

North East
Local Enterprise Partnership



neca
north east combined authority

The North East Strategic Economic Plan

Evidence Base
May 2016





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Foreword

In April 2013 we published the **North East Independent Economic Review¹**, led by Lord Adonis. This provided a comprehensive overview of the North East Local Enterprise Partnership (North East LEP) area's economy and laid the foundation for our **Strategic Economic Plan²**, published a year later.

At the time of the Adonis review much of the available data referred to the immediate post recessionary period of 2010-2011, a time where the national economy was emerging from recession. Arguably, the end of recession at a national level had yet to be realised in the North East at that time.

Much has changed since that point in the economy, and there have been significant public policy developments at a national level and the prospect of enhanced devolution arrangements to the local level. With more recent economic data now available, the North East LEP and North East Combined Authority have agreed that it is now the right time to refresh our Strategic Economic Plan (SEP). A key part of this project is to update the economic evidence base for the region.

This report aims to support this process. It assembles and draws on key economic data and information from a range of sources to provide an updated view of our economy and highlight the issues for the future suggested by this information.

It reveals that while there remains a significant performance gap against national metrics, the North East has made progress since the recession with:

- Sustained annual growth rates at around 3% per annum
- Business growth in key sectors
- Record employment levels including a closing of the employment rate gap with national averages
- Rising levels of qualification in the workforce
- Some growth in our population providing new sources of labour.

But it also records both ongoing and new challenges:

- The comparative performance gap on growth and productivity remains a concern
- Longstanding problems of economic engagement in some communities persists
- On-going skills mismatches in the labour market.

Looking forward, the data suggests a genuine risk from a population 'crunch', with population growth levels inadequate to respond to growing demand for labour if current patterns continue.

These key messages from the data suggest that a group of opportunities and challenges that need to be at the heart of our thinking through the refresh process include:

- The need to improve the **size and productivity of our business base**, to ensure that the region is competitive in the UK and overseas, and to ensure our resilience in an increasingly uncertain environment
- **A tightening labour market** - demanding focus on both demand and supply of employment to address the following:
 - Despite record levels of employment and improving qualifications, there remain important mismatches between supply of skills and demand
 - Key businesses face skills shortages at the same time as a large number of younger and older people remaining out of work
 - Too short careers escalators, meaning many with higher skills wanting to build careers often choose to leave the region or remain in roles for which they are over-qualified.
- That we have **strengths and good recent performance in key areas** on which to build. There are opportunities to:
 - Focus on existing and emerging industrial strengths, each of which provide opportunities to improve our growth and productivity performance
 - Support a growing service sector with the capacity to provide productive, higher skilled jobs
 - Use a range of resources at our

disposal - from across our towns, cities and rural communities – to ensure that each contribute to our economic future, in particular by securing and accommodating growth of our labour force.

This review of data is only one part of the evidence base available, and the report seeks comment on the issues it raises and the contribution of other information. We want to identify knowledge and insight from other sources that can be brought to bear on the SEP refresh process, and to add to our understanding about the North East economy going forward.

Helen Golightly
Chief Operating Officer



North East economic objectives

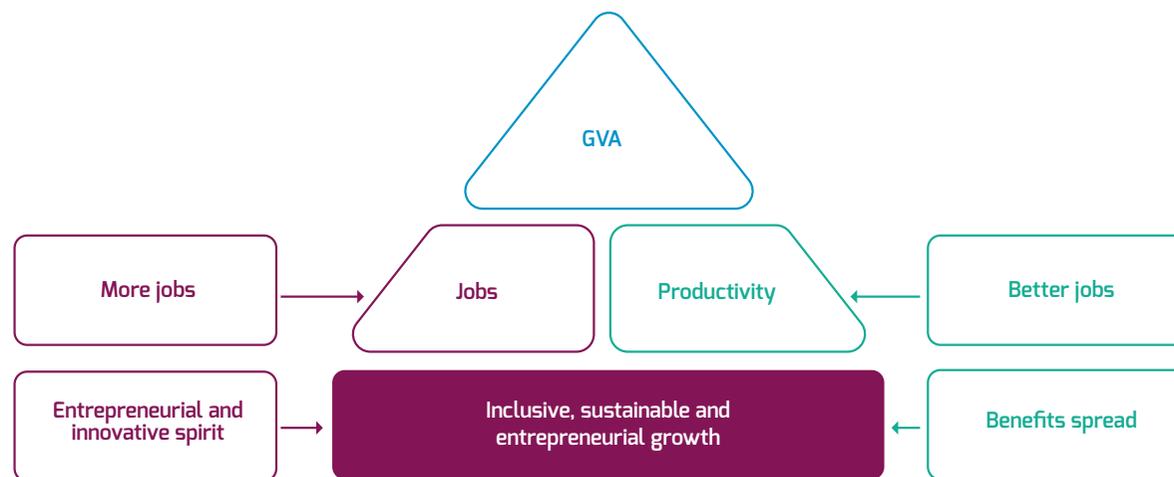
The North East Strategic Economic Plan (SEP) provided our response to the key challenges set out in the Adonis Review by achieving three key objectives by 2024 (see figure 1):

- To help deliver an uplift in employment opportunities in the North East LEP area to a total of one million jobs
- Within this uplift, ensure an emphasis on 'better' jobs - higher productivity level jobs that can leverage the economy overall, representing 60% of the new jobs created
- To increase levels of employment across the North East LEP area, connecting more people to economic opportunities.

Given these objectives, the focus of the delivery programme was on a group of key indicators:

- Lifting growth levels and improving competitiveness and productivity of the economy, measured by Gross Value Added (GVA) per capita
- Improving the performance of the most productive and highly skilled parts of our economy, securing employment gains across the region, with a particular focus on higher skilled jobs within these areas.

Strategic Economic Plan outcomes and North East Investment Fund objectives



It is early in the planning period to draw direct conclusions about the impact of the specific interventions set out in the SEP (progress on SEP delivery is reviewed in our progress review) but data in this report provides a clear sense of the response of the North East to changes in the national and international economy. This includes insight into the overall direction of the parts of the North East economy that we identified as those most likely to contribute to meeting these objectives.

In doing so this economic report gathers evidence about key areas of the economy identified in a valuable analysis of the North East economy³, compared with other regions across the 33 Organisation for Economic Corporate Development (OECD) member states undertaken by the OECD in 2012.

The report differentiated between the factors that could support productivity and growth for different types of areas, subdivided by their growth performance and industrial structure.

Within the OECD typology, the North East would be defined as an intermediate, quasi-lagging region, and based on comparison across the OECD member states they identified priority policy areas as:

- Human capital including skills and employment rate, and innovation factors which positively influence regional growth
- Infrastructure, which influences growth as an environmental factor when human capital and innovation factors are present
- Agglomeration (concentration of economic activity) which influences growth but is neither necessary, or sufficient alone, as its impact is dependent on the structure of the economy

³OECD (2012), Promoting Growth in all Regions

- Accessibility of markets which can influence growth, conditional on innovation, infrastructure, human capital and agglomeration. In this context, distance to markets can have both a positive and negative impact on growth depending on the strength and nature of key growth factors. The contribution of accessibility is dependent on the nature and assets of the local economy.

The OECD also stressed the importance of co-ordination across key policy domains, emphasising the importance of institutional capacity to co-ordinate across key factors, capable of recognising and responding to the distinctive economic circumstances of an area.

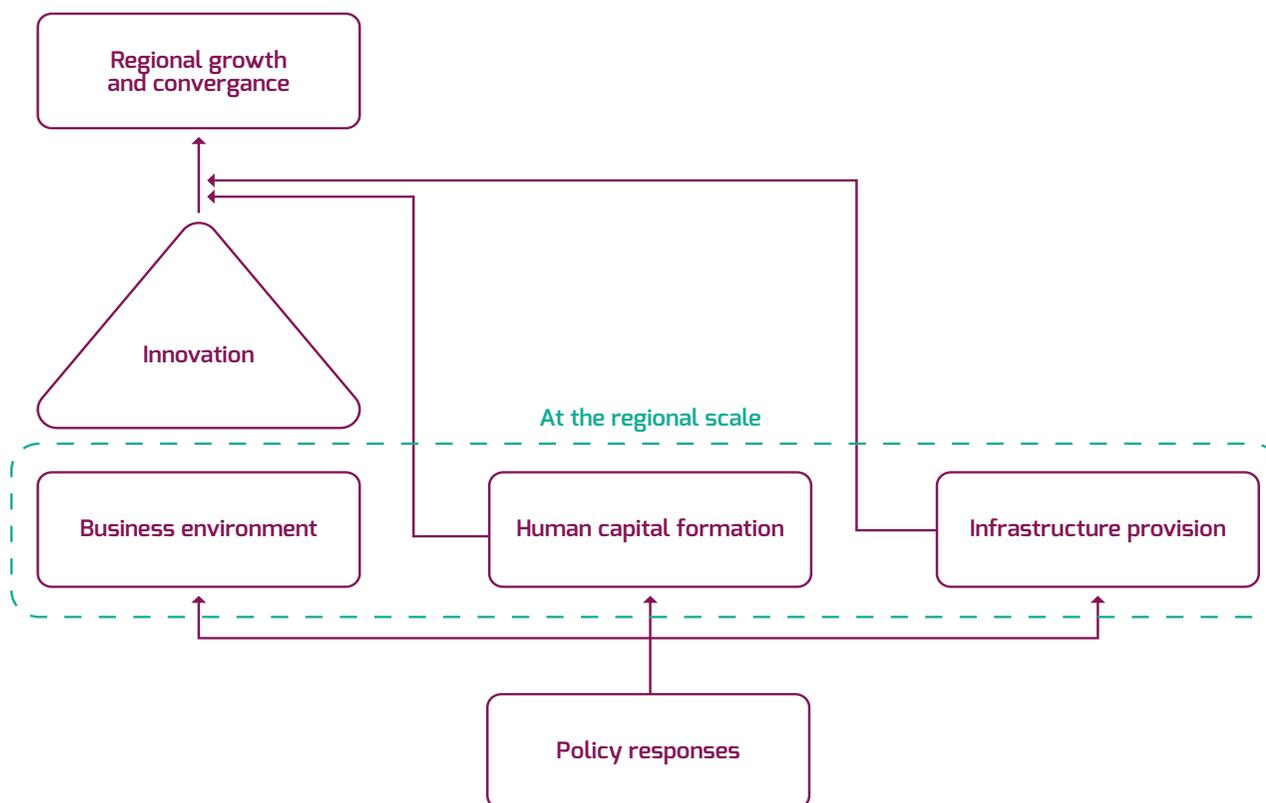


Illustration of integration of key growth factors at regional scale (source OECD 2012)

Building our evidence base

There is not a comprehensive evidence base available for the performance of the North East LEP area for some of factors identified in this report. As part of the refresh process, the LEP would be interested in the contribution of evidence from researchers to strengthen what is currently available and support ongoing analysis.

Key areas of discussion:

- Does this analysis align with evidence and experience in the region?
- What are the key implications?
- Are there sources of supporting or contradictory evidence? Which are the key evidence gaps which need to be filled?
- What key analytical information is required by the region on an ongoing basis?
- How do we maintain a strong regional understanding going forward? Are there opportunities to better co-ordinate and disseminate evidence?

Economic profile - Key facts:

Total GVA

- North East LEP area GVA in 2014 was £35.4 billion, 2.2% of UK GVA
- It represents growth of almost £1 billion between 2013 and 2014, a 2.7% increase
- Between 2004 and 2014 the North East LEP economy grew by 34%
- Comparatively the UK grew by 45% over the same period, but the North East compares well with other similar parts of the UK economy
- The region recovered from 2010 following the recessionary impact, and has continued to grow year on year by about 3%.

Contribution by sector

- Public services, transport and manufacturing make the largest contribution to North East LEP area GVA
- North East LEP area manufacturing out performs the UK average
- Fastest growth has been seen in real estate and financial and business services
- The highest GVA contribution is from financial services, utilities and manufacturing.

Productivity

- North East LEP area productivity has improved by 29% since 2004
- While positive, this is lower than the UK figure and is a relative decline compared with the UK as a whole, although the UK figure is driven by London and the South East.

Gross Value Added (GVA)

The North East LEP has an economy worth £35,361m GVA in 2014 (provisional figure⁴), an increase of 3% on the 2013 figure. It represents 2.2% of the UK and 2.6% of the English economy.

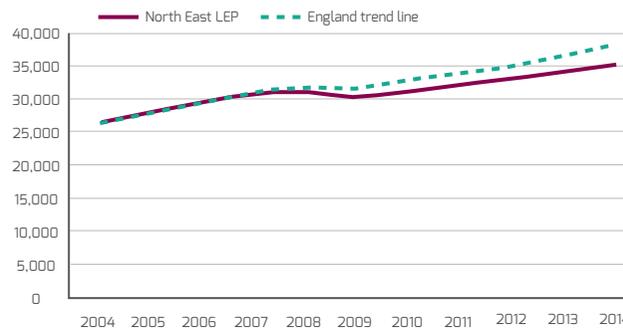
Over a ten year period, 2004-2014, GVA in the North East LEP area rose by 34%. Our area successfully matched the average England increase during the 2004-2007 period, although it was hit harder than other parts of the UK during the recession.

The North East has now moved through the recessionary period and has largely returned to trend, returning annual growth rates of about 3% per year.

Relatively, though, the data shows that the North East LEP area achieved a slower rate of increase than in England as a whole over this period (+45%).

The England rate is heavily influenced by the impact of London as a global centre for financial and business services.

Change in GVA 2004-2014

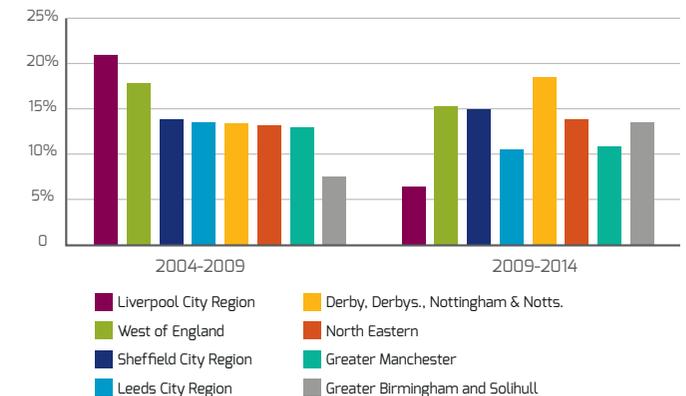


Source: Regional Gross Value Added, ONS Dec 2015 and GVA for Local Enterprise Partnerships, ONS Feb 2016

Comparing with similar economic areas in England, the North East continues to deliver standard performance.

Looking at GVA growth rates in comparison with the other seven core city LEP areas in England, the North East has moved from being the sixth highest in 2004-2009 to the fourth highest in the post recessionary period between 2009 and 2014, remaining relatively stable compared with areas including Liverpool, Leeds and Greater Manchester, but falling behind Nottingham and Birmingham.

GVA growth rates in core city LEP areas, 2004-2014



Source: GVA for Local Enterprise Partnerships, ONS Feb 2016

⁴Note that there is time lag in the availability of some data

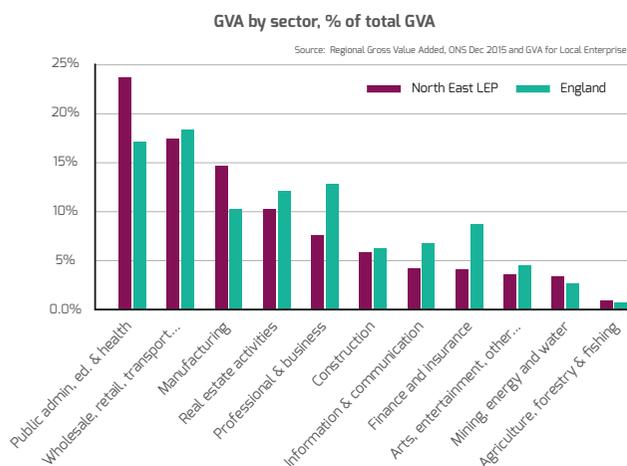
GVA by sector

Looking at the aspects that have changed in the North East economy, there are interesting indicators about which parts of the economy have grown, and which have performed well compared with other parts of the country.

Just under a quarter of North East LEP area GVA comes from the public administration, education and health and social care sectors (23.7%, compared to 17.1% of England's total GVA). Relatively this imbalance is largely the result of the limited scale of private sector services in the economy rather than a disproportionately high public sector.

Based on its share of employment, the education sector is estimated to account for nearly 7% of total North East LEP GVA, one third of the public services figure. Higher education accounts for around one-fifth of this.

The North East LEP area has an above average proportion of its GVA generated by the manufacturing sector – 14.6% compared to 10.3% nationally.



A much smaller proportion of GVA in the North East is accounted for by high value service sectors compared with the England average. These include professional and business services (7.6% compared to 12.8%) and finance and insurance (3.6% compared to 8.7%) although recent rates of growth in these sectors are good from this lower base.

As was highlighted in the Independent Economic Review, the contribution of private sector services to regional GVA continues to be the factor that accounts for lower North East LEP performance on a number of indicators.

Growth in GVA by sector

The fastest growing sector in GVA terms between 2004 and 2014 was the real estate activities sector, with growth of 91% in the North East, just short of the national increase of 93%.

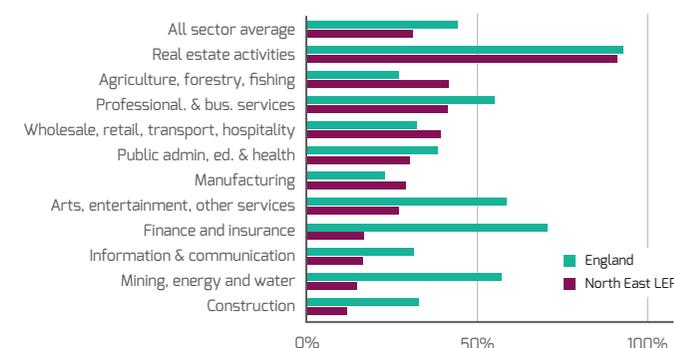
Three sectors grew faster in the North East LEP area than in England as a whole – manufacturing (+29.3%), wholesale and retail, and agriculture, forestry and fishing.

In absolute terms, the biggest contributor to GVA growth was the public administration, education and health sector, with GVA increasing by over £2bn over a ten year period. Based on its share of employment, the education sector is likely to account for around £700m of this increase.

The real estate and wholesale, retail, transport and hospitality sectors saw an increase of £1.8bn in GVA over the same period.

There have been stronger growth levels later in the period in higher productivity services, although from a low relative base.

Sectoral GVA growth, 2004-2014

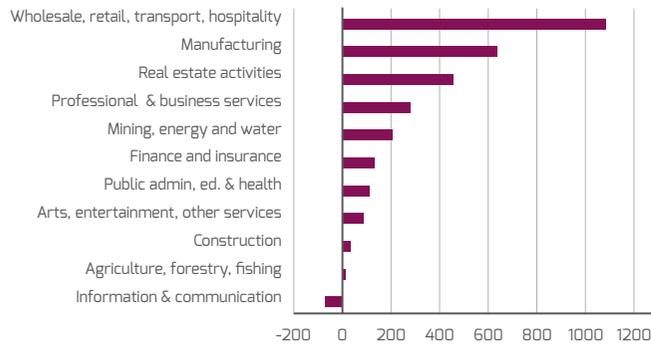


Source: Regional Gross Value Added, ONS Dec 2015 and GVA for Local Enterprise Partnerships, ONS Feb 2016

Analysis of the sectors that have driven GVA growth in the North East LEP area over the past three years shows that the largest share of growth has come from the wholesale, retail, transport and hospitality sectors, with manufacturing and real estate also making important contributions to growth.

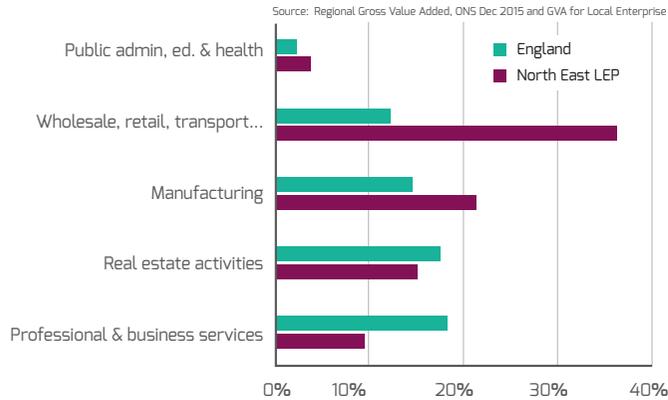
High value-added service sectors such as professional and business services, and finance and insurance have contributed 13% of the total increase in GVA, slightly higher than their existing share of total North East LEP GVA (11.4%).

Change in North East LEP GVA by sector, £m, 2011-2014



Source: Regional Gross Value Added, ONS Dec 2015 and GVA for Local Enterprise Partnerships, ONS Feb 2016

Growth rates in the North East's largest sectors, 2011-2014



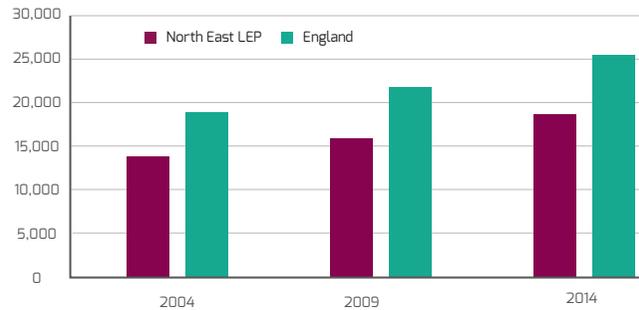
Within the North East LEP area the strongest growth rate performance is in Durham (+32% over ten years), Tyneside and Northumberland (both +30%).

Productivity

GVA per head of population was £18,111 in the North East LEP area in 2014, 71.4% of the England average which is just over £25,000.

In absolute terms, GVA per head has increased by 29% since 2004. However this falls short of the England increase (34%), representing a decline in relative terms from 72.8% of the England average in 2009 and 74.0% in 2004. Again, this in part reflects the growth of London and parts of the South East.

Change in GVA 2004-2014



Source: Regional Gross Value Added, ONS Dec 2015 and GVA for local Enterprise

Productivity by sector

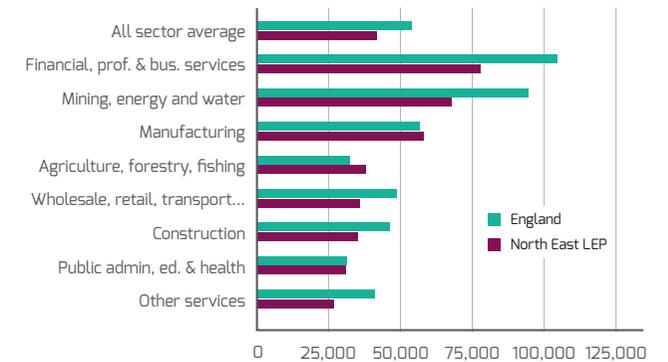
GVA per person employed in the North East LEP area (including self-employment) was circa £42,000 in 2014, compared to £54,000 in England as a whole. This is 78% of the England average.

There are two sectors where North East LEP GVA per employed person was above the England average – manufacturing and agriculture.

The strong performance of the manufacturing sector is reflected in its contribution to the economy and is linked to the types of high value-added manufacturing that many companies based here are involved in.

However, GVA per employed person is highest in financial, professional and business services – £77,458 – and lowest in other services – £26,838.

GVA per person employed by sector, £ per annum



Source: Regional Gross Value Added, ONS Dec 2015 and GVA for Local Enterprise Partnerships, ONS Feb 2016

The variations in GVA per person employed highlight the value of different types of employment growth to the overall economy, with manufacturing, utilities, areas such as mining and energy, and professional and business services generating twice as much GVA per job as public sector and wholesale and retail jobs.

Human capital: key facts

Employment and the workforce

- Nearly 888,000 people were employed in the North East in 2015, an increase of 54,000 compared with 2004
- A prolonged post-recession downturn has been followed with 47,000 jobs added since 2014, a 5.6% increase compared to 4.2% in England
- 70% of the workforce is now employed, and the gap with the national average is closing
- Jobs growth has been delivered in private sector services, compensating for a drop in manufacturing employment as this sector becomes more productive.

Unemployment, inactivity and population

- 70,000 people are unemployed in the North East, 7.5% of the working age population, which is high compared to national figures.
- The North East has higher than average levels of inactivity amongst people aged 50-64, 35-39 and 20-24
- Inactivity remains a challenge, although numbers have declined considerably. Health remains a key challenge in reducing these numbers further.

Demographic change

- The population is expected to remain relatively stable over the next 20 years, with a 3% increase forecast, lower than in other areas.
- This disguises considerable demographic change within the population.
- The number of children (aged 0-14) will remain relatively steady, but the number of people aged 16-64 is set to fall by 60,000, whilst the number aged 65+ will increase by 162,000.
- In 2014/15 the number of over 65's employed in the North East region reached 6.3%.

Employment and workforce

Nearly 888,000 people were employed in the North East LEP area in 2015, including both employees and the self-employed.

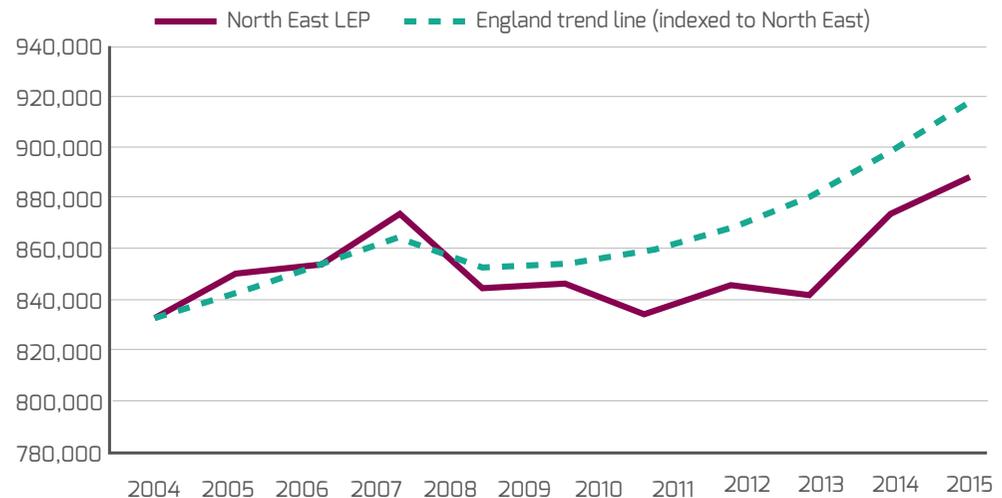
Employment fell significantly during the recession and was subdued for several years, compared to the national economy where employment began to rise much earlier.

The 888,000 figure is an increase of 54,000 on the 2004 figure, and above the pre-recession level.

Nearly 47,000 jobs have been added over the past two years, a 5.6% increase compared to 4.2% in England as a whole.

Employment

Employment in the North East, 2004-2015



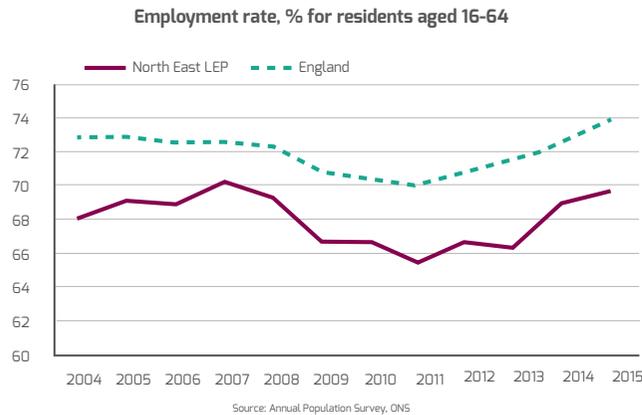
Source: Annual Population Survey, ONS

Employment rate

As a result of strong, recent employment growth, the employment rate (percentage of residents aged 16-64 in employment) has increased significantly in the North East LEP area over the past two years, and is now very close to the pre-recession level.

Nearly 70% of the working age population are now in employment, although this remains below the national average, as it has for many years.

While the employment rate remains below the England average, the gap has narrowed since 2013.



The employment rate of people aged over 65 years in England has been rising steadily over the last 30 years, increasing from 4.9% to 10.2% over this period. 258,000 people (9.9%) of those aged between 70 and 74 are in work at this time.

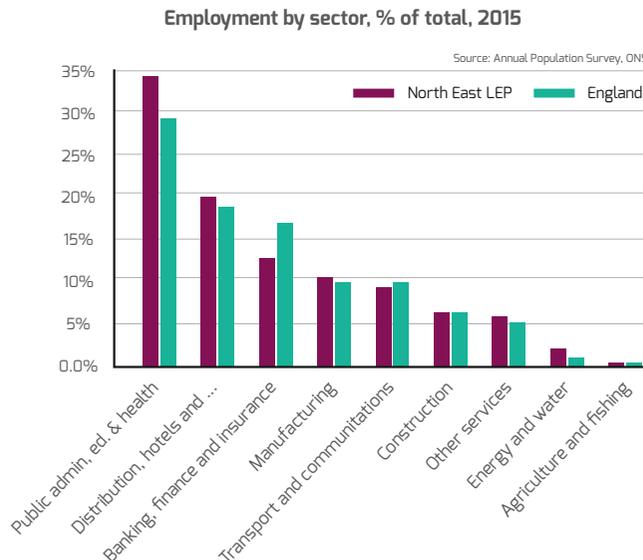
In 2014/15 the number of over 65's employed in the North East region reached 6.3%.

Employment by sector

Public administration, education and health sectors account for one-third of all employment in the North East LEP area, with nearly 300,000 employees and self-employed workers in 2015 across these areas.

Public sector employment in health and education reflects the size of the population and these functions are large employers in every geographical area. This high proportion of employment reflects the smaller size of the private sector employment base.

The North East LEP area has a lower than average proportion of its workers employed in high value service activities, including banking, finance and insurance, the greatest contributor to the lower level of employment in private sector employment and to GVA levels. The area has a slightly higher than average share employed in manufacturing, which provides some mitigation.



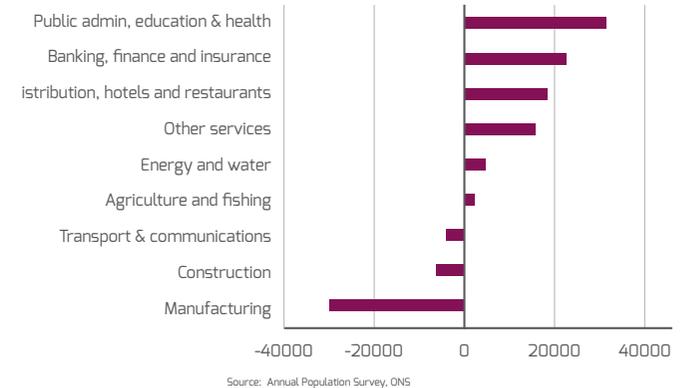
Long term employment change by sector

Total net employment growth of 54,000 over the past ten years has been largely driven by growth in the service sector, including both public and private sector services.

This has been sufficient to more than offset the decline in manufacturing employment that has been experienced over the same period.

The scale of manufacturing employment losses has had a major impact on shifting the economy to a more service sector-dominated jobs market.

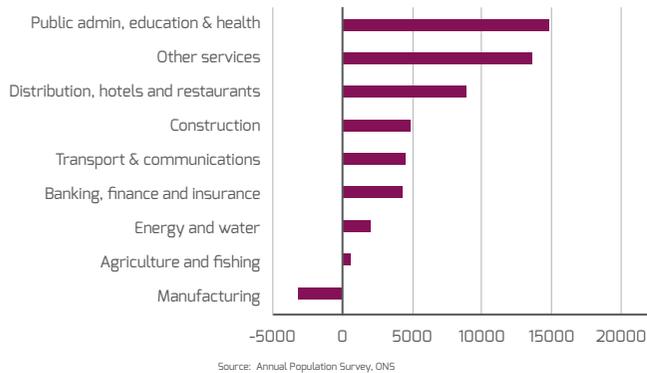
North East LEP Employment change, 2004-2015



Recent employment change by sector

Growth since 2013 has been driven by increased numbers employed (and self-employed) in public administration, education and health sector (+14,900), and in private sector services including banking, finance and insurance (+4,400) other services (+13,600) and distribution, hotels and restaurants (+8,900).

North East LEP Employment change, 2004-2015



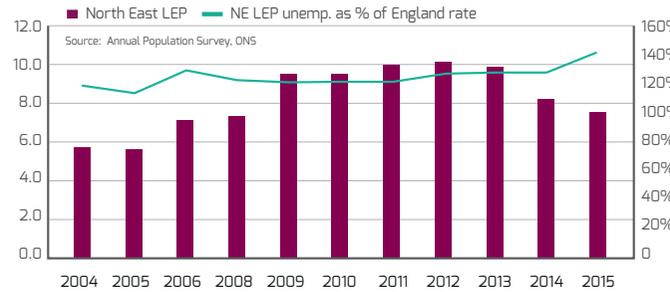
Unemployment

Over 70,000 people are unemployed in the North East LEP area, equivalent to 7.5% of the working age population.

Unemployment has fallen considerably, from a high of over 92,000 in 2012. However, whilst the rate has fallen, the rate of decline is slower than the national rate of decline.

At 140% of the national unemployment rate, and in spite of strong recent employment growth, unemployment remains a distinctive challenge for the North East LEP area.

Unemployment rate 2004-2015



Inactivity

Just under a quarter of the working age population in the North East LEP area is economically inactive, 2.8 percentage points higher than in England as a whole.

Economic inactivity has fallen by 33,000 from its high point of 340,000 in 2011, although the number is very substantial. The North East LEP area has higher than average levels of inactivity amongst the population aged 50-64, 35-39 and 20-24. While not every inactive person is able to work, if the percentage inactivity gap between the North East and the national average were to be closed, it would mean the equivalent of over 30,000 people returning to the workforce.

Economic inactivity rates by age, 2015



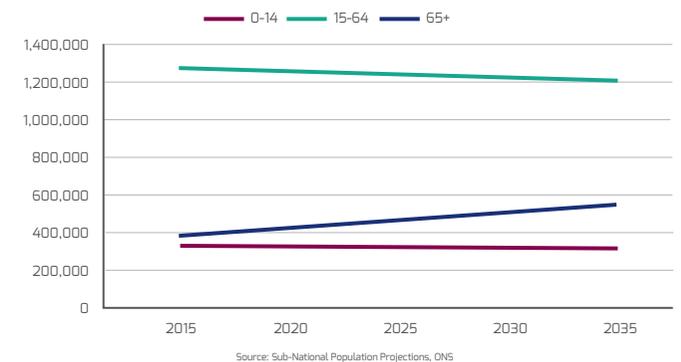
Demographic change

The population of the North East LEP area is expected to remain relatively stable over the next 20 years, with only a 3% increase forecast by ONS. Relative to national and international comparators this is a low level of population growth.

This overall stability disguises considerable change within the population. There will be a distinct ageing of the population over the period, with the number of people aged 16-64 expected to fall by nearly 60,000, whilst the number aged 65+ will increase by 162,000. The number of children (aged 0-14) will remain relatively steady.

This contrasts with the national position, where there will be continued growth of 1.5m (+4%) of those aged 16-64 over the same period. This is a key challenge for the North East LEP area. Maintaining its employment base while the working age population is falling suggests the need for a comprehensive strategy to encourage economic activity, with people working for longer, the reduction of unemployment and the identification of new sources of labour in order to support employment growth.

Projected change in North East LEP population, 2015-2035



Skills: key facts

Qualifications

- The proportion of the population qualified to level 4 has risen from 22% to 31% in the last 10 years, a faster growth rate than the UK overall, although the proportion is still 6% lower than the national figure
- The proportion with no qualifications is declining but remains at 10%
- There is a significant difference between the younger and older parts of the workforce in terms of qualifications
- Current figures show that there are more people qualified to level 4 than the economy is demanding although there is under-supply in some key growth areas.

Skills demand

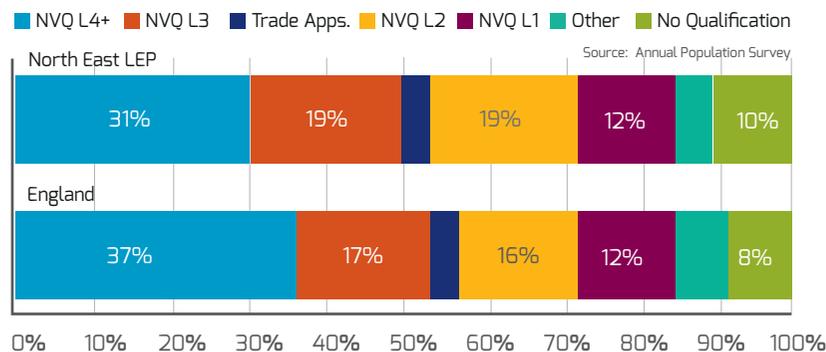
- For the North East region as a whole, the replacement demand as a result of jobs becoming vacant is projected to be 450,000 between 2012 and 2022.
- New jobs figures are projected to be at 50,000 giving a total net growth in demand for employees of 500,000 over the ten year period, or 50,000 per annum
- The growth in demand will be at higher qualification levels as modernisation of production removes a proportion of the lower skilled roles although there will be demand across the level of skills required.

Increasing qualifications

There has been a marked increase in Level 4+ qualifications (graduate level and above) from 22% in 2005 to 31% in 2015.

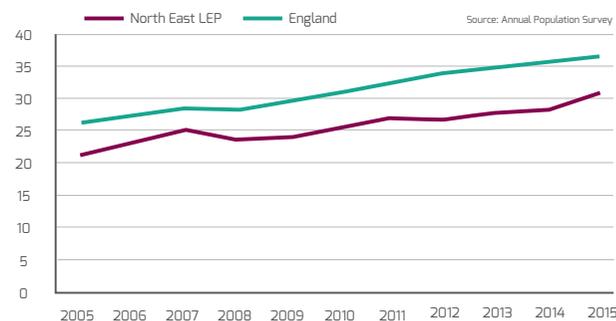
The +43% increase in the North East LEP area between 2005 and 2015, compares to +40% nationally. The increase in part reflects the raise in the rate of young people going on to higher education, typically 40% in many areas.

Skills profile of the working age population 2015



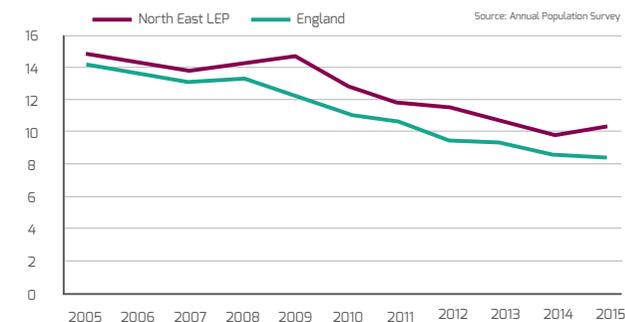
This means that the gap between the qualification levels with the national average is closing, although the North East LEP area still has a lower proportion of its workforce qualified at Level 4+ (31% compared to 37% nationally). This disparity is quite wide.

% of Working age population qualified to L4+



The North East LEP area has a higher proportion of people with no qualifications than nationally (10% compared to 8%) and this group is decreasing at a slower rate than nationally (-30% since 2005 while nationally -41%).

% of Working age population with no qualifications

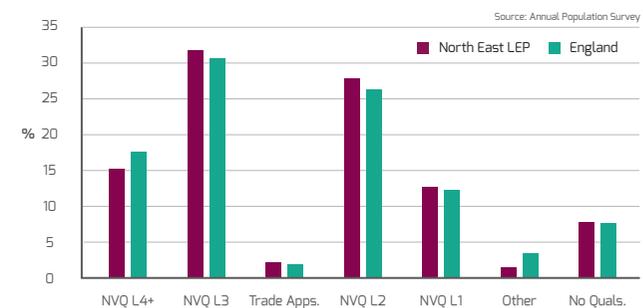


Different qualification levels in different age groups

There is a narrow gap between the proportions of well qualified young people when the North East LEP area is compared to the national average.

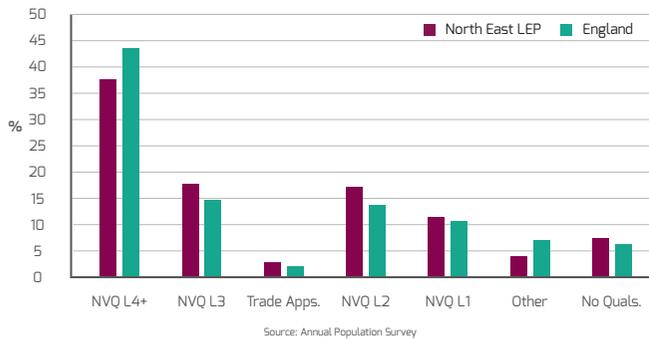
The North East LEP area has slightly higher proportions of young people with qualifications to Levels 2 and 3, although the difference is not significant.

Qualifications of 16 to 24 year olds



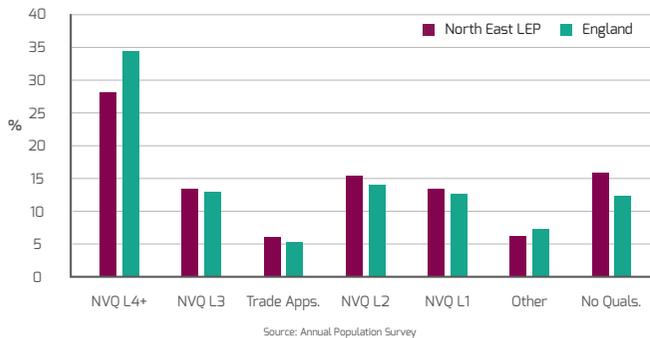
A difference begins to emerge amongst Twenty-five to forty-nine year old in the working age population in the North East LEP area. They are less likely to hold degree-level qualifications than is the case amongst this age group in England as a whole (38% compared to 44%). This is likely to be, in part, a migration effect caused by higher qualified workers leaving the area.

Qualifications of 25 to 49 year olds



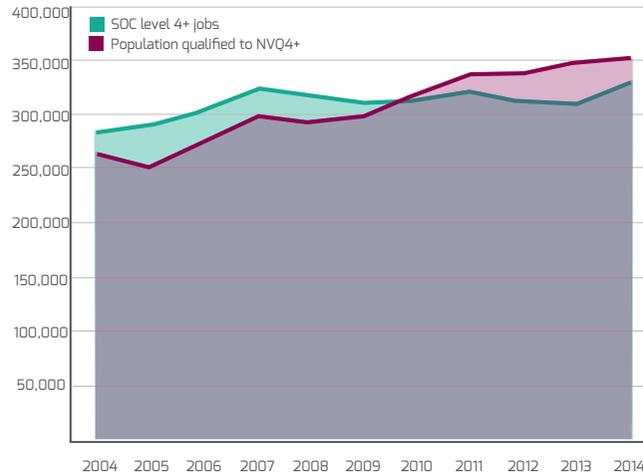
There is a more marked gap in the older workforce when it comes to qualifications, with a very low relative proportion of older workers qualified at degree level and above, and a higher number with no qualifications.

Qualifications of 50 to 64 year olds

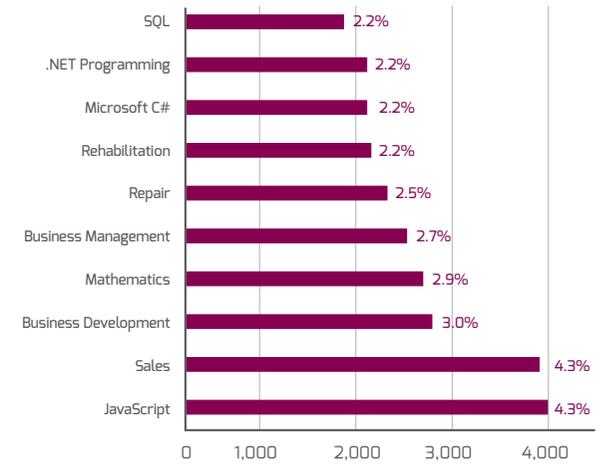


Overall younger people in the North East LEP area are more highly qualified than older people (47% in North East LEP area with qualifications at Level 3+ compared to 42% of older population). This is larger than the gap nationally (48.3% young and 47.6% older). There is a much lower proportion of younger people with no qualifications (8%).

Analysis of NVQ Level 4+ jobs (high skilled occupations) shows that the population qualified to a high level now exceeds the demand for workers qualified at that level in the North East. This demonstrated an opportunity to fill skills gaps if supply and demand can be matched to ensure that qualifications are in the right area.



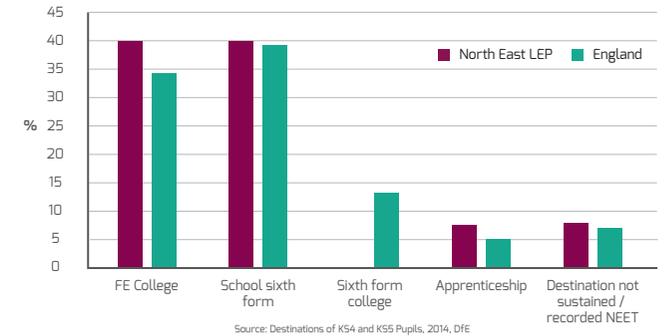
This is important given the evidence that exists of current skills gaps in key areas, and concerns about the impact of replacing older workers leaving the labour force over the next few years which is outlined in the next section.



It also suggests a need to boost demand to retain employees in the North East LEP area economy.

Destinations of young people

Destinations of young people at Key Stage 4 (age 16)



These trends are likely to be reinforced by the current choices made by younger people at key stage 4 with the majority entering further education. Nevertheless, the North East sees a higher proportion of school leavers entering apprenticeships at aged 16, and a higher number whose post 16 pathway is not clear.

Changing workforce demands

Working Futures 2012-2022, produced by the UK Commission for Skills and Employment, highlights major changes in occupational demand in the labour force. The report:

- expects that women will take up the majority of additional jobs, and female full time jobs will be the largest segment of growth. For males, growth in part time employment outstrips the increase in full time employment
- anticipates significant employment growth for higher level occupations including managers, most professional occupations, and many associate professional and technical roles
- projects significant employment growth in caring, leisure and other service occupations
- projects net jobs losses for administrative and secretarial, skilled trade occupations and plant and machine operatives as robotics, automation and digitisation remove routine jobs in key parts of manufacturing and the service sector.

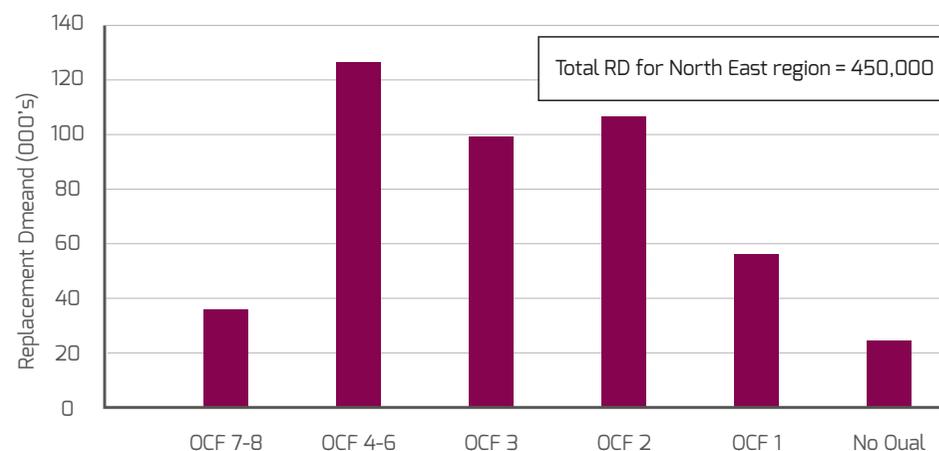
As people leave the labour market, it is unlikely that all of these jobs will be replaced. Some will be, but some replacement roles will be changed. Given the age structure of the population this will be a particularly prominent issue for the North East economy.

Replacement demand

Total replacement demand for the North East region* between 2012 and 2022 was forecast at 450,000, which is 45,000 per annum.

Adding an expected 50,000 additional new jobs from natural economic change, the total employee requirement is projected at 500,000 by 2022, some 50,000 per annum. In line with current qualification profile, demand is highest at qualification levels 4- 6 (replacement demand of 126,000, some 12,600 per annum) and level 2 (replacement demand of 107,000, some 10,700 per annum).

Replacement demand by qualification level (2012 to 2022)



Source: UKCES Working Futures

As a rule of thumb, replacement demand runs at around 4% of the workforce each year. In many cases, replacement demand will be met by internal recruitment, while in other cases, posts could be frozen or changed by management. As such, the replacement demand estimate is the maximum figure and, in some cases, will be less.

These net demand figures exclude acceleration expected from the impact of public policy interventions envisaged in the SEP.

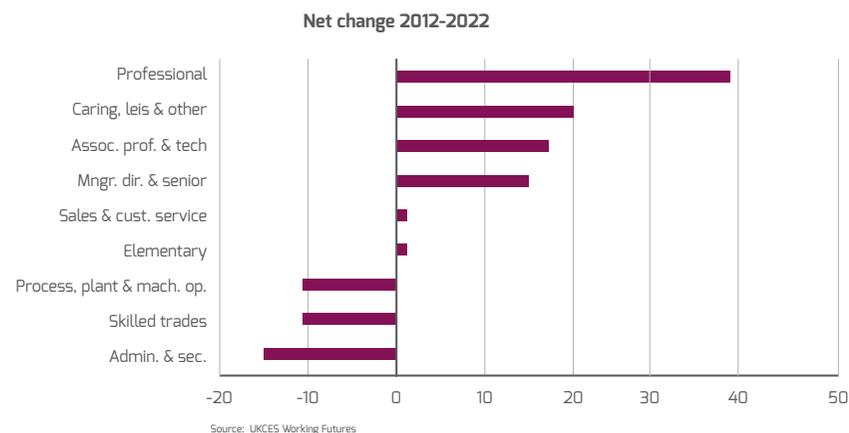
*figures are not available for the North East LEP area. Likely to be approximately 75% of the total.

Changing Workforce 2012 – 2022				
	2012 000's	2022 000's	Net change 000's	Replacement demand 000's
Manager, director and senior	97	111	14	40
Professional	218	256	38	87
Associate, professional and technical	130	146	16	46
Administration and secretarial	141	126	-15	61
Skilled trades	138	127	-11	46
Caring, leisure and other	109	129	20	49
Sales and customer service	117	119	2	44
Process, plant and machinery operations	84	73	-11	30
Elementary	127	124	-3	46
Total	1,161	1,210	50	50

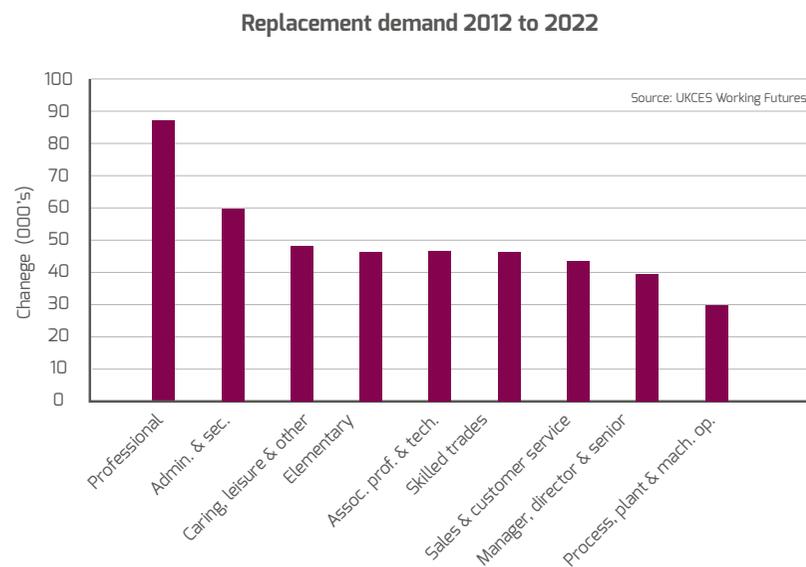
Source: UKCES Working Futures

In terms of the change in employment, higher skilled occupations dominate - professional, managers, associate professionals and technical, with substantial numbers in care and leisure.

There will however be a reduction in the middle of the occupational range, with fewer skilled trades and process/operators and administrative jobs.



Notwithstanding the impact of intervention, the main source of employment opportunities will continue to be replacement demand. This will generate demand across the occupational spectrum, including for skilled trades and administrative jobs.



Business population and growth: key facts

Business numbers:

- The North East LEP area has a business base of 51,000
- Business numbers have increased by 6% since 2009, but this has not kept pace with the national increase (10%)
- The North East LEP area has a higher proportion of businesses in the wholesale and retail, and accommodation and food sectors, and a below average number of businesses in the professional, scientific and technical, and information and communications sectors
- There has been rapid growth in the number of professional, scientific and technical businesses in the area since 2010.

Business density:

- Business density levels are very low in the North East – less than two-thirds of the average number of businesses per 1,000 working age population.
- Northumberland is the only area which has over 50 businesses per 1,000 population, compared to 65 per 1,000 nationally.

Trade and Inward Investment:

- The North East region is the only English region to have a surplus in the trade of goods. The absolute value of exports is low, but has been growing faster than the national rate. Data on services is not available at this scale
- The rest of the UK is a key market for North East produced exports
- The North East LEP area has been very successful in attracting inward investment, but has a relatively low proportion of employment in foreign companies.

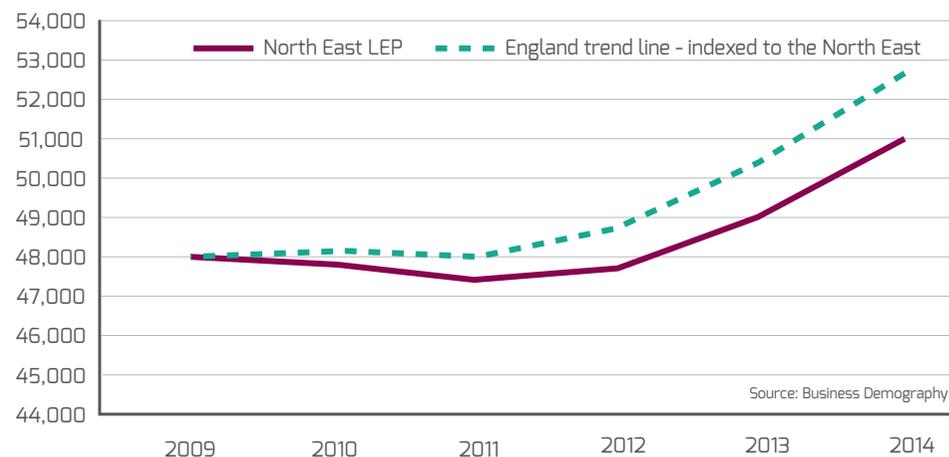
Business numbers

There are currently 51,000 businesses in the North East LEP area – an increase of 6% since 2009. This compares to 10% nationally⁵.

The gap with the national figure reflects the impact of the recession.

Unlike England as a whole, the North East LEP area experienced a reduction in the number of businesses and has seen numbers pick up more slowly since they began to grow again in 2011.

Number of businesses 2009-2014

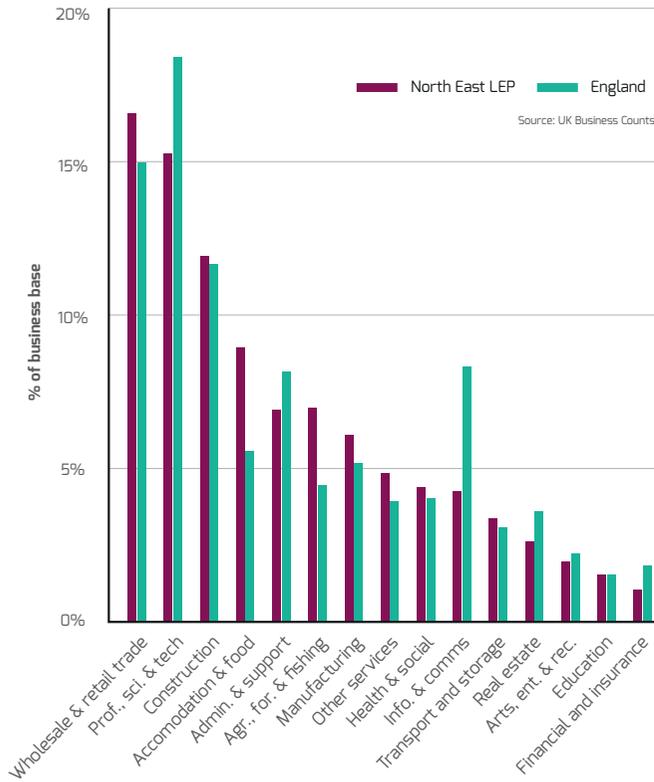


The wholesale and retail sector accounts for the largest number of businesses in the North East LEP area; over 8,000, with a further 7,500 in the professional, scientific and technical sector.

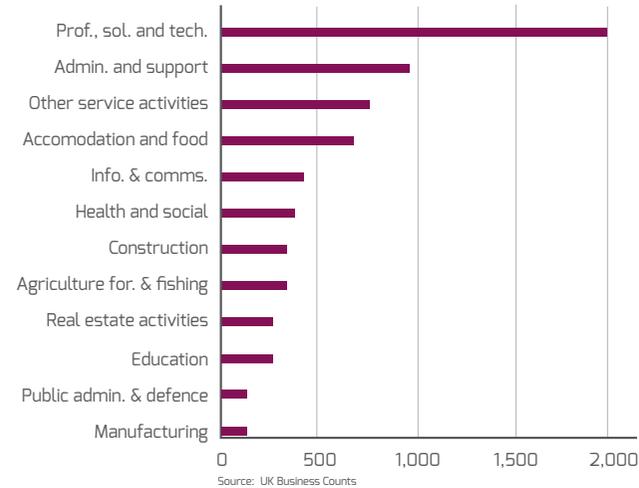
In comparison to England, the North East LEP area has a below average number of professional, scientific and technical businesses, and fewer in the information and communications sector. The above average number of businesses in the accommodation and food, and wholesale and retail sectors reflects the concentration of economic activity in lower value added areas.

⁵This is a measure of the number of active enterprises, that is the number of VAT or PAYE-registered businesses that recorded either turnover or employment during 2014. The data is taken from the Inter-Departmental Business Register and drawn from sources including HMRC and Companies House.

Business base by sector (2014)



Change in number of businesses by sector, North East LEP, 2010-2015



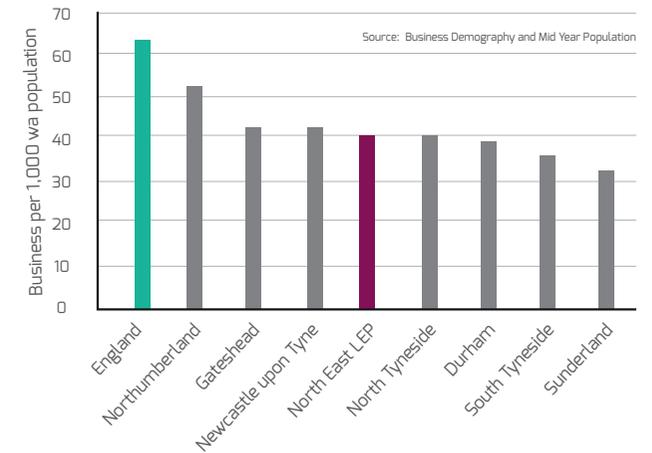
Business density

Business density provides a relative measure of the number of businesses in an area, taking account of the size of the working age population.

There are 41 businesses per 1,000 working age population in the North East LEP area, significantly below the national average figure of 65 per 1,000. In order to match the national average level of business density, the North East LEP area would require an additional 29,700 businesses.

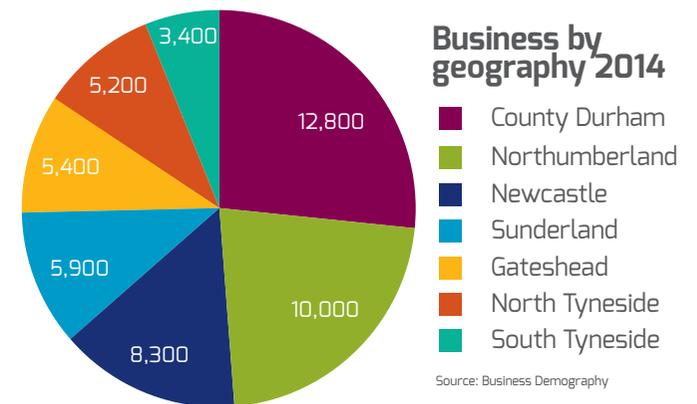
Business density levels vary across the North East LEP area. Business density is highest in Northumberland, which is the only part of the North East where numbers are beginning to approach the national figure.

Business density 2014 (per 1,000 working age population)



Businesses by geography

Durham accounts for the largest number of businesses within the North East LEP area – 12,800 or 25% of the total, roughly in line with its share of the North East LEP area population. Northumberland accounts for a further 20%, which is higher than its 15% share of population.



Business change by sector

The professional, scientific and technical sector has seen the greatest increase in business numbers since 2010, with nearly 2,000 additional businesses across the North East LEP area.

The fastest growing sector has been the other services sector (+40%, 725 businesses), followed by administrative and support services (+37%, 940 businesses).

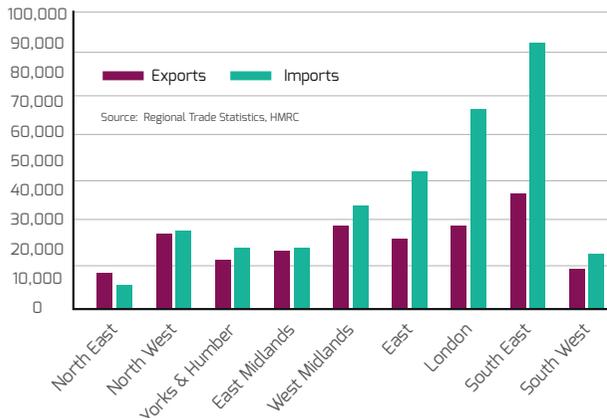
Trade and export

The latest data from ONS⁶ indicates that there are 3,500 exporting businesses in the North East region⁷, and 3,800 businesses that import either goods or services. This equates to 1.7% of England's exporting businesses, and 1.8% of importing businesses (the North East region accounts for 3.1% of England's businesses, and three-quarters of these are based within the North East LEP area).

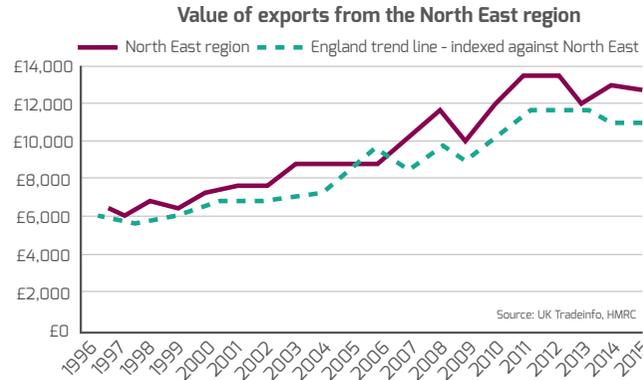
Services make up the majority of the North East economy, but data available on the export of services is extremely limited at anything other than national level. This section therefore focuses on goods exports, drawing on official statistics and further analysis undertaken by Institute of Public Policy and Research (IPPR) North⁸.

The North East region is unusual among the regions of England in having a trade surplus in goods, equivalent to around £4.5bn in 2014. Although the absolute value of exports is low compared to other regions – at around £12bn in 2014 – exports account for a higher proportion of regional GVA than in any other English region (26%, compared to 25% in the West Midlands and 21% in the East Midlands).

Trade in goods by region, £bn, 2014



The value of goods exported by the region's firms has grown more quickly than the value of national exports over the past ten years, with the gap widening since the recession.



Over half of all goods exports (by value) are of machinery and transport equipment (compared to 43% from England as a whole). This category is dominated by the export of road vehicles, which accounts for over 40% of all exports from the North East region, compared to less than 30% for all other English regions (30% from the West Midlands, 22% from the East Midlands, and under 10% elsewhere). This includes the export of parts and accessories as well as fully assembled vehicles.

A further 31% of the value of North East region exports is accounted for by chemicals, reflecting the inclusion of Tees Valley in the regional data.

Nearly 60% of the region's exports are to the European Union, with 13% to Asia and Oceania, and 11% to North America. In contrast, less than half of England's exports go to the EU, with 18% exported to North America.

In addition to international trade, the North East region is also involved in significant levels of domestic trade with the

rest of the UK. Exports of goods to the rest of the North of England are higher than to any other trading partner.

Inward investment

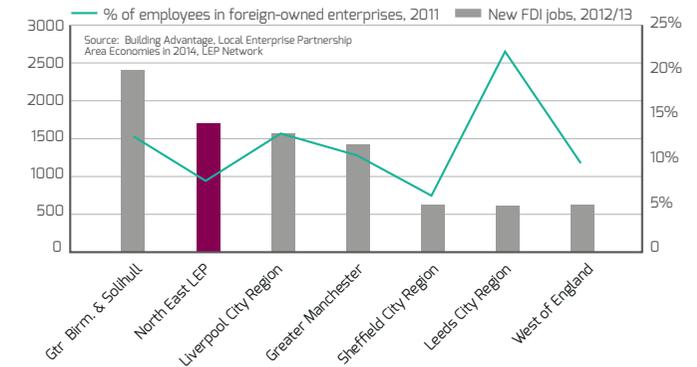
The North East has been successful over recent decades in attracting major overseas investors to the region, with examples including Nissan and Hitachi.

Whilst the volumes have been high, overall, the North East LEP area has a relatively low proportion of employment in foreign-owned companies, accounting for just 7.8% of employment in 2011, compared to 22.1% in Leeds City Region, 13.2% in Liverpool City Region and 12.6% in Greater Birmingham and Solihull.

Foreign Direct Investment (FDI) can create significant numbers of jobs in the economy, and UK Trade and Investment periodically provide data on the location of successful FDI projects.

In 2012/13, the North East LEP secured the third highest number of FDI projects into England – 26 in total. This created nearly 1,700 new jobs, and safeguarded over 500 existing jobs within the North East LEP area.

Core city LEPs inward investment performance



⁶Annual Business Survey, 2014 ⁷Note that these figures are for the North East region which includes both NE LEP and Tees Valley LEP areas ⁸IPPR North, Forthcoming

Innovation and entrepreneurship: key facts

The eco-system supporting innovation and entrepreneurship:

- The UK provides a good overall eco-system which supports innovation and entrepreneurship.
- Evidence suggests that the North East is currently amongst the lowest group of UK regions, but in the top 60 across the European Union

Patents:

- The number of patents applied for in the North East region is low compared to the population, with 22 applications per 100,000 residents in 2014, compared to 37 per 100,000 nationally
- Success rates are lower in the North East, with only 12% of applications granted in 2014, compared to 15% nationally.

Research and development (R&D):

- The North East region has the lowest level of expenditure on R&D of all English regions, equivalent to 1.2% of R&D
- Higher Education institutions account for a very high share of total R&D in the North East – 46% compared to 24% nationally.

Innovation:

- Nearly one in five firms in the North East LEP area report being involved in some form of product or service innovation, with 16% saying they are involved in R&D
- Nearly 60% of innovating firms said that their innovation was new to the market.

Entrepreneurship:

- The North East LEP has below average levels of entrepreneurship
- Both the business start-up rate, and the rate of self-employment, are below the national average, although there has been a steady increase in self-employment since the recession.

The eco-system supporting innovation and entrepreneurship

According to a recent comparative analysis, UK regions perform well overall in providing an entrepreneurship eco-system, compared with other European countries. Whilst the North East is towards the bottom of a UK table, it is in top 60 of all European regional eco-systems across a group of measures.⁹

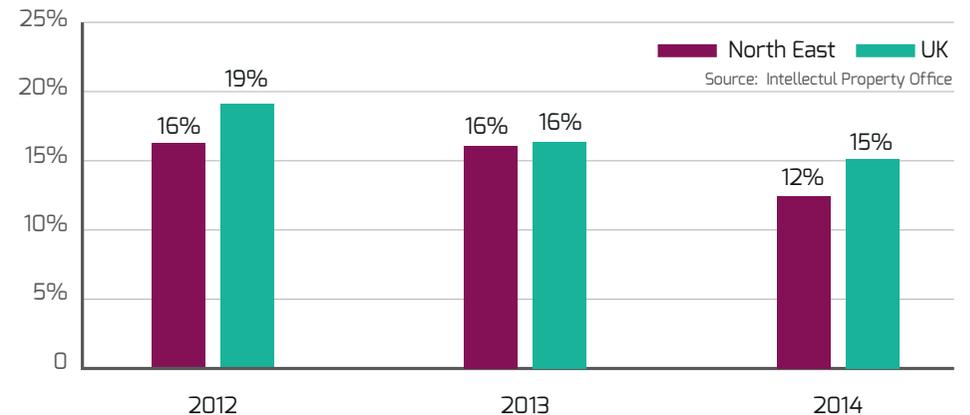
The report suggests that the region performs relatively well in its capability to support innovation and entrepreneurship, but needs to strengthen the culture and attitudes within the region.

Patents

In 2014, 363 applications were filed in the North East region¹⁰ resulting in 44 patents. The number of patent applications filed in the North East has been increasing in recent years, from 314 in 2013 and 358 in 2012. However, the number of patents applied for per 100,000 population is 22 per 100,000 in the North East region, compared to 37 per 100,000 nationally.

The North East also has a lower success rate in relation to patent applications than is the case for the UK as a whole. Only 12% of patents applied for were granted in 2014, which represents a decline from the two previous years.

Patents granted as a % of applications filled

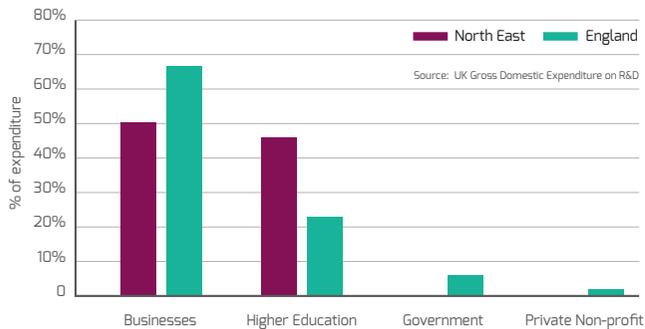


Research and development

Over half a billion pounds (£560m) was spent on R&D in the North East region in 2014, equivalent to 1.2% of regional GVA. This was the lowest of all the English regions.

Just over half of this (51%) was spent by businesses and 46% by higher education institutions. Very little of the R&D spend came from Government or private non-profit organisations. Nationally two-third of R&D expenditure is made by businesses (67%) and only one-quarter by higher education institutions (24%), with 7% from Government and 2% from private non-profit organisations.

Expenditure on R&D by sector, 2014



Innovation

Data on innovation activity below regional level is not available from standard sources. The most recently available data comes from the Enterprise Research Centre's analysis of the UK Innovation Survey 2013, 'Benchmarking local innovation – The innovation geography of the UK'¹¹.

During 2010-2012, 19% of firms in the North East LEP area reported that they were engaged in product and service innovation. This is equivalent to approximately 9,700 businesses in the North East LEP area and

therefore ranks 16th of 39 LEP areas in terms of the proportion of its businesses involved in innovation. A similar proportion of businesses reported collaboration as part of innovation activity (19% of all firms) and engagement with R&D (16% of all North East LEP firms). Among innovating firms, the most common type of innovation activity was new to market innovation, with 58% of innovating firms reporting that their new products or services were new to the market (the 8th highest of all LEP areas). One quarter of innovating firms reported they had engaged in new strategic initiatives or changes to marketing concepts or strategies during this period and 10% reported process innovation.

Innovation Benchmarks		
	% in North East LEP	Ranking against other LEPs
% of all firms		
Product and service innovation	19	16 th
Engaged in R&D	16	25 th
Collaboration as part of innovation activity	19	25 th
% of innovating firms		
New to market innovation	58	8 th
Strategic/marketing innovation	25	28 th
Process innovation	10	29 th

Source: UK Innovation Survey

Entrepreneurship

There were 6,925 business starts¹² in the North East LEP area in 2014. This equates to a start-up rate of 13% of the business base, close to the 14% rate nationally. As covered in the business population section, the business base in the North East is considerably smaller than would be the case if the North East LEP met the national average number of businesses.

The start-up rate in the North East LEP area has been below the England level since 2009, contributing to a widening gap in business density levels.

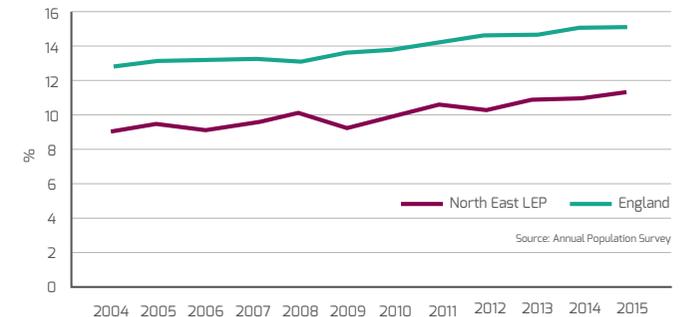
Businesses Start-up Rate 2009-2014



Self-employment data captures some smaller businesses that are not included on the business demography dataset, as well as individuals who work freelance.

11% of people in employment in the North East LEP area are self-employed, compared to 15% nationally. The level of self-employment has been increasing in recent years, but levels in the North East LEP area are consistently lower than national average.

% in employment who are self-employed



¹¹ University of Aston, 2013. ¹² The data only covers those businesses who were registered either for PAYE or VAT (or both), so does not capture smaller start-ups.

Place

Concentration of economic activity

- Evidence suggests that some parts of region deliver productivity benefits through agglomeration effects, but there is more to do to thicken labour markets
- There are a number of key business clusters and 'smart specialisation' strengths which offer opportunities for delivering business and employment growth.

Regional and local connectivity

- Overall the NE LEP area is well connected internally, and commuting and travel times are low compared with other parts of the country, despite some key congestion hotspots
- Labour and housing markets are complex, and there are gaps in the housing supply for key economic groups. There is some evidence of extended commuting for knowledge workers.

Land, investment, housing and employment sites

- The North East's development pattern includes centrally-located urban areas, linear corridors and hubs at transport gateways. Rural areas perform a number of functions
- Between 1998 and 2008, 70,000 additional jobs were accommodated. More sites and facilities sites will be needed, appropriate for the changing economy and to support a stronger innovation and business eco-system.
- Employment growth and demographic change will see higher than trend demand for housing. Recent acceleration in house building will need a further boost.

Quality of place

- Quality of place is mixed. Some areas offer high quality standard of living, but others require continuing support
- The North East offers a wide range of quality of life assets ranging from historic cities and attractive natural environment
- Creative and cultural activity were estimated to have an economic impact of £755m in 2015.

Economic literature identifies a number of 'place' factors which contribute to regional competitiveness. There is more to do to build a strong evidence base for the North East LEP area in some of these areas. Points in the literature suggest:

Concentration of economic activity

Concentration of economic activity contributes to driving productivity and growth through clustering and agglomeration¹³

There is some evidence from reports comparing performance of second-tier cities that Newcastle and the North East LEP area provides career escalators which can attract and retain labour, in particular for incoming migrants. However the North East economy is not as powerful as London and the South East, and other comparator cities¹⁴. 'Thickening' the labour market in key parts of the economy is required to support beneficial agglomeration effects.

Reports have identified a number of business clusters and 'smart specialisation' areas where concentration of business activity and a range of innovation assets provide opportunities to build competitive advantages for the North East LEP area.¹⁵

Regional and local connectivity

Internal regional and local connectivity is crucial in supporting these processes, by connecting business and people efficiently to local markets and opportunities.

The North East is well connected internally with a good mix of transport infrastructure and high accessibility to employment sites.

There are key congestion hotspots within the regional labour market but the North East has one of the lowest commute to work times in the UK, 23.63 minutes on average.

Rank	Region	Average	Lowest	Highest
1	Wales	22.7	16.7	29.73
2	North East	23.63	16.35	28.97
3	Northern Ireland	23.67	23.67	23.67
4	South West	24.99	15.3	36.69
5	West Midlands	25.44	19.32	43.02
6	Scotland	25.70	12.66	38.00
7	Yorkshire and The Humber	25.89	18.26	30.62
8	East Midlands	26.00	16.63	34.47
9	North West	26.39	17.8	41.31
10	East of England	29.01	17.19	43.93
11	South East	30.74	21.49	42.42
12	London	39.07	15.05	48.94

Commute time by region (2014)

Accessibility

The North East is connected nationally and internationally through Newcastle International Airport, 6 sea ports, mainline rail stations for the East Coast mainline and North-South and East-West road connections. Current research for Transport for the North is benchmarking levels of connectivity.

Labour market

There are a number of overlapping labour markets in the North East focused on a number of key employment centres.



Illustration of 4 overlapping functional labour markets ¹⁶

Newcastle and Gateshead are the highest value labour markets providing employment for people travelling from elsewhere in the area.

Residential income is however, higher in other parts of the area reflecting the structure of the housing market, the integration of the labour market and commuting flows.

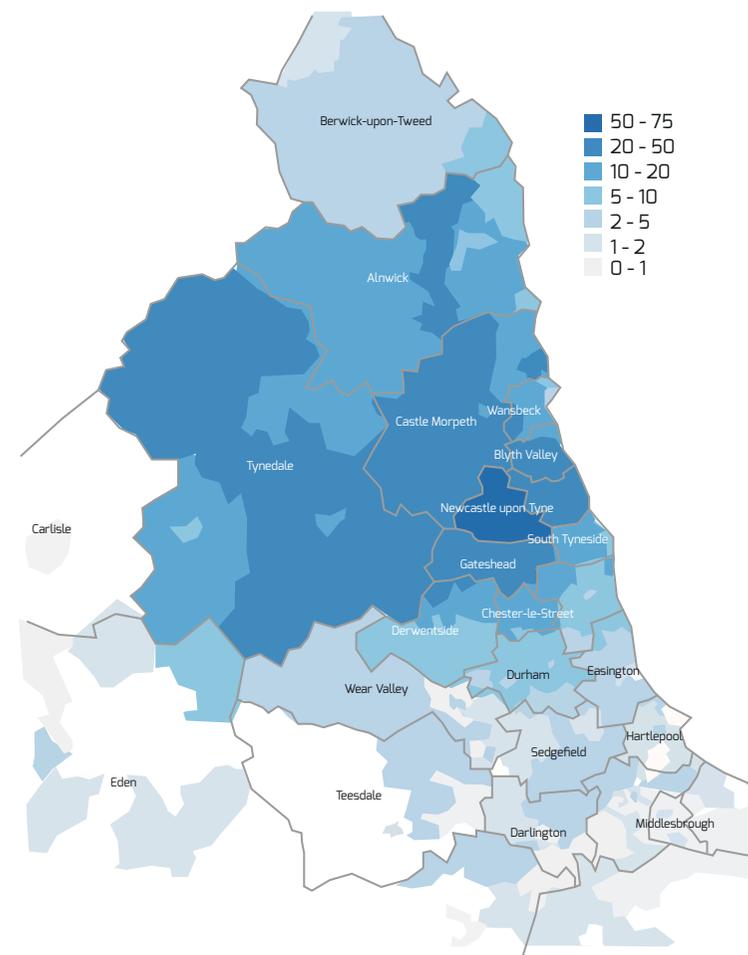
District	Labour demand	Employed Labour force	Earnings (Gross weekly pay by employment)	Earnings (Gross weekly pay by residency)
Durham	192,000	228,000	475.10	480.70
Gateshead	101,000	96,400	492.90	483.30
Newcastle	196,000	128,900	516.90	496.00
North Tyneside	84,000	99,300	485.20	498.30
Northumberland	121,000	148,700	447.70	479.60
South Tyneside	49,000	68,000	481.80	475.80
Sunderland	127,000	118,600	480.80	455.90

(Nomis: January-December 2015 data)

Higher skilled workers travel long distances in the North East. The figure below shows daily commuting into Newcastle for those defined as knowledge workers.

¹⁶EKOSGEN 2010 ¹⁷Centre for Cities 2009 ¹⁸Residential futures, Northern Way ¹⁹The Urban Tendency Report, Jones, Lang, Laselle 2014

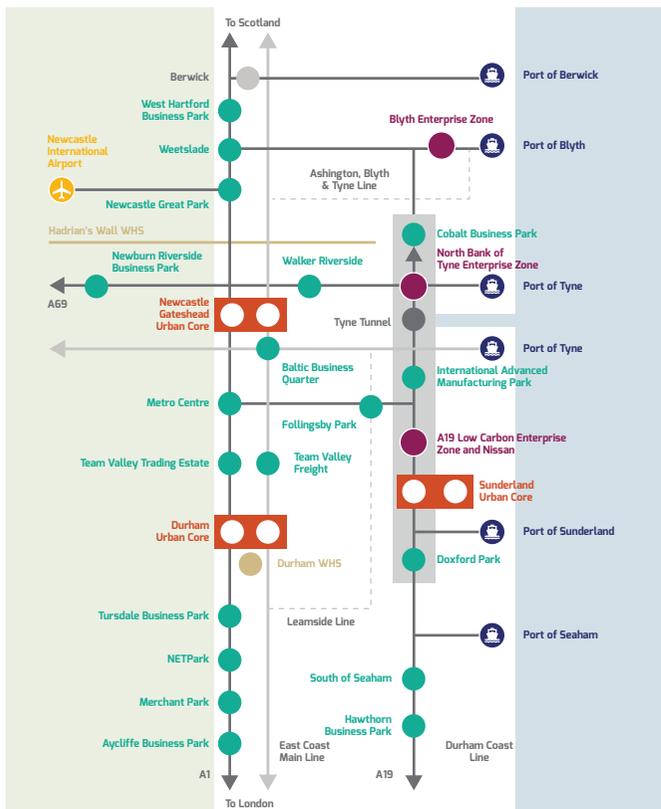
% workers commuting to Newcastle



Commuting map for knowledge workers into Newcastle ¹⁷

Land

Land prices and value and availability of a range of sites and types of accommodation support both securing mobile investment, and enable business incubation and growth.



The North East has low average land and house prices, challenging efforts to increase commercial investment or see new housing built.

The North East's development pattern includes centrally-located urban areas which are key locations for service sector employment and linear corridors, typically following the region's rivers and main transport routes accommodating other sectors, primarily along the central portions of the A1 and the A19/A184 and around the River Tyne and the River Wear.

Key hubs at main transport gateways including

Newcastle International Airport and the Ports provide both logistics capability, but also hold wider potential. Parts of the extensive rural geography of the region perform different roles, with a range of land and tourism businesses, and some of the highest quality housing stock connected to the wider regional economy.

In the period between 1998 and 2008 the supply of land and premises accommodated some 70,000 additional jobs. Looking forward there will need to be sites identified for significant household growth created by population growth and demographic change and for ongoing development of employment and industrial sites linked to the trajectory of growth in key parts of the economy and to support the ambitions of the SEP to deliver a strong innovation and business eco-system.

There will also be a need to respond to changes in the structure of the economy in terms of quality and features of accommodation, to ensure the supporting transport and digital infrastructure achieves the expectations of the changing economy and to achieve more sustainable forms of development which meet global development objectives.

Housing and Economic Growth

Challenges facing the delivery of housing stock vary across the region, reflecting the complexity of these markets. High value areas are evident, with consolidation of higher value

employment and housing markets in particular parts of the region and some extended travel to work areas at the top end. There are also parts of the area with poor housing and regeneration need.

The National Housing Federation estimate that the overall housing need in the North East region rose by 15,640 homes between 2011 and 2014 with challenges of competitiveness of the market and affordability.²⁰

As a result of natural population growth and changing family size, and despite continuing outmigration, it is estimated that an additional 131,000 homes are required by 2033.²¹ Over and above the growth in numbers there is need to continue to renew and rebuild old housing stock.

The Homes and Community Agency highlight how in 2014 the housing market was accelerating. Whilst the figures for the North East were outstripped by national figures, transactions increased by 23.2%, with prices rising by 4.7%.²² There were just over 11,000 homes completed between 2012 and 2015.

Housebuilding: permanent dwellings completed in NELEP area²³

	Dwellings completed			
	Private Enterprise	Housing Associations	Local Authority	All
2012-13	2,470	380	330	3,180
2013-14	2,780	400	280	3,460
2014-15	3,520	790	480	4,790

²⁰Home Truths 2015-16 ²¹NLP (2013) ²²HCA Housing Market Report 2014 ²³DCLG, February 2016

Particular challenges in developing the housing in support of economic growth ambitions include:

- Providing the urban locations to support a strong private rented sector targeted at younger people, recent graduates and younger workers.
- Developing a family and executive home offer based in popular suburban areas.

There is an opportunity to use housing demand in some locations linked to investment in transport and town centres improvements to re-invigorate some centres.

Location requirements for different industries

There are different needs and expectations for different business sectors and segments of the labour force.

Cities are key locations for service sectors and the growth of higher education²⁵, whereas manufacturing and industrial sites need accessible sites with transport and logistics support.

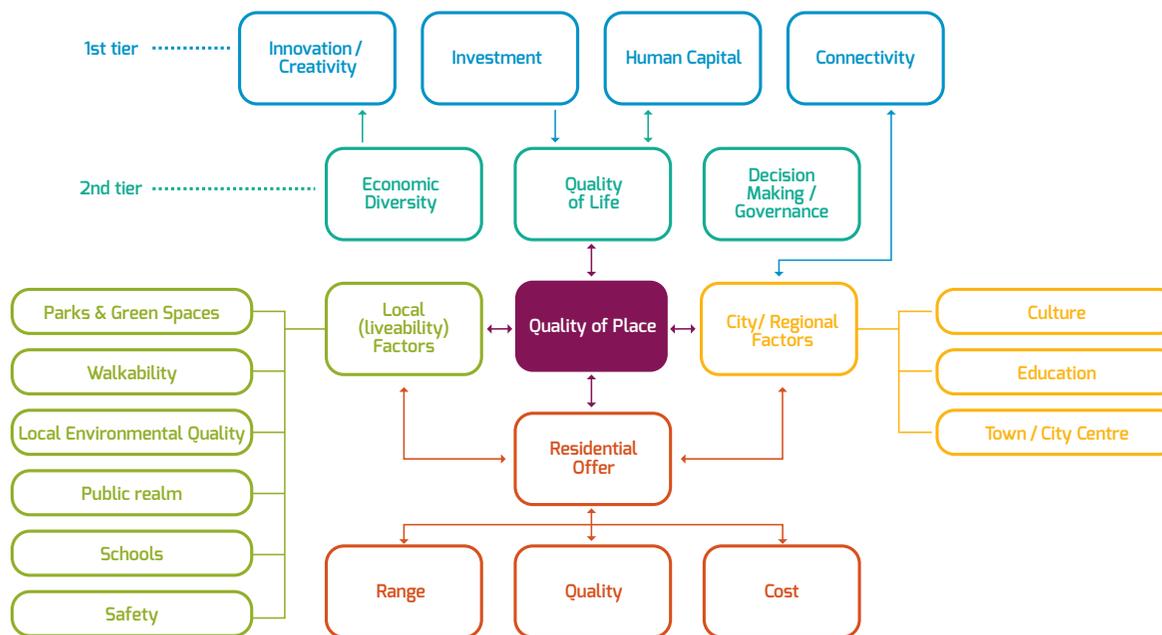
Underpinning digital connectivity will be a priority across all sectors, but particularly to support growth in digital and digitally enabled sectors.

There are opportunities to reproduce the concentration effects described earlier through 'organised proximity', using IT connectivity for more dispersed areas²⁶.

The SEP identifies a particular aim to develop a strong innovation and business growth eco-system and this will require strengthened hubs, networks and business incubation facilities.

Quality of place

Looking beyond specific needs and numbers, 'Quality of place' factors including housing, services and local culture can support the attraction and retention of a skilled workforce, promote regeneration and inward investment and provide an environment to meet the needs and demands of local communities and changing populations²⁷.



Analysis has suggested that parts of the North East provide a strong market offer, but that there is evidence of some constraint in some parts of the economy. There is also a significant challenge to shape the quality of place of many places, some of which requires significant regeneration and in other areas some targeted intervention.

Existing research suggests that the creative and culture sector can be catalytic in delivering and demonstrating quality of place, and along with the tourism sector provide opportunities to differentiate and promote the region. It is estimated that the economic impact across the creative and cultural sector in the North East was £755m, providing 70000 jobs in 2015²⁸.

²⁴NLP (2013) ²⁵The Urban Tendency, Jones Lang LaSalle, 2014 ²⁶Copus A, University of Highland and Islands, OECD, 2012 ²⁷Tribal, Residential futures Programme, Northern Way, 2009 ²⁸DCMS Creative Industries Focus on Employment (2015)

Opportunity Areas

The SEP identified a group of four 'smart specialisation' areas in the North East in 2013 as the key parts of the North East economy providing opportunities for developing long term competitive advantage and productivity growth through innovation and business clustering and investment. These were passenger vehicle manufacture, subsea and offshore technology, life sciences and health and creative, digital software and technology based services.

It also identified 4 areas of knowledge and research strength.

Work has been underway to build the support to these parts of the economy and to understand opportunities for growth.

An Independent Economic Review (IER) prepared for Transport for the North has proposed that advanced manufacturing, energy, health innovation and digital capabilities should be recognised as key pan-Northern smart specialisation areas – likely to be the focus for the Northern Powerhouse initiative.

They also identify a group of three enabling capabilities – financial and business services, education, and transport and logistics. These are identified as key opportunities for highly productive employment growth.

The next section provides a short summary of the four North East smart specialisation areas, and 4 knowledge strengths. It also briefly reviews North East capability in the three 'Enabling Capability' areas identified by the Northern IER.

Smart specialisation/prime capabilities

Automotive and passenger vehicle manufacturing

- **The UK automotive and passenger vehicle industry.** The UK automotive industry generated revenues of £69.5 billion in 2014
In 2013, the UK produced 1.6 million vehicles and 2.5 million engines and UK car production is forecast to reach 1.95 million units in 2017 Nissan accounts for one-third of all cars produced in the UK.
- **The North East cluster.** World renowned companies include Nissan (motor manufacture), Calsonic Kansei (Exhaust Systems, Catalytic Converters and Cockpit Modules), Gestamp-Tallent (Chassis systems), Unipress (Metal Stampings), Vantec Europe (Automotive Logistics), TRW (Passenger restraint systems), R-Tek



(Automotive Plastic Mouldings).

More broadly, the North East has recently attracted a key manufacturing investment from Hitachi, who will build rail rolling stock in County Durham

- **Research, development and innovation assets in the North East**

The region has a growing reputation for innovation and research, in particular in electric vehicles and transport operations and has opportunities to develop strengths in other fuels and forms of propulsion, and wider engagement with innovation in energy systems and other technology fields.

As the Transport Authority, the North East Combined Authority is actively seeking to support 'test bed' activity through the regional transport system, in particular around carbon reduction

- **North East skills.** Over 18,500 people are employed in the automotive sector; 120,000 in the wider manufacturing industry.

Highly concentrated workforce – 1.76% of all employees in the North East are in the automotive sector (2nd only to West Midlands).

40% of automotive employees are involved in the manufacture of motor vehicles – the highest proportion of any UK region.

A further 30% are employed in the manufacture of other parts and accessories for motor vehicles.

- **The investment market.** The UK has

attracted over half of all automotive OEM and auto components Foreign Direct Investment into Western Europe in first 8 month of 2015 (Source: FT). The North East is one of the leading automotive FDI locations and accounts for nearly one quarter of the value of all UK road vehicle exports to the EU (the highest in the UK).

The automotive cluster is relatively young, yet has already become well established, with all of the capacity and expertise that this brings. The creation of the North East Automotive Alliance has provided a strong coordination platform in this sector. However, unlike traditional automotive locations (West Midlands and the North West), the labour market has scope for significant further growth. The investment by Hitachi into rail manufacturing adds to the scope for broadening the region's industrial base in passenger vehicle manufacture.

The region has a growing reputation for innovation and research, in particular in electric vehicles and has opportunities to develop strengths in other fuels and forms of propulsion and wider engagement with innovation in energy systems.

There is an important industry challenge to respond to global demands for advanced manufacturing to drive more productive and sustainable manufacturing processes which provides an opportunity for the region given its range of assets in areas like low carbon technology, fuels and digital technologies.

A recent EU publication³⁰ proposes the concept of "The circular economy" as a sustainable way of organising economic activity sustainably by designing in processes and materials which can be re-used and recycled. This is now a core part of the EU's industrial policy and will impact on all of the major production sectors.

Life sciences and health

- **The UK life sciences and health industry.**

The UK life sciences sector generates £50 billion of revenues and invests £5 billion into R&D. The NHS is the largest healthcare system in the world with a budget of over £115 billion employing 1.7 million staff (world's fifth largest single employer) One in eight of all the world's most popular prescription drugs were developed in the UK.

- **The North East cluster.** 144 companies employing 5,644 employees, with an annual turnover of £683 million. Including the supply chain there are a total of 7,727 employees in 198 companies, with a turnover of £1,094 million. 95% of production is exported, and there were record export levels to the EU, levels to the EU, with £1.3 billion pharmaceuticals exports in 2014. Major players in the region include GSK, MSD, Aesica and Piramal Pharma.

- **Research, development and innovation assets in the North East.**

The North East has a top ranked life science university, an NHS Trust with the highest number of research studies

in the UK supported by a strong clinical trials sector, and centres of excellence in ageing and age-related diseases, personalised medicine, digital healthcare and biopharma manufacturing.

Assets include Campus for Ageing and Vitality at Newcastle University, NIHR Newcastle Biomedical Research Centre in Ageing & Chronic Disease; Pfizer has an R&D site at Newcastle University. Other assets include Newcastle Diagnostic Evidence Cooperative, Durham Biophysical Sciences Institute and CPI's developing National Centre for Healthcare Photonics and Newcastle Biopharmaceutical Bioprocessing Technology Centre.

- **North East skills.** The North East has 5,644 people employed in its life sciences sector with a further 2,803 in the related supply chain. It is the fastest growing general manufacturing sector in UK, with 8.1% increase in manufacturing employment (June 2014 – June 2015).

- **The investment market.** The UK is the world's second leading location for life sciences FDI (after the US) attracting 36% of foreign investors into Western Europe in first 8 months of 2015.

The health innovation agenda is influenced by trends in global markets towards more personalised medicines and treatments, and a priority to deal with demographic ageing. These are also national priorities for

³⁰ Closing the loop - An EU action plan for the Circular Economy*

the UK's National Health Service and the wider care system, where innovation has the potential to both improve the quality of treatments and promote cost effectiveness. The UK has significant opportunities in this area given its pharmaceutical sector and national health system.

Whilst this driver opens up new opportunities, the UK health market is a small fraction of the global health market, with incomes growing rapidly in Asia and China. There is a major challenge in helping innovative companies move to commercialise products for international markets, given language and other cultural differences in many emerging markets.

A recent report commissioned on behalf of the North East LEP Innovation Board has recommended that the North East should focus on two priority areas in driving forward this smart specialisation area; ageing innovation and building an effective translation environment for medicines and applications into the NHS, providing opportunities for business development and growth.

It also recommends taking advantage of the wider Northern cluster including assets across the Pennines and the national biopharmaceuticals centre being developed in Darlington to help support business growth in the North East LEP area.

It identifies a group of knowledge themes which have the potential to be long term strengths for the North East including

genomics, photonics and social social innovation. It also identifies opportunities to promote growth linked to the bio pharma and other assets.

Digital, software and technology based services

- **The UK digital industry.** The UK is a leading location for software and IT companies. Major segments of the UK's £27 billion software market include mobile communications, cloud computing, data centres, and cyber security. The UK's gaming market is the sixth largest in the world with almost £4 billion sales in 2014 and is growing as much as 10% per annum. The fastest growing segment is mobile gaming, which grew by 22% in 2014 with 37% of UK video games studios focused on mobile gaming. The UK mobile gaming sector is worth over £0.5 billion and employs 5,000 people.
- **The North East cluster.** Within this diverse and rapidly developing area of the economy, the North East has a number of areas with current strength and growth potential.

Software and technology: Accenture, Ubisoft and Red Hat are among the largest software & IT inward investors in the North East. The North East software and technology market is worth nearly £2 billion. The wider northern ICT market is £12 billion. The software and technology market in the North East is forecast to grow by £0.5 billion by 2020

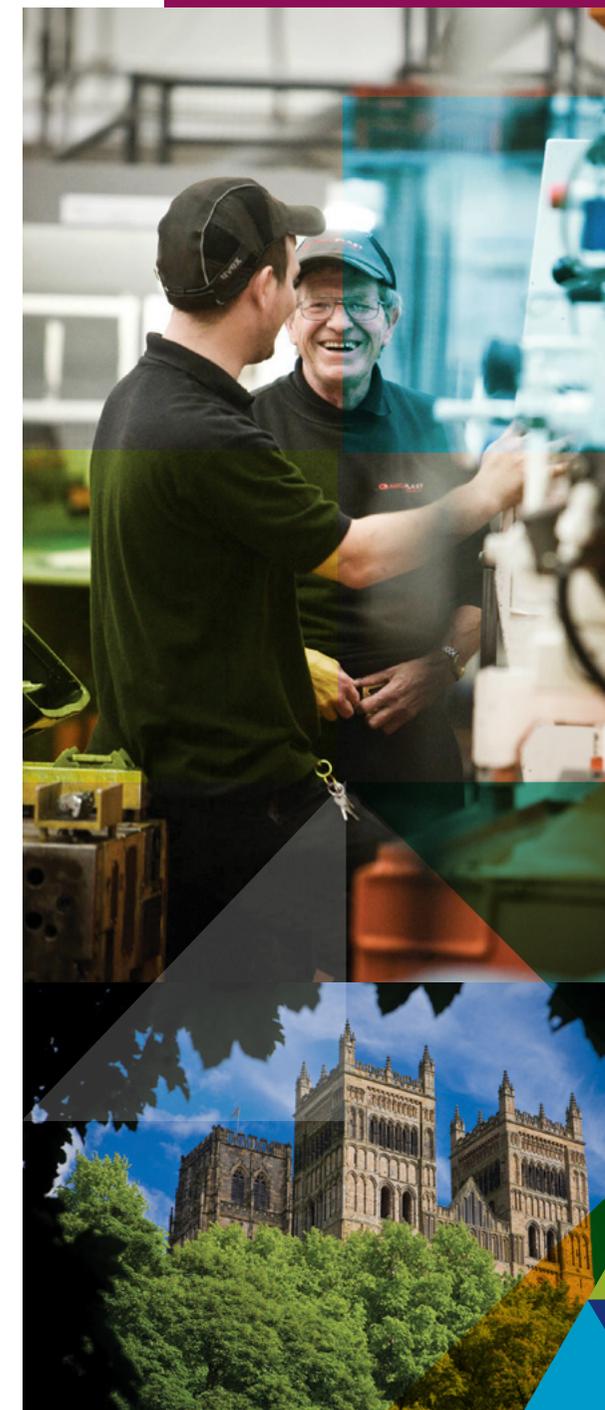
and in the first eight months of 2015, 20% of all FDI going to the North East was in software and IT.

Data applications: The recent announcement that the Government is to invest £15 million into a new National Institute for Smart Data Innovation confirms the potential of the North East to build on an already strong track record and vibrant eco-system working with big data applications. This builds on investments in the regional Digital Catapult Centre and the Cloud Computing Centre and a host of private sector activity. There are complementary initiatives in Satellite Applications and Cyber security

Gaming and virtual reality: In the North East there are 2,600 creative industries companies, including 49 video games companies, the highest proportion of any UK region amongst creative industries clusters.

Key investors in the North East include: Ubisoft, with 220 development staff and 200+ customer support staff; Oculus (Facebook), European development centre for virtual reality; CCP Games, multi-player games studio; Epic Games UK, Unreal Engine 4 development; and Zerolight.

- **Research, Development and Innovation assets in the North East.** The North East is a fast-emerging tech hub with a strong focus on learning and development, supported by local industry and government. The region



benefits from the presence of a national Digital Catapult Hub, Business and IP Centre, Dynamo North East, Tech North, Digital Union, Sunderland Software City, Digital Leaders North East and funding from Northstar Ventures, Let's Grow, North-East Technology Fund, NEaBA, Angels Den, Ignite 100, Gabriel Investors and North East Finance.

Centres for Excellence include Cloud Innovation Centre (Newcastle University) Centre for Doctoral Training - Cloud Computing for Big Data (Newcastle University) Digital Innovation Beacon (University of Sunderland) Digital Futures Institute (Teesside University) Intel Parallel Computing Centre (iARC, Durham University) and Network in and Cyber Security (subject to approval at Northumbria University). Newcastle University, Durham University, Newcastle College and Gateshead College each have courses directed at VR/AR.

- **North East skills.** The North East has 28,000 people employed in its software and technology sector and 15,250 people employed in creative industries There are nearly 50,000 STEM students at its universities and the highest proportion of students studying computer science in England

The pool of computer science students in the North East is equivalent to nearly one-sixth of the ICT workforce – the highest proportion in the UK – helping to ensure the North East has the least tight labour market in the UK.

One of the highest concentration of ICT employees in computer games in the UK and lowest labour turnover (attrition rate) in the UK.

- **The investment market.** Over 40% of software and IT investors in Western Europe choose the UK. The UK has attracted over one-third of all software and IT FDI in Western Europe capturing a record 43% market share in the first eight months of 2015. The

UK the second leading country in the world for video games FDI after the US with over 45 video games FDI projects in the last five years. And the UK has attracted half of all video games FDI in Western Europe in 2014

A key challenge for the digital, software and technology sectors is the scaling-up phases of companies and development, often through several phases and with multi-million pound equity investment, to support rapid growth. The North East faces the challenge of supporting entrepreneurs and developers at a very early stage, where high quality office and incubation facilities are important, and to move to rapid acceleration of businesses to capitalise on ideas of national and international scale

Subsea and Offshore technology

- **The UK Offshore Industry.** In addition to delivery of North Sea oil, the UK is a key exporter of oil and gas services, annually exporting \$10bn in oil and gas equipment and services.³¹ NOF Energy identify top export markets for the UK as the United States, Norway, Brazil, Holland and Australia. The UK has a large natural resource of wind power around its coast, and offshore wind power is commercially available with proven technology to capture this resource. By 2050, analysis suggests offshore wind could deliver c.20-50% of total UK electricity generation. The UK could become one of the leaders in a global offshore wind market, with a 5-10% share of a market with potential cumulative gross value-added of between £200 - 1,000bn up to 2050 There are also opportunities into new markets such as shale gas and deep water and more hazardous energy sources.
- **The North East Cluster.** A critical mass of successful and in many cases world leading firms spread across both the NE LEP and Tees Valley Unlimited (TVU) geographies. More than 50 companies across the two

LEP areas, with over 15,000 employees and £1.5bn turnover. North East subsea and offshore technology is used to conduct process and operations both beneath the surface of the sea and in the interface between the sea and connected (offshore) operations in oil and gas; defence; wave and tidal energy; mining; offshore wind; and ocean science sectors.

The North East is one of six nationally designated Centres for Offshore Renewable Engineering (CORE)

The area has excellent access to UK Continental shelf oil and gas reserves and offshore wind areas with proximity to the largest development zone, Dogger Bank and the infrastructure includes direct transport links to key centres, sites within the North East Enterprise Zone and significant port access and land.

Subsea North East was established in 2006 as the leading cluster organisation for the sector and works with Subsea UK, the membership organisation for the industry in the UK. NOF Energy, the regionally-based national business development organisation works on behalf of companies in the oil, gas, nuclear and offshore renewable sector.

- **Research, Development and Innovation assets in the North East.** Firms, including GE Oil and Gas and Technip Umbilical Systems, have established dedicated innovation/ research and development centres locally. There is strong research and innovation focus amongst firms including SMD, Bel Valves, IHC Engineering Business and Subsea Innovation The Offshore Renewable Energy Catapult test centre at Blyth (formally the National Renewable Energy Centre (Narec)) provides the most comprehensive open-access research and test facilities globally for the offshore renewable energy and marine industries.

Durham University has research strengths in Energy Research Group, active in its own right part of the EPSRC Supergen Wind project, and in Chemistry, developing specialist coatings for application to

marine vessels and offshore wind turbines.

Newcastle University's £7m Neptune National Centre for Subsea and Offshore Engineering will be a hub for business/academic interaction around strengths in high pressure materials, extreme environment electronics, underwater communications, and pipeline engineering. Bel Valves Neptune Hyperbaric Test Centre is being developed in partnership with Newcastle University to provide a deep water high capacity commercial test facility for the subsea sector.

- **North East Skills.** Half of energy sector employment in the North East is in engineering and technical consulting. 50,000 STEM students in North East universities, the highest proportion in the UK. Durham, Newcastle and Northumbria University's each offer a wide range of engineering degrees to Masters and PhD levels. Newcastle College includes the Energy Academy;
- **The investment market.** Businesses in the North East have a genuinely global reputation in the offshore and sub-sea sector with a strong cluster of businesses working into a range of energy markets and a strong enabling infrastructure around the rivers and ports.

As with other advanced manufacturers it

is challenged by dynamics seeking more sustainable and efficient production processes and there is a global challenge to drive down the cost of renewable energy to provide a competitive energy source for the future.

In challenging market conditions, there are opportunities to continue to deliver new opportunities in energy markets including oil and gas and offshore renewables, and challenges in terms of diversification and to drive cost effectiveness, including potential to take advantage of expertise of North East strengths in areas like digital and satellite applications.

Emerging areas with significant knowledge and science strengths and industrial potential

There are a host of science, research and knowledge strengths in North East universities and businesses. In the SEP the following were identified as emerging areas with significant innovation potential with a combination of assets:

Surface science: where the North East has a range of strengths in coatings, paints and other technologies. There are significant private sector investments by Akso Nobel in Gateshead and Proctor and Gamble in the region, and the investment into the new National Formulation Centre will provide a key asset

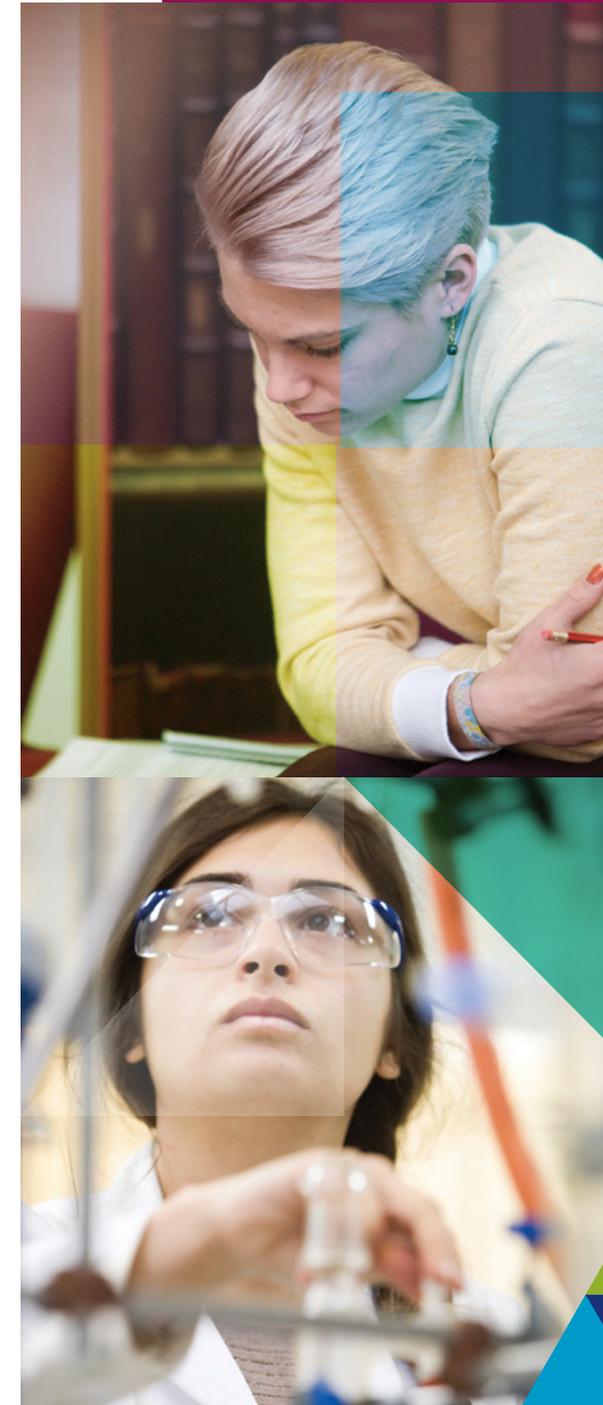
Ageing: where the North East has the potential to become an exemplar in applications in a range of areas in response to global demographic change. The investment of £20 million by Government into the National Centre for Ageing Science and Innovation in Newcastle will provide a national and international focus in this area.

Energy Systems: where the North East is a hub for development of a range of technologies including renewable energy systems, smart grids and energy storage. The recent investment of £20m into the EPSRC National Centre for Energy Systems Integration supported by Siemens and Newcastle University will provide an international focus on the energy network

Satellite Applications: where the North East has demonstrated significant capacity to deliver satellite applications into a range of key sectors working with the Satellite Applications Catapult. This was recognised by the decision in 2015 to create the North East Satellite Application Centre for Excellence based in Sedgefield, hosted by Business Durham.

Northern Powerhouse Enabling Capabilities

The North East has key assets in each of the three enabling capabilities identified



³<http://www.nofenergy.co.uk/energy-industry/oil-and-gas.html>

within the Northern Powerhouse economic review. These are important enabling features of the North East economy and potential employment drivers.

Financial, Professional and Business

Services: The North East hosts segments of the UK's £180 billion Financial Technology, banking, insurance, securities dealing, fund management, management consultancy, legal services, and accounting services. There are 17,645 FPBS companies in the region, including operations of all 'Big Four' professional services companies. In addition the headquarters of Virgin Money, Atom Bank and Newcastle Building Society, a particular niche is in the hosting of the highest proportion in the UK of call centre activities.

New and disruptive technologies are expected to change the occupational shape of some parts of financial and business services, with a significant reduction in administrative tasks and an increase in higher level technical and IT skills. The impact will be seen in increased competition within sub sectors and new entrants taking market share from long established operators.

The North East will face a challenge in providing the new, modern office space with excellent digital connectivity needed to support both employment growth and employment change, while also supporting new and fast growing enterprises through its work with innovative digital and technology

companies in sectors such as fin-tech..

Transport and Logistics: The North East transport and logistics sector is a crucial part of the economic infrastructure of the area supporting both freight and passenger movement. It includes about 4% of the business base plus a range of public sector providers. In the last 2 years almost 4000 additional jobs have been created in the transport and logistics sector.

The sector includes international connectivity through Newcastle International Airport and the 4 sea ports, national rail connectivity through the East Coast main line and the local rail and public transport system, plus a range of freight and other transport providers.

In addition to challenges to continue to upgrade the regions infrastructure, manage growth in demand and to drive down cost and control carbon emissions, the sector faces skills challenges as a result of competition for labour and the ageing of the current workforce. A number of employers are concerned about skills supply issues.

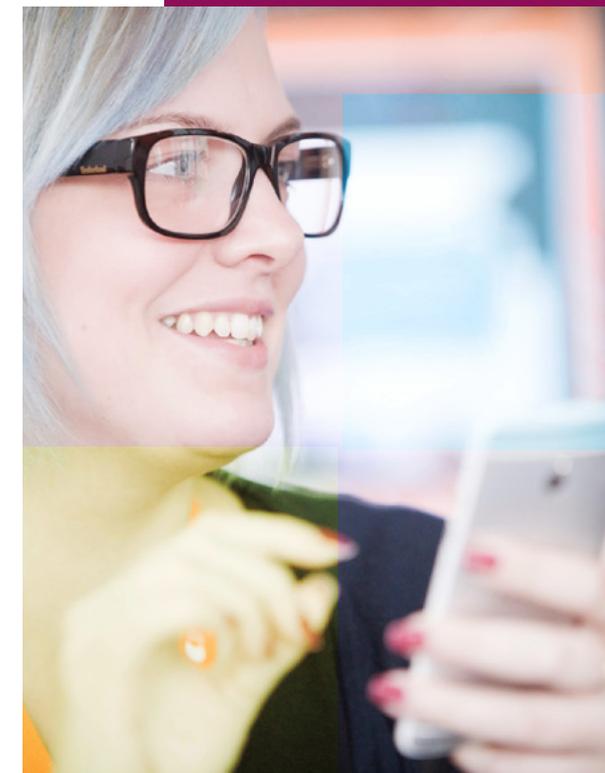
Education: Based on its share of employment, the education sector is estimated to account for nearly 7% of total North East LEP GVA, with higher education accounting for around one-fifth of this. Based on estimates of growth of overall sectoral GVA, it is estimated that the GVA growth in the education sector over the last 10 years has been around £700m.

The education system in the North East is highly diverse including four universities providing both a significant research base, and educating almost 100,000 higher education students each year.

The Further Education sector includes 10 FE Colleges and a range of other providers including sixth forms and private bodies. There are 1300 schools in the North East region.

The education sector is experiencing rapid change with policy related challenges to HE and FE systems to strengthen the contribution of both research and teaching outputs to driving UK productivity and changing funding arrangements creating competitive challenges. For schools, rapid change in governance models with a move from Local Authority control to direct funding and a preference for Trust based models is likely to see consolidation and changing engagement systems with both students and the economy. At the same time changes to the national curriculum are changing the focus for school outcomes.

There are also challenges throughout education in terms of skills supply.



The 1 million jobs target: key facts

- The aim of the SEP was for the North East economy to be the home to 1 million jobs by 2024
- The SEP also set a target that 60% of all jobs growth would be 'Better Jobs', to target productivity and skill growth
- To close the gap to the national average at 2013 baselines would deliver an employment rate of 71.1%, 100,000 more jobs than the 2013 level at 971,000
- Current natural growth is projected to deliver a total of 914,000, a rise of 42,000
- Achievement of the 1 million target therefore requires the 60,000 identified in the SEP, plus an additional stretch of 29,000.

Meeting the Challenge

Delivering on the jobs target by 2024 therefore requires the following:

- Driving the higher GVA growth industries such as passenger vehicle manufacture, subsea, marine and related advanced manufacturing, life sciences and health and creative, digital software and technology based services, that can deliver both higher skilled jobs and provide the highest multiplier effect on the wider economy.
- Focus on the sectors such as business and financial services, logistics and education, and health, which are both jobs-rich and more productive and higher skilled.
- Increase the size of the working population through population growth, and mobilisation of those under-employed, unemployed and economically active into employment and enterprise.

Meeting the 1 million jobs target

The ambition in the SEP is to reach 1 million jobs in the North East LEP area by 2024.

Employment growth in the region will derive from a combination of national economic growth and regional acceleration through SEP interventions.

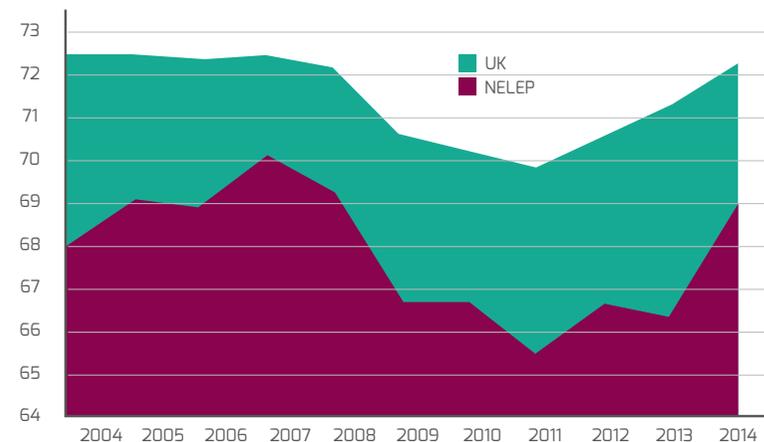
The benchmark for the employment rate figures set down in the SEP was in March 2013 when the UK employment rate was 71.1% and the North East LEP area at 66.9%.

To achieve our target, the North East LEP area needs to close and exceed the employment rate gap illustrated in the chart below.

The progress made to date suggests that this remains possible over the time horizon of the SEP.

The employment rate gap narrowed between 2012 and 2014 to 3.5 percentage points, a 0.7 percentage point fall, and the area is approaching the pre-recession employment rate gap which was as low as 2.5 percentage points.

NELEP employment rate gap with UK



Where will the jobs come from?

Forecasted natural growth in employment is expected to produce a total of 914,000 people in employment by 2024, a growth of 42,000. To close the employment rate to 71.1% by 2024 the calculations show that the North East will need 971k people employed, 100k more than the 2013 level.

The 100k needed to reach the 71.1% employment rate minus the 42k of natural forecasted growth gives us a gap of 60,000 jobs over and above natural change that the SEP needs to fill. To achieve 1 million jobs we need an additional stretch of 29K, which would also represent the North East catching up with the changing national target.

Throughout, the target of 60% of the derived jobs being 'better' jobs provides a focus for intervention on those roles requiring higher level skills.

The data set out in this report identifies a number of challenges which will need to be addressed including driving growth in sectors with higher skills and multipliers and addressing the impact of key labour force and demographic trends, in particular enhancing the employment rates amongst inactive younger people and a strong focus on older workers as the population ages.

Areas for focus

Analysis of the combination of factors which the SEP will need to deliver to enable us to achieve the target enables the following estimates in key areas of the economy:

- Continuing focus on driving the higher growth smart specialisation areas such as advanced manufacturing, life sciences and digital and communications technologies which can deliver both higher skilled jobs and provide the highest multiplier effect on the wider economy.
- Focus on the areas such as business and financial services, logistics and education and health, which are both jobs rich and more productive and higher skilled.
- Increase the size of the working population overall by enabling population growth, and the mobilisation of those parts of the population currently out of work or under-employed in large numbers compared with comparator areas, by promoting business formation and growth, creation of job opportunities and also focusing support on supporting key groups, in particular older parts of the labour force and new entrants into the labour market.

Building in resilience

We also need to learn the lessons from the last recession and create conditions that can be more resilient to economic shock at a time of increasing globalisation, and in the context of a changing national economy and national policy framework.

A lack of resilience and an associated overreliance on a small group of industries and a small group of larger businesses left the North East economy open to a deep impact during the recession which undermined business confidence, and impacted upon incomes, spending and investment.

A more resilient economic model also points in the same direction as the jobs target. The conclusion to draw from this evidence is on the need to ensure growth and acceleration of the parts of the North East LEP economy which can deliver most growth and productive employment.

Achieving the jobs target would be a significant achievement for the North East. It is worth bearing in mind two caveats:

- The gap was calculated at a set point in time against a specific national comparator. The comparator itself will continue to shift as employment grows in other parts of the UK. So achieving our target of closing the gap at 2013 levels, might still mean that a gap exists in our comparative position at the time when the 2013 gap is achieved

- The time series above shows the cyclical nature of the employment rate gap. While effective SEP delivery will compensate, the current structure of the North East economy means that when the national economy is performing well, it will produce a positive effect on the North East LEP area economy. Should the UK economy enter recession it is likely that some parts of the North East LEP area will be hit longer and harder. Whilst this is the aggregate position, it should be noted that in some parts of the region performance held up well compared with national trends and this variability is likely to persist.

