East Midlands Sector Skills Research

Leicestershire LSC Report

Cogent

1. Introduction

This report is part of a wide-ranging programme of skills research covering all five Learning and Skills Council areas in the East Midlands region.

In relation to each of these Learning and Skills Council areas and the East Midlands region as a whole, a series of detailed reports have been produced that focus on the present and future skill needs of different sectors of the economy. The research outputs include:

- Individual reports for each Sector Skills Council footprint
- A further set of reports covering 39 of the 67 sectors defined by the Working Futures 2 employment forecasts. These sectors have been selected with reference to their importance in terms of numbers employed regionally and at an individual LSC area level and with consideration to the value each report will add to the Sector Skill Council reports.[1]

This report focuses on the Cogent Sector footprint within the Leicestershire LSC area. The activities covered by the Cogent Sector footprint are set out in Appendix One.

The analysis contained in this report is entirely based on secondary data and includes use of data from the Working Futures 2 employment forecasts[2], National Employer Skills Survey 2005, Annual Business Inquiry 2004 and the Census 2001. Information compiled by Cogent Sector Skills Council has also been utilised.

The structure of this report is as follows:

- Current sector structure
- Sub sector analysis
- Workforce profile
- Historical trends
- Forecast employment change
- Drivers of change and key skill issues
- Human resource indicators
- Business and employment matrix

[1] A separate report setting out the full criteria for selection of reports has been produced and is available from Nottinghamshire Learning and Skills Council

[2] Working Futures: New Projections of Occupational Employment by Sector and Region, 2004, SSDA/LSC/IER/CE

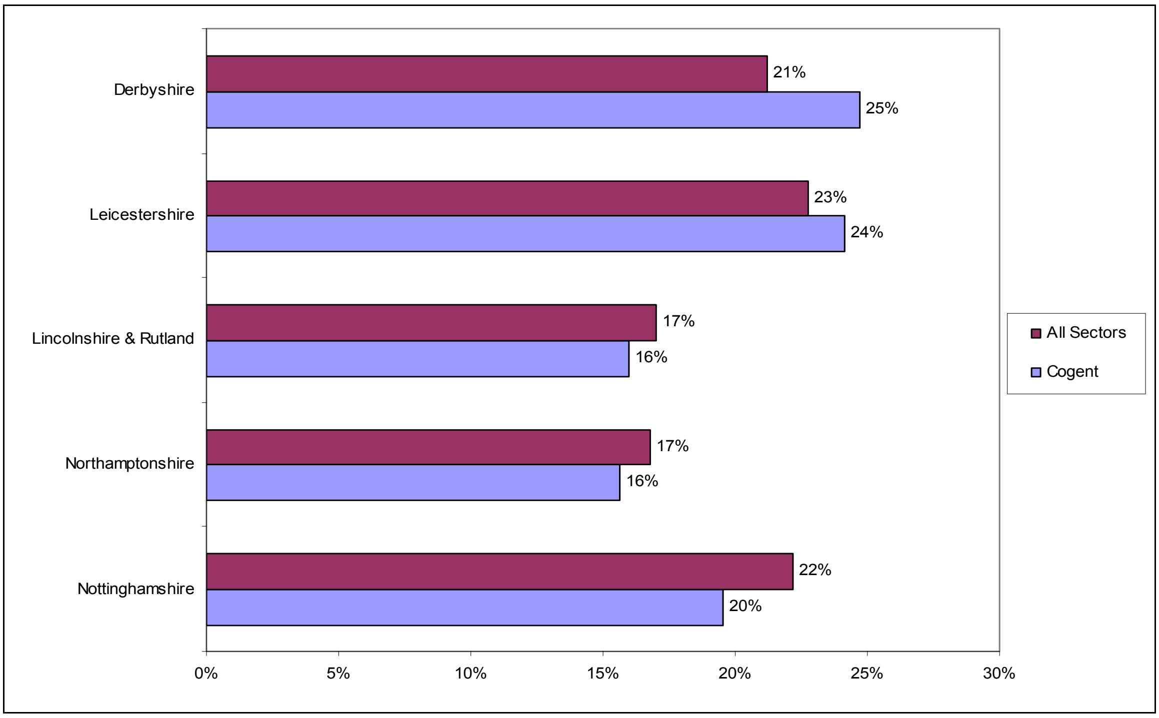
2. Current sector structure

Based on the Annual Business Inquiry 2004 there are an estimated 413 employers and 9,890 employees working in the Cogent sector in the Leicestershire LSC area[3].

The sector accounts for 1% of all employers in Leicestershire LSC area and 2% of total employment[4].

Chart 1 sets out the distribution of Cogent employers by LSC area within the East Midlands region and compares this with the distribution of all employers (All sectors)[5].

Chart 1: Share of total employers by LSC area; Cogent and All sector average



Source: ABI 2004

[3] The Annual Business Inquiry figures on employment excludes those self employed and casual labour, so is likely to under-estimate the total number of people working in the sector. Working Futures 2 data which takes account of numbers self employed estimate that the total numbers working in the sector in 2004 was 10,150.
[4] The Annual Business Inquiry (ABI) estimates for employers cover all UK businesses registered for Value Added Tax (VAT) and/or Pay As you Earn (PAYE).
[5] It should be noted that the figures on all charts in this report have been rounded to the nearest full percentage, but the bars on each chart still reflect any small decimal point differences

Analysis of the spatial distribution of the sector indicates that as a proportion of all Cogent employers within the East Midlands Region those in Leicestershire account for an estimated 24% and of all Cogent employers in England, those in Leicestershire account for 2.5%

In relation to employment, the respective figures are 24% of the regional total and 2.5% of the total for England. (See Table 1 for more details).

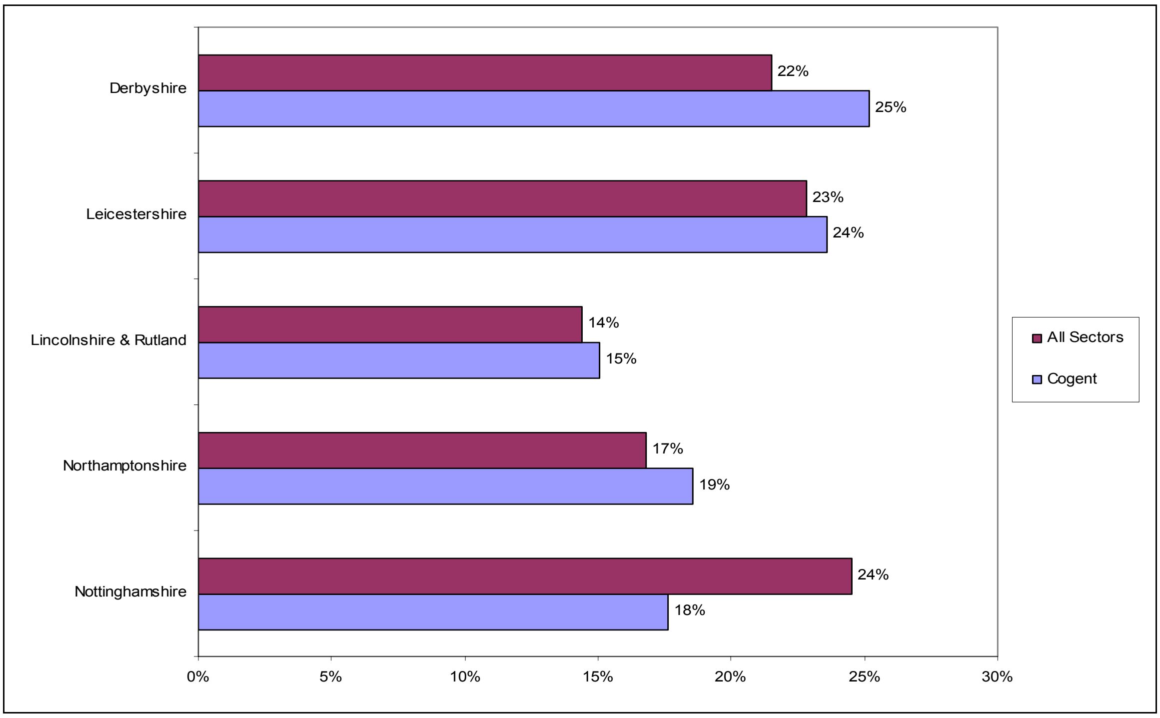
Table 1: Structure of employment and employers within Cogent; Leicestershire, East Midlands Region, England

	Number (LSC area)	As % of all in LSC area	As % of sector in East Midlands Region	As % of sector in England
Number of employers	413	1%	24%	2.5%
Number of employees	9,890	2%	24%	2.5%

Source: ABI 2004

Chart 2 sets out the distribution of Cogent employment by LSC area and compares this with the distribution of total employment (All sectors).

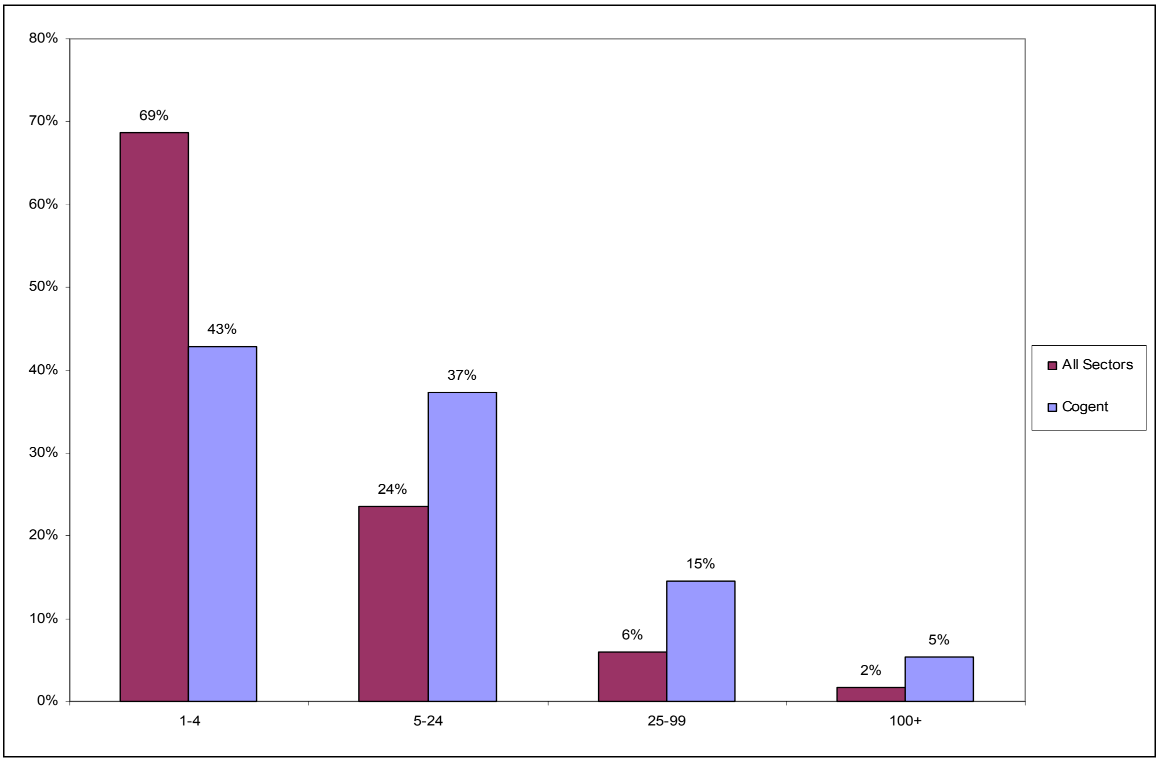
Chart 2: Share of total employment by LSC area; Cogent and All sector average



Source: ABI 2004

Chart 3 outlines the proportion of employers within different employment size bands in Leicestershire and indicates that by comparison with the average for all sectors within Leicestershire, there are relatively high concentrations of employers within the Cogent sector footprint employing 5 or more employees.

Chart 3: Proportion of employers by employment size band in Leicestershire; Cogent and All sector average



Source: ABI 2004

Table 2 identifies the proportion of employees working in different sized workplaces and highlights the relative concentrations of employment within medium and large establishments (Those employing 25 or more employees).

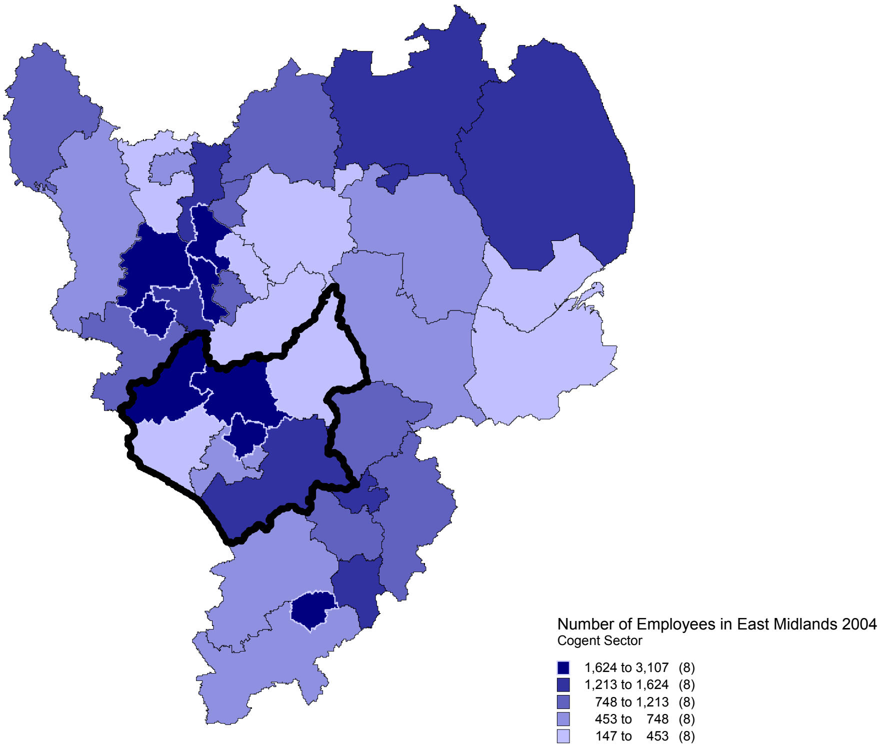
Table 2: Size structure of employment within Cogent; Number of employees within each employer size band; Leicestershire, East Midlands Region, England

	Number of employees in Cogent (LSC area)	% employees in Cogent (LSC area)	% employees in All sectors in LSC area	% employees in Cogent in East Midlands Region	% employees in Cogent in England
Number of employees (1-4 employees)	446	5%	11%	4%	4%
Number of employees (5-24) employees)	1,644	17%	22%	17%	18%
Number of employees (25-99) employees)	2,873	29%	24%	27%	23%
Number of employees (100+) employees)	4,927	50%	43%	52%	54%
All employees	9,890	100%	100%	100%	100%

Source: ABI 2004

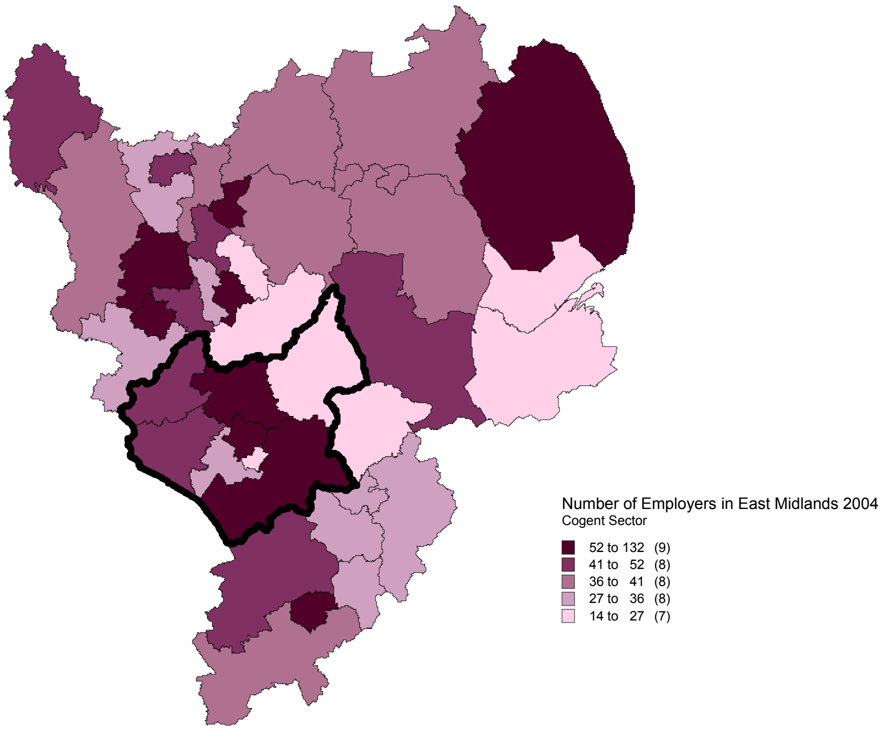
Maps 1 and 2 highlight the spatial concentrations of employees and numbers of businesses in the Cogent Sector within each local authority area within the East Midlands region. Appendix Two contains a key to all local authority names within the East Midlands region.

MAP 1



Source: Annual Business Inquiry 2004

MAP 2



Source: Annual Business Inquiry 2004

3. Sub sector analysis

Total employment within all sectors in Leicestershire represents about 1.8% of the total for England. Given that employment within Cogent within the LSC area represents 2.5% of the total for England, employment in Cogent activities within Leicestershire are somewhat over-represented.

Table 3 provides a breakdown of employment within different Cogent sub-sectors[6].

The analysis indicates that chemicals accounts for an estimated 35% of all employment in Cogent activities in Derbyshire, petroleum 9%, polymers 55% and 'upstream' activities 1%.

Table 3: Number and % of employment by Cogent sub-sector; Leicestershire, East Midlands Region, England

	Number (LSC area)	As % of all in Cogent sector in LSC area	As % of sub-sector in East Midlands Region	As % of sub-sector in England
Chemicals	3,467	35%	24%	2.3%
Nuclear	0	0%	0%	0.0%
Petroleum	854	9%	21%	1.6%
Polymers	5,484	55%	24%	3.3%
Upstream (including oil and gas)	85	1%	30%	1.1%
Total for Cogent	9,890	100%	24%	2.5%

Source: ABI 2004

Table 4 provides a breakdown of employers within each Cogent sub-sector.

[6] Appendix One contains SIC definitions for each Cogent sub sector

Table 4: Number and % of employers by Cogent sub-sector; Leicestershire, East Midlands Region, England

	Number (LSC area)	As % of all in Cogent sector in LSC area	As % of sub-sector in East Midlands Region	As % of sub-sector in England
Chemicals	75	18%	23%	2.2%
Nuclear	0	0%	0%	0.0%
Petroleum	120	29%	21%	2.1%
Polymers	215	52%	27%	3.2%
Upstream (including oil and gas)	3	1%	16%	1.2%
Total for Cogent	413	100%	24%	2.5%

Source: ABI 2004

Table 5 identifies sub regional concentrations of employment within different Cogent sub-sectors, using location quotients. Location quotients use the local share of national employment for the sub-sector or sector and compare it with the local share of national employment overall. The difference gives an indication of whether there is a higher level of employment in the sub-sector/sector than average, or a lower level. In this example, the average for all sectors is 1.0. Therefore, a figure for a sub-sector/sector below 1.0 indicates an under-representation of employment and a figure above 1.0 represents a relative concentration of employment.

The analysis indicates that in relation to Leicestershire LSC as a whole, employment in the Cogent sub-sectors of chemicals and polymers are particularly concentrated. However, within this overall pattern, there are considerable sub-regional variations in employment. Table 5 identifies a number of relative concentrations of employment or ‘hot spots’ at a local authority area level.

Table 5: Sub regional concentrations of employment within Cogent sub sectors within Leicestershire

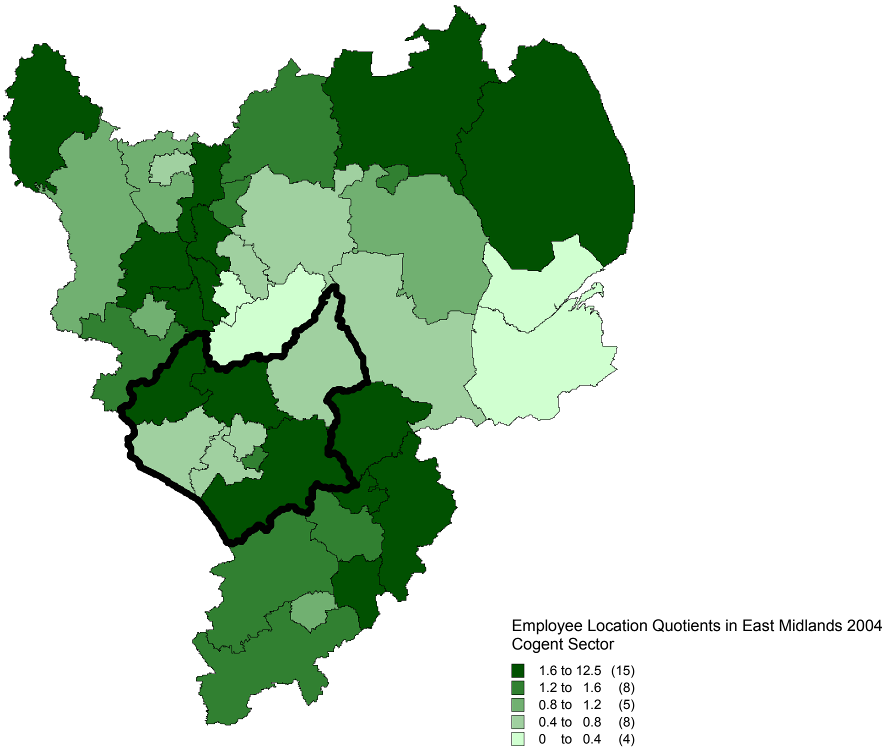
Sub-sector	Location Quotients for Cogent sub-sectors in Leicestershire[7]	Sub regional 'hot spots'
Chemicals	1.25	Charnwood (5.21)
Nuclear	0.00	
Petroleum	0.89	
Polymers	1.79	Harborough (4.45), North West Leicestershire (2.98)
Upstream (including oil and gas)	0.60	North West Leicestershire (5.22)
Total for Cogent	1.38	North West Leicestershire (2.66), Harborough (2.16)
Total for All Sectors	1.00	

Source: ABI 2004

[7] The share of employment in England within each sub sector or sector in Leicestershire by comparison with the share of employment in England in Leicestershire of all sectors.

MAP 3

Map 3 identifies spatial differences in location quotients for the Cogent sector for each local authority area in the East Midlands region.



Source: Annual Business Inquiry 2004

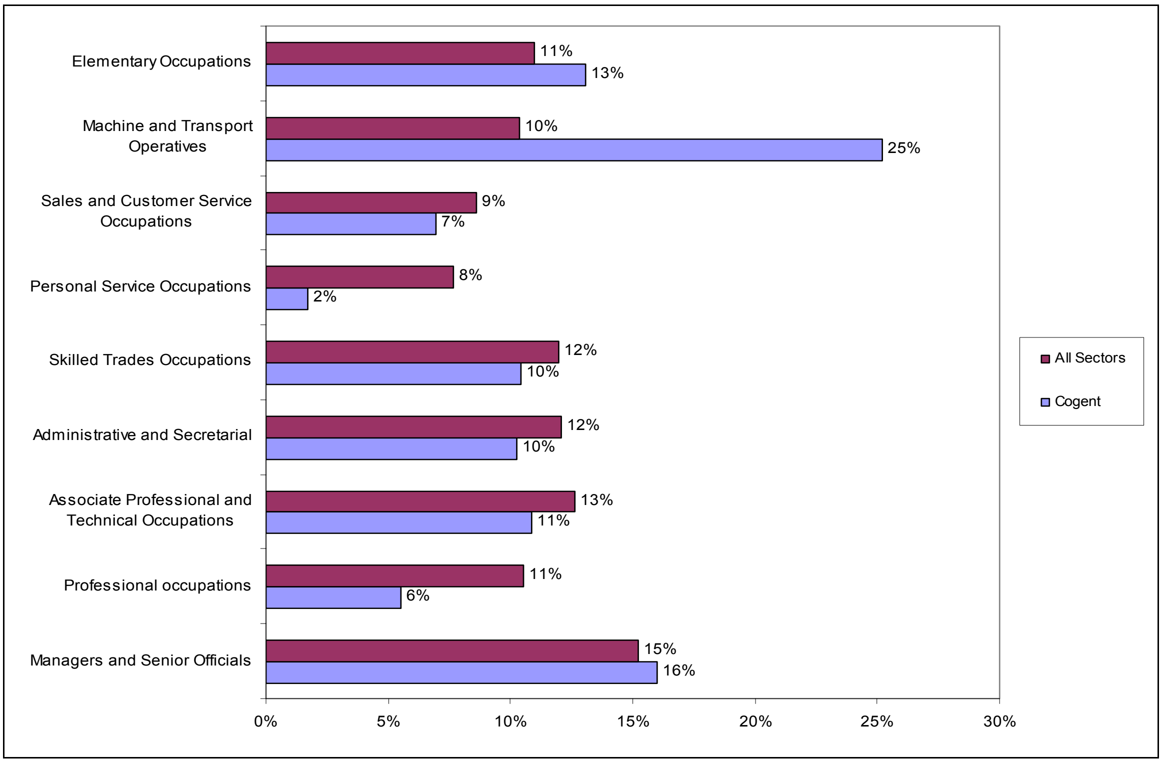
4. Workforce profile

This section examines the profile of those working within the Cogent sector in Leicestershire in relation to occupations, employment status, ethnicity, age and attainment level.

Chart 4 sets out the occupational structure and indicates that by comparison with the average for all sectors:

- A much higher proportion of those employed in the Cogent sector work in machine and transport operative occupations
- A lower proportion work in all other occupations with the exception of elementary and managerial occupations

Chart 4: Occupational structure of employment within Leicestershire; Cogent and All sector average



Source: Working Futures 2

Table 6 indicates that by comparison with the average for all sectors within the Leicestershire LSC area[8]:

[8] The employment data relating to the workforce profile in terms of part time and full time employees, self-employment and gender is drawn from Working Futures 2 and are estimates. At an individual LSC area level these figures need to be treated with caution

- Full time work is much more prevalent within Cogent

- Males comprise a much higher proportion of the workforce

Table 6: Cogent workforce profile summary; Leicestershire, East Midlands, England

	Cogent			Average for all sectors in LSC area
	LSC area	Regional average	Average for England	
% part time employees[9]	10%	11%	10%	28%
% full time employees[10]	86%	85%	86%	60%
% self-employed[11]	4%	4%	4%	12%
% male[12]	69%	71%	72%	54%
% female[13]	31%	29%	28%	46%
% Non-White employees[14]	13%	5%	6%	12%[15]
% employed whose highest qualification is NVQ Level 4 or above[16]	19%	16%	24%	18%
% employed whose highest qualification is NVQ Level 3	6%	6%	7%	8%
% employed whose highest qualification is NVQ Level 2	16%	20%	20%	21%
% employed whose highest qualification is NVQ Level 1	23%	24%	21%	21%
% employed with no qualifications	28%	27%	21%	24%
Other qualifications/Not known	7%	7%	7%	8%
% employed aged 16-17[17]	1%	1%	1%	2%
% employed aged 18-24	11%	12%	10%	12%
% employed aged 25-44	53%	52%	54%	50%
% employed aged 45+	35%	35%	35%	36%

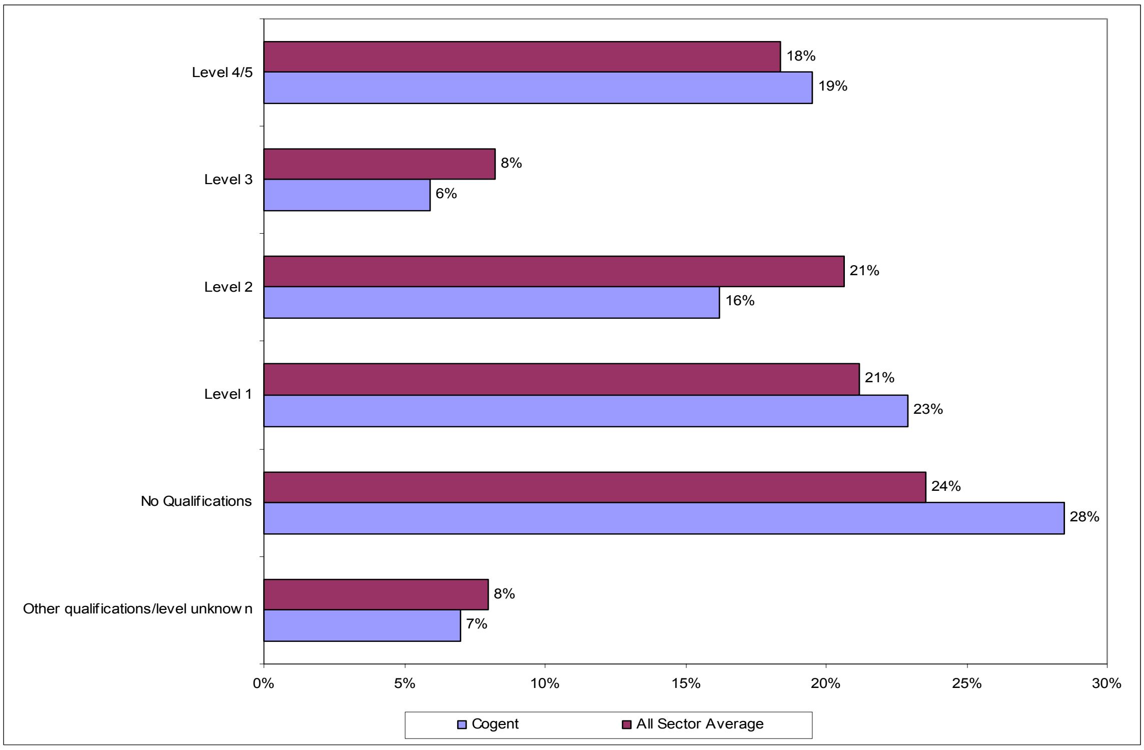
[9] Working Futures 2
[10] Working Futures 2
[11] Working Futures 2
[12] Working Futures 2
[13] Working Futures 2
[14] Census 2001. All Census data utilised is workplace based
[15] In relation to ethnicity, qualifications and age, the average for all sectors has been derived from the average for all SSC footprints
[16] All attainment level data has been derived from Census 2001.
[17] All age data has been derived from the Census 2001

It is estimated that 13% of all Cogent workers within Leicestershire are classified as Non-White, which compares with an England average of 6%. The average for all sectors in the Leicestershire LSC area is 12%.

Examination of the existing age profile of the workforce can help highlight a number of potential recruitment, retention and succession issues employers may need to address. Within Cogent the proportion of those aged 45 or more within Leicestershire is 35%. This compares with an average for all sectors in the LSC area of 36%.

In relation to workforce attainment levels, Table 6 and Chart 5 indicate that while it is estimated that 28% of the Cogent workforce within Leicestershire have no qualifications, the average for all sectors in the LSC area is 24%. At the other end of the spectrum, while an estimated 19% of the Cogent workforce in Leicestershire has attained an NVQ Level 4 or above qualification, the respective average for all Sector Skill Councils in Leicestershire is 18%.

Chart 5: Proportion of Leicestershire workforce by highest qualification; Cogent and All sector average



Source: Census of Population 2001

5. Historical trends

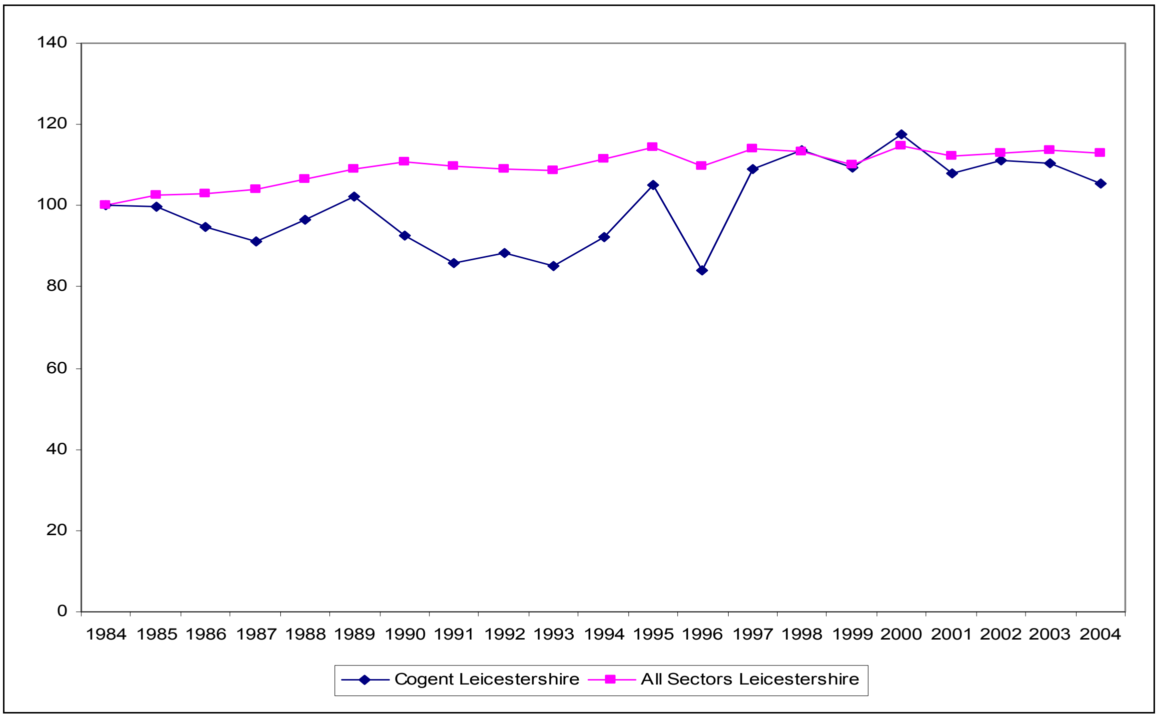
Table 7 identifies employment trends over the period 1984-2004. The analysis indicates that:

- Over the whole period 1984-2004 numbers employed within Cogent in Leicestershire changed by an estimated 550, or +5%. This compares with +8% for the sector in the East Midlands Region and -20% within England. The average for all sectors within Leicestershire over this period was +13%.

- Over the more recent period 1994-2004 numbers employed within Cogent in Leicestershire changed by an estimated 1,250, or +14%. This compares with +6% for the sector in the East Midlands Region and -6% within England. The average for all sectors within Leicestershire over this period was +1%.

Chart 6 outlines the year on year changes over the period 1984-2004. It shows how the growth/decline in employment in the Cogent sector compares with the growth/decline in employment across all sectors. It maps the change in employment, with the figure for both sets of data being indexed to 100 in 1984.

Chart 6: Historical employment trends in Leicestershire 1984-2004; Cogent and All sector average



Source: Working Futures 2;
Note: Both the Cogent and All sector average have been indexed to 100 in 1984

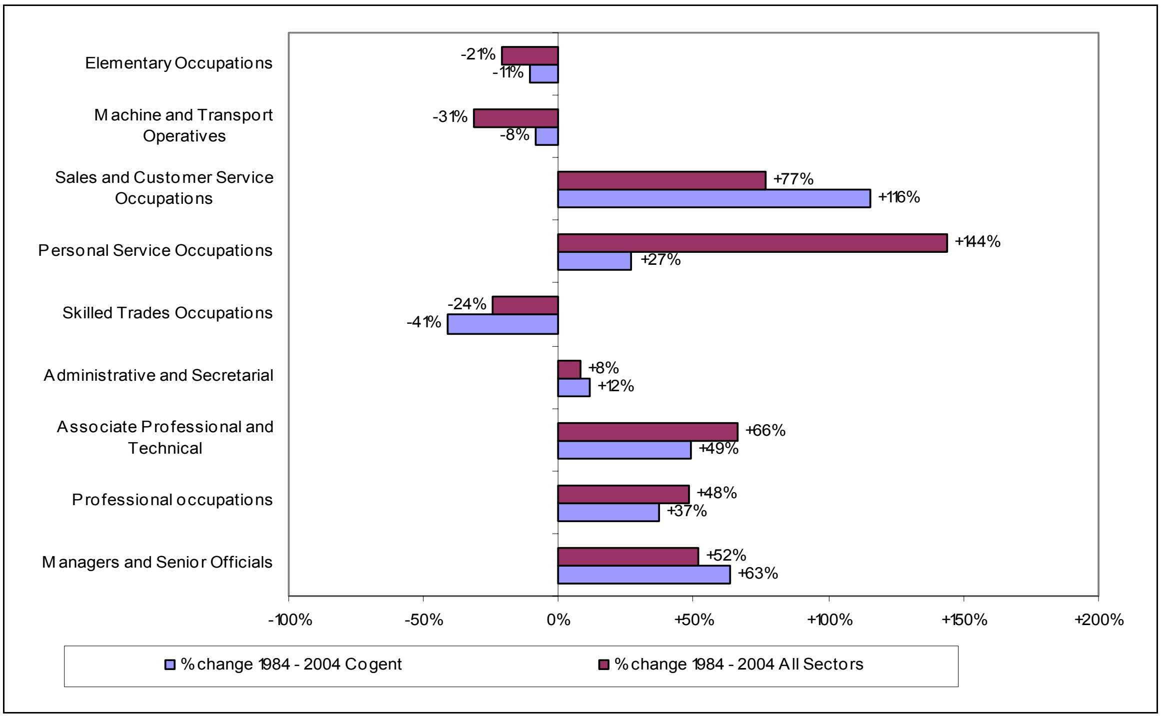
Table 7: Cogent employment trends summary 1984, 1994, 2004; Leicestershire, East Midlands, England

	LSC area Numbers	LSC area %	Regional average	Average for England	Average for all sectors in LSC area
Change in numbers employed 1984-1994	-750	-8%	+2%	-15%	+12%
Change in numbers employed 1994-2004	1,250	+14%	+6%	-6%	+1%
Change in numbers employed 1984-2004	550	+5%	+8%	-20%	+13%

Source: Working Futures 2
Note: Numbers have been rounded to the nearest 50

Chart 7 sets out changes in employment by occupation and indicates that the within Cogent in Leicestershire, a net employment gain has been experienced over the period 1984-2004 in all occupations with the exception of elementary, skilled trade and transport and machine operatives.

Chart 7: % change in numbers employed by broad occupation within LSC area 1984-2004 (Cogent and All sector average)



Source: Working Futures 2

6. Forecast employment change

Table 8 and Chart 8 provide a summary of forecast employment change over the period 2004-2014.

Table 8: Cogent employment forecast summary; 2004-2014

	Cogent				Average for all sectors in LSC area (%)
	Leicestershire area (Numbers)	Leicestershire area (%)	Regional average (%)	Average for England (%)	
Change in total numbers employed	-800	-8%	-8%	-9%	+2%
Expected change part time employees	-200	-19%	+15%	+20%	+9%
Change full time employees	-550	-7%	-11%	-12%	+1%
Change in numbers self employed	-50	-13%	-14%	-12%	-8%
Change in numbers of males	-400	-5%	-7%	-10%	+1%
Change in numbers of females	-450	-14%	-9%	-5%	+3%
Net requirement (Total numbers)	3,000	N/A	N/A	N/A	169,000
Replacement demand (Total numbers)	3,000	N/A	N/A	N/A	161,000

Source: Working Futures 2
Note: Numbers have been rounded to the nearest 50, except replacement demand and net requirement figures which have been rounded to the nearest 1000

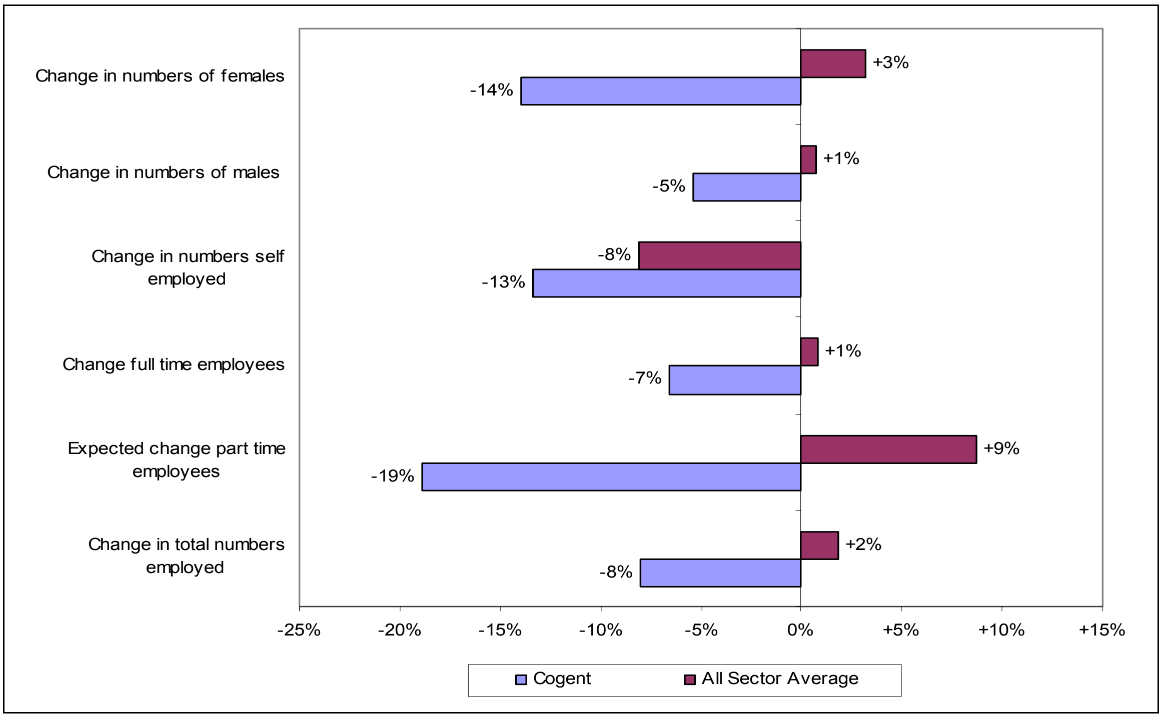
The analysis set out in Table 8 indicates that over the period 2004-2014 it is estimated that:

- overall employment within the Cogent sector will decrease by about -800, implying an estimated change of -8% over this period. This compares with an estimated -8% in relation to the sector regionally and -9% within England. The respective figure for all sectors in the LSC area is +2%.

- part time employment within the Cogent sector will decrease by about -200, implying an estimated change of -19% over this period. This compares with an estimated +15% change in relation to the sector regionally and +20% within England. The respective figure for all sectors in the LSC area is +9%.

- full time employment within the Cogent sector will decrease by about -550, implying an estimated change of -7% over this period. This compares with an estimated -11% in relation to the sector regionally and -12% within England. The respective figure for all sectors in the LSC area is +1%.
- self-employment within the Cogent sector will decrease by about -50, implying an estimated change of -13% over this period. This compares with an estimated -14% in relation to the sector regionally and -12% within England. The respective figure for all sectors in the LSC area is -8%.
- male employment within the Cogent sector will decrease by about -400, implying an estimated change of -5% over this period. This compares with an estimated -7% in relation to the sector regionally and -10% within England. The respective figure for all sectors in the LSC area is +1%.
- female employment within the Cogent sector will decrease by about -450, implying an estimated change of -14% over this period. This compares with an estimated -9% in relation to the sector regionally and -5% within England. The respective figure for all sectors in the LSC area is +3%.

Chart 8: Forecast change in numbers employed by nature of work and gender; 2004-2014; Cogent and All sector average

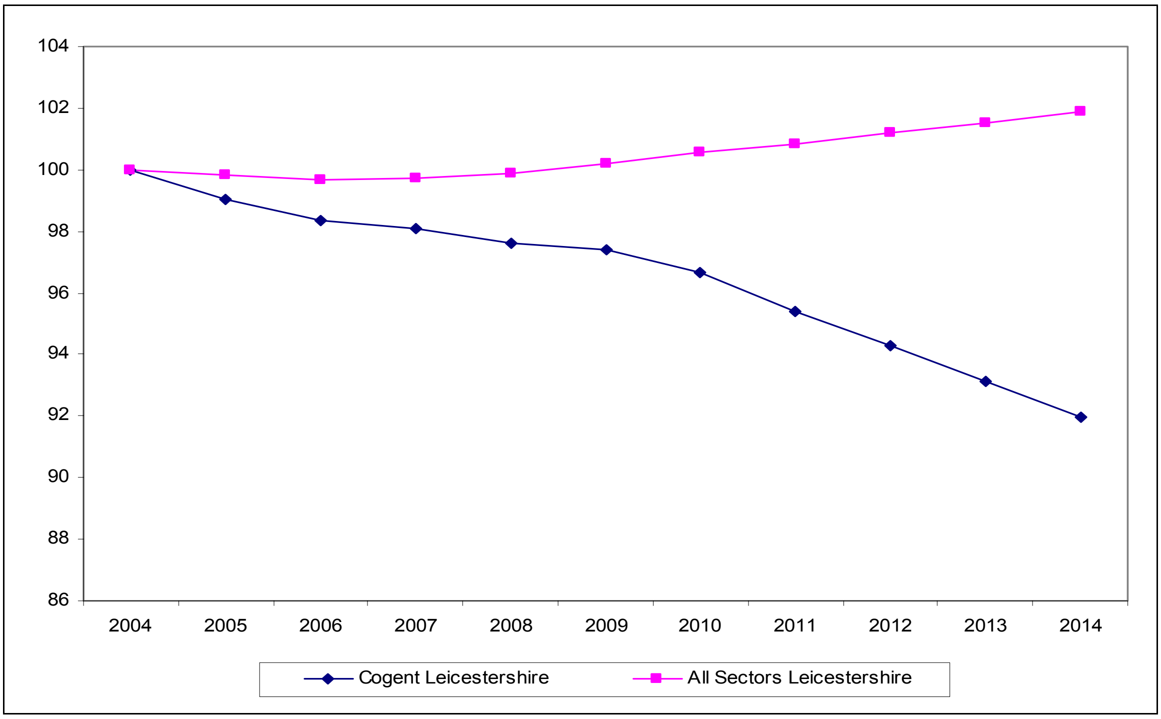


Source: Working Futures 2

The forecasts set out in Table 8 and Chart 8 indicate that set against the net decline in numbers employed within Cogent in Leicestershire over the period 2004-2014 there are likely to be an additional 3,000 workers required as a result of replacement demand, as people retire, move into other jobs in the sector or leave the sector altogether. This implies a net requirement for workers over the whole period 2004-2014 of about 3,000 workers, or an average annual net requirement of about 300 workers[18]. This accounts for about 1.8% of the total estimated annual net requirement for all sectors in Leicestershire.

Chart 9 outlines year on year forecast changes within the Leicestershire Cogent sector for the period 2004-2014 and compares these trends with the all sector average, forecast by indexing both sets of data to 100 in 2004. The chart indicates that the Leicestershire Cogent sector is likely to under-perform the all sector average over this period.

Chart 9: Indexed forecast employment change 2004-2014; Cogent and All sector average



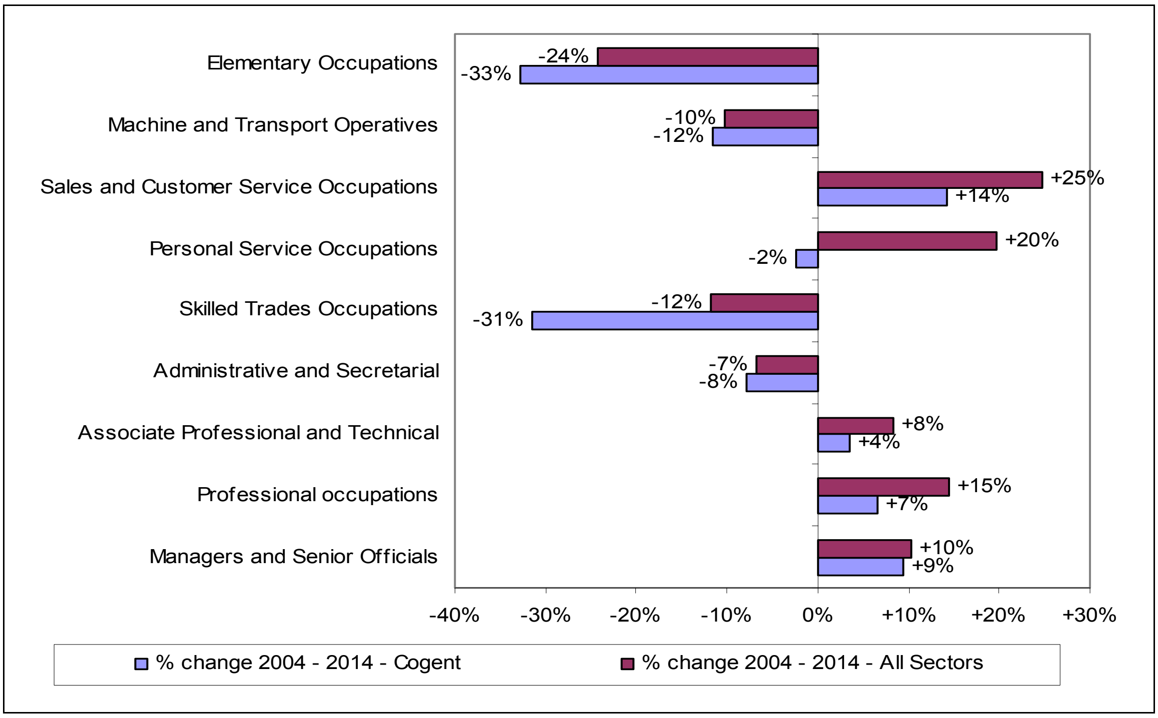
Source: Working Futures 2;
Note: Both the Cogent and all sector average have been indexed to 100 in 2004

[18] The actual annual net requirement will of course vary from year to year

Chart 10 identifies forecast change by occupational area over the period 2004-2014 and compares expected trends within the Cogent sector with the all sector average within Leicestershire.

By comparison with the average employment growth for all sectors, all occupational areas within the Leicestershire Cogent sector are expected to under-perform.

Chart 10: Forecast change 2004-2014 by main occupational categories within LSC area; (Cogent and All sector average for LSC area)



Source: Working Futures 2

7. Drivers of change and key skill issues

Drivers of change

The Cogent sector extends over five industry groupings, which include:

• Oil and Gas Extraction
• Nuclear and Radiological Technology
• Chemicals Manufacturing
• Petroleum Industry
• Polymer Industry

All five industries share a common foundation – engineering, science and technology.

The market assessment undertaken by Cogent identified 7 main drivers of change that are likely to impact on the five industry groupings within the sector[19]. These are briefly summarised below:

1. Economic conditions

The EU is the major market for the Cogent industries, therefore variations in economic conditions in the rest of Europe can affect production planning and materials costs.

2. Patterns of competition

- In the nuclear sector, defence business is subject to competition in the lower tiers of the supply chain, including from abroad. Nuclear power also competes with other fuels in power generation.

- The advent of the Single European Currency is considered likely to increase competition throughout the chemicals manufacturing industry on a European level.

- The oil and gas industry faces comprehensive competition from other countries.

- Within the UK petroleum industry five incorporated multinational oil companies and five multiple grocer retailers provide fierce competition.

- Pressure is being placed on the UK polymer industry from new trading partners such as China and India where they have the advantage of extremely low labour cost.

[19] Market Assessment, Final Version for Submission to SSDA as part of the Business Proposition, Building the SSC for the Chemicals, Nuclear, Oil and Gas, Petroleum and Polymer Industries, Cogent

Cogent research has clearly revealed that Innovation is a high priority for employers in the Cogent footprint. Competing on cost alone no longer brings competitive advantage. This means meeting the demand for new and specialty ingredients and products, and ensuring that commodities manufacturing remains viable in the UK through continued product development and process improvement[20].

3. Consumers

Due to the opinions held by consumers, there is an increasing importance being placed on higher technology products that have little or no harm on either individuals' health or the environment. The fact that consumers are becoming increasingly environmentally aware is likely to impact on all Cogent industries.

4. Globalisation

All Cogent industries operate in an increasingly complex business environment with continued consolidation among companies on a global level.

UK companies are increasingly locating their operations where skills and raw materials are cheapest.

5. Government Policy

A number of areas of government and European Union policy are likely to have a continuing impact on Cogent industries including:

- The Climate Change Levy
- The EU Chemicals Policy
- The Energy White Paper
- Powering Future Vehicles Strategy
- Managing the Nuclear Legacy
- Environmental Improvements

6. Technology trends

- Nuclear and Radiological Technology - Safety and waste disposal is a continuing concern of the UK nuclear industry and technical solutions continue to be developed.

- Chemicals Industry - The primary science and technology research priorities can be placed into the following three broad headings: Pacing Technologies (Bioscience), Key Technologies (New Materials Research) and Platform/Base Technologies i.e. materials and biotechnology).

[20] Proposals for Cogent Industry Skills Action Plan, Cogent

- Oil and Gas Extraction Industry - The oil and gas industry is continually developing technology to achieve and exceed environmental performance.

- Petroleum Industry - The key area of technology change relates to long term changes in the nature of transport fuels and engines.

- Polymer Industry - The polymer industry is also developing technology to limit any adverse impact the sector has upon the environment including biodegradable polymers. Polymers in electronics, engineering and speciality polymers and the development of smart materials are all areas of developing technology within the industry.

7. Sustainable development

The whole issue of sustainable development[21] is increasingly being applied to Cogent industries. This includes areas such as:

- Nuclear waste
- Carbon emissions
- The development of new fuels

Key Skill issues

Cogent research has revealed four key skill issues facing the sector[22]:

1. Management and Leadership

Cogent has identified skills issues in Management and Leadership, particularly change management, business management, safety, health and environment management and business improvement techniques. Career paths are underdeveloped, with limited and unclear pathways to progress from operative to management level.

The hazardous nature of the industries within the Cogent footprint requires excellence in management practices. Such practices exist but there is no standard to facilitate benchmarking.

2. Skills gaps

Skills gaps are worse in the Cogent sector than in UK business as a whole. This is a real concern in the industries whose licence to operate depends on them working to the highest standards with respect to safety, health and environment.

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[21] This is often defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
[22] Proposals for Cogent Industry Skills Action Plan, Cogent

The main problem areas are in technical skills, and in core behaviours such as communications, business improvement, customer service and the ability to work in teams.

In addition, the Cogent industries report that their knowledge and understanding of how to access available provision is weak.

3. Technicians

There are insufficient technicians entering the industries within the Sector to meet forecast demand and the routes for existing employees to become technicians are poorly defined.

4. Workforce Demand

With an ageing workforce, demand for new recruits in the Cogent industries over the next ten years will increase. Cogent urges employers to look beyond the traditional pool of white males who dominate the sector to find the talented people they need.

5. Industry Attraction

Cogent research confirms that industries within the sector are poorly understood by the public; have a poor image and understanding of the range of potential career opportunities is also perceived to be low.

This clearly hinders ability to attract the most able young people into a career and with a decrease in the number of young people (demographic change) available to the industry this could be a problem for the industry. In addition it is believed that Cogent industries fail to attract women and minorities, seriously limiting the pool from which it recruits current and future employees.

6. Standards and qualifications

The industry has expressed concern regarding the standards and qualifications of the mobile workforce in the industry supply chain. There is also a lack of clear standards for contractors in a number of the Cogent industries.

In order to address many of the skills issues highlighted above Cogent has identified 5 strategic actions including the development of:

- Career Pathways: roles, profiles and career maps for the industry
- An Upskilling Programme: development of people for productivity
- An Apprenticeship Programme: rolled out regionally
- A Cogent Competence Framework: create common industry benchmarking criteria
- Cogent Industry Passports: reliable training records

8. Human resource indicators

Table 9 is based on the results of the National Employer Skills Survey (NESS) 2005. In order to ensure the data utilised is reasonably robust, all analysis is restricted to a regional or national level.

Table 9: Cogent Human Resource indicators summary

	East Midlands Cogent average	England Cogent average	Average for All sectors in East Midlands
% employers reporting skill gaps	13%	20%	16%
Skill shortage vacancies (SSVs) as a % of all vacancies	28%	24%	20%
% employers reporting hard to fill vacancies	8%	7%	5%
Hard to fill vacancies as a % of all vacancies	32%	36%	29%
% employers undertaking training over the previous 12 months	79%	72%	66%
% employees undertaking training over the previous 12 months	60%	63%	84%
% establishments with a business plan	63%	57%	55%
% establishments with a training plan	64%	53%	47%
% establishments with a training budget	38%	37%	34%
% of establishments that formally assess whether individual employees have gaps in their skills	70%	60%	56%
% of establishments formally assess the performance of employees who have received training and development	54%	72%	46%
Employer engagement score[23]	57.6	55.8	47.6

Source: National Employer Skills Survey 2005
Note: The sample size for data from NESS at a detailed sector level is likely to be too small at an LSC level. All data has been weighted

[23] This has been compiled by summing the % of establishments with a business plan, establishments with a training plan, establishments with a training budget, establishments that formally assess whether individual employees have gaps in their skills and establishments that formally assess the performance of employees who have received training and development divided by 5

Table 9 compares the Cogent sector within the East Midlands with the respective figures for England and also the average for all sectors within the East Midlands region. The analysis indicates that in relation to:

- the proportion of employers reporting skill gaps, the figure for Cogent within the East Midlands region of 13% compares with a figure for Cogent in England of 20% and an average for all sectors in the East Midlands region of 16%
- the proportion of employers reporting hard to fill vacancies, the figure for Cogent within the East Midlands region of 8% compares with a figure for Cogent in England of 7% and an average for all sectors in the East Midlands region of 5%
- reported skill shortage vacancies as a proportion of all vacancies, the figure for Cogent within the East Midlands region of 28% compares with a figure for Cogent in England of 24% and an average for all sectors in the East Midlands region of 20%
- hard to fill vacancies as a proportion of all vacancies, the figure for Cogent within the East Midlands region is 32% compared with a figure for Cogent in England of 36% and an average for all sectors in the East Midlands region of 29%
- the proportion of employers undertaking training over the previous 12 months, the figure for Cogent within the East Midlands region of 79% compares with a figure for Cogent in England of 72% and an average for all sectors in the East Midlands region of 66%
- the proportion of employees undertaking training over the previous 12 months, the figure for Cogent within the East Midlands region of 60% compares with a figure for Cogent in England of 63% and an average for all sectors in the East Midlands region of 84%

A number of indicators of levels of employer engagement have been utilised as part of the analysis. A composite employer engagement score based on five different indicators has been derived, these being the % of establishments with a business plan, establishments with a training plan, establishments with a training budget, establishments that formally assess whether individual employees have gaps in their skills and establishments that formally assess the performance of employees who have received training and development.

The composite employer engagement score provides an indication of the overall commitment of employers to these human resource planning and management techniques. The analysis indicates that the East Midlands Cogent sector has an overall score of 57.6, compared with 55.8 for Cogent in England and an All Sector regional average of 47.6.

9. Business and employment matrix

Table 10 sets out a series of business and employment indicators for Cogent in Leicestershire. Each of these indicators has also been set in the context of a ranking of all 25 Sector Skills Councils in Leicestershire, which provides an SSC ranking (1-25) for Cogent in relation to each indicator.

Table 10: Business and employment matrix

Indicator	**Cogent**	**SSC Ranking**
Number of businesses 2004	413	16
Numbers employed 2004	10,150[24]	16
% change in numbers employed 1984-2004	+5%	19
Absolute change in numbers employed 1984-2004	+550	19
Expected % change in numbers employed 2004-2014	-8%	20
Expected absolute change in numbers employed 2004-2014	-800	21
Expected absolute replacement demand 2004-2014	+3,000	15
Skill Shortage Vacancies as a % of all vacancies 2005	28%	5
% of employers reporting skill gaps 2005	13%	17
% workforce with no qualifications	28%	8
% employed whose highest qualification is NVQ Level 1	23%	9
% employed whose highest qualification is NVQ Level 2	16%	22
% employed whose highest qualification is NVQ Level 3	6%	18
% employed whose highest qualification is NVQ Level 4 or higher	19%	10
% non-white employees 2001	13%	7
% employees aged 45+	35%	14
An occupational employment change score[25]	0.15	15

Note: For ranking purposes, % figures have been rounded to the nearest decimal place. Some SSC's are therefore equally ranked for some indicators. Qualifications, age and ethnicity indicators are ranked 1-24, as no data is available for Summit Skills

[24] This figure is derived from Working Futures 2 and is an estimate that includes employees and those working on a self employed basis. The figure therefore differs from data derived from the Annual Business Inquiry – It is rounded to the nearest 50

[25] This occupational employment change score has been developed in order to provide an indication of the extent of occupational restructuring expected to occur in the future within different sectors. The score is derived from Working Futures 2 data and is calculated by summing each element of expected occupational change (using broad occupational groupings) over the period 2004-2014 and expressing this as a ratio in relation to total numbers employed in 2004 in all occupations within Cogent. The direction of change in occupational employment, whether negative or positive is treated as positive when calculating this ratio. The score provides an indication of the extent of expected occupational restructuring, with the highest scores pointing to a greater level of expected occupational restructuring.

Appendix One

Activities covered by the Cogent Sector footprint

SSC industry	Sub sectors	SIC sub sector definitions
Cogent [11, 23, 24.11-24.2, 24.41-24.63, 24.65, 24.66, 25.13-25.24, 50.5]	Chemicals	24.11, 24.12, 24.13, 24.14, 24.15, 24.16, 24.17,24.20, 24.41, 24.42, 24.51, 24.52, 24.61, 24.62, 24.63, 24.65, 24.66
	Nuclear	23.3
	Upstream (including oil and gas)	11.20, 11.10
	Petroleum	23.10, 23.20, 50.50
	Polymers	25.13, 25.21, 25.22, 25.23, 25.24

Appendix Two