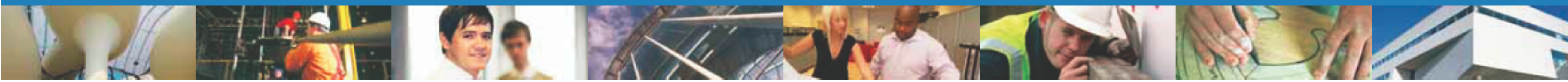
Construction Skills Network
South East

LABOUR MARKET INTELLIGENCE 2009–2013



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Contents

ConstructionSkills is the Sector Skills Council for construction, tasked by Government to ensure the UK's largest industry has the skilled workforce it requires. Working with Government, training providers and employers, it is responsible for ensuring that the industry has enough qualified new entrants and that the existing workforce is fully skilled and qualified, as well as for improving the performance of the industry and the companies within it.

1 Headlines

1.1 South East economy

- The South East economy was worth £162bn in 2007, equivalent to approximately 15% of the total UK economy.
- The financial and business services sector accounted for nearly 30% of gross value added (GVA) in the South East, a slightly larger proportion than in the UK.
- The regional economy is forecast to grow at an annual average rate of 1.8% between 2009 and 2013. Financial and business services is expected to be the fastest growing sector, followed closely by transport and communications.

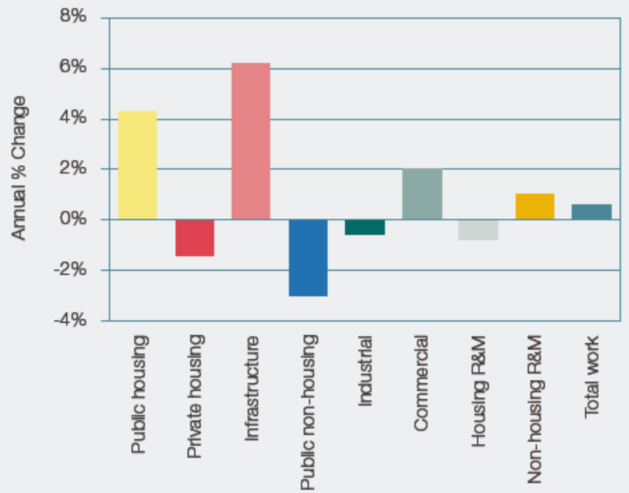
1.2 Construction output in the South East

- Worth £12.2bn in 2007, in 2000 prices, construction in the South East accounts for 15% of the national total.
- Output for the region is forecast to grow at an annual average rate of 0.5% between 2009 and 2013, in line with the national average.
- The outlook for the infrastructure sector in the South East is buoyant as work is expected to get underway on the £1bn M25 widening project as well as the scheduled £450m Reading station expansion and improvement works from 2009–2015.

1.3 Construction employment in the South East

- Between 2009 and 2013, total construction employment is forecast to increase by 3.5%.
- To meet demand in the 2009–2013 period, after taking into account those entering the industry other than from training and those leaving, 5,690 new workers will be required to join the industry each year.
- The largest average annual requirement is expected to be for construction managers (880).

Annual average construction output growth 2009-2013 - South East



Source: CSN, Experian
Footnote: 2 (See Appendix III)

Regional comparison 2009-2013

	Annual average % change in output	Growth in total employment	Total ARR
North East	0.5%	5,620	2,010
Yorkshire and Humber	0.0%	2,860	1,390
East Midlands	0.8%	6,220	1,980
East of England	0.9%	10,570	2,890
Greater London	0.8%	12,110	6,030
South East	0.5%	13,290	5,690
South West	-0.2%	-20	1,450
Wales	0.6%	4,940	2,330
West Midlands	0.2%	3,930	3,620
Northern Ireland	1.6%	3,030	900
North West	0.2%	6,040	4,780
Scotland	0.6%	5,480	3,960
UK	**0.5%**	**74,070**	**37,030**

Source: CSN, Experian
Footnote: 2 (See Appendix III)

The South East economy was worth **£162bn in 2007,** equivalent to approximately 15% of the total UK economy

2 The outlook for construction in the South East

2.1 Construction output in the South East – overview

The construction industry in the South East was worth £12.2bn in 2007 (2000 prices) around 15% of the UK total. New work output accounted for 50.4% of total construction output for the region, whilst repair and maintenance (R&M) was marginally smaller at 49.6%.

Since the start of the decade real construction output has grown by an estimated 14% in the South East to 2007, a fairly modest increase, and there was little difference in the performance of the new work and R&M sectors. By far the most buoyant sector in recent years has been public housing, with output rising by 150% between 2000 and 2007, although it remained the smallest sector in the South East. The private housing and public non-housing sectors experienced respectable growth over the period, of 27% and 29% respectively. Commercial construction in the region only expanded modestly as it was one of the main sufferers from the bursting of the dot.com bubble in the early part of the decade.

The only sector to see activity decline since 2000 was infrastructure, where output contracted by 30% due to a dearth of major transport projects in the region over the period.

Within R&M, non-housing R&M was buoyant with 16% growth over the decade to 2007. Housing R&M also saw moderate growth of 11% due to rising property values allowing homeowners to release equity to make improvements or add extensions.

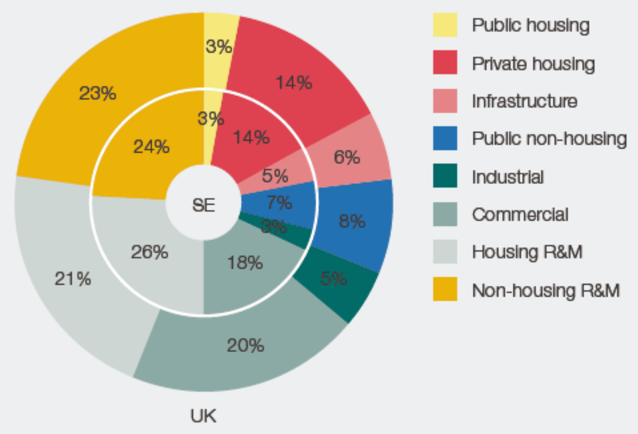
2.2 Industry structure

The diagram, Construction industry structure 2007 – UK vs. South East, illustrates the sector breakdown of construction in the South East compared to that in the UK. Effectively, the percentages for each sector illustrate what proportion of total output each sector accounts for.

As can be seen from the chart the South East construction industry is more heavily weighted towards the R&M sector than the UK as a whole, with construction output almost equally divided between new work and R&M in the region. This could be due to a prevalence of 'heritage' sector buildings in the region that is, buildings built before 1919.

Apart from the difference in size of the new work and R&M sectors, the structure of the industry is fairly similar in the South East to that of the UK.

Construction industry structure 2007 - UK vs. South East



Source: ONS, Experian

Construction output 1991-2007 - South East

Source: ONS
Footnote: 1 (See Appendix III)

2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2009–2013) provides an indication of the construction sectors in which demand is likely to be strongest.

2.4 Economic structure

In 2007 the South East economy was worth £162bn, in 2003 prices, up 2.8% from the previous year and worth approximately 15% of the UK total. The largest component of the GVA in the region was the financial and business services sector, accounting for nearly 30% of the total. The sector has grown its share of total GVA in the region by almost 5% since the beginning of the decade, to broadly come in line with the UK.

Public services was the second largest sector for the South East in 2007, making up 20% of regional GVA. However the sector is smaller than the UK average. The distribution, hotels and catering sector was the third largest sector in the South East. Generating 16.7% of the total economic activity, it was slightly larger than the UK's average of 15.7%.

The New Medway Bridge, Kent

Economic structure - South East (£ billion, 2003 prices)

Selected sectors	Actual 2007	Forecast (Annual % change, real terms) 2008	2009	2010	2011	2012	2013
Public services	33	0.9	-0.3	0.9	1.5	1.3	1.2
Financial and business services	48	3.2	0.4	3.3	5.4	5.8	5.7
Transport and communications	13	4.8	1.6	4.1	3.8	3.3	3.1
Manufacturing	20	-1.0	-2.6	-0.7	0.0	-0.4	-0.4
Distribution, hotels and catering	27	1.3	-1.5	1.7	2.7	2.5	2.4
Total Gross Value Added (GVA)	**162**	**1.4**	**-1.0**	**1.8**	**2.7**	**2.6**	**2.6**

Source: Experian
Footnote: 3 (See Appendix III)

Economic indicators - South East (£ billion, 2003 prices - unless otherwise stated)

	Actual 2007	Forecast (Annual % change, real terms) 2008	2009	2010	2011	2012	2013
Real household disposable income	121	-0.2	-0.6	1.4	1.9	2.4	2.7
Household spending	119	1.8	-0.7	1.8	2.4	2.0	2.2
Debt:income ratio	2.5	2.7	-1.1	-3.9	-3.1	-1.7	-0.8
House prices (£'000, current prices)	267	-1.4	-16.1	2.4	4.1	4.3	4.3
LFS unemployment (millions)	0.19	-0.1	25.3	11.9	-5.1	-7.7	-5.3

Source: ONS, DCLG, Experian

2.5 Forward looking economic indicators

In the South East, GVA is forecast to grow at a faster rate than in the UK, with an annual average growth of 1.8% between 2009 and 2013. This growth is expected to be supported by higher than average household income and consumer spending in the region. The main driver of expansion in the region is projected to be the financial and business services sector, although its rate of increase will be less strong than in recent years as the current downturn in financial markets continues in the short term.

The debt-to-income ratio in the South East at almost 2.5 was the highest of any region or nation in the UK and well above the national average of 1.7. It is predicted to subside to just below 2.3 in 2013, but households in the region will still remain the most indebted in the UK.

The Department for Communities and Local Government (DCLG) reported that average house prices in the South East reached £267,000 in 2007. This is higher than any other region, with the exception of Greater London, and 25% above the national average.

Based on the DCLG measure, house prices are likely to fall heavily in 2009 before recovering in 2010 and experiencing reasonable year-on-year growth thereafter.

2.6 New construction orders – overview

New construction orders for the region experienced an upturn with a year-on-year increase of 8% in 2007 to £6.3bn in current prices. This was after a decline in 2006 before which, the region experienced five consecutive years of new orders growth.

All sectors saw growth in new orders in 2007, with the exception of the industrial construction sector, which experienced a 33% decline, albeit from a very high level in 2006.

The infrastructure sector saw the greatest year-on-year growth in 2007 with a 63% increase in the value of new orders. This was after a 65% fall in 2006 and a 122% rise in the year before. This demonstrates how vulnerable the infrastructure is to large fluctuations in orders due to the size and nature of contracts in the sector.

Orders for commercial and private housing work also saw rises in 2007 from the previous year, albeit only modest ones of 4% and 6%, respectively. The public non-housing and public housing sectors however saw more robust increases in 2007 of 11% and 14%, respectively.

2.7 New construction orders – current situation

To end-September 2008, new work orders for the region totalled £4.6bn (current prices), a fall of 6.5% from the same period of the previous year.

Four out of the six sectors experienced declines in the first nine months of the year. Infrastructure saw the largest drop, down 41% compared to the same period of the previous year. Housing orders were also depressed, with both private and public housing orders seeing significant falls of 32% and 22%, respectively. The industrial sector also saw a decline, although a relatively smaller one, of 6% in the first three quarters of 2008 on a year-on-year basis.

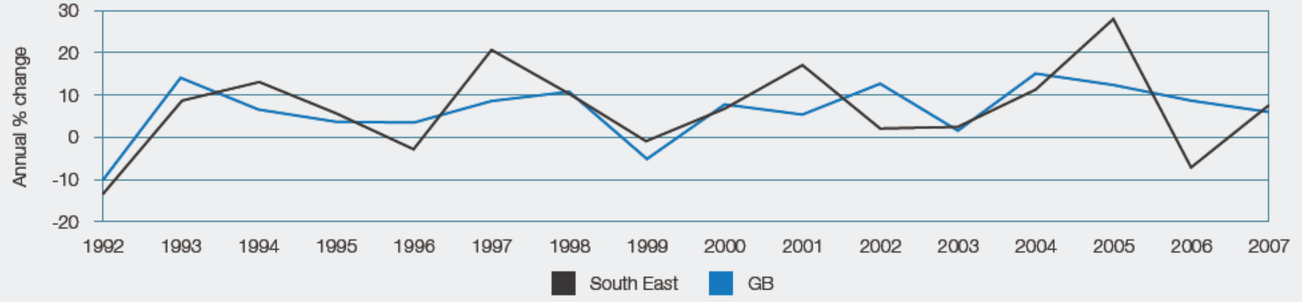
In contrast public non-housing orders saw significant growth in the nine months to September, increasing by 30% from the previous year. This is on the basis of planned educational schemes within the region such as the Building Colleges for the Future programme. Furthermore, the commercial sector also held up reasonably well with robust growth of 15% for the same period, despite the gathering economic downturn.

New work construction orders - South East (£ million, current prices)

	Actual	Annual % change				
	2007	2003	2004	2005	2006	2007
Public housing	437	37.1	6.6	7.8	45.6	14.0
Private housing	1,921	6.7	21.5	15.4	-4.8	6.2
Infrastructure	653	-15.4	5.4	121.8	-64.5	62.5
Public non-housing	943	-4.2	3.5	22.0	-14.1	11.3
Industrial	303	7.2	-22.4	30.5	14.7	-32.9
Commercial	2,075	5.2	19.2	15.4	19.8	4.2
Total new work	**6,332**	**2.5**	**11.3**	**28.0**	**-7.1**	**7.6**

Source: ONS
Footnote: 4 (See Appendix III)

New construction orders growth 1992-2007 - South East vs. GB



Source: ONS
Footnote: 4 (See Appendix III)

2.8 Construction output – short-term forecasts (2009–2010)
Regional Office of National Statistics (ONS) output statistics are published in current prices and are thus inclusive of any inflationary effect. At the time of writing, ONS construction output statistics are only available for the first three quarters of 2008.

In the first nine months of 2008, construction output increased by 8% from the corresponding period in 2007 bringing nominal construction output worth to £14.1bn. The new work and R&M sectors both experienced robust growth of 7.7% and 7.5%, respectively, in the first nine months of 2008. There is little doubt that 2008 is likely to have been a good year for construction in the South East, with output likely to have been up by around 5% in real terms.

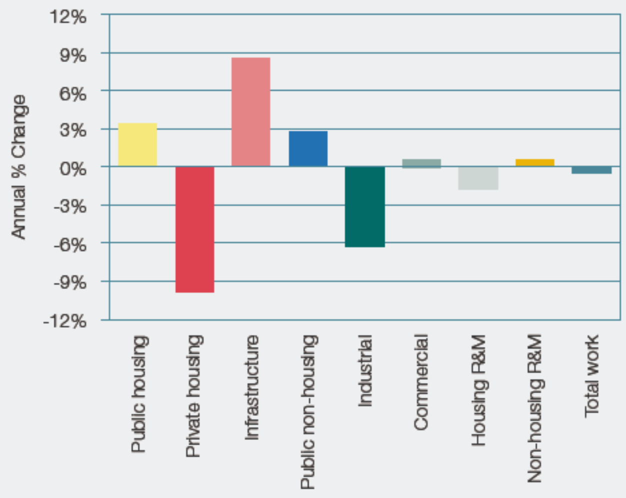
This growth, however, is unlikely to continue into 2009 and the short-term forecasts for output in the South East show an expected contraction for 2009 and 2010 of 0.5% per year. The magnitude of the decline is predicted to be similar for the new work and R&M sectors. Housing R&M is expected to account for the overall fall in activity in the R&M sector in the region, with an annual average rate of contraction of 1.9%, as consumers reign in on expenditure on big-ticket items such as new kitchens or bathrooms.

Commercial output to end-September in 2008 totalled £2.7bn, a substantial 28% increase from the same period of 2007. This gave new work for the region a boost, since this sector is the largest component of new work in the South-East. The commercial sector is expected to hold up better in the South East than the UK as a whole in the short-term. Public non-housing output also saw very healthy growth of 22% for the first three quarters of 2008 and is predicted to be one of the faster growing sectors in 2009, fuelled by public expenditure on health and education projects.

Infrastructure is expected to be the star performer in the region, as it is in many others, with annual average growth of 8.8% in the short-term. This buoyancy is based upon work on the £1bn M25 project as well as a number of other rail improvement schemes such the redevelopment of Reading station starting as planned.

No region or country is immune from the sharp downturn in the housing market that has taken place in recent months and it is no surprise that private housing output is forecast to decline steeply in the short term. However, conditions are expected to improve in 2010 as financing comes easier to access, house prices stabilise, and confidence begins to return to the market. The public housing sector is forecast to fare better, although it may require some imaginative thinking on the part of social housing providers to make up for the lack of section 106 driven building on private developments.

Annual average construction output growth 2009-2010 - South East



Source: Experian
Footnote: 2 (See Appendix III)

Construction output - South East (£ million, 2000 prices)

	Actual 2007	Forecast annual % change 2008	2009	2010	Annual average 2009-2010
Public housing	398	2%	6%	1%	3.4%
Private housing	1,674	-20%	-22%	4%	-10.1%
Infrastructure	626	9%	7%	11%	8.8%
Public non-housing	891	18%	7%	-2%	2.7%
Industrial	405	-16%	-13%	1%	-6.1%
Commercial	2,166	24%	5%	-3%	0.7%
New work	**6,160**	**5%**	**-1%**	**0%**	**-0.4%**
Housing R&M	3,172	1%	-3%	-1%	-1.9%
Non-housing R&M	2,878	9%	1%	0%	0.7%
Total R&M	**6,050**	**5%**	**-1%**	**-1%**	**-0.6%**
Total work	**12,210**	**5%**	**-1%**	**0%**	**-0.5%**

Source: Experian
Footnote: 1 and 2 (See Appendix III)

2.9 Construction output – long-term forecasts (2009–2013)

Our medium-term forecasts suggest that the South East construction industry output will experience annual average growth of 0.5% between 2009 and 2013. New construction work is expected to see annual rate of growth of 1% between 2009 and 2013 whilst R&M is likely to see no change.

New work is projected to be supported by the healthy outlook of the infrastructure sector over the longer-term, with growth of 6.1% on annual average basis, predicated on continuing work on M25 widening, station redevelopments, and increased line capacity at Milton Keynes.

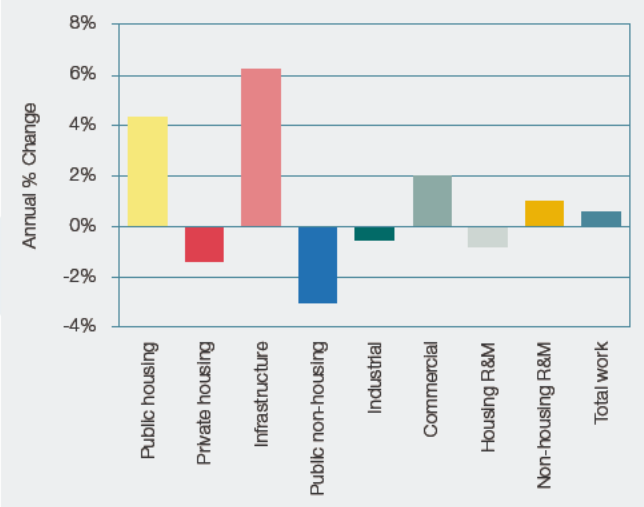
In contrast, the forecast for the private housing sector is muted, with an annual average decline of 1.7%, despite a recovery in activity from 2010. Long-term housing demand in the region will remain strong as household formation continues to outstrip the UK average.

Public housing is projected to be one of the healthier sectors, with annual average rate of growth of 4.2% between 2009 and 2013. The availability of £1.4bn of public funding to build new social housing, as well as improving local authority existing stock, will drive growth in the sector.

In contrast to that of the UK overall, the commercial sector is forecast to see growth over the long-term with an annual average increase of 2%. The relatively robust forecast for commercial construction due to two large PFI hospital projects, one for Maidstone and Tunbridge Wells NHS and the other Pembury Hospital, creating significant output streams. Furthermore office construction activity in the region, particularly in the Thames Valley is expected to hold up better in the short term than across the UK as a whole.

An annual average decline of 3.3% is expected over the forecast period in the public non-housing sector in the South East as the government starts to look at cut backs in public expenditure post-2010

Annual average construction output growth 2009-2013 - South East



Source: CSN, Experian
Footnote: 2 (See Appendix III)

Construction output - South East
(£ million, 2000 prices)

	Estimate	Forecast annual % change					Annual average
	2008	2009	2010	2011	2012	2013	2009-2013
Public housing	407	6%	1%	3%	6%	5%	4.2%
Private housing	1,337	-22%	4%	6%	5%	2%	-1.7%
Infrastructure	681	7%	11%	5%	1%	7%	6.1%
Public non-housing	1,047	7%	-2%	-9%	-8%	-4%	-3.3%
Industrial	342	-13%	1%	7%	6%	-3%	-0.7%
Commercial	2,683	5%	-3%	-1%	3%	6%	2.0%
New work	**6,497**	**-1%**	**0%**	**0%**	**2%**	**4%**	**1.0%**
Housing R&M	3,189	-3%	-1%	-3%	0%	2%	-0.8%
Non-housing R&M	6,336	1%	0%	0%	2%	1%	0.9%
R&M	**9,526**	**-1%**	**-1%**	**-1%**	**1%**	**2%**	**0.0%**
Total work	**12,834**	**-1%**	**0%**	**0%**	**2%**	**3%**	**0.5%**

Source: CSN, Experian
Footnote: 2 (See Appendix III)

3 Construction employment forecasts for the South East

3.1 Total construction employment forecasts by occupation

The table, Total employment by occupation – South East, presents actual construction employment (SIC 45 and 74.2) in the South East for 2007, and the forecast total employment for each of the 26 occupations between 2009 and 2013. A full breakdown of occupations is provided in Appendix IV.

By 2013 total construction employment in the South East is forecast to reach approximately 390,000. Around 347,000 are expected to be employed in SIC 45, while the remaining 43,000 are projected to be working in SIC 74.2. The estimated total employment in the industry in 2013 represents a 3.5% increase on the projection for 2009. It is interesting to note that because output growth is likely to have held up well in the region during 2008, employment also grows overall between 2007 and 2009. This is only one of two regions or nations in the UK where this is the case.

The largest occupational group in the South East in 2007 was non-construction professional, technical, IT, and other office-based staff, which comprised 14% of the total industry workforce. The largest construction-specific occupation is construction managers, with a 10.4% share of construction employment in the South East, above its 8.6% share in the UK as a whole.

Between 2009 and 2013, total construction employment is forecast to increase

by 3.5%

Between 2009 and 2013, the largest percentage increases in employment are expected for plasterers and dryliners (8.3%), surveyors (8.1%), construction managers (7.6%) and logistics (7.3%). However in absolute terms, construction managers has the largest growth in employment over the forecast period at just over 3,000.

Construction professionals have been disaggregated in the 2008 run for the Construction Skills Network into four occupational categories – civil engineers, other construction professionals and technical staff, architects, and surveyors. The result of this disaggregation shows that in 2007, 13% of construction professionals in the South East are classified as civil engineers, 10% as architects and 21% as surveyors.

Total employment by occupation - South East

	Actual	Forecast	
	2007	2009	2013
Senior, executive, and business process managers	14,970	15,390	16,370
Construction managers	38,290	39,590	42,600
Non-construction professional, technical, IT, and other office-based staff	51,960	52,140	54,180
Wood trades and interior fit-out	36,610	37,380	38,280
Bricklayers	12,900	12,670	13,090
Building envelope specialists	13,610	13,530	14,140
Painters and decorators	16,710	16,800	16,970
Plasterers and dry liners	6,500	6,590	7,140
Roofers	5,250	5,440	5,490
Floorers	6,220	6,470	6,590
Glaziers	6,450	6,640	6,920
Specialist building operatives nec*	8,830	8,790	9,070
Scaffolders	2,720	2,870	3,010
Plant operatives	5,280	5,280	5,080
Plant mechanics/fitters	4,140	4,020	4,110
Steel erectors/structural	3,750	3,790	3,910
Labourers nec*	12,890	13,220	14,020
Electrical trades and installation	23,810	24,440	24,950
Plumbing and HVAC Trades	28,950	29,900	30,690
Logistics	4,130	4,490	4,820
Civil engineering operatives nec*	8,950	9,780	9,610
Non–construction operatives	15,710	15,930	16,290
Civil engineers	5,240	5,580	5,700
Other construction professionals and technical staff	22,880	23,310	23,670
Architects	4,290	4,250	4,160
Surveyors	8,540	8,690	9,390
Total (SIC 45)	**328,630**	**335,150**	**347,330**
Total (SIC 45 and 74.2)	**369,580**	**376,980**	**390,270**

Source: ONS, CSN, Experian
Footnote: 5 and 6 (See Appendix III)

* nec - not elsewhere classified

3.2 Annual recruitment requirements by occupation

The annual recruitment requirement (ARR) is a gross requirement that takes into account workforce flows into and out of construction, due to such factors as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into the industry from training, although robust data on training provision is being developed by ConstructionSkills in partnership with the Learning and Skills Council (LSC) and Higher Education representatives. Thus, the ARR provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output.

The ARR for 26 occupations within the South East's construction industry between 2009 and 2013 is illustrated in the table. The ARR of 5,690 is indicative of the average requirements per year for the industry, as based on the output forecasts for the region. This takes into account 'churn' – flows into and out of the industry.

Construction managers (880) are expected to have the largest ARRs, followed by senior, executive, and business process managers (480) and painters and decorators (460). However as a percentage of 2009 employment, it is expected that logistics (6.7%) and scaffolders (6.3%) will be the trades most in demand.

Please note that all of the ARRs presented in this section are employment requirements and not necessarily training requirements. This is because some new entrants to the construction industry, such as skilled migrants or those from other industries where similar skills are already used, will be able to work in the industry without the need for retraining.

Non-construction operatives is a diverse occupational group including all of the activities under the SIC 45 and SIC 74.2 umbrella that cannot be classified elsewhere, such as cleaners, elementary security occupations nec* and routine inspectors and testers. The skills required in these occupations are highly transferable to other industries and forecasting such movement is hazardous given the lack of robust supportive data. Therefore the ARR for non-construction operatives is not published

Annual recruitment requirement by occupation - South East

	2009-2013
Senior, executive, and business process managers	480
Construction managers	880
Non-construction professional, technical, IT, and other office-based staff	280
Wood trades and interior fit-out	420
Bricklayers	350
Building envelope specialists	150
Painters and decorators	460
Plasterers and dry liners	150
Roofers	<50
Floorers	110
Glaziers	140
Specialist building operatives nec*	170
Scaffolders	180
Plant operatives	90
Plant mechanics/fitters	<50
Steel erectors/structural	50
Labourers nec*	60
Electrical trades and installation	370
Plumbing and HVAC Trades	410
Logistics	300
Civil engineering operatives nec*	60
Non–construction operatives	
Civil engineers	190
Other construction professionals and technical staff	200
Architects	<50
Surveyors	70
Total (SIC 45)	**5,190**
Total (SIC 45 and 74.2)	**5,690**

Source: CSN, Experian
Footnote: 5 and 6 (See Appendix III)

* nec - not elsewhere classified

4 Comparisons across the UK

Between 2009 and 2013 most regions and nations are forecast to experience a rise in construction output, the exceptions being the South West, and Yorkshire and Humber the former of which is predicted to see a slight decline and the latter no change.

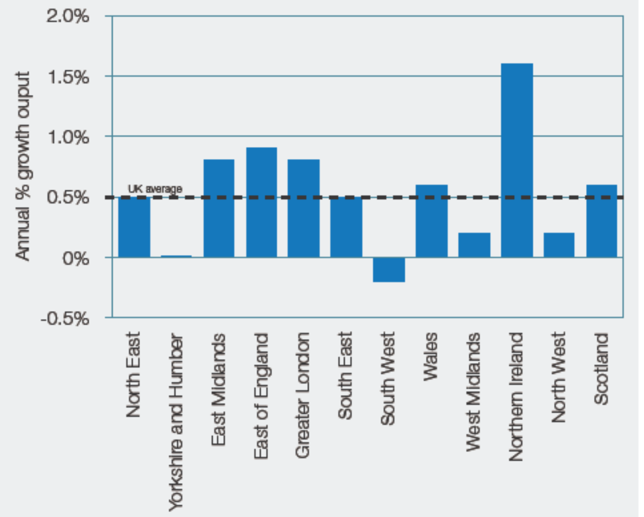
The South West does not benefit from growth in the infrastructure and public non-housing sectors in the way that many other regions and nations do, as there are no major civil engineering projects planned for the region within the forecast period and few local authorities feature in the early phases of the Building Schools for the Future programme (BSF). In Yorkshire and Humber, the low average annual growth rate is a function of a very poor 2009 predicated on the largest fall in new orders of any region or nation in 2008.

Northern Ireland continues to show the highest forecast growth in output, driven by the investment strategy planned for the next 10 years by the Northern Ireland Executive, although worries about how quickly this can be delivered have led to a lower growth rate than that put forward in previous years. The East Midlands, East of England and Greater London are also predicted to do better than the UK average, the capital in particular benefits from major infrastructure projects, the BSF programme, and Olympics build.

The ARR for 2009–2013 for Greater London is estimated to be the highest of the regions with just over 6,000 new entrants needed each year. This high ARR can in part be attributed to the region accounting for a large proportion of construction output for the UK as a whole. Next comes the South East with an ARR of around 5,700, not surprising given that the size of the construction market in the region is similar to Greater London's, and the North West with an ARR of close to 4,800.

The lowest ARR is for Northern Ireland at 900, despite the fact that the province has the highest output growth rate in the UK. This is because it is a small market, accounting for around 2.7% of UK output and 3.1% of UK employment. The North East has quite a high ARR, at a little over 2,000, compared to its market size. This is because it has a reasonable growth rate in output terms and it suffers from significant outflows of construction workers to other regions.

Annual average output growth by region 2009-2013

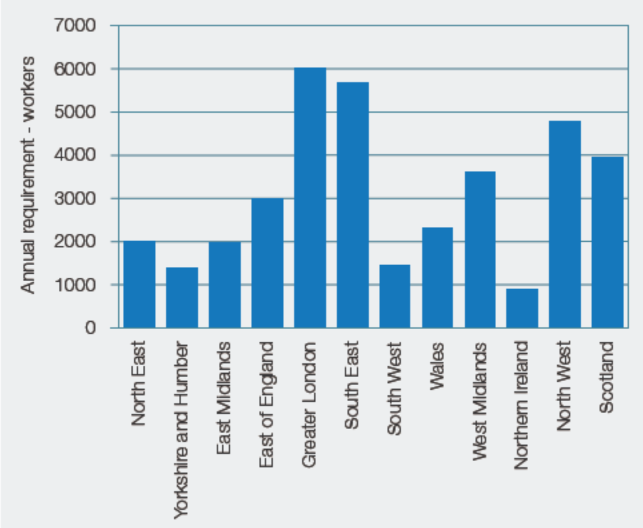


Source: CSN, Experian
Footnote: 2 (See Appendix III)

Infrastructure continues to be the main driver of growth, and the South East remains the largest region in employment terms

* nec - not elsewhere classified

Annual recruitment requirement (ARR) by region 2009-2013



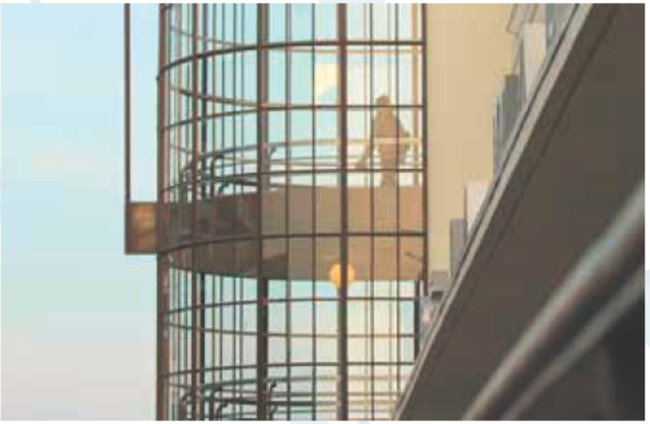
Source: CSN, Experian

Appendix I – Methodology

Background

The **Construction Skills Network (CSN)**, launched in 2005, represents a radical change in the way that ConstructionSkills collect and produce information on the future employment and training needs of the industry. CITB-ConstructionSkills, CIC and CITB Northern Ireland are working as ConstructionSkills, the Sector Skills Council for Construction to produce robust Labour Market Intelligence to provide a foundation on which to plan for future skills needs and to target investment.

The CSN functions at both a national and regional level. It comprises of a National Group, 12 Observatory groups, a forecasting model for each of the regions and countries, and a Technical Reference Group. An Observatory group currently operates in each of the nine English regions and also in Wales, Scotland and Northern Ireland.



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Observatory groups currently meet bi-annually and consist of key regional stakeholders invited from industry, Government, education and other SSCs, all of whom contribute local industry knowledge and views on training, skills, recruitment, qualifications and policy.

The National Group also includes representatives from industry, Government, education and other SSCs. This Group convenes twice a year and sets the national scene, effectively forming a backdrop for the Observatories.

At the heart of the CSN is a forecasting model which generates forecasts of employment requirements within the industry for a range of trades. The model was designed and is managed by Experian under the independent guidance and validation of the Technical Reference Group, comprised of statisticians and modelling experts.

It is envisaged that the model will evolve over time as new research is published and modelling techniques improve. Future changes to the model will only be made after consultation with the Technical Reference Group.

The model approach

The model approach relies on a combination of primary research and views from the CSN to facilitate it. National data is used as the basis for the assumptions that augment the model, which is then adjusted with the assistance of the Observatories and National Group. Each English region, Wales, Scotland and Northern Ireland has a separate model (although all models are inter-related due to labour movements) and, in addition, there is one national model that acts as a constraint to the individual models and enables best use to be made of the most robust data (which is available at the national level). The models work by forecasting demand and supply of skilled workers separately. The difference between demand and supply forms the employment requirement.

The forecast **total employment** levels are derived from expectations about construction output and productivity. Essentially this is based upon the question 'How many people will be needed to produce forecast output, given the assumptions made about productivity?'.

The **annual recruitment requirement (ARR)** is a gross requirement that takes into account workforce flows into and out of construction, due to such factors as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into the industry from training, although robust data on training provision is being developed by ConstructionSkills in partnership with the Learning and Skills Council (LSC) and Higher Education representatives. Thus, the annual recruitment requirement provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output.

Demand is based upon the results of discussion groups comprising industry experts, a view of construction output and a set of integrated models relating to wider national and regional economic performance. The model is dynamic and reflects the general UK economic climate at any point in time. To generate the labour demand, the model makes use of a set of specific statistics for each major type of work (labour coefficients) that determine the employment, by trade, needed to produce the predicted levels of construction output. The labour supply for each type of trade or profession is based upon the previous years' supply (the total stock of employment) combined with flows into and out of the labour market.

The key leakages (outflows) that need to be considered are:

- transfers to other industries
- international/domestic OUT migration
- permanent retirements (including permanently sick)
- outflow to temporarily sick and home duties.

The main reason for outflow is likely to be transfer to other industries.

Flows into the labour market include:

- transfers in from other industries
- international/domestic IN migration
- inflow from temporarily sick and home duties.

The most significant inflow is likely to be from other industries. A summary of the model is shown in the flow chart.

Source: Experian

Appendix II – Glossary of terms

- **Building envelope specialists** – any trade involved with the external cladding of the building other than bricklaying, e.g. curtain walling.
- **Demand** – construction **output**, vacancies, and a set of **labour coefficients** to translate demand for workers to labour requirements by trade. Demand is calculated using Office for National Statistics (ONS) and the Department of Finance and Personnel Northern Ireland (DFP) output data. Vacancy data are usually taken from the National Employers Skills Survey from the Department for Education and Skills.
- **GDP** – Gross Domestic Product – total market value of all final goods and services produced. A measure of national income. GDP=**GVA** plus taxes on products minus subsidies on products.
- **GVA** – Gross Value Added – total output minus the value of inputs used in the production process. GVA measures the contribution of the economy as a difference between gross output and intermediate outputs.
- **Labour coefficients** – the labour inputs required for various types of construction activity. The number of workers of each occupation/trade to produce £1m of output in each sub-sector.
- **LFS** – Labour Force Survey – a UK household sample survey which collects information on employment, unemployment, flows between sectors and training, from around 53,000 households each quarter (>100,000 people).
- **LMI** – Labour Market Intelligence – data that are quantitative (numerical) or qualitative (insights and perceptions) on workers, employers, wages, conditions of work, etc.
- **Macroeconomics** – the study of an economy on a national level, including total employment, investment, imports, exports, production and consumption.
- **Nec** – not elsewhere classified, used as a reference in LFS data.
- **ONS** – Office for National Statistics – official statistics on economy, population and society at national UK and local level.
- **Output** – total value of all goods and services produced in an economy.
- **Productivity** – output per employee.
- **SIC codes** – Standard Industrial Classification codes – from the UK Standard Industrial Classification of Economic Activities produced by the **ONS**.
- ConstructionSkills is responsible for SIC 45 Construction and part of SIC 74.2 Architectural and Engineering activities and related technical consultancy.
- ConstructionSkills shares an interest with SummitSkills in SIC 45.31 Installation of wiring and fittings and SIC 45.33 Plumbing. AssetSkills has a peripheral interest in SIC 74.2.
- **SOC codes** – Standard Occupational Classification codes.
- **Supply** – the total stock of employment in a period of time plus the flows into and out of the labour market. Supply is usually calculated from **LFS** data.

Appendix III – Footnotes and footprints

Footnotes

1 Except for Northern Ireland, output data for the English regions, Wales and Scotland are supplied by the Office for National Statistics (ONS) on a current price basis. Thus national deflators produced by the ONS have been used to deflate to a 2000 constant price basis, i.e. the effects of inflation have been stripped out.

2 The annual average growth rate of output is a compound average growth rate, i.e. the rate at which output would grow each year if it increased steadily year-on-year over the forecast period.

3 Only selected components of gross value added (GVA) are shown in this table and so do not sum to the total.

4 For new construction orders comparison is made with Great Britain rather than the UK, owing to the fact that there are no orders data series for Northern Ireland.

5 Employment numbers are rounded to the nearest 10.

6 The tables include data relating to plumbers and electricians. As part of SIC 45, plumbers and electricians working in contracting are an integral part of the construction process. However, it is recognised by ConstructionSkills that SummitSkills has responsibility for these occupations across a range of SIC codes, including SIC 45.31 and 45.33.

Footprints for Built Environment SSCs

The table summarises the SIC codes covered by ConstructionSkills:

	SIC Code	Description
ConstructionSkills	45.1	Site preparation
	45.2	Building of complete construction or parts; civil engineering
	45.3	Building installations (except 45.31 and 45.33 which are covered by SummitSkills
	45.4	Building completition
	45.5	Renting of construction or demolition equipment with operator
	74.2†	Architectural and engineering activities and related technical consultancy

The sector footprints for the other SSCs covering the Built Environment:

SummitSkills

Footprint – Plumbing, Heating, Ventilation, Air Conditioning, Refrigeration and Electrotechnical.

Coverage – Building Services Engineering.

ConstructionSkills recognises the responsibility of Summit Skills across Standard Industrial Classfications (SIC) 45.31 and 45.33, thus data relating to the building services engineering sector is included here primarily for completeness.

AssetSkills

Footprint – Property Services, Housing, Facilities Management, Cleaning

Coverage – Property, Housing and Land Managers, Chartered Surveyors, Estimators, Valuers, Home Inspectors, Estate Agents and Auctioneers (property and chattels), Caretakers, Mobile and Machine Operatives, Window Cleaners, Road Sweepers, Cleaners, Domestics, Facilities Managers.

Energy and Utility Skills

Footprint – Electricity, Gas (including gas installers), Water and Waste Management

Coverage – Electricity generation and distribution; Gas transmission, distribution and appliance installation and maintenance; Water collection, purification and distribution; Waste water collection and processing; Waste Management.

† AssetSkills has a peripheral interest in SIC 74.2

Appendix IV – Occupational groups

Occuptional group
Description, SOC reference.

Senior, executive and business process managers
Directors and chief executives of major organisations, 1112
Senior officials in local government, 1113
Financial managers and chartered secretaries, 1131
Marketing and sales managers, 1132
Purchasing managers, 1133
Advertising and public relations managers, 1134
Personnel, training and Industrial relations managers, 1135
Office managers, 1152
Civil service executive officers, 4111
Property, housing and land managers, 1231
Information and communication technology managers, 1136
Research and development managers, 1137
Customer care managers, 1142
Storage and warehouse managers, 1162
Security managers, 1174
Natural environment and conservation managers, 1212
Managers and proprietors in other services nec*, 1239

Construction managers
Production, works and maintenance managers, 1121
Managers in construction, 1122
Quality assurance managers, 1141
Transport and distribution managers, 1161
Recycling and refuse disposal managers, 1235
Managers in mining and energy, 1123
Occupational hygienists and safety officers (H&S), 3567
Conservation and environmental protection officers, 3551

Non-construction professional, technical, IT, and other office–based staff (excl. managers)
IT operations technicians, 3131
IT user support technicians, 3132
Estimators, valuers and assessors, 3531
Finance and investment analysts/advisers, 3534
Taxation experts, 3535
Financial and accounting technicians, 3537
Vocational and Industrial trainers and instructors, 3563
Business and related associate professionals nec*, 3539
Legal associate professionals, 3520
Inspectors of factories, utilities and trading standards, 3565
Software professionals, 2132
IT strategy and planning professionals, 2131
Estate agents, auctioneers, 3544
Solicitors and lawyers, judges and coroners, 2411
Legal professionals nec*, 2419
Chartered and certified accountants, 2421
Management accountants, 2422
Management consultants, actuaries, economists and statisticians, 2423
Receptionists, 4216
Typists, 4217
Sales representatives, 3542
Civil Service administrative officers and assistants, 4112
Local government clerical officers and assistants, 4113
Accounts and wages clerks, book-keepers, other financial clerks, 4122
Filing and other records assistants/clerks, 4131
Stock control clerks, 4133
Database assistants/clerks, 4136
Telephonists, 4141
Communication operators, 4142
General office assistants/clerks, 4150
Personal assistants and other secretaries, 4215
Sales and retail assistants, 7111
Telephone salespersons, 7113
Buyers and purchasing officers (50%), 3541
Marketing associate professionals, 3543
Personnel and Industrial relations officers, 3562
Credit controllers, 4121
Market research interviewers, 4137
Company secretaries (excluding qualified chartered secretaries), 4214
Sales related occupations nec*, 7129
Call centre agents/operators, 7211
Customer care occupations, 7212
Elementary office occupations nec*, 9219

* nec - not elsewhere classified

Wood trades and interior fit-out
Carpenters and joiners, 5315
Pattern makers, 5493
Paper and wood machine operatives, 8121
Furniture makers, other craft woodworkers, 5492
Labourers in building and woodworking trades (9%), 9121
Construction trades nec* (25%), 5319

Bricklayers
Bricklayers, masons, 5312

Building envelope specialists
Construction trades nec* (50%), 5319
Labourers in building and woodworking trades (5%), 9121

Painters and decorators
Painters and decorators, 5323
Construction trades nec* (5%), 5319

Plasterers and dry liners
Plasterers, 5321

Roofers
Roofers, roof tilers and slaters, 5313

Floorers
Floorers and wall tilers, 5322

Glaziers
Glaziers, window fabricators and fitters, 5316
Construction trades nec* (5%), 5319

* nec - not elsewhere classified

Specialist building operatives nec*
Construction operatives nec* (80%), 8149
Construction trades nec* (5%), 5319
Industrial cleaning process occupations, 9132

Scaffolders
Scaffolders, stagers, riggers, 8141

Plant operatives
Crane drivers, 8221
Plant and machine operatives nec*, 8129
Transport operatives nec*, 8219
Fork–lift truck drivers, 8222
Mobile machine drivers and operatives nec*, 8229
Agricultural machinery drivers, 8223

Plant mechanics/fitters
Metal working production and maintenance fitters, 5223
Precision instrument makers and repairers, 5224
Motor mechanics, auto engineers, 5231
Labourers in process and plant operations nec*, 9139
Tool makers, tool fitters and markers-out, 5222
Vehicle body builders and repairers, 5232
Auto electricians, 5233
Vehicle spray painters, 5234
Goldsmiths, silversmiths, precious stone workers, 5495
Tyre, exhaust and windscreen fitters, 8135

Steel erectors/structural
Steel erectors, 5311
Welding trades, 5215
Sheet metal workers, 5213
Metal plate workers, shipwrights and riveters, 5214
Construction trades nec* (5%), 5319
Smiths and forge workers, 5211
Moulders, core makers, die casters, 5212
Metal machining setters and setter-operators, 5221

Labourers nec*
Labourers in building and woodworking trades (80%), 9121

Electrical trades and installation
Electricians, electrical fitters, 5241
Electrical/electronic engineers nec*, 5249
Telecommunications engineers, 5242
Lines repairers and cable jointers, 5243
TV, video and audio engineers, 5244
Computer engineers, installation and maintenance, 5245

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* nec - not elsewhere classified

Plumbing and heating, ventilation, and air conditioning trades
Plumbers and HVAC trades, 5314
Pipe fitters, 5216
Labourers in building and woodworking trades (6%), 9121
Construction trades nec* (5%), 5319

Logistics
Heavy goods vehicle drivers, 8211
Van drivers, 8212
Packers, bottlers, canners, fillers, 9134
Other goods handling and storage occupations nec*, 9149
Buyers and purchasing officers (50%), 3541
Transport and distribution clerks, 4134
Security guards and related occupations, 9241

Civil engineering operatives nec*
Road construction operatives, 8142
Rail construction and maintenance operatives, 8143
Quarry workers and related operatives, 8123
Construction operatives nec* (20%), 8149
Labourers in other construction trades nec*, 9129

Non-construction operatives
Metal making and treating process operatives, 8117
Process operatives nec*, 8119
Metal working machine operatives, 8125
Water and sewerage plant operatives, 8126
Assemblers (vehicle and metal goods), 8132
Routine inspectors and testers, 8133
Assemblers and routine operatives nec*, 8139
Stevedores, dockers and slingers, 9141
Hand craft occupations nec*, 5499
Elementary security occupations nec*, 9249
Cleaners, domestics, 9233
Road sweepers, 9232
Gardeners and groundsmen, 5113
Caretakers, 6232

Civil engineers
Civil engineers, 2121

Other construction professionals and technical staff
Mechanical engineers, 2122
Electrical engineers, 2123
Chemical engineers, 2125
Design and development engineers, 2126
Production and process engineers, 2127
Planning and quality control engineers, 2128
Engineering professional nec*, 2129
Electrical/electronic technicians, 3112
Engineering technicians, 3113
Building and civil engineering technicians, 3114
Science and engineering technicians nec*, 3119
Architectural technologists and town planning technicians, 3121
Draughtspersons, 3122
Quality assurance technicians, 3115
Town planners, 2432
Electronics engineers, 2124
Building inspectors, 3123
Scientific researchers, 2321

Architects
Architects, 2431

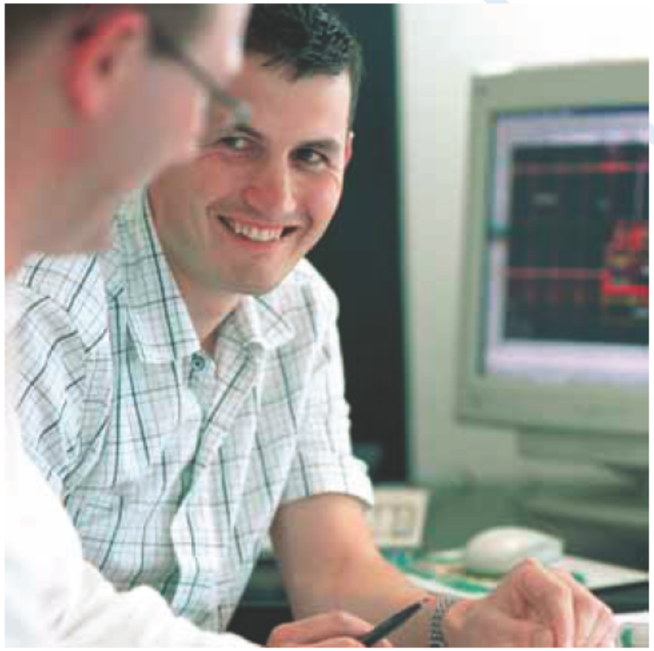
Surveyors
Quantity surveyors, 2433
Chartered surveyors (not Quantity surveyors), 2434

* nec - not elsewhere classified

Appendix V – CSN website and contact details

The CSN website – http://www.cskills.org/csn
The CSN website functions as a **public gateway** for people wishing to access the range of **Labour Market Intelligence (LMI)** reports and **research material** regularly produced by the CSN.

The main UK report, along with the twelve LMI reports (one for Northern Ireland, Scotland, Wales and each of the nine English regions) can be downloaded from the site, while research reports such as the ‘2020Vision’ and ‘Closer look at Greater London’ are also freely available.



Having access to this range of labour market intelligence and trend insight allows industry, government, regional agencies and key stakeholders to:

- pinpoint the associated, specific, skills that will be needed year by year
- identify the sectors which are likely to be the strongest drivers of output growth in each region and devolved nation
- track the macro economy
- understand how economic events impact on regional and devolved nations economic performance
- highlight trends across the industry such as national and regional shifts in demand
- plan ahead and address the skills needs of a traditionally mobile workforce
- understand the levels of qualified and competent new entrants required into the workforce.

The website also contains further information about:

- how the CSN functions
- the CSN Model approach
- how the Model can be used to explore scenarios
- CSN team contact information
- access to related ConstructionSkills research
- details for those interested in becoming members of the network.

The CSN website can be found at:
http://www.cskills.org/csn

CSN Members Area
While the public area of the CSN Website is the gateway to the completed LMI and research reports, being a member of the CSN offers further benefits.

As a CSN member you will be linked to one of the Observatory groups, which play a vital role in being able to feed back observations, knowledge and insight on what is really happening on the ground in every UK region and nation. This feedback is used to fine tune the assumptions and data that goes into the forecasting programme such as:

- details of specific projects
- demand within various types of work or sectors
- labour supply
- inflows and outflows across the regions and devolved nations.

CSN Members therefore have:

- early access to forecasts
- the opportunity to influence and inform the data
- the ability to request scenarios that could address "What would happen if…" types of questions using the model.

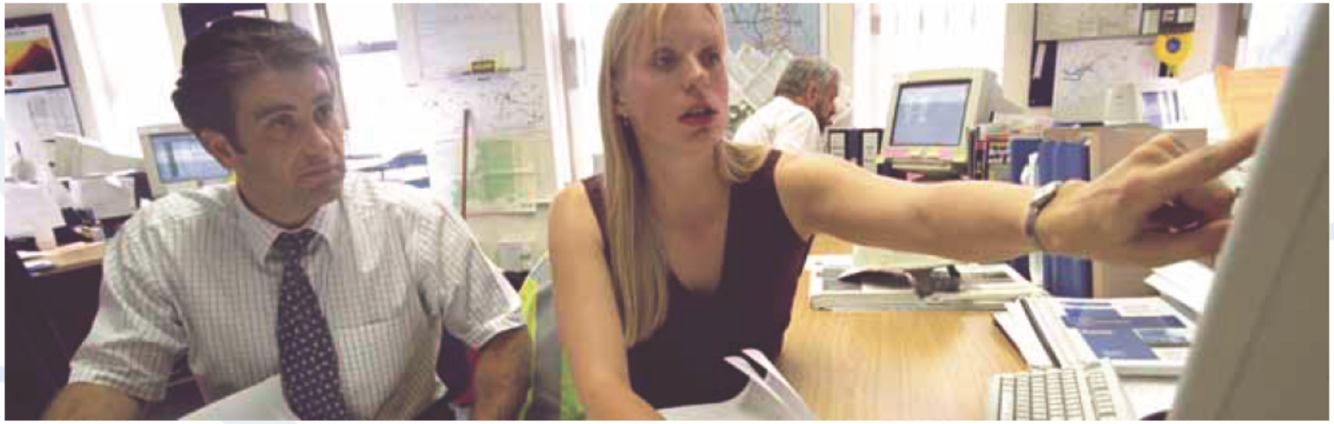
Through the Members area of the CSN website, members can:

- access observatory related material such as meeting dates, agendas, presentations and notes
- access sub-regional LMI reports
- download additional research material
- comment/feedback to the CSN Team.

As the Observatory groups highlight the real issues faced by the industry in the UK, we can more efficiently and effectively plan our response to skills needs. If you would like to contribute your industry observations, knowledge and insight to this process and become a member of the CSN, we would be delighted to hear from you.

Contact details
For further information about the CSN website, or to register your interest in joining the CSN as a member, please contact us at: **csn@cskills.org**

For enquiries relating to the work of the CSN, please contact Sandra Lilley, CSN Manager, at: **sandra.lilley@cskills.org**



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