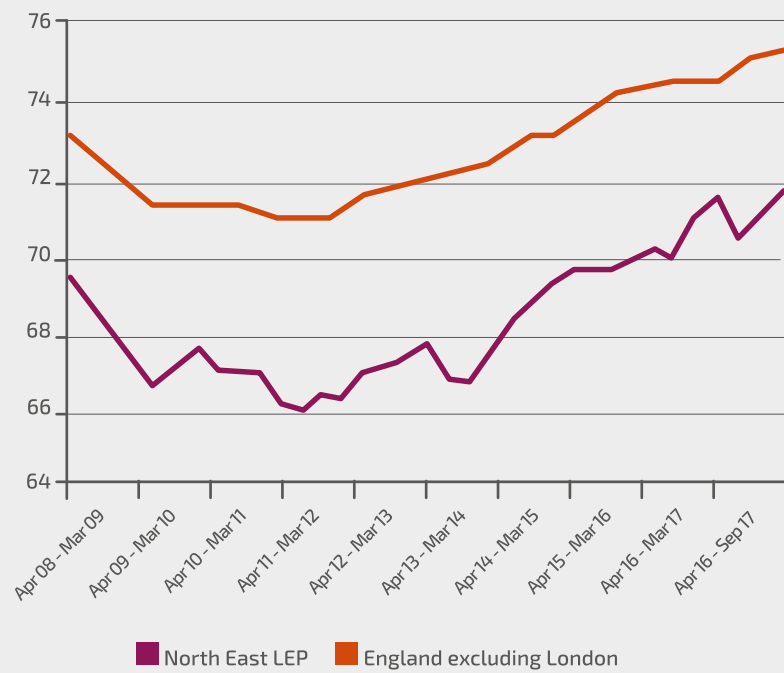
Employment rate

It is important that residents in the North East LEP area are benefiting from the additional jobs created.

To measure this, we set a target to close the gap between the North East's employment rate for 16-64 year olds with England excluding London by 100% by 2024.



Progress: By September 2017, the gap between the North East LEP area and England excluding London had reduced by 28%.



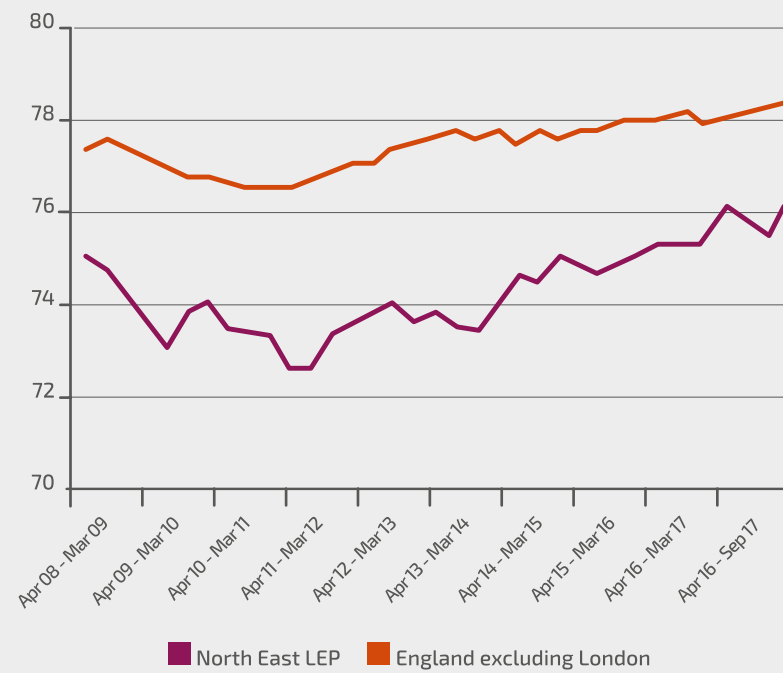
Source: Annual Population Survey (Nomis)

Economic activity rate

The economic activity rate measures the proportion of people aged 16-64 who are participating in the labour market, including those employed and those out-of-work but actively seeking a job. We want to reduce the gap between the North East's economic activity rate and England excluding London by 50% by 2024.



Progress: By September 2017, the gap between the North East LEP area and England excluding London had reduced by 35%.



Source: Annual Population Survey (Nomis)

Gross Value Added per full-time equivalent (FTE) job

Gross Value Added (GVA) measures the contribution to the economy of each individual producer, industry or region in the United Kingdom. GVA per full-time equivalent (FTE) job is a way of measuring productivity.

The SEP aims to reduce the gap between the North East and England excluding London on GVA per FTE by 50% by 2024. Between 2014 and 2015, the gap between the North East LEP area and England excluding London had increased by 9%.

However, there has been a discontinuity in the data that underpins this measure. Changes have also been made to regional GVA data (with a new balanced GVA figure published for the first time in December 2017).

Whilst it would be possible to use 2015 as a revised baseline, the North East LEP is taking this change as an opportunity to review the target with its partners and will report on next steps in due course.



Overall Performance of North East LEP area economy

This report will explore a wide range of different elements of the North East's economy. Before doing this, it is worth considering overall performance.

Size of the North East economy

Gross Value Added (GVA) measures the value of the goods and services produced in an area, industry or sector - and is used to estimate the size of their economies. In 2016, the GVA of North East LEP area was £38.7 billion, which is 2.6% of English GVA.

As different areas vary in size, it can be difficult to compare regional economies using GVA. To overcome this, GVA is divided by the number of people living in the area to allow comparisons to be made across geographies of different sizes.

In 2016, the GVA per head of the North East LEP area was £19,658. This is below the GVA per head of England excluding London (£23,659) and England as a whole (£27,060).

GVA per head increased by 5.2% between 2014 and 2016 in the North East LEP area, slightly below the England excluding London rate of increase (5.4%).

Care must be taken in interpreting this increase, as inflation will mean the rate of growth is much lower in real terms. However, the ONS does not currently publish data at a LEP level.

Gross Value Added (GVA) per head, North East LEP, England excluding London and England, 2016



Source: Regional Gross Value Added (income approach) (ONS)



In 2016, the GVA of North East LEP area was £38.7 billion, which is 2.6% of English GVA

Understanding the North East's performance

In How Regions Grow (2009), the Organisation for Economic Co-operation and Development (OECD), outlined the key factors that underpin the size of a region's economy. These are:

- The size and structure of the region's population
- The proportion of the region's population that are in employment
- The productivity of those in employment.

In relation to the North East, the key issues that underpin our lower level of GVA per head compared to England excluding London are:

- A lower proportion of population that are in employment
- A lower level of productivity.

However, both have increased since 2014 and the gap between the North East LEP area and England excluding London on the employment rate has narrowed.

Components of GVA

$$GVA = Population \times \frac{Working\ age\ population}{Population} \times \frac{Economically\ active}{Working\ age\ population} \times \frac{Employment}{Economically\ active} \times Productivity\ per\ worker$$

Overall performance of North East LEP area economy

Indicator	Most recent data	Change since 2014W	NE as % of England excl. London	Gap closing with England excl. London
GVA per head	£19,658 (2016)	Increased by 5.2% (nominal)	83	No change
Population	1.97 million (2016)	Increased by 0.7%	-	-
Working age population as % of total population	63.3% (2016)	Decreased by 0.5 percentage points	102	No change
Economically active as % of working age population	76.1% (Oct 2016 to Sep 2017)	Increased by 1.6 percentage points	97	Yes
Employment as % of working age population	71.2% (Oct 2016 to Sep 2017)	Increased by 3.1 percentage points	95	Yes
Productivity (GVA per hour worked)	£28.70 (2016)	Increased by 4.5% (nominal)	88 (UK)	No change (UK)

Sources: Regional Gross Value Added (income approach) (ONS); Population estimates (Nomis); Annual Population Survey (Nomis); and Subregional productivity (ONS)
 Notes: 1. 'Employment as % of working age population' used instead of the OECD measure of 'employment rate as % of economically active population' as this is the more commonly used (and understood) measure in UK and is used in the SEP targets. 2. To ensure that seasonal factors are not affecting comparison, the same time periods are used for both the most recent year and the 2014 benchmark year for each indicator. For example, the most recent Annual Population Survey data is for the period July 2016 to June 2017 - so July 2013 to June 2014 is used as the comparator. 3. Productivity (GVA per hour worked) is nominal unsmoothed

Section 2

SEP programmes of delivery: data and actions

The six programmes are:

Business growth and access to finance

Supporting innovation

Skills

Employability and inclusion

Economic assets and infrastructure

Transport and digital connectivity



Business growth and access to finance

Why is this important?

The Enterprise Research Centre (2013) estimates that between 2007 and 2010 growth businesses accounted for 59% of job creation, with 'high growth' businesses accounting for 22% of job creation despite being just 1% of job creating firms.

Business growth is aligned with the SEP targets to increase the number of jobs in the North East by 100,000 and to reduce the gap in private sector job density with England excluding London by 50% by 2024.

The importance of high growth businesses is reflected in the Industrial Strategy and the establishment of the Scaleup Task Force.

What does the data tell us?

- The North East LEP area has fewer businesses per head than England excluding London and fewer business births and deaths. Whilst the North East underperforms on these measures, it has made progress against each of them since 2014 - suggesting the business base is growing and becoming more dynamic
- Whilst business growth (for both start-ups and existing businesses with a turnover of £1-£2 million) is slightly below the English rate, the gap is relatively small and the North East outperforms a number of other core city LEPs. This suggests that

the smaller business base is not adversely affecting the North East's ability to generate growth businesses

- The value of goods exports per head in the North East region is higher than across England excluding London. The value of good exports has increased since 2014/15. Whilst the value of service exports per head is lower in the North East region than across England excluding London, it increased between 2014 and 2015
- In 2016/17, the North East LEP area had almost three times the number of jobs created/safeguarded due to foreign direct investment (FDI) projects than England excluding London.



Business growth in the North East LEP area economy

Indicator	Most recent data	Change since 2014	NE as % of England excl. London	Gap closing with England excl. London
Private sector enterprises per 10,000 adult population	319 (2017)	Increased by 44 enterprises per 10,000 adults	67	No change
Business births per 10,000 adult population	45 (2016)	Increased by 2 births per 10,000 adults	63	No - widened
Business deaths per 10,000 adult population	37 (2016)	Increased by 5 deaths per 10,000 adults	68	No - widened
% of start-ups scaling turnover from less than £500,000 to £1 million in 3 years	1.6% (2013-16)	Decreased by 2.2 percentage points	80 (England)	No - widened (England)
% of scaling survivors increasing turnover from £1-2 million to £3 million in 3 years	6.4% (2013-16)	Increased by 2.1 percentage points	94 (England)	No - widened (England)
Value of exports in goods per head	£4,801 (Oct 2016 to Sept 2017)	Increased by £60 per head	108	No - narrowed
Value of export in services per head	£1,337 (2015)	Increased by £46 per head	64	Yes
Jobs created and safeguarded through Foreign Direct Investment projects per 10,000 adult population	41 (2016/17)	Increased by 31 jobs per 10,000 adults	297	Not available

Sources: UK Business Counts (Nomis), Business demography (ONS), UK Local Growth Dashboard (Enterprise Research Centre), HMRC Regional Trade Statistics, Regionalised estimates of UK service exports (ONS) and Department for International Trade.

Notes: To ensure that seasonal factors are not affecting comparison, the same time periods are used for both the most recent year and the 2014 benchmark year for each indicator. For example, the most recent HMRC Regional Trade Statistics data is for the period October 2016 to September 2017 - so October 2014 to September 2015 is used as the comparator.

Wider commentary

Business base

In 2017, there were 52,010 private sector enterprises in the North East LEP area.

- This is equivalent to 319 private sector enterprises for every 10,000 adults in the North East
- If the North East LEP had the same rate of private sector enterprises per head as England excluding London, there would be an additional 25,800 enterprises

Looking at the private sector enterprises in the North East LEP area in more detail:

- In common with the national picture, the majority are micro-enterprises (employing between 0 and 9). There are 45,470 enterprises in this category, accounting for 87% of all private sector enterprises
- 5,460 enterprises are small (employing 10 to 49), 890 are medium (employing 50 to 249) and 190 are large (employing 250 or over). A slightly higher proportion of enterprises in the North East LEP area are medium or large than in England excluding London (2.1% compared to 1.7%)
- The sector profile is broadly similar to the national picture and those in other core city LEPs.

Business births and deaths

In 2016, there were 7,355 business births in the North East LEP area. This is equivalent to 45 births for every 10,000 adults in the region.

If the North East had the same business birth rate as England excluding London, there would have been approximately 11,700 business births in 2016 – over 4,300 more.

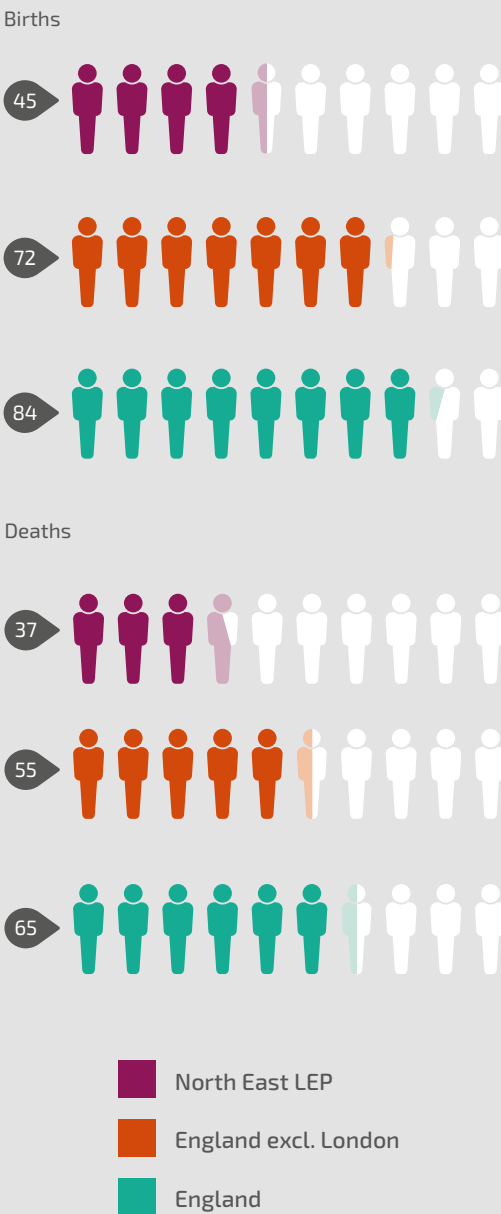
6,100 businesses closed in the North East LEP area during 2016. This is equivalent to 37 closures for every 10,000 adults in the region. Again, this is below the England excluding London (55 per 10,000 adults).

Whilst this would initially appear to be a positive finding, research has shown that the most dynamic and successful regions have both high birth and death rates.

There is a strong connection between high birth rates and high death rates for two reasons:

- Approximately one quarter of start-ups close in first two years
- Some start-ups displace existing companies, for example, by introducing better products or processes.

Business births and deaths per 10,000 adult population, North East LEP, England excluding London and England, 2016

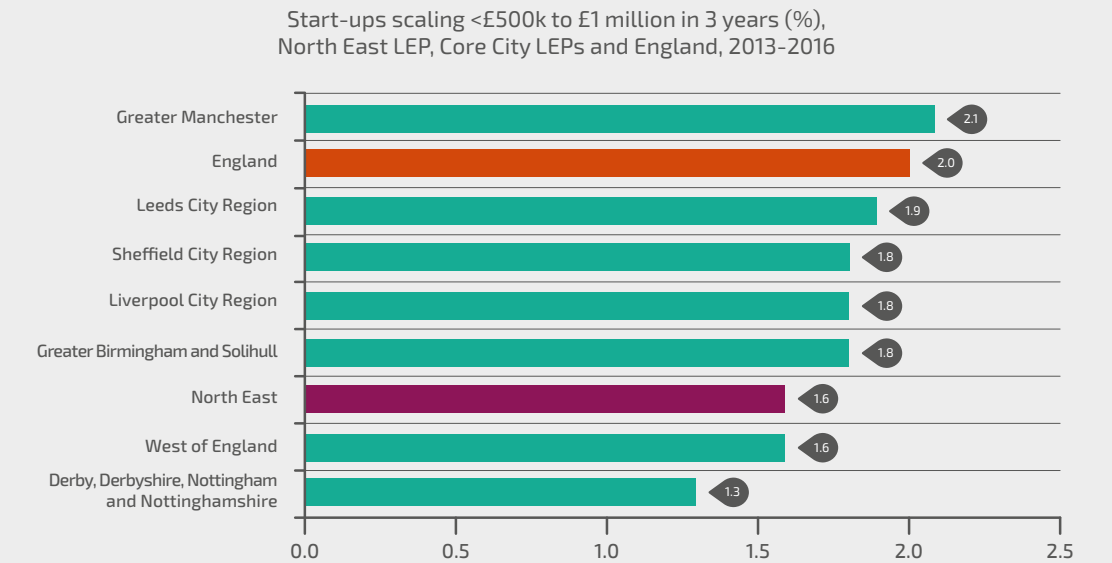


Source: Business demography (ONS)

Business growth

The proportion of 2013 start-ups in the North East LEP area that survived to 2016 and were generating more than £1 million in revenues in 2016 was 1.6%, below the English average (2.0%).

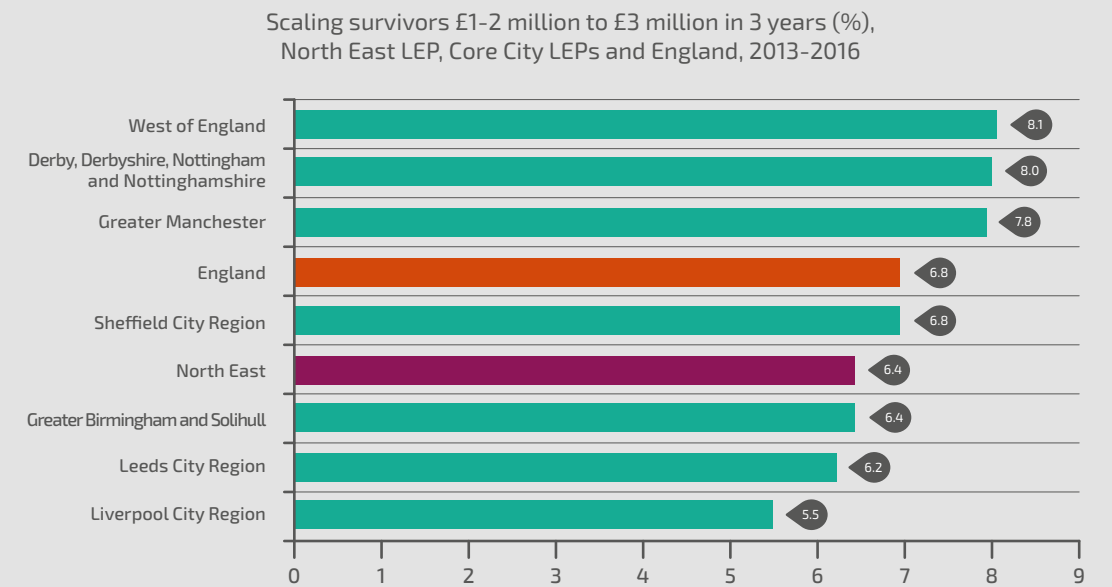
The North East is ranked sixth out of the eight core city LEPs.



Source: UK Local Growth Dashboard 2017 (Enterprise Research Centre)
Note: England excluding London data not available

The proportion of businesses within the North East LEP area with a turnover of £1 million to £2 million in 2013 that increased turnover to £3 million or more by 2016 was slightly below the English average (6.4% compared to 6.8%).

The North East LEP was ranked fifth out of the eight core city LEPs on this measure.



Source: UK Local Growth Dashboard 2017 (Enterprise Research Centre)
Note: England excluding London data not available

PRIVATE SECTOR ENTERPRISES
52,010

In 2017, there were 52,010 private sector enterprises in the North East LEP area

Access to finance

Loan finance

In 2016/17 (year to September), 4,263 loan facilities were approved for North East region SMEs. The value of loan facilities approved was £420million.

A higher number of bank loans per enterprise were approved in the North East region than across England excluding London (29 per 1,000 enterprises compared to 18), but the average loan size is only around two-thirds of the England excluding London level (£98,500 compared to £152,900).

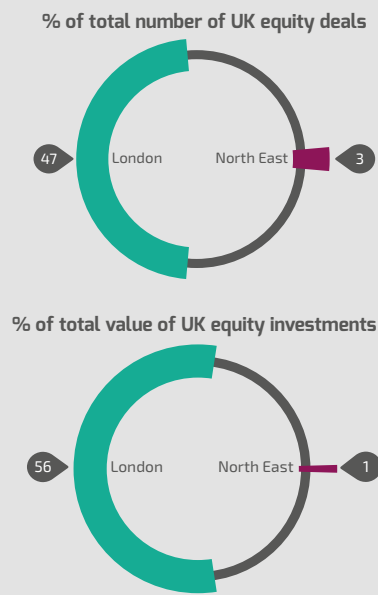
Equity finance

In 2016, the North East region accounted for 1% of UK equity investment by value and 3% of UK equity deals.

- 69% of equity deals in the North East region in 2016 involved Government funds
- Software is a key sector for North East region equity investments. Software accounted for almost a quarter of all equity investment in 2016 in the North East.

One of the key factors that underpins the lack of equity investment in the North East region is the limited presence of private sector equity investors with just eight venture capital (VC) investors based in the region.

Proportion of equity investments and deals by region and devolved administration, 2016



Source: Small Business Finance Markets (British Business Bank)

Number of unique equity investors per region and devolved

	VC listed as one investment strategy	VC listed as primary investment strategy
London	531	305
South East	42	26
East of England	34	25
North West	27	15
West Midlands	18	11
East Midlands	9	8
North East	8	4
South West	8	4
Yorkshire and Humber	7	4

Source: Small Business Finance Markets (British Business Bank)

The Finance for Business North East Fund

From 2010 to 2016, North East Finance Limited (holding fund managers) managed the Finance for Business North East Fund (FBNE).

FBNE invested in businesses throughout the North East LEP and Tees Valley Combined Authority areas.

The total fund value was £160m and this was split into seven funds available that were managed by five fund managers.

The funds were a mixture of debt, equity and mezzanine finance.

Over the investment period there were 938 investments made. although some of these were follow-on investments into existing investees.

The primary aims of the fund were to:

- Safeguard existing jobs
- Create new jobs
- Leverage private sector monies
- Generate portfolio returns to a 'legacy' fund.

Stakeholders in the fund were the European Investment Bank (EIB), European Regional Development Fund (ERDF), legacy monies and latterly the North East LEP to provide match for an extension of the fund.



International trade

Between October 2016 and September 2017:



The value of exports in goods from the North East region was

£12.7 billion

The value of imports in goods into the North East region was

£13.2 billion

Exports in goods

- In 2016, 59% of the North East's exports in goods were to the EU and 41% were to non-EU countries
- The trends across these two markets have varied with:
 - North East exports in goods to the EU having increased 7% between 2014/15 and 2016/17, from £6.9 billion to £7.4 billion
 - North East exports in goods to non-EU countries having decreased between 2014/15 and 2016/17, from £5.5 billion to £5.2 billion (a decline of 5%)
- The North East accounted for 5.3% of all English exports in goods between October 2016 and September 2017. Within this, the North East accounted for a larger

proportion of English exports to the EU (6.3%) than to non-EU countries (4.2%).

A number of studies looking at specific industries have suggested that HMRC data may underestimate the scale of exports from the North East region. Goods exports are allocated on the proportion of the exporting business' employees in the region. Where this is not an accurate proxy for the proportion of exports from the region, the North East will be unrepresented.

Exports in services

In 2015 the value of service exports from the North East region was £3.5 billion.

- This is an increase of £0.7 billion or 25% compared to 2011 (earliest data available)
- The North East accounted for just 1.8% of the England's service exports in 2015. This is a much smaller proportion than for trade in goods (5.3%).

Inward Investment

In 2016/17, the North East LEP area secured 56 foreign direct investment (FDI) projects. These investments:

- Secured 3,934 new jobs
- Safeguarded 2,750 existing jobs.

In addition, the North East was part of eight 'multi-region' FDI projects. 55% of investments secured by the North East LEP area were expansions, 34% were new investments and 11% were mergers and acquisitions. The number of jobs created and safeguarded through FDI has increased in the North East each year between 2013/14 and 2016/17 (from 1,609 to 6,684).

What next?

The North East is performing well on a number of indicators, including exports and inward investment. It is making progress on the size and dynamism of the business base. Further work is needed to build on this progress and close gaps with England excluding London. Priorities include:

- Supporting businesses to start-up, scale up and grow. The North East LEP is helping to contribute to this through the delivery of the North East Growth Hub and the launch of Scaleup North East in January 2017
- Improving access to finance. The North East Fund will provide £120 million of debt, equity loans and mezzanine funds to over 600 North East SMEs
- Encouraging inward investment into the region and ensuring the benefits of inward investments are maximised. The North East LEP is working with Invest North East England, DIT and others to promote the region and build links between inward investors and the wider North East economy
- Supporting businesses in the North East to internationalise, building on our already strong trading record. Again, the North East LEP is working with DIT and other partners to support businesses to develop their international links.



Supporting innovation

Why is this important?

By bringing forward new products and processes, innovation plays a key role in improving the North East's productivity and competitiveness.

Sources of data available on innovation are limited and focus on those aspects of innovation that are measurable, such as business expenditure on research and development (R&D) and patents approved.

There are limited data that capture the importance of networks, relationships and the diffusion of innovation. Most data on innovation is only available for the North East region.

What are the key findings from the data?

- 53% of businesses report they are innovation active - the same proportion as the UK as a whole
- Science, research, engineering and technology professionals account for 4.5% of the North East LEP's employment with a further 1.8% employed in science, engineering and technology associate professional roles. The North East had a smaller proportion of its employment in these occupations compared to England excluding London in 2016/17. The numbers employed in both occupations in the North

East LEP area have increased since 2013/14 and the proportion of total employment that is in science, research, engineering and technology professional roles has increased

- Business expenditure on R&D and patents granted per head are low compared with England excluding London but both have increased since 2014
- The North East region has a similar per capita spend on R&D undertaken by higher education institutions as England excluding London, but a lower per head spend on R&D undertaken by government bodies.

Innovation in the North East LEP economy

Indicator	Most recent data	Change since 2014	NE as % of England excl. London	Gap closing with England excl. London
% of businesses that are innovation active	53.0% (2012-14)	Not available	100 (UK)	Not available
Business expenditure on R&D per 10,000 adult population	£1.4m (2016)	Increased by £0.1 million per 10,000 adult population	29	No change
Business employment in R&D per 10,000 adult population	18 (2016)	Decreased by 0.1 jobs per 10,000 adult population	42	No - widened
Higher education expenditure on R&D per 10,000 adult population	£1.1m (2015)	Decrease of £0.1m expenditure per 10,000 adults	95	No - widened
Government expenditure on R&D per 10,000 adult population	£0.2m (2015)	Not available	55	Not available
Patents granted per million adult population	23.1 (2016)	Increased by 2.6 patents per million adult population	41	No change
% employed in science, research, engineering and technology professional roles	4.5% (Oct 2016 to Sep2017)	Increased by 0.6 percentage points	87	Yes
% of employment in science, engineering and technology associate professional roles	1.8% (Oct2016 to Sep2017)	Decreased by 0.2 percentage points	90	No - widened

Sources: UK Innovation Survey (BEIS) Annual Population Survey Workplace Analysis (Nomis), Business Expenditure on R&D (ONS), Country and regional breakdown of expenditure on R&D in the UK (ONS) and Patents (Intellectual Property Office)

Wider commentary

Innovation activity in businesses

53% of North East businesses report they were innovative active between 2012 and 2014 – the same proportion as across the UK as a whole.

North East region businesses defined as 'broad innovators' are more likely than non-innovators in the region to:

- Export
- Employ science and engineering graduates
- Employ other graduates.

The North East region lags the UK on all

three measures.

North East region innovative businesses are more likely than UK innovators to employ individuals with following skills:

- Multimedia/web design
- Engineering/applied sciences
- Mathematics/statistics.

Business expenditure and employment on research and development

Expenditure on R&D by North East region business was £302 million in 2016.

- This is 1.5% of total English expenditure on R&D by businesses

- £1.4 million was spent on R&D by North East region businesses for every 10,000 adults in 2016. This compares to £4.8million across England excluding London and is about a sixth of the rate of expenditure in the best performing region (East).

4,000 full-time equivalents were employed in R&D in businesses in the North East region in 2016.

- This is 2.2% of total English employment in R&D in businesses
- There were 18 individuals employed in undertaking R&D within businesses in the North East region for every 10,000 adults. This is lower than other regions and devolved administration and less than half of the English excluding London average of 44.

Expenditure (£ million) and employment by UK businesses on performing R&D by region, 2016

	Expenditure (£ million)	Expenditure (£ million) per 10,000 adult population	Employment (000s)	Employment per 10,000 adult population
East	4,393	8.9	37	75
South East	4,693	6.4	42	58
West Midlands	2,303	4.9	19	41
England	20,237	4.5	186	42
England excluding London	17,941	4.8	166	44
East Midlands	1,655	4.3	17	44
North West	2,346	4.0	17	29
South West	1,500	3.3	18	40
London	2,296	3.3	20	29
Northern Ireland	481	3.3	7	47
Scotland	1,072	2.4	12	27
Yorkshire and the Humber	750	1.7	10	23
North East	302	1.4	4	18

Source: Business Expenditure on R&D (ONS)

Patents, trademarks and designs

North East region has amongst the lowest rates of:

- Patents granted
- Trademarks registered
- Designs registered.

The North East region has amongst the lowest rates of approvals for patents and designs but the variation between regions on this is more limited than for patents granted and designs registered, suggesting that the main reason for the North East's lower level of patents

granted and designs registered is fewer applications.

Research specialisms

Analysis of funding distributed by the UK Research Councils and Innovate UK over the last 10 years has found that the research subjects for which the North East region has secured the most funding are energy, information and communications technologies, astronomy – observation, civil engineering and built environment and materials science.

Combined, the region has secured £165.2 million in funding in those five areas.

Looking at those subjects where the North East region has secured a disproportionate share of UK funding (measured using a location quotient), energy, astronomy – observation, civil engineering and built environment, geosciences, chemical synthesis, astronomy – theory, superconductors, magnetic and quantum fluids, and environmental engineering all have a location quotient of 1.5 or above. This means the North East region has 50% or more funding that would have been expected if funding was evenly distributed throughout the UK.

Patents granted by region, 2016

	Patents granted	Patents granted per million adult population
East	407	82.1
South West	321	70.6
South East	493	67.5
West Midlands	282	60.4
London	400	57.2
England	2,502	55.9
England excluding London	2,102	55.7
North West	241	41.2
East Midlands	152	39.5
Yorkshire and the Humber	156	35.5
North East	50	23.1

Source: Patents (Intellectual Property Office)

Top 20 research subjects by funding awarded, North East region, 2007 to 2017

	No. of projects	Funding (£ millions)	% of UK funding	Location Quotient
Energy	79	46.2	7.50	2.56
Information and communications technologies	134	40.5	3.14	1.07
Astronomy – observation	58	29.9	9.02	3.07
Civil engineering and built environment	46	28.7	10.51	3.58
Materials sciences	80	19.9	3.67	1.25
Geosciences	143	18.0	7.03	2.40
Particle physics – experiment	27	15.6	3.79	1.29
Chemical synthesis	52	11.5	4.56	1.56
Atomic and molecular physics	23	11.0	4.09	1.40
Medical and health interface	39	10.0	3.01	1.03
Astronomy – theory	17	9.4	20.38	6.95
Optics, photonics and lasers	21	8.1	3.11	1.06
Superconductors, magnetic and quantum fluids	23	8.0	4.52	1.54
Process engineering	33	7.5	3.91	1.33
Tools, technologies and methods	80	6.5	1.92	0.65
Environmental engineering	19	6.5	16.86	5.75
Chemical measurement	29	6.4	3.88	1.32
Mathematical sciences	45	5.7	1.43	0.49
Catalysis and surfaces	46	5.7	2.57	0.88
Climate and climate change	77	4.8	2.62	0.89

Source: Analysis by Technopolis based on RCUK Gateway to Research

What next?

Over half of businesses in the North East are innovation active and the proportion employed in science, research, engineering and technology professions is growing. In addition, the region has a number of research specialisms where it has been successful in securing funding. However, the North East continues to lag behind England excluding London on a wide range of more traditional 'hard' innovation indicators. Going forward, it will be important to:

- Grow investment from the public and private sectors in R&D and innovation in the North East. The North East LEP has participated in a number of Science and Innovation Audits to help build the case for investment in the North East's key specialisms and works with the Innovation SuperNetwork and is developing key projects such as 5GNE which aims to attract global R&D and Finance Camp for business
- Ensure appropriate infrastructure and ecosystems are in place to support innovative ideas to be developed and exploited. The North East LEP is supporting this through the development of sites, incubators and business support services such as the Innovation SuperNetwork and by attracting global R&D investment in 5G to develop new service models across a range of sectors
- Support the SEP areas of opportunity (Tech North East; Making the North East's future; Health Quest North East; and Energy North East) to develop and grow. These have been selected because they offer distinctive growth opportunities, often based on the innovative ideas being developed and implemented within the specialism. The North East LEP is working with industry partners in each area of opportunity to develop a strategy for growth.

Skills

Why is this important?

Investment in human capital is a key driver of regional growth. Skills play a key role in determining the productivity of workers. In general, more highly skilled workers are more productive - but skills must be relevant and reflect the needs of local employers.

The skills programme in the SEP is focused on improving skills levels and improving the matching between labour market demand and supply.

What are the key findings from the data?

- The key challenge that the North East LEP area faces is that there are fewer

employment opportunities per head than England excluding London. The SEP has prioritised this by setting a target to increase the number of jobs by 100,000 by 2024

- The proportion of the North East LEP area population that is working age (that is defined as 16 to 64) is slightly above that of England excluding London
- Whilst the North East LEP area has lower rates of economic activity and employment than England excluding London, these rates have increased since 2014 and the gaps with England excluding London have narrowed on both measures

- The working age population of the North East has a lower qualifications profile than England as a whole with more individuals having no qualifications and fewer with high level qualifications (NVQ level 4 or above). However, the North East LEP area has made progress on this since 2014, with the proportion with high level qualifications increasing and the proportion with no qualifications decreasing
- Fewer employers in the North East LEP than across England excluding London reported that they had experienced skills shortage vacancies.



Skills in the North East LEP economy

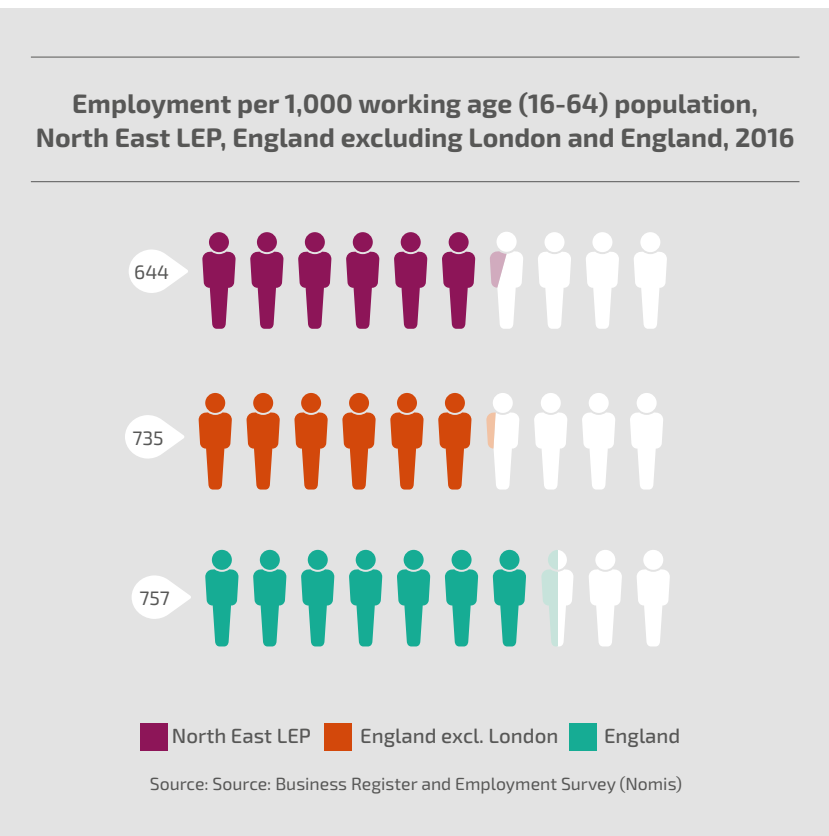
Indicator	Most recent data	Change since 2014	NE as % of England excl. London	Gap closing with England excl. London
Employment density per 1,000 working age population	644 (2016)	Decreased by 7 jobs per 1,000 adult population (2015)	88	No - widened
Working age population as % of total population	63.3% (2016)	Decreased by 0.5 percentage points	102	No change
Economically active as % of working age population	76.1% (Oct 2016 to Sep 2017)	Increased by 1.6 percentage points	97	Yes
Employment as % of working age population	71.2% (Oct 2016 to Sep 2017)	Increased by 3.1 percentage points	95	Yes
% of working age population with Level 4+ qualifications	31.6% (2016)	Increased by 3.1 percentage points	91	Yes
% of working age population with no qualifications	9.3% (2016)	Decreased by 0.5 percentage points	116	No - widened
% of employers reporting skills shortages	27% (2015)	Increased by 3 percentage points (2013)	92	Yes
% of employers reporting skills gaps	14% (2015)	Decreased by 4 percentage points (2013)	101	Yes

Sources: Business Register and Employment Survey (Nomis), Population estimates (Nomis), Annual Population Survey (Nomis) and Employer Skills Survey (UKCES)
 Notes: To ensure that seasonal factors are not affecting comparison, the same time periods are used for both the most recent year and the 2014 benchmark year for each indicator. For example, the most recent Annual Population Survey data is for the period October 2016 to September 2017 - so October 2013 to September 2014 is used as the comparator. Skills shortage vacancies are vacancies that are hard to fill because there is a lack of skilled or qualified people to take the job. Skills gaps are where existing staff are not fully proficient in their job role.

Wider commentary

Labour demand

VAT/PAYE registered organisations employed 802,000 in the North East LEP area in 2016. This is equivalent to 644 jobs per 1,000 working age population - a measure known as employment density. If we had the same employment density as England excluding London, there would be 916,000 jobs in the North East, an additional 114,000 jobs.



Looking forward, demand for labour in service sectors is projected to grow.

Strong growth in demand is also forecast for highly skilled occupations including managers directors and senior officials; professionals; and associate professional and technical occupations.

The largest employing sectors in the North East LEP area are:

Health (15.7%)

Manufacturing (11.0%)

Retail (10.0%)

Education (9.4%)

Employment by sector

	% of total employment
Agriculture, forestry and fishing	0.2
Mining, quarrying and utilities	1.0
Manufacturing	11.0
Construction	4.1
Motor trades	2.0
Wholesale	2.6
Retail	10.0
Transport and storage (including postal)	4.1
Accommodation and food services	8.2
Information and communication	2.7
Financial and insurance	2.0
Property	1.7
Professional, scientific and technical	5.6
Business administration and support services	8.0
Public administration and defence	6.6
Education	9.4
Health	15.7
Arts, entertainment, recreation and other services	4.9
Total	100.0

Source: Business Register and Employment Survey (Nomis)

Labour supply

The proportion of the population that are of working age (aged 16 to 64) in the North East LEP area (63.3%) is similar to that of England excluding London (62.1%) and England (63.1%). However, the North East LEP area has an older age structure than the comparators with:

- A larger proportion of its population in the 50-64 and 65+ age bands
- A smaller proportion of its population in the 0-15 and 25-49 age bands

Looking forward, the North East LEP area population is projected to grow by 3.2% over the 10 year period from 2016 to 2026.

- This is below the rate of growth projected for England excluding London (6.2%) and the majority of the other core city LEPs

- 0-15 and 65+ are the only age bands projected to grow in the North East LEP area over the next 10 years

- The population is projected to decline in 16-24, 24-49 and 50-64 working age population groups in the North East LEP area. Combined, this will result in there being 24,000 fewer individuals of working age in the North East LEP area in 2026 than in 2016. This is equivalent to just 60.1% of the population in North East LEP area being of working age and is the lowest percentage of any core city LEP.

Qualifications and skills

The North East has a lower qualifications profile than England excluding London with:

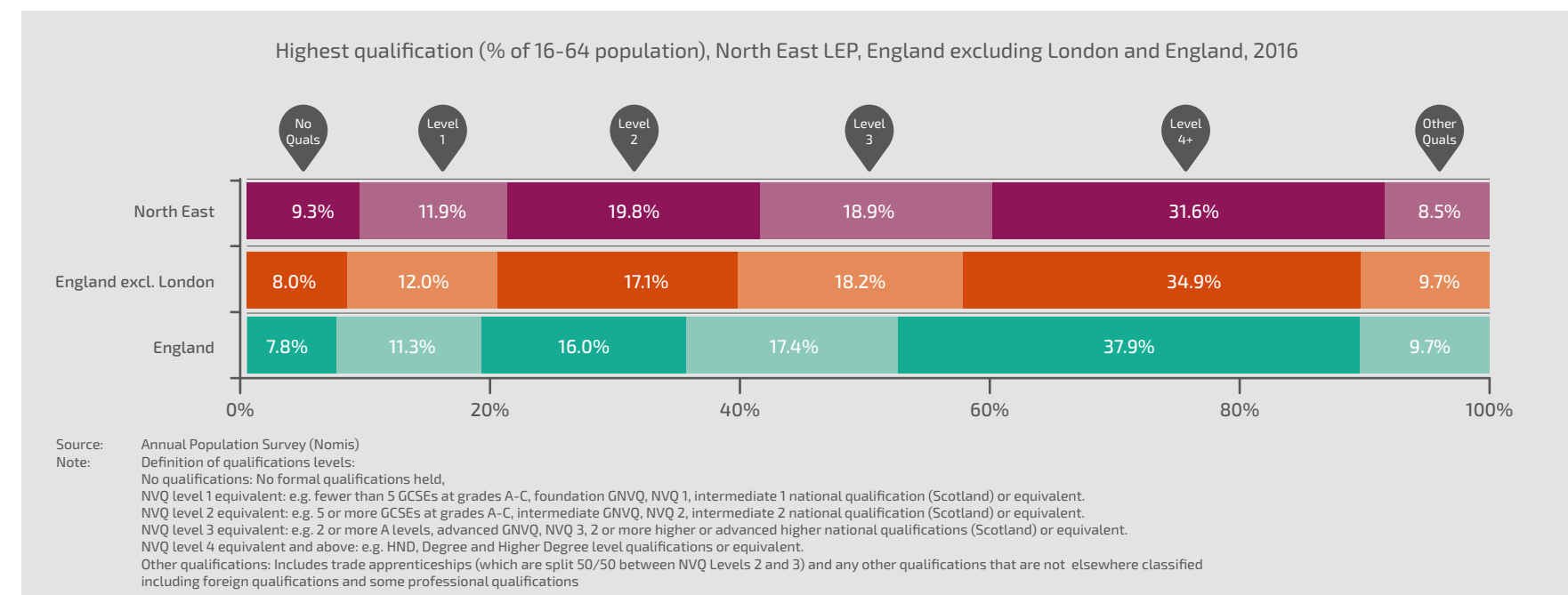
- More individuals with no or low (Level 1 and 2) qualifications

- Fewer individuals with high (Level 4+) qualifications.

In addition, only two core city LEPs have a lower proportion qualified to Level 4 and above than the North East LEP area and no core city LEP has a larger proportion qualified at Levels 1 and 2.

The qualifications profile of the North East is beginning to change. Since 2014, only Greater Birmingham and Solihull LEP and Liverpool City Region LEP have experienced larger increases in the proportion of their population that are qualified to Level 4 or above.

Young people have a higher qualifications profile than older age groups with, for example, 37.3% of 30-39 year olds in the North East LEP area having Level 4+ qualifications, compared to 26.7% of 50-64 year olds. The North East is the core city LEP that has seen the largest increase in the proportion of its 25-29 population qualified to Level 4+ and has had the second largest increase in the proportion of its 30-39 population qualified to this level.



Skills provision

Further education

The North East LEP area has 9 colleges:

- Bishop Auckland College
- Derwentside College
- East Durham College
- Gateshead College
- Newcastle College
- New College Durham
- Northumberland College
- Sunderland College
- Tyne Coast College.

There were 112,130 adult learners (19+) participating in government-funded further education (including apprenticeships) in the North East LEP area in 2016/17. Whilst this is a decline of 22% compared to 2013/14, this reflects the national trend with participations having fallen by 24% across England as a whole over the same period. Of these:

- 21% were in Level 2 courses
- 18% were in Level 3 courses.

The total number of adult learners in the North East LEP area achieving a government-funded further education qualification in 2016/17 was 81,750. The number achieving a qualification has fallen by 29% since 2013/14.

No data is currently available on the subjects being studied. However, previous analysis has suggested the most popular subject areas include:

- Engineering and manufacturing technologies
- Health, public services and care
- Arts, media and publishing.

Apprenticeships

Apprenticeships are a key element of skills provision, helping individuals to develop job-related skills while in employment. Apprenticeship training is delivered by colleges and training providers.

In 2016/17, there were 24,790 apprenticeship starts in the North East LEP area. 55% of apprenticeship starts were at Intermediate level, 38% at Advanced and 8% at Higher. The most common subject areas for apprenticeships in 2016/17 included:

- Business, administration and law
- Health, public services and care
- Engineering and manufacturing technologies
- Retail and commercial enterprise.

Universities

The North East LEP area is home to four universities:

- Durham University

- Newcastle University
- University of Northumbria at Newcastle
- University of Sunderland.

In 2016/17, the North East universities had:

- 64,460 undergraduate students (4.5% of all undergraduates at English HE providers)
- 18,610 postgraduate students (4.1%).

The most common subjects being studied at undergraduate level are business and administrative studies, subjects allied to medicine, social studies, biological sciences, languages and engineering and technology.

The North East is particularly overrepresented compared to England as a whole in the number of undergraduates studying architecture, building and planning; physical sciences; languages; and medicine and dentistry.

The most common subjects being studied at postgraduate level are business and administrative studies, education, subjects allied to medicine and engineering and technology.

The North East is particularly overrepresented compared to England as a whole in the number of postgraduates in agriculture and related subjects; languages; mass communication and documentation; and computer science.

Students at North East LEP area universities, 2016/17

	Undergraduate	Postgraduate	Total
Business and administrative studies	10,190	3,955	14,145
Subjects allied to medicine	7,225	1,800	9,025
Social studies	6,975	1,260	8,235
Biological sciences	6,650	1,150	7,800
Engineering and technology	4,235	1,655	5,890
Languages	4,320	905	5,225
Creative arts and design	3,720	605	4,325
Physical sciences	3,565	670	4,235
Law	2,970	860	3,830
Education	1,400	2,130	3,530
Computer science	2,575	845	3,420
Historical and philosophical studies	2,610	620	3,230
Architecture, building and planning	2,225	595	2,820
Medicine and dentistry	2,045	735	2,780
Mass communications and documentation	1,260	525	1,785
Mathematical sciences	1,550	155	1,705
Combined	610	0	610
Agriculture and related subjects	325	160	485
Veterinary science	0	0	0
Total	64,460	18,610	83,070

Source: Higher Education Statistics Agency

Job-related training

In addition, employers also make a significant investment in developing the skills of their workforce.

- When surveyed in 2015, 44% of North East LEP area businesses had a training plan in place and 29% had a budget for training. Both are similar to England excluding London (43% and 31%)
- 67% had funded or arranged training for their employees in the last 12 months (again, similar to England excluding London, 66%)
- The most common types of training funded or arranged by North East employers were job specific training (provided by 86% of employers who funded or arranged training), health and safety and/or first aid training (76%) and basic induction training (62%). Whilst a smaller proportion, the 46% providing training in new technologies are also notable.

7.8% of North East residents surveyed between October 2016 and September 2017 had received job-related training in the last 4 weeks and 14.6% had received job-related training in the last 13 weeks.

The North East had a lower proportion of its residents receiving job-related training than England excluding London and most other core city LEPs, with only Greater Birmingham and Solihull having a lower proportion.

Alignment between labour demand and supply

To have a well-functioning labour market, there must be a strong alignment between labour supply and demand – people need to have the skills employers need.

One way to measure this is to establish if any employers have hard-to-fill and skills shortage vacancies. When surveyed in 2015, 18% of North East LEP area employers had at least one vacancy in last 12 months (compared to 19% across England excluding London).

Of these:

- 38% had a hard-to-fill vacancy (compared to 41% across England excluding London)
- 27% had a skills shortage vacancy (compared to 29% across England excluding London).

This finding suggests more needs to be done to help ensure individuals in the North East are developing the skills required by employers and to encourage skilled workers to relocate to the region.

Looking at the existing workforce, 14% of employers in the North East LEP area reported having skills gaps. Whilst this is the same percentage as England excluding London, a smaller proportion of staff in the North East LEP area than nationally are considered 'not fully proficient' by their employers (4.2% compared to 5.2% across England excluding London).



What next?

Employment is growing, with many of the additional jobs in highly-skilled occupations. In addition, employment rates and economic activity rates are improving and qualification levels are increasing. Building on this success, the priorities for the North East are:

- Increasing the number of jobs in the North East. All strands of the North East SEP help contribute towards this goal, with business growth and access to finance playing the key role in jobs growth.
- Ensuring individuals develop the skills required by North East employers. This requires an improved understanding of employer skills needs, ensuring education and training opportunities reflect these needs and ensuring that individuals are aware of the good quality opportunities in the region. The North East LEP is working with partners to tackle these issues including:
 - Improving careers guidance in schools and colleges through North East Ambition
 - Preparing the region for technical skills reforms (T-levels) and championing a regional Institute of Technology that focuses on the key areas of opportunity in the North East
 - Encouraging more graduates of North East universities to stay in the region post-graduation through the Live Work and Stay campaign
 - Supporting employers to retrain, regain and retain the 50+ workforce



Employability and inclusion

Why is this important?

It is important to minimise economic inactivity and unemployment which act as constraints on economic growth.

Unemployment can also be detrimental to the individual with a wide body of research showing that unemployment has impacts on short, medium and long term health, wellbeing and quality of life.

What are the key findings from the data?

- Both the economic inactivity rate and the unemployment rate have

declined over the last 3 years. The unemployment rates for young people (aged 16-24) and older workers (aged 50-64) have also decreased over this period

- Despite these improvements, the economic activity rate and unemployment rates (for 16-64, 16-24 and 50-64 populations) all remain above the England excluding London rates
- As the national rates of unemployment have declined more quickly, the gap with England excluding London has

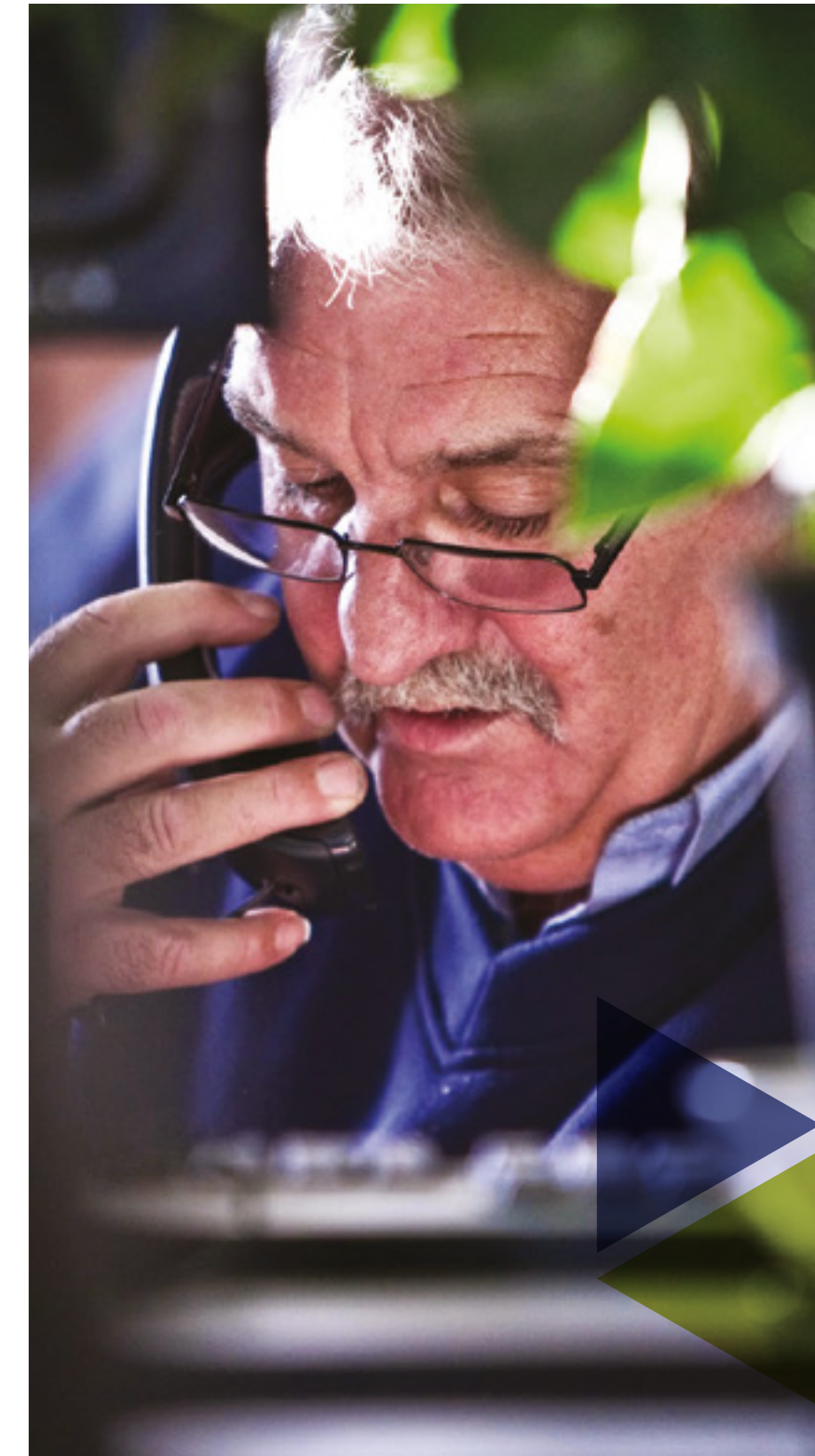
widened. However, more recent trends suggest that the North East has begun to close the gap

- Average (median) wages are below the English average. However, living costs are also lower within the North East. Whilst wages have increased since 2014, the gap with England has not changed.

Employability and inclusion in the North East LEP economy

Indicator	Most recent data	Change since 2014	NE as % of England excl. London	Gap closing with England excl. London
% of 16-64 population that are economically inactive	23.9 (Oct 2016 to Sep 2017)	Decreased by 1.6 percentage points	111	Yes
% of 16-64 economically active population that are unemployed	6.4 (Oct 2016 to Sep 2017)	Decreased by 2.2 percentage points	146	No - widened
% of 16-24 economically active population that are unemployed	15.6 (Oct 2016 to Sep 2017)	Decreased by 5.1 percentage points	130	No - widened
% of 50-64 economically active population that are unemployed	4.7 (Oct 2016 to Sep 2017)	Decreased by 1.4 percentage points	162	No - widened
Median gross weekly wages of full-time workers (£)	£506.2 (2017)	Increased by £27.50 (2014)	91 (England)	No change (England)

Sources: Annual Population Survey (Nomis) and Annual Survey of Hours and Earnings (Nomis)
 Notes: 1. To ensure that seasonal factors are not affecting comparison, the same time periods are used for both the most recent year and the 2014 benchmark year for each indicator. For example, the most recent Annual Population Survey data is for the period July 2016 to June 2017 – so July 2013 to June 2014 is used as the comparator. 2. Unemployment rates use the ILO measure



Wider commentary

Economic inactivity

Economic inactivity measures those that are not in work or actively seeking employment. Individuals can be economically inactive for a wide range of reasons including that they are in education, have health issues or disabilities that prevent them from work, have caring responsibilities or have retired. Between October 2016 and September 2017, 23.9% of the North East LEP's working age population was economically inactive.

- This is above England excluding London rates (21.6%) and around

mid-table (5th out of 8) for the core city LEPs

- The North East's economic inactivity rate has decreased from 25.5% in 2013/14. This is a larger decline than England excluding London and second largest decline amongst the core city LEPs.

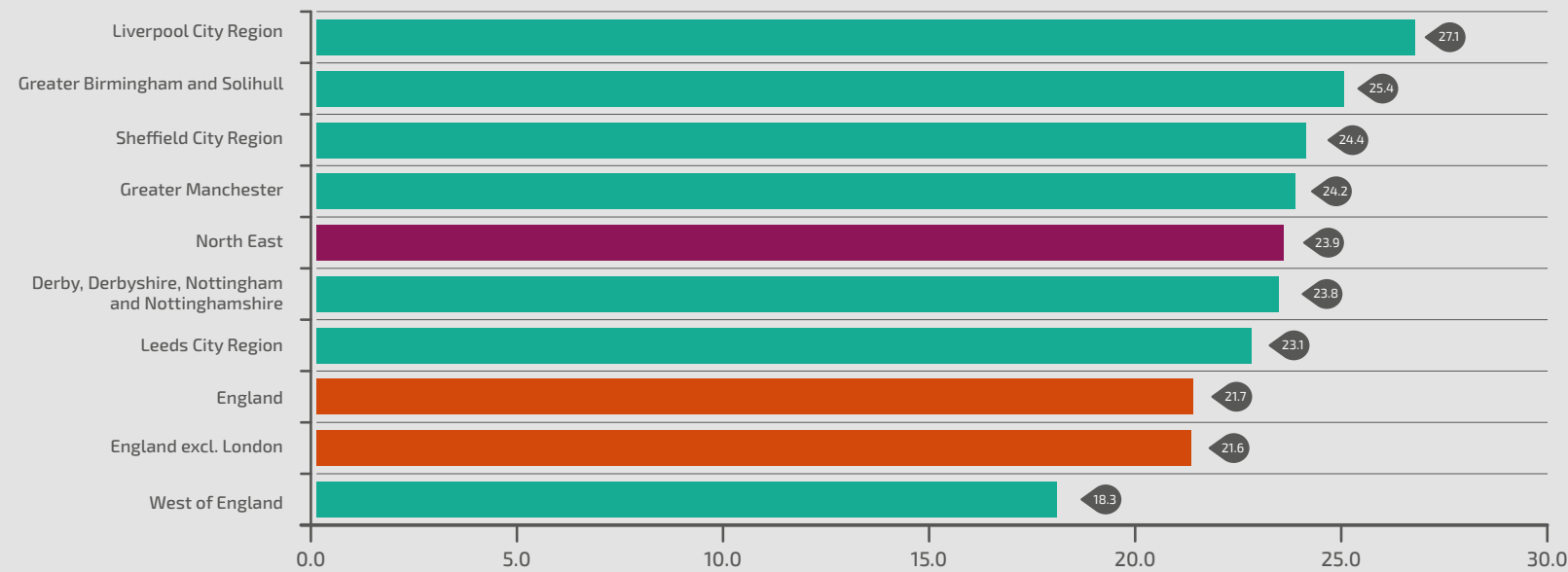
Looking at economic inactivity in the North East LEP area in more detail:

- Some groups are much more likely to be economically inactive than others. 49.4% of 16-64 year olds with a core or work-limiting disability are economically inactive, compared to 16.6% of those without a disability. Similarly, 53.9% of those with a health

condition or illness lasting 12 months or more are economically inactive

- The largest group within the economically inactive are those with long-term sickness (28.0%), followed by students (25.0%), those looking after family or home (22.0%) and retired (15.0%). The proportion of the economically inactive that are long-term sick is much higher in the North East LEP area (28.0%) than across England excluding London (22.0%)
- Only 24.7% of those in the North East LEP area who are economically inactive want a job. This is a slightly higher proportion to England excluding London (22.8%).

Economic inactivity rate (% of 16-64 population), North East LEP, Core City LEPs, England excluding London and England, October 2016 to September 2017



Source: Annual Population Survey (Nomis)

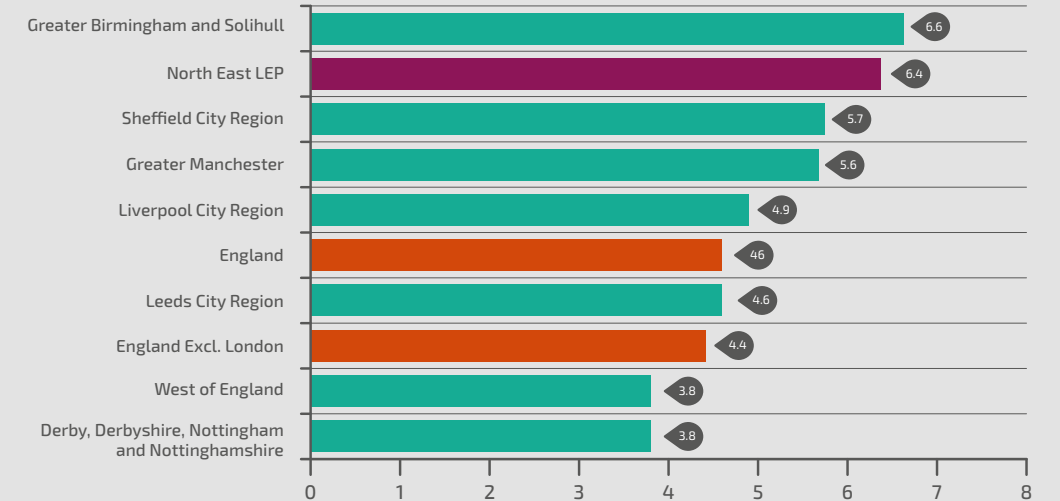
Unemployment

The International Labour Organisation (ILO) unemployment rate measures the proportion of the working age population that are out of work and actively seeking work.

The ILO unemployment rate for 16-64 year olds in the North East between October 2016 and September 2017 was 6.4%.

- The North East's unemployment rate has decreased from 8.6% in 2013/14
- The unemployment rate has experienced a similar decrease in the North East (2.2 percentage points) as England excluding London (2.1 percentage points). However, all of the other core city LEPs experienced larger declines.

Unemployment rate (% of 16-64 economically active population), North East LEP, Core City LEPs, England excluding London and England, October 2016 to September 2017



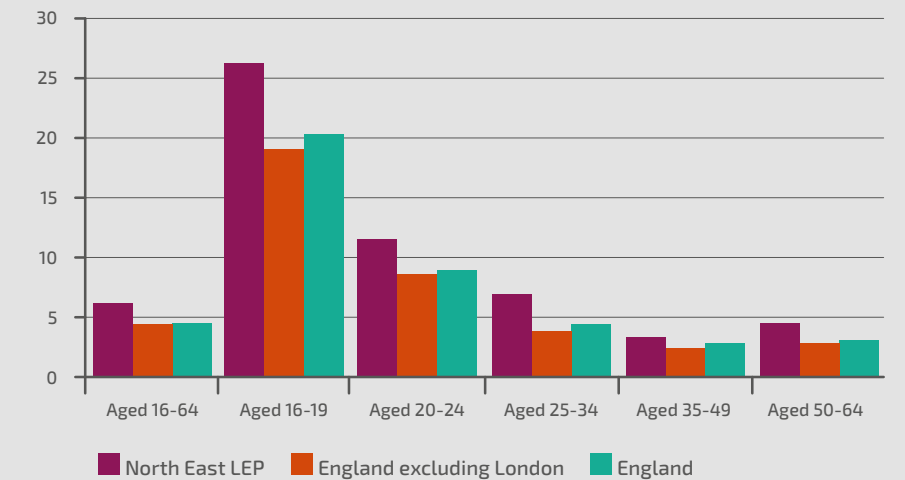
Source: Annual Population Survey (Nomis)

The SEP highlights the need to tackle youth unemployment and unemployment amongst the 50+ population.

Two broad trends can be observed:

- Unemployment rates are highest for young people and decline with age. The exception to this is the 50-64 age band which has a higher unemployment rate than the 35-49 age band
- For each age band, the unemployment rate is higher in the North East LEP area than in England excluding London.

Unemployment rate by age band (%), North East LEP, England excluding London and England, October 2016 to September 2017



Data source?

Inclusion

Looking at household poverty, between 2013/14 and 2015/16:

- 18% of households in the North East region were living below 60% of median household income before housing costs, compared to 16% across England as a whole. Using this measure, approximately 500,000 individuals in the North East are living in households in poverty
- 22% of households in the North East region were living below 60% median household income after housing costs. This is the same proportion as England as a whole and is equivalent to 600,000 individuals in the region living in households in poverty
- 20% of children in the North East region were living in households with less than 60% of household income before housing costs (compared to 18% across England). The equivalent figure for after housing costs was 28% - the same percentage as England as a whole
- 18% of working age individuals in the North East region were living in households with less than 60% of household income before housing costs (compared to 14% across England). Looking at the proportion after housing costs, the rates were 23% in the North East compared to 21% across England.

Whilst, the reasons for poverty are complex, a number of sources including from the Annual Survey of Hours and

Earnings and the Family Resources Survey provides some insights into potential reasons for higher rates of household poverty in the North East including:

- Average wages for a full-time worker in the North East LEP area are below the English level (£506.20 per week, compared to £555.80) and are the second lowest in amongst the core city LEPs. Whilst wages have increased by 5.7% over the period 2014 and 2017, this is below the rate of growth observed nationally and similar to that in other core city LEPs. In addition, inflation has been relatively high over this period meaning the increase in wages will have been offset by increases in the costs of goods and services
- Wages and salaries (58%) and income from self-employment (6%) account for a smaller percentage of total household income in the North East region than across England as a whole (63% and 8% respectively). In contrast pension income and benefits account for a larger proportion of household income than across England
- The incidence of disability is higher in the North East region than England, with 25% of the North East population having a disability, compared to just 20% across England. A person is considered to have a disability if they have a long-standing illness, disability or impairment which causes substantial difficulty with day-to-day activities.

Quality of employment opportunities

A final topic worth considering in this chapter is the quality of employment opportunities in the North East.

- Between October 2016 and September 2017, 5.2% of those living in the North East LEP area and in employment were in a temporary job. This is above the England excluding London rate (4.8%) but is mid-table amongst core city LEPs (joint 4th out of 8)
- Over the same time period, 73.1% of those living in the North East LEP area and in employment were working full-time. This is below the England excluding London rate (74.0%) and the third lowest rate amongst the core city LEPs
- Between April and June 2017, 45,000 individuals in the North East region were employed on a zero-hours contract. This is equivalent to 3.7% of those in employment – the highest rate amongst English regions
- It is estimated that 17,000 jobs in the North East region in 2017 paid below the National Minimum Wage (NMW) or National Living Wage (NLW). This is equivalent to 1.6% of all jobs in region – again, the highest rate amongst English regions
- Between October and December 2016 (most recent data), 9.9% of jobs in the North East region were paid less than or close to the relevant NMW or NLW for the individual's age (defined as jobs that pay less than 1.02 times the relevant minimum or living wage). Again, this is the highest rate amongst English regions.



Median gross weekly wages of full-time workers (£), North East LEP, core city LEPs and England, 2014 and 2017

	2014	2017	% Change 2014 to 2017
Greater Birmingham and Solihull	494.2	536.6	8.6
Greater Manchester	481.6	515.4	7.0
England	523.5	555.8	6.2
Leeds City Region	479.5	508.3	6.0
North East	478.7	506.2	5.7
Sheffield City Region	474.2	499.8	5.3
West of England	522.6	550.0	5.2
Derby, Derbyshire, Nottingham and Nottinghamshire	488.3	510.3	4.5
Liverpool City Region	492.6	513.8	4.3

Source: Annual Survey of Hours and Earnings (Nomis) Notes: 1. Earnings in workplaces in the selected geographies 2. Data is not available for England excluding L

What next?

Both the economic inactivity and unemployment rates have declined in North East LEP area over the last three years. However, they remain higher than across England excluding London. Priorities for the North East are to:

- Continue to reduce unemployment and economic inactivity. As there are particular issues in relation to the 16-24 and 50-64 populations, the North East LEP has focused its work with partners on supporting these two groups. Approaches include:
 - Generation NE, a region-wide project to get young people into sustained employment. A digital service has been launched to complement the support available through Generation NE on a face-to-face basis. This service is testing innovative approaches to engaging and supporting young people
 - Working with partners to pilot approaches to 'retrain, regain and retain' workers aged 50 and over in the labour market.
- Improve links between health and employability provision. A key project is the Mental Health Trailblazer, which provides integrated employment support and psychological therapy.

Economic assets and infrastructure

Why is this important?

Economic assets and infrastructure are key enablers to economic activity, by providing premises for businesses and homes for residents. Other economic assets and infrastructure include the public estate, including roads, hospitals and schools.

What are the key findings from the data?

- There were 9.0 net additional dwellings per 1,000 dwellings in the North East LEP area in 2016/17, slightly above the England excluding London rate. This was an improvement on 2014/15 with the North East LEP area having gone from 79% of the England excluding London rate to 103% over this period
- The North East has a comparable volume of floor space per head to England excluding London. However, its rateable value is lower. There has been no change in these measures between 2014/15 and 2015/16
- There are slightly fewer major development planning applications approved per head in our area than across England excluding London. However, the number approved has increased since 2013/14

Economic assets and infrastructure in the North East LEP economy

Indicator	Most recent data	Change since 2014	NE as % of England excl. London	Gap closing with England excl. London
Net additional dwellings per 1,000 dwellings	9.0 (2016/17)	Increased by 3.3 net additional dwellings per 1,000 dwellings	103	Yes
Business floorspace sq.m per head	10.4 (2015/16)	No change	101	No change
Rateable value of business floorspace per sq.m	£58 (2015/16)	No change	89	No change
Major development planning applications approved per 10,000 population	2.3 (October 2016 to September 2017)	Increased by 0.2 planning applications approved per 10,000 population	87	No change

Sources: Housebuilding: new build dwellings (MHCLG), Business floorspace and rateable value (VOA) and Planning decisions (MHCLG)
 Notes: To ensure that seasonal factors are not affecting comparison, the same time periods are used for both the most recent year and the 2014 benchmark year for each indicator. For example, the most recent Planning decisions data is for the period October 2016 to September 2017 – so October 2013 to September 2014 is used as the comparator.

Wider commentary

Housing

The rate of housing starts in the North East LEP area (7.1 per 1,000 dwellings) was similar to England excluding London (7.2 per 1,000 dwellings) in 2016/17, with the rate having increased since 2014/15 (from 5.3 per 1,000 dwellings).

There were 5.6 housing completions per 1,000 existing dwellings in the North East LEP area in 2016/17. This is slightly below the England excluding London rate (6.2 per 1,000 existing dwellings). The rate has increased since 2014/15 (from 5.4 to 5.6) - but as the England excluding London rate has increased at a faster rate (from 5.3 to 6.2), the gap between the North East LEP and England excluding London has widened over this period.

North East Enterprise Zones



North East Enterprise Zones were created to support economic growth by developing sites with key attributes to help businesses start-up, grow and expand. Since their initial launch in 2012, the sites have attracted businesses and investors keen to take advantage of the generous financial incentives on offer, as well as the strategic locations available for development.

21 sites

296 hectares of land

Will deliver over 75,000 sq.m of new workspace

Future investment in economic assets and infrastructure

Analysis of the National Infrastructure and Construction Pipeline by the Infrastructure and Projects Authority (2017) has identified that:

- There will be a per capita investment in the North East region of £3,194 between 2017/18 and 2020/21
- This is below the English average £3,393 and is the third lowest rate of per capita investment of the English regions, with only the West Midlands and Yorkshire and the Humber having lower rates
- The North East's lower levels of investment are mainly explained by lower central and local government investment. At £1,347 per capita between 2017/18 and 2020/21, this accounted for just 42% of investment in the North East region over this period. Only one region had a lower per capita level of investment from central and local government (Yorkshire and the Humber at £1,266) and only one region had a lower proportion of the projected investment coming from this source (South West at 40%)
- More positively, only London is projected to have a higher level of private investment between 2017/18 to 2020/21 per capita than the North East region (£2,274 compared to £1,847).

What next?

Following the agreement of three Local Plans, increases in housing stock and the launch of 21 Enterprise Zone sites, the next steps for the North East in building its economic assets and infrastructure are to:

- The local authorities that do not currently have a Local Plan in place are working to develop these and a North East Planning Development Framework will be developed through the duty to co-operate to ensure that the links between key developments across the region are understood and maximised.

The North East LEP will work with partners across the region, including planning authorities, to ensure these plans are aligned with the ambitions of the SEP

- We will continue to work to secure investment for our region by working closely with the region's combined and local authorities to deliver the housing growth local development highlighted in the SEP and Local Plans

- Develop key business sites. The North East LEP will support this through the development of Enterprise Zone sites.



3 local authorities have adopted Local Plans

Newcastle • Gateshead • North Tyneside

Transport and digital connectivity

Why is this important?

Links within and between regions are fundamental for facilitating economic growth. For example, transport connectivity allows businesses to move their goods to markets and allows individuals to access employment opportunities. Digital connectivity is increasingly important for business both in terms of reaching customers and to operate business systems.

What are the key findings from the data?

- Public expenditure on transport per head in the North East region is below the England excluding London averages. Whilst spend per head has increased in the North East since 2014/15, the rate of increase has been faster in the rest of England, meaning the gap has widened

- Usage of public transport is high in the North East LEP area, with significantly higher rates of Metro and bus passenger journey than England excluding London. Bus passenger journeys and mileage have decreased since 2014, whilst Metro passenger journeys have increased
- The volume (tonnage) of freight being transported by road from the North East region per head is higher than the national average and has increased since 2014
- There have been improvements in access to superfast broadband, with six of the seven local authorities in the North East LEP area, now above the English average in terms of the proportion of premises with access. Access to 4G varies across our area.



Transport and digital connectivity in the North East LEP economy

Indicator	Most recent data	Change since 2014	NE as % of England excl. London	Gap closing with England excl. London
Public expenditure on transport per head	£303 (2015/16)	Increase of £65 per head	87	No - widened
Metro (light rail and tram) passenger journeys per head	104.2 (2016/17)	Increased by 0.8 journeys per head	470	No - narrowed
Metro (light rail and tram) mileage per head	19.2 (2016/17)	Decreased by 0.3 miles per head	374	No - narrowed
Bus passenger journeys per head	73.6 (2016/17)	Decreased by 6.7 journeys per head	156	No change
Bus mileage per head	34.7 (2016/17)	Decreased by 1.5 miles per head	175	No - widened
Goods lifted (tonnes) by GB-registered heavy goods vehicles per head	39 (2016)	Increased by 7 tonnes per head	122	No change
Proportion of premises with superfast broadband (30Mbit/s+) services available	89-96% (2017)	Increased between 5 and 27 percentage points	Not available	Not available
Proportion of indoor premises receiving 4G mobile coverage from all operators	40-87% (2017)	Varied from increase of 39 percentage points to decrease of 22 (2015)	Not available	Not available

Sources: Country and Regional Public Sector Finances (ONS), Light rail and tram statistics (Department for Transport), Bus statistics (Department for Transport), Road freight statistics (Department for Transport) and Connected Nations (Ofcom)
 Notes: 1. Data for public expenditure and freight lifted are for North East region.
 2. Data on digital connectivity are not available for LEPs, so range for the 7 local authorities within North East LEP area is provided.

Wider commentary

Public investment in transport

In 2015/16, public expenditure on transport in the North East region was £303 per head. This compares to £349 across England excluding.

- Public expenditure on transport is much higher in London (£972 per head) than in the rest of England
- The North East is the English region with the third lowest public expenditure on transport in 2015/16 (after the East Midlands and the South West).

In the Budget 2017, the Government announced an investment of £337

million for fleet replacement on the Tyne and Wear Metro.

Metro

There were 37.7 million passenger journeys on the Metro during 2016/17, with the Metro operating 204.9 million passenger miles during 2016/17.

In terms of reliability, this is calculated as the proportion of trains arriving within three minutes later than scheduled or within 29 seconds earlier than scheduled. In 2016/17, the average rate was 82.3%.

Bus

In 2016/17, there were 144.9 million passenger journeys on local bus services in the North East LEP area, with local

bus services operating 68.3 million vehicle miles during 2016/17. In terms of punctuality and reliability, in 2016/17:

- The average excess waiting time for frequent services was 0.8 minutes in the Tyne and Wear Integrated Transport Authority (ITA) area. Data is not available for Durham, Northumberland or England as a whole. For comparison, the average excess waiting times were 1.3 minutes in Merseyside ITA and 2.1 minutes in West Midlands ITA
- 90% of non-frequent bus services in the Tyne and Wear ITA, 93% in Durham and 85% in Northumberland ran on time. This compares to 83% across England as a whole.

Rail

In 2016, measured on a 'typical Autumn weekday', there were:

- 204 rail services arriving at Newcastle Central station, with 56,984 seats available and carrying 23,654 passengers
- 200 rail services departing at Newcastle Central station, with 56,276 seats available and carrying 24,164 passengers
- Between 2014 and 2016, the number of seats and the number of passengers arriving in Newcastle Central station both increased by 6%. The number of seats departing also increased by 6%, while the number of passengers departing increased by 7%

13 stations in our region had more than 100,000 entries and exits during 2016/17 – Newcastle, Durham, Berwick-upon-Tweed, Sunderland, Morpeth, MetroCentre, Hexham, Alnmouth, Chester-le-Street, Prudhoe, Seaham, Bishop Auckland and Wylam. All except the MetroCentre had experienced an increase in usage compared to 2015/16.

Road freight

In 2016, 76 million tonnes of freight were lifted by GB-registered heavy goods vehicles in the North East region.

- The North East accounted for 4.7% of all freight (by tonnage) lifted in England during 2016
- 22% of freight lifted was transported out of the region, with the rest moved within the region with the rest moved within the region

- The number of tonnes lifted in the North East (region) has increased from 63 million in 2014. This is a 20.6% increase, slightly below the English increase of 25.4% over the same period.

A similar pattern emerges when goods moved is considered. Goods moved is defined as the weight of goods carried multiplied by the distance hauled, measured in tonne kilometres. In 2016, the North East region was the origin of 6,707 million tonne kilometres of freight moved by GB-registered heavy goods vehicles.

Air transport

In 2016:

- 4.8 million passengers travelled through Newcastle Airport. Newcastle Airport accounted for 1.8% of all passengers travelling through UK airports in 2016
- Newcastle Airport handled 4,574 tonnes of freight. Newcastle accounts for just 0.2% of freight handled by UK airports. However, this reflects the dominance of London airports and Heathrow in particular which account for 78% and 65% of total freight respectively. Freight being carried by Newcastle has increased by almost 15-fold since 2006, when only 306 tonnes were handled by the airport.

Ports

The North East LEP area is home to five ports – Port of Berwick, Port of Blyth, Port of Sunderland, Port of Tyne and Seaham Harbour

In 2016, the North East's ports handled 5.73 million tonnes of freight, 1.2% of all freight handled in the UK in that period. Within this:

- 1.83 million tonnes of handled freight was outwards
- 3.89 million tonnes was inwards

In addition, in 2016, 584,000 passengers travelled through the Port of Tyne.



Fixed broadband coverage, 2017

	% of premises with superfast broadband (30Mbit/s+) services available	% of premises with full fibre broadband services available	% of premises unable to receive download speed of 10Mbit/s+
Sunderland	96	0	1
North Tyneside	95	0	2
Newcastle	95	5	0
South Tyneside	94	0	2
Gateshead	93	1	2
England	92	3	3
County Durham	92	0	2
Northumberland	89	2	5

Source: Source: Connected nations (Ofcom)

Mobile coverage (% of indoor premises receiving coverage from all operators), 2017

	Voice	Data	4G
Sunderland	96	89	79
Newcastle	98	98	87
North Tyneside	95	90	72
Gateshead	97	97	72
Urban England	96	96	66
South Tyneside	97	97	66
England	91	87	60
County Durham	86	83	50
Northumberland	81	76	40
Rural England	59	48	19

Source: Source: Connected nations (Ofcom)

Note: There are four UK operators: Telefónica UK (O2), EE (formerly T-Mobile and Orange), Vodafone and 3 (Hutchison 3G UK Limited)

Digital connectivity

Individuals and businesses increasingly rely on access to high quality fixed-line and mobile communications.

Ofcom publish data on access to communications services.

As data is not available at a LEP level, data is presented here for the seven local authority areas within our area.

In relation to fixed broadband coverage:

- The majority of premises have access to superfast broadband – with this ranging from 89% in Northumberland to 96% in Sunderland. All local authorities in our area except Northumberland have a higher proportion of their premises having access to superfast broadband than the national average of 92%
- Very few premises in the area have access to full fibre broadband - reflecting the national position Newcastle has almost double than the national average (5% compared to 3%)
- Few premises within our area are unable to receive a download speed of 10 Mbit per second - with most areas performing better than England on this measure.

Looking at mobile coverage:

- The proportion of premises that are able to receive voice signal from all four operators ranges from 81% in Northumberland to 98% in Newcastle
- The proportion of premises that are able to receive a data signal from all four operators ranges from 76% in Northumberland to 98% in Newcastle
- 4G is particularly important for businesses due to the increase of usage of cloud-based software and teleconferencing. The proportion of premises that are able to receive a 4G signal from all four operators has a much wider range than the other mobile indicators - from 40% in Northumberland to 87% in Newcastle.

Across all of the mobile coverage, a clear pattern emerges with five of the seven local authorities performing better than England as a whole. This reflects a wider national trend of rural areas having lower rates of coverage than urban areas. Those with underprovision - County Durham and Northumberland - are the two more rural authorities in our area and both performing better than rural areas across England as a whole.

What next?

The North East has high usage of public transport and good broadband coverage. Whilst public expenditure on transport has increased since 2014, this still lags behind the national position. Priorities for North East are:

- To continue to secure investment for its transport and digital infrastructure. The announcement by Government of funding to upgrade the Metro fleet is highly welcomed but it will also be important to secure investment for other key projects. The North East LEP will continue to work with partners to secure public and private investment into the region and to improve connectivity between our region and elsewhere
- To encourage innovation in transport and digital service provision. A key example of how the North East LEP is supporting this is the Go Ultra Low Cities programme to develop rapid charging stations for electric vehicles in Newcastle and Sunderland.



Section 3

The economic geographies of the
North East's areas of opportunity
and enabling services



The economic geographies of the North East's areas of opportunity and enabling services

Introduction

The North East Strategic Economic Plan (SEP) identifies four areas of opportunity where the North East has specialisms specialisms that area sources of competitive advantage. Three key enabling sectors which underpin the regional economy and help deliver growth in higher value employment are also identified.

This section of the report briefly profiles these areas of opportunity and maps their economic geography. There is more information about these areas of the economy in the SEP.

Mapping our Areas of Opportunity

Two external data sets have been used in compiling the maps:

- Interdepartmental Business Register Data (IDBR) (for all sectors)
- Valuation Office Agency (VOA) floor space data.

The IDBR enables the employment base to be analysed for the areas of opportunity and enabling services (based on Standard Industrial Classification (SIC) codes). The scale of the employment shown on the map does not link directly to one business, but the aggregate of businesses

operating in the sector located at that postcode. Only businesses that have 10 or more (5 or more in the case of Creative and Digital, and Healthcare sectors) employees are included in the aggregate totals at each postcode.

The VOA data enables the mapping of a particular building to a sector.

In addition:

- 'Key Businesses' were identified internally by the LEP as a non-exhaustive list of key employers within each sector
- 'Economic Assets' are research and innovation centres operated by private and public sector organisations and universities. These were identified internally by the LEP as a non-exhaustive list of facilities that operate within each sector
- 'Key Sites' refers to Enterprise Zones and similar employment sites with specific links to one or more of the mapped areas of opportunities. Multi-use sites, such as Team Valley Trading Estate are not included as they do not have a specific link to any of the sectors – though businesses and premises within those locations are likely to be identified via the analysis of IDBR or VOA data points.



Tech North East: Our creative and digital community

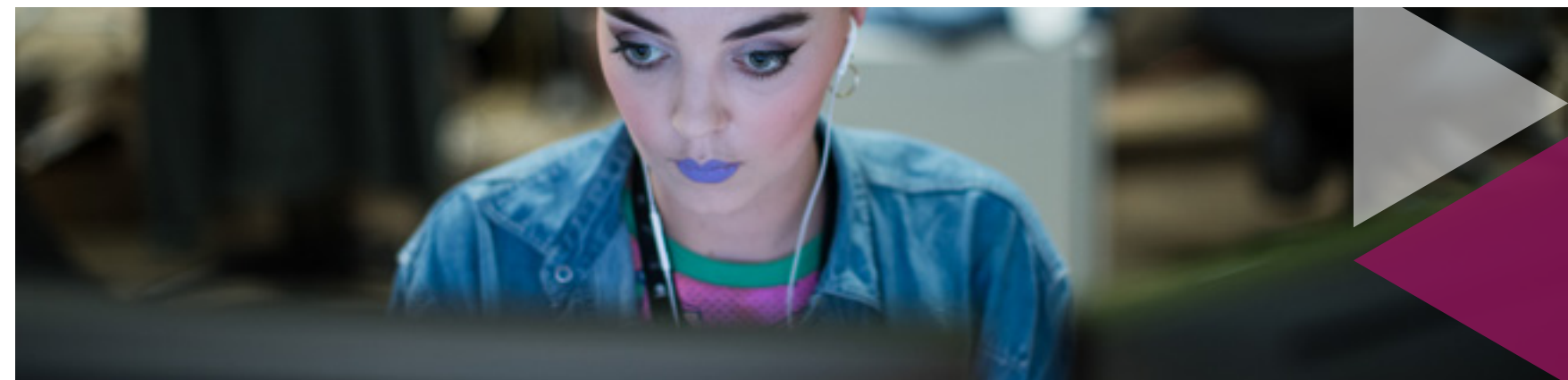
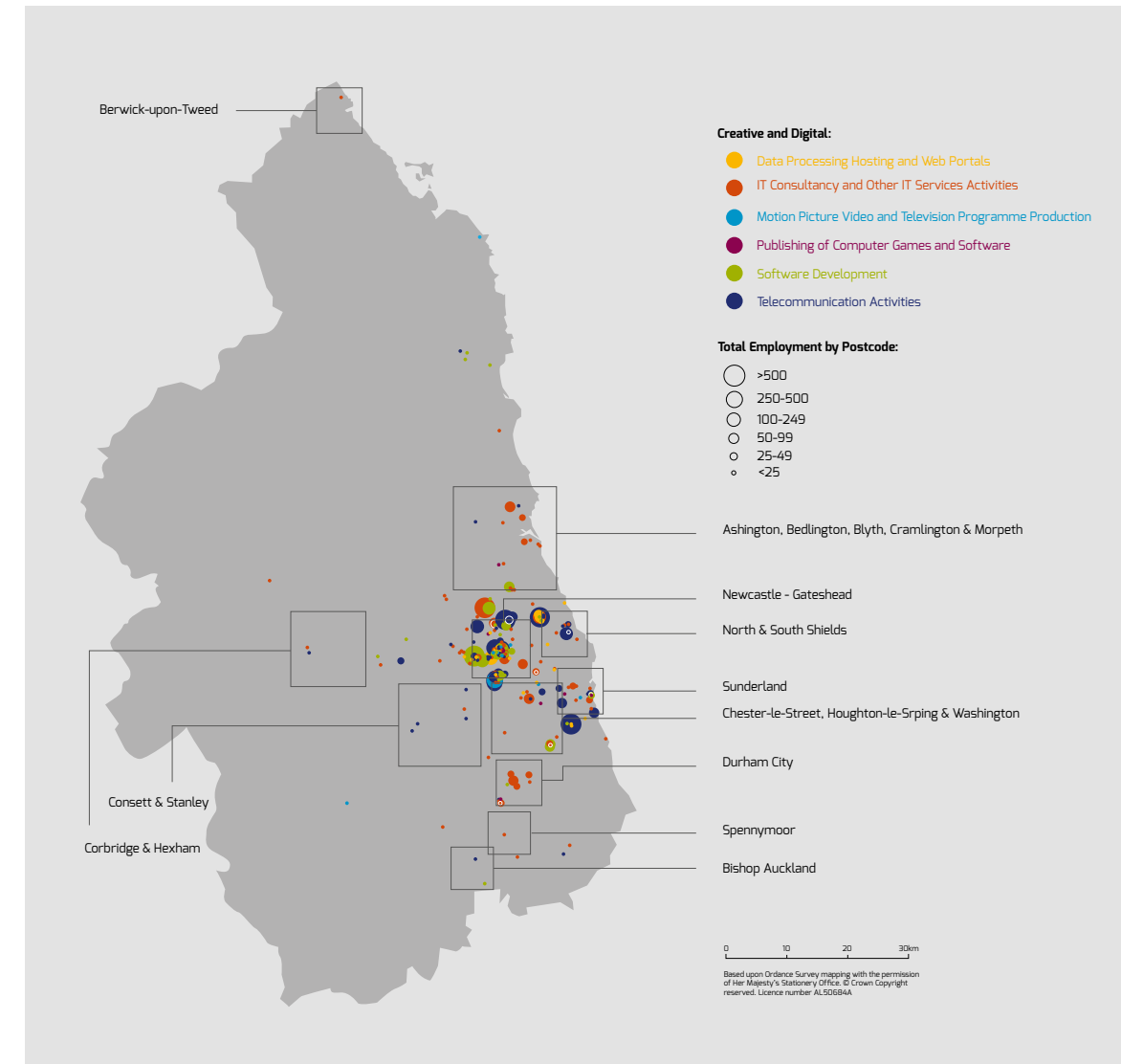
Start up, high growth and established businesses, innovation networks and incubators sit alongside North East universities with leading research capabilities and a number of Government agencies working with data and digital technologies to form one of the most diverse and productive tech clusters in the UK.

There are concentrations at various locations across the region.

Digital specialisms include software development, cloud computing, shared services, systems design and communications, buildings information modelling, games design and delivery.

Emerging specialisms include data analytics, virtual reality, smart data, and cybersecurity.

The North East is pioneering work on smart data across industry and public services and has an asset base helping shape digital delivery across the economy.



Making the North East's Future: Advanced Manufacturing in Automotive and Medicines

Automotive manufacturing

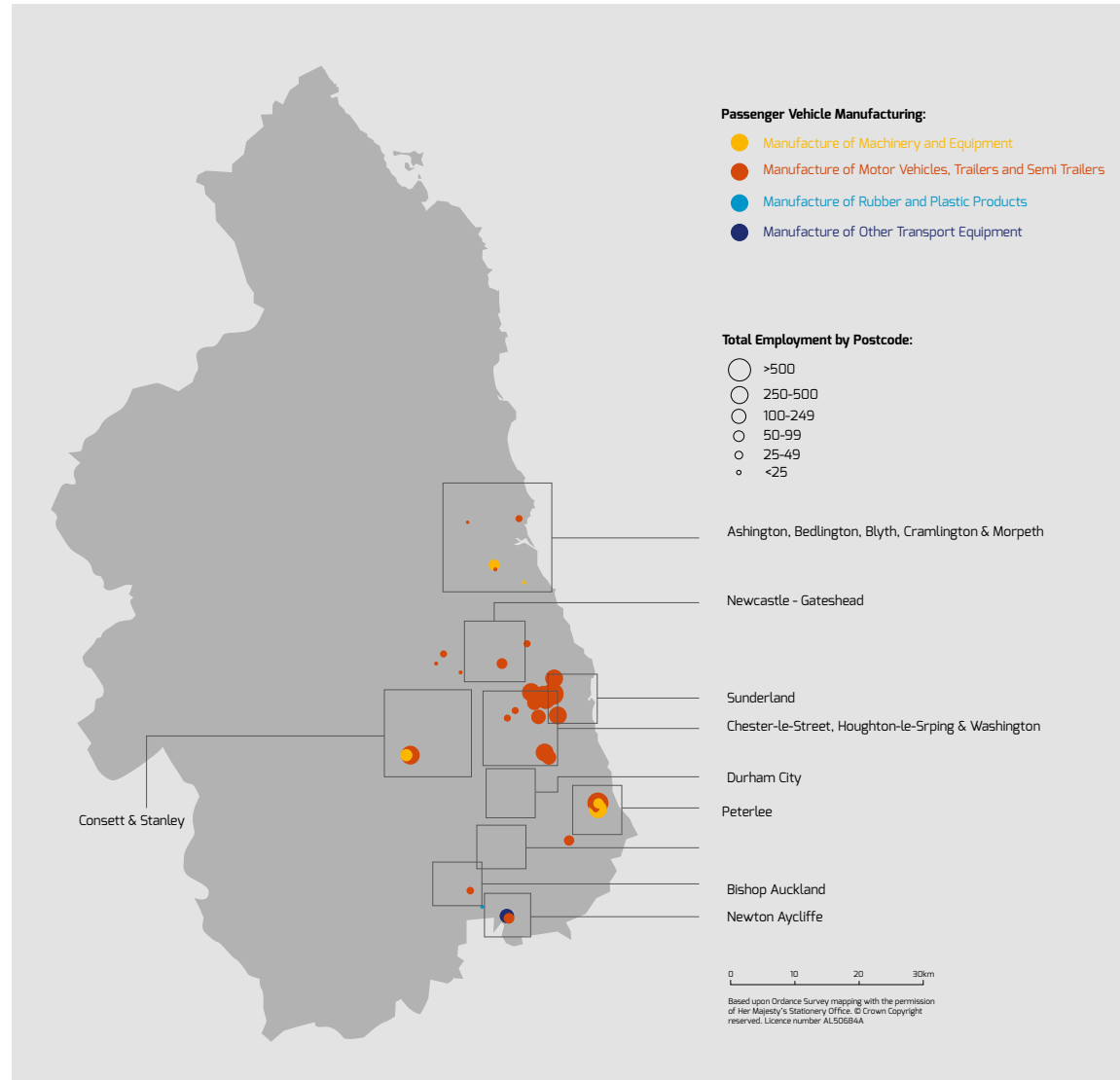
The North East Automotive sector includes world-renowned companies including Nissan, Komatsu, Caterpillar and Cummins, and supply chain companies including Calsonic Kansei, Gestamp-Tallent, Unipres, Vantec Europe, ZF-TRW and R-Tek.

There is growing investment into research and development and new and emerging technologies such as advanced propulsion and connected and autonomous vehicles. The automotive manufacturing cluster is focused around the A19 close to Sunderland and is shown on this map.

Medicines manufacturing

Medicines manufacturing in the region has built a strong reputation for regulatory expertise, high quality and a safe manufacturing record. There are key manufacturing sites across the region identified in the following map. Supply chain linkages and ownership are highly internationalised and a number of North East pharmaceutical sites are world leading in quality and unit cost of production.

There is a successful SME base working closely with these industrial partners and an increasingly strong group of innovation assets in or close to the region in areas including formulation and biologics.

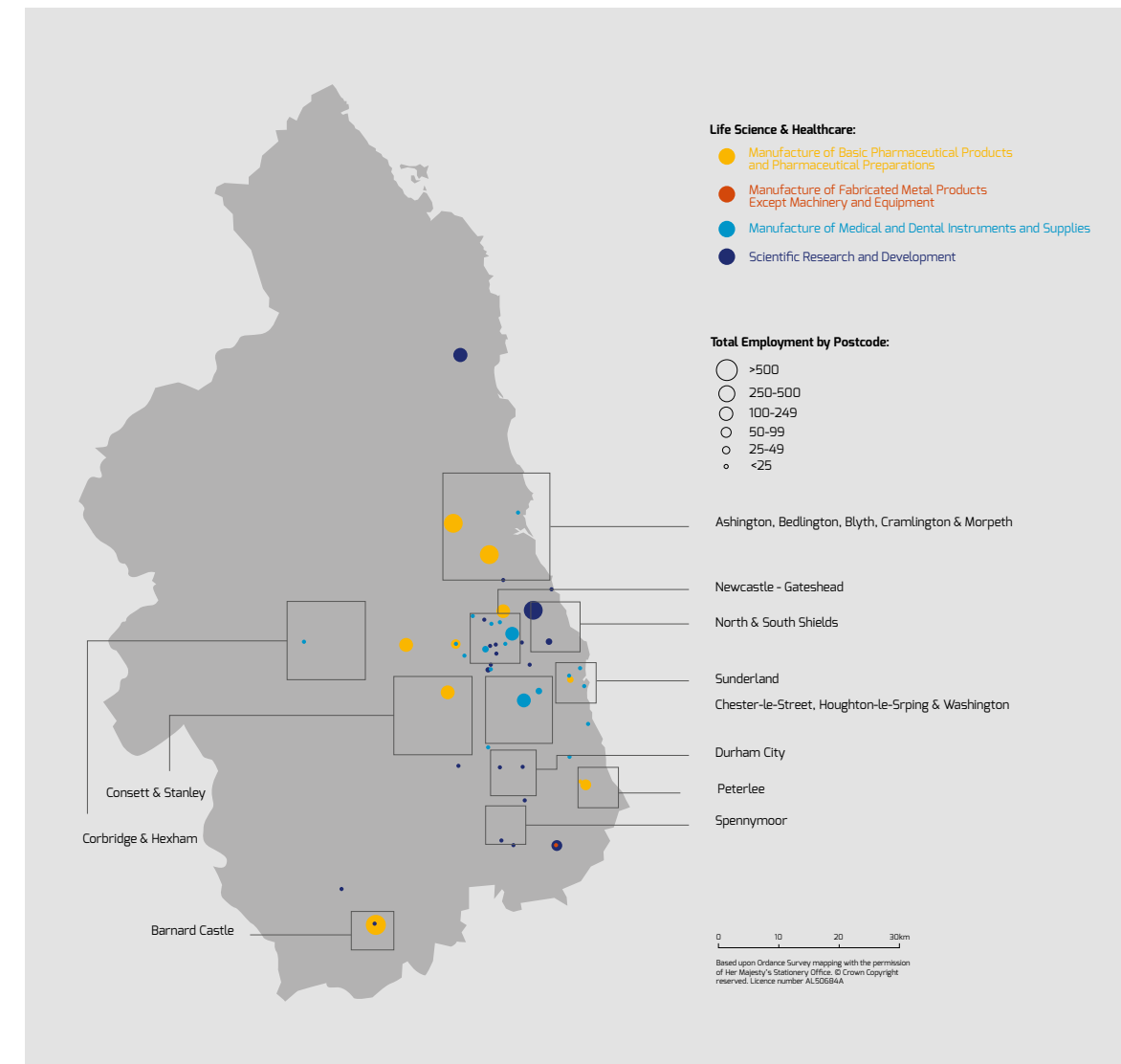


Health Quest North East: Innovation in Health and Life Sciences

The North East of England has a unique combination of capabilities and networks arranged across the region.

These include:

- **A thriving life science community:** world-leading health research, excellent NHS healthcare organisations with a consistently UK leading research pedigree. An SME base in digital applications including precision medicine and medical technologies, and testing and clinical trials. Centres of excellence in personalised medicine, digital health, advanced therapies and biopharma manufacturing
- **An established pharmaceuticals manufacturing sector:** including 15 pharmaceuticals manufacturers with deep sector knowledge and a global outlook. The sector is diverse with a range of business models, international links and a strong export performance
- **An internationally recognised specialism in ageing and age-related diseases:** Newcastle is a globally recognised hub for the development of medical science and social research in response to the challenges and opportunities of ageing populations. The Newcastle Campus for Ageing and Vitality is Europe's largest multidisciplinary site focused on ageing and the forthcoming National Innovation Centre on Ageing will drive innovation delivery in this area.



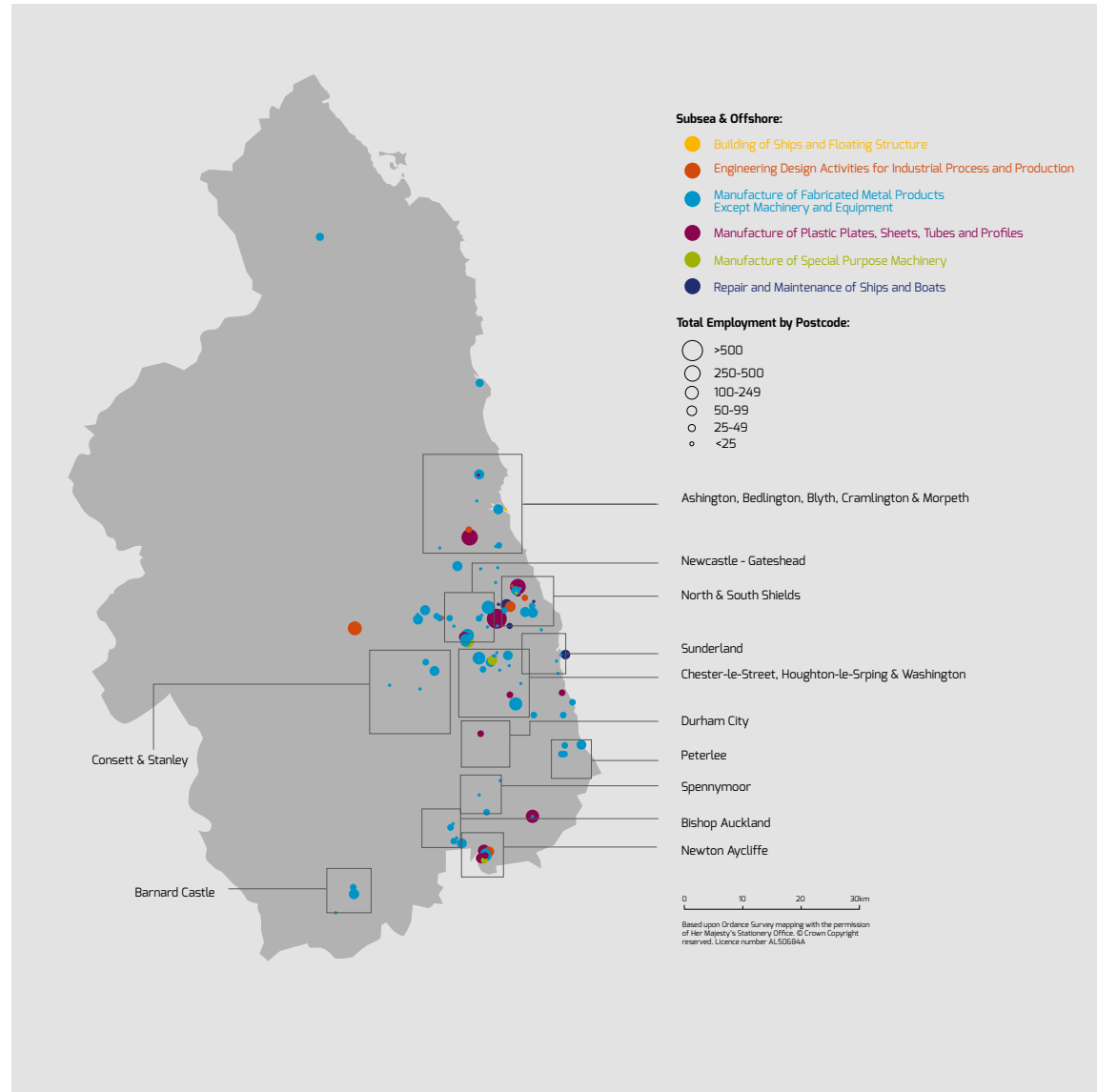
Energy North East: Excellence in sub-sea, offshore and energy technologies

The North East is home to a critical mass firms in subsea, offshore and energy technologies and a range of research and science strengths in Durham, Newcastle and Northumbria Universities.

The region is designated nationally as one of six Centres for Offshore Renewable Engineering (CORE) and has access to a range of UK continental shelf oil, gas and offshore wind areas and proximity to the largest development zone, Dogger Bank.

The regional infrastructure includes excellent facilities at three deep water ports; Port of Blyth, Port of Tyne and Port of Sunderland, and a number of Enterprise Zone sites clustered along the East Coast and inland along the banks of the rivers.

Newcastle and Durham universities are both leading significant research and industry facing activities including through the Newcastle Institute for Sustainability and the Durham Energy Institute. The National Centre for Energy Systems Integration is based at Newcastle and Durham working with four other UK Universities.



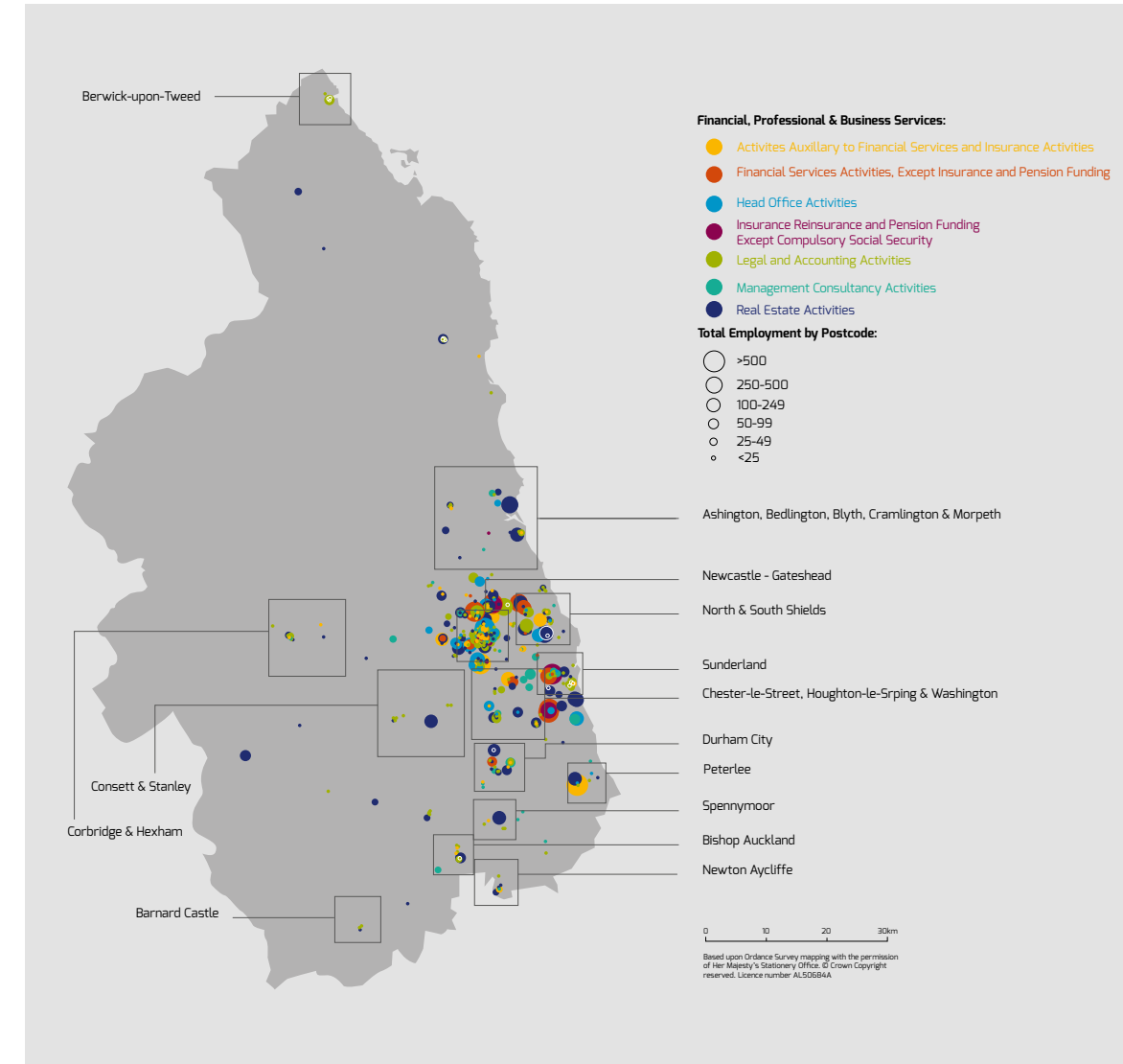
Financial, Professional and Business Services

The North East hosts a diverse cluster of financial, business and professional services businesses.

They are concentrated in Newcastle city centre, with other key locations in the City of Durham and on key employment sites in the Team Valley, at Cobalt in North Tyneside and in Sunderland.

Many of the regionally owned companies have successfully diversified from one discipline and work across law, finance and consultancy.

Alongside specialists providing advice and consultancy to key industries such as offshore energy and construction, the region has a particular niche in hosting shared services and call centre activities, which sustain significant jobs. A number of financial technology businesses are growing successfully in the region.

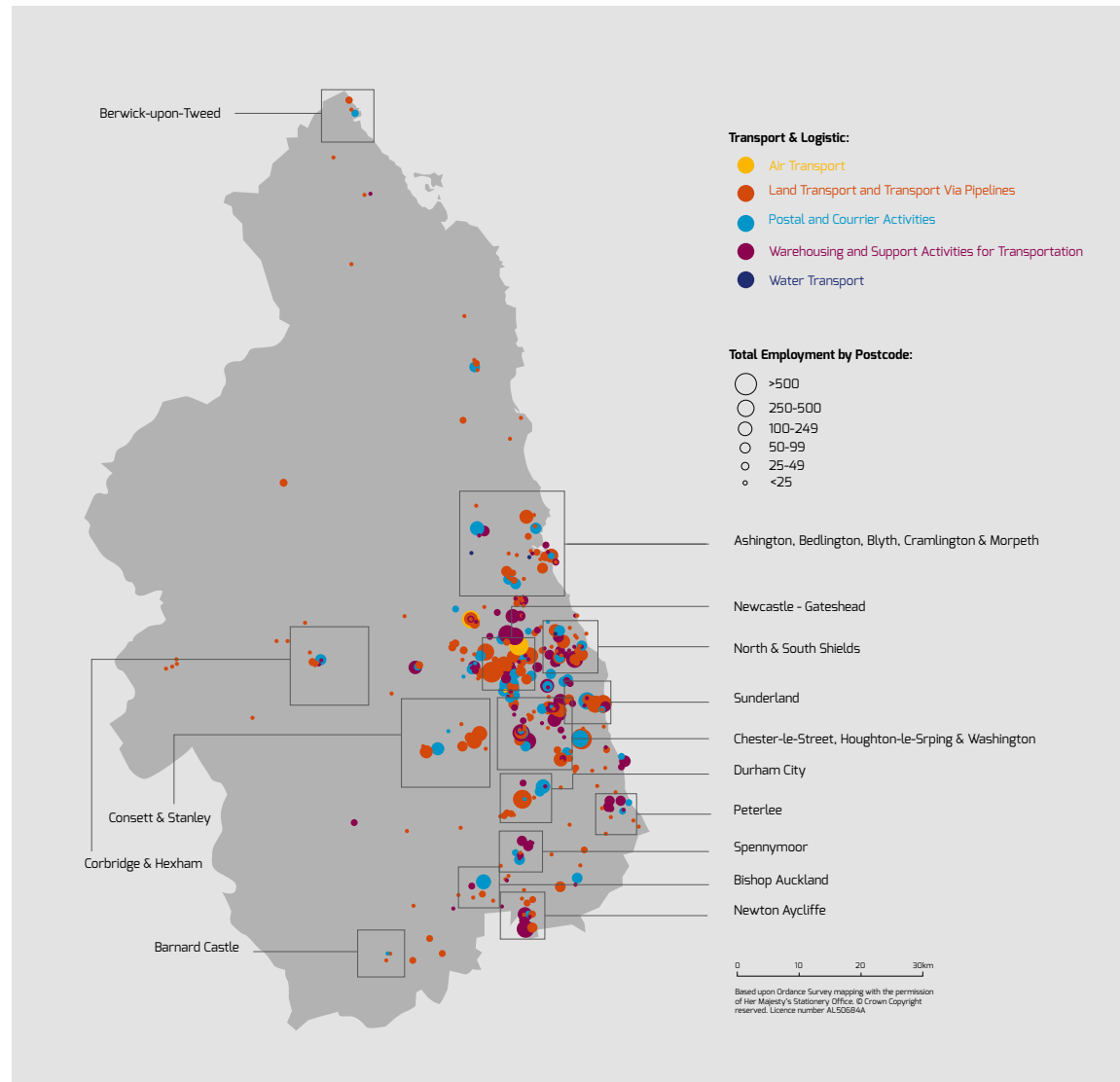


Transport and logistics

Transport and logistics businesses are crucial enablers of the wider North East economy, supporting both freight and passenger movement.

These include Newcastle International Airport, five sea ports and rail access from stations in Newcastle, Sunderland and Durham.

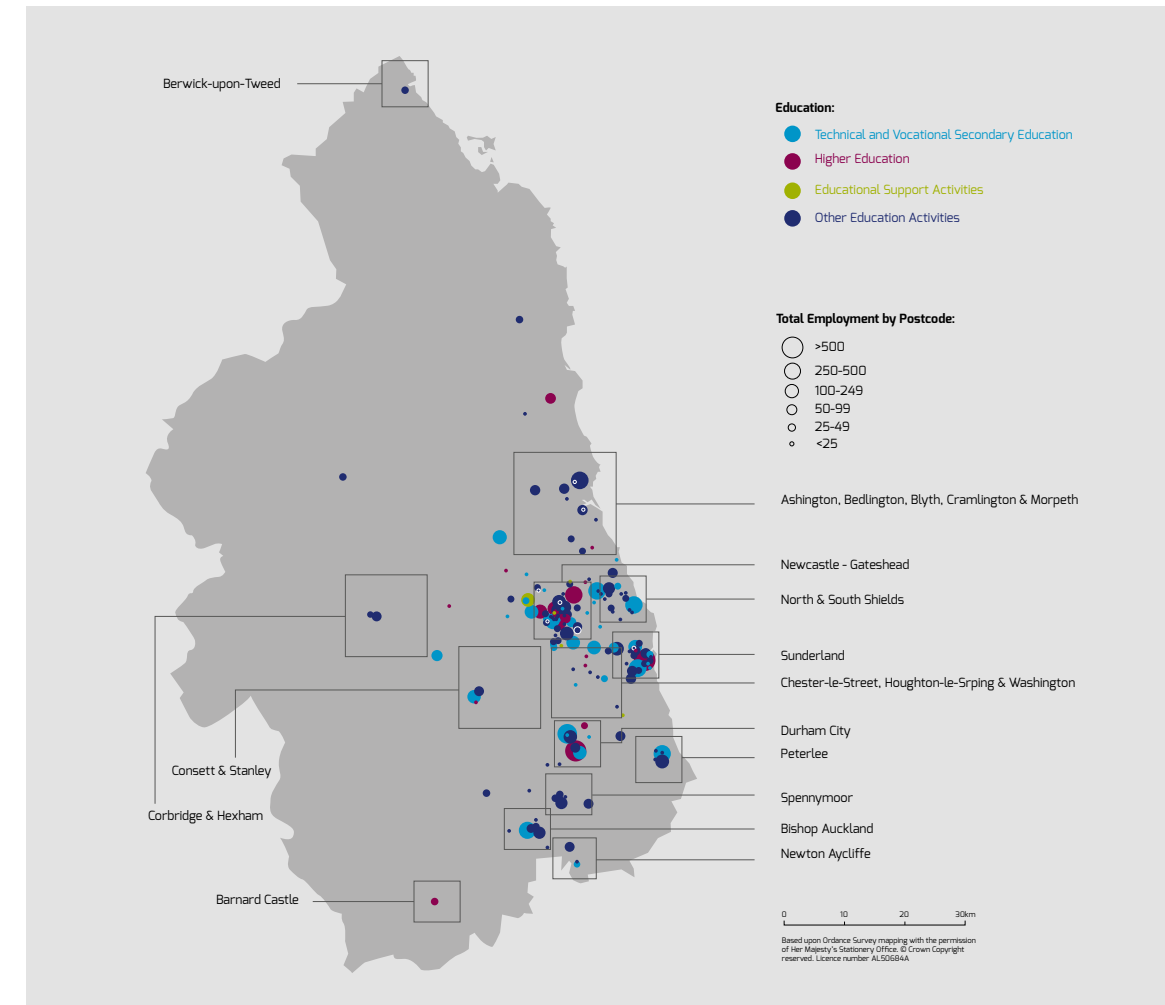
The wider sector includes a range of local businesses in the public transport system, freight and private hire.



Education

The North East has a diverse education system with four universities, Durham, Newcastle, Northumbria and Sunderland.

The region has nine Colleges of Further Education and over 1,300 schools as well as two University Technical Colleges and a number of private providers.



Section 4

The North East
in the global economy



The role of trade in the North East economy

Why is this important?

International trade is critical to economic growth and development by providing markets for goods and services produced by North East businesses and providing inputs into supply chains.

Evidence demonstrates that exporting is a key indicator of the potential for growth for a business, and engagement in exporting can help businesses identify the opportunities for innovation in processes, new products and markets.

Trade in goods

Data from HMRC shows that between October 2016 and September 2017 the North East region:

- Exported £12.7 billion of goods
- Imported £13.2 billion of goods.

There are some concerns that the North East is under represented in this data and that the total values are higher. This is likely to affect some destinations and commodities more than others.

The EU is the North East's main international trading partner, accounting for 59% of all exports and 60% of all imports of goods.

- The proportion of the North East's exports in goods going to the EU is higher than for England excluding London – 59% compared to 50%
- The proportion of imports in goods coming from the EU is similar to England excluding London – 60% compared to 59%.

Exports in goods

Looking at exports in goods in more detail:

- After the EU, the most important markets for the North East's exports in goods are Asia and Oceania (13.3%) and North America (9.7%). This is a similar pattern to England excluding London, but the proportion of the North East's exports in goods going to these markets is lower than for England excluding London
- A higher proportion of the North East's exports in goods than England excluding London go to Western Europe (excluding EU) (5.8% compared to 4.2%) and Eastern Europe (excluding the EU) (3.6% vs 1.8%).

In terms of the type of goods being exported:

- Machinery and transport accounted for 56.8% of exports in goods from the

North East region between October 2016 and September 2017 – by far the largest commodity. Goods valued at £7.2 billion were exported in this category

- The next largest categories were chemicals including pharmaceuticals, with exports of £2.8 billion (22.2% of the total) and manufactured goods, with exports of £1.3 billion (10.2%). It is worth noting that a large proportion of chemical exports are likely to come from the Tees Valley area

- Combined, these three categories accounted for almost 90% of the North East's exports in goods – suggesting the region is heavily dependent on a small number of commodities for its exports
- All other categories of goods were underrepresented compared to England excluding London.

HMRC calculates the number of VAT-registered businesses that are exporting. Using the whole number method, a count of businesses in any region that are exporting:

- There were 4,189 active exporters in the North East (region) in 2016. This is an increase of 4.3% compared to 2014
- 3,295 businesses exported goods to the EU in 2016 and 2,624 exported to

non-EU countries. These numbers include 1,730 business that exported to both the EU and non-EU markets

- Similar to the pattern in the value of active exporters to the EU has increased over the last two years, by 6.2%, whilst the number exporting to non-EU countries has declined by 1.2%

It is worth noting that the value of goods exported by each organisation will vary. In particular, the North East includes a small number of very large exporters (such as Nissan) who will account for a large percentage of the total goods exported.

Main goods exported from North East



Machinery and transport 57%



Chemicals (including pharmaceuticals) 22%



Manufactured goods 10%

Breakdown of exports in goods by destination, North East region and England excluding London, October 2016 to September 2017

	North East		England excluding London	
	Value (£ million)	% of total	Value (£ million)	% of total
Asia and Oceania	1,689	13.3	34,549	16.9
Eastern Europe (excl. EU)	454	3.6	3,694	1.8
European Union	7,428	58.7	102,315	49.9
Latin America and Caribbean	220	1.7	2,995	1.5
Middle East and North Africa (excl. EU)	646	5.1	14,810	7.2
North America	1,224	9.7	34,223	16.7
Sub-Saharan Africa	266	2.1	3,588	1.8
Western Europe (excl. EU)	731	5.8	8,650	4.2
Undefined	-	-	33	0.0
Total exports	12,659	100.0	204,860	100.0

Source: HMRC Regional Trade Statistics

Note: In country groups:

- Eastern Europe (excl. EU) includes Azerbaijan, FYR Macedonia, Georgia, Kazakhstan, Russia, Serbia, Ukraine, Albania, Armenia, Belarus, Bosnia and Herzegovina, Kosovo, Kyrgyz Republic, Moldova, Montenegro, Tajikistan, Turkmenistan and Uzbekistan.
- Western Europe (excl. EU) includes Gibraltar, Iceland, Norway, Switzerland, Turkey, Andorra, Faroe Islands, Liechtenstein, San Marino and Vatican City.

Breakdown of exports in goods by commodity, North East region and England excluding London, October 2016 to September 2017

	North East		England excluding London	
	Value (£ million)	% of total	Value (£ million)	% of total
Food and live animals	225	1.8	8,114	4.0
Beverages and tobacco	13	0.1	911	0.4
Crude materials	202	1.6	4,325	2.1
Mineral fuels	78	0.6	8,292	4.0
Animal and vegetable oils	3	0.0	360	0.2
Chemicals	2,806	22.2	34,757	17.0
Manufactured goods	1,290	10.2	18,893	9.2
Machinery and transport	7,187	56.8	103,780	50.7
Miscellaneous manufactures	834	6.6	24,377	11.9
Other commodities	18	0.1	1,053	0.5
Total exports	12,659	100.0	204,860	100.0

Source: HMRC Regional Trade Statistics

Imports in goods

Looking at imports in goods in more detail:

- After the EU, the largest shares of the North East's imports in goods come from Asia and Oceania, accounting for 24.3% of imports in goods, and North America (7.8%)
- This is a similar pattern to England excluding London.

In terms of the type of goods being imported:

- Machinery and transport accounted for 41.4% of imports in goods into the North East between October 2016 and September 2017. This is a similar proportion to England excluding London (43.3%)
- The next largest categories were chemicals (including pharmaceuticals) (16.8%), manufactured goods (15.0%) and miscellaneous manufactures (14.9%). The main categories of imports into the North East are similar to the main categories of exports – highlighting the integrated nature of supply chain.

Using the whole number method which represents the actual count of businesses in any region that are importing:

- There were 5,932 active importers in the North East (region) in 2016. This is an increase of 7.5% compared to 2014
- 4,481 businesses imported goods from the EU in 2016 and 3,452

imported from non-EU countries. These numbers include 2,001 business that imported from both the EU and non-EU markets

- The number of active importers from the EU and non-EU countries has increased over the last two years by 5.4% and 8.0% respectively.

Exports of services

Looking at service exports by sector:

- The financial sector accounts for the largest proportion of service exports from the North East (24.3%, valued at £0.85 billion), followed by manufacturing-related services (21.7%, valued at £0.76 billion)
- Other sectors with substantial service exports are transport (£0.52 billion), real estate, professional, scientific and technical (£0.39 billion) travel (£0.37 billion) and insurance and pension services (£0.24 billion)
- Both financial services and manufacturing account for a larger proportion of the North East's service exports than England excluding London (24.3% compared to 18.5%; and 21.7% compared to 12.9%)
- In contrast to goods exports, which were heavily concentrated in three commodities, service exports are relatively diversified.

5,932
active importers



There were 5,932 active importers in the North East (region) in 2016. This is an increase of 7.5% compared to 2014



Manufacturing accounts for over 20% of the North East's service exports



Breakdown of imports in goods by source, North East region and England excluding London, 2016/17

	North East		England excluding London	
	Value (£ million)	% of total	Value (£ million)	% of total
Asia and Oceania	3,202	24.3	63,071	20.5
Eastern Europe (excl. EU)	306	2.3	4,033	1.3
European Union	7,924	60.1	181,018	58.8
Latin America and Caribbean	63	0.5	3,386	1.1
Middle East and North Africa (excl. EU)	119	0.9	7,943	2.6
North America	1,030	7.8	27,536	8.9
Sub-Saharan Africa	161	1.2	3,132	1.0
Western Europe (excl. EU)	381	2.9	17,676	5.7
Undefined	-	-	-	-
Total imports	13,186	100.0	307,795	100.0

Source: HMRC Regional Trade Statistics

Note: In country groups:

• Eastern Europe (excl. EU) includes Azerbaijan, FYR Macedonia, Georgia, Kazakhstan, Russia, Serbia, Ukraine, Albania, Armenia, Belarus, Bosnia and Herzegovina, Kosovo, Kyrgyz Republic, Moldova, Montenegro, Tajikistan, Turkmenistan and Uzbekistan.

• Western Europe (excl. EU) includes Gibraltar, Iceland, Norway, Switzerland, Turkey, Andorra, Faroe Islands, Liechtenstein, San Marino and Vatican City.

Breakdown of exports in services by sector, North East region and England excluding London, 2015

	North East		England excluding London	
	Value (£ million)	% of total	Value (£ million)	% of total
Primary and utilities (agriculture, mining, utilities)	2	0.1	291	0.3
Manufacturing	760	21.7	12,409	12.9
Transport	522	14.9	10,806	11.2
Travel	372	10.6	10,280	10.7
Construction	20	0.6	427	0.4
Wholesale and motor trades	67	1.9	4,225	4.4
Retail (excluding motor trades)	17	0.5	659	0.7
Information and communications	163	4.6	12,547	13.0
Real estate, professional, scientific and technical	389	11.1	15,079	15.7
Insurance and pension services	238	6.8	8,174	8.5
Financial	852	24.3	17,820	18.5
Administrative and support services	93	2.7	2,474	2.6
Public admin, health and education; arts, entertainment and recreation; other services	15	0.4	1,070	1.1
Total exports	3,509	100.0	96,259	100

Source:ONS Regionalised Estimates of Service Exports

The importance of foreign-owned businesses in the North East

Why is this important?

Understanding the profile of the business base is critical to providing effective support to businesses and responding to risks which may impact differently depending on the country of origin of the business.

Business ownership

3,680 businesses in the North East region are foreign-owned – equivalent to 5.1% of all businesses. This is a higher proportion than England excluding London (3.8%) or any other region.

Foreign-owned businesses in the North East account for:

- 34.2% of North East turnover
- 28.5% of North East GVA.

Foreign-owned businesses in the North East account for a slightly higher proportion of turnover and GVA than in England excluding London.

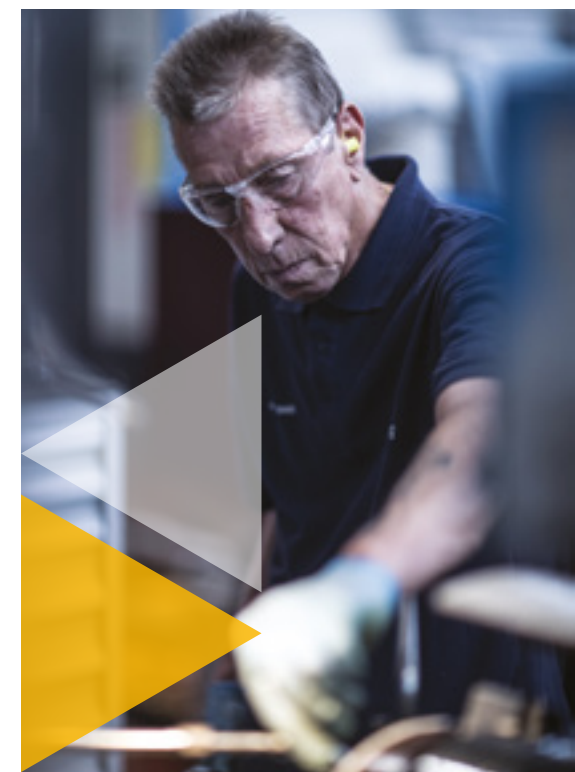
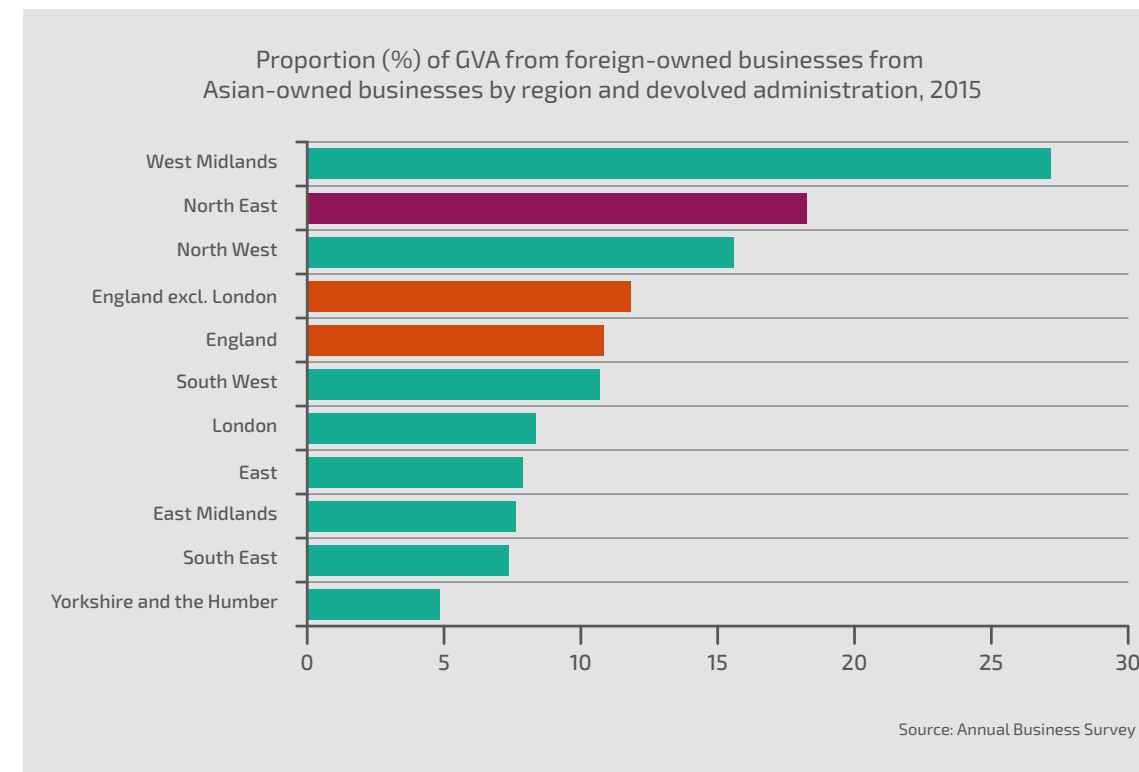
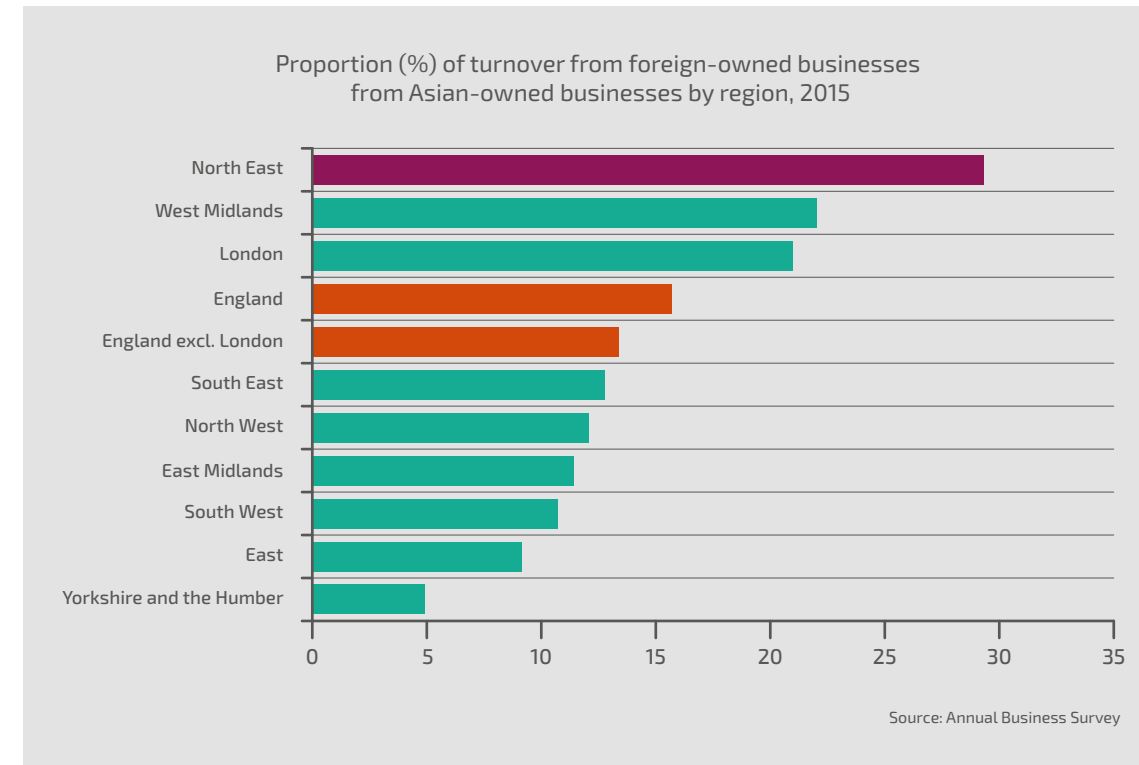
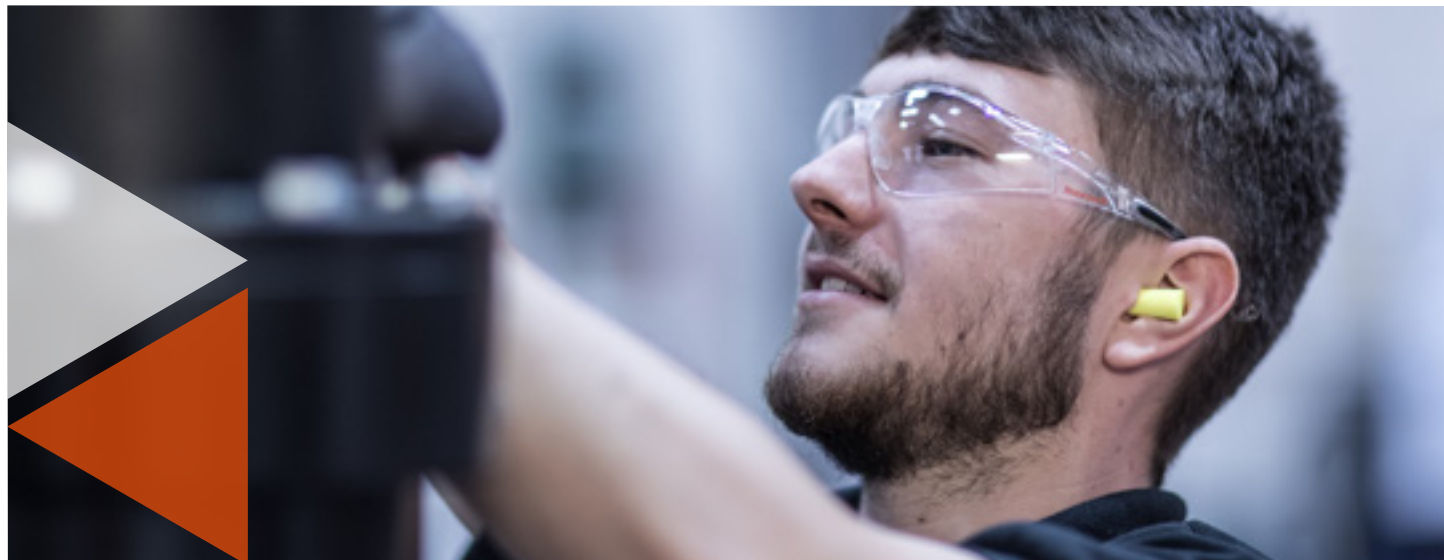
However, when regions are compared, the North East is roughly mid-table with three English regions (London, South East and West Midlands) having a larger proportion of turnover and GVA coming from foreign-owned businesses than North East

Businesses that have an EU-based owner account for 42.5% of the North East's

foreign-owned businesses. This is similar to England excluding London (42.4%) and 4th out of the nine English regions.

7.1% of North East foreign-owned businesses are Asian-owned, the third highest proportion in England (after London and South East). However, these companies make a disproportionate contribution to turnover, accounting for 29.4% of turnover and 18.3% of GVA in foreign-owned businesses in the North East.

Asian-owned firms account for a larger proportion of turnover from foreign-owned businesses in North East than any other English region and the second highest proportion of GVA.



International migration and the North East

Why is this important?

The size of the working age population is a determinant of the size of a regional economy. Across the UK, migration plays a role in determining population size – with migrants tending to be of working age. Migration can also play a key role in bringing skills and expertise to regions.

Population

Individuals who were born outside of the UK account for a smaller proportion of the North East LEP's population than nationally.

- The non-UK born population of the North East LEP area was 109,000 in 2016 – equivalent to 5.6% of population
- This compares to 11.1% across England excluding London
- The non-UK born population in the North East LEP area has by 25% over the last five years and 70% over the last 10 years. The rate of increase in the North East LEP area over the last five years has been similar to England excluding London, whilst the rate of increase over the last 10 years has been higher than England excluding London.

Similarly, the non-British population, i.e. those that do not hold UK citizenship was lower than the England excluding London average. The non-British population of the North East LEP area was 70,000 in 2016. This is equivalent to 3.6% of North East LEP population.

- This compares to 7.4% of the England excluding London population
- The non-British population in the North East LEP area has increased by 27% over the last five years and 56% over the last 10 years.

There were just over 2,300 births to non-UK born mothers in the North East LEP area in 2016, equivalent to 11.1% of all births. This is around half of the rate across England excluding London (22.0%).

Immigration

Over the last 10 years, net international migration into the North LEP area has been positive in each year (i.e. the number of international in-migrants has been higher than the number of out-migrants).

- In the most recent year (mid-2015 to mid-2016), net migration into the North East LEP was 7,257, with 12,081 in-migrants and 4,824 out-migrants

- In-migration has ranged from 9,988 to 14,232 per year
- Out-migration has ranged from 4,453 to 10,672 per year.

Whilst these figures may seem large, international in-migration into the North East LEP area was equivalent to between just 0.5% to 0.8% of the population in each year between 2005/06 and 2015/16 and net migration has been equivalent to between just 0.2% and 0.4% of the population over the same time period.

This is reinforced by the data on National Insurance registrations by overseas nationals. There were 66 registrations for every 10,000 working residents, less than a half of the England excluding London rate (155 per 10,000 residents).

Whilst the scale of migration has been small in the North East LEP area, it has played a critical role.

Over the last 10 years, net migration has generally accounted for the majority of population change in the North East LEP area.

On two occasions (2008/09 and 2014/15), net migration was higher than population change, meaning the North East LEP area population would have decreased had it not been for migration.

Characteristics of migrants

The 2011 Census provides insights into those that moved into the North East LEP area between 2010 and 2011.

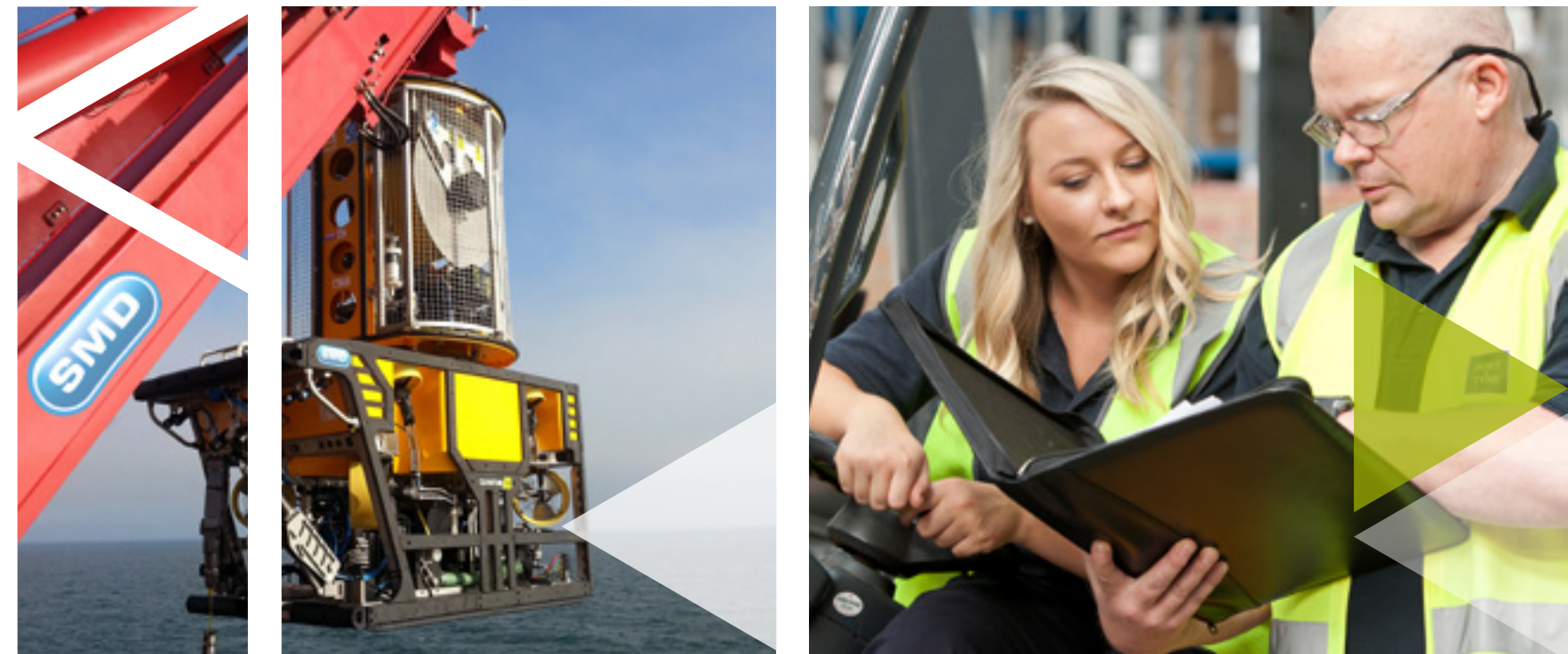
Whilst the Census is now relatively dated, it provides more detail than is available in other datasets.

- 17.5% of those who moved into the North East LEP area in the 12 months prior to the Census moved from outside the UK, i.e. the majority of migrants into the North East LEP area came from elsewhere in the UK.
- 45% of those who moved from outside the UK into the North East LEP area in the 12 months prior to the Census were economically active, whilst 55% were economically

inactive. A lower proportion were economically active than across England excluding London (57%). Whilst this appears to be a negative finding, it reflects the much higher proportion of migrants that were students (43% compared to 26%)

- The most common location that individuals lived 12 months prior to the Census was China accounting for 12.9% of those who moved from outside the UK into the North East LEP area. This is likely to reflect the large student population outlined above. The next most common locations were Middle East (excluding Iran), India, USA, Spain, Germany and Australia. Migration from 2004 (known as the EU A8), was less common than across England excluding London

- The most common location that residents lived in 12 months earlier varied by age. In particular, the majority of in-migrants aged 65-74 and 75+ came from countries in the EU15, USA, Canada, Australia and South Africa. These are likely to predominately be UK citizens returning to the North East LEP area after a period of living abroad.



The international linkages of North East universities and colleges

Why is this important?

Universities and colleges play a role in regional economic growth as they develop skills and are sources of skills and as sources of innovation through research and development.

Universities

Students

There were 17,275 international students at the North East's four universities in 2015/16.

- 14.1% of undergraduate students and 40.1% of postgraduate students at the North East LEP area's universities were international students

- The proportion of students in the North East that were international was similar to England excluding London, with the main difference between the two geographies being that the North East has a slightly higher proportion of non-EU students.

In addition, 15,845 students were studying for awards or courses of North East universities overseas without coming to the UK in 2016/17.

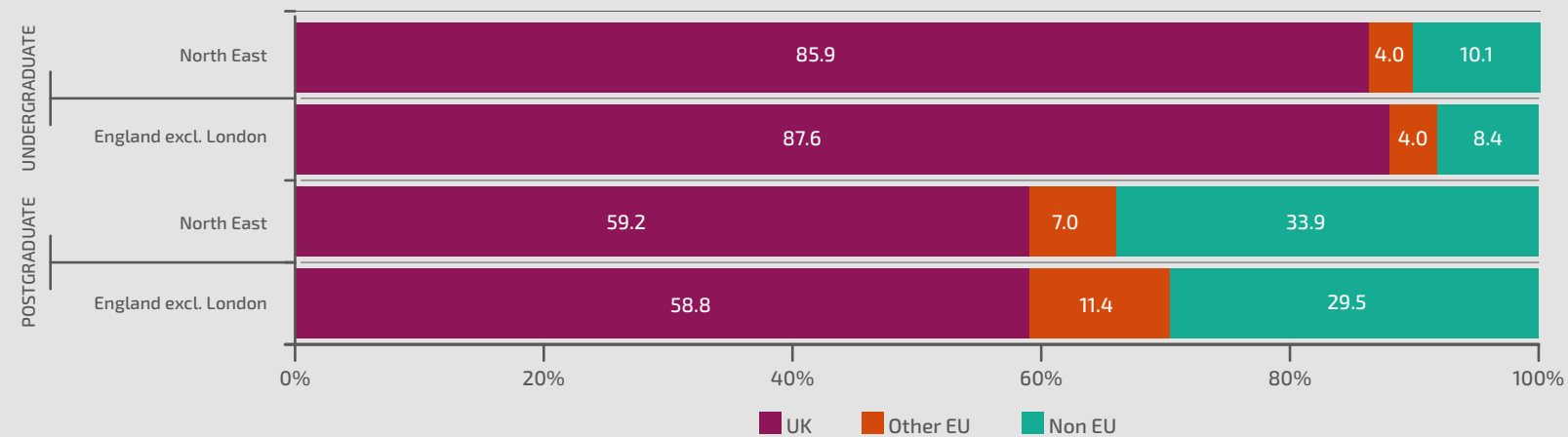
These students are counted separately from the HESA student population discussed earlier.

- The majority of these were undertaking first degrees (12,915) or postgraduate taught degrees (2,465).

- Within the North East's universities, the University of Sunderland has the largest number of students studying for awards or courses overseas without coming to the UK (8,120), followed by the University of Northumbria at Newcastle (6,000).

- Both the Newcastle University and the University of Sunderland have overseas campuses (in Malaysia and Singapore; and Hong Kong respectively). Just under a half (47%) of all students studying for awards or courses overseas without coming to the UK at Newcastle University were at one of the university's international campuses but less than 1% of the University of Sunderland's overseas students were at its Hong Kong campus.



Domicile of students (% of total students), Higher Education providers in North East LEP area and England excluding London, 2016/17



Source: Higher Education Statistics Agency (HESA)

International campuses of North East universities

Newcastle University

-  Malaysia
-  Singapore

University of Sunderland

-  Hong Kong



17,275 international students at the North East's universities



Research funding

Across English higher education institutions as a whole, 23% of research income in 2015/16 (equivalent to just over a £1 billion of funding) came from international sources. Similar data are not available for individual organisations.

Analysis by Technopolis of the Research Excellence Framework (REF) 2014 found that North East region universities secured £110.9 million of international income between 2008 and 2012. This was 14% of their total research income in this period.

The largest categories of international income were clinical medicine (which secured £19.9 million) and aeronautical, mechanical, chemical and manufacturing engineering (£14.0 million).

The North East was overrepresented in international income secured in a number of subject areas including civil and construction engineering; aeronautical, mechanical, chemical and manufacturing engineering; architecture, built environment and planning; physics; art and design; and physics.

Horizon 2020 is an EU research and innovation programme with €80million available between 2014 and 2020 for projects that:

- Involve ground breaking research or new technologies
- Improve research training and development, or research infrastructure

- Create growth in sectors like advanced manufacturing, materials, biotechnology, information and communication technology, nanotechnology and space
- Increase private investment in research
- Respond to challenges like climate change, food security or healthcare for an ageing population.

Only consortiums – normally made up of at least three organisations from different countries – are eligible for Horizon 2020 funding.

Whilst Horizon 2020 funding is not restricted to universities, they are major recipients.

By September 2017, there had been 247 participations in Horizon 2020 in the North East region, with €109 million in funding committed to projects including North East organisations. Within this:

- Newcastle University has been involved in 101 participations, totalling €46 million
- Durham University has been involved in 51 participations, totalling €22 million.

Both are within the top 30 HE institutions in the UK in terms of securing Horizon 2020 funding.

Colleges

No data is available on the number of international students undertaking courses at the North East’s colleges or the number of North East

students at these colleges taking part in international learning visits or placements as part of their course.

However, from our work with colleges we know these are an important part of their offer.

Colleges accounts 2015/16 show that:

- Tuition fees and educational contracts for non UK/EU students earned North East colleges £5.5 million in income - 11.3% of their total tuition fees and education income in that year
- Skills Funding Agency EU co-financing income was £868,000 - 0.4% of all Skills Funding Agency/Education Funding Agency grants
- Combined this means just under 2% of North East college income was international.



Horizon 2020 project participation and funding by region, position at September 2017

	Participations		Funding	
	Number of participations	Share of UK participations (%)	EC total funding (€ millions)	Share of funding to the UK (%)
London	1,964	24.4	985	24.8
South East	1,204	14.9	629	15.8
East	844	10.5	458	12.2
South West	733	9.1	360	9.1
Yorkshire and the Humber	549	6.8	245	6.2
West Midlands	545	6.8	229	5.8
North West	493	6.1	230	5.8
East Midlands	313	3.9	124	3.1
North East	247	3.1	109	2.7

Source: UK's participation in Horizon 2020 (BEIS)

The role of EU funding

Why is this important?

The European Union has been a major source of funding into the North East over the last 40 years.

Earlier in this report, details were given of the North East Finance for Business Fund (which was part-funded by the European Investment Bank and the European Regional Development Fund) and Horizon 2020 funding, a key EU research and innovation funding programme.

In this section, we will focus on the investment funds that deliver the EU's regional policy goals of job creation, business competitiveness, economic growth, sustainable development, and improving quality of life.

There are three relevant funds:

- European Regional Development Fund (ERDF)
- European Social Fund (ESF)
- European Agricultural Fund for Rural Development (EAFRD).

All are part of the European Structural and Investment Funds (ESIF).

The purpose of all these funds is to invest in job creation and a sustainable and healthy economy and environment.

2014-2020 allocations and commitments

The notional allocations that have been made to the North East LEP area for 2014 to 2020 are:

- ERDF – £225.8 million
- ESF – £200.3 million
- EAFRD – £10.5 million.

Within these, some key priorities include:

- £94.6 million for inclusive labour markets to improve access to employment for those that are unemployed and inactive and to help integrate young people into the labour market
- £103.9 million for skills for growth to improve access to education and training and to ensure the provision on offer is relevant to employer needs
- £106.8 million to support SME competitiveness through business supports, improving access to finance and the development of strategic sites
- £45.4 million to encourage innovation in the region.

Commitments are the total amount legally committed and contracted from the ERDF, ESF and EAFRD programmes to projects (including those at the pre-contracting stage).

By early 2018:

- £150.6 million of ERDF funds had been committed (66.7% of allocation)
- £77.3 million of ESF funds had been committed (36.6% of allocation)
- £5.8 million of EAFRD funds have been committed (55.0% of allocation).

Looking forward

The North East LEP will continue to promote the ESIF funds to potential beneficiary organisations in the North East and to advise the Managing Authorities to shape calls that meet the needs of the North East economy.

The UK's decision to leave the European Union will mean the current round of EU funding (2014 to 2020) is likely to be the last. The Government has committed to establish a Shared Prosperity Fund to replace European funds. It is critically important that the design and delivery of this fund meets the needs of the North East.

The North East LEP is working with partners to understand the needs of the North East in terms of funding and make the case for these to be reflected within the Shared Prosperity Fund design. In particular, we strongly hope that these funds will be devolved to the North East to develop their international links.



International connectivity

Why is this important?

The North East's international connections rely on there being routes between the North East and the rest of the world. In this section, we will examine the data on the North East's ports and airport.

International ports

The North East LEP area is home to five ports:

Port of Berwick

Port of Blyth

Port of Sunderland

Port of Tyne

Seaham Harbour

In 2016, the North East handled 5.73 million tonnes of freight, 1.2% of all freight handled in the UK in that period. Within this:

- 1.83 million tonnes of handled freight was outwards
- 3.89 million tonnes was inwards

The largest ports by tonnage handled were Port of Tyne (3.65 million tonnes), Port of Blyth (0.74) and Port of Sunderland (0.72).

Outwards freight had increased since 2014, whilst inwards freight has decreased.

In 2016, 584,000 passengers travelled through the Port of Tyne. This is equivalent to 2.7% of all international sea passengers boarding at UK ports, a decline of 10% in passenger numbers compared to 2006.

All of these passengers were on the Tyne to Ljmuiden route. The numbers travelling via this route has risen since 2006 (by 12%) with the overall decline in passenger numbers reflecting the closure of the Norway and Gothenburg routes.

Airport

Newcastle Airport accounted for 1.8% of all passengers travelling through UK airports in 2016. Of the 4.8 million passengers in 2016:

- 3.1 million – or 66% – were travelling between Newcastle and EU destinations. The number travelling to/from EU destinations increased by 16% between 2015 and 2016
- A further 501,000 – or 10% – were travelling to other international destinations. The number travelling to/from Newcastle to other international destinations decreased by 21% between 2015 and 2016

- Overall, 76% of passengers travelling through Newcastle were international
- The most popular routes were Amsterdam, with over 360,000 passengers and Alicante, with over 340,000. 10 routes had over 100,000 passengers each, including Dubai which had over 230,000
- The routes which experienced the largest increase in usage were Alicante, Malaga, Tenerife (Surreina Sofia), Dublin, Barcelona and Palma de Mallorca.

In 2016, Newcastle Airport handled 4,574 tonnes of freight. The vast majority of freight handled by Newcastle is international – with 574 tonnes (12.5%) travelling between Newcastle and the EU and 3,743 tonnes (81.8%) travelling between Newcastle and other international destinations.



In 2016, the North East's ports handled 5.73 million tonnes of freight – 1.2% of all freight handled in the UK



Almost 600,000 passengers travelled through the Port of Tyne



Newcastle Airport handled 4.8 million passengers during 2016

What next for the North East in the global economy

Maintaining and strengthening the international connections set out in this section is of critical importance to the North East.

In particular, there is a need to:

- Ensure support is in place for North East businesses to internationalise. This should include supporting those that are already exporting to move into new markets, encouraging businesses that are not currently exporting to do so and to support North East businesses to develop their supply chains internationally
- Work to embed inward investors into the North East economy to maximise the benefits from their presence in the North East for both the company and the region
- Promote the North East as an attractive location to study, work and live. This is important in helping maintain, and potentially grow, the working age population of the North East
- Strengthen the North East's global links through the region's ports and airports.
- The North East LEP will work with its partners to deliver these objectives. However, the success of these measures will also rely on the UK having strong relationships and appropriate treaties in place with other nations. As the UK government goes through the process of leaving the EU, it is critically important for the North East's businesses and residents that they negotiate the best possible terms of access to other markets for the UK.



North East
Local Enterprise Partnership



North East
Data Hub



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