



South East Diamonds for Investment and Growth

Building a Knowledge Economy

Report 3: Place Analysis

March 2010


CLES
Centre for Local
Economic Strategies


**SOUTH EAST
DIAMONDS**
for investment and growth



March 2010

***BUILDING A KNOWLEDGE ECONOMY: RESEARCH AND ACTION PLANNING FOR
THE SOUTH EAST DIAMONDS FOR INVESTMENT AND GROWTH***

REPORT 3: PLACE ANALYSIS

Final report by

CLES Consulting

Presented to

South East Diamonds for Investment and Growth

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1 INTRODUCTION

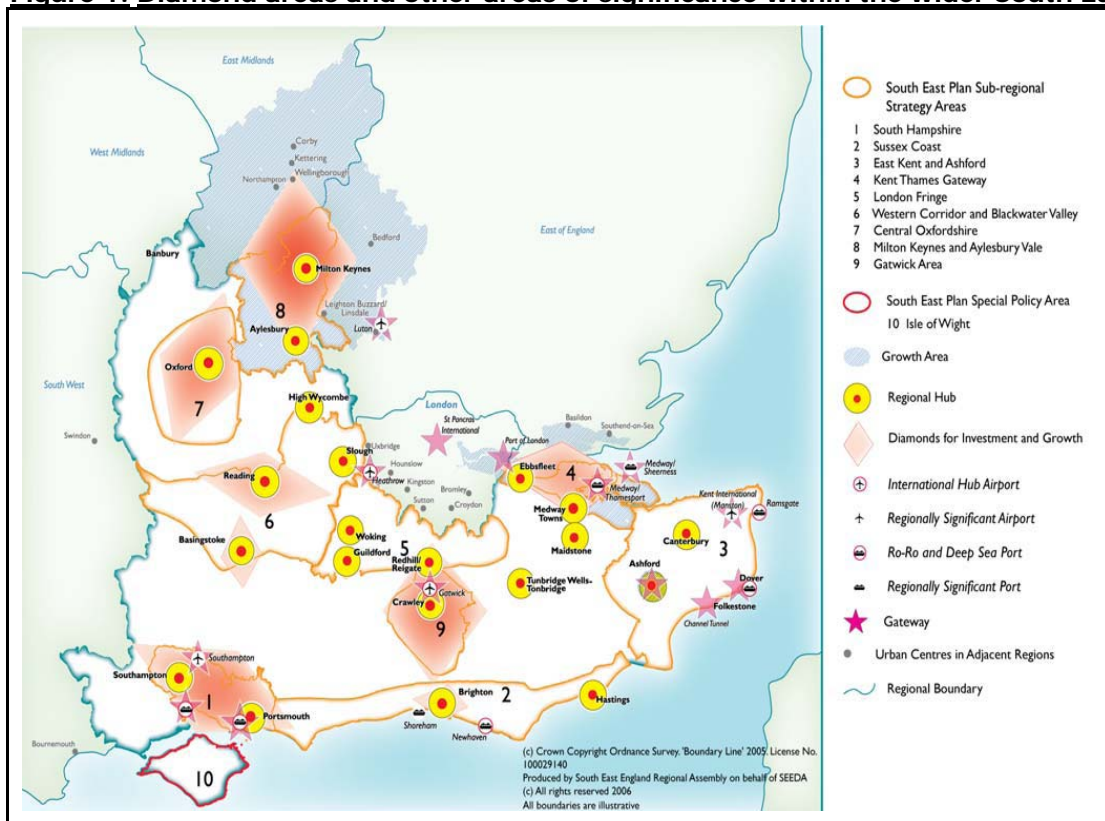
CLES Consulting was commissioned by South East Diamonds for Investment and Growth (SEdFIG Partnership) in October 2009 to undertake research and action planning on the knowledge economy within the 'Diamond' areas shown in figure 1 below; i.e. the functional economic areas with the most potential to accelerate long-term sustainable economic growth in the South East of England.

The purpose of the commission was to assess the size and potential of emerging industrial sectors within South East Diamonds focussing on knowledge economy sectors and the development of related policy actions. However, as part of a wider consideration, it also makes reference to the 'enabling factors' of growth including regional assets and infrastructure.

The project follows the requirements outlined in the original brief, providing SEdFIG with an evidence base to help identify future priorities around the development of its knowledge economy. As such, it follows the standard geographical definitions set out in the Diamond's prospectus and uses the same (latest) supporting methodology agreed with partners to quantify each local economy. The work's outputs consist of the following **five** reports:

- 1) **Executive Summary** – Providing a synthesis of the research findings and recommendations;
- 2) **Policy Review** – Identifying policy initiatives in various sectors of the knowledge economy within the UK and its implications for SEdFIG, together with a narrative on defining the knowledge economy and outlining critical success factors;
- 3) **Place analysis** - of economic performance within the Diamonds, including a review of sector strengths by location and supply side issues including employment, skills;
- 4) **Sector analysis** – detailed analysis of the sectors outlined for potential growth in the Diamond's 'Prospectus for Prosperity' and HMG 'New Industry New Jobs' policy documents;
- 5) **Action plan** – outlining a series of development actions for partners and lobbying messages for central and regional policy makers, as well as summarising potential research-paths to drive further strategic thinking and understanding in this area.

Figure 1: Diamond areas and other areas of significance within the wider South East ¹



¹ Source: SEEDA, Regional Economic Strategy 2006

2 BUSINESS AND ENTERPRISE DRIVERS

This report sets out:

- A review of demand side drivers of growth (e.g. business base, employment in key sectors);
- a summary of performance within individual Diamonds and the Diamonds as a whole.

By looking in depth at these inter-related components, the aim is to better understand the future potential of the Diamonds, and thus the wider South East, by addressing the following questions:

- What sectors will be the most important going forward?
- what kind of shape are they in?
- how will business type influence the future direction and prosperity of the Diamonds?
- how will infrastructure and investment plans affect drivers and constraints to growth?

2.1 Business base

This section identifies and analyses the current strengths and weaknesses of the South East Diamond's business base and the factors determining business competitiveness. This is vital in understanding how the Diamonds have been adapting to structural changes that have taken place over recent decades and how robust their economy is in relation to the current global economy.

2.1.1 Business distribution and growth

Table 1: shows the importance of the Diamonds economies to the South East as they contain approximately 40% of the South East's business base. The business size-structure of all Diamonds economies is relatively similar, with over four-fifths (84.9%) of employers having less than ten employees and just over 0.5% having more than 200 employees.

Table 1: Business distribution (workplaces) by size of business, 2007²

Size = employees	Micro		Small		Medium sized		Large		Total
	1-10 employees		11-49 employees		50-199 employees		200+ employees		
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	
Great Britain	2,021,131	84.5%	287,214	12.0%	68,637	2.9%	15,924	0.7%	2,392,906
South East	334,527	86.2%	41,679	10.7%	9,699	2.5%	2,122	0.5%	388,027
London	337,072	87.1%	37,576	9.7%	9,823	2.5%	2,652	0.7%	387,123
Diamonds (aggregated)	129,869	84.9%	17,709	11.6%	4,354	2.8%	1066	0.7%	152,997
North Hampshire	13,128	85.6%	1,661	10.8%	432	2.8%	115	0.7%	15,336
Brighton and Hove	11,408	86.5%	1,435	10.9%	277	2.1%	73	0.6%	13,193
Gatwick Diamond	13,297	85.3%	1,748	11.2%	420	2.7%	119	0.8%	15,585
Milton Keynes and Aylesbury Vale	12,480	84.6%	1,656	11.2%	520	3.5%	104	0.7%	14,760
Oxford / Central Oxfordshire	16,475	84.9%	2,303	11.9%	513	2.6%	124	0.6%	19,415
Reading Diamond	15,501	84.9%	2,070	11.3%	541	3.0%	146	0.8%	18,258
Thames Gateway / Kent	15,772	84.8%	2,163	11.6%	546	2.9%	125	0.7%	18,606
PUSH	31,808	84.1%	4,672	12.3%	1,104	2.9%	260	0.7%	37,844

Table 2: presents the number of businesses per 10,000 population (business density) of the Diamond areas. This shows that all of the Diamond areas, with the exception of Urban South Hampshire and the Thames Gateway, have a higher business density than the national average.

However only Brighton and Hove and Gatwick have a higher business density than the South East average. Both of these Diamonds show impressive performance as they also have a higher business density than London. This high density is important in creating the levels of agglomeration required to enable effective knowledge flow between people and firms, important for the growth of any knowledge economy.

² Source ONS, Annual Business Inquiry, 2006

Table 2: Business density (businesses per 10,000 working age population)³

	1998	2002	2007	1997 to 2002	2002 to 2007	1997 to 2007
	No. per 10,000 residents	No. per 10,000 residents	No. per 10,000 residents	% change	% change	% change
Great Britain	593	613	650	3.3%	6.1%	9.6%
South East	672	716	761	6.6%	6.4%	13.4%
London	755	754	765	-0.2%	1.6%	1.4%
Diamonds (aggregated)	588	631	676	7.4%	7.0%	15.0%
North Hampshire	630	659	710	4.5%	7.9%	12.7%
Brighton and Hove	647	710	775	9.8%	9.0%	19.7%
Gatwick Diamond	680	743	796	9.2%	7.2%	17.1%
Milton Keynes and Aylesbury Vale	633	680	725	7.5%	6.6%	14.5%
Oxford/Central Oxfordshire	649	675	727	4.0%	7.7%	12.1%
Reading Diamond	633	694	718	9.6%	3.4%	13.4%
Thames Gateway/Kent	473	516	555	9.2%	7.5%	17.4%
Urban South Hampshire	529	566	607	7.1%	7.2%	14.8%

2.1.2 Business start-ups (entrepreneurship)

Business start-ups levels are a good indicator of future economic growth. Studies show that 23% of new businesses create 71% of new employment, with businesses in high-tech sectors often having the greatest capacity for job creation¹. In addition to the direct employment they bring, new businesses also help foster innovation and can have a beneficial effect through enhancing competition, helping improve efficiency.

The number of VAT registrations in relation to the adult population is one way of measuring business start-ups, although it is important to note that not all businesses are VAT registered and the smallest businesses might be missed. VAT registrations vary significantly amongst the South East Diamonds, clearly reflecting differences in economic performance between the Diamond areas.

As shown in Table 3:, in general terms VAT registrations per 10,000 population in the Diamond areas exceeds the Great Britain average but lags behind the regional registration rate. Milton Keynes Diamond has also shown strong growth in VAT registrations, particularly between 2002 and 2007, as has North Hampshire and Reading.

However, not all Diamond areas have shown such growth in term of business start-ups, with the Thames Gateway and Urban South Hampshire both being at least ten VAT registrations per 10,000 population behind the Diamonds average, although Thames Gateway has grown significantly over the last decade. Performance is particularly lagging in the Urban South Hampshire area where there has also been a decline in VAT registrations over the last decade (-3.5% between 1997 and 2007).

³ Source: ONS, 1996 to 2007

Table 3: VAT registrations per 10,000 working age residents⁴

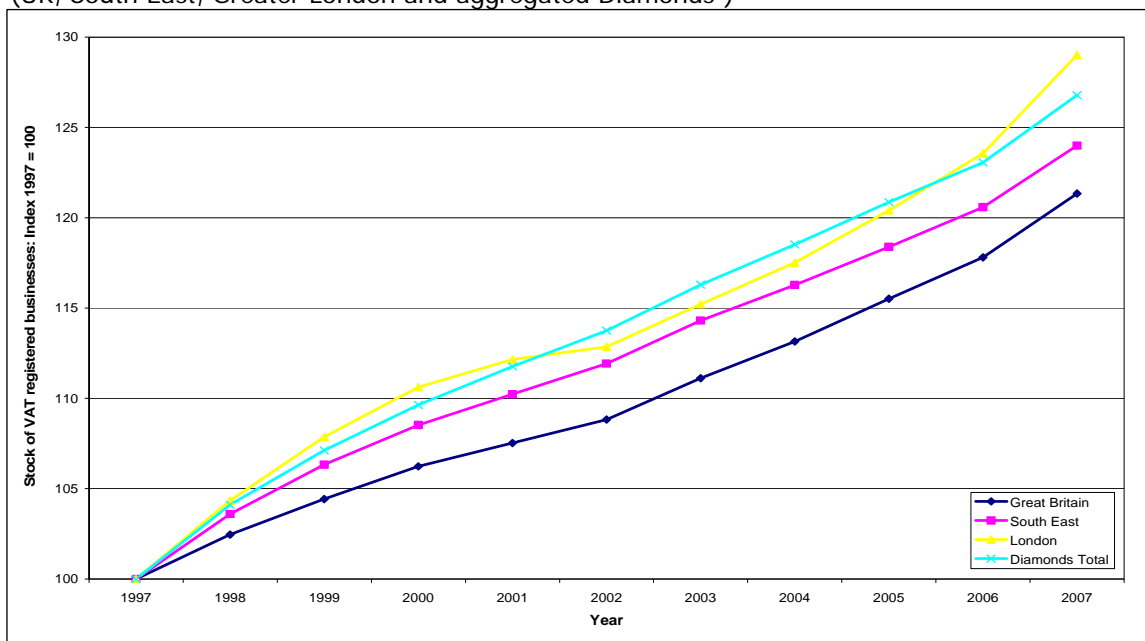
Size = employees	1997	2002	2007	97-02	02-07	97-07
	No. per 10,000 W. age residents	No. per 10,000 W. age residents	No. per 10,000 W. age residents	% change	% change	% change
Great Britain	51	49	55	-5.4%	12.7%	6.7%
South East	63	58	63	-7.8%	8.3%	-0.1%
London	78	67	82	-14.7%	22.1%	4.1%
Diamonds (aggregated)	56	52	57	-8.1%	10.4%	1.4%
North Hampshire	61	53	69	-13.2%	29.4%	12.3%
Brighton and Hove	72	59	63	-19.0%	7.8%	-12.6%
Gatwick Diamond	66	62	63	-6.8%	2.6%	-4.3%
Milton Keynes and Aylesbury Vale	68	60	75	-11.0%	24.7%	11.0%
Oxford/Central Oxfordshire	54	51	53	-4.4%	3.6%	-1.0%
Reading Diamond	65	59	68	-9.2%	14.8%	4.2%
Thames Gateway/Kent	43	43	47	-1.4%	10.1%	8.6%
Urban South Hampshire	47	45	46	-5.1%	1.7%	-3.5%

2.1.3 Stock of VAT registered businesses

The stock of VAT registered businesses represents the number of employers operating above the VAT threshold and accounts for approximately 60% of all businesses in the economy. Figure 2: shows the number of VAT registered businesses indexed to 1997. The Diamond areas have shown strong performance in terms of the growth in VAT registered businesses over the past decade.

The Diamonds performance has exceeded the growth seen in Great Britain and the South East and was, until 2005, showing higher growth rates than London. Although in 2007 growth rates had fallen behind, requiring an additional 2,600 businesses to match London's growth rate. The growth rate in the stock of businesses varies between Diamond areas, with Urban South Hampshire showing the slowest growth rates between 1997 and 2007 and Milton Keynes showing the strongest.

Figure 2: Stock of VAT registered businesses: Index 1997=100, 1997 to 2007
(UK, South East, Greater London and aggregated Diamonds⁵)



⁴ Source: ONS, VAT statistics, 1997 to 2007

⁵ Source: ONS, VAT statistics, 1997 to 2007

2.2 Knowledge Based Industries (KBIs)

With a greater concentration of people, businesses, skills development and support services, knowledge networks and cluster development, and greater scope for improving shared infrastructure and public services, all mean that urban centres are seen as hubs of the knowledge economy.

The knowledge economy is vital for the future of the Diamonds and for the wider South East. To better understand its current performance, a good guide is the percentage of employment in Knowledge Businesses Industries (KBIs). There is no perfect definition of KBIs using national statistics, however Table 4: outlines employment in sectors which typically have 25% or more of the workforce with NVQ Level 4 qualifications (see Appendix 1 for industry sector definitions).

Table 4: Total employees in KBIs; percentage of total employment; and quotients⁶

	KBI Employees (2007)	KBI as a % of total employment (2007)	Location Quotient (GB=100)	% change (2000 to 2007)
Great Britain	14,244,722	53.6%	100.0	13.7%
South East	2,039,534	54.7%	102.1	8.2%
London	2,439,296	59.8%	111.7	6.4%
Diamonds (aggregated)	939,686	55.6%	103.8	9.7%
North Hampshire	90,700	55.8%	104.2	5.9%
Brighton and Hove	76,589	64.0%	119.5	15.6%
Gatwick Diamond	77,532	46.0%	85.9	4.1%
Milton Keynes and Aylesbury Vale	92,568	54.0%	100.9	21.5%
Oxford/Central Oxfordshire	129,807	59.5%	111.2	9.7%
Reading Diamond	128,360	59.0%	110.2	6.5%
Thames Gateway/Kent	95,525	48.5%	90.6	14.1%
Urban South Hampshire	248,605	57.0%	106.4	7.4%

The Diamond areas constitute nearly half (46%) of KBI employees within the wider South East. As a percentage of total employment, KBI employment is slightly higher in the Diamonds, on average, than both the regional and national levels, although lower than the London average, due to the capital's large financial and professional services workforce. This is also reflected in the share of total KBI employment in the Diamonds compared to the equivalent share of total national employment (referred in Table 4 as location quotient). The Diamonds sub-regions have experienced considerable growth in KBI employment since 2000, higher than both London and the South East.

Across the Diamond sub-regions, the areas with the highest KBI employment, by volume, are: Oxford, Reading and Urban South Hampshire; areas which also have a high proportion of their total employment in KBIs. However, the Diamond with the highest share of KBI employment is Brighton and Hove, with 64% of its workforce working within KBIs. This is due to high levels of employment within sectors such as other business services, education and healthcare.

KBI employee growth has been particularly pronounced within Milton Keynes since 2000, driven primarily by growth within financial and business services and, to a lesser extent, education and ICT activities. Brighton and Hove and Thames Gateway are two other key growth nodes, with Thames Gateway experiencing significant growth in other business services in particular.

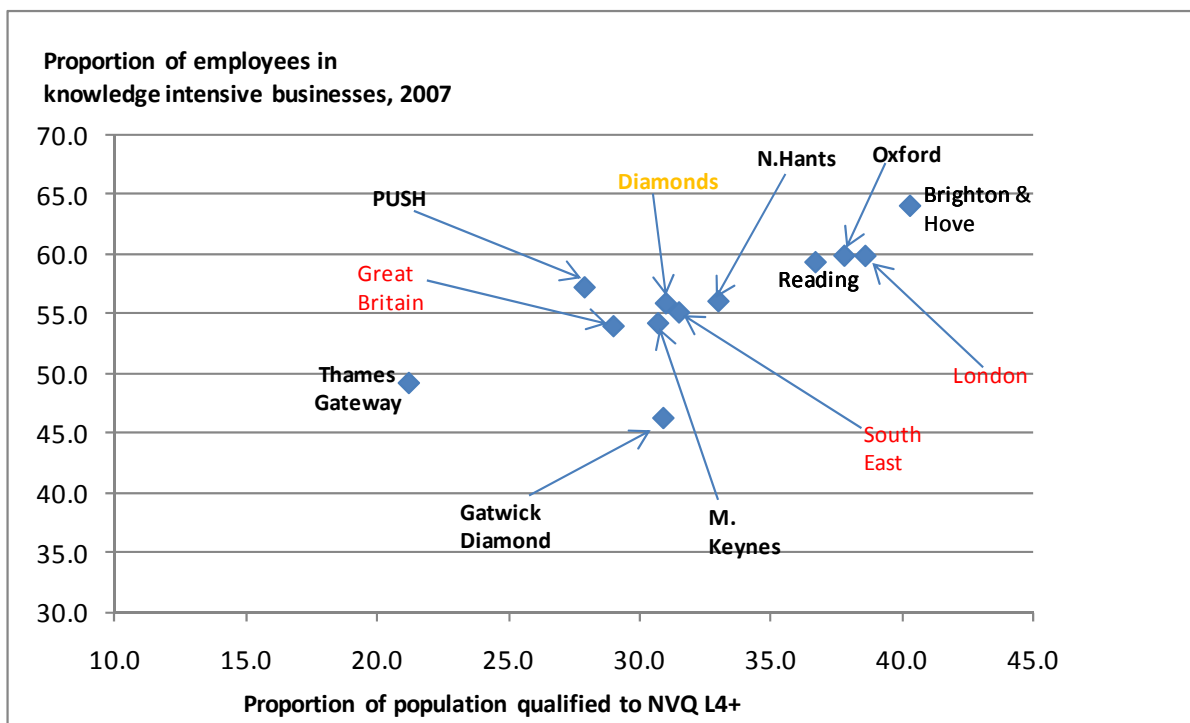
⁶ Source: Annual Business Inquiry, 2007

Figure 3: shows the positive correlation between high level skills and the proportion of the workforce within knowledge industries in London, Oxford and Reading. Brighton and Hove has the strongest correlation with the presence of two HEIs, meaning high levels of graduates, a significant London commuter pool, as well as a growing creative/digital/new media sector.

However an important consideration when studying figure 3 is that qualifications data used in the analysis is residence based - whereas the employment data is workplace based. This means that in Gatwick for example, the skills of the resident population are in line with the Diamonds average, but the proportion of employment in KBIs is much lower. This could suggest lower value jobs locally, but equally a higher skilled resident population who commute out of the area.

Looking towards the left hand side of Figure 3: Thames Gateway and Gatwick Diamond are characterised by lower concentrations of graduates and lower proportions of employees within KBIs. The low skills base within Thames Gateway in particular is considered as the biggest constraint to economic growth, in addition to low levels of innovation within both of these Diamonds.

Figure 3: Overview of South East Diamonds knowledge economy, 2007⁷



2.3 Summary of employment by sector

The following section provides an analysis of the knowledge based industries (see Appendix 1 for definitions by SIC classification) across the Diamond areas, including the following:

Bioscience (and medicine and pharmaceuticals as a separate sub-sector) - Bioscience incorporates R&D in developing pharmaceuticals, medication and drugs, manufacturing of therapeutics and devices, medical and surgical equipment, and the development of biotechnologies. The South East has the highest concentration of health technology companies in the UK. It is home to world renowned universities, medical schools and institutes undertaking pioneering health research. Almost a third (30%) of the UK's life science R&D activity is carried out in the South East, with 9 out of 10 of the world's leading life science companies, and the top 12 global pharmaceutical companies operating in the South East.

⁷ Source: Annual Business Inquiry, 2007, SEEDA 2009

Creative/Digital/New Media - The term is applied to related sectors with creativity at their core. They all have the potential for wealth and job creation through the generation and exploitation of intellectual property. They are involved in conceiving, producing and disseminating creative goods and services, both to the public and other businesses. The strength of the ICT sector within the South East Diamonds is important in the success of this sector – convergence of strong Creative Digital and ICT sectors offers the most effective route to growth rather than viewing them, and then subsequently delivering policy actions, in isolation.

Engineering/Advanced Manufacturing - Advanced manufacturing is a sector with engineering at its core. The sector includes the manufacturing of machinery and equipment and involves anything from cars through to electrical equipment, medical instruments, weapons and domestic appliances. Advanced manufacturing is crucial to future national prosperity, being at the forefront of the transition towards a low carbon economy. In broad terms, there are opportunities across a wide range of sub-sectors (e.g. in electronics, strong growth areas are within homeland defence and security, medical, industrial and wireless technologies). There are also opportunities around leveraging investment into low carbon technologies, such as wind turbines, and key strengths and opportunities for the Diamonds within automotive, aerospace and marine activities.

Environmental Technologies - This sector covers a number of activities whose common characteristic is that their products and services directly concern the environment, including the protection and management of natural resources or the development of cleaner, more efficient processes and products. For the purpose of this study, it is defined as those activities directly related to the environment, rather than incorporating a whole host of related supply-chain activities which can result in an unwieldy and potentially inaccurate description of the sector.

ICT – This is made up of various sub-sectors such as Communications equipment; communications services; computing and peripherals; film/TV broadcasting; ICT equipment; information processing; multimedia communications; multimedia publishing; multimedia services; software services; systems integration; and vision and sound equipment. The ICT infrastructure of the UK is highly influential for organisations in every sector and depends on communications to operate on a global scale. The sector is vital to the Diamonds and the wider South East not only as a generator of jobs and growth in its own right, but also as an enabler for other industries. Over half the employees within the sector are university graduates. Recent key growth areas within the sector include data storage/retrieval, virtual/online gaming and face recognition software, among many others.

Looking at NINJ, we note that **'sectors' such as "technologies and services for an ageing society"** cannot be examined using national statistics as it cuts across several industry sectors, and therefore no meaningful analysis can be provided using this source.

Engineering construction is again difficult to assess due to constraints on national statistical sources (many of the jobs likely to be within construction and engineering/advanced manufacturing).

In addition, financial and business services are considered within the narrative due to the importance of the sector within the South East and its relationship with the City of London.

These sectors analysed in this report are, by their very nature, not mutually exclusive (i.e. there is a degree of overlap in definitions used) and also incorporate a number of sub-sectors outlined in both the 'Prospectus for Prosperity' and 'New Industry New Jobs' (NINJ).

A detailed key sector and sub-sector analysis, assessing employment statistics and using other evidence from documents and stakeholder consultations to outline key challenges and opportunities for each of the sectors, is provided in Report 4.

Table 5: Sector employment as a percentage of total employment (Employees), 2007⁸

	Great Britain		South East		London		Diamonds (aggregated)	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Bioscience	192,857	0.7	50,031	1.3	17,078	0.4	22,134	1.3
Creative/Digital/New Media	1,470,797	5.5	253,095	6.8	378,220	9.3	113,892	6.7
Engineering/Advanced Manufacturing	1,241,517	4.7	156,127	4.2	40,038	1.0	82,058	4.9
Environmental Technologies	742,764	2.8	119,645	3.2	140,563	3.4	57,203	3.4
ICT	975,175	3.7	213,009	5.7	224,309	5.5	104,504	6.2
Medicine and Pharmaceuticals	58,058	0.2	13,148	0.4	2,616	0.1	4,454	0.3
Agriculture and Fishing	248,471	0.9	42,872	1.1	2,661	0.1	12,032	0.7
Energy and Water	172,935	0.7	17,163	0.5	11,444	0.3	10,318	0.6
Manufacturing	2,820,868	10.6	317,840	8.5	182,966	4.5	148,480	8.8
Construction	1,291,332	4.9	171,059	4.6	122,322	3.0	69,037	4.1
Distribution, Hotels and Restaurants	6,199,756	23.3	922,079	24.7	855,998	21.0	405,543	24.0
Transport and Communications	1,557,687	5.9	222,094	6.0	302,750	7.4	117,426	6.9
Banking, Finance and Insurance	5,758,492	21.6	888,044	23.8	1,397,042	34.3	419,288	24.8
Public admin, education and health	7,163,138	26.9	950,546	25.5	912,638	22.4	422,930	25.0
Other Services	1,386,517	5.2	200,082	5.4	290,905	7.1	85,607	5.1

	North Hampshire		Brighton & Hove		Gatwick		Milton Keynes		Oxford		Reading		Thames Gateway		PUSH	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Bioscience	4,497	2.8	532	0.4	2,663	1.6	352	0.2	5,918	2.7	3,856	1.8	1,222	0.6	3,094	0.7
Creative/Digital/New Media	17,907	11.0	7,054	5.9	9,691	5.7	11,637	6.8	15,671	7.2	24,101	11.1	6,788	3.4	21,042	4.8
Engineering/Advanced Manufacturing	8,639	5.3	1,357	1.1	9,035	5.4	7,551	4.4	9,705	4.5	6,504	3.0	9,403	4.8	29,864	6.8
Environmental Technologies	7,776	4.8	4,035	3.4	5,086	3.0	3,681	2.1	8,765	4.0	10,431	4.8	4,680	2.4	12,750	2.9
ICT	22,513	13.8	4,593	3.8	7,930	4.7	12,539	7.3	8,783	4.0	27,033	12.4	4,646	2.4	16,468	3.8
Medicine and Pharmaceuticals	1,221	0.8	127	0.1	914	0.5	60	0.0	293	0.1	326	0.1	880	0.4	632	0.1
Agriculture and Fishing	1,387	0.9	99	0.1	1,253	0.7	581	0.3	1,887	0.9	1,230	0.6	3,268	1.7	2,327	0.5
Energy and Water	1,498	0.9	1,613	1.3	879	0.5	211	0.1	1,051	0.5	2,472	1.1	959	0.5	1,636	0.4
Manufacturing	15,503	9.5	3,742	3.1	15,825	9.4	15,076	8.8	21,778	10.0	11,600	5.3	20,024	10.2	44,932	10.3
Construction	7,065	4.3	3,277	2.7	6,096	3.6	4,720	2.8	8,226	3.8	7,673	3.5	11,555	5.9	20,426	4.7
Distribution, Hotels and Restaurants	38,527	23.7	27,549	23.0	39,933	23.7	44,365	25.9	47,230	21.7	50,572	23.3	53,040	27.0	104,327	23.9
Transport and Communications	10,473	6.4	5,633	4.7	28,335	16.8	13,658	8.0	8,509	3.9	14,072	6.5	12,865	6.5	23,880	5.5
Banking, Finance and Insurance	51,904	31.9	33,696	28.2	39,201	23.3	47,542	27.7	46,380	21.3	71,463	32.9	34,025	17.3	95,076	21.8
Public admin, education and health	28,425	17.5	35,227	29.4	29,421	17.5	36,384	21.2	70,869	32.5	46,913	21.6	52,203	26.5	123,488	28.3
Other Services	7,775	4.8	8,839	7.4	7,657	4.5	8,802	5.1	12,067	5.5	11,469	5.3	8,845	4.5	20,152	4.6

⁸ Source: Annual Business Inquiry, 2007

2.3.1 Sector employment as a percentage of total employment

Diamonds (aggregated)

The highest concentrations of KBI employment, within the Diamonds, was in ICT (6.2%) and creative/digital/new media (6.8%). Within other 'broader' knowledge based sectors, there is a high proportion of employment in financial and other business services (24.9%) and public administration, education and health (25.1%).

North Hampshire

There are a number of strengths within this Diamond, particularly high levels of employment within creative/digital/new media and ICT. In addition to these sectors, financial and business services is a core employment sector.

Brighton and Hove

Employment is concentrated around creative/digital/new media and, to a lesser extent, ICT and environmental technologies. Financial and business services and health and education are both important employers.

Gatwick

The Gatwick Diamond has a high concentration of employment within engineering/advanced manufacturing (5.4% of total employment), the highest of all the Diamond sub-regions outside of Urban South Hampshire. Creative/digital/new media and ICT are other sectors with high employee concentrations, with financial and business services also being an important influence on employment, together with transport at 17% of total employment, by the far the highest share of all the Diamond areas.

Milton Keynes

ICT and creative/digital/new media are the knowledge sectors with the highest employee shares, with financial and business services activity being amongst the highest of the Diamond sub-regions (28% of total employees).

Oxford

Together with North Hampshire, Oxford has the highest volume of employees within the Diamonds working within bioscience, with considerable presence in engineering/advanced manufacturing (after Urban South Hampshire, the highest number of employees). Out of the other knowledge sectors, creative/digital/new media has the largest share of employment and there are also high levels of employment within the education sector – clearly linked to the concentration of Universities in the Diamond area.

Reading

Reading has a particularly high number of employees working within ICT, which can be explained by the agglomeration of major headquarters in the area and the smaller ICT firms that surround them within the supply chain. The Reading Diamond also has the largest proportion and volume of employees within creative/digital/new media (with significant ICT cross-over); and a major employment presence within financial and business services, a key centre within the South East.

Thames Gateway

Aside from strong localisation of particular manufacturing assets and sub-sectors such as aerospace automotive and pharmaceutical firms in the wider London and Thames Gateway area, the statistics suggest that there are no other obvious clusters of other knowledge intensive employment within this sub-region, with the majority of employment opportunities being within supporting service sectors.

Urban South Hampshire

Urban South Hampshire has the largest absolute and relative employment across engineering/advanced manufacturing and potentially within environmental technologies. The Diamond has considerable employment across all of the study sectors due to the highly urbanised nature of the study area chosen.

Table 6: Concentration of sector employment compared with GB average, 2007⁹

GB=100.0 (Location Quotients)	South East	London	Diamonds (aggregated)	North Hampshire	Brighton and Hove	Gatwick	Milton Keynes	Oxford	Reading	Thames Gateway	USH
Bioscience	184.9	57.7	180.6	381.5	61.3	217.9	28.4	374.4	244.6	85.6	97.8
Creative/Digital/New Media	122.7	167.7	121.8	199.2	106.6	104.0	122.8	130.0	200.4	62.4	87.2
Engineering/Advanced Manufacturing	89.6	21.0	104.0	113.9	24.3	114.8	94.4	95.4	64.1	102.4	146.7
Environmental Technologies	114.8	123.4	121.2	171.3	120.7	108.0	76.9	144.0	171.8	85.2	104.7
ICT	155.7	150.0	168.6	377.8	104.7	128.3	199.6	109.9	339.1	64.4	103.0
Medicine and Pharmaceuticals	161.4	29.4	120.7	344.1	48.6	248.5	16.1	61.5	68.7	204.9	66.4
Agriculture and Fishing	123.0	7.0	76.2	91.3	8.9	79.5	36.3	92.6	60.5	177.8	57.1
Energy and Water	70.7	43.2	93.9	141.7	207.3	80.1	18.9	74.1	174.8	75.0	57.7
Manufacturing	80.3	42.3	82.8	89.9	29.5	88.5	83.0	94.2	50.3	96.0	97.1
Construction	94.4	61.8	84.1	89.5	56.4	74.5	56.7	77.7	72.7	120.9	96.4
Distribution, Hotels and Restaurants	106.0	90.0	102.9	101.7	98.8	101.6	111.1	93.0	99.8	115.6	102.6
Transport and Communications	101.6	126.8	118.6	110.0	80.4	287.0	136.1	66.7	110.5	111.6	93.5
Banking, Finance and Insurance	109.9	158.2	114.6	147.5	130.1	107.4	128.2	98.3	151.8	79.9	100.7
Public admin, education and health	94.6	83.1	92.9	64.9	109.3	64.8	78.9	120.7	80.1	98.5	105.1
Other Services	102.9	136.8	97.1	91.8	141.7	87.1	98.6	106.2	101.2	86.2	88.6

⁹ Source: Annual Business Inquiry, 2007

2.3.2 Concentration of sector employment compared with GB average

Diamonds (aggregated)

The most striking niche sector is in ICT, with employment share higher than both the wider South East and London. Bioscience also has a particularly strong employee representation in the wider South East, with the region being a global leader within R&D activities. It is notable that all the identified knowledge sectors have a higher KBI employee representation than the national average, suggesting that the assets for growing knowledge intensive sectors are already in place.

North Hampshire

One of the key drivers for knowledge growth. There are very high employee shares within bioscience (and its sub-sector of medicine and pharmaceuticals) and ICT, with employee shares also twice the national average in creative/digital/new media. Financial and business services also have a quotient higher than all of the other Diamonds.

Brighton and Hove

The key niche sector within this Diamond is within environmental technologies, with the associated energy and water sector experiencing noticeably high quotient levels (twice the national average). Financial and business services is another sector in which there is a notably high employee share, the third highest of all the Diamonds. Creative Industries and ICT employment is also above the national average.

Gatwick

This Diamond has a potential niche within bioscience driven by the manufacture of medicine and pharmaceuticals, with quotients much higher than any of the other key knowledge sectors. ICT is also a potential growth node. The share of employees working within transport is almost three times as high as the national average due to the influence of the airport and aviation firms.

Milton Keynes

ICT is the key sector with opportunity for growth, with employee representation twice the national average. Related to ICT, creative/digital/new media also has a quotient notably higher than Great Britain, as does financial and business services.

Oxford

Bioscience, driven primarily by R&D, is the major strength within Oxford with a quotient nearly four times higher than the national average. Environmental technologies and creative/digital/new media are other significant sectors within the Diamond in terms of employment.

Reading

There is a diverse business base within the Reading Diamond, with ICT having the largest share of employment compared to the national average (over three times the Great Britain level), a considerable employee quotient within creative/digital/new media, bioscience (driven by R&D, of which there is also likely to be a significant amount within ICT), and environmental technologies along with the associated energy and water sector. The quotient for financial and business services is also the highest of all the Diamonds.

Thames Gateway

The sectors with the most potential for specialisation are medicine and pharmaceuticals, with an employee representation twice that of the national average and engineering/advanced manufacturing which has a quotient higher than the national average.

Urban South Hampshire

Engineering/advanced manufacturing, ICT and environmental technologies each have a higher concentration within the Diamond compared with the national average, suggesting a level of specialism (particularly within marine technologies, aerospace and defence – as highlighted later in the report).

Table 7: Change in sector employment (employees), 2000 to 2007¹⁰

	Great Britain		South East		London		Diamonds (aggregated)	
	Vol change	% change	Vol change	% change	Vol change	% change	Vol change	% change
Bioscience	13,476	7.5	-1,668	-3.2	-2,512	-12.8	-2,422	-9.9
Creative/Digital/New Media	15,271	1.0	-7,527	-2.9	-1,879	-0.5	6,210	5.8
Engineering/Advanced Manufacturing	-460,742	-27.1	-65,292	-29.5	-35,618	-47.1	-29,878	-26.7
Environmental Technologies	37,909	5.4	9,934	9.1	13,161	10.3	938	1.7
ICT	-77,830	-7.4	-10,527	-4.7	-26,926	-10.7	1,345	1.3
Medicine and Pharmaceuticals	167	0.3	-1,537	-10.5	-2,665.0	-50.5	-1,760	-28.3
Services for an ageing society	226,571	24.6	29,352	23.0	17,698	15.3	10,178	19.2
Agriculture and Fishing	4,558	1.9	2,184	5.4	-1,961	-42.4	1,675	16.2
Energy and Water	-28,841	-14.3	-2,000	-10.4	-2,471	-17.8	1,286	14.2
Manufacturing	-961,270	-25.4	-114,756	-26.5	-99,297	-35.2	-49,212	-24.9
Construction	163,545	14.5	14,767	9.4	-11,839	-8.8	378	0.6
Distribution, Hotels and Restaurants	134,693	2.2	-21,989	-2.3	-31,842	-3.6	-11,175	-2.7
Transport and Communications	23,495	1.5	-20,536	-8.5	-15,174	-4.8	6,017	5.4
Banking, Finance and Insurance	812,643	16.4	51,793	6.2	36,800	2.7	44,503	11.9
Public admin, education and health	1,112,959	18.4	139,700	17.2	114,053	14.3	54,933	14.9
Other Services	122,766	9.7	19,131	10.6	29,795	11.4	7,617	9.8

	North Hampshire		Brighton & Hove		Gatwick		Milton Keynes		Oxford		Reading		Thames Gateway		PUSH	
	Vol change	% change	Vol change	% change	Vol change	% change	Vol change	% change	Vol change	% change	Vol change	% change	Vol change	% change	Vol change	% change
Bioscience	2,596	136.6	173	48.2	555	26.3	-87	-19.7	-5,830	-49.6	1,372	55.2	-1,624	-57.1	423	15.8
Creative/Digital/New Media	3174	21.5	454	6.9	-1215.6	-11.1	927	8.7	-3709	-19.1	2714	12.7	902	15.3	2963	16.4
Engineering/Advanced Manufacturing	-3,757	-30.3	-1,190	-46.7	-2,513	-21.8	-3,150	-29.4	-2,299	-19.2	-3,496	-35.0	-3,939	-29.5	-9,533	-24.2
Environmental Technologies	1971	34.0	295	7.9	975	23.7	916	33.1	-6437	-42.3	2468	31.0	101	2.2	649.7	5.4
ICT	4,440	24.6	68	1.5	-695	-8.1	907	7.8	230	2.7	-3,400	-11.2	-865	-15.7	660	4.2
Medicine and Pharmaceuticals	-15	-1.2	21	19.8	56	6.5	-168	-73.7	217	285.3	-220	-40.3	-1,487	-62.8	-164	-20.6
Agriculture and Fishing	20	1.5	51	106.3	43	3.5	-2	-0.4	-60	-3.1	705	134.5	504	18.2	415	21.7
Energy and Water	896	148.8	814	101.9	292	49.7	22	11.7	182	21.0	309	14.3	-286	-23.0	-943	-36.6
Manufacturing	-4,739	-23.4	-1,396	-27.2	-3,605	-18.6	-5,547	-26.9	-5,569	-20.4	-4,385	-27.4	-8,356	-29.4	-15,615	-25.8
Construction	-47	-0.7	-1,396	-29.9	-316	-4.9	-360	-7.1	-419	-4.8	725	10.4	3,510	43.6	-1,320	-6.1
Distribution, Hotels and Restaurants	-2,540	-6.2	-2,329	-7.8	-2,037	-4.9	-1,237	-2.7	-454	-1.0	-1,932	-3.7	6,157	13.1	-6,802	-6.1
Transport and Communications	1,163	12.5	-1,615	-22.3	2,533	9.8	3,389	33.0	-1,433	-14.4	-2,794	-16.6	2,356	22.4	2,419	11.3
Banking, Finance and Insurance	10,287	24.7	2,381	7.6	3,495	9.8	6,526	15.9	-7,023	-13.2	7,400	11.6	6,925	25.6	14,511	18.0
Public admin, education and health	354	1.3	5,513	18.6	1,179	4.2	10,561	40.9	18,085	34.3	1,648	3.6	8,472	19.4	9,121	8.0
Other Services	-1,782	-18.6	2,337	35.9	378	5.2	1,874	27.1	2,284	23.3	1,892	19.8	195	2.3	439	2.2

¹⁰ Source: Annual Business Inquiry, 2007

2.3.3 Change in employment

The changes in environmental technologies and bioscience should be interpreted with caution due to the reclassification of SIC codes for 2003 onwards, which affected R&D activities (a major element of bioscience, in particular in Oxford). This reclassification has resulted in what on the surface looks like large employee decreases between 2000 and 2007, which is partly due to jobs being reclassified elsewhere in the Annual Business Inquiry.

Diamonds (aggregated)

The key nodes of growth have been within creative/digital/new media and ICT, whereas the Diamonds have continued to experience a decline in employment within advanced manufacturing/engineering - in part due to outsourcing and re-classification under service industries - as well as improving productivity reflecting the continuing move of manufacturers up the value chain. There has been a considerable fall (-28.3%) in employment within Medicine and Pharmaceuticals, particularly within Milton Keynes (although the actual numbers are relatively low).

North Hampshire

This Diamond has been one of the strongest performers in terms of employment, experiencing growth across a range of sectors. In relative terms, the strongest growth has been within bioscience, with other considerable increases within ICT (the largest actual growth sector) and creative/digital/new media. Across other knowledge sectors, financial and business services have experienced the largest actual growth outside of Urban South Hampshire.

Brighton and Hove

The most notable increases in KBI sector employment have been seen within creative/digital/new media; and a large relative increase in bioscience - coming from a low employment base. Environmental technologies, energy and water has also increased markedly since 2000.

Gatwick

Gatwick Diamond has experienced notable decreases since 2000 within creative/digital/new media, ICT and engineering/advanced engineering. Employment growth has been concentrated within bioscience/environmental technologies. Of other knowledge sectors, financial and business services have experienced the largest increase.

Milton Keynes

ICT and creative/digital/new media have been the key employment growth nodes since 2000, along with environmental technologies. Bioscience does not have a large employment presence within the area and the trend of a fall in employment within engineering/advanced manufacturing has continued. The sector which has experienced the highest employment growth, far more than any other Diamond, is public administration, education and health.

Oxford

Oxford has experienced considerable falls in employment across knowledge sectors between 2000 and 2007, particularly within bioscience (although this is attributable to the SIC classification change) and ICT. It should be noted however that underlying levels of employment within these sectors are still high, especially within R&D, with Oxford being a leading European centre.

Reading

Performance has been mixed across the key knowledge sectors, with increases in employment within bioscience, creative/digital/new media, and environmental technologies, but decreases in engineering/advanced manufacturing and ICT employment.

Thames Gateway

There have been falls in employment levels within bioscience, medicine and pharmaceuticals in Dartford; (but counterbalanced by rising GVA productivity). ICT has also experienced a decrease in employment, as has engineering/advanced manufacturing – witnessing the second largest fall in the sector's employment across the Diamonds.

Urban South Hampshire

There have been modest increases within several knowledge sectors, in particular creative/digital/new media; however these increases have been offset by the continued fall in employment within manufacturing.

3 LABOUR FORCE AND LOCATION DRIVERS

The following section outlines the performance of supply side drivers to growth of the knowledge economy within the Diamonds – population and labour market performance.

3.1 Population and the labour market

As the economy becomes increasingly knowledge intensive, the recruitment and retention of talent becomes even more important. People are central to any economy. A growing population, a healthy, skilled labour market, and access to the right training and education are all factors that support economic growth. The South East Diamonds need to ensure all these criteria are met to warrant its future as a globally competitive region.

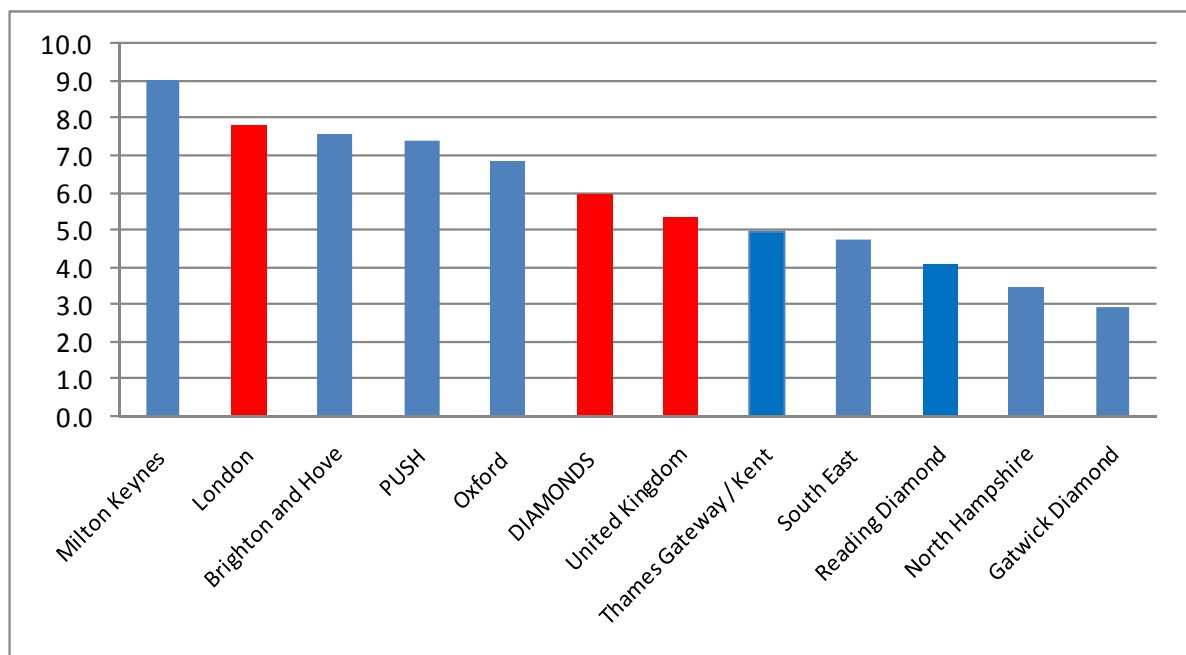
3.1.1 Growth of the working age population

The demographic structure of an area is an important indicator of both its economic performance and future potential. Figure 4: illustrates how relative population growth over this decade has been primarily driven by Milton Keynes and Aylesbury Vale, Brighton and Hove, Urban South Hampshire and Oxford, with the lowest levels of growth in Gatwick, North Hampshire and Reading. Common belief within Reading Borough however is that population growth has been considerably higher than estimates suggest.

This pattern highlights a number of key considerations. Within Brighton and Hove and possibly Urban South Hampshire, it is doubtful whether the growth in job creation will keep pace with the population growth; however within Milton Keynes this may be expected as it is a growth area and lies within the strategically important Oxford-Cambridge Arc. The attraction of Oxford for knowledge intensive industries has been successful in attracting a high skilled population, whilst Milton Keynes is a rapidly growing area which has experienced ever increasing levels of investment.

With regards to Gatwick, the slow growth in working age population combined with lower skill levels could be a future barrier to investment and growth. Within North Hampshire, despite its strong labour market, the slow growth with poor educational attainment could negatively impact on economic growth. The working age population within Thames Gateway is relatively high, but the growth in jobs (especially higher skilled) could inhibit growth, with few opportunities for people within the labour market. The lower rate of working age population growth within Reading is also an area of concern, in terms of labour supply and an aging population profile.

Figure 4: Mid-year estimates of working age population (% change from 2000 to 2008)¹¹



¹¹ Source: ONS, Mid-year population estimates, 2000 and 2008

Overall, the South East Diamonds have a strong labour market in terms of employment, skill levels, earning and occupational structure, reflecting the highly productive economies and diverse mix of knowledge based industries within the sub-regions (and the wider South East). This strong labour market performance is not uniform however, with some Diamonds driving growth with considerably weaker labour markets, leading to potentially difficult policy choices around focussing investment within the knowledge economy. The lower skills performance in some Diamonds is acting as a brake on productivity growth and the development of long-term economic resilience in the South East and must be viewed as a priority for action.

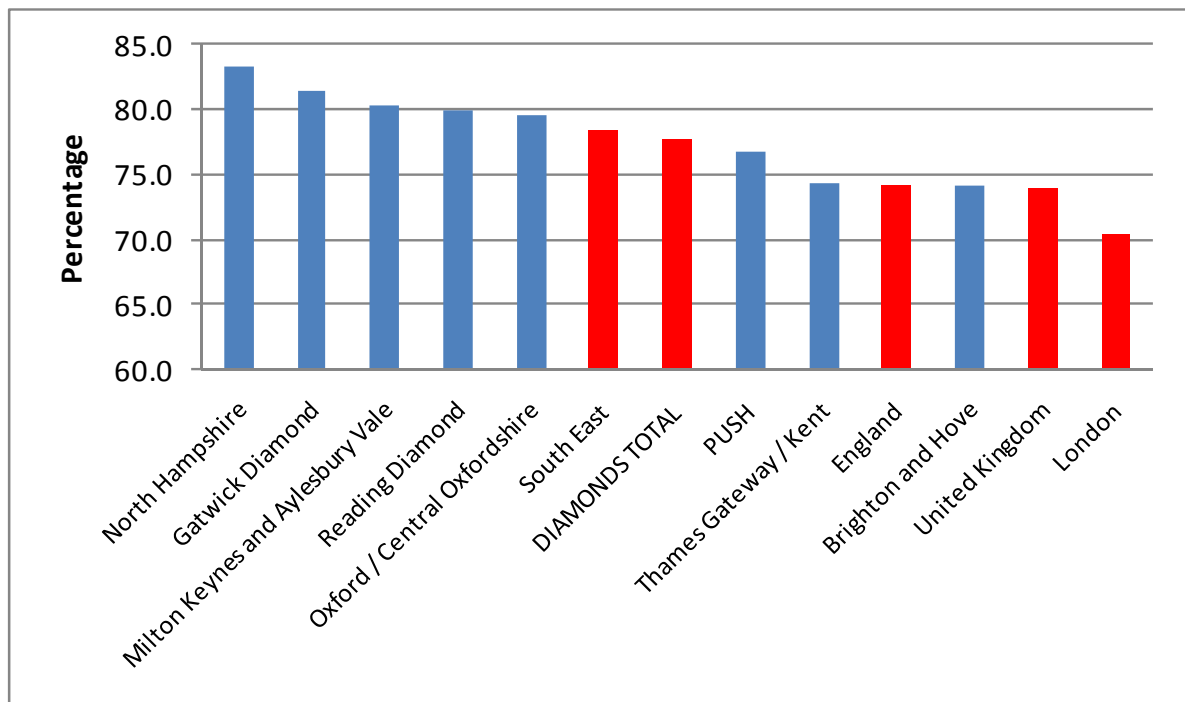
In line with economic performance, the likes of Reading, Oxford and North Hampshire have experienced strong performance, whilst areas such as Thames Gateway and Urban South Hampshire have performed poorly. The levels of performance also highlight some of the issues around inter-Diamond/inter-regional economic relationships, in particular that with London (e.g. within Brighton and Hove the labour market is strong, although development of knowledge based industries has been limited due to the Diamond's proximity and connectivity to London, where many of the high skilled population commute). Other sub-regions, such as Urban South Hampshire, have relatively self contained labour markets, a reflection of the size of the Diamond and distance from London.

3.1.2 Employment

Figure 5: shows that the highest employment rates are across the western Diamonds, with North Hampshire, Milton Keynes and Reading Diamonds all having considerable skilled populations with access to high value employment opportunities. The Gatwick Diamond, with the second highest employment rate, could be explained by both the notable employment opportunities related to the aviation and transport sectors, and also the high levels of commuting, especially to London, of the skilled resident workforce.

The lower performing Diamonds include Urban South Hampshire and Thames Gateway, with the issues around deprivation and long-term worklessness prevalent. The low employment rate within Brighton and Hove could be explained by both the large proportion of students and early retirees in the area (claimant count levels in Brighton have not risen as fast as other areas during the recession).

Figure 5: Employment rate (% of the working age population) by Diamond, 2008¹²



¹² Source: Annual Population Survey, 2008

3.1.3 Occupations

The socio-economic and occupational characteristics of the labour market are central to the Diamonds competitiveness. They shape the economic opportunities that residents are able to access and are a key indicator to the strength of the existing knowledge economy.

Over the last decade, there has been a structural change in occupations from non-skilled occupations to management and professional, resulting in a declining demand for skilled craft workers and lower skilled manual workers, which is set to continue for the foreseeable future as the economy shifts further towards knowledge intensive activities within the Diamond sub-regions.

Within the Diamonds, higher level occupations tend to be concentrated within Reading, Gatwick and North Hampshire, reflecting higher numbers of head office functions, although within Gatwick there is evidence, from commuting figures, that many of these residents travel out of the Diamond to work.

Professional and associate professional/technical occupations are highest within Oxford, reflecting the concentration of research and HEI functions located there. Overall, Reading, Oxford and Brighton and Hove have the highest proportion of people employed in the higher skilled and professional and managerial occupations, however in the case of the latter, many of these commute to other areas such as London.

Table 8: Occupations by residents in employment, 2008¹³

	% in employment who are 1: managers and senior officials		% in employment who are 2: professional occupations		% in employment who are 3: associate prof tech occupations		Total % in higher professional and managerial occupations	
	No.	%	No.	%	No.	%	No.	%
North Hampshire	31,000	16.8%	28,400	15.4%	28,900	15.6%	88,300	47.8%
Brighton and Hove	21,100	16.2%	23,500	18.0%	23,900	18.3%	68,500	52.5%
Gatwick Diamond	28,452	17.3%	20,963	12.8%	24,555	14.9%	73,969	45.0%
Milton Keynes	26,372	15.3%	21,001	12.2%	25,228	14.7%	72,600	42.2%
Oxford/Central Oxfordshire	34,780	15.5%	43,194	19.3%	38,299	17.1%	116,273	51.9%
Reading Diamond	43,378	20.6%	37,570	17.8%	30,304	14.4%	111,252	52.8%
Thames Gateway/Kent	38,425	14.8%	28,425	10.9%	36,525	14.0%	103,375	39.7%
Urban South Hampshire	72,664	14.6%	66,792	13.5%	79,287	16.0%	218,742	44.1%
Diamonds (aggregated)	29,6170	16.1%	26,9845	14.6%	286,997	15.6%	853,012	46.3%
South East	734,600	17.5%	607,700	14.5%	651,800	15.6%	1,994,100	47.6%
London	658,300	17.7%	627,000	16.9%	697,400	18.7%	1,982,700	53.3%
United Kingdom	4,545,700	15.5%	3,804,400	13.0%	4,242,200	14.5%	12,592,300	43.0%

3.1.4 Earnings

Wage earnings are a key indicator of the interaction between labour supply and demand in an economy, and the living standards of its employees. High earnings can be an indicator of strong labour demand as well as higher value activities in an economy, whilst low wages could imply either low demand for labour or lower value added activities.

Table 9: shows that the gross median weekly earnings of employees in the Diamond's workplace is £513.70 (2008), higher than the regional and national averages but below the London average (£612.70). However, this represents an increase of 19.2% on 2002, lower than the comparative benchmarks with the exception of the regional average. The lowest wages are within Urban South Hampshire, Milton Keynes and Brighton and Hove, with the highest averages within Reading and North Hampshire.

¹³ Annual Population Survey, 2008

The pay of residents (Table 10:) in the Diamonds is higher at £530.50 per week, again higher than the national and regional averages but lower than the London level, with the increase in the Diamonds (+19.0%), lower than the comparators. The highest wages are within Reading, Gatwick (due primarily to commuters into London) and North Hampshire Diamonds, with low average wage levels in Thames Gateway and Urban South Hampshire.

Comparing work based and resident based earnings in Table 9 and 10 below shows that resident based earnings tend to be higher across the Diamonds reflecting the economic relationship with London – with residents commuting to higher value jobs within the Capital.

Table 9: Full time workplace based - gross median weekly earnings, 2002 to 2008¹⁴

	Earnings 2002 (£)	Earnings 2008 (£)	Change 2002 - 2008 (£)	%Change 2002 - 2008 (£)
South East	419.9	499.8	79.9	19.0%
London	501.1	612.7	111.6	22.3%
United Kingdom	390.9	478.6	87.7	22.4%
DIAMONDS TOTAL	431.1	513.7	82.6	19.2%
North Hampshire	498.5	589.7	98.5	19.6%
Brighton and Hove	378.3	479.9	101.6	26.9%
Gatwick Diamond	434.5	513.1	78.6	18.1%
Milton Keynes and Aylesbury Vale	409.6	477.4	67.8	16.6%
Oxford/Central Oxfordshire	432.4	488.9	56.6	13.1%
Reading Diamond	501.4	599.9	98.5	19.6%
Thames Gateway/Kent	400.9	504.4	103.5	25.8%
Urban South Hampshire	393.2	456.4	63.3	16.1%

Table 10: Full time residence based - gross median weekly earnings, 2002 to 2008¹⁵

	Earnings 2002 (£)	Earnings 2008 (£)	Change 2002 - 2008 (£)	%Change 2002 - 2008 (£)
South East	435.1	523.2	88.1	20.2%
London	479.9	580.8	100.9	21.0%
United Kingdom	390.9	478.6	87.7	22.4%
DIAMONDS TOTAL	445.7	530.5	84.8	19.0%
North Hampshire	482.1	545.8	63.7	13.2%
Brighton and Hove	410.5	514.3	103.8	25.3%
Gatwick Diamond	467.2	551.4	84.2	18.0%
Milton Keynes and Aylesbury Vale	436.3	524.8	88.5	20.3%
Oxford/Central Oxfordshire	445.0	525.3	80.3	18.0%
Reading Diamond	487.4	586.7	99.3	20.4%
Thames Gateway/Kent	425.3	507.8	82.5	19.4%
Urban South Hampshire	412.0	488.1	76.1	18.5%

¹⁴ Source: Annual Survey of Hours and Earnings, 2002 to 2008

¹⁵ Source: Annual Survey of Hours and Earnings, 2002 to 2008

3.1.5 Skills for a knowledge economy

The South East Diamonds economy relies on the right skills being available for the changing needs of employers. Skills enhance productivity and competitiveness and are linked with higher levels of innovation and workforce flexibility.

An NVQ4+ level qualification is the equivalent of a first or foundation degree, diploma in higher education, HNC, HNDM or BTEC diploma, indicative of high employee skill levels. These are recognised as the skills required to drive innovation and leadership within an economy, and to enable businesses to compete globally. An NVQ2+ is the equivalent of five A* to C grades at GCSE or other vocational qualifications.

In terms of labour market performance and skills there is a significant positive correlation between high level graduate skills and the proportion of the workforce within knowledge industries. Table 11 below shows that Oxford, Reading, Brighton and Hove, and North Hampshire all have Level 4 skills profiles above the national and regional average. Oxford and Reading have a particularly strong labour market performance in terms of both resident skill levels (linked to the presence of HEIs) and also in workforce skill levels, linked to the concentration of knowledge employment within these Diamonds. Level 2 performance is strong across most of the Diamonds, with Thames Gateway/Kent the only area falling below the national average.

Table 11: NVQ Level 4 qualification levels of resident working age population, 2008¹⁶

	NVQ L4+	NVQ L2+	No qualifications
Great Britain	29.0%	65.2%	12.4%
South East	31.5%	68.8%	8.9%
London	38.6%	63.8%	12.0%
Diamonds (aggregated)	31.0%	68.6%	8.9%
North Hampshire	33.0%	71.2%	7.7%
Brighton and Hove	40.3%	74.7%	8.2%
Gatwick Diamond	30.9%	69.5%	10.2%
Milton Keynes and Aylesbury Vale	30.7%	65.1%	10.0%
Oxford/Central Oxfordshire	37.8%	72.1%	5.3%
Reading Diamond	36.7%	69.6%	7.8%
Thames Gateway/Kent	21.2%	62.1%	12.4%
Urban South Hampshire	27.9%	68.2%	9.1%

Whilst a detailed sectors skills analysis was outside the scope of this study (we understand a skills study is currently in progress within the Diamonds and we cover sector skills in a separate report: Part 4) we noted a number of high level skills issues during our consultation work, including the following:

- ❑ **ICT and Creative / Digital / New Media skills** – despite the economic conditions there were still shortages of particular specialist technical skills including hardware programming and CAD;
- ❑ **Advanced Engineering** – new entrants perceptions of employment within the sector compounded by perceptions of economic uncertainty (especially with some key employers), giving rise to shortages in specialist engineering skills; and
- ❑ **Generic / high Level Skills** - General attraction and long-term retention of graduates due to issues of housing affordability and lack of career opportunities in particular Diamonds.

¹⁶ Source: Annual Population Survey, January 2008 to December 2008

3.2 Critical infrastructure and key assets

3.2.1 Connectivity and transport infrastructure

Transport is crucial to the performance of local, regional and national economies. It is vital for the transfer of goods and services and is an essential tool for the labour market to function effectively. These factors were highlighted by the Northern Way Growth Strategy (2004)², also reflected in the Eddington Transport Study (2006)³, which noted the necessity to develop inter-city region, intra-city region and international transport links.

The 2006 Regional Economic Strategy evidence base points out that the transport network of the South East serves the region in a local capacity and as a gateway to mainland Europe and the global economy. As well as much of the M25, the M3 and M4, the region is home to key strategic sea ports (Southampton, Portsmouth and Dover), airports (Gatwick and Heathrow) and strategic rail links (Channel Tunnel Rail Link). The relationship with London is clearly important, with the wider South East providing good connectivity to the economic markets in and around London.

However, there are a number of key challenges that the Diamonds and the South East face in relation to transport:

- ❑ **over reliance on the road as road capacity has not kept pace with demand** – with the worst road congestion is concentrated in and around the M25 both into and out of London;
- ❑ **low uptake of public transport** – the proportion of journeys by rail across South East England⁴ (outside London) are lower than the UK average and the proportion commuting on buses is lower than other UK regions; and
- ❑ **low investment in transport infrastructure relative to the UK** – capital expenditure per capita on transport in the South East is the lowest of all of the UK regions.

Congestion is clearly a particular issue in the South East, with future prosperity of the Diamonds and the wider region being threatened by this challenge. The cost to business will increase and as the road network exceeds capacity, the effectiveness to connect people and goods across the region.

Accessibility to transport is one area in which the South East has improved considerably (the greatest increase from 1992 to 2001 in the percentage of households within thirteen minutes of a bus stop - with a service at least once an hour) although current levels, while being the same as the national average, still fall short compared to the North West, North East and London. This is particularly important to ensure full labour market inclusion, ensuring that all knowledge workers and the important secondary workers have sufficient access to places of employment.

Despite the issues faced, the *'Prospectus for Prosperity'* outlines the good connectivity the Diamonds have with national and international markets – the M1, M4 and M3 connecting the area to the wider UK, the rail links from London through the Diamonds and onwards, and access to the seaports and airports providing a comparative advantage. However, the negative externalities outlined are a serious potential threat to growth in the knowledge economy, and when formulating strategy to develop high growth sectors, there is a need to ensure transport infrastructure is incorporated from the start.

The *'Regional Funding Advice for South East England'*⁶ highlights a number of proposals for investment within the South East with regards to the Diamonds, these include:

- ❑ as part of the international gateway function, the national transport programme needs to remove the capacity bottleneck at Gatwick Airport rail station – initial funding has been secured;
- ❑ the Department for Transport is advised to develop a long term strategy for a number of strategic corridors, including:
 - **London to Kent Ports** – supporting delivery of the Thames Gateway area;
 - **London to the South West** – this corridor must support the continued growth of the Reading growth point as well as providing access to Heathrow;

- **South Coast Ports to the Midlands** – continued growth in port traffic passing through Southampton and Portsmouth will mean further pressure on this corridor;
 - **Oxford and South Hampshire** – supporting delivery of growth points will mean pressures increase, and there is a recommendation for the Government to develop a long term solution to capacity issues at Oxford Station as a national priority. Investment has been committed through the Regional Transport Board;
 - **Oxford/Cambridge Arc** – this needs to be identified as a national strategic corridor, with the national transport programme making a contribution towards the cost of restoring rail infrastructure along the western section of the corridor to reduce car dependency. This corridor is linked via Milton Keynes;
 - **London to Southampton** – the South West Main Line is strategically important to the region, serving the South Hampshire Diamond. The capacity at Woking Junction is identified as a key constraint for the corridor;
 - **London Orbital** – the development of a public transport corridor for orbital movements to the South of London as an alternative to the M25 means that the North Downs line is regionally important, which incorporates the Reading Diamond. Within Reading, the removal of the capacity bottleneck is now underway, with new provision for Crossrail services and Airtrack;
- additionally, a number of other connectivity and spatial priorities have been identified for Diamond areas or are already underway:
- **Brighton's connectivity to Urban South Hampshire** – there are a number of road and rail developments that are priorities for investment, with a complicated challenge facing the transport system. In addition to improving the connectivity, there is a need for the wider regeneration of the coastal towns in West Sussex;
 - **Thames Gateway** – regional support has already secured £30 million through the Community Infrastructure Fund (CIF), with proposals for another £33.5 million of investment under consideration;
 - **Milton Keynes** – strategically important at the heart of the Oxford-Cambridge Arc, this City is rapidly growing. Improved connectivity with Milton Keynes will help to strengthen the economic function of Aylesbury, with £18.4 million of CIF investment secured, and proposals for a further £8.75 million under consideration. Within Milton Keynes itself, investment of £32.4 million has been secured from CIF, with a further £10.3 million under consideration, and the Regional Transport Board are supporting delivery of road and motorway improvements;
 - **Basingstoke** – investment proposals to enable further growth of this area are being brought forward.

3.2.2 Digital connectivity

It is critical that the appropriate levels of digital infrastructure are in place for knowledge based businesses to thrive in the Diamond sub-regions. Without this potential, investors will be deterred. In particular, high speed broadband connectivity is now seen as a prerequisite for businesses.

The 2006 RES highlighted that the take-up of broadband has increased markedly over recent years, although the initial growth has been slowing. There is also concern that other areas of the globe are investing more heavily in high speed internet connectivity than the UK, which could place the South East at a disadvantage; however the rates of take up are higher in the South East than elsewhere in the UK.

As speed becomes ever more important, the more the country lags behind emerging economies (where the highest bandwidths are provided), the more potential there is to lag further behind in terms of developing knowledge intensive industries. This has been recognised in government policy

however, with policy statements such as Digital Britain highlighting the actions required to be globally competitive.

Within the Diamonds, ethernet access (high speed business broadband) has been rolled out quite extensively, with key central industrial nodes having 100+ circuit ends. The next generation super fast broadband rollout will be key in achieving optimum connectivity and accessible to over 1 million premises by spring 2010 and 10 million premises by 2012. Within the Diamond areas, it is soon to go live within Dartford and Basingstoke, and the wider South East is about to get a large volume of the exchange (according to BT, all Diamond areas will have sufficient broadband speeds and there is a conscious effort to avoid disparities).

3.2.3 Innovation, research and development

Innovation is one of the five key drivers of productivity recognised by the Government, together with investment, skills, enterprise and competition. Innovative activities are also often poorly reflected in traditional indicators, such as investments in formal R&D, or patent applications and awards. Despite not being measured, this hidden innovation is often the innovation that matters – the innovation which most directly contributes to the real performance of an industry and the broader economy.

Metrics that can cope with this complex concept are still weak, and rarely available below the regional level. However, R&D spending is one of the most traditional measures of input and, although there is no data on the individual Diamonds, the wider South East accounted for £645 million (13.5%) of the UK's HEI expenditure on R&D in 2004, the highest in the country outside of London. In particular, business expenditure on R&D (BERD) is strong, totalling £3.2 billion (25.1%) in 2004, with government expenditure (GERD) at £520 million (24.9%), the highest in the UK. In total, the South East is nationally important in terms of R&D, accounting for £4.4 billion (22.3%) of total UK R&D.

Latest regional account figures are available for BERD (GERD and HERD not available) show that the South East now has the second highest spend on business R&D in the UK, totalling £3.4 billion, over a fifth (21.6%) of the UK total in 2007.

The *'Prospectus for Prosperity'* highlighted some of the Diamonds specific concerns, where areas such as Oxford and Reading are highly innovative with higher levels of start ups and highly innovative companies introducing new products and processes into the market place, other areas lag behind:

- ❑ **North Hampshire** – low rates of innovation by its companies and potentially a constraint to future growth. There are no HEI institutions within the area;
- ❑ **Milton Keynes and Aylesbury Vale** – expansion of this strategically important Diamond will rely on increasing knowledge industry capacity, with an increase in the levels of investment for innovation needed;
- ❑ **Thames Gateway** – as with North Hampshire, the levels of innovation by firms and start-up rates lag other Diamond areas;
- ❑ **Gatwick** – again, the introduction of new products and services is lower than the national average, with no HEI institution being in the Diamond, a key gap that practitioners are attempting to address; and
- ❑ **Urban South Hampshire** – business start-up rates lag other Diamond areas.

These limiting factors across several of the Diamond areas could have implications on overall growth and act as an anchor upon ambitions around growing the knowledge economy. This uneven picture can also potentially result in difficult policy choices on how to most effectively spread investment and resources around to maximise growth.

Policy practitioners identify a number of common barriers to innovation growth within the Diamonds, including planning regulations and too much bureaucratic red tape, digital infrastructure issues (e.g. slow Fibre to the Cabinet roll-out), and cultural aversion to risk taking in certain localities.

Table 12: Expenditure on R&D by region and source of funding, 2004¹⁷

Area	R&D performed within (2004)							
	Business (BERD)		Government (GERD)		Higher Education Institutions (HERD)		Total	
	£m	%	£m	%	£m	%	£m	%
North East	153	1.2	2	0.1	167	3.5	321	1.6
North West	1,742	13.6	81	3.9	396	8.3	2,219	11.3
Yorkshire and Humber	348	2.7	48	2.3	369	7.8	766	3.9
East Midlands	960	7.5	77	3.7	232	4.9	1,269	6.5
West Midlands	772	6.0	44	2.1	256	5.4	1,072	5.5
East of England	2,703	21.1	364	17.4	441	9.3	3,508	17.8
London	792	6.2	288	13.8	1,130	23.7	2,209	11.2
South East	3,214	25.1	520	24.9	645	13.5	4,378	22.3
South West	1,297	10.1	319	15.3	208	4.4	1,824	9.3
Wales	226	1.8	49	2.4	188	3.9	463	2.4
Scotland	494	3.9	276	13.2	610	12.8	1,379	7.0
Northern Ireland	116	0.9	21	1.0	118	2.5	254	1.3
UK	12,816	100.0	2,089	100.0	4,759	100.0	19,664	100.0

During the course of our study, we noted several key initiatives in place to boost enterprise and innovation throughout the South East which will invariably affect the future performance of the Diamonds.

Our consultation highlighted that, alongside Knowledge Transfer Partnerships, there is a potentially greater role for Universities and Research Institutions to play in supporting both regional and local innovation. That is, using the “low competitive/secretcy spaces”, knowledge contacts and opportunities afforded by HEIs to help pull different sector networks together within the region – the view by practitioners in the area that inter-sector networks and firm collaboration works best to support new ideas, especially joint supply chain opportunities or tackling joint technical problems.

The region’s Development Agency and relationships with regional science and innovation campus will also be key in helping join up activity across Diamond areas. To embed and encourage the growth of knowledge intensive sectors (and others), SEEDA are funding Innovation and Growth Teams (IGTs) across all sub-regions, with the aim of supporting potential high growth firms.

These teams consist of business professionals and mentors who can provide the specialist support required to grow. This is aimed at businesses of all types and sizes, to help all knowledge businesses maximise their innovative potential. These IGTs are also seeking to build finance collaborations to help businesses access the finance they need through the likes of venture capitalists and business angels.

3.2.4 Business premises

A detailed property analysis was outside the scope of this study, but our consultation with regional and local stakeholders did reveal some constraints in the supply of relevant business premises (especially local managed workspace), particularly for micro and small enterprises in Brighton and Hove, and Milton Keynes Diamonds. However, the evidence is purely anecdotal and we make recommendations for further research (in the Action Plan) to assess whether there is sufficient space and quality accommodation for firms across the region.

¹⁷ Source: BIS, 2001 to 2004

3.2.5 Housing

The provision of adequate housing stock underpins the economic development of any region. The Department for Communities and Local Government (DCLG) states that:

'Everyone should have the opportunity to rent or buy a decent home at a price that they can afford, in a place where they want to live and work.'⁶

Good quality housing will help to attract people to the Diamonds and ensure that those already here are retained, helping ensure sustainable growth.

Housing, together with transport, is clearly a critical issue within the South East Diamonds. The economic vitality of the wider South East and its relationship with London has attracted substantial in-migration over the last 20 years which has stretched demand and increased house prices. The link between housing, skill levels and the knowledge economy cannot be overplayed.

It is critical that the appropriate housing offer is in place for the skilled knowledge workers, without which it will be difficult to retain talent in the long run. We note a number of housing issues faced by the region which could potentially constrain growth:

- ❑ **supply and demand pressure** – the success of the South East's economy has led to intense housing pressure. The region has the highest house prices in the UK outside London;
- ❑ **lack of housing affordability** – house prices within the region rose by 70% during the last decade, whilst annual earnings increased by just 30% over the same period; and
- ❑ **quality issues in public accommodation** – in absolute terms the South East has the third largest number of sub-standard properties in the UK.

Our study highlighted that high house prices continue to be one of the most restrictive factors on business growth. During our consultations, examples were provided that firms were considering relocating from particular areas where housing markets were particularly constrained due to the difficulties of attracting and retaining workers – both existing staff and new graduates in particular.

The *'Prospectus for Prosperity'* acknowledges that the housing stock of the Diamond areas has become highly stretched due to the economic growth the sub-regions have experienced. There has been some action by some of the Diamond local authorities in the integration of stretching affordability targets into Local Development Frameworks.

The recession has also had an impact on house building. The *'Regional Funding Advice for South East England'* states that house building in the region has witnessed a significant reduction in a short space of time, and that maintaining capacity within the industry is important to ensure that the upturn in the housing market is not compromised by a further lack of supply which could put pressure on house prices. Encouragingly, the document states that:

'The need to deliver additional affordable housing remains the over-riding investment priority; investment should be targeted to deliver the right size, type and tenure of affordable housing according to the need identified in the South East Plan.'

In response to some of these issues around housing, it is critical that future housing supply policy responds in an appropriate manner to demand patterns to ensure that costs do not rise as fast as they have done over the previous 10 to 15 years. There will be a need to ensure that planning decisions are responsive to demand, and lobby for local housing plans where possible, with elements of national planning strategy perhaps not fitting in with Diamonds aspirations.

Housing policy should not be linked implicitly with sector strategies, there is no evidence elsewhere of benefits from adopting this approach. However housing policy should be linked strongly with transport policy, with the need to ensure that people live in areas which are sufficiently connected to where economic opportunities lie.

4 DIAMONDS: AREA SUMMARIES

The following section outlines these strengths/weaknesses and assesses the key sub-sector niches, analysing the employee concentrations compared to the national average (expressed in the analysis as location quotients), allowing more fine grained analysis of particular sub-sectors. The analysis is based upon both national datasets from ONS and consultations with SEEDA Area Managers/Directors, South East sector consortia, and from the knowledge economy workshop held in Southampton in November 2009.

The key sub-sector niches are based upon Location Quotients (LQs). These illustrate the relative concentrations of employees within a sector/sub-sector, compared with the national average – anything above 1.0 indicates a stronger performing sector in terms of employment than the national level.

4.1 Brighton and Hove

Summary

Sector strengths and opportunities

- Diverse economic base and some unique specialisms:
- ICT/creative industries (e.g. software consultancy).
- Financial and business services (financial intermediation/insurance, back office functions).
- Potential opportunities around environmental technologies (Brighton City Council leading the drive for sustainability).

Drivers

- Strong skills profile.
- Excellent connectivity to London and other Diamonds (e.g. Gatwick).
- Culture of creativity and innovation; quality of life.
- Two universities with good links to business.

Blockers

- Limited build-on / development space.
- Not enough graduate career opportunities in key knowledge firms.
- Huge housing pressures (quality and affordability).
- Congestion in city and outlying coastal roads.

Blockers and drivers

Perhaps the cultural hub of the Diamonds, this area has experienced strong recent growth due to a number of industries and benefits from high levels of tourism (business conference in particular). The area has the strongest skills profile of all of the South East Diamonds due to its high number of graduates, and the presence of Brighton University and the University of Sussex means high levels of knowledge flow (e.g. the University of Sussex has an innovation centre and there is a similar function at Brighton University. University/business links are strong). Creativity and innovation have been pushing Brighton forward, and quality of life and proximity (travel time) with London and other Diamonds, such as Gatwick, is a key factor in driving its recent success.

However, there are a number of issues which Brighton faces. Physical space for growth is very limited, with the South Downs on one side and the sea on the other, and there has not been much investment in the area over the last year – reflecting the difficult economic climate.

Arguably the main threat to growth of a knowledge economy is that there are not enough graduate opportunities and not enough key sectors to support growth. Many high skilled people commute to London, with relatively few HQ's / large employers within Brighton and Hove itself.

However future opportunities for growth could leverage the strong levels of connectivity and proximity to London, with Brighton becoming a recipient location for the 'knowledge worker - fountain effect' i.e. high skilled workers that have had accelerated career paths working within the capital for large international firms, but then wish to move out of London (as a lifestyle choice or to start their own business) whilst at the same time retaining previous business networks, clients and contacts.

These spill-over effects have potential to not only drive city-centre growth, but also opportunity across the south-coast and its economic hinterland, pointing to the need for collaborative approaches to securing local and inward investment and property solutions.

Other issues around infrastructure include congestion within the city itself, the A27 coastal road being a major problem, together with insufficient East/West rail links (with most rail activity being concentrated on the South/North). There are huge pressures on housing, with the high student population meaning that much stock is rented to students, resulting in lower quality family accommodation.

Wage levels are below national average, with property prices significantly above it, meaning critical affordability issues. There is a lack of specific intelligence around broadband; however it is assumed that the quality and accessibility is sufficient due to the cluster of creative/ICT firms.

Niche specialisms and potential growth

The main growth area of the last decade (in terms of businesses) has been in creative industries and ICT, with clusters of small companies, despite the fact that this is not particularly obvious in the employment statistics, partly because they are small (including self-employed / sole traders, and micro enterprises) and don't create large levels of employment. Part of the reason for the cluster of ICT firms is the excellent connectivity with London which means that spin-offs from the capital are relatively easy, together with the high levels of graduates contributing to a creative environment.

Computer related activities and software consultancy and supply both have location quotients (LQs) above the national average (2.3 and 1.1 respectively). There are some well known firms within the area, such as Linden Lab, Club Penguin, Second Life (creators of virtual world technology) and Disney's Black Rock (it's only computer game branch within Europe).

There are internet companies, including iCrossing, Madgex and Wothmedia, other gaming firms such as Relentless, NC Soft, and animation firms including Little Loud, Plug-in and Renegade. There are also music, film and digital TV activities, all of which are supported by a coherent infrastructure from Wired Sussex, Screen South Lighthouse, Brighton Music Network and Bang (Brighton Animators Network).⁷

There are also other digital/new media activities with high LQs, such as the manufacture of televisions and radio receivers, sound or video recording, reproduction of recording apparatus, and publishing.

The proportion of people working within financial and business services is high within Brighton, with the share of those working within other financial intermediation nearly five times the national average, and within insurance and pension funding four times the average (monetary intermediation around 1.4 times the national share). However, much of this activity is lower value back-office in nature, a key reason as to why there are fewer opportunities in place for graduates.

Environmental technologies and the associated energy sector is one of the areas in which Brighton aspires to be a leader (indeed, along with Reading, it has recently joined the 10:10 campaign to cut carbon emissions by 10% in 2010/11. Before this agreement, the target was 4% for the next 5 years). The statistics show some potential in this sector, and the production and distribution of energy employment is at four times the national average, and industrial cleaning is at nearly 1.5 times the national share.

There are also elements of higher value manufacturing activity outside of the strict Diamond definition (SEEDA believe the functional area also contains Worthing/Shoreham/Newhaven). Ricardo Auto Engineering is located just outside Brighton, with one of their main activities now in manufacturing cleaner engines, therefore the potential within the low carbon activities may be tangible.

4.2 Gatwick

Summary

Sector strengths and opportunities

- Advanced manufacturing/engineering (manufacture of navigation/measurement devices, aviation and transport relating to high end manufacturing, and associated supply chain).
- Bioscience (medical and surgical equipment and pharmaceuticals).
- Small software consultancies around the Diamond.

Drivers

- Proximity and connectivity to London.
- International gateway.
- Strong private/public sector partnership in place to facilitate growth.

Blockers

- Skills difficulties in particular areas (e.g. Crawley).
- Lack of firm level innovation.
- Lower numbers of people working within knowledge intensive jobs.
- Lack of significant HEI presence in the Diamond.
- Congestion around the M23 and M25.
- Housing affordability.

Blockers and drivers

The Gatwick Diamond is of particular importance on a regional and national scale, and is particularly close to London. It benefits from the Gatwick Diamond Initiative, a business led private/public sector partnership aiming to further enhance economic performance, and therefore has particular potential to benefit from national policy decision making.

The airport is the second largest business gateway in the UK, with 5 million business passengers per year. It is a clear focal point for economic activity within the Diamond and the area has the potential, through its international connectivity and proximity to London, to gain increased levels of investment. Novartis (the pharmaceutical firm) R&D facilities are located in Gatwick because of its excellent international connectivity, highlighting the potential of the area.

A potential constraint to the Diamond is the absence of a significant HEI presence, and with no obvious KTPs in place, has arguably contributed to a lack of local R&D activity. Large companies located within Gatwick will engage with HEI elsewhere, but for the smaller firms, the lack of a HEI presence can result in the stifling of innovation, and little in the way of potential high growth start-ups and subsequent venture capital investment. SEEDA's Innovation and Growth Teams are working proactively to help increase levels of innovation and secure HEI activity within the Diamond.

Another view is that the absence of HEI is not necessarily a bad thing, with the University of Brighton less than half an hour away, and the likes of the University of Surrey and London institutions close by too, the point being that HEIs (and other similar knowledge/innovation assets) do not necessarily have to be in every sub-region when there are resources in neighbouring areas which can help enhance the flow of knowledge. However the development of both FE and HE presence (campus) would provide a local beacon to help raise local aspirations for learning and potentially progression through further education then into foundation degrees and beyond.

Skills gaps are a particular issue which are constraining investment, especially within Crawley where there are high levels of in-commuting, with many of the local population working at the airport or associated businesses in low skilled jobs. Many of the higher skilled population in the area commute outside of the Diamond, in particular taking advantage of the proximity and connectivity to London.

With regard to critical infrastructure, there are the obvious examples of congestion around the M25, but also concerns around the M23 where certain exits have become problematic. Within Crawley, Horley and Gatwick, there has been significant investment in the Fastway bus service which has been specially designed to speed past congestion hot spots, and this has been successful in tackling congestion issues.

Digital connectivity is not viewed as a particular concern, but there is recognition that a faster service needs to be rolled forward. Other issues here include the increasing number of people working from home and tackling the disconnect between office and home broadband speeds.

In terms of housing, affordability is an issue like many areas across the region (especially within Crawley for many of the London commuters), however many employees within the Gatwick Diamond commute in, and there is a growth point programme in place to promote more affordable housing.

Niche specialisms and potential growth

The number of knowledge intensive jobs within this Diamond is relatively low – compared with other locations in the South East, with aviation (operation of air transport) employment being of particular importance.

However engineering and advanced manufacturing are important in the area, with much of the activity related to the airport and aerospace (e.g. the manufacture of instruments for measuring, checking, navigating and manufacture of machinery for mechanical power have LQs around four times the national average, with the manufacture of aircraft and spacecraft being 1.7 times the national share). Thales, the French manufacturer, is a particularly prominent employer in this area, engaged in flight simulation and defence systems engineering.

Other manufacturing/engineering activities may be linked to the airport to some extent, with manufacturing of electronic valves, tubes, electronic equipment, insulated wire and cables, all with employee shares considerably over the national average.

Bioscience has a key presence in Gatwick (if not in terms of employment certainly in terms of value added activity) with the presence of firms such as GlaxoSmithKline and Novartis.

A particular strength and key employer is in the manufacture of medical and surgical equipment (5.5 times the national average), and also in the manufacture of medicines and pharmaceuticals (3 times the national employee share).

Additionally there is considerable presence within software consultancy and supply (LQ of over 1.3), represented by a small cluster of businesses around the Diamond.

With regards to financial services, there is a mixture of high and low value activity within the Diamond. Financial intermediation (generally higher value) has an LQ twice the national average, with a considerable presence in insurance and pension related activity, typically back office functions (1.5 times the national average).

There is the presence of the 'big four' accountancy firms with sub-regional offices, although the employee representation is lower than the national average; however there is a conscious drive at the moment to bring in higher value financial and accounting activity, taking advantage of spill-over investment from London.

4.3 Milton Keynes and Aylesbury Vale

Summary

Sector strengths and opportunities

- Financial services (financial and monetary intermediation - high value activity).
- ICT (software and computer related activities, in particular a range of well known telecoms).
- Potential in 'green-tech' automotive; developing participation within the Joined Cities Initiative.
- Supply chain opportunities in support of a growing sport and leisure sector (World Cup bid).

Drivers

- Strong economic performance.
- Strategically located between London and wider South East and beyond - East Midlands.
- Milton Keynes South Midlands Growth Area.
- Experiencing high levels of investment.
- Physical space available to build.
- Housing quality and affordability not as big an issue as in other Diamond areas.

Blockers

- Raising resident skill levels and growing proportion of high skilled /graduate population.
- Industrial mix not as varied as other Diamonds.
- No distinctive cultural/image pull to the area for skilled people.

Blockers and drivers

This Diamond is part of a designated growth area, well located with access to the North, South and London, and has experienced strong performance in its competitiveness indicators of recent years. It is an area that has been subject to considerable levels of investment being in a strategically key location – in the middle of the Oxford-Cambridge corridor – and an area with important access via motorways.

Economic performance is strong, outperforming many other parts of the South East, and importantly the area has the potential to continue its physical expansion with space to build quality business units in response to future private sector needs. It is also designated as a growth area, helping to ensure quality, affordable housing for both knowledge and support workers.

Possibly the most important constraint is around the skills levels of the resident population. The proportion of residents holding NVQ Level 4 qualifications is below the Diamonds average, which could act as a potential restraint on both the retention of knowledge intensive businesses and continuation of the high levels of inward investment previously experienced. If businesses are unable to continue to draw upon the local labour pool, the higher the likelihood they will relocate in the long run.

The other key consideration needs to be around building the image of the area to both potential investors, but also critically to people considering relocating to the area to live, as the area is perceived to lack a unique selling point in comparison to other locations in the South East. Determining an effective cultural strategy may be effective in also helping to draw people in.

Niche specialisms and potential growth

Milton Keynes and Aylesbury Vale has a well balanced business base, although employment growth in recent years has been greatly skewed towards financial and accounting services. Much of this activity is high value, with financial intermediation and monetary intermediation being around 1.5 times the national employee share, with the largest employer, legal and accountancy services, also being 1.3 times the national average.

There is a mix of large, well known firms (e.g. Pricewaterhousecoopers and KPMG with major regional offices, RBS with its commercial business and corporate centre, and the likes of Baker Tilly and Grant Thornton) and smaller companies throughout the Diamond.

The ICT industry is also a major strength in the Diamond, with software consultancy and supply (LQ of 2.3), other computer related activities (LQ of 1.8) and telecommunications (LQ of 1.2) being significant employers. Well known IT companies such as Computacentre (provider of IT infrastructure services), EDS (US based IT solutions company), and GEDAS UK (focusing on the IT needs of the automotive industry) are just a few examples. With regards to telecommunications, BT has a major presence in the area, with its computer support centre at Bletchley.

The area is located on the strategic corridor between Oxford and Cambridge and, as such, has access to significant HEI facilities, also being the base for the Open University¹⁸. As such, the employee share in higher education is 1.2 times the national average.

There are major headquarters of the likes of Mercedes Benz, Volkswagen and Suzuki, with Nissan's R&D centre being located just outside the Diamond at Cranfield Technology Park. Red Bull Racing is also located near to the area. In terms of employment, activities associated with this centre on scientific technical testing and analysis, with a quotient 2.5 times the national average; and the manufacturing of precision instruments for measuring, checking, and testing (LQ of 2.2).

Other niche specialisms within the Diamond include a growing Telecare / Telemedicine industry (providing expertise, monitoring and assessment equipment to test an individual's health or well-being) – with a new centre of excellence located at the National Spinal Injuries Centre at Stoke Mandeville Hospital in Aylesbury; alongside two other telecare-related centres of excellence across the wider South East region.

¹⁸ Cranfield University is also located just outside the Diamond's hinterland (within the East of England region).

4.4 North Hampshire

Summary

Sector strengths and opportunities

- ICT (software and hardware clusters, also telecoms – presence of well known companies).
- Bioscience (both R&D and cluster of pharmaceuticals and medical equipment firms).
- Several different advanced manufacturing/engineering activities (aerospace an important sector in particular around Farnborough Technology Park - aerospace and aviation cluster);
- Financial services (often largely comprising back office activity).

Drivers

- Strong economic performance.
- Desirable place to live/quality of life.
- Well balanced and diverse industrial mix.
- Well connected, location of choice (but congestion, see below).

Blockers

- Potential to grow innovation support and networks.
- No strong HEI presence.
- Infrastructure congestion around M3 J6, Farnborough/Cove/Aldershot.
- Broadband connectivity historically poor in the area.

Blockers and drivers

This Diamond is a top performer in terms of competitiveness, with high rates of earnings, productivity and employment, and is deemed as a highly desirable place to live with good quality of life indicators.

Overall, North Hampshire has a diverse and well balanced economy with high value industry and good skill levels. There is a lot of physical space to build and grow business, unlike many other Diamonds, and the house prices are relatively competitive compared to nearby Thames Valley, with sufficient supply and affordable housing programmes in place; therefore it may seem surprising that more investment has not been directed to the area.

The relative lack of new investment is reflected in the fact that many of the businesses are mature, having been there a number of years, and a possible concern is that in the modern economy they will become increasingly footloose and relocate without the required investment. The other possible key drawback for the area (in the long-term beyond recession) is that there is no one USP, with the sectoral mix reflecting the rest of the region. This could mean lack of future investment and perhaps there is a need to champion one or two key sectors with the greatest growth potential.

A possible constraint may be the lack of university presence within the Diamond (although SEEDA is actively supporting efforts of the University of Winchester and other stakeholders to open a University Centre in Basingstoke, co-located with innovation/incubation facilities).

Larger companies in the area such as Sony are leading R&D activity, working with global HEIs and research centres. However it is local SME businesses who report difficulties accessing knowledge transfer and technical facilities, where links with HEIs are likely to be less strong. Here SEEDA and key local partners such as Basingstoke and Deane Borough Council (BDBC) have been supporting the development of Basingstoke Incubation and Innovation Centre that will actively help build a community of innovation and promote the transfer of ideas/products and technologies between companies, both large and small, to drive local and regional commercial activity. Availability of business finance will also be critical for supporting future growth with local examples such as 3en Ventures 'encouraging entrepreneurial enterprise' across the borough of Basingstoke and Deane.

Another issue is that despite the good performance, resident skill levels are still a concern, reinforced by the fact that many of the key knowledge jobs are taken by commuters from outside the Diamond.

Other issues facing North Hampshire surround its infrastructure – Junction 6 of the M3 is a critical bottleneck which is hindering growth around Basingstoke, with other problems around Farnborough and Cove, and Aldershot, where land is used by the military which has led to challenges in trying to connect areas more effectively.

North Hampshire has always suffered from poor broadband connectivity, although 'Fibre to the Cabinet' is now being rolled out within Basingstoke, setting a precedent for other areas in the Diamond.

Niche specialisms and potential growth

Like Milton Keynes, North Hampshire has a well balanced economy which is diverse, with particular niches within the ICT sector and biosciences.

Software consultancy and supply is one of the largest employment concentrations, being 5 times the national average, with employment working in IT hardware activities being up to 8 times the national level.

Employment concentration within the telecommunications sector is 3.8 times the national share. There is clearly a major strength here, and the presence of companies such as Nokia and Sony within Basingstoke highlights the importance of the sector to the local and regional economy.

The bioscience sector is potentially important in terms of value added activity in North Hampshire, with R&D in natural sciences and engineering 4.5 times the national share of employees. The manufacture of pharmaceuticals constitutes an LQ of 3.4, with the manufacture of medical and surgical equipment having an LQ of 2.4. This is clearly a key strength, with the likes of Eli Lilly (the UK affiliate of the major US pharmaceutical manufacturer) having a significant presence in and around Basingstoke.

Advanced manufacturing/engineering niches are diverse in North Hampshire, perhaps more so than most other Diamonds. The following have particularly high levels of employment concentrations:

- ❑ the manufacture of television and radio transmitters has an LQ of 11.6;
- ❑ manufacture of steam generators 4.6;
- ❑ manufacture of instruments for measuring, checking, testing and navigating 3.8;
- ❑ manufacture of lighting equipment 3.5;
- ❑ manufacture of electricity distribution and control apparatus at 3.5;
- ❑ manufacture of office machinery and computers of 2.0.

Although not revealed strongly in the statistics, aerospace and defence is a key industry in and around Farnborough, with the presence of BAE in the area and Farnborough's Aerospace Centre, together with QinetiQ (a leading international provider of technology based solutions for defence and security markets) having major operations located there. Again, this is an example of where the national employment statistics will not always effectively capture specific firms or localised activity.

Finally, there is considerable employment within financial services – other financial services has an LQ of 2.4, and a quotient of 1.2 for legal and accountancy services; however much of this is back office / support service activity.

4.5 Central Oxfordshire

Summary

Sector strengths and opportunities

- Strong public sector representation and administrative centre for City and County.
- Strong Higher Education presence and extensive R&D activity.
- Biosciences and manufacturing of medical equipment.
- Automotive manufacturing (potential opportunities around 'green-tech' automotive and Joined Cities Initiative).
- Publishing (linked to Oxford's considerable academia).
- ICT (software/hardware/and manufacture of computers).

Drivers

- Highly skilled labour force is a key driver of growth.
- UK centre for science driven by HEI presence.
- High levels of R&D with major assets/science parks.
- Strategically important location with excellent transport links to London and the South East.
- Key cluster of venture capitalists and business angels.

Blockers

- Major infrastructure problems in and around Diamond – public transport will need to improve to keep up with growth.
- Housing affordability – risk around attraction and retention of talent in such an important area.

Blockers and drivers

A key driver of growth across the region, this area benefits from a highly productive knowledge economy (the most productive of all the Diamonds), with almost as many jobs as residents. A UK centre of science driven by the high levels of employment and specialisms within higher education, the science base has strengths and levels of R&D that very few areas in the UK (and indeed, across Europe) can match. The Diamond benefits from being in a strategically important location, with excellent transport links (especially in its proximity to Heathrow - another key regional asset and accelerator for future economic growth).

Qualification levels compare favourably with the other Diamonds and the skills profile is crucial to the continued high levels of investment into the area.

There are considerable infrastructure challenges across the Diamond in common with many areas of the South East. The rapid economic and housing growth is creating new demands on transport in and around the area. Oxford is now close to reaching the limits of sustainable growth and may not, at the current rate, be able to sustain further expansion of both housing and employment sites within and around the city.

Innovative industries may now need to look to grow further across the whole of the sub-region rather than concentrating on a few key areas constrained by infrastructure. However, public transport is not sufficient as yet to serve these needs and requires substantial improvement.

Housing affordability is a key problem, with the Diamond not being able to meet the huge demand for housing. Oxford is viewed as a more attractive location for housing than it can actually sustain and the huge demands for housing have contributed to the problem of affordability. It will be a major challenge for the area to meet demands for affordable housing within its existing boundaries. Public transport will again be key in connecting people between the centre and other towns in the Diamond, to ease congestion, improve quality of life and reduce environmental impacts.

Niche specialisms and potential growth

Oxford is the centre of the Diamonds knowledge driven economy, with much of the UK's R&D being centred in the Diamond. The share of the workforce working within research and experimental development in natural sciences and engineering is over 5 times the national average, with the employment concentration in the manufacture of medical and surgical equipment some 3.4 times the

national average. With over 20,000 people employed in higher education (a location quotient of 3.3), this is chiefly responsible for helping drive R&D activity across the Diamond and beyond.

With assets such as Oxford Science Park, Begbroke Science Park, Harwell Science and Innovation Campus, and Culham Science Park, R&D activity is likely to continue to be focused upon the Diamond in the future. Indeed, the University of Oxford holds 24% of total health technology research grants with the Greater South East.

Another key measure of the area's knowledge intensity is through the amount of venture capital investment it receives in its companies – Oxford has several such firms and business angel investors, including Oxford Technology Venture Capital Trust, Oxford Capital Partners, Oxford Consulting Associates and Oxford Bioscience Partners (which highlights the prominence of this sector in the Diamond) among others.

HEI linked R&D activities are not Oxford's only niches however – the manufacture of motor vehicles is one area in which the area specialises, (with an LQ of 4.6). It is the nature of the automotive manufacturing industry which particularly stands out within Oxford, with high quality plants and targeted investment resulting in an industry that should emerge stronger in the long-term. There is emerging activity around 'green-tech' auto, especially through the likes of BMW-Mini E, representing an opportunity that could be further exploited alongside developments in the Joined Cities Initiative.

Other types of advanced manufacturing/engineering are also important to the area, in addition to automotive, including the following:

- ❑ the manufacture of electrical equipment having an LQ of 3.3 (the potential for linkage with electric cars/green auto elsewhere within Oxford being clear);
- ❑ the manufacturing of office machinery and computers also having a high employee share, with an LQ of 5.2;
- ❑ the manufacture of industrial process control equipment having with an LQ of 4.3.

Publishing activities are also an important niche within the Diamond (LQ of 3.2), quite unique in the nature of their activities, with many academic texts being published through firms within the area (e.g. Oxford University Press, Blackwell Publishing, Elsevier Science, John Wiley and Sons, Harcourt Education, Macmillan and Berg Publishers). The links with the HEI and the research emerging from those activities are clear; and 207 of the 250 publishing companies in the South East are in Oxford.

The ICT sector also has significant presence within the area, with significant employment within software consultancy (LQ of 1.3) other computer related activities (1.4) and hardware consultancy (1.5).

4.6 Urban South Hampshire

Summary

Sector strengths and opportunities

- Significant presence of maritime, marine, aerospace - domestic and defence sectors.
- Advanced manufacturing/engineering (marine activities, building/repairing of ships/boats with strong local supply chain, defence and homeland security, aviation related manufacturing, manufacture of optical instruments and photographic equipment).
- Perceived major potential for low carbon technologies.

Drivers

- Key knowledge assets – significant university presence, improved HEI-business links and joint working with public sector.
- Developing strong Public/Private relationships - including e.g. University Centre in Basingstoke co-located with innovation/incubation facilities.
- Strong local partnerships across Urban South Hampshire.
- Housing quality and supply issues not as acute as in other areas of the South East.
- Huge potential labour pool.
- Major urban agglomerations fostering knowledge flow.
- Southampton Port is a major global gateway.

Blockers

- Over reliance on manufacturing where employment numbers have declined.
- Concentrations of low resident skills levels.
- Availability of business to business support services.
- Image and branding of the area.
- Some infrastructure issues – transport links (although not at the scale of some other Diamonds).
- Broadband infrastructure not sufficient.

Blockers and drivers

Like the Gatwick Diamond, this area has the advantage of performance being shaped by a sub-regional partnership – the Partnership for Urban South Hampshire (PUSH) – which aims to promote the area as a major centre of excellence in innovation and technology, enabling smarter and more sustainable growth. However, economic performance within the Diamond has suffered due to decline in defence related industries and the manufacturing base. Low skill levels are a real threat to the realisation of future opportunities, with concentrations of low resident skill levels acting as a barrier to participation within the knowledge economy.

Image and connectivity are viewed as potential areas in which Urban South Hampshire needs to improve (as was the case for Gatwick before the formation of the Gatwick Diamond). This especially relates to Southampton and Portsmouth which may not have a particularly strong brand for knowledge intensive investment, despite having key assets such as the HEIs in place. Additionally, the way key urban areas such as these relate to each other could improve, as lack of connectivity and image may be hindering investment.

However, there are some key advantages for Urban South Hampshire – the main potential driver to development is the highly urbanised nature of the Diamond, with a huge potential labour pool, which could be important for the growth of the wider South East. International connectivity is important in Urban South Hampshire, with Southampton Port in particular being a major global gateway.

The road network does not experience the same intensity of infrastructure and transport issues compared to many of the other Diamonds, although the M27 coastal junctions need upgrading, with a faster transit route planned to alleviate the problems. However, in reference to digital connectivity, broadband provision needs to be improved, as current capacity is unlikely to meet future demand.

There are not the acute problems around housing that are experienced elsewhere, as in general, there is sufficient supply and affordable housing programmes are already in place.

Niche specialisms and potential growth

Despite the decline in manufacturing employment, over the last decade in particular, advanced manufacturing and engineering are still important within the area, with a number of support organisations focussed upon it, including Solent Synergy and other specific bodies such as Marine South East. Specific markets such as Marine, Defence and Aerospace (with the clear overlaps between these sectors), are important for future growth, and there is evidence of strong supply chain industries within Advanced Manufacturing.⁸

Marine activities are significant and important to the future growth of the Urban South Hampshire economy, with the building and repairing of ships and boats having a high concentration within the Diamond (an LQ of 5.0). Much of this activity is linked to Portsmouth and Southampton, with a strong supply chain still prominent due to the proximity of the Naval base.

Aerospace is also important to the area, with a key employment node of manufacture of aircraft and spacecraft (LQ of 2.3 but employing approximately 5,000 people). Within Aerospace there are relatively high levels of R&D across Urban South Hampshire, important helping boost further growth within the sector.⁹ There are several other advanced manufacturing specialisms within the Diamond, including the following:

- ❑ the manufacture of defence technologies, linked to presence of QinetiQ at Portsdown Technology Park (LQ of 3.6);
- ❑ manufacture of insulated wire and cable (LQ of 3.4);
- ❑ technical testing equipment and analysis (LQ of 3.2);
- ❑ the manufacture of appliances for measuring, testing, checking and navigating – navigation equipment being a key element of the supply chain for Marine and Aerospace (LQ of 2.0);
- ❑ key employment node of high-tech activity, with the highest share of employment compared to the national average being the manufacture of specialist optical instruments and lenses (with an LQ of 8.5 and also employment in the region of 2,000). This may be due to contact lens manufacturing in Segensworth.

The strong academic base on the coast, including Southampton University with its global research links, Portsmouth University with its links to business, and additionally Solent University, means a large number of people employed within higher education (LQ of 1.4) and the associated activities within research and experimental development in natural sciences and engineering (1.2).

There are some key nodes of R&D, including IBM's Hursley Lab, with its software lab submitting many patents each year. There are many smaller software consultancy and computer related activities (both with LQs of 1.1) across the wider Diamond area.

Finally, the coastline is a major asset that is viewed as being potentially important for the location of future environmental technologies.

Previous research commissioned by PUSH also identified Business Services and Creative & Media as other specific sectors driving growth, in addition to Advanced Manufacturing.¹⁰ These were identified through using, among others, a host of indicators for each sector, including location quotients, new firm formation, inward investment and productivity levels.

4.7 Reading

Summary

Sector strengths and opportunities

- Significant Software consultancy cluster (hardware and telecoms also important to the area).
- Bioscience (pharmaceutical research and food technologies).
- High value financial intermediation and legal (accounting and tax services equally important).

Drivers

- Highly skilled labour force.
- Large R&D base through presence of internationally renowned companies.
- Centre of UK Digital economy.
- Significant HEI activity.
- Wide range of effective KTPs in place.

Blockers

- Potential long-term shortages of graduate labour.
- Technical ICT skills gaps need to be addressed.
- Need quality and affordable housing to retain graduate labour.
- Lack of key transport nodes; major congestion (considerable investment to address this).

Blockers and drivers

This Diamond is one of the most prosperous and best performing areas in the South East with a strong and diverse economic base, combined with high productivity levels resulting in strong performance. Together with the Oxford Diamond, Reading has the largest R&D science base across the Diamonds.

The area benefits from concentrations of high skill levels in the workforce, incorporating many graduates; and has high employment rates and significant inward migration as people look to take advantage of the Diamond's buoyant knowledge economy and proximity to London.

HEI links with businesses are relatively strong, with the Knowledge Transfer Centre at the University of Reading being a leading centre for developing and managing KTP partnerships in the country. However, despite this, there are fears around shortages of a sustained graduate labour pool, and resident population skills need to further improve. The low growth in the working age population remains a cause for concern for long-term economic growth.

With the area being vital to the UK's ICT market, specialist skills are particularly important; however employers continue to report ICT skills gaps, such as hardware planning and design, which could threaten to curtail growth in the long-term.

To ensure a graduate labour pool there is a need to focus on the provision of quality and affordable housing. The rapid growth of this Diamond (Reading Borough in particular) combined with green belt constraints on housing, has contributed to a severe constraint on housing supply. Effective management of physical space and a review of greenbelt will be crucial to the future of the local economy.

Equally, congestion issues are threatening to constrain growth, requiring major investment in public transport. However, there is significant continued investment to support the completion of transport infrastructure, for example the significant development works around Reading Station - a £500m improvement programme to allow more trains to run through Reading, reducing delays on the western routes and easing overcrowding at the station.

The wider London orbital improvements are likely to further help improve the infrastructure both in and around the Diamond. Finally, although broadband access and quality is reasonable, there still needs to be further investment in Next Generation broadband to support the knowledge economy's continued growth.

Niche specialisms and potential growth

Reading, along with Oxford, is the strongest of the eight Diamonds in terms of knowledge intensive activities. Reading is one of Europe's premier ICT locations, housing the headquarters of Microsoft, Oracle and Cisco. Indeed, its location and connectivity to Heathrow and London is a major draw for the headquarter locations and agglomeration of high tech activity on the M4 corridor.

One of the main strengths is in software consultancy and supply, the largest employer in the area (around 15,000 employees), with a share of employment five times the national average, and other computer related activities having an LQ of 3.0. There are also significant ICT hardware and telecommunications clusters (which are not accurately measured in national statistics).

Reading has a well balanced economy, and due to the presence of two universities, there are considerable levels of employment within higher education (LQ of 1.3). Related to this, R&D in natural sciences and engineering has an employee share five times the national average, potentially related to the location of major ICT headquarters and internal R&D activities.

A significant proportion of research activity also includes bioscience, in particular pharmaceutical research and food technologies (the University of Reading is the UK's Centre of Excellence for Research and Teaching in Food and Nutritional Sciences/Food Bioscience). R&D activity may increase further in future through opportunities developed through the University of Reading's Science Park development.

Financial services is also another key sector within the Diamond, with the area capitalising on the positive spill-over effects from London meaning a range of high value activity within the Diamond:

- ❑ financial intermediation has an employee share 3.8 times the national average and is the main employer within this sector (around 14,000 employees); and
- ❑ legal, accounting and tax services has a quotient of 1.6, with a considerable presence of the major accountancy firms.

There are other niche activities within the Diamond, including:

- ❑ the manufacture of television and radio transmitters (the highest of the knowledge quotients at 6.3); and
- ❑ printing activities (1.3).

4.7 Thames Gateway Kent

Summary

Sector strengths and opportunities

- Range of advanced manufacturing/engineering activities.
- Niche specialism in the manufacture of pharmaceuticals and medical & lab. equipment.
- Major drive on low carbon economy – ambition to become an 'eco-region'.

Drivers

- High potential for growth with key central government backing and investment/assets in place.
- Good connectivity with continental Europe.
- Strong partnership working arrangements.

Blockers

- Previous poor economic and labour market performances.
- Concentrations of low resident skill levels.
- Needs additional private sector investment to gain momentum.
- Poor connectivity to wider South East (being addressed by current/planned developments).
- Lack of investment on key trunk roads away from motorway network.
- Poor broadband quality across many areas.

Blockers and drivers

Economic and labour market performance has not been as strong here compared to other Diamonds over the last 10 to 20 years, acting as a drag on regional performance, although there is revived potential for growth in this area due to the large scale Government and Regional Development Agency investment; investment in transport and the progressive development of skills and human capital.

There are a number of reasons for past underperformance, one of which is connectivity, with the Diamond having suffered from previous relatively poor links with other Diamonds and the wider South of England. However Thames Gateway Kent has recently experienced improved connectivity to Europe via High Speed 1 (HS1) when Ebbsfleet International station opened in 2007. The development of Ebbsfleet is a major asset for the area. This has provided direct access between the Diamond and Europe with the Eurostar service, which had previously only stopped in Kent at Ashford. Again in late 2009, domestic services were introduced on HS1 dramatically improving train times into London, opening up significant opportunities for future growth.

The other main obstacle has been previous poor labour market performance in terms of skills and educational attainment. However recent GCSE results have moved much closer to that of the Diamonds average. The North Kent Multi-Area Agreement (focusing upon skills with the ultimate aim of attracting and retaining higher value employment) and investments in HE provision at Medway campus, will also help to ensure continuing improvements in future performance.

The economic development plan, produced by the South East England Development Agency (SEEDA), the East of England Development Agency (EEDA) and the London Development Agency, is part of the continued push to address the blockers and maximise potential opportunities for growth in the Gateway (this plan relates to Thames Gateway Kent and parts of London and Eastern England).

The strategy identifies opportunities linked to the four "spatial transformers" in the Gateway - Stratford and the Lower Lea Valley including the Olympic park; Canary Wharf; London Gateway, the Essex port site that was formerly Shellhaven, and Ebbsfleet Valley (including Ebbsfleet station and development) performing an important role as an international and domestic transport node on the new Channel Tunnel Rail Link) in North Kent.

The strategy also focuses on a limited number of interventions that will have a genuinely strategic impact for the whole of the Gateway. Three Regional Development Agencies and government previously committed £200m over three years to support investments in line with the plan, with the aim of leveraging £75m from other sources. However whilst the full extent of this financial commitment is unlikely to be realised (in view of the current economic climate now facing public and private sector investors) the area is still likely to generate interest and investment in the long-term.

The plan identifies the sectors that have most growth potential in the region: financial and business services, ports and logistics and environmental technologies. Other sectors that will be promoted are creative industries, advanced manufacturing, construction and tourism.

The regeneration of the Thames Gateway allows the required physical expansion of London while at the same time addressing some of the needs of the most disadvantaged communities in the region. It is important to the UK because of the increasing focus of economic activity on south-east England. If the UK is to be able to fulfil the economic and demographic demands placed upon land in the south-east it requires a large amount of new space relatively close to London.

Other key assets include growth in HEI presence and the development of a 'multi-versity'. The 'Universities at Medway' (UaM) is an innovative partnership between the universities of Greenwich, Kent and Canterbury Christ Church, along with Mid-Kent College. The four institutions share a new campus at Chatham Maritime, working together to respond to the educational and training needs of Medway and the Thames Gateway

Niche specialisms and potential growth

Thames Gateway has existing specialisms around the advanced manufacturing/engineering sector, - linked to major employers in the Diamond - with particularly high locations quotients in manufacture of generators (7.2) and manufacture of medical instruments for measuring, checking, and testing (4.4).

Other areas of relatively high employee concentration include:

- ❑ manufacture of parts and accessories for motor vehicles (2.8);
- ❑ manufacture of optical instruments and equipment (2.5);
- ❑ manufacture of electricity distribution and control apparatus (2.2);
- ❑ manufacture of other general purpose machinery (1.3).

The local pharmaceutical sector also supports around 1,000 employees. This activity is primarily centred around Kent Science Park - which has recently received approval for significant site expansion. Kent Science Resource Centre is also located on KSP, providing Foundation Degree training in laboratory science, supporting the continued development of local skill needs.

Finally, there is a major drive for low carbon solutions from the Thames Gateway which is very much linked to central government ambitions for the Diamond, with the area looking to become the UK's first eco-region for the rest of the country - and other countries to follow. Thames Gateway aims to lead the way in growing environmental jobs, greater use of renewable and new technologies, and environmental improvements to existing homes and building activities.

The Institute of Sustainability is currently located at Kent Thameside. SEEDA, along with HCA/CLG is also investing in 'SusCon' a sustainable construction academy which is to be developed as a 'demonstrator' sustainable building, and will provide a co-location for the IfS in the future. This will be important in providing 'sustainable construction skills' in North Kent - to enable delivery of the major new- build developments, retrofitting of domestic and non-domestic buildings, and for the future development of Crossrail.

The Institute of Sustainability, Suscon and the demonstrator programmes associated with these initiatives in North Kent will be important in helping it become an 'eco-region' and in attracting major inward investors, particularly in the environmental technology sector.

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APPENDIX 1

Sector and knowledge intensive business definitions

Sector Definitions

The following provides the SIC classification codes for the key knowledge sector assessed as part of this study. They are not all mutually exclusive, with natural cross-over between the sectors. There are limitations to the data – SIC classifications do not always capture the nature of an areas' economy, as they are weighted in favour of manufacturing, and do not accurately highlight, for instance, high value elements of a knowledge economy and the range of research functions, and very high end manufacturing activity. For this reason we consulted with several area managers and members of sector consortia to add further context and intelligence to the statistics being used in the analysis. Where possible we have defined the sectors using Sector Skills Council definitions, but we have added to these where SSC's cover different parts of what could be considered to be one industry sector. As with all sector analyses there is an element of evidence based judgement. By setting out our definitions below we aim to be fully transparent and consistent in our approach.

Bioscience

- 2441 : Manufacture of basic pharmaceuticals
- 2442 : Manufacture of pharmaceutical preparations
- 3310 : Manufacture of medical and surgical equipment and orthopaedic appliances
- 7310 : Research and experimental development on natural sciences and engineering

Creative, Digital, New Media

SIC 2003 class (4 digit)

- 2211 : Publishing of books
- 2212 : Publishing of newspapers
- 2213 : Publishing of journals and periodicals
- 2214 : Publishing of sound recordings
- 2215 : Other publishing
- 2221 : Printing of newspapers
- 2222 : Printing not elsewhere classified
- 2223 : Bookbinding
- 2224 : Pre-press activities
- 2225 : Ancillary operations related to printing
- 2231 : Reproduction of sound recording
- 2232 : Reproduction of video recording
- 2233 : Reproduction of computer media
- 2464 : Manufacture photographic chemical material
- 2465 : Manufacture of prepared unrecorded media
- 3210 : Manufacture of electronic valves and tubes and other electronic components
- 3220 : Manufacture of television and radio transmitters and apparatus for line telephony
- 3230 : Manufacture of television and radio receivers, sound or video recording
- 3630 : Manufacture of musical instruments
- 7221 : Publishing of software
- 7222 : Other software consultancy and supply
- 7420 : Architectural and engineering activities and related technical consultancy
- 7440 : Advertising
- 7481 : Photographic activities
- 9211 : Motion picture and video production
- 9212 : Motion picture and video distribution
- 9213 : Motion picture projection
- 9220 : Radio and television activities
- 9231 : Artistic and literary creation and interpretation
- 9232 : Operation of arts facilities
- 9240 : News agency activities
- 9251 : Library and archive activities
- 9252 : Museum activities and preservation of historical sites and buildings
- 9253 : Botanical and zoological gardens and nature reserve activities

Medicine and Pharmaceuticals (subset of Bioscience)

- 2441 : Manufacture of basic pharmaceuticals
- 2442 : Manufacture of pharmaceutical preparations

Engineering/Advanced Manufacturing

- 271 : Manufacture of basic iron and steel and of ferro-alloys
- 272 : Manufacture of tubes
- 273 : Other first processing of iron and steel not elsewhere classified; production of non-ECSC ferro-alloys
- 274 : Manufacture of basic precious and other non-ferrous metals
- 275 : Casting of metals
- 281 : Manufacture of structural metal products
- 282 : Manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers
- 283 : Manufacture of steam generators, except central heating hot water boilers
- 284 : Forging, pressing, stamping and roll forming of metal; powder metallurgy
- 285 : Treatment and coating of metals; general mechanical engineering
- 286 : Manufacture of cutlery, tools and general hardware
- 287 : Manufacture of other fabricated metal products
- 291 : Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines
- 292 : Manufacture of other general purpose machinery
- 293 : Manufacture of agricultural and forestry machinery
- 294 : Manufacture of machine tools
- 295 : Manufacture of other special purpose machinery
- 296 : Manufacture of weapons and ammunition
- 297 : Manufacture of domestic appliances not elsewhere classified
- 300 : Manufacture of office machinery and computers
- 311 : Manufacture of electric motors, generators and transformers
- 312 : Manufacture of electricity distribution and control apparatus
- 313 : Manufacture of insulated wire and cable
- 314 : Manufacture of accumulators, primary cells and primary batteries
- 315 : Manufacture of lighting equipment and electric lamps
- 316 : Manufacture of electrical equipment not elsewhere classified
- 321 : Manufacture of electronic valves and tubes and other electronic components
- 322 : Manufacture of television and radio transmitters and apparatus for line telephony and line telegraph
- 323 : Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
- 331 : Manufacture of medical and surgical equipment and orthopaedic appliances
- 332 : Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment
- 333 : Manufacture of industrial process control equipment
- 334 : Manufacture of optical instruments and photographic equipment
- 335 : Manufacture of watches and clocks
- 341 : Manufacture of motor vehicles
- 342 : Manufacture of bodies (coachwork) for motor vehicles: manufacture of trailers and semi-trailers
- 343 : Manufacture of parts and accessories for motor vehicles and their engines
- 351 : Building and repairing of ships and boats
- 352 : Manufacture of railway and tramway locomotives and rolling stock
- 353 : Manufacture of aircraft and spacecraft
- 354 : Manufacture of motorcycles and bicycles
- 355 : Manufacture of other transport equipment not elsewhere classified

Environmental Technologies

- o 0141 : Agricultural service activities
- o 3710 : Recycling of metal waste and scrap
- o 3720 : Recycling of non-metal waste and scrap
- o 4100 : Collection, purification and distribution of water
- o 4511 : Demolition and wrecking of buildings; earth moving
- o 4524 : Construction of water projects
- o 7310 : Research and experimental development on natural sciences and engineering
- o 7470 : Industrial cleaning
- o 9001 : Collection and treatment of sewage
- o 9002 : Collection and treatment of other waste
- o 9003 : Sanitation, remediation and similar activities

Information and Communication Technologies

SIC 2003 class (4 digit)

- o 2231 : Reproduction of sound recording
- o 2232 : Reproduction of video recording
- o 2233 : Reproduction of computer media
- o 3002 : Manufacture of computers and other information processing equipment
- o 3220 : Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy

SIC 2003 group (3 digit)

- 323 : Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
- 332 : Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment
- 333 : Manufacture of industrial process control equipment
- 365 : Manufacture of games and toys
- 642 : Telecommunications
- 721 : Hardware consultancy
- 722 : Software consultancy and supply
- 723 : Data processing
- 724 : Data base activities
- 725 : Maintenance and repair of office, accounting and computing machinery
- 726 : Other computer related activities
- 921 : Motion picture and video activities
- 922 : Radio and television activities

Engineering Construction

This sector is difficult to quantify in SIC code, as highlighted below in a quote from the Engineering Construction Industry Training Board – this sector is very much about construction of plans, gas/oil platforms, nuclear decommissioning, erection and dismantling of processing and manufacturing plants etc, that do not fit easily into the SIC codes. We have used a more contextual analysis for this instead.

“The clearly defined scope of the ECITB is determined by a Statutory Instrument does not map on to standard industrial and occupational classifications. ECITB is unable draw upon standard statistical data sources similar to those used to produce Sector Skill Agreement (SSA) reports by Sector Skill Councils (SSC), such as the Labour Force Survey (LFS). Instead, a range of administrative data sources and other materials are used to meet the UK Commission of Employment and Skills (UKCES) requirements to deliver the labour market information reports.”

Knowledge Intensive Businesses whereby 25% and over of the workforce are qualified to NVQ L4+ (based upon the definition from Local Futures)

SIC 2003 division (2 digit)

- o 05 : Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- o 11 : Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction excluding surveying
- o 23 : Manufacture of coke, refined petroleum products and nuclear fuel
- o 24 : Manufacture of chemicals and chemical products
- o 30 : Manufacture of office machinery and computers
- o 31 : Manufacture of electrical machinery and apparatus not elsewhere classified
- o 32 : Manufacture of radio, television and communication equipment and apparatus
- o 33 : Manufacture of medical, precision and optical instruments, watches and clocks
- o 35 : Manufacture of transport equipment
- o 40 : Electricity, gas, steam and hot water supply
- o 41 : Collection, purification and distribution of water
- o 65 : Financial intermediation, except insurance and pension funding
- o 66 : Insurance and pension funding, except compulsory social security
- o 70 : Real estate activities
- o 72 : Computer and related activities
- o 73 : Research and development
- o 74 : Other business activities
- o 75 : Public administration and defence; compulsory social security
- o 80 : Education
- o 85 : Health and social work
- o 91 : Activities of membership organisations not elsewhere classified
- o 92 : Recreational, cultural and sporting activities

List of individuals consulted for this study:

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Gina Fegan – South East Media Network
John Copley – Farnborough Aerospace Consortium
Derek Rees – South East Centre for Built Environment
David Porter - Envirobusiness

We also consulted, through a workshop in Southampton on the 9th November 2009, with around 40 regional stakeholders, assessing some of the key issues facing growth of the knowledge economy, which included cross cutting themes such as skills, innovation and infrastructure. We thank them for their time, helpful input and insight.
