



Department for
Business, Energy
& Industrial Strategy

South West England and South East Wales Science and Innovation Audit

Annex M: Skills and Labour Market Analysis Report – Marchmont

A Science and Innovation Audit Report sponsored by
the Department for Business, Energy and Industrial Strategy

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Annex M: Skills and Labour Market Analysis Report – Marchmont

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Contents

Annex M: Skills and Labour Market Analysis Report – Marchmont	1
1. Introduction.....	2
1.1. Background	2
2. Demography.....	3
2.1. Population estimates	3
2.2. Population projections	4
3. Labour market performance	7
3.1. Employment.....	7
3.2. Employment rate	8
3.3. Unemployment	10
3.4. Entrepreneurship	11
4. Human capital and talent	12
4.1. GCSE.....	12
4.2. A levels	13
4.3. Apprenticeships	14
4.4. Further education	15
4.5. Higher education	16
4.6. Retention of local skills	26
4.7. General S&T staff	27
4.8. Qualified working population	29
4.9. Skills shortages	32
4.10. Skills gaps.....	33
4.11. Replacement demand	34
5. Established industrial capacity and growth points.....	37
5.1. Employee jobs	37
5.2. Enterprises	41
Appendix M1: Aerospace and Advanced Engineering.....	45
Appendix M2: Digital Living Innovation	60
Appendix M3: Resilience, Environment and Sustainability	80
Appendix M4: Next Generation Microelectronics	100
Appendix M5: New Energy Systems	114
Appendix M6: Iron & Steel	138
Appendix M7: SIC Codes used to Define SWW-SIA Themes	144

1. INTRODUCTION

1.1. Background

This report presents supplementary data to aid the production of a Science and Innovation Audit covering the South West of England and South East of Wales being prepared by a consortia of Local Enterprise Partnerships (LEPs) and Higher Education Institutions (HEIs).

The work is required to meet, as far as is possible, the following guidance:

“This section of the SIA should also present an overview of the human capital and talent available in the region, presenting statistics on key indicators like the numbers of persons resident in the region in question that either have a STEM degree or are working in a S&T. The presentation should go beyond the main S&T indicators, to encompass data and information about entrepreneurs, where that is available for the territory in question (e.g. GEM statistics on entrepreneurial intention or statistics about the numbers of young people and students that have training in starting a business, at school or university)

The presentation should look at talent flows as well as the stock of human resources in the region, presenting an overview of the numbers of undergraduate and graduates graduating each year and the inflows and outflows of students and others from the region to other parts of the UK and internationally. It would be helpful if this section could also present a more qualitative analysis of capacities and capabilities in the region in question, for those high-growth potential sectors, whether that is the digital economy or tourism.”

2. DEMOGRAPHY

2.1. Population estimates

The consortium area has a combined resident population of 6.2 million people. Overall, the area is less urbanized than England & Wales as a whole with 71% of the population living in an urban area compared to the national average of 82%¹. The main built up areas (BUA) are:

- Bristol BUA 617,280
- Cardiff BUA 447,287
- Newport BUA 306,844
- Plymouth BUA 260,203
- Swindon BUA 185,609
- Gloucester BUA 150,053
- Exeter BUA 117,763
- Cheltenham BUA 116,447
- Paignton/Torquay 115,410

While overall, the area loses more residents than it gains through net commuting², several of the largest built up areas attract large flows of commuters.

Table 1 Net impact of commuting on daytime population: 2011

	Net change	Net change as % of usual resident population
Cardiff BUA	42,076	9.4
Bristol BUA	31,777	5.1
Exeter BUA	25,914	22.0
Truro BUA	14,725	63.9
Bath BUA	13,629	14.4
Bridgend BUA	11,548	19.8
Taunton BUA	10,093	15.6

Source: 2011 Census of Population

With 62% of population of 'working age'³, the area's population has a similar age distribution as the country as a whole. The remainder of the population is broadly evenly

¹ 2011 Census of Population

² According the 2011 Census of Population the resident population of the area (5,900,128) was 14,082 lower than its daytime population (5,886,046).

split between residents who are aged under 16 (18%) and those who are aged over 65 (20%). Young people (aged between 16 and 64) account for almost one-fifth (18%) of the working age population.

Table 2 Population structure by sub-area: 2015

	Cornwall & Isles	Gloucestershire	Heart of the South West	South East Wales	Swindon & Wiltshire	West of England	Consortia area	England and Wales
Under 16	17	18	17	19	19	18	18	19
16 and 17	2	2	2	2	2	2	2	2
18 and 19	2	2	2	3	2	3	3	2
20 to 24	5	6	6	7	5	8	7	7
25 to 44	21	24	22	25	25	27	24	26
45 to 64	28	28	27	26	27	24	26	25
65 and over	24	21	23	18	19	17	20	18
Total (=100%)	551,728	617,162	1,714,552	1,505,368	703,253	1,118,807	6,210,870	57,885,413

Source: ONS Population Estimates

2.2. Population projections

Looking ahead, the area's population is projected to increase by more than 400,000 people between 2014 and 2024. Some of the area's largest population centres are projected to increase the fastest – for example, Cardiff and City of Bristol – while Blaenau Gwent and the Isles of Scilly are expected to decline in population over the period.

³ Aged between 16 and 64.

Table 3 Change in resident population: 2014 to 2024

Area	Number	%
Cardiff	45,457	12.7
Bristol, City of	46,006	10.4
South Gloucestershire	25,883	9.5
North Somerset	19,544	9.4
Swindon	18,502	8.6
Cornwall	43,006	7.9
Gloucestershire	46,296	7.6
Newport	10,681	7.2
Somerset	36,327	6.7
Devon	49,054	6.4
Wiltshire	28,249	5.8
Torbay	6,135	4.6
Bridgend	6,200	4.4
Plymouth	10,438	4
Merthyr Tydfil	2,155	3.6
The Vale of Glamorgan	3,925	3.1
Caerphilly	3,262	1.8
Torfaen	1,365	1.5
Rhondda, Cynon, Taf	2,177	0.9
Monmouthshire	530	0.6
Blaenau Gwent	-1066	-1.5
Isles of Scilly	-122	-5.4
Consortium area	404,004	6.7
England & Wales	4,211,025	7.3

Source: ONS (2014 based) mid-year population estimates via NOMIS;

The working age population is projected to increase far more modestly than the population as a whole, increasing by 64,300 between 2014 and 2024. When expressed in percentage terms this is expected to be a smaller increase (1.7%) than projected across England & Wales as a whole (3.8%).

Table 4 Change in resident population aged 16 to 64: 2014 to 2024

Area	Number	%
Cornwall	24,950	8.3
Rhondda, Cynon, Taff	22,008	9
Swindon	9,530	5.5
Isles of Scilly	6,646	1.8
Devon	6,491	2
Plymouth	4,854	4
Torbay	4,226	3
Bath and North East Somerset	4,091	4.4
Gloucestershire	2,416	0.5
Bristol, City of	1,196	1
North Somerset	-195	-14.3
Caerphilly	-303	-0.8
Somerset	-595	-0.3
South Gloucestershire	-645	-0.2
The Vale of Glamorgan	-797	-0.9
Wiltshire	-1,233	-1.6
Cardiff	-2,032	-2.6
Torfaen	-2,141	-4.9
Monmouthshire	-2,693	-4.7
Blaenau Gwent	-2,804	-2.5
Newport	-3,229	-5.9
Bridgend	-4,019	-0.2
Merthyr Tydfil	-5,228	-3.6
Consortium	64,336	1.7
England & Wales	1,232,359	3.4

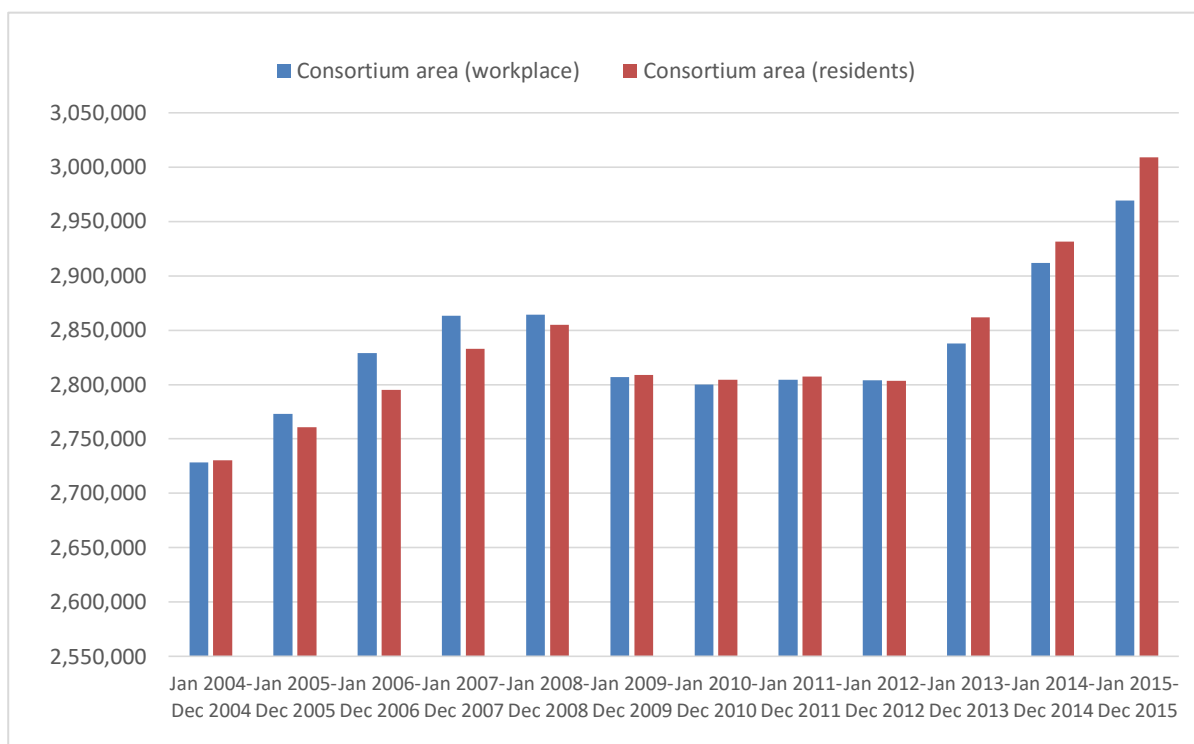
Source: ONS Population Projections

3. LABOUR MARKET PERFORMANCE

3.1. Employment

Figure 1 charts changes in two measures of employment locally: the number of residents in employment (residence based) and the number of people employed at workplaces within the consortium area (workplace based). The chart shows the impact of the 2008/09 recession on both measures and their subsequent growth post 2013.

Figure 1 Residence and workplace based estimates of employment: Consortium area: 2004 to 2015



Source: *Annual Population Survey via NOMIS*

During January to December 2015, around 2.97 million people were employed in workplaces within the consortium area and 3.0 million people who lived within the consortium area were in work. Compared to their pre-recession peaks - recorded in January to December 2008 - the current level of workplace based is 3.7% higher and residence based employment 5.4% higher.

The growth in residence-based employment locally is marginally lower than the UK average (of 5.9%). Growth rates within the consortium area are broadly similar:

- West of England (6.0%)
- Swindon & Wiltshire (5.9%)
- South East Wales (5.5%)

- Heart of the South West (5.1%)
- Cornwall and the Isles of Scilly (5.1%)
- Gloucestershire (4.2%)

3.2. Employment rate

Residence-based employment estimates are often expressed as a percentage of the working age population – the employment rate. Generally, a rate of 80% is thought to be at or near full employment. Latest estimates from the Annual Population Survey suggest that the consortium area has an employment rate that is slightly above the UK level but is around four percentage points below ‘full employment’.

Within the consortium area, the employment rate is highest in Gloucestershire. Gloucestershire has the second highest employment rate of all LEP areas.

Table 5 Employment rate: April 2015 to March 2016

	Level	Percent	95% confidence interval of percent figure (+/-)	Rank of percent
Gloucestershire	300,500	79.9	2.5	2
Swindon and Wiltshire	337,000	78.6	1.8	11
Heart of the South West	787,400	77.5	1.3	13
West of England	549,600	77.1	1.4	15
Cornwall and Isles of Scilly	239,900	74.7	2.8	24
South East Wales	668,200	70.4	1.0	34
Consortium area	2,882,500	75.8	0.6	
United Kingdom	30,093,100	73.6	0.2	

Source: Annual Population Survey via NOMIS

Estimates of the employment rate at the local authority level should be treated with a degree of caution due to the fairly wide confidence intervals that apply, but they do suggest that rates vary substantially within the consortium area: from 81.0% in South Gloucestershire to 64.3% in Blaenau Gwent.

Table 6 Employment rate by local authority: April 2015 to March 2016

	Level	Percent	95% confidence interval of percent figure (+/-)	Rank of percent
South Gloucestershire	136,900	81.0	2.7	6
Gloucestershire	300,500	79.9	2.5	11
Wiltshire	227,000	78.9	2.4	25
Devon	359,500	78.8	2.5	26
Monmouthshire	42,900	78.8	2.6	27
Swindon	109,900	78.2	2.6	32
North Somerset	96,100	78.0	3.0	34
Somerset	246,500	77.8	2.9	40
Bath and North East Somerset	88,200	76.1	2.5	63
Bristol, City of	228,400	74.9	3.0	85
Cornwall	239,900	74.7	2.8	90
The Vale of Glamorgan	57,200	74.7	3.0	91
Plymouth	125,800	74.6	2.4	93
Torbay	55,500	74.5	2.8	94
Bridgend	63,500	72.9	2.9	114
Torfaen	40,900	72.1	3.0	127
Rhondda, Cynon, Taff	103,900	70.0	2.8	154
Cardiff	166,600	69.2	2.8	164
Caerphilly	78,000	69.1	2.8	165
Newport	62,700	68.3	3.4	174
Merthyr Tydfil	24,600	66.1	3.6	186
Blaenau Gwent	28,000	64.3	3.3	198
Consortium area	2,882,500	75.8	0.6	
United Kingdom	30,093,100	73.6	0.2	

Source: Annual Population Survey via NOMIS

3.3. Unemployment

Almost 143,000 people in the consortium areas are unemployed. The unemployment rate is lower than the national average in all parts of the area except South East Wales and is lowest in Heart of the South West and Swindon & Wiltshire (Table 7).

Table 7 Unemployment (Aged 16+): April 2015 to March 2016

	Level, 16+	Percent	95% confidence interval of percent figure (+/-)	Rank of percent
Heart of the South West	33,600	3.8	0.6	14
Swindon and Wiltshire	14,100	3.8	0.9	16
West of England	23,500	4.0	0.7	20
Gloucestershire	13,800	4.2	1.3	21
Cornwall and Isles of Scilly	13,500	5.0	1.5	28
South East Wales	44,200	6.0	0.6	31
Consortium area	142,600	4.5	0.3	
United Kingdom	1,698,000	5.2	0.1	

Source: Annual Population Survey via NOMIS

Young people are more likely to be unemployed than the population as a whole (Table 8). Youth unemployment is generally slightly lower locally than the UK average but is higher in Cornwall & the Isles of Scilly and South East Wales.

Table 8 Youth unemployment (16 to 24): April 2015 to March 2016

	Level, 16 to 24	Percent	95% confidence interval of percent figure (+/-)	Rank of percent
Gloucestershire	4,600	10.4	6.1	13
Heart of the South West	14,900	10.8	2.9	14
Swindon and Wiltshire	5,300	11.6	4.6	20
West of England	11,000	14.1	4.0	26
South East Wales	18,900	16.6	2.6	32
Cornwall and Isles of Scilly	7,700	18.7	7.8	38
Consortium area	62,500	13.5	1.5	
United Kingdom	636,900	14.0	0.5	

Source: Annual Population Survey via NOMIS

3.4. Entrepreneurship

Almost half a million people living within the consortium area are self-employed (Table 9). The rate of self-employment locally is particularly high in Cornwall & the Isles of Scilly and Heart of the South West where rates are the highest of all the LEP areas in England.

Table 9 Self-employment (aged 16+): April to 2015 to March 2016

	Level, 16+	Percent in employment who are self employed	95% confidence interval of percent figure (+/-)	Rank of percent
Cornwall and Isles of Scilly	58,600	22.9	3	1
Heart of the South West	160,200	19.1	1.3	2
Gloucestershire	54,100	17.2	2.6	6
Swindon and Wiltshire	53,300	15	1.7	12
West of England	83,200	14.6	1.3	18
South East Wales	79,200	11.5	0.8	36
Consortium area	488,400	16.1	0.6	
United Kingdom	4,599,200	14.7	0.2	

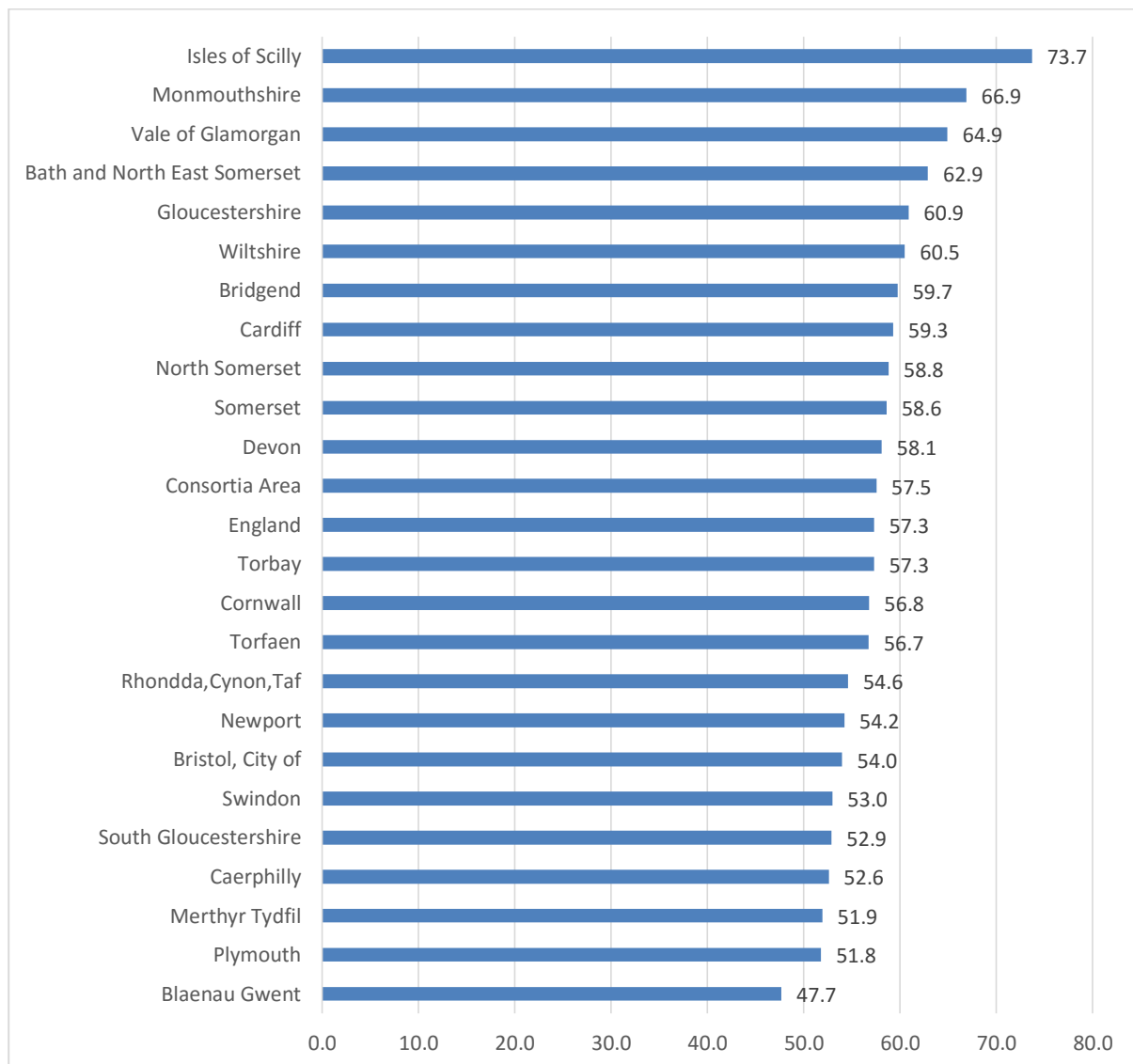
Source: Annual Population Survey via NOMIS

4. HUMAN CAPITAL AND TALENT

4.1. GCSE

While overall the percentage of school leavers achieving five good passes at GCSE including maths and English across the consortium area is broadly on par with the national average there is considerable variation in achievement at the local authority level within the area both within the South West and South East Wales.

Figure 2 Percentage achieving 5+ A*-C including English & mathematics GCSEs: 2014/15



Sources: England Dept for Education SFR 01/2016

<https://www.gov.uk/government/statistics/revised-gcse-and-equivalent-results-in-england-2014-to-2015> Wales StatsWales <https://statswales.gov.wales/Catalogue/Education-and->

4.2. A levels

Four broad patterns emerge from the analysis of take up in STEM subjects at A level. The typical trend – affecting the largest number of subjects – is of rising popularity between 2010/11 and 2012/13 but then of subsequent decline – sometimes to levels below those reported in the baseline year. Biological sciences, chemistry, physics and mathematics are in part of this group. By contrast, entries for computing and ICT follow an opposing trend: falling initially but then reporting a resurgence in popularity more recently. The number of entries on design & technology courses have fallen consistently each year while those on further mathematics have risen consistently.

Table 10 STEM A level entries: 2010/11 to 2014/15

Academic Year	2010/1 1	2011/1 2	2012/1 3	2013/1 4	2014/1 5	Change 2010/1 1 - 2014- 15	% chang e 2010/1 1 - 2014- 15
Biological Sciences	6,001	6,118	6,218	5,888	5,723	-278	-5%
Chemistry	4,341	4,491	4,751	4,706	4,418	77	2%
Physics	3,129	3,306	3,404	3,337	3,379	250	8%
Other Science	918	864	918	962	986	68	7%
Mathematics	7,212	7,549	7,822	7,707	7,742	530	7%
Further Mathematics	627	716	772	796	827	200	32%
Design and Technology	2,130	1,758	1,600	1,561	1,467	-663	-31%
Computing	273	264	233	254	358	85	31%
ICT	2,093	1,822	1,646	1,275	1,396	-697	-33%
STEM Total	26,724	26,888	27,364	26,486	26,296	-428	-2%

Sources: England - DfE SFR03/2016 and equivalent SFRs for earlier years

<https://www.gov.uk/government/statistics/a-level-and-other-level-3-results-2014-to-2015-revised>: Wales – StatsWales <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Examinations-and-Assessments/Advanced-Level-and-Equivalent/alevelentriesandresultspupilsaged17only-by-subjectgroup>

4.3. Apprenticeships

Almost 8,200 apprenticeships were completed in STEM related frameworks in 2014/15. These were mostly in engineering and manufacturing technologies but also in information and communication technology. There is no clear trend in patterns of achievements – with the number of STEM related frameworks falling between 2012/13 and 2013/14 and then rising between 2014/14 and 2014/15/

Table 11 Apprenticeship Framework Achievements by Sector Subject Area, South West and SE Wales (2012/13 to 2014/15)

Sector Subject Area	2012/13	2013/14	2014/15	Change	% change
Agriculture, Horticulture and Animal Care	660	765	865	205	31%
Arts, Media and Publishing	125	125	130	5	4%
Business, Administration and Law	12,290	13,645	12,570	280	2%
Construction, Planning and the Built Environment	3,070	2,980	3,140	70	2%
Education and Training	260	270	280	20	8%
Engineering and Manufacturing Technologies	6,510	6,490	6,835	325	5%
Health, Public Services and Care	14,075	16,790	15,285	1,210	9%
Information and Communication Technology	1,200	1,160	1,340	140	12%
Languages, Literature and Culture					
Leisure, Travel and Tourism	2,190	2,665	2,335	145	7%
Preparation for Life and Work					
Retail and Commercial Enterprise	9,745	9,430	8,720	-1,025	-11%
Science and Mathematics	10	20		-10	
Unknown					
Total	50,135	54,340	51,500	1,365	3%
SIA Sector Frameworks	7,720	7,670	8,175	455	6%
SIA Frameworks as % of total	15%	14%	16%	0.5%	

Source: South West - FE Data Library (Skills Funding Agency)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/520539/apprenticeships-achievements-by-geography-and-sector-subject-area.xls Wales – StatsWales
<https://statswales.gov.wales/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Further-Education-and-Work-Based-Learning/Learners/Work-Based-Learning/learningprogrammesapprenticeships>

4.4. Further education

The number of learning aims delivered in sector subject areas relevant to the SIA themes has fallen in line with the contraction in aims delivered across the board. Within this, only science and mathematics has bucked the general trend with year-on-year growth. Around one in six learning aims delivered across the consortium area are in sector subject areas that relate to the SIA themes.

Table 12 FE and skills learning aims delivered by Sector Subject Area, South West and South East Wales, 2012/13 - 2014/15

Sector Subject Area	2012/13	2013/14	2014/15	Change	% change
Agriculture, Horticulture and Animal Care	15,580	14,430	12,785	-2,795	-18%
Arts, Media and Publishing	69,435	60,115	47,205	-22,230	-32%
Business, Administration and Law	60,155	55,580	41,730	-18,425	-31%
Construction, Planning and the Built Environment	20,345	21,135	22,375	2,030	10%
Education and Training	12,505	8,815	6,155	-6,350	-51%
Engineering and Manufacturing Technologies	33,085	29,510	23,975	-9,110	-28%
Health, Public Services and Care	83,625	79,790	71,495	-12,130	-15%
History, Philosophy and Theology	17,720	18,005	15,660	-2,060	-12%
Information and Communication Technology	52,290	47,205	31,080	-21,210	-41%
Languages, Literature and Culture	49,010	49,115	46,045	-2,965	-6%
Leisure, Travel and Tourism	40,585	33,610	31,045	-9,540	-24%
Preparation for Life and Work	336,540	351,195	300,680	-35,860	-11%
Retail and Commercial Enterprise	54,280	46,455	38,640	-15,640	-29%
Science and Mathematics	57,175	63,730	66,435	9,260	16%
Social Sciences	13,940	15,100	15,600	1,660	12%
Unknown	240	3,410	5,435	5,195	2165%
Total	916,510	897,200	776,340	-140,170	-15%
SIA Sectors	142,550	140,445	121,490	-21,060	-15%
SIA Sectors as % of total	16%	16%	16%		

Sources: England - derived from National Achievement Rate Tables - Institution level data <https://www.gov.uk/government/statistics/sfa-national-achievement-rates-tables-2014-to-2015-open-data-csv-files> Wales – StatsWales <https://statswales.gov.wales/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Further-Education-and-Work-Based-Learning/Learners/Further-Education/learningactivitiesfurthereducationinstitutions-by-sectorsubjectarea-domicile>

4.5. Higher education

Notes to tables: The Local Education Partnership reported here include data from the HE providers listed below. England & Wales includes data for all HE providers (inclusive of the listed LEPs). Providers in Scotland and Northern Ireland have been excluded from all tables.

LEP	Institute name	Campus name
Cornwall & IOS	Falmouth University	Entire institution
	University of Exeter	Cornwall campus
Gloucestershire	The Royal Agricultural University	Entire institution
	University of Gloucestershire	Main campus
Heart of the South West	Plymouth College of Art	Entire institution
	University of Exeter	Main campus
	University of Plymouth	Entire institution
	University of St Mark & St John	Entire institution
West of England	Bath Spa University	Entire institution
	The Conservatoire for Dance and Drama	BOVTS
	The University of Bath	Entire institution
	University of Bristol	Entire institution
	University of the West of England, Bristol	Entire institution
South East Wales	Cardiff University	Entire institution
	Cardiff Metropolitan University	Entire institution
	Newport (merged with Uni. Of South Wales April 2013)	Entire institution
	University of South Wales	Entire institution
	University of Wales	Entire institution

Undergraduates

Table 13 Number of undergraduate students by subject and provider location: 2014/15

	Corn wall & IOS	Glouc esters hire	Heart of the South West	South East Wales	West of Engla nd	Cons ortia area (total)	Engla nd & Wales (total)
(1) Medicine and dentistry			1,305	1,920	1,615	4,840	38,245
(2) Subjects allied to medicine		70	4,845	5,970	6,505	17,390	186,705
(3) Biological sciences	520	1,345	4,970	7,350	4,655	18,840	157,300
(4) Veterinary science					680	680	3,675
(5) Agriculture and related subjects		540	450	240	140	1,370	13,470
(6) Physical sciences	290	110	2,330	2,370	3,455	8,555	64,800
(7) Mathematical sciences			795	695	2,285	3,775	32,765
(8) Computer science	50	345	1,205	1,915	1,680	5,195	65,200
(9) Engineering and technology	245	10	2,515	4,210	5,765	12,745	104,385
(A) Architecture, building and planning	20	275	545	1,085	1,710	3,635	28,360
Non-STEM subjects	4,500	4,790	21,340	27,485	25,155	83,270	826,435
All subjects	5,620	7,480	40,295	53,235	53,645	160,275	1,521,335
Percentage STEM subjects	20.0%	36.0%	47.0%	48.4%	53.1%	48.1%	45.7%

Source: HESA 2014/15 Student Return

1. Data is full person equivalent (FPE).
2. Data is based on First Degree and Other Undergraduate students within the standard registration population who studied at an English or Welsh HE provider.
3. Data has been rounded up or down to the nearest multiple of 5.

Table 14 Percentage change in number of undergraduate students: 2012/3 to 2014/15

	Corn wall & IOS	Glouc esters hire	Heart of the South West	South East Wales	West of Engla nd	Cons ortia area (total)	Engla nd & Wales (total)
(1) Medicine and dentistry			0.4%	-5.2%	-3.6%	-3.2%	- 2.40 %
(2) Subjects allied to medicine		- 39.1 %	15.2 %	-5.5%	5.8%	3.6%	- 4.22 %
(3) Biological sciences	44.4 %	4.7%	8.3%	32.4 %	3.3%	15.7 %	4.54 %
(4) Veterinary science					4.6%	4.6%	5.60 %
(5) Agriculture and related subjects		5.9%	- 27.4 %	60.0 %	- 76.3 %	- 26.7 %	- 7.01 %
(6) Physical sciences	70.6 %		-2.7%	5.1%	5.7%	4.3%	- 0.47 %
(7) Mathematical sciences			0.6%	9.4%	22.8 %	14.9 %	- 1.61 %
(8) Computer science		-2.8%	15.9 %	4.6%	0.3%	6.0%	2.93 %
(9) Engineering and technology	4.3%		-1.9%	- 17.0 %	11.3 %	-2.4%	1.16 %
(A) Architecture, building and planning		-8.3%	- 28.3 %	- 12.5 %	-9.0%	- 13.0 %	- 14.19 %
Non-STEM subjects	2.6%	-6.9%	0.2%	-3.7%	1.3%	-1.1%	- 7.78 %
All subjects	9.1%	-4.3%	1.9%	-0.7%	2.6%	1.2%	- 4.72 %

Source: HESA 2012/13 and 2014/15 Student Returns

1. Data is full person equivalent (FPE).
2. Data is based on First Degree and Other Undergraduate students within the standard registration population who studied at an English or Welsh HE provider.
3. Data has been rounded up or down to the nearest multiple of 5.

Table 15 Percentage of undergraduate students on STEM courses: 2012/13 to 2014/15

	Cornwall & Isles of Scilly	Gloucestershire	Heart of the South West	South East Wales	West of England	Consortia area (total)	England & Wales (total)
2012/13	14.9%	34.2%	46.2%	46.8%	52.5%	46.9%	43.9%
2013/14	17.6%	36.0%	47.6%	47.0%	52.8%	47.6%	44.7%
2014/15	20.0%	36.0%	47.0%	48.4%	53.1%	48.0%	45.7%

Source: HESA 2012/13, 2013/14 and 2014/15 Student Returns

1. Data is full person equivalent (FPE).
2. Data is based on First Degree and Other Undergraduate students within the standard registration population who studied at an English or Welsh HE provider.
3. STEM courses are defined by JACS subject area 1-9 and subject area A.
4. Data has been rounded up or down to the nearest multiple of 5.

Postgraduates

Table 16 Number of postgraduate students: 2014/15

	Corn wall & IOS	Glouc esters hire	Heart of the South West	South East Wales	West of Engla nd	Cons ortia area (total)	Engla nd & Wales (total)
(1) Medicine and dentistry	5		170	1,610	540	2,325	17,965
(2) Subjects allied to medicine	10	25	635	2,125	2,500	5,295	53,225
(3) Biological sciences	160	290	755	1,055	970	3,230	30,675
(4) Veterinary science					45	45	670
(5) Agriculture and related subjects		80	40	75	95	290	3,245
(6) Physical sciences	65	25	275	405	780	1,550	16,750
(7) Mathematical sciences	5		80	95	140	320	5,670
(8) Computer science		35	115	485	360	995	14,575
(9) Engineering and technology	80		270	950	1,390	2,690	34,195
(A) Architecture, building and planning		165	25	490	850	1,530	12,775
Non-STEM subjects	325	735	4,280	10,825	8,925	25,090	256,325
All subjects	655	1,355	6,655	18,120	16,605	43,390	446,100
Percentage STEM subjects	50.0%	45.8%	35.6%	40.2%	46.2%	42.1%	42.5%

Source: HESA 2014/15 Student Return

1. Data is full person equivalent (FPE).
2. Data is based on Postgraduate Taught and Postgraduate Research students within the standard registration population who studied at an English or Welsh HE provider.
3. Data has been rounded up or down to the nearest multiple of 5.

Table 17 Percentage change in number of postgraduate students: 2012/3 to 2014/15

	Corn wall & IOS	Glouc esters hire	Heart of the South West	South East Wales	West of Engla nd	Cons ortia area (total)	Engla nd & Wales (total)
(1) Medicine and dentistry			30.77 %	- 6.12%	- 12.20 %	-5.5%	0.17%
(2) Subjects allied to medicine		66.67 %	25.74 %	21.43 %	30.21 %	26.4%	8.10%
(3) Biological sciences	23.08 %	70.59 %	- 10.12 %	- 3.65%	17.58 %	5.6%	5.14%
(4) Veterinary science							- 10.00 %
(5) Agriculture and related subjects		45.45 %	- 52.94 %	150.0 0%	35.71 %	20.8%	41.39 %
(6) Physical sciences		66.67 %	- 25.68 %	5.19%	0.65%	-3.7%	2.29%
(7) Mathematical sciences				18.75 %	- 12.50 %		8.40%
(8) Computer science		40.00 %		1.04%	2.86%	2.6%	0.34%
(9) Engineering and technology	- 11.11 %		- 25.00 %	3.83%	- 2.11%	-3.4%	1.12%
(A) Architecture, building and planning		6.45%	- 58.33 %	13.95 %	24.09 %	15.0%	1.96%
Non-STEM subjects	- 17.72 %	- 19.23 %	- 15.33 %	12.41 %	- 6.98%	-1.9%	- 3.25%
All subjects	- 4.38%	0.74%	- 12.55 %	9.75%	0.85%	1.8%	- 0.16%

Source: HESA 2012/13 and 2014/15 Student Returns

1. Data is full person equivalent (FPE).
2. Data is based on Postgraduate Taught and Postgraduate Research students within the standard registration population who studied at an English or Welsh HE provider.
3. Data has been rounded up or down to the nearest multiple of 5.

Table 18 Percentage of postgraduate students on STEM courses: 2012/13 to 2014/15

	Cornwall & IOS	Gloucestershire	Heart of the South West	South East Wales	West of England	Consortia area (total)	England & Wales (total)
2012/13	42.3%	32.1%	33.6%	41.7%	41.7%	40.0%	40.7%
2013/14	45.0%	38.2%	32.2%	40.1%	44.3%	40.4%	41.1%
2014/15	50.4%	45.8%	35.7%	40.3%	46.3%	42.2%	42.5%

Source: HESA 2012/13, 2013/14 and 2014/15 Student Returns

1. Data is full person equivalent (FPE).
2. Data is based on Postgraduate Taught and Postgraduate Research students within the standard registration population who studied at an English or Welsh HE provider.
3. STEM courses are defined by JACS subject area 1-9 and subject area A.
4. Data has been rounded up or down to the nearest multiple of 5.

Inflows and outflows of students

Table 19 Inflows and outflows: undergraduates

	Students domiciled in area			HEI in area		
	HEI inside area	HEI outside area	Total	Student domiciled outside area	Student domiciled inside area	Total
(1) Medicine and dentistry	1,255	2,740	3,995	3,580	1,255	4,835
(2) Subjects allied to medicine	11,740	7,165	18,905	5,650	11,740	17,390
(3) Biological sciences	8,415	8,595	17,005	10,425	8,415	18,840
(4) Veterinary science	130	345	475	550	130	680
(5) Agriculture and related subjects	685	1,220	1,910	680	685	1,365
(6) Physical sciences	2,885	4,490	7,370	5,670	2,885	8,550
(7) Mathematical sciences	1,025	1,785	2,810	2,750	1,025	3,775
(8) Computer science	2,970	3,235	6,205	2,220	2,970	5,190
(9) Engineering and technology	4,315	4,925	9,240	8,430	4,315	12,745
(A) Architecture, building and planning	1,540	795	2,335	2,095	1,540	3,635
Non-STEM subjects	36,085	43,015	79,100	47,185	36,085	83,270
All subjects	71,045	78,305	149,350	89,235	71,045	160,275

Source: HESA 2014/15 Student Return

1. Data is full person equivalent (FPE).
2. Data is based on First Degree and Other Undergraduate students within the standard registration population who studied at an English or Welsh HE provider.
3. Data has been rounded up or down to the nearest multiple of 5.

Progression

Table 20a Progression from STEM subjects into STEM occupations, Consortium area HEIs, 2014/15

	% of graduates moving into STEM occupations		
	Employed within area	Employed outside of area	All graduates
(1) Medicine and dentistry	9.8%	89.4%	99.2%
(2) Subjects allied to medicine	8.4%	81.0%	89.4%
(3) Biological sciences	2.3%	21.1%	23.3%
(4) Veterinary science	17.4%	78.3%	95.7%
(5) Agriculture and related subjects	2.3%	19.1%	21.7%
(6) Physical sciences	3.7%	35.7%	39.3%
(7) Mathematical sciences	3.2%	34.0%	37.2%
(8) Computer science	5.8%	59.1%	64.8%
(9) Engineering and technology	7.5%	57.0%	64.5%
(A) Architecture, building and planning	6.1%	66.1%	72.2%
Non-STEM subjects	1.4%	14.8%	16.2%
All subjects	3.5%	33.8%	37.3%

Source: HESA 2014/15 Student and DLHE Returns

1. Data is full person equivalent (FPE).
2. Data is based on First Degree and Other Undergraduate graduates who graduated from an English or Welsh HE provider.
3. STEM occupations are defined by SOC 2010 categories 21 - 'Science and Technology Professional', 22 - 'Health Professionals', 24 - 'Business and Public Services Professionals', 31 - 'Science and Technology Associate Professionals', 32 - 'Health and social Welfare Associate Professionals'.
4. Data has been rounded up or down to the nearest multiple of 5.

Table 20b As Table 20a, but the base population is of graduates from providers within the consortia area only who went into employment

	% of graduates moving into STEM occupations		
	Employed within area	Employed outside of area	All graduates
(1) Medicine and dentistry	33.33%	66.04%	99.37%
(2) Subjects allied to medicine	66.15%	22.57%	88.72%
(3) Biological sciences	11.04%	11.04%	22.08%
(4) Veterinary science	38.89%	55.56%	94.44%
(5) Agriculture and related subjects	10.20%	8.16%	18.37%
(6) Physical sciences	12.92%	22.97%	35.89%
(7) Mathematical sciences	12.22%	32.22%	44.44%
(8) Computer science	41.22%	27.48%	68.70%
(9) Engineering and technology	31.39%	34.30%	65.70%
(A) Architecture, building and planning	40.00%	33.64%	73.64%
Non-STEM subjects	7.27%	7.57%	14.85%
All subjects	19.56%	16.40%	35.96%

4.6. Retention of local skills

The graduate retention measures describes the percentage of students domiciled in each LEP area who are employed 6 months following graduation are working within their home region. The results suggest that students domiciled in Cornwall & the Isles of Scilly and Wales were most likely to remain within their local area to work upon graduation.

Table 21 Retention of local skills (2013/14) – English LEPs and Wales

LEP	% in London	Retention in HOME REGION (where known) SW	Rank of retention in HOME REGION
Cornwall and Isles of Scilly	9.6	74.9	9 th
Gloucestershire	13.4	60.7	32 nd
Heart of the South West	11.1	71.6	14 th
Swindon and Wiltshire	14.5	61.3	31 st
West of England	10.6	72.7	13 th
Wales (all, calculated)	5.5%	73.6	

Source: *Mapping local comparative advantages in innovation. Department for Business, Innovation & Skills (BIS) (2015). Available at:*

<https://www.gov.uk/government/publications/local-enterprise-partnerships-evidence-on-local-innovation-strengths> and HESA Destinations of Leavers from Higher Education 2013/14

Table 22 Employment destinations of STEM students: 2008/9 to 2013/14

	Total students that found employment in the LEP area	Total employed graduates that studied in the LEP area	Net flow out of the LEP area	Students that studied and found employment in the LEP area
Cornwall & the Isles of Scilly	6,295	8,795	-2,500	3,560
Gloucestershire	10,375	8,705	1,670	3,045
Heart of the South West	28,080	25,190	2,890	13,255
Swindon & Wiltshire	2,845	9,995	-7,150	2,440
West of England	30,390	15,465	14,935	7,385

Source: <http://www.hefce.ac.uk/analysis/maps/student/>

4.7. General S&T staff

The BIS 'Mapping Comparative Advantage' report provides estimates of the proportion of residents in employment working in 'science, research, engineering and technology' professional and association professional occupations. However, these estimates are fairly dated – relating to July 2013 to June 2014 – and do not provide consortium level or UK benchmarks.

Table 23 General S&T staff - % workforce in 'science, research, engineering and technology' professions and associated professions (Jul 2013 - Jun 2014)

	Cornwall and Isles of Scilly	Gloucestershire	Heart of the South West	Swindon and Wiltshire	West of England	South East Wales
% workforce in 'science, research, engineering and technology' professions and associated professions (Jul 2013 - Jun 2014)	5.2%	7.5%	5.6%	9.1%	10.2%	5.8%
- % all in employment who are - 21: science, research, engineering and technology professions (SOC2010) (Jul 2013 - Jun 2014 English LEPs and Jan 2015 – Dec 2015 South East Wales)	3.2%	5.7%	4.0%	6.7%	8.2%	3.8%
% all in employment who are - 31: science, engineering and technology associate professions (SOC2010) (Jul 2013 - Jun 2014 English LEPs and Jan 2015 – Dec 2015 South East Wales)	2.0%	1.8%	1.6%	2.4%	2.0%	2.0%

Source: Mapping local comparative advantages in innovation. Department for Business, Innovation & Skills (BIS) (2015). Available at: <https://www.gov.uk/government/publications/local-enterprise-partnerships-evidence-on-local-innovation-strengths>; Welsh data calculated as an average of Local Authority Districts, taken from Annual Population Survey [Jul 2013-Jun 2014]. Available at: <https://www.nomisweb.co.uk>.

Updating the analysis for April 2015 to March 2016, reveals that overall the consortium area has a very similar proportion of these technical occupations to the UK average, comprising 7% of all residents in employment. Within the consortium area, the LEP areas of Swindon & Wiltshire and West of England had higher shares of employment in these occupations, ranking 5th and 7th respectively when ranked alongside all other LEP areas on this measure.

Table 24 Percentage of the workforce in ‘science, research, engineering’ professions and associate professions: Apr 2015-Mar 2016

Area	% residents in employment			Rank
	Science, engineering and technology associate professions	Science, research, engineering and technology professions	Science, research, engineering and technology professions and associated professions	Science, research, engineering and technology professions and associated professions
Swindon & Wiltshire	2.3	6.8	9.1	5 th
West of England	1.5	7.4	8.9	7 th
Heart of the South West	2.5	4.5	7.0	=18 th
Gloucestershire	1.4	5.2	6.6	=21 st
South East Wales	1.8	4.1	5.9	=30 th
Cornwall & the IoS	1.0	2.4	3.4	40 th
Consortium average	1.9	5.1	7.0	-
England & Wales	1.7	5.4	7.1	-
United Kingdom	1.7	5.4	7.1	-

Source: Annual Population Survey, ONS

4.8. Qualified working population

The estimates quoted in the 'Mapping local comparative advantages in innovation' report refer to the population aged 16 to 64⁴ and related to the period January 2013 to December 2013.

Table 25 Qualified working population (2013) England LEPs and Wales Local Authorities in SIA Area

LEP / LA	% with no qualifications (NVQ) - aged 16-64	% with NVQ3 only - aged 16-64	% with NVQ4+ - aged 16-64
Cornwall and Isles of Scilly	6.8	19.3	32.1
Gloucestershire	7.3	20.5	35.0
Heart of the South West	6.5	20.5	31.0
Swindon and Wiltshire	7.5	17.6	34.9
West of England	6.2	18.7	38.1
South East Wales	6.5	18.5	38.1
Consortium area average	6.8	19.2	34.9

Source: Mapping local comparative advantages in innovation. Department for Business, Innovation & Skills (BIS) (2015). Available at: <https://www.gov.uk/government/publications/local-enterprise-partnerships-evidence-on-local-innovation-strengths>; and ONS annual population survey [Jan 2015-Dec 2015] for Welsh Local Authorities. Available at: <https://www.nomisweb.co.uk/>. Note: the South East Wales figure is calculated as an average of each of the Local Authority areas in the area, drawn from the UK Annual Population Survey (12 months to June 2015). The consortium area average is calculated using the figures in the table.

⁴ Note that the estimates do not relate, as suggested by the title of the Technopolis table, to the 'working population' which would normally be either the employed or the economically active population.

Updating this analysis for January 2015 to December 2015, reveals that qualification levels across the consortium area are broadly in line with the UK average but with notably higher percentages of the population qualified to degree level or above in the West of England (44%) and Gloucestershire (41%). When ranking with other LEP areas across England, the West of England and Gloucestershire rank 5th and 9th respectively. Notwithstanding this, more than ¼ million people aged 16 to 64 living in the consortium area do not have a formal qualification.

Table 26 Qualification levels of the population aged 16 to 64: Jan 2015 to Dec 2015

Area	% with no qualifications (NVQ) - aged 16-64			% with NVQ3 only - aged 16-64			% with NVQ4+ - aged 16-64		
	No.	%	Rank	No.	%	Rank	No.	%	Rank
West of England	35400	5	39	126900	17.9	22	309300	43.6	5
Gloucestershire	24000	6.4	29	63200	16.8	31	154900	41.2	9
Heart of the South West	53400	5.3	38	204000	20.2	3	365900	36.1	15
Swindon and Wiltshire	25300	5.9	34	83000	19.4	8	147700	34.6	18
South East Wales	102400	10.8	6	167900	17.7	24	324900	34.3	19
Cornwall and Isles of Scilly	19100	5.9	33	69800	21.7	1	94200	29.3	33
Consortium area	259500	6.8		714700	18.8		1396900	36.8	
United Kingdom	3579100	8.8		6928400	17		15022900	36.9	

Source: Annual Population Survey via NOMIS

Table 27 Percentage of residents aged 16 to 64 with qualifications at Level 4 or above: January to December 2015

	Number of residents	Percenta ge of residents	Confiden ce interval	Rank of percent
Bristol, City of	145,700	47.9	3.3	29
Bath and North East Somerset	55,300	47.8	2.8	30
Cardiff	104,200	43.5	3.0	46
Monmouthshire	22,800	41.6	3.1	58
Gloucestershire	154,900	41.2	3.0	61
The Vale of Glamorgan	31,100	40.8	3.3	62
Devon	183,100	40.4	3.1	65
South Gloucestershire	63,700	37.7	3.3	79
Wiltshire	107,100	37.4	2.8	83
North Somerset	44,500	36.7	3.5	90
Somerset	113,000	35.7	3.3	100
Newport	31,000	34.0	3.5	116
Bridgend	26,800	31.0	3.0	148
Plymouth	50,200	29.9	2.5	154
Rhondda, Cynon, Taff	44,000	29.6	2.8	156
Cornwall	94,200	29.3	2.9	158
Swindon	40,600	28.8	2.8	164
Caerphilly	31,600	28.1	2.8	168
Torfaen	15,600	27.5	3.0	172
Torbay	19,600	26.3	2.8	179
Merthyr Tydfil	9,400	25.5	3.3	186
Blaenau Gwent	8,300	19.1	2.7	205

Source: Annual Population Survey

4.9. Skills shortages

The UK Employer Skills Survey is the largest survey of its kind, examining the experiences and practices of over 91,000 employers in 2015. The large sample size generates reasonably robust estimates at the local level.

At the time of the last survey, there were an estimated 81,200 job vacancies in the consortium area of which almost one-quarter (24%) or 19,300 were proving hard-to-fill because of skill shortages. The density of skills-shortage vacancies (i.e. the proportion of vacancies that were hard-to-fill because of skill shortages) in the consortium area was marginally higher than in England & Wales as a whole (23%) and was highest in Swindon & Wiltshire (30%) and Heart of the South West (29%).

Within the consortium area skills shortage vacancies are broadly evenly distributed across the four categories of occupations: high skill (29%), middle-skill (25%), service-intensive (22%) and labour-intensive (25%). The distribution of skill shortage vacancies follows a similar pattern to that evident across England & Wales as a whole but with a notably smaller share within high-skill occupations (37%).

Table 28 Profile of skill-shortage vacancies by occupation - (all skills shortage vacancy base)

	West of England	Cornwall and the Isles of Scilly	Heart of the South West	Gloucestershire	Swindon and Wiltshire	South East Wales	Consortia Area	England & Wales
High skills	20.9%	12.4%	36.8%	25.4%	31.4%	21.6%	27.7%	36.6%
Middle-skill	39.1%	41.5%	17.9%	28.6%	19.7%	25.5%	25.3%	23.1%
Service-intensive	20.0%	27.5%	14.2%	14.7%	31.2%	30.6%	22.3%	19.7%
Labour intensive	20.0%	18.7%	31.1%	31.3%	17.7%	22.0%	24.7%	20.1%

Base: All skill-shortage vacancies (up to 6 occupations followed up)

Source: UK Employer Skills Survey

The UK summary report stated that⁵:

“Skill-shortage vacancies were caused by a number of people and personal skills and technical and practical skills lacking amongst applicants. Skills related to operational aspects of the role, as well as complex analytical skills, were the main technical and

⁵ <https://www.gov.uk/government/publications/ukces-employer-skills-survey-2015-uk-report>

practical skills lacking. The main people and personal skills lacking pertained to time management, management and leadership, and sales and customer handling skills. Although the number of skill-shortage vacancies is relatively small, the impacts of skill-shortage vacancies continued to be significant for employers. Over two-thirds of employers that had difficulty filling their vacancies solely as a result of skill shortages had experienced a direct financial impact through either loss of business to competitors, or increased operating costs”.

4.10. Skills gaps

In addition to skills shortages, the UK Employer Skills Survey also investigated the extent and nature of skills deficiencies within the existing workforce.

Around one in seven (15%) of employers across the consortium area reported skills gaps within their existing workforce. This is broadly on par with the national average (14%) but higher in South East Wales (16%), Cornwall & the Isles of Scilly (16%) and Gloucestershire (16%).

While most skills gaps are attributed to employees being new to a role or having yet to complete their training, a significant minority of gaps are also linked to the introduction of new products and services, working practices or technology.

Table 29 Selected causes of skills gaps in occupations followed up (prompted unless *) (skills gaps base)

	West of Engl and	Corn wall and the Isles of Scilly	He art of the So uth We st	Gloucest ershire	Swin don and Wilts hire	So uth Eas t Wal es	Cons ortia Area	Engl and & Wale s
The development of new products and services	15%	10%	15%	20%	14%	13%	13%	22%
The introduction of new working practices	24%	30%	21%	20%	29%	29%	24%	30%
The introduction of new technology	16%	14%	14%	10%	24%	35%	22%	21%

Base: All skills gaps followed up

Source: UK Employer Skills Survey

Almost half (47%) of local employers who had funded or arranged training for their employees had trained staff in using new technology.

4.11. Replacement demand

Working Futures is the government's detailed model of the UK labour market. It projects the future size and shape of the labour market by considering employment prospects by industry, occupation, qualification level, gender and employment status. The projections are compiled by the Institute of Employment Research at the University of Warwick. The latest set related to the period 2014 to 2024.

This section presents a summary of the combined results for the South West of England and Wales, focusing on the following sub-sectors:

Sector No.	Sector Description⁶	SIA theme
19	Motor vehicles etc	Aerospace & advanced engineering
20	Other transport equipment (includes aerospace)	
23	Repair and installation	
53	Architectural and engineering	
45	Computer programming, consultancy & related	Digital Living
46	Information services	
54	Scientific research & development	
16	Computer, electronic & optical	Microelectronics
24	Electricity, gas etc	New energy systems
25	Water	
26	Sewerage	Resilience, environment & sustainability
27	Waste management	

⁶ See Table A1.3 for definitions within https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/298512/working-futures-2012-2022-annexes-bound.pdf

Table 30 Total requirement for labour by sub-sector: South West & Wales: 2014 to 2024

Sub-sector	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
Computer, electronic	29,800	-9,900	9,700	-200
Computing services	55,500	8,000	20,300	28,300
Information services	7,000	1,400	2,900	4,300
Scientific research & development	15,900	2,500	5,700	8,200
Motor vehicles etc	20,000	-1,700	6,500	4,800
Other transport equipment (includes aerospace)	43,200	-500	14,000	13,500
Repair and installation	18,500	3,100	6,900	10,000
Architectural and related	64,100	8,800	26,100	34,900
Electricity, gas, etc.	14,300	1,900	5,200	7,100
Water	6,200	600	2,300	2,900
Sewerage	3,600	200	1,200	1,400
Waste management	19,000	1,500	7,300	8,800
Microelectronics	29,800	-9,900	9,700	-200
Digital living platform	78,400	12,000	28,700	40,700
Aerospace & advanced	145,900	9,700	53,300	63,000
New energy systems	14,300	1,900	5,200	7,100
Resilience, environment	28,700	2,100	10,900	13,000
All SIA sectors	297,100	15,800	107,800	123,600

Source: Working Futures

The projections suggest a net requirement of an additional 123,600 workers in the South West and Wales within SIA related sectors between 2014 and 2024. Most of these will be required to replace workers leaving the industries (for example, through retirement or moving to other sectors) although an additional 15,800 will be required to accommodate growth in the sectors.

Table 31 and Table 32 show that most of the increase in demand for workers within these industries will be within professional, associate professional and technical or managerial occupations and will require qualification at QCF4 or above (degree level or above). The net requirement for workers with qualifications lower than QCF2 will fall.

Table 31 Total requirement for labour by occupation, 2014 - 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
Managers, directors and senior officials	33,600	5,300	13,300	18,600
Professional occupations	81,600	10,800	29,000	39,800
Associate professional and technical	45,700	5,000	16,600	21,600
Administrative and secretarial	27,200	-800	12,000	11,200
Skilled trades occupations	46,100	-2,700	15,300	12,600
Caring, leisure and other service	3,800	1,300	1,700	3,000
Sales and customer service	8,900	700	3,000	3,700
Process, plant and machine operatives	37,300	-3,600	12,300	8,700
Elementary occupations	12,900	-200	4,600	4,400
Total	297,100	15,800	107,800	123,600

Source: *Working Futures*

Table 32 Total requirement for labour by qualification level required, 2014 - 2024

Qualification Level	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
QCF4+	136,500	47,700	56,500	104,200
QCF3	63,100	-13,400	19,500	6,100
QCF2	50,400	0	18,000	18,000
QCF Below L2 / no quals	47,100	-18,600	14,000	-4,600
Total	297,100	15,700	108,000	123,700

Source: *Working Futures*

5. ESTABLISHED INDUSTRIAL CAPACITY AND GROWTH POINTS

The section summarises the detailed sectoral analysis that is presented in Appendices M1 to M6, based predominantly on Theme SIC codes detailed in Appendix M7.

5.1. Employee jobs

According to the BRES, 318,500 people were employed across the consortia area in 2014 in one of five thematic industrial sectors. These were:

- New energy systems (184,100)
- Resilience, environment & sustainability (153,100)
- Aerospace and advanced engineering (98,100)
- Digital Living Innovation Platform (93,800)
- Microelectronics (18,500)

Table 33 Employee jobs by sector: 2014

	Cornwall & IOS	Gloucestershire	Heart of the South West	South East Wales	Swindon & Wiltshire	West of England	Consortia area
Aerospace and advanced engineering	3,600	9,700	25,200	19,300	15,200	25,100	98,100
Digital Living Innovation Platform	3,000	15,100	16,500	20,600	13,000	25,600	93,800
Electronics	400	6,000	2,700	6,900	1,100	1,600	18,500
New Energy Systems	9,200	26,900	39,100	45,600	24,300	38,900	184,100
Resilience, Environment & Sustainability	7,200	16,100	31,500	30,100	23,900	44,300	153,100
All SIA themes	14,900	40,200	72,600	73,300	42,300	75,300	318,500
All industries (ex. Farms)	197,400	276,600	680,400	594,700	303,800	559,300	2,612,100

Some SICs are attributed to more than one theme

Source: BRES via NOMIS

The thematic sectors account for around one in eight employee jobs across the consortia area (12.2%). The proportion is on par with the Great Britain average (11.9%) but is highest in Gloucestershire (14.5%), Swindon and Wiltshire (13.9%) and West of England (13.5%). It is lowest in Cornwall and the Isles of Scilly (7.5%).

Table 34 Share of employee jobs by sector: 2014

	Corn wall & IOS	Glouc esters hire	Heart of the South West	South East Wales	Swind on & Wiltsh ire	West of Engla nd	Cons ortia area	Great Britain
Aerospace and advanced engineering	1.8	3.5	3.7	3.3	5.0	4.5	3.8	2.9
Digital Living Innovation Platform	1.5	5.5	2.4	3.5	4.3	4.6	3.6	4.1
Microelectronics	0.2	2.2	0.4	1.2	0.4	0.3	0.7	0.4
New Energy Systems	4.7	9.7	5.7	7.7	8.0	7.0	7.0	6.9
Resilience, Environment & Sustainability	3.6	5.8	4.6	5.1	7.9	7.9	5.9	6.3
All SIA themes	7.5	14.5	10.7	12.3	13.9	13.5	12.2	11.9
All industries (ex. Farms)	100	100	100	100	100	100	100	100.0

Source: BRES via NOMIS

Location quotients relate a sectors share of employee jobs in any one area to that sectors share of employee jobs nationally. A result greater than one means that the area has a greater share of employee jobs in that sector than the national average. Table 3 shows that compared to the national average the consortia has particularly high shares of employee jobs in:

- Aerospace and advanced engineering in Swindon & Wiltshire (1.71), West of England (1.53), Heart of the South West (1.27) and Gloucestershire (1.20).
- Digital Living Innovation Platform in Gloucestershire (1.33)
- Microelectronics in Gloucestershire (5.48) and South East Wales (2.95)
- New energy systems in Gloucestershire (1.41)
- Resilience, environment and sustainability in Swindon and Wiltshire (1.25) and West of England (1.26)

Table 35 Location Quotient by sector: 2014

	Cornwall & Isles	Gloucestershire	Heart of the South West	South East Wales	Swindon & Wiltshire	West of England	Consortia area
Aerospace and advanced engineering	0.62	1.20	1.27	1.11	1.71	1.53	1.28
Digital Living Innovation Platform	0.37	1.33	0.59	0.84	1.04	1.12	0.88
Microelectronics	0.46	5.48	0.99	2.95	0.88	0.72	1.80
New Energy Systems	0.68	1.41	0.83	1.11	1.16	1.01	1.02
Resilience, Environment & Sustainability	0.58	0.93	0.74	0.81	1.25	1.26	0.93
All SIA themes	0.63	1.23	0.90	1.04	1.17	1.14	1.03

Source: BRES via NOMIS

Ranking the LQs of the 206 local authority areas across Great Britain reveals particularly high national rankings for:

- Aerospace and advanced engineering in South Gloucestershire (6th), Plymouth (9th), Swindon (12th)
- Digital living innovation platform in South Gloucestershire (18th)
- Microelectronics in Torfaen (1st), Caerphilly (2nd), Gloucestershire (3rd), Monmouthshire (5th), Rhondda, Cynon, Taff (7th), Newport (9th) and Blaenau Gwent (12th)
- New energy systems in Gloucestershire (21st), Rhonddam, Cynon, Taff (27th) and South Gloucestershire (30th)
- Resilience, environment and sustainability in South Gloucestershire (19th) and Bath & North East Somerset (31st).

Table 36 Ranking of Location Quotients by sector and local authority area in Great Britain (ranking out of 206): 2014

	Aerospace and advanced engineering	Digital Living Innovation Platform	Micro-electronics	New Energy Systems	Resilience, Environment & Sustainability	All SIA themes
South Gloucestershire	6	18	44	30	19	12
Swindon	12	46	150	56	42	23
Torfaen	21	39	1	57	139	25
Bridgend	16	58	34	36	64	33
Gloucestershire	43	33	3	21	76	34
Blaenau Gwent	23	156	12	122	113	39
Plymouth	9	159	54	167	184	43
Caerphilly	45	80	2	37	102	50
Rhondda, Cynon, Taff	54	106	7	27	163	60
Wiltshire	40	70	58	44	39	61
Monmouthshire	47	68	5	60	100	64
The Vale of Glamorgan	20	116	33	48	164	69
North Somerset	68	84	114	84	51	82
Bath & North East Somerset	74	83	176	97	31	80
Cardiff	116	103	70	85	62	85
Newport	190	69	9	43	135	86
Bristol, City of	75	79	122	115	48	88
Somerset	35	137	72	126	120	100
Devon	103	108	75	96	88	102
Merthyr Tydfil	89	49	205	99	205	155
Cornwall	125	173	117	171	166	174
Torbay	163	169	59	193	172	202
Isles of Scilly	-	-	204	206	206	206

Source: BRES via NOMIS

5.2. Enterprises

There were 37,870 enterprises operating within the thematic areas across the consortium areas in 2015. These were:

- Resilience, environment and sustainability (25,295)
- New energy systems (22,815)
- Digital living innovation platform (14,870)
- Aerospace and advanced engineering (7,775)
- Microelectronics (505)

Table 37 Enterprises by sector: 2015

	Cornwall & IOS	Gloucestershire	Heart of the South West	South East Wales	Swindon & Wiltshire	West of England	Consortia area
Aerospace and advanced engineering	590	1,005	1,945	1,330	1,060	1,840	7,775
Digital Living Innovation Platform	720	2,290	2,950	2,170	2,680	4,055	14,870
Microelectronics	40	80	130	85	75	90	505
New Energy Systems	1,945	2,985	6,065	4,060	2,975	4,785	22,815
Resilience, Environment & Sustainability	1,605	3,650	5,700	3,975	4,030	6,335	25,295
All SIA themes	2,825	5,160	9,215	6,330	5,505	8,830	37,870
All industries	23,145	27,540	69,185	38,875	28,175	42,210	229,125

Some SICs are attributed to more than one theme

Source: BRES via NOMIS

The thematic sectors account for around one in six enterprises in the area (16.5%), rising to one in five in the West of England (20.9%) and Swindon & Wiltshire (19.5%).

Table 38 Share of enterprises by sector: 2015

	Corn wall & IOS	Glouc esters hire	Heart of the South West	South East Wales	Swind on & Wiltsh ire	West of Engla nd	Cons ortia area	Great Britain
Aerospace and advanced engineering	2.5	3.6	2.8	3.4	3.8	4.4	3.4	3.7
Digital Living Innovation Platform	3.1	8.3	4.3	5.6	9.5	9.6	6.5	8.0
Microelectronics	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2
New Energy Systems	8.4	10.8	8.8	10.4	10.6	11.3	10.0	10.3
Resilience, Environment & Sustainability	6.9	13.3	8.2	10.2	14.3	15.0	11.0	13.0
All themes	12.2	18.7	13.3	16.3	19.5	20.9	16.5	18.4
All industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: BRES via NOMIS

The location quotient analysis suggests particular concentrations of specialised activity in the following:

- Aerospace and advanced engineering in West of England (1.17)
- Digital living innovation platform in West of England (1.20) and Swindon & Wiltshire (1.19)
- Microelectronics in Swindon & Wiltshire (1.30) and West of England (1.18)
- New energy systems in West of England (1.10)
- Resilience, environment and sustainability in West of England (1.16) and Swindon & Wiltshire (1.10).

Table 39 Location Quotient by sector: 2014

	Cornwall & IOS	Gloucestershire	Heart of the South West	South East Wales	Swindon & Wiltshire	West of England	Consortia area
Aerospace and advanced engineering	0.69	0.98	0.76	0.92	1.01	1.17	0.91
Digital Living Innovation Platform	0.39	1.04	0.53	0.70	1.19	1.20	0.81
Microelectronics	0.78	1.31	0.85	0.99	1.20	0.96	0.99
New Energy Systems	0.82	1.05	0.85	1.02	1.03	1.10	0.97
Resilience, Environment & Sustainability	0.53	1.02	0.64	0.79	1.10	1.16	0.85
All themes	0.66	1.02	0.72	0.88	1.06	1.13	0.90

Source: BRES via NOMIS

Table 40 Ranking of Location Quotients by sector and local authority area in Great Britain (ranking out of 232): 2014

	Aerospace and advanced engineering	Digital Living Innovation Platform	Microelectronics	New Energy Systems	Resilience, Environment & Sustainability	All SIA themes
Swindon	56	14	86	41	21	15
South Gloucestershire	24	43	67	18	39	26
Bristol, City of	71	42	123	112	47	50
Bath and North East Somerset	115	56	114	117	58	64
North Somerset	58	63	80	69	77	70
Gloucestershire	94	65	55	85	81	86
Bridgend	47	151	158	28	153	102
Wiltshire	99	69	50	115	88	105
Torfaen	110	110	4	35	144	110
The Vale of Glamorgan	45	130	174	89	125	119
Plymouth	64	153	65	60	138	123
Cardiff	152	99	156	138	113	126
Newport	158	109	62	128	126	136
Monmouthshire	106	111	83	136	121	138
Caerphilly	123	168	68	71	175	144
Rhondda, Cynon, Taff	133	177	17	84	183	163
Somerset	120	154	100	126	167	168
Merthyr Tydfil	111	191	=205	120	200	189
Torbay	184	170	22	168	196	192
Blaenau Gwent	196	198	10	146	205	193
Cornwall	173	195	127	170	198	198
Devon	185	185	148	185	194	199
Isles of Scilly	178	232	=205	232	226	232

APPENDIX M1: AEROSPACE AND ADVANCED ENGINEERING

Replacement demand

Table 41 Change in employment by occupation, Aerospace & advanced engineering, 2014 - 2024

Occupation	2014	%	2024	%
1. Managers, directors and senior officials	15,300	10%	18,500	12%
2. Professional occupations	34,600	24%	40,100	26%
3. Associate professional and technical	21,200	15%	24,800	16%
4. Administrative and secretarial	15,000	10%	15,100	10%
5. Skilled trades occupations	29,800	20%	28,400	18%
6. Caring, leisure and other service	900	1%	1,100	1%
7. Sales and customer service	3,200	2%	3,500	2%
8. Process, plant and machine operatives	21,700	15%	19,900	13%
9. Elementary occupations	4,200	3%	4,200	3%
Total	145,900	100%	155,600	100%
Higher level occupations	71,100	49%	83,400	54%

Source: Working Futures

Table 42 Change in employment by sub-sector, Aerospace & advanced engineering, 2014 - 2024

Sub-sector	2014	%	2024	%
19 Motor vehicles etc	20,000	13.7%	18,200	11.7%
20 Other transport equipment (includes aerospace)	43,200	29.6%	42,700	27.4%
23 Repair and installation	18,500	12.7%	21,800	14.0%
53 Architectural and related	64,100	43.9%	72,900	46.9%
Total	145,900	99.9%	155,600	100.0%

Source: Working Futures

Table 43 Change in employment by qualification level required, Aerospace & advanced engineering, 2014 - 2024

Qualification Level	2014	%	2024	%
QCF4+	63,100	43%	87,200	56%
QCF3	34,300	24%	28,300	18%
QCF2	25,700	18%	26,900	17%
QCF Below L2 / no quals	22,800	16%	13,100	8%
Total	145,900	100%	155,600	100%

Source: Working Futures

Table 44 Total requirement for labour by occupation, Aerospace & advanced engineering, 2014 - 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
Managers, directors and senior officials	15,300	3,200	6,200	9,400
Professional occupations	34,600	5,500	13,000	18,500
Associate professional and technical	21,200	3,600	8,000	11,600
Administrative and secretarial	15,000	100	6,700	6,800
Skilled trades occupations	29,800	-1,500	9,500	8,000
Caring, leisure and other service	900	300	400	700
Sales and customer service	3,200	300	1,100	1,400
Process, plant and machine operatives	21,700	-1,800	6,800	5,000
Elementary occupations	4,200	0	1,600	1,600
Total	145,900	9,700	53,300	63,000

Source: Working Futures

Table 45 Total requirement for labour by qualification level required, Aerospace & advanced engineering, 2014 - 2024

Qualification Level	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
QCF4+	63,100	24,100	27,300	51,400
QCF3	34,300	-6,000	10,000	4,000
QCF2	25,700	1,200	9,400	10,600
QCF Below L2 / no quals	22,800	-9,600	6,700	-2,900
Total	145,900	9,700	53,400	63,100

Source: Working Futures

Table 46 Total requirement for labour by sub-sector, Aerospace & advanced engineering, 2014 - 2024

Sub-sector	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
19 Motor vehicles etc	20,000	-1,700	6,500	4,800
20 Other transport equipment (includes aerospace)	43,200	-500	14,000	13,500
23 Repair and installation	18,500	3,100	6,900	10,000
53 Architectural and related	64,100	8,800	26,100	34,900
Total	145,900	9,700	53,300	63,000

Source: *Working Futures*

Employment

The aerospace and advanced engineering theme accounts for 98,100 employee jobs across the consortia area. The largest sectors are: other engineering activities (24,600) and manufacture of air and space craft and related machinery (19,700) (Table 47). Taken as whole, the sector accounts for a higher share of employee jobs (3.8%) to the Great Britain average (2.9%) with higher concentrations – as demonstrated by the highest location quotients – within (Table 48):

- Building of pleasure and sporting boats in Heart of the South West (13.31) and Cornwall & the IoS (5.36)
- Building of ships and floating structures in Heart of the South Wes (10.16) and Cornwall & the IoS (2.46)
- Repair and maintenance of aircraft and spacecraft in Sout East Wales (7.16), Cornwall & the IOS (3.25) and Gloucestershire (2.29)
- Manufacture of air and spacecraft and related machinery in West of England (4.76), Gloucestershire (3.18) and Heart of the South West (2.90)
- Other research and experimental development on natural sciences and engineering in Swindon & Wiltshire (4.20)
- Manufacture of bearings, gears, gearing and driving elements in Gloucestershire (3.45)
- Manufacture of other transport equipment not else classified in Swindon & Wiltshire (3.35)
- Engineering design activities for industrial process and production in West of England (2.86)
- Manufacture of other parts and accessories for motor vehicles in South East Wales and Swindon & Wiltshire (2.55).

Table 47 Employee jobs in the aerospace and advanced engineering sector; consortium sub-area: 2014

	C&IOS	Gloss	HoSW	SEW	S&W	WoE	SIA area	Great Britain
Repair and maintenance of aircraft and spacecraft	400	400	400	2,800	100	300	4,500	18,300
Manufacture of motor vehicles	0	200	100	!	!	100	6,000	70,600
Manufacture of electrical and electronic equipment for motor vehicles	!	!	!	0	!	0	100	2,500
Manufacture of other parts and accessories for motor vehicles	0	500	300	3,000	1,500	600	5,800	52,900
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	0	!	!	!	!	0	500	16,900
Manufacture of bearings, gears, gearing and driving elements	!	300	!	100	!	300	1,400	8,600
Building of ships and floating structures	400	0	5,500	0	!	0	5,900	21,900
Building of pleasure and sporting boats	300	0	2,800	!	100	100	3,400	8,600
Manufacture of air and spacecraft and related machinery	0	2,700	6,100	2,600	100	8,200	19,700	85,500
Manufacture of military fighting vehicles	0	!	0	0	!	!	400	3,400
Manufacture of other transport equipment nec	!	!	!	0	0	0	100	1,000
Engineering design activities for industrial process and production	200	500	1,100	800	800	3,200	6,600	55,900
Engineering related scientific and technical consulting activities	800	800	2,500	1,400	800	1,500	7,900	73,400
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	800	3,100	4,300	5,300	2,900	8,100	24,600	234,300
Technical testing and analysis	200	300	600	300	600	1,100	3,000	51,800
Other research and experimental development on natural sciences and engineering	400	600	600	600	4,900	1,300	8,300	107,000
Aerospace and advanced engineering	3,600	9,700	25,200	19,300	15,200	25,100	98,100	812,600

Source: BRES via NOMIS

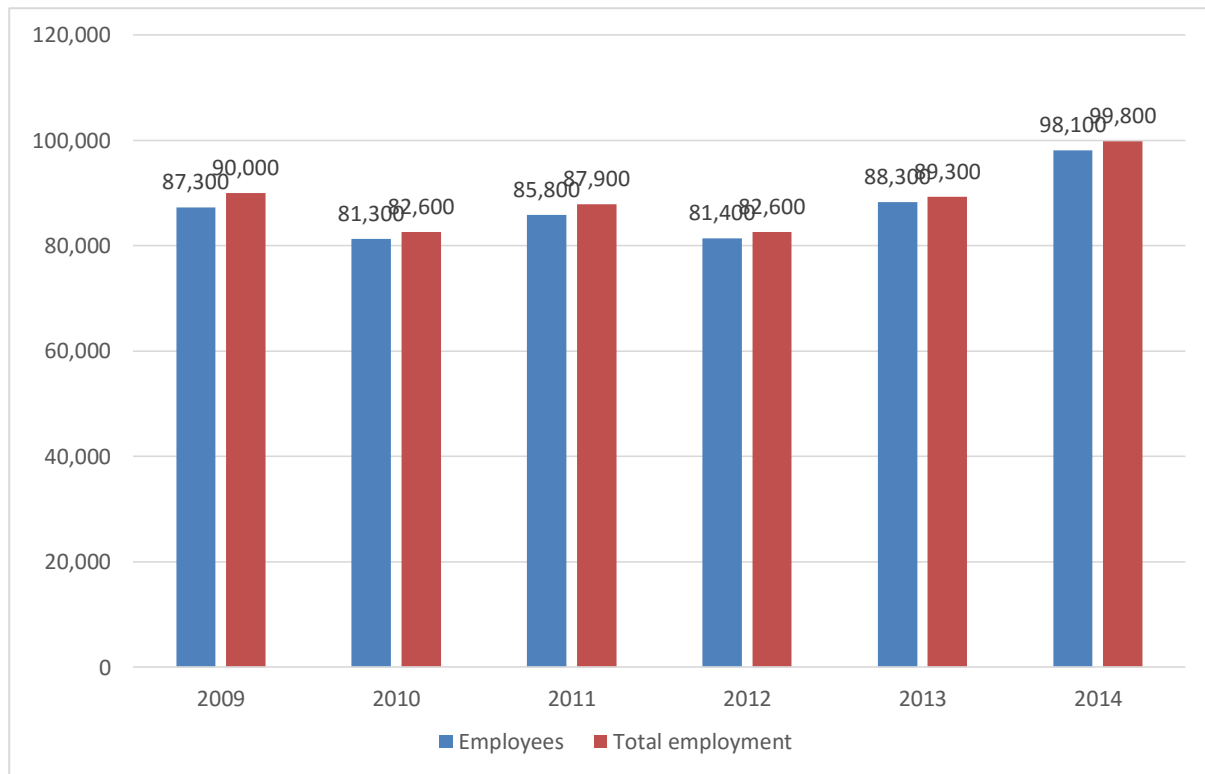
Table 48 Location quotients of employee jobs in the aerospace and advanced engineering sector; consortium sub-area: 2014

	Corn wall & IOS	Glou ceste rshire	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area
Repair and maintenance of aircraft and spacecraft	3.25	2.29	1.00	7.16	0.36	0.92	2.62
Manufacture of motor vehicles	0.03	0.28	0.05	!	!	0.10	0.90
Manufacture of electrical and electronic equipment for motor vehicles	!	!	!	0.00	!	0.12	0.39
Manufacture of other parts and accessories for motor vehicles	0.04	0.93	0.21	2.62	2.55	0.52	1.16
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	0.10	!	!	!	!	0.07	0.34
Manufacture of bearings, gears, gearing and driving elements	!	3.45	!	0.33	!	1.88	1.69
Building of ships and floating structures	2.46	0.05	10.1 6	0.01	!	0.10	2.87
Building of pleasure and sporting boats	5.36	0.20	13.3 1	!	0.58	0.81	4.15
Manufacture of air and spacecraft and related machinery	0.05	3.18	2.90	1.40	0.10	4.76	2.45
Manufacture of military fighting vehicles	0.00	!	0.00	0.00	!	!	1.39
Manufacture of other transport equipment nec	!	!	!	0.00	3.35	0.89	0.98
Engineering design activities for industrial process and production	0.43	0.93	0.83	0.68	1.24	2.86	1.26
Engineering related scientific and technical consulting activities	1.60	1.09	1.38	0.90	1.00	1.03	1.14
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	0.51	1.35	0.75	1.05	1.14	1.72	1.11
Technical testing and analysis	0.41	0.64	0.43	0.30	1.01	1.06	0.63
Other research and experimental development on natural sciences and engineering	0.46	0.52	0.24	0.26	4.20	0.59	0.83
Aerospace and advanced engineering	0.62	1.20	1.27	1.11	1.71	1.53	1.28

Source: BRES via NOMIS

Employment in the sector has risen locally and in 2014, was 9,800 (10.9%) higher than it was in 2009. This is a much larger percentage increase than employment across all sectors (0.6%) and is higher than the industry average across Great Britain (6.6%).

Figure 3 Total employment in the aerospace and advanced engineering sector; consortium area: 2009 to 2014



Source: BRES, ONS via NOMIS

Table 49 Employment indicators for the aerospace and advanced engineering sector by LEP areas and South East Wales: 2009 and 2014

Rank of %	LEP area	%, 2014	Change, 2009 to 2014	
			Number	%
1	Coventry and Warwickshire	6.9	5,400	22
2	Oxfordshire	5.1	2,000	12
3	Swindon and Wiltshire	4.9	700	5
4	Greater Cambridge and Greater Peterborough	4.9	1,200	4
5	Cheshire and Warrington	4.4	700	3
6	West of England	4.4	3,500	16
7	Enterprise M3	4.4	1,700	5
8	Derby, Derbyshire, Nottingham and Nottinghamshire	4.2	5,900	18
9	Cumbria	4.2	1,300	16
10	Tees Valley	4.0	1,000	10
11	Greater Birmingham and Solihull	3.9	1,000	3
12	Heart of the South West	3.6	1,300	5
13	Lancashire	3.5	-7,700	-26
14	Gloucestershire	3.5	1,200	14
15	Solent	3.4	-2,000	-12
16	Thames Valley Berkshire	3.4	2,500	18
17	South East Wales	3.2	2,700	16
18	Northamptonshire	3.2	1,900	22
19	South East Midlands	3.1	5,400	26
20	North Eastern	3.1	-500	-2
21	Worcestershire	3.0	-2,200	-24
22	The Marches	2.9	500	7
23	Buckinghamshire Thames Valley	2.9	600	10
24	Dorset	2.8	800	10
25	Coast to Capital	2.8	2,200	11
26	Liverpool City Region	2.7	3,800	30
27	Hertfordshire	2.6	100	1
28	Leicester and Leicestershire	2.6	1,900	20
29	York, North Yorkshire and East Riding	2.5	600	5
30	Stoke-on-Trent and Staffordshire	2.3	100	1
31	Greater Lincolnshire	2.2	4,000	76
32	New Anglia	2.2	0	0
33	South East	2.2	-500	-1
34	Leeds City Region	2.1	1,500	6
35	Black Country	2.0	-200	-2
36	Sheffield City Region	1.9	1,800	15
37	Cornwall and Isles of Scilly	1.8	300	9
38	Greater Manchester	1.8	-400	-2
39	Humber	1.6	-500	-8
40	London	1.5	2,600	4

Source: BRES, 2014 via NOMIS

Enterprises

In 2015, there were 7,775 enterprises operating within the aerospace and advanced engineering sector across the consortium area (Table 50). The largest number of enterprises were in:

- Other engineering activities (3,805)
- Engineering related scientific and technical consulting activities (1,385)
- Engineering design activities for industrial process and production (1,015)

When expressed as location quotients, the consortium area has particularly high concentrations of enterprises in

- Repair and maintenance of aircraft and spacecraft (2.62) particularly in South East Wales (6.83)
- Building of pleasure and sporting boats in Cornwall & the IoS (5.15) and Heart of the South West (2.75)
- Manufacture of other transport equipment nec in Swindon & Wiltshire (4.23) and West of England (2.82)
- Manufacture of engines and turbines, except aircraft, vehicle and cycle engines in Cornwall & the IoS (4.20)
- Building of ships and floating structures in Cornwall & the IoS (3.51) and Heart of the South West (2.35)
- Manufacture of air and spacecraft and related machinery in South East Wales (2.96) and West of England (2.34)
- Manufacture of electrical and electronic equipment for motor vehicles in Swindon & Wiltshire (2.64)

Table 50 Number of enterprises in the aerospace and advanced engineering sector; consortium sub-area: 2015

	C&IOS	Glos	HoS W	SEW	S&W	WoE	SIA area	Great Britain
Repair and maintenance of aircraft and spacecraft	25	20	70	150	30	45	340	1,345
Manufacture of motor vehicles	5	10	15	10	10	15	65	805
Manufacture of electrical and electronic equipment for motor vehicles	0	0	0	0	5	5	10	160
Manufacture of other parts and accessories for motor vehicles	5	10	20	20	20	15	95	1,070
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	10	0	10	5	0	0	25	245
Manufacture of bearings, gears, gearing and driving elements	0	5	5	5	0	5	20	225
Building of ships and floating structures	15	5	30	5	0	5	60	440
Building of pleasure and sporting boats	25	5	40	0	5	15	90	500
Manufacture of air and spacecraft and related machinery	5	15	35	35	15	30	135	725
Manufacture of military fighting vehicles	0	0	0	0	0	0	0	10
Manufacture of other transport equipment nec	0	0	0	0	5	5	10	100
Engineering design activities for industrial process and production	65	135	225	145	155	295	1,015	12,395
Engineering related scientific and technical consulting activities	120	175	360	240	185	305	1,385	15,860
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	245	540	945	585	535	960	3,805	45,480
Technical testing and analysis	30	50	120	90	60	75	425	5,680
Other research and experimental development on natural sciences and engineering	25	40	65	50	40	65	290	3,500
Aerospace and advanced engineering	590	1,005	1,945	1,330	1,060	1,840	7,775	88,535

Source: ONS Business Counts, NOMIS

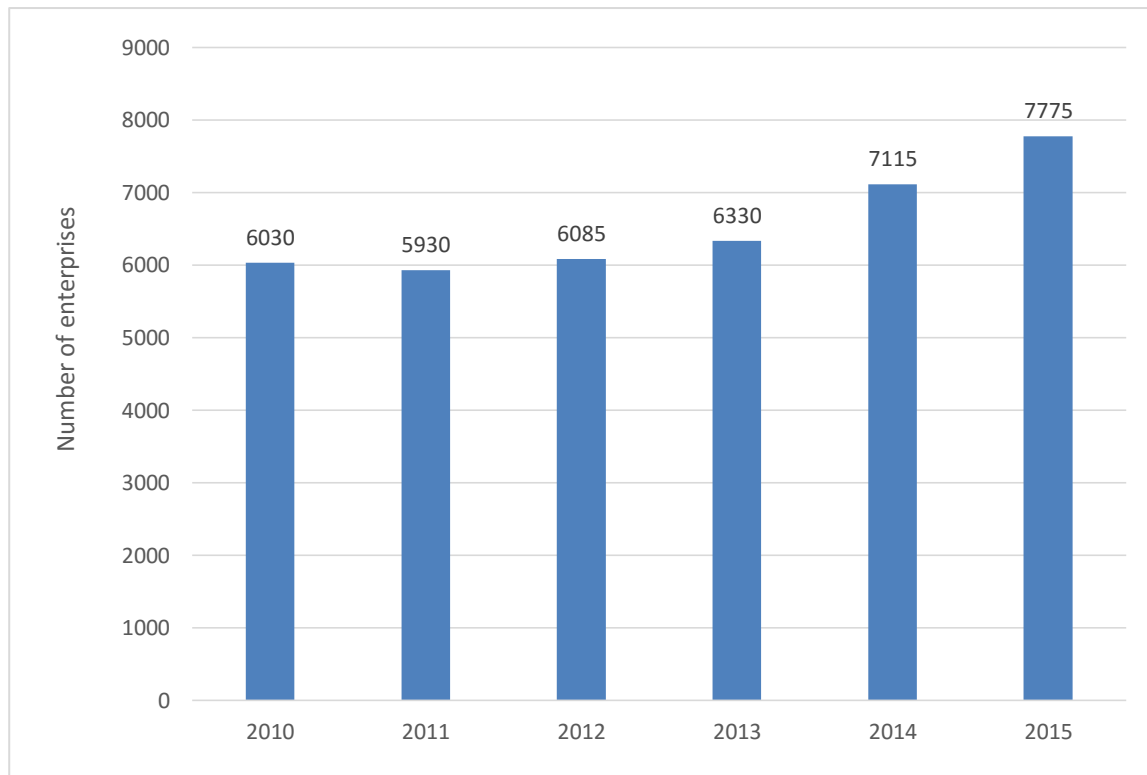
Table 51 Location quotients for share of enterprises in the aerospace and advanced engineering sector; consortium sub-area: 2015

	Corn wall & IOS	Glou ceste rshire	Heart of the South West	South East Wales	Swin don & Wilts hire	West of Engl and	Cons ortia area
Repair and maintenance of aircraft and spacecraft	1.91	1.29	1.79	6.83	1.89	1.89	2.63
Manufacture of motor vehicles	0.64	1.07	0.64	0.76	1.05	1.05	0.84
Manufacture of electrical and electronic equipment for motor vehicles	0.00	0.00	0.00	0.00	2.64	1.76	0.65
Manufacture of other parts and accessories for motor vehicles	0.48	0.81	0.64	1.15	1.58	0.79	0.92
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	4.20	0.00	1.41	1.25	0.00	0.00	1.06
Manufacture of bearings, gears, gearing and driving elements	0.00	1.92	0.77	1.36	0.00	1.25	0.92
Building of ships and floating structures	3.51	0.98	2.35	0.70	0.00	0.64	1.42
Building of pleasure and sporting boats	5.15	0.87	2.75	0.00	0.85	1.69	1.87
Manufacture of air and spacecraft and related machinery	0.71	1.79	1.66	2.96	1.75	2.34	1.94
Manufacture of military fighting vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of other transport equipment nec	0.00	0.00	0.00	0.00	4.23	2.82	1.04
Engineering design activities for industrial process and production	0.54	0.94	0.63	0.72	1.06	1.34	0.85
Engineering related scientific and technical consulting activities	0.78	0.95	0.78	0.93	0.99	1.09	0.91
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	0.55	1.03	0.72	0.79	0.99	1.19	0.87
Technical testing and analysis	0.54	0.76	0.73	0.97	0.89	0.75	0.78
Other research and experimental development on natural sciences and engineering	0.74	0.99	0.64	0.88	0.97	1.05	0.86
Aerospace and advanced engineering	0.69	0.98	0.76	0.92	1.01	1.17	0.91

Source: ONS Business Counts, NOMIS

The number of enterprises has grown strongly over the last 5 years (Figure 4) albeit at a marginally slower rate than the Great Britain average (29% compared to 33%). This is more twice the rate of business growth than average across industries in the consortium area (13%).

Figure 4 **Number of enterprises within the aerospace and advanced engineering sector; consortium area: 2010 to 2015**



Source: ONS Business Counts, NOMIS

Table 52 Change in number of enterprises within the aerospace and advanced engineering sector; consortium area and Great Britain: 2010 to 2015

	Consortium area		Great Britain
	Change in number of enterprises	% change in enterprises	% change in enterprises
Repair and maintenance of aircraft and spacecraft	275	423	249
Manufacture of motor vehicles	-5	-7	18
Manufacture of electrical and electronic equipment for motor vehicles	0	0	10
Manufacture of other parts and accessories for motor vehicles	-5	-5	-11
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	0	0	23
Manufacture of bearings, gears, gearing and driving elements	-5	-20	-12
Building of ships and floating structures	-20	-25	-4
Building of pleasure and sporting boats	-25	-22	-19
Manufacture of air and spacecraft and related machinery	70	108	56
Manufacture of military fighting vehicles	0	#DIV/0!	100
Manufacture of other transport equipment nec	-5	-33	-9
Engineering design activities for industrial process and production	495	95	88
Engineering related scientific and technical consulting activities	530	62	68
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	370	11	17
Technical testing and analysis	80	23	48
Other research and experimental development on natural sciences and engineering	-10	-3	15
Aerospace and advanced engineering	1,745	29	33

Source: ONS Business Counts, NOMIS

Table 53 Enterprise indicators for the aerospace and advanced engineering sector by LEP areas and South East Wales: 2010 and 2015

Rank of %	LEP area	%, 2015	Change, 2010 to 2015	
			Number	%
1	Tees Valley	13.3	935	74
2	Coventry and Warwickshire	6.5	825	59
3	Cumbria	5.8	410	43
4	Cheshire and Warrington	5.3	450	28
5	Solent	4.8	320	21
6	North Eastern	4.8	760	47
7	West of England	4.4	460	33
8	Humber	4.2	300	33
9	Liverpool City Region	4.2	495	46
10	Enterprise M3	4.1	675	28
11	Greater Manchester	4.0	710	25
12	Oxfordshire	3.9	250	27
13	Thames Valley Berkshire	3.9	435	37
14	New Anglia	3.8	495	28
15	Swindon and Wiltshire	3.8	270	34
16	South East Midlands	3.7	640	31
17	Greater Cambridge and Greater Peterborough	3.7	315	17
18	Gloucestershire	3.6	195	24
19	Derby, Derbyshire, Nottingham and Nottinghamshire	3.6	430	21
20	Greater Lincolnshire	3.6	230	21
21	Lancashire	3.6	335	24
22	Coast to Capital	3.5	555	23
23	Stoke-on-Trent and Staffordshire	3.5	200	18
24	Northamptonshire	3.5	240	30
25	Worcestershire	3.5	105	15
26	South East	3.5	1,015	23
27	Buckinghamshire Thames Valley	3.4	160	19
28	South East Wales	3.4	400	43
29	Sheffield City Region	3.4	280	19
30	Dorset	3.4	165	19
31	Greater Birmingham and Solihull	3.4	410	25
32	Hertfordshire	3.2	345	24
33	York, North Yorkshire and East Riding	3.1	350	28
34	Leicester and Leicestershire	3.1	240	26
35	Black Country	3.0	130	17
36	Leeds City Region	3.0	680	30
37	Heart of the South West	2.8	280	17
38	The Marches	2.6	115	17
39	Cornwall and Isles of Scilly	2.5	135	30
40	London	2.2	2,905	41

Source: ONS Business Counts, NOMIS

Table 54 Enterprises by employment size band in the aerospace and advanced engineering sector; consortium area and Great Britain: 2015

Employment Size band	Consortium area		Great Britain	
	No. aerospace & advanced engineering	% aerospace & advanced engineering	% all sectors	% aerospace & advanced engineering
0 to 4	6,710	86.3	75.2	87.4
5 to 9	525	6.8	13.3	5.8
10 to 19	270	3.5	6.4	3.3
20 to 49	145	1.9	3.3	1.8
50 to 99	45	0.6	1.0	0.7
100 to 249	45	0.6	0.5	0.5
250 to 499	20	0.3	0.2	0.2
500 to 999	10	0.1	0.1	0.1
1000+	10	0.1	0.1	0.1
Total	7,775	100.0	100.0	100.0

Source: ONS Business Counts, NOMIS

Table 55 Enterprises by legal status in the aerospace and advanced engineering sector: consortium area and Great Britain: 2015

Employment Size band	Consortium area			Great Britain
	No. aerospace & advanced engineering	% aerospace & advanced engineering	% all sectors	% aerospace & advanced engineering
Private sector total	7,770	99.9	99.3	100.0
Company (including building society)	6,870	88.4	58.3	91.1
Sole proprietor	680	8.7	23.6	6.5
Partnership	190	2.4	13.8	2.0
Non-profit body or mutual association	25	0.3	3.6	0.3
Public sector total	5	0.1	0.7	0.0
Public corporation	-	0.0	0.0	0.0
Central government	5	0.1	0.2	0.0
Local authority	-	0.0	0.5	0.0
Total	7,775	100.0	100.0	100.0

Source: ONS Business Counts, NOMIS

Replacement demand

Table 56 Change in employment by occupation, digital living innovation systems, 2014 - 2024

Occupation	2014	%	2024	%
1. Managers, directors and senior officials	9,800	13%	12,200	13%
2. Professional occupations	35,400	45%	40,900	45%
3. Associate professional and technical	15,300	19%	17,300	19%
4. Administrative and secretarial	6,100	8%	6,300	7%
5. Skilled trades occupations	4,400	6%	4,800	5%
6. Caring, leisure and other service	1,900	2%	2,700	3%
7. Sales and customer service	2,000	3%	2,400	3%
8. Process, plant and machine operatives	1,300	2%	1,500	2%
9. Elementary occupations	2,200	3%	2,500	3%
Total	78,400	100%	90,400	100%
Higher level occupations	60,500	77%	70,400	78%

Source: Working Futures

Table 57 Change in employment by sub-sector, digital living innovation systems, 2014 - 2024

	Sub-sector	2014	%	2024	%
45	Computing services	55,500	71%	63,500	70%
46	Information services	7,000	9%	8,600	10%
54	Scientific research & development	15,900	20%	18,400	20%
	Total	78,400	100%	90,400	100%

Source: Working Futures

Table 58 Change in employment by qualification level required, digital living innovation systems, 2014 - 2024

Qualification Level	2014	%	2024	%
QCF4+	48,200	61%	66,600	74%
QCF3	11,600	15%	8,300	9%
QCF2	9,500	12%	9,000	10%
QCF Below L2 / no quals	9,200	12%	6,600	7%
Total	78,500	100%	90,400	100%

Source: Working Futures

Table 59 Total requirement for labour by occupation, digital living innovation systems, 2014 - 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
Managers, directors and senior officials	9,800	2,300	3,900	6,200
Professional occupations	35,400	5,500	11,900	17,400
Associate professional and technical	15,300	2,000	5,500	7,500
Administrative and secretarial	6,100	200	2,700	2,900
Skilled trades occupations	4,400	400	1,700	2,100
Caring, leisure and other service	1,900	800	900	1,700
Sales and customer service	2,000	300	700	1,000
Process, plant and machine operatives	1,300	200	500	700
Elementary occupations	2,200	300	900	1,200
Total	78,400	12,000	28,700	40,700

Source: Working Futures

Table 60 Total requirement for labour by qualification level required, digital living innovation systems, 2014 – 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
QCF4+	48,200	18,400	19,000	37,400
QCF3	11,600	-3,400	3,900	500
QCF2	9,500	-500	3,300	2,800
QCF Below L2 / no quals	9,200	-2,600	2,700	100
Total	78,500	11,900	28,900	40,800

Source: Working Futures

Table 61 Total requirement for labour by sub-sector, digital living innovation systems, 2014 – 2024

	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
45 Computing services	55,500	8,000	20,300	28,300
46 Information services	7,000	1,400	2,900	4,300
54 Scientific research & development	15,900	2,500	5,700	8,200
Total	78,400	12,000	28,700	40,700

Source: Working Futures

Employment

The digital living innovation platform theme accounts for 93,800 employee jobs across the consortia area. The largest sub-sectors are: computer consultancy activities (20,800), other telecommunications activities (15,000) and other information technology and computer service activities (10,000).

Taken as whole, the sector accounts for a similar share of employment (3.6%) to the Great Britain average (4.1%) but with higher concentrations – as demonstrated by the highest location quotients – within (Table 63)

- Manufacture of communication equipment in South East Wales (10.47) and Gloucestershire (2.23)
- Manufacture of electronic instruments and appliances for measuring, testing and navigation in Gloucestershire (9.92)
- Manufacture of other electronic and electric wires and cables in Swindon & Wiltshire (8.64) and Gloucestershire (2.17)
- Manufacture of loaded boards in Gloucestershire (7.29), South East Wales (4.58) and Swindon & Wiltshire (2.52)
- Manufacture of electronic components in South East Wales (6.51)
- Manufacture of fibre optic cables (2.97)
- Engineering design activities for industrial process and production in West of England (2.86)
- Manufacture of telegraph and telephone apparatus and equipment in South East Wales (2.79)
- Motion picture projection activities in Cornwall & the IoS (2.74)
- Manufacture of electronic industrial process control equipment in South East Wales (2.68) and Heart of the South West (2.58)
- Data processing, hosting and related activities in West of England (2.29)
- Motion picture production activities in West of England (2.16)
- Video production activities in Cornwall & the IoS (2.03)

Table 62 Employee jobs in the digital living systems sector; consortium sub area: 2014

	Corn wall & IOS	Glou cest ershi re	Hear t of the Sout h West	Sout h East Wale s	Swin don & Wilt shire	West of Engl and	Cons ortia area	Great Britain
Publishing of computer games	!	-	!	-	!	-	-	1,300
Other software publishing	-	200	200	-	100	200	700	10,400
Reproduction of sound recording	!	-	-	-	-	-	100	1,100
Reproduction of video recording	-	!	-	-	!	!	-	1,000
Reproduction of computer media	-	-	-	!	-	-	-	200
Manufacture of electronic components	!	-	600	2,100	300	-	3,100	14,700
Manufacture of loaded electronic boards	100	800	!	1,000	300	100	2,400	10,600
Manufacture of computers and peripheral equipment	-	!	-	100	-	!	1,100	8,300
Manufacture of telegraph and telephone apparatus and equipment	100	100	100	700	100	-	1,100	11,500
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	!	100	100	1,100	-	!	1,300	5,000
Manufacture of consumer electronics	!	100	100	100	!	-	400	5,700
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	100	4,400	1,300	700	200	700	7,400	44,100
Manufacture of electronic industrial process control equipment	-	100	300	300	!	!	700	4,800
Manufacture of optical precision instruments	!	-	!	!	!	!	400	4,100
Manufacture of photographic and cinematographic equipment	-	!	!	!	-	-	-	1,100
Manufacture of magnetic and optical media	-	-	-	-	!	-	!	200
Manufacture of fibre optic cables	-	-	!	!	!	-	300	1,200
Manufacture of other electronic	!	200	!	!	900	-	1,30	9,200

and electric wires and cables							0	
Manufacture of wiring devices	-	!	-	-	!	!	200	3,200
Motion picture production activities	-	200	200	300	-	1,000	1,800	21,900
Video production activities	100	-	100	100	100	100	400	3,800
Motion picture projection activities	300	100	500	500	200	500	2,200	17,900
Sound recording and music publishing activities	-	100	100	-	100	300	700	8,100
Wired telecommunications activities	-	-	-	100	100	100	400	7,000
Wireless telecommunications activities	-	100	300	100	100	100	700	16,200
Satellite telecommunications activities	!	!	!	!	100	-	300	9,400
Other telecommunications activities	700	1,400	3,900	3,800	2,300	3,000	15,000	166,700
Ready-made interactive leisure and entertainment software development	-	100	-	100	-	100	300	9,300
Business and domestic software development	200	1,200	1,200	1,500	900	3,500	8,600	138,400
Computer consultancy activities	600	2,800	3,400	3,300	4,100	6,700	20,800	333,300
Computer facilities management activities	-	-	-	-	-	-	100	1,900
Other information technology and computer service activities	300	1,800	1,500	2,400	1,100	2,800	10,000	122,100
Data processing, hosting and related activities	-	200	600	300	600	2,000	3,700	42,700
Web portals	-	!	-	-	-	-	200	7,400
News agency activities	-	-	-	-	!	!	100	9,500
Engineering design activities for industrial process and production	200	500	1,100	800	800	3,200	6,600	55,900
Repair of computers and peripheral equipment	!	500	100	400	200	100	1,400	31,100
Digital Living Innovation Platform"	3,000	15,100	16,500	20,600	13,000	25,600	93,800	1,140,300
All (excluding Farms)	197,400	276,600	680,400	594,700	303,800	559,300	2,612,100	27,777,800

Source: BRES, ONS via NOMIS

Table 63 Location quotients for employee jobs in the digital living systems sector; consortium sub-area: 2014

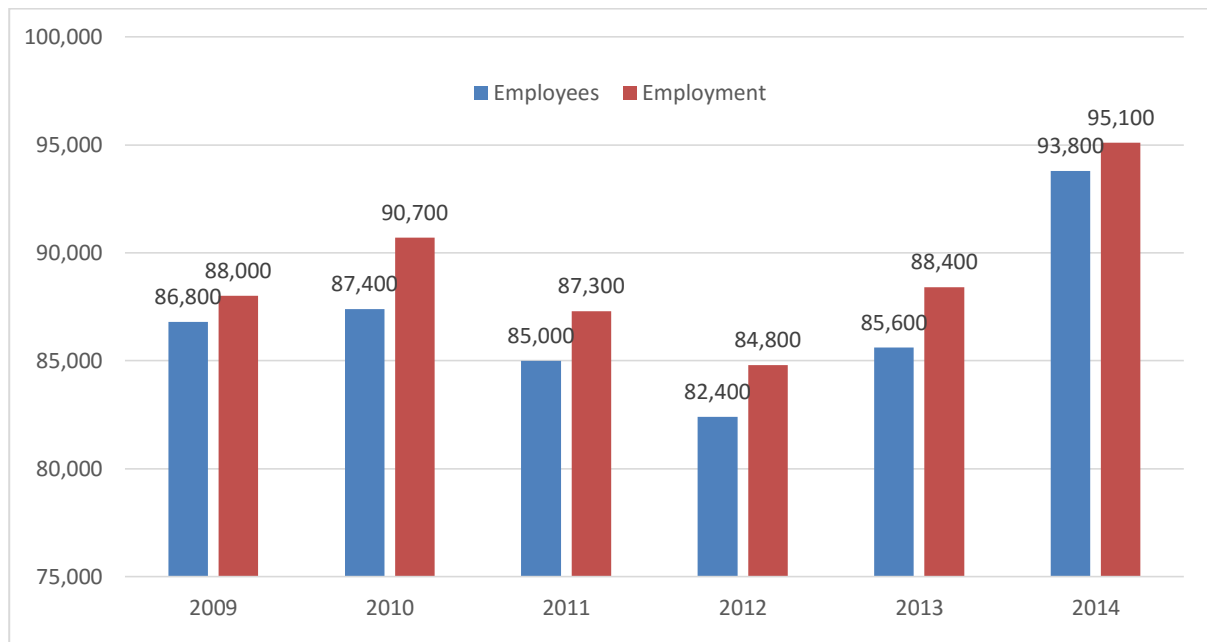
	Corn wall & IOS	Glouc esters hire	Heart of the South West	South East Wales	Swind on & Wiltsh ire	West of Engla nd	Cons ortia area
Publishing of computer games	!	0.47	!	0.22	!	0.39	0.26
Other software publishing	0.43	1.64	0.61	0.22	0.88	0.79	0.69
Reproduction of sound recording	!	0.71	0.22	0.41	0.73	0.84	0.50
Reproduction of video recording	0.00	!	0.25	0.00	!	!	0.12
Reproduction of computer media	0.00	0.00	0.83	!	0.00	1.21	0.56
Manufacture of electronic components	!	0.27	1.67	6.51	1.87	0.08	2.22
Manufacture of loaded electronic boards	1.14	7.29	!	4.58	2.52	0.25	2.45
Manufacture of computers and peripheral equipment	0.12	!	0.17	0.53	0.53	!	1.40
Manufacture of telegraph and telephone apparatus and equipment	1.39	0.85	0.38	2.79	0.61	0.20	1.04
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	!	2.23	0.41	10.47	0.11	!	2.74
Manufacture of consumer electronics	!	1.15	0.45	0.73	!	0.25	0.81
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	0.22	9.92	1.22	0.73	0.51	0.80	1.78
Manufacture of electronic industrial process control equipment	0.00	1.28	2.58	2.68	!	!	1.54
Manufacture of optical precision instruments	!	0.00	!	!	!	!	1.11
Manufacture of photographic and cinematographic equipment	0.00	!	!	!	0.00	0.00	0.30
Manufacture of magnetic and optical media	0.00	0.00	0.00	0.00	!	0.00	!
Manufacture of fibre optic cables	0.00	0.00	!	!	!	0.00	2.97
Manufacture of other electronic and electric wires and cables	!	2.17	!	!	8.64	0.02	1.46
Manufacture of wiring devices	0.00	!	0.00	0.00	!	!	0.52
Motion picture production activities	0.29	0.93	0.44	0.72	0.18	2.16	0.88
Video production activities	2.03	0.76	0.93	0.83	1.39	1.94	1.24
Motion picture projection activities	2.74	0.81	1.12	1.34	1.01	1.49	1.32
Sound recording and music publishing activities	0.38	0.79	0.53	0.28	1.26	2.00	0.89

Wired telecommunications activities	0.08	0.29	0.28	0.97	0.72	0.83	0.59
Wireless telecommunications activities	0.03	0.44	0.78	0.39	0.28	0.46	0.47
Satellite telecommunications activities	!	!	!	!	1.19	0.05	0.32
Other telecommunications activities	0.58	0.84	0.95	1.05	1.26	0.88	0.95
Ready-made interactive leisure and entertainment software development	0.17	0.76	0.14	0.45	0.17	0.43	0.34
Business and domestic software development	0.21	0.87	0.35	0.52	0.61	1.27	0.66
Computer consultancy activities	0.23	0.84	0.42	0.47	1.12	1.00	0.66
Computer facilities management activities	0.00	0.43	0.15	0.52	0.24	0.37	0.32
Other information technology and computer service activities	0.38	1.45	0.50	0.94	0.82	1.15	0.87
Data processing, hosting and related activities	0.07	0.39	0.60	0.29	1.29	2.29	0.91
Web portals	0.08	!	0.09	0.26	0.05	0.22	0.25
News agency activities	0.03	0.04	0.15	0.02	!	!	0.14
Engineering design activities for industrial process and production	0.43	0.93	0.83	0.68	1.24	2.86	1.26
Repair of computers and peripheral equipment	!	1.45	0.19	0.54	0.73	0.24	0.49
Digital Living Innovation Platform"	0.37	1.33	0.59	0.84	1.04	1.12	0.88

Source: BRES via NOMIS

Employment in the sector increased by 7,100 across the consortium area between 2009 and 2014. When expressed as a percentage, this change is slower than the growth rate recorded for this sector across Great Britain as whole over the same period (8% compared to 14%) but compares favourably to the 1% recorded across all industries in the consortium area.

Figure 5 **Employees and total employment in the digital living systems sector;
consortium area: 2009 to 2014**



Source: BRES, ONS via NOMIS

Table 64 Employment indicators for digital living systems sector by LEP areas and South East Wales: 2009 and 2014

Rank of %	LEP area	%, 2014	Change, 2009 to 2014	
			Number	%
1	Thames Valley Berkshire	14.3	9,400	16
2	Enterprise M3	7.3	5,100	9
3	Buckinghamshire Thames Valley	6.7	2,000	15
4	Hertfordshire	6.6	9,900	35
5	London	5.7	73,900	36
6	Greater Cambridge and Greater Peterborough	5.4	9,400	36
7	Gloucestershire	5.3	1,700	13
8	Solent	4.9	1,700	8
9	West of England	4.5	2,700	12
10	Coast to Capital	4.4	3,700	11
11	South East Midlands	4.4	2,300	6
12	Oxfordshire	4.4	0	0
13	Swindon and Wiltshire	4.2	-700	-5
14	Coventry and Warwickshire	4.1	-2,300	-12
15	Cheshire and Warrington	3.8	-300	-2
16	Worcestershire	3.7	700	9
17	South East	3.5	13,200	33
18	South East Wales	3.4	4,500	28
19	The Marches	3.4	400	4
20	Greater Manchester	3.2	-600	-2
21	North Eastern	3.2	0	0
22	Dorset	3.0	600	6
23	Derby, Derbyshire, Nottingham and Nottinghamshire	3.0	100	0
24	Leicester and Leicestershire	2.9	1,000	8
25	Greater Birmingham and Solihull	2.9	-700	-3
26	Leeds City Region	2.9	4,200	12
27	Sheffield City Region	2.8	2,100	11
28	New Anglia	2.8	2,700	16
29	Northamptonshire	2.7	600	7
30	Stoke-on-Trent and Staffordshire	2.6	-1,400	-11
31	Tees Valley	2.5	-600	-9
32	York, North Yorkshire and East Riding	2.5	1,200	11
33	Lancashire	2.4	200	1
34	Heart of the South West	2.4	-1,100	-6
35	Liverpool City Region	2.2	-900	-6
36	Humber	1.8	600	10
37	Black Country	1.6	-1,300	-15
38	Greater Lincolnshire	1.6	400	6
39	Cornwall and Isles of Scilly	1.5	-100	-2
40	Cumbria	1.3	-400	-10

Source: BRES, 2014 via NOMIS

Enterprises

In 2015, there were 14,870 enterprises operating within the digital living systems sector across the consortium area (Table 50). The largest number of enterprises were engaged in:

- Computer consultancy activities (6,610)
- Business and domestic software development (2,170)
- Other information technology and computer service activities (1,960)
- Engineering design activities for industrial process and control (1,015)

When expressed as location quotients, the consortium area has particularly high concentrations of enterprises in (Table 66)

	Corn wall & IOS	Glou ceste rshir e	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area
Repair and maintenance of aircraft and spacecraft	1.91	1.29	1.79	6.83	1.89	1.89	2.63
Manufacture of motor vehicles	0.64	1.07	0.64	0.76	1.05	1.05	0.84
Manufacture of electrical and electronic equipment for motor vehicles	0.00	0.00	0.00	0.00	2.64	1.76	0.65
Manufacture of other parts and accessories for motor vehicles	0.48	0.81	0.64	1.15	1.58	0.79	0.92
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	4.20	0.00	1.41	1.25	0.00	0.00	1.06
Manufacture of bearings, gears, gearing and driving elements	0.00	1.92	0.77	1.36	0.00	1.25	0.92
Building of ships and floating structures	3.51	0.98	2.35	0.70	0.00	0.64	1.42
Building of pleasure and sporting boats	5.15	0.87	2.75	0.00	0.85	1.69	1.87
Manufacture of air and spacecraft and related machinery	0.71	1.79	1.66	2.96	1.75	2.34	1.94
Manufacture of military fighting vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of other transport equipment nec	0.00	0.00	0.00	0.00	4.23	2.82	1.04
Engineering design activities for industrial process and production	0.54	0.94	0.63	0.72	1.06	1.34	0.85
Engineering related scientific and technical consulting activities	0.78	0.95	0.78	0.93	0.99	1.09	0.91

Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	0.55	1.03	0.72	0.79	0.99	1.19	0.87
Technical testing and analysis	0.54	0.76	0.73	0.97	0.89	0.75	0.78
Other research and experimental development on natural sciences and engineering	0.74	0.99	0.64	0.88	0.97	1.05	0.86
Aerospace and advanced engineering	0.69	0.98	0.76	0.92	1.01	1.17	0.91

):

- Reproduction of computer media in West of England (3.32)
- Reproduction of video recording in Gloucestershire (2.98) and Swindon & Wiltshire (2.92)
- Manufacture of optical precision instruments in Cornwall & the IoS (2.94)
- Satellite telecommunications activities in Swindon & Wiltshire (2.92)
- Manufacture of loaded electronic boards in Gloucestershire (2.62)
- Manufacture of electronic industrial process control equipment in South East Wales (2.45)
- Publishing of computer games in Gloucestershire (2.40)
- Motion picture projection activities in Cornwall & the IoS (2.34)

Table 65 **Number of enterprises in the digital living systems sector; consortium sub-area: 2015**

	Corn wall & IOS	Glou cest ershi re	Hear t of the Sout h West	Sout h East Wale s	Swin don & Wilt shire	West of Engl and	Cons ortia area	Great Britain
Publishing of computer games	0	5	5	0	0	5	15	180
Other software publishing	10	25	40	20	25	35	160	1,990
Reproduction of sound recording	5	5	10	5	5	20	55	710
Reproduction of video recording	0	5	0	0	5	0	10	145
Reproduction of computer media	0	0	0	0	0	5	5	85
Manufacture of electronic components	5	5	20	10	10	15	65	595
Manufacture of loaded electronic boards	5	10	0	10	5	5	35	330
Manufacture of computers and peripheral equipment	5	15	20	10	15	20	85	895
Manufacture of telegraph and telephone apparatus and equipment	5	15	25	15	15	10	85	940
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	5	5	5	10	5	0	25	320
Manufacture of consumer electronics	5	10	10	5	5	5	40	515
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	10	20	50	15	20	30	145	1,490
Manufacture of electronic industrial process control equipment	0	5	5	10	0	5	25	250
Manufacture of optical precision instruments	5	0	5	5	0	0	15	175
Manufacture of photographic and cinematographic equipment	0	0	5	0	0	0	10	95
Manufacture of magnetic and optical media	0	0	0	0	0	0	0	30
Manufacture of fibre optic cables	0	0	0	0	0	0	0	40
Manufacture of other electronic	0	5	5	5	5	5	25	250

and electric wires and cables								
Manufacture of wiring devices	0	0	0	0	0	0	5	65
Motion picture production activities	20	35	80	80	20	175	410	6,755
Video production activities	20	20	45	45	25	55	205	2,530
Motion picture projection activities	5	5	5	5	0	5	25	220
Sound recording and music publishing activities	15	15	35	30	30	70	200	2,930
Wired telecommunications activities	5	15	25	20	20	30	110	1,345
Wireless telecommunications activities	5	15	30	20	20	25	110	1,210
Satellite telecommunications activities	0	0	0	0	5	5	15	145
Other telecommunications activities	25	55	85	75	95	75	410	5,130
Ready-made interactive leisure and entertainment software development	5	15	15	20	10	25	80	1,330
Business and domestic software development	105	330	410	350	370	605	2,170	28,900
Computer consultancy activities	240	1,080	1,180	885	1,380	1,845	6,610	90,055
Computer facilities management activities	0	5	10	10	10	10	45	605
Other information technology and computer service activities	110	345	440	265	310	495	1,960	19,265
Data processing, hosting and related activities	15	35	50	30	45	65	240	3,080
Web portals	5	10	25	15	10	20	90	1,215
News agency activities	5	5	15	10	0	10	45	665
Engineering design activities for industrial process and production	65	135	225	145	155	295	1,015	12,395
Repair of computers and peripheral equipment	20	40	65	60	50	85	320	3,990
Digital Living Innovation Platform"	720	2,290	2,950	2,170	2,680	4,055	14,870	190,865
All industries	23,145	27,540	69,185	38,875	28,175	42,210	229,125	2,382,370

Source: ONS Business Counts, NOMIS

Table 66 Location quotients for share of enterprises in the digital living system sector; consortium sub-area: 2015

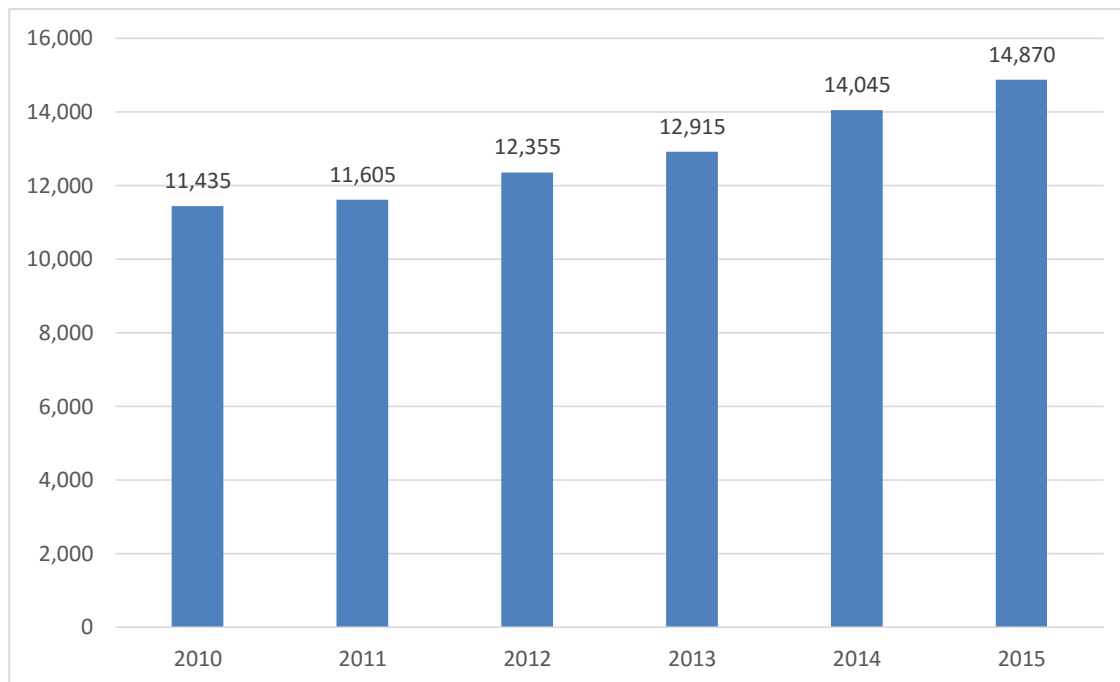
	Corn wall & IOS	Glouc esters hire	Heart of the South West	South East Wales	Swind on & Wiltsh ire	West of Engla nd	Cons ortia area
Publishing of computer games	0.00	2.40	0.96	0.00	0.00	1.57	0.87
Other software publishing	0.52	1.09	0.69	0.62	1.06	0.99	0.84
Reproduction of sound recording	0.72	0.61	0.48	0.43	0.60	1.59	0.81
Reproduction of video recording	0.00	2.98	0.00	0.00	2.92	0.00	0.72
Reproduction of computer media	0.00	0.00	0.00	0.00	0.00	3.32	0.61
Manufacture of electronic components	0.86	0.73	1.16	1.03	1.42	1.42	1.14
Manufacture of loaded electronic boards	1.56	2.62	0.00	1.86	1.28	0.86	1.10
Manufacture of computers and peripheral equipment	0.58	1.45	0.77	0.68	1.42	1.26	0.99
Manufacture of telegraph and telephone apparatus and equipment	0.55	1.38	0.92	0.98	1.35	0.60	0.94
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	1.61	1.35	0.54	1.92	1.32	0.00	0.81
Manufacture of consumer electronics	1.00	1.68	0.67	0.59	0.82	0.55	0.81
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	0.69	1.16	1.16	0.62	1.13	1.14	1.01
Manufacture of electronic industrial process control equipment	0.00	1.73	0.69	2.45	0.00	1.13	1.04
Manufacture of optical precision instruments	2.94	0.00	0.98	1.75	0.00	0.00	0.89
Manufacture of photographic and cinematographic equipment	0.00	0.00	1.81	0.00	0.00	0.00	1.09
Manufacture of magnetic and optical media	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of fibre optic cables	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of other electronic and electric wires and cables	0.00	1.73	0.69	1.23	1.69	1.13	1.04
Manufacture of wiring devices	0.00	0.00	0.00	0.00	0.00	0.00	0.80
Motion picture production activities	0.30	0.45	0.41	0.73	0.25	1.46	0.63
Video production activities	0.81	0.68	0.61	1.09	0.84	1.23	0.84
Motion picture projection activities	2.34	1.97	0.78	1.39	0.00	1.28	1.18
Sound recording and music publishing activities	0.53	0.44	0.41	0.63	0.87	1.35	0.71

Wired telecommunications activities	0.38	0.96	0.64	0.91	1.26	1.26	0.85
Wireless telecommunications activities	0.43	1.07	0.85	1.01	1.40	1.17	0.95
Satellite telecommunications activities	0.00	0.00	0.00	0.00	2.92	1.95	1.08
Other telecommunications activities	0.50	0.93	0.57	0.90	1.57	0.83	0.83
Ready-made interactive leisure and entertainment software development	0.39	0.98	0.39	0.92	0.64	1.06	0.63
Business and domestic software development	0.37	0.99	0.49	0.74	1.08	1.18	0.78
Computer consultancy activities	0.27	1.04	0.45	0.60	1.30	1.16	0.76
Computer facilities management activities	0.00	0.71	0.57	1.01	1.40	0.93	0.77
Other information technology and computer service activities	0.59	1.55	0.79	0.84	1.36	1.45	1.06
Data processing, hosting and related activities	0.50	0.98	0.56	0.60	1.24	1.19	0.81
Web portals	0.42	0.71	0.71	0.76	0.70	0.93	0.77
News agency activities	0.77	0.65	0.78	0.92	0.00	0.85	0.70
Engineering design activities for industrial process and production	0.54	0.94	0.63	0.72	1.06	1.34	0.85
Repair of computers and peripheral equipment	0.52	0.87	0.56	0.92	1.06	1.20	0.83
Digital Living Innovation Platform"	0.39	1.04	0.53	0.70	1.19	1.20	0.81

Source: ONS Business Counts, NOMIS

The number of enterprises within the digital living systems sector has increased strongly locally (30%) and across Great Britain as a whole (35%). Growth exceeded the all sector average within the consortium area (13%).

**Figure 6 Number of enterprises within the digital living systems sector;
consortium area: 2010 to 2015**



Source: ONS Business Counts, NOMIS

Table 67 **Change in number of enterprises within the digital living systems sector; consortium area and England & Wales: 2010 to 2015**

	Consortium area		Great Britain
	Change in number of enterprises	% change in enterprises	% change in enterprises
Publishing of computer games	5	50	89
Other software publishing	0	0	6
Reproduction of sound recording	-15	-21	-27
Reproduction of video recording	-10	-50	-36
Reproduction of computer media	-10	-67	-19
Manufacture of electronic components	0	0	-1
Manufacture of loaded electronic boards	0	0	-3
Manufacture of computers and peripheral equipment	15	21	1
Manufacture of telegraph and telephone apparatus and equipment	-50	-37	-35
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	10	67	88
Manufacture of consumer electronics	-10	-20	-21
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	-5	-3	-7
Manufacture of electronic industrial process control equipment	0	0	-7
Manufacture of optical precision instruments	5	50	40
Manufacture of photographic and cinematographic equipment	0	0	0
Manufacture of magnetic and optical media	-5	-100	-14
Manufacture of fibre optic cables	0	#DIV/0!	-11
Manufacture of other electronic and electric wires and cables	10	67	19
Manufacture of wiring devices	0	0	18
Motion picture production activities	110	37	42
Video production activities	150	273	199
Motion picture projection activities	5	25	5
Sound recording and music publishing activities	70	54	43
Wired telecommunications activities	55	100	140
Wireless telecommunications activities	75	214	144
Satellite telecommunications activities	5	50	38
Other telecommunications activities	40	11	3
Ready-made interactive leisure and entertainment software development	55	220	186
Business and domestic software development	1,270	141	135

Computer consultancy activities	1,540	30	36
Computer facilities management activities	35	350	210
Other information technology and computer service activities	-535	-21	-21
Data processing, hosting and related activities	30	14	16
Web portals	25	38	35
News agency activities	-15	-25	-22
Engineering design activities for industrial process and production	495	95	88
Repair of computers and peripheral equipment	85	36	25
Digital Living Innovation Platform"	3,435	30	35
All enterprises	25,700	13	17

Source: ONS Business Counts, NOMIS

Table 68 Enterprise indicators for the digital living systems sector by LEP areas and South East Wales: 2010 and 2015

Rank of %	LEP area	%, 2015	Change, 2010 to 2015	
			Number	%
1	Thames Valley Berkshire	17.0	1,775	34
2	Enterprise M3	12.2	1,870	25
3	London	11.7	18,260	54
4	Hertfordshire	11.6	1,630	34
5	Buckinghamshire Thames Valley	10.8	580	23
6	Coast to Capital	10.4	1,955	29
7	South East Midlands	9.6	1,760	33
8	West of England	9.6	1,115	38
9	Swindon and Wiltshire	9.5	545	26
10	Coventry and Warwickshire	9.4	920	40
11	Oxfordshire	9.0	365	16
12	Greater Cambridge and Greater Peterborough	8.4	825	20
13	Gloucestershire	8.3	555	32
14	Cheshire and Warrington	8.2	675	27
15	Solent	8.2	595	24
16	South East	7.3	2,585	29
17	Greater Birmingham and Solihull	7.1	1,025	31
18	Greater Manchester	7.0	1,485	32
19	Dorset	7.0	295	16
20	Worcestershire	6.7	180	13
21	Northamptonshire	6.6	470	31
22	Leeds City Region	6.1	1,520	33
23	Derby, Derbyshire, Nottingham and Nottinghamshire	6.0	760	23
24	Liverpool City Region	5.9	495	29
25	Tees Valley	5.9	280	41
26	Leicester and Leicestershire	5.8	500	29
27	South East Wales	5.6	535	33
28	Stoke-on-Trent and Staffordshire	5.4	390	25

29	Sheffield City Region	5.2	555	26
30	Lancashire	5.2	465	22
31	Black Country	5.2	295	23
32	North Eastern	5.2	570	29
33	New Anglia	5.0	255	9
34	The Marches	4.8	240	20
35	York, North Yorkshire and East Riding	4.5	460	25
36	Heart of the South West	4.3	555	23
37	Humber	3.9	215	24
38	Greater Lincolnshire	3.5	105	9
39	Cumbria	3.2	120	19
40	Cornwall and Isles of Scilly	3.1	130	22

Source: ONS Business Counts, NOMIS

Table 69 Enterprises by employment size band in the digital living systems sector; consortium area and Great Britain: 2015

Employment Size band	Consortium area			Great Britain
	No. digital living	% digital living	% all sectors	% digital living
0 to 4	13,225	88.9	75.2	89.3
5 to 9	795	5.3	13.3	5.0
10 to 19	435	2.9	6.4	2.8
20 to 49	255	1.7	3.3	1.7
50 to 99	90	0.6	1.0	0.6
100 to 249	45	0.3	0.5	0.3
250 to 499	10	0.1	0.2	0.1
500 to 999	5	0.0	0.1	0.0
1000+	5	0.0	0.1	0.0
Total	14,870	100.0	100.0	100.0

Source: ONS Business Counts, NOMIS

**Table 70 Enterprises by legal status in the digital living systems sector:
consortium area and Great Britain: 2015**

Employment Size band	Consortium area			Great Britain
	No. digital living	% digital living	% all sectors	% digital living
Private sector total	14,870	100.0	99.3	100.0
Company (including building society)	13,810	92.9	58.3	94.7
Sole proprietor	835	5.6	23.6	4.2
Partnership	190	1.3	13.8	0.9
Non-profit body or mutual association	30	0.2	3.6	0.1
Public sector total	0	0.0	0.7	0.0
Public corporation	0	0.0	0.0	0.0
Central government	0	0.0	0.2	0.0
Local authority	0	0.0	0.5	0.0
Total	14,870	100.0	100.0	100.0

Replacement demand

Table 71 Change in employment by occupation, resilience, environment and sustainability, 2014 - 2024

Occupation	2014	%	2024	%
1. Managers, directors and senior officials	3,000	10%	3,500	11%
2. Professional occupations	3,300	11%	4,100	13%
3. Associate professional and technical	3,000	10%	3,200	10%
4. Administrative and secretarial	2,400	8%	2,000	6%
5. Skilled trades occupations	3,000	11%	3,600	12%
6. Caring, leisure and other service	500	2%	500	2%
7. Sales and customer service	900	3%	1,000	3%
8. Process, plant and machine operatives	7,700	27%	8,200	26%
9. Elementary occupations	4,900	17%	4,800	16%
Total	28,700	100%	30,900	100%
Higher level occupations	9,300	32%	10,800	35%

Source: Working Futures

Table 72 Change in employment by sub-sector, resilience, environment and sustainability, 2014 - 2024

	Sub-sector	2014	%	2024	%
25	Water	6,200	21.6%	6,600	21.4%
26	Sewerage	3,600	12.5%	3,800	12.3%
27	Waste management	19,000	66.2%	20,500	66.3%
	Total	28,700	100.3%	30,900	100.0%

Source: Working Futures

Table 73 Change in employment by qualification level required, resilience, environment and sustainability, 2014 - 2024

Qualification Level	2014	%	2024	%
QCF4+	8,800	31%	12,500	41%
QCF3	5,400	19%	5,300	17%
QCF2	6,700	23%	7,800	25%
QCF Below L2 / no quals	7,800	27%	5,200	17%
Total	28,700	100%	30,900	100%

Source: Working Futures

Table 74 Total requirement for labour by occupation, resilience, environment and sustainability, 2014 - 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
Managers, directors and senior officials	3,000	500	1,200	1,700
Professional occupations	3,300	800	1,400	2,200
Associate professional and technical	3,000	200	1,100	1,300
Administrative and secretarial	2,400	-400	1,000	600
Skilled trades occupations	3,000	500	1,200	1,700
Caring, leisure and other service	500	100	200	300
Sales and customer service	900	100	300	400
Process, plant and machine operatives	7,700	400	2,900	3,300
Elementary occupations	4,900	-100	1,600	1,500
Total	28,700	2,100	10,900	13,000

Source: Working Futures

Table 75 Total requirement for labour by qualification level required, resilience, environment and sustainability, 2014 – 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
QCF4+	8,800	3,800	3,600	7,400
QCF3	5,400	-100	2,500	2,400
QCF2	6,700	1,200	2,500	3,700
QCF Below L2 / no quals	7,800	-2,600	2,300	-300
Total	28,700	2,300	10,900	13,200

Source: Working Futures

Table 76 Total requirement for labour by sub-sector, resilience, environment and sustainability, 2014 – 2024

	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
25 Water	6,200	600	2,300	2,900
26 Sewerage	3,600	200	1,200	1,400
27 Waste management	19,000	1,500	7,300	8,800
Total	28,700	2,100	10,900	13,000

Source: Working Futures

Employment

The resilience, environment and sustainability theme accounts for 153,100 jobs across the consortia area. The largest sectors are: other engineering activities (24,600), computer consultancy activities (20,800), other information technology and computer service activities (10,000) and business and domestic software development (8,600) (Table 47).

Taken as whole, the sector accounts for a similar share of employee jobs (5.9%) to the Great Britain average (6.3%) but with higher concentrations – as demonstrated by the highest location quotients – within (Table 78):

- Sewerage in Swindon & Wiltshire (4.17)
- Other research and experimental development on natural sciences and engineering in Swindon & Wiltshire (4.20)
- Botanical and zoological gardens and nature reserve activities in Cornwall & the IoS (3.77)
- Engineering design activities for industrial process and production in West of England (2.86)
- Manufacture of pharmaceutical preparations in Swindon & Wiltshire (2.79)
- Urban planning and landscape architectural activities in West of England (2.36)
- Data processing, hosting and related activities in West of England (2.29)
- Treatment and disposal of hazardous waste across consortium area (2.21)
- Non-life insurance in South East Wales (2.2)
- Dismantling of wrecks in Heart of the South West (2.03)
- Recovery of sorted materials in South East Wales (2.02)
- Water collection, treatment and supply in Heart of the South West (1.9)
- Collection of non-hazardous waste in Cornwall & the IoS (1.9)

Table 77 Employee jobs in the resilience, environment and sustainability sector; consortium sub-area: 2014

	Corn wall & IOS	Glou ceste rshire	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area	Great Britain
Botanical and zoological gardens and nature reserve activities	500	300	700	100	100	400	2,200	19,400
Water collection, treatment and supply	200	200	1,500	800	100	1,400	4,300	32,400
Sewerage	100	200	900	500	900	600	3,300	20,400
Collection of non-hazardous waste	800	300	1,500	1,700	300	1,600	6,200	58,400
Collection of hazardous waste	!	!	0	0	!	!	100	800
Treatment and disposal of non-hazardous waste	300	200	1,300	900	600	600	3,900	32,200
Treatment and disposal of hazardous waste	!	!	!	100	!	!	1,500	7,400
Dismantling of wrecks	0	!	0	!	0	0	0	200
Recovery of sorted materials	100	300	500	1,100	200	300	2,500	24,800
Remediation activities and other waste management services	!	0	100	100	!	0	200	4,900
Passenger rail transport, interurban	!	!	1,100	!	900	!	4,200	46,800
Satellite telecommunications activities	!	!	!	!	100	0	300	9,400
Data processing, hosting and related activities	0	200	600	300	600	2,000	3,700	42,700
Non-life insurance	100	!	1,000	3,200	!	2,600	7,500	67,200
Non-life reinsurance	0	0	0	!	0	0	!	700
Research and experimental development on biotechnology	0	0	0	0	!	!	1,200	7,700
Other research and experimental development on natural sciences and engineering	400	600	600	600	4,900	1,300	8,300	107,000
Manufacture of other inorganic basic chemicals	!	!	0	!	0	0	!	4,700

Manufacture of other organic basic chemicals	0	0	!	300	0	!	300	9,600
Manufacture of basic pharmaceutical products	0	!	0	!	!	0	100	4,600
Manufacture of pharmaceutical preparations	!	!	1,20 0	1,10 0	1,00 0	!	3,90 0	32,300
Business and domestic software development	200	1,20 0	1,20 0	1,50 0	900	3,50 0	8,60 0	138,40 0
Computer consultancy activities	600	2,80 0	3,40 0	3,30 0	4,10 0	6,70 0	20,8 00	333,30 0
Computer facilities management activities	0	0	0	0	0	0	100	1,900
Other information technology and computer service activities	300	1,80 0	1,50 0	2,40 0	1,10 0	2,80 0	10,0 00	122,10 0
Architectural activities	400	700	1,50 0	1,20 0	500	1,80 0	6,00 0	61,200
Urban planning and landscape architectural activities	100	100	100	200	100	400	1,00 0	9,300
Engineering design activities for industrial process and production	200	500	1,10 0	800	800	3,20 0	6,60 0	55,900
Engineering related scientific and technical consulting activities	800	800	2,50 0	1,40 0	800	1,50 0	7,90 0	73,400
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	800	3,10 0	4,30 0	5,30 0	2,90 0	8,10 0	24,6 00	234,30 0
Technical testing and analysis	200	300	600	300	600	1,10 0	3,00 0	51,800
Specialised design activities	200	400	700	500	300	1,00 0	3,20 0	47,800
Environmental consulting activities	100	100	300	300	100	200	1,00 0	9,600
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	300	500	2,90 0	700	600	1,30 0	6,30 0	73,000
Resilience, Environment & Sustainability	7,20 0	16,1 00	31,5 00	30,1 00	23,9 00	44,3 00	153, 100	1,745, 400
All industries (excluding	197,	276,	680,	594,	303,	559,	2,61	27,777

farms)	400	600	400	700	800	300	2,100	,800
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Source: BRES via NOMIS

Table 78 Location Quotients for employee jobs in resilience, environment and sustainability sector; consortium sub-area: 2014

	Corn wall & IOS	Glou ceste rshire	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engla nd	Cons ortia area
Botanical and zoological gardens and nature reserve activities	3.77	1.46	1.56	0.27	0.54	1.06	1.20
Water collection, treatment and supply	1.05	0.51	1.92	1.20	0.25	2.19	1.41
Sewerage	0.96	0.89	1.79	1.16	4.17	1.46	1.69
Collection of non-hazardous waste	1.88	0.47	1.02	1.39	0.51	1.39	1.13
Collection of hazardous waste	!	!	0.20	0.97	!	!	0.96
Treatment and disposal of non-hazardous waste	1.20	0.74	1.63	1.34	1.60	0.93	1.28
Treatment and disposal of hazardous waste	!	!	!	0.88	!	!	2.21
Dismantling of wrecks	0.00	!	2.03	!	0.00	0.00	1.00
Recovery of sorted materials	0.68	1.04	0.79	2.02	0.87	0.64	1.07
Remediation activities and other waste management services	!	0.04	1.04	0.61	!	0.10	0.49
Passenger rail transport, interurban	!	!	0.95	!	1.80	!	0.96
Satellite telecommunications activities	!	!	!	!	1.19	0.05	0.32
Data processing, hosting and related activities	0.07	0.39	0.60	0.29	1.29	2.29	0.91
Non-life insurance	0.17	!	0.62	2.20	!	1.92	1.19
Non-life reinsurance	0.00	0.00	0.00	!	0.00	0.00	!
Research and experimental development on biotechnology	0.55	0.17	0.03	0.16	!	!	1.70
Other research and experimental development on natural sciences and engineering	0.46	0.52	0.24	0.26	4.20	0.59	0.83
Manufacture of other inorganic basic chemicals	!	!	0.00	!	0.00	0.00	!
Manufacture of other organic	0.00	0.00	!	1.22	0.00	!	0.31

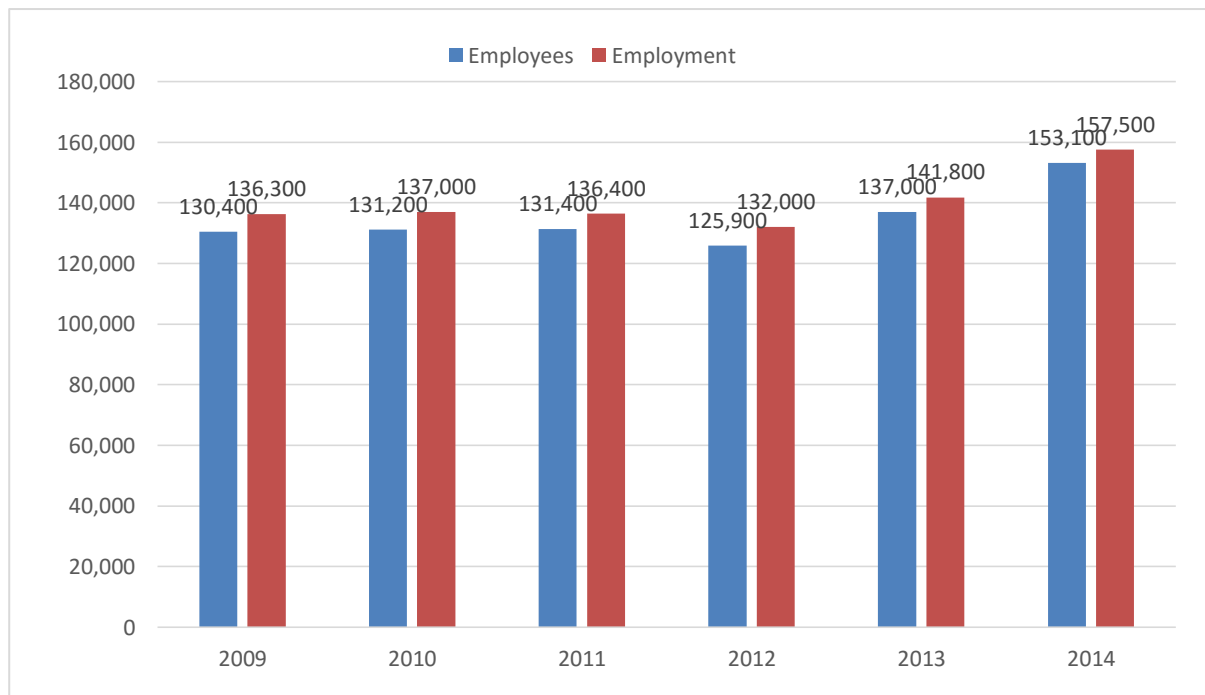
basic chemicals							
Manufacture of basic pharmaceutical products	0.00	!	0.05	!	!	0.10	0.33
Manufacture of pharmaceutical preparations	!	!	1.57	1.66	2.79	!	1.30
Business and domestic software development	0.21	0.87	0.35	0.52	0.61	1.27	0.66
Computer consultancy activities	0.23	0.84	0.42	0.47	1.12	1.00	0.66
Computer facilities management activities	0.00	0.43	0.15	0.52	0.24	0.37	0.32
Other information technology and computer service activities	0.38	1.45	0.50	0.94	0.82	1.15	0.87
Architectural activities	0.97	1.10	0.98	0.94	0.73	1.43	1.05
Urban planning and landscape architectural activities	0.94	1.48	0.62	0.96	0.76	2.36	1.20
Engineering design activities for industrial process and production	0.43	0.93	0.83	0.68	1.24	2.86	1.26
Engineering related scientific and technical consulting activities	1.60	1.09	1.38	0.90	1.00	1.03	1.14
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	0.51	1.35	0.75	1.05	1.14	1.72	1.11
Technical testing and analysis	0.41	0.64	0.43	0.30	1.01	1.06	0.63
Specialised design activities	0.72	0.88	0.59	0.47	0.66	1.02	0.70
Environmental consulting activities	0.94	0.55	1.21	1.69	0.88	0.98	1.14
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	0.58	0.73	1.61	0.43	0.78	0.85	0.91
Resilience, Environment & Sustainability	0.58	0.93	0.74	0.81	1.25	1.26	0.93

Source: BRES via NOMIS

Employment in the sector has grown strongly over the last 5 years, with total employment increasing by 16% across the consortium area between 2009 and 2014. Employment in the sector has risen locally and in 2014, was 9,800 (10.9%) higher than it was in 2009. This is a much larger percentage increase than employment across all sectors (0.6%) and is higher than the industry average across Great Britain (6.6%).

Figure 3). While this is marginally less growth than that evident across the sector nationwide (17%) it is substantially more than the 1% growth recorded across all sectors locally.

Figure 7 **Total employment and employee jobs in the resilience, environment and sustainability sector; consortium area: 2009 to 2014**



Source: BRES, ONS via NOMIS

Table 79 Employment indicators for the resilience, environment and sustainability sector by LEP areas and South East Wales: 2009-14

Rank of %	LEP area	%, 2014	Change, 2009 to 2014	
			Number	%
1	Thames Valley Berkshire	14.9	13,300	22
2	Enterprise M3	10.7	8,200	11
3	Greater Cambridge and Greater Peterborough	9.3	11,500	23
4	Oxfordshire	8.2	2,500	9
5	Hertfordshire	8.2	8,800	23
6	Cheshire and Warrington	8.1	7,200	23
7	Buckinghamshire Thames Valley	7.9	2,300	15
8	West of England	7.9	8,700	24
9	Swindon and Wiltshire	7.8	1,300	6
10	Coast to Capital	7.6	8,300	15
11	London	7.2	72,500	26
12	Coventry and Warwickshire	7.0	2,500	9
13	York, North Yorkshire and East Riding	6.3	6,300	26
14	Tees Valley	6.1	3,500	27
15	Solent	6.0	-200	-1
16	South East	6.0	14,100	18
17	Gloucestershire	5.9	600	4
18	South East Midlands	5.8	7,400	18
19	Derby, Derbyshire, Nottingham and Nottinghamshire	5.7	9,000	21
20	Leeds City Region	5.6	16,800	29
21	Leicester and Leicestershire	5.4	6,500	36
22	Greater Manchester	5.3	11,600	22
23	Worcestershire	5.2	-900	-7
24	South East Wales	5.1	5,400	21
25	Liverpool City Region	5.0	4,600	18
26	Dorset	5.0	2,400	17
27	The Marches	4.9	500	4
28	New Anglia	4.8	4,200	15
29	Heart of the South West	4.6	4,600	16
30	Greater Birmingham and Solihull	4.6	-4,200	-9
31	North Eastern	4.5	500	1
32	Sheffield City Region	4.5	7,600	30
33	Northamptonshire	4.4	3,900	36
34	Greater Lincolnshire	4.1	4,600	36
35	Humber	4.1	2,900	23
36	Lancashire	4.0	3,100	14
37	Cumbria	3.8	1,600	22
38	Stoke-on-Trent and Staffordshire	3.7	-500	-3
39	Cornwall and Isles of Scilly	3.6	600	9
40	Black Country	3.2	-2,300	-14

Source: BRES, 2014 via NOMIS

Enterprises

In 2015, there were 25,295 enterprises operating within the resilience, environment and sustainability sector across the consortium area (Table 50). The largest numbers of enterprises in:

- Computer consultancy activities (6,610)
- Other engineering activities (3,805)
- Other professional scientific and technical activities (3,125)
- Business and domestic software development (2,170).
- Other information technology and computer service activities (1,960)
- Specialised design activities (1,710)

When expressed as location quotients, the consortium area has particularly high concentrations of enterprises in (

	Corn wall & IOS	Glou ceste rshir e	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area
Repair and maintenance of aircraft and spacecraft	1.91	1.29	1.79	6.83	1.89	1.89	2.63
Manufacture of motor vehicles	0.64	1.07	0.64	0.76	1.05	1.05	0.84
Manufacture of electrical and electronic equipment for motor vehicles	0.00	0.00	0.00	0.00	2.64	1.76	0.65
Manufacture of other parts and accessories for motor vehicles	0.48	0.81	0.64	1.15	1.58	0.79	0.92
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	4.20	0.00	1.41	1.25	0.00	0.00	1.06
Manufacture of bearings, gears, gearing and driving elements	0.00	1.92	0.77	1.36	0.00	1.25	0.92
Building of ships and floating structures	3.51	0.98	2.35	0.70	0.00	0.64	1.42
Building of pleasure and sporting boats	5.15	0.87	2.75	0.00	0.85	1.69	1.87
Manufacture of air and spacecraft and related machinery	0.71	1.79	1.66	2.96	1.75	2.34	1.94
Manufacture of military fighting vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of other transport equipment nec	0.00	0.00	0.00	0.00	4.23	2.82	1.04
Engineering design activities for industrial process and production	0.54	0.94	0.63	0.72	1.06	1.34	0.85

Engineering related scientific and technical consulting activities	0.78	0.95	0.78	0.93	0.99	1.09	0.91
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	0.55	1.03	0.72	0.79	0.99	1.19	0.87
Technical testing and analysis	0.54	0.76	0.73	0.97	0.89	0.75	0.78
Other research and experimental development on natural sciences and engineering	0.74	0.99	0.64	0.88	0.97	1.05	0.86
Aerospace and advanced engineering	0.69	0.98	0.76	0.92	1.01	1.17	0.91

- Collection of hazardous waste in South East Wales (5.57)
- Manufacture of other inorganic basic chemicals in South East Wales (3.23)
- Treatment and disposal of hazardous waste in the Heart of the South West (3.44) and South East Wales (3.06)
- Water collection, treatment and supply in West of England (3.32) and Heart of the South West (2.03)
- Biological and zoological gardens and nature reserve activities in Cornwall and the IoS (2.90), Gloucestershire (2.44) and Heart of the South West (2.42)
- Satellite telecommunication activities in Swindon & Wiltshire (2.92) and West of England (1.95).
- Dismantling of wrecks in Heart of the South West (2.87)
- Passenger rail transport, interurban in Heart of the South West (2.87)
- Manufacture of other organic basic chemicals in South East Wales (2.45)

Table 80 Number of enterprises in the resilience, environment and sustainability sector; consortium sub-area: 2015

	Corn wall & IOS	Glou ceste rshir e	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area	Great Britain
Botanical and zoological gardens and nature reserve activities	10	10	25	5	5	5	60	355
Water collection, treatment and supply	0	0	5	0	0	5	10	85
Sewerage	10	10	30	20	10	20	100	915
Collection of non-hazardous waste	15	20	50	50	25	45	205	2,235
Collection of hazardous waste	0	0	5	10	0	0	15	110
Treatment and disposal of non-hazardous waste	5	5	30	20	15	15	90	920
Treatment and disposal of hazardous waste	0	0	10	5	0	0	15	100
Dismantling of wrecks	0	0	5	0	0	0	5	60
Recovery of sorted materials	10	20	45	55	25	35	190	1,785
Remediation activities and other waste management services	5	5	10	20	0	10	50	745
Passenger rail transport, interurban	0	0	5	0	0	0	5	60
Satellite telecommunications activities	0	0	0	0	5	5	15	145
Data processing, hosting and related activities	15	35	50	30	45	65	240	3,080
Non-life insurance	5	5	5	10	5	10	35	630
Non-life reinsurance	0	0	0	0	0	0	0	15
Research and experimental development on biotechnology	5	5	5	10	5	10	40	640
Other research and experimental development on natural sciences and engineering	25	40	65	50	40	65	290	3,500
Manufacture of other inorganic basic chemicals	0	0	0	5	0	0	10	95
Manufacture of other organic basic chemicals	0	0	0	5	0	0	10	125
Manufacture of basic pharmaceutical products	0	0	5	0	5	0	10	170

Manufacture of pharmaceutical preparations	0	5	10	5	0	5	30	385
Business and domestic software development	105	330	410	350	370	605	2,170	28,900
Computer consultancy activities	240	1,080	1,180	885	1,380	1,845	6,610	90,055
Computer facilities management activities	0	5	10	10	10	10	45	605
Other information technology and computer service activities	110	345	440	265	310	495	1,960	19,265
Architectural activities	95	140	305	160	135	235	1,075	12,425
Urban planning and landscape architectural activities	15	30	50	25	30	60	205	1,905
Engineering design activities for industrial process and production	65	135	225	145	155	295	1,015	12,395
Engineering related scientific and technical consulting activities	120	175	360	240	185	305	1,385	15,860
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	245	540	945	585	535	960	3,805	45,480
Technical testing and analysis	30	50	120	90	60	75	425	5,680
Specialised design activities	160	235	390	240	215	470	1,710	21,190
Environmental consulting activities	30	40	100	65	50	45	335	3,040
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	275	375	800	625	415	640	3,125	35,945
Resilience, Environment & Sustainability	1,605	3,650	5,700	3,975	4,030	6,335	25,295	308,915
All enterprises	23,145	27,540	69,185	38,875	28,175	42,210	229,125	2,382,370

Source: ONS Business Counts, NOMIS

Table 81 Location quotients for share of enterprises in the resilience, environment and sustainability sector; consortium sub-area: 2015

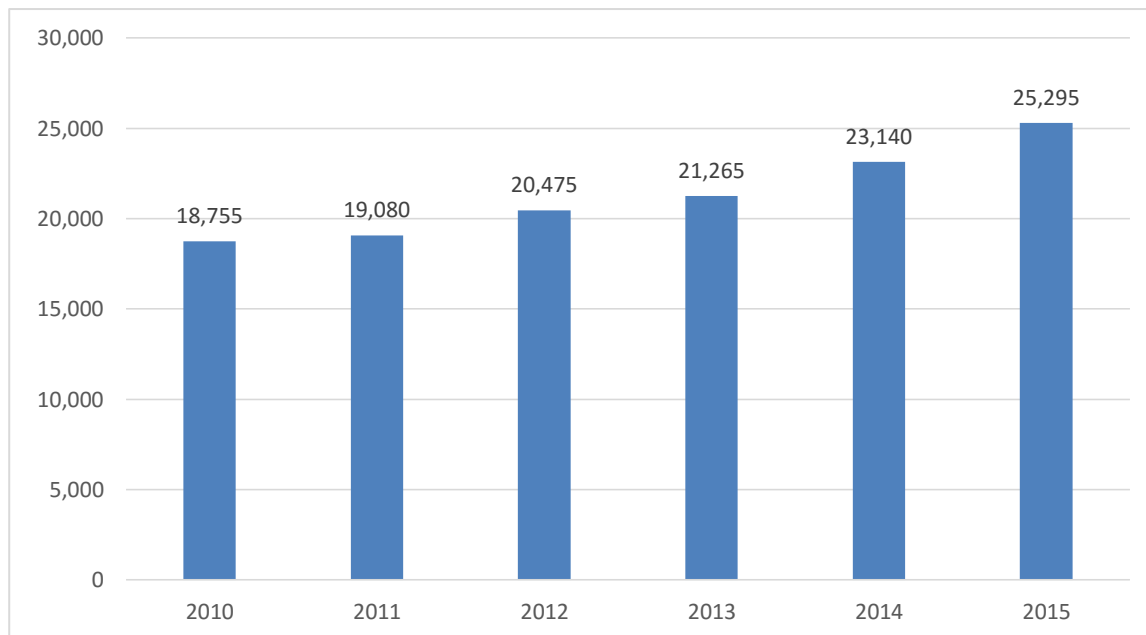
	Corn wall & IOS	Glou ceste rshire	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area
Botanical and zoological gardens and nature reserve activities	2.90	2.44	2.42	0.86	1.19	0.79	1.76
Water collection, treatment and supply	0.00	0.00	2.03	0.00	0.00	3.32	1.22
Sewerage	1.12	0.95	1.13	1.34	0.92	1.23	1.14
Collection of non-hazardous waste	0.69	0.77	0.77	1.37	0.95	1.14	0.95
Collection of hazardous waste	0.00	0.00	1.57	5.57	0.00	0.00	1.42
Treatment and disposal of non-hazardous waste	0.56	0.47	1.12	1.33	1.38	0.92	1.02
Treatment and disposal of hazardous waste	0.00	0.00	3.44	3.06	0.00	0.00	1.56
Dismantling of wrecks	0.00	0.00	2.87	0.00	0.00	0.00	0.87
Recovery of sorted materials	0.58	0.97	0.87	1.89	1.18	1.11	1.11
Remediation activities and other waste management services	0.69	0.58	0.46	1.65	0.00	0.76	0.70
Passenger rail transport, interurban	0.00	0.00	2.87	0.00	0.00	0.00	0.87
Satellite telecommunications activities	0.00	0.00	0.00	0.00	2.92	1.95	1.08
Data processing, hosting and related activities	0.50	0.98	0.56	0.60	1.24	1.19	0.81
Non-life insurance	0.82	0.69	0.27	0.97	0.67	0.90	0.58
Non-life reinsurance	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Research and experimental development on biotechnology	0.80	0.68	0.27	0.96	0.66	0.88	0.65
Other research and experimental development on natural sciences and engineering	0.74	0.99	0.64	0.88	0.97	1.05	0.86
Manufacture of other inorganic basic chemicals	0.00	0.00	0.00	3.23	0.00	0.00	1.09
Manufacture of other organic basic chemicals	0.00	0.00	0.00	2.45	0.00	0.00	0.83
Manufacture of basic pharmaceutical products	0.00	0.00	1.01	0.00	2.49	0.00	0.61
Manufacture of	0.00	1.12	0.89	0.80	0.00	0.73	0.81

pharmaceutical preparations							
Business and domestic software development	0.37	0.99	0.49	0.74	1.08	1.18	0.78
Computer consultancy activities	0.27	1.04	0.45	0.60	1.30	1.16	0.76
Computer facilities management activities	0.00	0.71	0.57	1.01	1.40	0.93	0.77
Other information technology and computer service activities	0.59	1.55	0.79	0.84	1.36	1.45	1.06
Architectural activities	0.79	0.97	0.85	0.79	0.92	1.07	0.90
Urban planning and landscape architectural activities	0.81	1.36	0.90	0.80	1.33	1.78	1.12
Engineering design activities for industrial process and production	0.54	0.94	0.63	0.72	1.06	1.34	0.85
Engineering related scientific and technical consulting activities	0.78	0.95	0.78	0.93	0.99	1.09	0.91
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	0.55	1.03	0.72	0.79	0.99	1.19	0.87
Technical testing and analysis	0.54	0.76	0.73	0.97	0.89	0.75	0.78
Specialised design activities	0.78	0.96	0.63	0.69	0.86	1.25	0.84
Environmental consulting activities	1.02	1.14	1.13	1.31	1.39	0.84	1.15
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	0.79	0.90	0.77	1.07	0.98	1.00	0.90
Resilience, Environment & Sustainability	0.53	1.02	0.64	0.79	1.10	1.16	0.85

Source: ONS Business Counts, NOMIS

As with employment, the number of enterprises has grown strongly over the last 5 years (Figure 4) albeit at a slightly slower rate than the Great Britain average (35% compared to 40%).

Figure 8 **Number of enterprises within the resilience, environment and sustainability sector; consortium area: 2010 to 2015**



Source: ONS Business Counts, NOMIS

Table 82 Change in number of enterprises within the resilience, environment and sustainability sector; consortium area and Great Britain: 2010 to 2015

Sub-sector	Consortium area		Great Britain
	Change in number of enterprises	% change in enterprises	% change in enterprises
Botanical and zoological gardens and nature reserve activities	10	20	15
Water collection, treatment and supply	-10	-50	-32
Sewerage	-15	-13	0
Collection of non-hazardous waste	20	11	20
Collection of hazardous waste	10	200	120
Treatment and disposal of non-hazardous waste	30	50	48
Treatment and disposal of hazardous waste	10	200	186
Dismantling of wrecks	0	0	200
Recovery of sorted materials	-15	-7	1
Remediation activities and other waste management services	30	150	176
Passenger rail transport, interurban	-5	-50	-29
Satellite telecommunications activities	5	50	38
Data processing, hosting and related activities	30	14	16
Non-life insurance	-35	-50	-44
Non-life reinsurance	0	-	50
Research and experimental development on biotechnology	25	167	178
Other research and experimental development on natural sciences and engineering	-10	-3	15
Manufacture of other inorganic basic chemicals	0	0	-5
Manufacture of other organic basic chemicals	0	0	-11
Manufacture of basic pharmaceutical products	5	100	62
Manufacture of pharmaceutical preparations	5	20	18
Business and domestic software development	1,270	141	135
Computer consultancy activities	1,540	30	36
Computer facilities management activities	35	350	210
Other information technology and computer service activities	-535	-21	-21
Architectural activities	225	26	34
Urban planning and landscape architectural activities	100	95	72
Engineering design activities for industrial process and production	495	95	88
Engineering related scientific and technical consulting activities	530	62	68

Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	370	11	17
Technical testing and analysis	80	23	48
Specialised design activities	425	33	36
Environmental consulting activities	225	205	212
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	1,695	119	99
Resilience, Environment & Sustainability	6,540	35	40
All industries	25,700	13	17

Source: ONS Business Counts, NOMIS

Table 83 Enterprise indicators for the resilience, environment and sustainability sector by LEP areas and South East Wales: 2010-15

Rank of %	LEP area	%, 2015	Change, 2010 to 2015	
			Number	%
1	Thames Valley Berkshire	21.7	2,495	39
2	Tees Valley	20.1	1,330	67
3	Enterprise M3	17.3	3,115	31
4	Hertfordshire	15.8	2,265	35
5	Coventry and Warwickshire	15.7	1,630	43
6	London	15.5	25,420	58
7	Coast to Capital	15.3	3,095	32
8	West of England	15.0	1,780	39
9	Cheshire and Warrington	14.9	1,430	33
10	Buckinghamshire Thames Valley	14.8	880	26
11	Oxfordshire	14.4	845	24
12	Swindon and Wiltshire	14.3	1,035	35
13	South East Midlands	14.1	2,800	37
14	Solent	13.3	1,055	27
15	Gloucestershire	13.3	875	32
16	Greater Cambridge and Greater Peterborough	13.2	1,565	26
17	South East	12.2	4,745	33
18	Greater Manchester	12.0	2,610	34
19	Liverpool City Region	11.9	1,360	44
20	Greater Birmingham and Solihull	11.5	1,670	31
21	North Eastern	11.3	1,695	44
22	Worcestershire	11.2	395	17
23	Dorset	11.1	635	23
24	Northamptonshire	11.1	880	36
25	Derby, Derbyshire, Nottingham and Nottinghamshire	10.9	1,665	29
26	Leeds City Region	10.8	3,310	45
27	Leicester and Leicestershire	10.3	1,115	40
28	South East Wales	10.2	1,155	41
29	Cumbria	10.0	590	34
30	New Anglia	9.9	1,160	24
31	Lancashire	9.9	945	24
32	Sheffield City Region	9.8	1,160	29
33	Stoke-on-Trent and Staffordshire	9.7	770	28
34	Humber	9.3	660	33
35	York, North Yorkshire and East Riding	9.3	1,195	34
36	Black Country	9.2	545	24
37	The Marches	8.7	565	28
38	Greater Lincolnshire	8.5	555	22
39	Heart of the South West	8.2	1,200	27
40	Cornwall and Isles of Scilly	6.9	490	44

Source: ONS Business Counts, NOMIS

Table 84 Enterprises by employment size band; consortium area and Great Britain: 2015

Employment Size band	Consortium area		Great Britain	
	No. environment	% environment	% all sectors	% environment
0 to 4	22,160	87.6	75.2	88.5
5 to 9	1,690	6.7	13.3	5.9
10 to 19	815	3.2	6.4	3.0
20 to 49	390	1.5	3.3	1.6
50 to 99	125	0.5	1.0	0.5
100 to 249	65	0.3	0.5	0.3
250 to 499	20	0.1	0.2	0.1
500 to 999	15	0.1	0.1	0.0
1000+	15	0.1	0.1	0.0
Total	25,295	100.0	100.0	100.0

Source: ONS Business Counts, NOMIS

Table 85 Enterprises by legal status: consortium area and Great Britain: 2015

Employment Size band	Consortium area		England & Wales	
	No. environment	% environment	% all sectors	% environment
Private sector total	25,270	99.9	99.3	100.0
Company (including building society)	21,935	86.7	58.3	90.1
Sole proprietor	2,595	10.3	23.6	7.8
Partnership	590	2.3	13.8	1.6
Non-profit body or mutual association	150	0.6	3.6	0.5
Public sector total	25	0.1	0.7	0.0
Public corporation	5	0.0	0.0	0.0
Central government	5	0.0	0.2	0.0
Local authority	15	0.1	0.5	0.0
Total	25,295	100.0	100.0	100.0

Replacement demand

Table 86 Change in employment by occupation, microelectronics, 2014 - 2024

Occupation	2014	%	2024	%
1. Managers, directors and senior officials	4,200	14%	3,100	16%
2. Professional occupations	5,900	20%	4,300	22%
3. Associate professional and technical	4,200	14%	3,000	15%
4. Administrative and secretarial	1,900	6%	1,300	7%
5. Skilled trades occupations	5,900	20%	3,700	18%
6. Caring, leisure and other service	200	1%	100	1%
7. Sales and customer service	900	3%	600	3%
8. Process, plant and machine operatives	5,300	18%	2,800	14%
9. Elementary occupations	1,300	4%	800	4%
Total	29,800	100%	19,800	100%
Higher level occupations	14,300	48%	10,400	53%

Source: Working Futures

Table 87 Change in employment by qualification level required, microelectronics, 2014 - 2024

Qualification Level	2014	%	2024	%
QCF4+	10,600	36%	9,400	47%
QCF3	8,100	27%	4,800	24%
QCF2	5,900	20%	3,900	19%
QCF Below L2 / no quals	5,200	17%	1,800	9%
Total	29,800	100%	19,800	100%

Source: Working Futures

Table 88 Total requirement for labour by occupation, microelectronics, 2014 - 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
Managers, directors and senior officials	4,200	-1,100	1,400	300
Professional occupations	5,900	-1,600	1,800	200
Associate professional and technical	4,200	-1,200	1,300	100
Administrative and secretarial	1,900	-600	800	200
Skilled trades occupations	5,900	-2,300	1,900	-400
Caring, leisure and other service	200	0	100	100
Sales and customer service	900	-200	300	100
Process, plant and machine operatives	5,300	-2,500	1,700	-800
Elementary occupations	1,300	-400	400	0
Total	29,800	-9,900	9,700	-200

Source: Working Futures

Table 89 Total requirement for labour by qualification level required, microelectronics, 2014 – 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
QCF4+	10,600	-1,200	4,000	2,800
QCF3	8,100	-3,300	2,200	-1,100
QCF2	5,900	-2,000	2,100	100
QCF Below L2 / no quals	5,200	-3,400	1,300	-2,100
Total	29,800	-9,900	9,600	-300

Source: Working Futures

Employment

The microelectronics theme accounts for 18,500 employee jobs across the consortia area. The largest sectors are: manufacture of electronic instruments and appliances for measuring, testing, and navigation, expect for industrial process control equipment (7,400), manufacture of electronic components (3,100) and manufacture of loaded electronic boards (2,400).

Taken as whole, the sector accounts for a larger share of employee jobs (0.71%) to the Great Britain average (0.39%) with higher concentrations – as demonstrated by the highest location quotients within:

- Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment in South East Wales (10.47) and Gloucestershire (2.23)
- Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment in Gloucestershire (9.92)
- Manufacture of loaded electronic boards in Gloucestershire (7.29), South East Wales (4.58) and Swindon & Wiltshire (2.52)
- Manufacture of electronic components in South East Wales (6.51)
- Manufacture of irradiation, electro medical and electrotherapeutic equipment in South East Wales (5.54)
- Repair of electronic and optical equipment in South East Wales (3.07)
- Manufacture of telegraph and telephone apparatus and equipment in South East Wales (2.79)
- Manufacture of electronic industrial process control equipment in South East Wales (2.68) and Heart of the South West (2.58).

Table 90 Employee jobs in the microelectronics sector; consortium sub-area: 2014

	Corn wall & IOS	Glou ceste rshir e	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area	Great Britain
Repair of electronic and optical equipment	!	!	-	300	!	-	700	4,800
Manufacture of electronic components	!	-	600	2,100	300	-	3,100	14,700
Manufacture of loaded electronic boards	100	800	!	1,000	300	100	2,400	10,600
Manufacture of computers and peripheral equipment	-	!	-	100	-	!	1,100	8,300
Manufacture of telegraph and telephone apparatus and equipment	100	100	100	700	100	-	1,100	11,500
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	!	100	100	1,100	-	!	1,300	5,000
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	100	4,400	1,300	700	200	700	7,400	44,100
Manufacture of electronic industrial process control equipment	-	100	300	300	!	!	700	4,800
Manufacture of irradiation, electromedical and electrotherapeutic equipment	!	!	!	600	!	-	700	5,100
Microelectronics	400	6,000	2,700	6,900	1,100	1,600	18,500	109,000
All excluding farms	197,400	276,600	680,400	594,700	303,800	559,300	2,612,100	27,777,800

Source: BRES via NOMIS

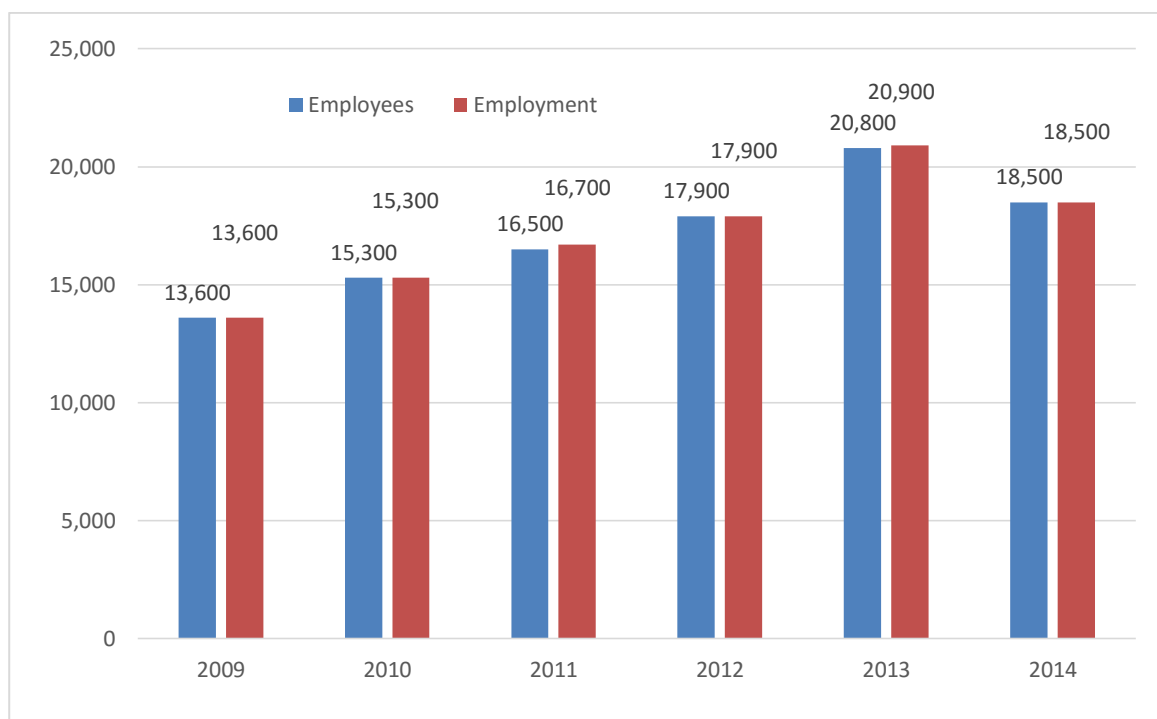
Table 91 Location Quotients for employee jobs in the microelectronics sector; consortium area: 2014

	Corn wall & IOS	Glou ceste rshire	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engla nd	Cons ortia area
Repair of electronic and optical equipment	!	!	0.32	3.07	!	0.37	1.47
Manufacture of electronic components	!	0.27	1.67	6.51	1.87	0.08	2.22
Manufacture of loaded electronic boards	1.14	7.29	!	4.58	2.52	0.25	2.45
Manufacture of computers and peripheral equipment	0.12	!	0.17	0.53	0.53	!	1.40
Manufacture of telegraph and telephone apparatus and equipment	1.39	0.85	0.38	2.79	0.61	0.20	1.04
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	!	2.23	0.41	10.47	0.11	!	2.74
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	0.22	9.92	1.22	0.73	0.51	0.80	1.78
Manufacture of electronic industrial process control equipment	0.00	1.28	2.58	2.68	!	!	1.54
Manufacture of irradiation, electromedical and electrotherapeutic equipment	!	!	!	5.54	!	0.00	1.44
Microelectronics	0.46	5.48	0.99	2.95	0.88	0.72	1.80

Source: BRES via NOMIS

Employment levels within microelectronics have increased most years since 2009. Total employment in the sector in 2014 was more than one-third (36%) than in 2009. This growth is substantially higher than that recorded across the sector nationally (2%) and the expansion in employment opportunities across all sectors locally (1%).

Figure 9 Total employment and employee jobs in the microelectronics sector; consortium area: 2009 to 2014



Source: BRES, ONS via NOMIS

Table 92 Employment indicators for the microelectronics sector by LEP areas and South East Wales: 2009 and 2014

Rank of %	LEP area	%, 2014	Change, 2009 to 2014	
			Number	%
1	Gloucestershire	2.08	1,100	22
2	South East Wales	1.13	3,600	108
3	Solent	1.00	400	11
4	Oxfordshire	0.85	0	0
5	Buckinghamshire Thames Valley	0.81	-300	-13
6	Worcestershire	0.79	400	26
7	Greater Cambridge and Greater Peterborough	0.76	-100	-3
8	Coast to Capital	0.73	1,300	28
9	South East	0.67	1,700	19
10	Enterprise M3	0.60	700	16
11	Hertfordshire	0.59	900	33
12	Dorset	0.56	200	11
13	Stoke-on-Trent and Staffordshire	0.53	100	2
14	South East Midlands	0.52	-1,300	-23
15	Leicester and Leicestershire	0.47	-400	-15
16	The Marches	0.40	300	35
17	Thames Valley Berkshire	0.39	-100	-4
18	Heart of the South West	0.37	-200	-6
19	Northamptonshire	0.37	300	30
20	Cheshire and Warrington	0.34	300	24
21	Swindon and Wiltshire	0.34	0	-1
22	Greater Manchester	0.31	-800	-17
23	Coventry and Warwickshire	0.31	300	24
24	Cumbria	0.31	-100	-11
25	New Anglia	0.30	-200	-9
26	Greater Lincolnshire	0.29	-200	-15
27	West of England	0.27	300	23
28	Lancashire	0.25	-200	-12
29	Greater Birmingham and Solihull	0.23	700	48
30	North Eastern	0.22	-2,600	-60
31	Derby, Derbyshire, Nottingham and Nottinghamshire	0.21	-100	-3
32	Black Country	0.18	200	23
33	Cornwall and Isles of Scilly	0.17	200	86
34	York, North Yorkshire and East Riding	0.16	-700	-46
35	Sheffield City Region	0.14	-800	-43
36	Tees Valley	0.14	-300	-41
37	Liverpool City Region	0.14	0	2
38	Leeds City Region	0.12	-1,200	-43
39	London	0.07	-2,100	-37
40	Humber	0.04	-200	-60

Source: BRES, 2014 via NOMIS

Enterprises

In 2015, there were 505 enterprises operating within the microelectronics sector across the consortium area (Table 50). The largest numbers of enterprises in:

- Manufacture of electronic instruments and appliances for measuring, testing, and navigation (145)
- Manufacture of telegraph and telephone apparatus and equipment (85)
- Manufacture of computers and peripheral equipment

The sector accounted for 0.2% of enterprises across the consortium area, the same as the Great Britain average but with particularly high concentrations in the following sub-sectors:

- Manufacture of irradiation, electromedical and electrotherapeutic equipment in South East Wales (2.79)
- Manufacture of loaded electronic boards in Gloucestershire (2.62)
- Manufacture of electronic industrial and process control equipment in South East Wales (2.45).

Table 93 Number of enterprises in the microelectronics sector; consortium sub area: 2015

	Corn wall & IOS	Glou ceste rshir e	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area	Great Britain
Repair of electronic and optical equipment	5	5	5	5	5	5	30	350
Manufacture of electronic components	5	5	20	10	10	15	65	595
Manufacture of loaded electronic boards	5	10	0	10	5	5	35	330
Manufacture of computers and peripheral equipment	5	15	20	10	15	20	85	895
Manufacture of telegraph and telephone apparatus and equipment	5	15	25	15	15	10	85	940
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	5	5	5	10	5	0	25	320
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	10	20	50	15	20	30	145	1,490
Manufacture of electronic industrial process control equipment	0	5	5	10	0	5	25	250
Manufacture of irradiation, electromedical and electrotherapeutic equipment	0	0	0	5	0	0	10	110
Microelectronics	40	80	130	85	75	90	505	5,280
All industries	23,145	27,540	69,185	38,875	28,175	42,210	229,125	2,382,370

Source: ONS Business Counts, NOMIS

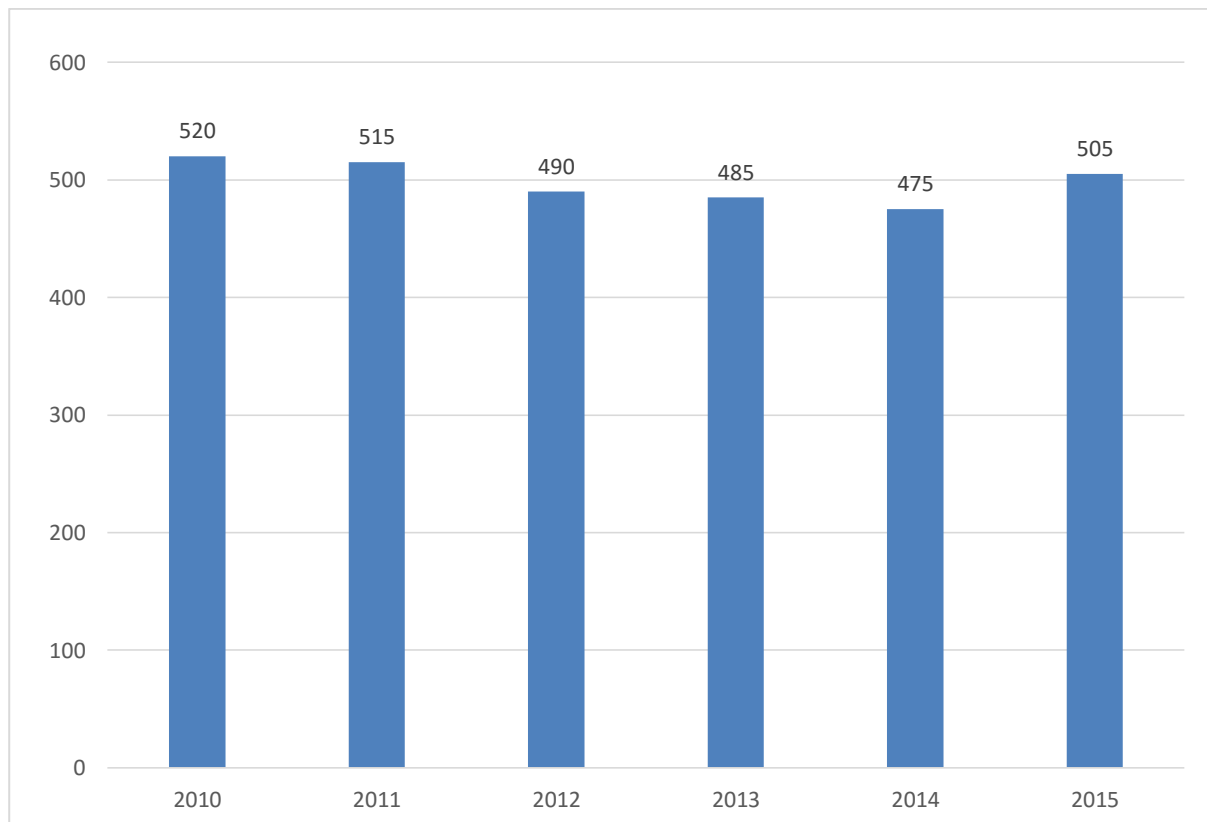
Table 94 Location quotients for share of enterprises in the microelectronics sector; consortium sub-area: 2015

	Corn wall & IOS	Glou ceste rshir e	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area
Repair of electronic and optical equipment	1.47	1.24	0.49	0.88	1.21	0.81	0.89
Manufacture of electronic components	0.86	0.73	1.16	1.03	1.42	1.42	1.14
Manufacture of loaded electronic boards	1.56	2.62	0.00	1.86	1.28	0.86	1.10
Manufacture of computers and peripheral equipment	0.58	1.45	0.77	0.68	1.42	1.26	0.99
Manufacture of telegraph and telephone apparatus and equipment	0.55	1.38	0.92	0.98	1.35	0.60	0.94
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	1.61	1.35	0.54	1.92	1.32	0.00	0.81
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	0.69	1.16	1.16	0.62	1.13	1.14	1.01
Manufacture of electronic industrial process control equipment	0.00	1.73	0.69	2.45	0.00	1.13	1.04
Manufacture of irradiation, electromedical and electrotherapeutic equipment	0.00	0.00	0.00	2.79	0.00	0.00	0.95
Microelectronics	0.78	1.31	0.85	0.99	1.20	0.96	0.99

Source: ONS Business Counts, NOMIS

The number of microelectronics enterprises in the consortium decreased by 3% between 2009 and 2015 and while this is a smaller decline than average for the sector across Great Britain (4%) it compared to growth of 13% across all industries within the consortium area.

Figure 10 **Number of enterprises within the microelectronics sector; consortium area: 2010 to 2015**



Source: ONS Business Counts, NOMIS

Table 95 **Change in number of enterprises within the microelectronics sector; consortium area and Great Britain: 2010 to 2015**

Sub-sector	Consortium area		Great Britain
	Change in number of enterprises	% change in enterprises	% change in enterprises
Repair of electronic and optical equipment	20	200	60
Manufacture of electronic components	0	0	-1
Manufacture of loaded electronic boards	0	0	-3
Manufacture of computers and peripheral equipment	15	21	1
Manufacture of telegraph and telephone apparatus and equipment	-50	-37	-54
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	10	67	47
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	-5	-3	-7
Manufacture of electronic industrial process control equipment	0	0	-8
Manufacture of irradiation, electromedical and electrotherapeutic equipment	-5	-33	32
Microelectronics	-15	-3	-5
All industries	25,700	13	15

Source: ONS Business Counts, NOMIS

Table 96 Enterprise indicators for the microelectronics sector by LEP areas and South East Wales: 2010 and 2015

Rank of %	LEP area	%, 2015	Change, 2010 to 2015	
			Number	%
1	Greater Cambridge and Greater Peterborough	0.46	-20	-7
2	Thames Valley Berkshire	0.38	5	3
3	Solent	0.36	-20	-13
4	Oxfordshire	0.35	5	5
5	South East Midlands	0.33	-30	-11
6	Buckinghamshire Thames Valley	0.33	-5	-5
7	Hertfordshire	0.32	0	0
8	Worcestershire	0.32	-15	-17
9	Dorset	0.31	-15	-14
10	Enterprise M3	0.30	-35	-13
11	Coast to Capital	0.29	-20	-8
12	Gloucestershire	0.29	5	7
13	Stoke-on-Trent and Staffordshire	0.27	-5	-5
14	Tees Valley	0.27	10	29
15	Greater Manchester	0.27	15	7
16	Northamptonshire	0.27	10	14
17	Swindon and Wiltshire	0.27	-25	-25
18	Leicester and Leicestershire	0.26	-10	-9
19	New Anglia	0.25	-15	-9
20	South East	0.25	-30	-7
21	Cheshire and Warrington	0.24	-5	-5
22	Derby, Derbyshire, Nottingham and Nottinghamshire	0.24	-20	-11
23	Coventry and Warwickshire	0.23	-5	-6
24	North Eastern	0.23	-10	-8
25	Sheffield City Region	0.23	-10	-8
26	South East Wales	0.22	-10	-11
27	The Marches	0.22	5	8
28	West of England	0.21	10	13
29	Greater Birmingham and Solihull	0.21	-5	-4
30	Leeds City Region	0.20	-25	-11
31	Lancashire	0.19	0	0
32	Heart of the South West	0.19	0	0
33	Black Country	0.18	-10	-15
34	York, North Yorkshire and East Riding	0.18	0	0
35	Cornwall and Isles of Scilly	0.17	0	0
36	Liverpool City Region	0.16	-5	-8
37	Humber	0.16	0	0
38	Cumbria	0.15	-5	-13
39	Greater Lincolnshire	0.14	-15	-23
40	London	0.11	-20	-4

Source: ONS Business Counts, NOMIS

Table 97 Enterprises by employment size band; consortium area and Great Britain: 2015

Employment Size band	Consortium area			Great Britain
	No. Microelectronic	% microelectronic	% all sectors	% microelectronic
0 to 4	300	59.4	75.2	62.0
5 to 9	75	14.9	13.3	14.0
10 to 19	55	10.9	6.4	9.4
20 to 49	35	6.9	3.3	7.7
50 to 99	15	3.0	1.0	3.4
100 to 249	15	3.0	0.5	2.3
250 to 499	5	1.0	0.2	0.8
500 to 999	0	0.0	0.1	0.3
1000+	0	0.0	0.1	0.2
Total	505	100.0	100.0	100.0

Source: ONS Business Counts, NOMIS

Table 98 Enterprises by legal status: consortium area and Great Britain: 2015

Employment Size band	Consortium area			England & Wales
	No. Microelectronic	% microelectronic	% all sectors	% microelectronic
Private sector total	505	100.0	99.3	100.0
Company (including building society)	435	86.1	58.3	87.0
Sole proprietor	55	10.9	23.6	9.3
Partnership	15	3.0	13.8	3.5
Non-profit body or mutual association	0	0.0	3.6	0.2
Public sector total	0	0.0	0.7	0.0
Public corporation	0	0.0	0.0	0.0
Central government	0	0.0	0.2	0.0
Local authority	0	0.0	0.5	0.0
Total	505	100.0	100.0	100.0

Source: ONS Business Counts, NOMIS

APPENDIX M5: NEW ENERGY SYSTEMS

Replacement demand

Table 99 Change in employment by occupation, new energy systems, 2014 - 2024

Occupation	2014	%	2024	%
1. Managers, directors and senior officials	1,300	9%	1,700	11%
2. Professional occupations	2,400	17%	3,000	19%
3. Associate professional and technical	2,000	14%	2,400	15%
4. Administrative and secretarial	1,800	13%	1,700	10%
5. Skilled trades occupations	3,000	21%	3,200	20%
6. Caring, leisure and other service	300	2%	400	2%
7. Sales and customer service	1,900	13%	2,100	13%
8. Process, plant and machine operatives	1,300	9%	1,300	8%
9. Elementary occupations	300	2%	300	2%
Total	14,300	100%	16,100	100%
Higher level occupations	5,700	40%	7,100	44%

Source: Working Futures

Table 100 Change in employment by qualification level required, new energy systems, 2014 - 2024

Qualification Level	2014	%	2024	%
QCF4+	5,800	41%	8,500	53%
QCF3	3,700	26%	3,100	19%
QCF2	2,600	18%	2,800	17%
QCF Below L2 / no quals	2,100	15%	1,700	11%
Total	14,200	100%	16,100	100%

Source: Working Futures

Table 101 Total requirement for labour by occupation, new energy systems, 2014 -2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
Managers, directors and senior officials	1,300	400	600	1,000
Professional occupations	2,400	600	900	1,500
Associate professional and technical	2,000	400	700	1,100
Administrative and secretarial	1,800	-100	800	700
Skilled trades occupations	3,000	200	1,000	1,200
Caring, leisure and other service	300	100	100	200
Sales and customer service	1,900	200	600	800
Process, plant and machine operatives	1,300	100	400	500
Elementary occupations	300	0	100	100
Total	14,300	1,900	5,200	7,100

Source: Working Futures

Table 102 Total requirement for labour by qualification level required, new energy systems, 2014 – 2024

Occupation	Base year employment (2014)	Expansion Demand	Replacement Demand	Net Requirement
QCF4+	5,800	2,600	2,600	5,200
QCF3	3,700	-600	900	300
QCF2	2,600	100	700	800
QCF Below L2 / no quals	2,100	-400	1,000	600
Total	14,200	1,700	5,200	6,900

Source: Working Futures

Employment

The new energy systems theme accounts for 184,100 employee jobs across the consortia area. The largest sectors are: other engineering activities (24,600), electrical installation (23,200) and other telecommunications activities (15,000) Table 47).

Taken as whole, the sector accounts for the same share of employee jobs (7%) to the Great Britain average (7%) but with notably higher concentrations of employee jobs (Table 104) in

- Manufacture of batteries and accumulators (4.66)
- Manufacture of fibre optic cables (2.97)

- Manufacture of communication equipment (2.74) particularly in South East Wales (10.47)
- Repair and maintenance of aircraft and space craft (2.62) particularly in South East Wales (7.16).
- Manufacture of other taps and valves (2.60) particularly in Gloucestershire (15.38)
- Manufacture of loaded electronic boards (2.45) especially in Gloucestershire (7.29)
- Manufacture of electronic components (2.22) especially in South East Wales (6.51).

Table 103 Employee jobs in the new energy sector; consortium sub-area: 2014

	Cor nwa ll & IOS	Glo uce ster shire	Hea rt of the Sou th Wes t	Sou th East Wal es	Swi ndo n & Wilt shire	Wes t of Engl and	Con sorti um area	Gre at Brit ain
Other research and experimental development on natural sciences and engineering	400	600	600	600	4,900	1,300	8,300	107,000
Other information technology and computer service activities	300	1,800	1,500	2,400	1,100	2,800	10,000	122,100
Wired telecommunications activities	0	0	0	100	100	100	400	7,000
Wireless telecommunications activities	0	100	300	100	100	100	700	16,200
Satellite telecommunications activities	!	!	!	!	100	0	300	9,400
Other telecommunications activities	700	1,400	3,900	3,800	2,300	3,000	15,000	166,700
Wholesale of electronic and telecommunications equipment and parts	0	200	300	200	300	400	1,400	34,900
Wholesale of mining, construction and civil engineering machinery	0	0	100	200	0	100	600	8,100
Electrical installation	1,600	2,900	5,700	4,900	3,000	5,100	23,200	197,000
Other construction installation	200	400	800	1,000	400	700	3,500	38,500
Construction of utility projects for fluids	!	0	100	100	0	0	200	5,300
Construction of utility projects for electricity and telecommunications	!	0	!	0	!	0	200	10,200
Construction of other civil engineering projects nec	600	700	2,200	1,900	500	1,500	7,400	119,900
Production of electricity	200	1,600	1,000	500	100	200	3,500	28,100
Transmission of electricity	!	!	!	!	!	!	!	2,600
Distribution of electricity	!	!	900	2,100	400	600	4,700	37,100
Trade of electricity	!	!	0	0	!	0	400	1,900
Manufacture of gas	0	!	!	!	0	!	!	5,800
Distribution of gaseous fuels through mains	0	!	!	1,700	!	0	2,000	33,100
Trade of gas through mains	!	0	!	0	!	!	!	1,200

								0
Steam and air conditioning supply	0	!	0	0	0	!	!	400
Repair of fabricated metal products	0	0	100	500	0	100	700	7,600
Repair of machinery	100	200	500	1,100	100	400	2,400	34,200
Repair of electronic and optical equipment	!	!	0	300	!	0	700	4,800
Repair of electrical equipment	100	100	100	200	0	200	600	6,200
Repair and maintenance of ships and boats	500	0	200	100	0	0	1,000	7,600
Repair and maintenance of aircraft and spacecraft	400	400	400	2,800	100	300	4,500	18,300
Repair and maintenance of other transport equipment	0	0	100	700	0	100	900	9,800
Repair of other equipment	0	0	100	200	0	200	500	5,300
Installation of industrial machinery and equipment	100	200	300	300	100	1,500	2,400	20,400
Manufacture of electrical and electronic equipment for motor vehicles	!	!	!	0	!	0	100	2,500
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	0	!	!	!	!	0	500	16,900
Manufacture of fluid power equipment	!	100	400	0	!	!	1,000	7,100
Manufacture of pumps	300	1,000	100	100	!	100	1,600	9,200
Manufacture of compressors	0	0	!	0	!	!	100	3,200
Manufacture of other taps and valves	!	1,300	200	300	100	!	2,100	8,800
Manufacture of bearings, gears, gearing and driving elements	!	300	!	100	!	300	1,400	8,600
Manufacture of ovens, furnaces and furnace burners	!	!	0	!	!	!	100	2,100
Manufacture of lifting and handling equipment	100	100	200	300	200	400	1,200	17,100
Manufacture of office machinery and equipment (except computers and peripheral equipment)	0	!	100	0	!	!	300	4,300
Manufacture of power-driven hand tools	0	0	0	0	0	0	0	600
Manufacture of non-domestic cooling and ventilation equipment	0	100	800	500	200	100	1,800	18,700
Manufacture of other general-purpose machinery nec	100	100	500	200	400	300	1,600	22,200
Manufacture of other special-purpose	!	0	300	500	!	200	1,00	8,30

machinery nec								0	0
Manufacture of electric motors, generators and transformers	!		0	700	!	!	!	1,300	12,300
Manufacture of electricity distribution and control apparatus		0	100	200	300	200	200	1,100	15,400
Manufacture of batteries and accumulators		0	0	100	!	!	0	800	1,700
Manufacture of fibre optic cables		0	0	!	!	!	0	300	1,200
Manufacture of other electronic and electric wires and cables	!		200	!	!		900	0	1,300
Manufacture of wiring devices		0	!		0	0	!	!	200
Manufacture of electric lighting equipment	!	!		100	0	!	!	400	13,900
Manufacture of other electrical equipment	!		200	200	0	200	0	800	8,700
Manufacture of electronic components	!		0	600	2,100	300	0	3,100	14,700
Manufacture of loaded electronic boards		100	800	!	1,000	300	100	2,400	10,600
Manufacture of computers and peripheral equipment		0	!		0	100	0	!	1,100
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	!		100	100	1,100	0	!	1,300	5,000
Manufacture of consumer electronics	!		100	100	100	!		0	400
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment		100	4,400	1,300	700	200	700	7,400	44,100
Manufacture of electronic industrial process control equipment		0	100	300	300	!	!	700	4,800
Manufacture of non-electronic instruments and appliances for measuring, testing and navigation, except industrial process control equipment	!		0	!		200	!	100	400
Manufacture of non-electronic industrial process control equipment	!	!		!	!	!	!	300	1,700
Manufacture of irradiation, electromedical and electrotherapeutic equipment	!	!		!	600	!		0	700
Manufacture of optical precision instruments	!		0	!	!	!	!	400	4,100
Manufacture of photographic and cinematographic equipment		0	!		!		0	0	0
Manufacture of magnetic and optical media		0	0	0	0	!		0	!

Manufacture of central heating radiators and boilers	0	!		0	!	!	!	!	4,800
Manufacture of other tanks, reservoirs and containers of metal	0	!		0	100	!		100 200	4,700
Manufacture of steam generators, except central heating hot water boilers	0		0	!	100		0	!	200 1,900
Manufacture of wire products, chain and springs	!		!		100		0	0	300 7,500
Support activities for petroleum and natural gas extraction	!			0	0	!	!	!	0 25,100
Engineering design activities for industrial process and production	200	500	1,100	800	800	3,200	6,600		55,900
Engineering related scientific and technical consulting activities	800	800	2,500	1,400	800	1,500	7,900		73,400
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	800	3,100	4,300	5,300	2,900	8,100	24,600		234,300
Technical testing and analysis	200	300	600	300	600	1,100	3,000		51,800
Environmental consulting activities	100	100	300	300	100	200	1,000		9,600
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	300	500	2,900	700	600	1,300	6,300		73,000
New Energy Systems	9,200	26,900	39,100	45,600	24,300	38,900	184,100		1,914,400
All (excluding Farms)	197,400	276,600	680,400	594,700	303,800	559,300	2,612,100		27,777,800

Table 104 Location quotients of employee jobs in the new energy sector; consortium sub-area: 2014

	Cor nwa ll & IOS	Glo uce ster shire	Hea rt of the Sou th Wes t	Sou th East Wal es	Swi ndo n & Wilt shire	Wes t of Eng land	Con sort ium area
Other research and experimental development on natural sciences and engineering	0.46	0.52	0.24	0.26	4.20	0.59	0.83
Other information technology and computer service activities	0.38	1.45	0.50	0.94	0.82	1.15	0.87
Wired telecommunications activities	0.08	0.29	0.28	0.97	0.72	0.83	0.59
Wireless telecommunications activities	0.03	0.44	0.78	0.39	0.28	0.46	0.47
Satellite telecommunications activities	!	!	!	!	1.19	0.05	0.32
Other telecommunications activities	0.58	0.84	0.95	1.05	1.26	0.88	0.95
Wholesale of electronic & telecommunications equipment and parts	0.06	0.45	0.30	0.33	0.83	0.55	0.42
Wholesale of mining, construction and civil engineering machinery	0.61	0.58	0.56	1.29	0.42	0.83	0.77
Electrical installation	1.14	1.48	1.19	1.17	1.39	1.27	1.25
Other construction installation	0.63	1.10	0.86	1.16	1.05	0.94	0.98
Construction of utility projects for fluids	!	0.04	0.59	0.58	0.07	0.03	0.31
Construction of utility projects for electricity and telecommunications	!	0.21	!	0.13	!	0.15	0.23
Construction of other civil engineering projects nec	0.71	0.59	0.73	0.76	0.40	0.63	0.66
Production of electricity	0.90	5.69	1.45	0.80	0.38	0.29	1.34
Transmission of electricity	!	!	!	!	!	!	!
Distribution of electricity	!	!	0.99	2.67	1.06	0.87	1.34
Trade of electricity	!	!	0.38	0.49	!	0.13	1.98
Manufacture of gas	0.00	!	!	!	0.00	!	!
Distribution of gaseous fuels through mains	0.00	!	!	2.45	!	0.00	0.66
Trade of gas through mains	!	0.00	!	0.00	!	!	!
Steam and air conditioning supply	0.00	!	0.00	0.00	0.00	!	!
Repair of fabricated metal products	0.26	0.50	0.62	2.90	0.45	0.45	1.04
Repair of machinery	0.46	0.63	0.55	1.43	0.30	0.62	0.74
Repair of electronic and optical equipment	!	!	0.32	3.07	!	0.37	1.47
Repair of electrical equipment	1.36	0.84	0.36	1.39	0.65	1.48	1.00
Repair and maintenance of ships and boats	10.1 2	0.55	1.23	0.75	0.00	0.13	1.34
Repair and maintenance of aircraft and spacecraft	3.25	2.29	1.00	7.16	0.36	0.92	2.62
Repair and maintenance of other transport equipment	0.47	0.11	0.38	3.30	0.25	0.41	1.02
Repair of other equipment	0.58	0.36	0.60	1.96	0.65	1.55	1.10

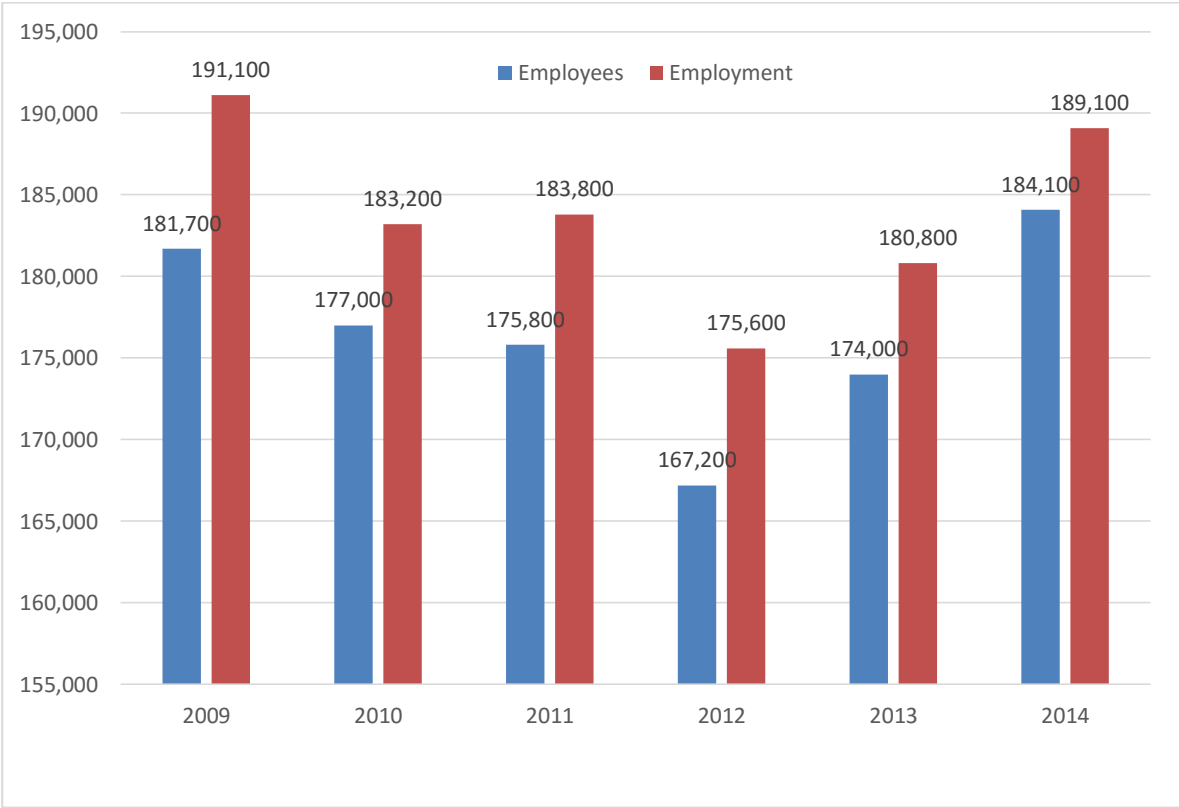
Installation of industrial machinery and equipment	0.37	0.82	0.57	0.60	0.63	3.65	1.25
Manufacture of electrical & electronic equipment for motor vehicles	!	!	!	0.00	!	0.12	0.39
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	0.10	!	!	!	!	0.07	0.34
Manufacture of fluid power equipment	!	1.91	2.22	0.04	!	!	1.47
Manufacture of pumps	4.71	11.4 ₁	0.32	0.40	!	0.39	1.83
Manufacture of compressors	0.00	0.41	!	0.00	!	!	0.19
Manufacture of other taps and valves	!	15.3 ₈	1.03	1.51	1.15	!	2.60
Manufacture of bearings, gears, gearing and driving elements	!	3.45	!	0.33	!	1.88	1.69
Manufacture of ovens, furnaces and furnace burners	!	!	0.00	!	!	!	0.46
Manufacture of lifting and handling equipment	0.55	0.77	0.45	0.73	0.87	1.24	0.77
Manufacture of office machinery and equipment (except computers and peripheral equipment)	0.00	!	1.32	0.00	!	!	0.85
Manufacture of power-driven hand tools	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of non-domestic cooling and ventilation equipment	0.18	0.62	1.71	1.33	1.20	0.28	1.03
Manufacture of other general-purpose machinery nec	0.46	0.65	0.91	0.47	1.52	0.63	0.76
Manufacture of other special-purpose machinery nec	!	0.45	1.30	2.85	!	0.90	1.27
Manufacture of electric motors, generators and transformers	!	0.22	2.30	!	!	!	1.14
Manufacture of electricity distribution and control apparatus	0.08	0.78	0.58	1.04	1.15	0.77	0.78
Manufacture of batteries and accumulators	0.00	0.00	2.14	!	!	0.00	4.66
Manufacture of fibre optic cables	0.00	0.00	!	!	!	0.00	2.97
Manufacture of other electronic and electric wires and cables	!	2.17	!	!	8.64	0.02	1.46
Manufacture of wiring devices	0.00	!	0.00	0.00	!	!	0.52
Manufacture of electric lighting equipment	!	!	0.15	0.07	!	!	0.29
Manufacture of other electrical equipment	!	2.48	1.10	0.23	1.96	0.24	1.02
Manufacture of electronic components	!	0.27	1.67	6.51	1.87	0.08	2.22
Manufacture of loaded electronic boards	1.14	7.29	!	4.58	2.52	0.25	2.45
Manufacture of computers and peripheral equipment	0.12	!	0.17	0.53	0.53	!	1.40
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	!	2.23	0.41	10.4 ₇	0.11	!	2.74
Manufacture of consumer electronics	!	1.15	0.45	0.73	!	0.25	0.81
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control	0.22	9.92	1.22	0.73	0.51	0.80	1.78

equipment							
Manufacture of electronic industrial process control equipment	0.00	1.28	2.58	2.68	!	!	1.54
Manufacture of non-electronic instruments and appliances for measuring, testing and navigation, except industrial process control equipment	!	0.90	!	2.05	!	0.50	0.94
Manufacture of non-electronic industrial process control equipment	!	!	!	!	!	!	1.75
Manufacture of irradiation, electromedical and electrotherapeutic equipment	!	!	!	5.54	!	0.00	1.44
Manufacture of optical precision instruments	!	0.00	!	!	!	!	1.11
Manufacture of photographic and cinematographic equipment	0.00	!	!	!	0.00	0.00	0.30
Manufacture of magnetic and optical media	0.00	0.00	0.00	0.00	!	0.00	!
Manufacture of central heating radiators and boilers	0.00	!	0.00	!	!	!	!
Manufacture of other tanks, reservoirs and containers of metal	0.00	!	0.16	0.98	!	0.80	0.52
Manufacture of steam generators, except central heating hot water boilers	0.00	0.00	!	2.30	0.24	!	0.94
Manufacture of wire products, chain and springs	!	!	!	0.84	0.26	0.13	0.43
Support activities for petroleum and natural gas extraction	!	0.00	0.00	!	!	!	0.02
Engineering design activities for industrial process and production	0.43	0.93	0.83	0.68	1.24	2.86	1.26
Engineering related scientific and technical consulting activities	1.60	1.09	1.38	0.90	1.00	1.03	1.14
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	0.51	1.35	0.75	1.05	1.14	1.72	1.11
Technical testing and analysis	0.41	0.64	0.43	0.30	1.01	1.06	0.63
Environmental consulting activities	0.94	0.55	1.21	1.69	0.88	0.98	1.14
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	0.58	0.73	1.61	0.43	0.78	0.85	0.91
New Energy Systems	0.68	1.41	0.83	1.11	1.16	1.01	1.02

Source: BRES via NOMIS

Total employment in the sector in the sector fell by 1% between 2009 and 2014. This compares to 1% growth across the sector nationally and 1% growth across all sectors locally.

Figure 11 **Total employment and employee jobs in the new energy sector;
consortium area: 2009 to 2014**



Source: BRES, ONS via NOMIS

Table 105 Employment indicators for the new energy sector by LEP areas and South East Wales: 2009 and 2014

Rank of %	LEP area	%, 2014	Change, 2009 to 2014	
			Number	%
1	Thames Valley Berkshire	11.5	-2,800	-4.8
2	Enterprise M3	10.8	4,900	6.0
3	Greater Cambridge and Greater Peterborough	9.8	4,600	7.7
4	Gloucestershire	9.6	3,000	12.0
5	Hertfordshire	8.8	-400	-0.7
6	Solent	8.4	-1,300	-3.3
7	Tees Valley	8.4	-600	-2.6
8	Oxfordshire	8.3	0	-0.1
9	Swindon and Wiltshire	7.9	-3,800	-13.2
10	Worcestershire	7.9	-700	-3.8
11	Leicester and Leicestershire	7.8	2,900	9.0
12	Cheshire and Warrington	7.6	-600	-1.6
13	Coventry and Warwickshire	7.6	-1,900	-5.4
14	South East Wales	7.6	1,400	3.2
15	Buckinghamshire Thames Valley	7.5	-1,200	-6.6
16	Coast to Capital	7.2	-1,500	-2.5
17	South East Midlands	7.2	600	1.0
18	West of England	6.9	2,100	5.6
19	Dorset	6.9	1,600	7.7
20	Stoke-on-Trent and Staffordshire	6.9	-1,500	-4.5
21	South East	6.9	-5,200	-4.7
22	New Anglia	6.8	-2,100	-4.3
23	Derby, Derbyshire, Nottingham and Nottinghamshire	6.7	1,000	1.7
24	Black Country	6.7	-2,800	-8.5
25	North Eastern	6.6	-8,900	-14.7
26	Greater Lincolnshire	6.5	3,200	13.0
27	Northamptonshire	6.5	1,300	6.4
28	Sheffield City Region	6.5	4,000	9.3
29	Lancashire	6.4	3,200	8.6
30	The Marches	6.4	0	0.1
31	Leeds City Region	6.3	-1,600	-1.9
32	Greater Manchester	6.2	-2,200	-2.7
33	York, North Yorkshire and East Riding	5.9	400	1.3
34	Heart of the South West	5.8	-3,500	-7.9
35	Humber	5.8	2,900	15.2
36	Greater Birmingham and Solihull	5.6	-5,100	-9.4
37	Cumbria	5.5	-100	-0.9
38	Liverpool City Region	4.8	-1,000	-3.2
39	London	4.8	17,300	8.0
40	Cornwall and Isles of Scilly	4.7	-1,200	-11.3

Source: BRES, 2014 via NOMIS

Enterprises

In 2015, there were 22,815 enterprises operating within the new energy systems sector across the consortium area (Table 50). The largest number of enterprises were engaged in:

- Electrical installation (3,940)
- Other engineering activities (3,805)
- Other professional scientific and technical activities (3,125)

When expressed as location quotients, the consortium area has particularly high concentrations of enterprises in (Table 107)

- Repair and maintenance of aircraft and spacecraft (2.63) particularly in South East Wales (6.83)
- Manufacture of steam generators, except central heating (1.83) particularly in Swindon & Wiltshire (4.97), South East Wales (3.60) and Heart of the South West (2.03)
- Manufacture of compressors in Gloucestershire (5.77)
- Manufacture of engines and turbines in Cornwall & the IoS (4.20)
- Production of electricity in Cornwall & the IoS (4.14)
- Repair and maintenance of ships and boats in Cornwall & the IoS (4.00)
- Manufacture of optical precision instruments in Cornwall & the IoS (2.94)
- Satellite telecommunications activities in Swindon & Wiltshire (2.92)
- Manufacture of batteries and accumulators in Heart of the South West (2.87)
- Manufacture of irradiation, electromedical and electrotherapeutic equipment in South East Wales (2.79)
- Manufacture of electrical and electronic equipment for motor vehicles in Swindon & Wiltshire (2.64)
- Manufacture of loaded electronic boards in Gloucestershire (2.62)
- Manufacture of other taps and valves in Gloucestershire (2.62) and Swindon & Wiltshire (2.56)
- Manufacture of electronic industrial process control equipment in South East Wales (2.45)
- Manufacture of central heating radiators and boilers in South East Wales (2.36)
- Manufacture of other tanks, reservoirs and containers of steel in West of England (2.17)
- Manufacture of non-electronic instruments and appliances for measuring, testing and navigation in Swindon & Wiltshire (2.06)

Table 106 Number of enterprises in the new energy sector; consortium sub-area: 2015

	Co rn wa ll & IO S	Gl ou ce ste rs hir e	Hear t of the Sout h Wes t	So uth Ea st Wa les	Swi ndo n & Wilt shir e	We st of En gla nd	Co ns orti um are a	Great Britai n
Other research and experimental development on natural sciences and engineering	25	40	65	50	40	65	290	3,500
Other information technology and computer service activities	110	345	440	265	310	495	1,960	19,265
Wired telecommunications activities	5	15	25	20	20	30	110	1,345
Wireless telecommunications activities	5	15	30	20	20	25	110	1,210
Satellite telecommunications activities	0	0	0	0	5	5	15	145
Other telecommunications activities	25	55	85	75	95	75	410	5,130
Wholesale of electronic and telecommunications equipment and parts	5	25	40	40	40	40	190	2,945
Wholesale of mining, construction and civil engineering machinery	5	5	20	20	5	5	60	715
Electrical installation	380	480	1,180	710	410	775	3,940	39,310
Other construction installation	45	80	195	150	75	135	680	7,650
Construction of utility projects for fluids	0	5	10	10	5	5	35	400
Construction of utility projects for electricity and telecommunications	0	5	5	10	0	10	35	480
Construction of other civil engineering projects nec	215	210	590	310	220	270	1,815	15,615
Production of electricity	110	50	115	45	35	70	425	2,735
Transmission of electricity	0	0	0	0	0	0	0	10
Distribution of electricity	0	0	0	0	0	0	5	55
Trade of electricity	0	5	10	5	5	5	30	425
Manufacture of gas	0	0	0	0	0	0	0	5
Distribution of gaseous fuels through mains	0	0	0	0	0	0	0	25
Trade of gas through mains	0	0	0	0	0	0	0	70
Steam and air conditioning supply	0	0	0	0	0	0	0	10
Repair of fabricated metal products	5	10	25	20	5	15	80	855

Repair of machinery	40	50	130	75	35	50	38 0	3,610
Repair of electronic and optical equipment	5	5	5	5	5	5	30	350
Repair of electrical equipment	10	5	20	15	5	20	80	935
Repair and maintenance of ships and boats	20	5	25	10	0	5	70	515
Repair and maintenance of aircraft and spacecraft	25	20	70	150	30	45	34 0	1,345
Repair and maintenance of other transport equipment	5	5	20	15	10	10	75	970
Repair of other equipment	10	15	30	35	15	30	13 0	1,255
Installation of industrial machinery and equipment	10	20	35	30	15	45	16 0	1,765
Manufacture of electrical and electronic equipment for motor vehicles	0	0	0	0	5	5	10	160
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	10	0	10	5	0	0	25	245
Manufacture of fluid power equipment	0	0	5	0	0	0	15	145
Manufacture of pumps	5	5	5	5	0	5	25	220
Manufacture of compressors	0	5	0	0	0	0	5	75
Manufacture of other taps and valves	0	5	0	5	5	0	15	165
Manufacture of bearings, gears, gearing and driving elements	0	5	5	5	0	5	20	225
Manufacture of ovens, furnaces and furnace burners	0	0	0	5	5	0	15	180
Manufacture of lifting and handling equipment	5	15	15	15	5	20	80	840
Manufacture of office machinery and equipment (except computers and peripheral equipment)	0	0	5	0	0	0	10	125
Manufacture of power-driven hand tools	0	0	0	0	0	0	0	15
Manufacture of non-domestic cooling and ventilation equipment	5	10	20	10	15	10	70	825
Manufacture of other general-purpose machinery nec	10	15	40	20	20	25	13 0	1,405
Manufacture of other special-purpose machinery nec	5	5	15	15	0	10	50	475
Manufacture of electric motors, generators and transformers	0	5	15	5	5	5	35	295
Manufacture of electricity distribution and control apparatus	0	10	20	10	10	10	60	615
Manufacture of batteries and accumulators	0	0	5	0	0	0	10	60

Manufacture of fibre optic cables	0	0	0	0	0	0	0	40
Manufacture of other electronic and electric wires and cables	0	5	5	5	5	5	25	250
Manufacture of wiring devices	0	0	0	0	0	0	5	65
Manufacture of electric lighting equipment	5	5	15	10	5	5	40	690
Manufacture of other electrical equipment	5	10	15	15	15	10	65	675
Manufacture of electronic components	5	5	20	10	10	15	65	595
Manufacture of loaded electronic boards	5	10	0	10	5	5	35	330
Manufacture of computers and peripheral equipment	5	15	20	10	15	20	85	895
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	5	5	5	10	5	0	25	320
Manufacture of consumer electronics	5	10	10	5	5	5	40	515
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	10	20	50	15	20	30	14 5	1,490
Manufacture of electronic industrial process control equipment	0	5	5	10	0	5	25	250
Manufacture of non-electronic instruments and appliances for measuring, testing and navigation, except industrial process control equipment	0	5	5	5	5	5	25	205
Manufacture of non-electronic industrial process control equipment	0	0	0	0	0	5	10	60
Manufacture of irradiation, electromedical and electrotherapeutic equipment	0	0	0	5	0	0	10	110
Manufacture of optical precision instruments	5	0	5	5	0	0	15	175
Manufacture of photographic and cinematographic equipment	0	0	5	0	0	0	10	95
Manufacture of magnetic and optical media	0	0	0	0	0	0	0	30
Manufacture of central heating radiators and boilers	0	0	0	5	0	0	10	130
Manufacture of other tanks, reservoirs and containers of metal	0	0	0	0	0	5	10	130
Manufacture of steam generators, except central heating hot water	0	0	5	5	5	0	15	85

boilers									
Manufacture of wire products, chain and springs	0	5	5	5	5	5	25	400	
Support activities for petroleum and natural gas extraction	0	0	0	0	0	0	5	225	
Engineering design activities for industrial process and production	65	13 5	225	145	155	29 5	1,0 15	12,39 5	
Engineering related scientific and technical consulting activities	12 0	17 5	360	240	185	30 5	1,3 85	15,86 0	
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	24 5	54 0	945	585	535	96 0	3,8 05	45,48 0	
Technical testing and analysis	30	50	120	90	60	75	42 5	5,680	
Environmental consulting activities	30	40	100	65	50	45	33 5	3,040	
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	27 5	37 5	800	625	415	64 0	3,1 25	35,94 5	
New Energy Systems	1,9 45	2,9 85	6,06 5	4,0 60	2,97 5	4,7 85	22, 81 5	244,8 70	
All industries	23, 14 5	27, 54 0	69,1 85	38, 875	28,1 75	42, 21 0	22 9,1 25	2,382 ,370	

Source: ONS Business Counts, NOMIS

Table 107 Location quotients for share of enterprises in the new energy sector; consortium sub-area: 2015

	C&I OS	Glos	HoS W	SEW	S& W	WoE	SIA
Other research and experimental development on natural sciences and engineering	0.74	0.99	0.64	0.88	0.97	1.05	0.86
Other information technology and computer service activities	0.59	1.55	0.79	0.84	1.36	1.45	1.06
Wired telecommunications activities	0.38	0.96	0.64	0.91	1.26	1.26	0.85
Wireless telecommunications activities	0.43	1.07	0.85	1.01	1.40	1.17	0.95
Satellite telecommunications activities	0.00	0.00	0.00	0.00	2.92	1.95	1.08
Other telecommunications activities	0.50	0.93	0.57	0.90	1.57	0.83	0.83
Wholesale of electronic and telecommunications equipment and parts	0.17	0.73	0.47	0.83	1.15	0.77	0.67
Wholesale of mining, construction and civil engineering machinery	0.72	0.60	0.96	1.71	0.59	0.39	0.87
Electrical installation	1.00	1.06	1.03	1.11	0.88	1.11	1.04
Other construction installation	0.61	0.90	0.88	1.20	0.83	1.00	0.92
Construction of utility projects for fluids	0.00	1.08	0.86	1.53	1.06	0.71	0.91
Construction of utility projects for electricity and telecommunications	0.00	0.90	0.36	1.28	0.00	1.18	0.76
Construction of other civil engineering projects nec	1.42	1.16	1.30	1.22	1.19	0.98	1.21
Production of electricity	4.14	1.58	1.45	1.01	1.08	1.44	1.62
Transmission of electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Distribution of electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.95
Trade of electricity	0.00	1.02	0.81	0.72	0.99	0.66	0.73
Manufacture of gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Distribution of gaseous fuels through mains	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trade of gas through mains	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Steam and air conditioning supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repair of fabricated metal products	0.60	1.01	1.01	1.43	0.49	0.99	0.97
Repair of machinery	1.14	1.20	1.24	1.27	0.82	0.78	1.09
Repair of electronic and optical equipment	1.47	1.24	0.49	0.88	1.21	0.81	0.89
Repair of electrical equipment	1.10	0.46	0.74	0.98	0.45	1.21	0.89
Repair and maintenance of ships and boats	4.00	0.84	1.67	1.19	0.00	0.55	1.41
Repair and maintenance of aircraft and spacecraft	1.91	1.29	1.79	6.83	1.89	1.89	2.63
Repair and maintenance of other transport equipment	0.53	0.45	0.71	0.95	0.87	0.58	0.80
Repair of other equipment	0.82	1.03	0.82	1.71	1.01	1.35	1.08
Installation of industrial machinery and	0.58	0.98	0.68	1.04	0.72	1.44	0.94

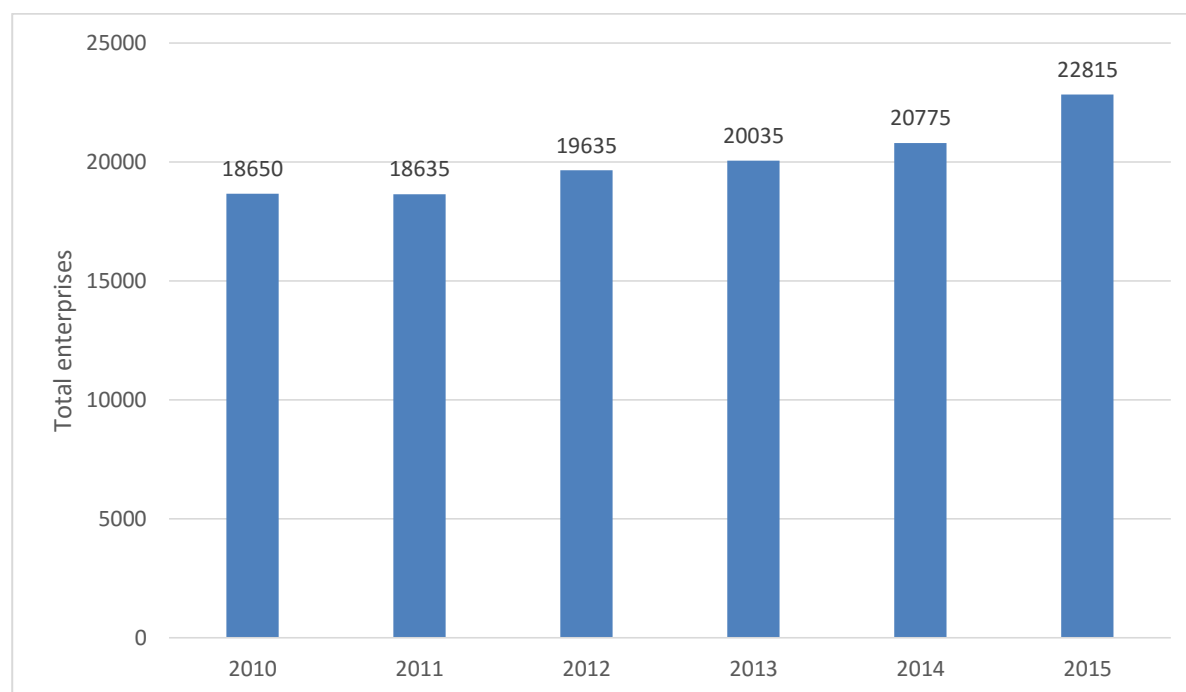
equipment							
Manufacture of electrical and electronic equipment for motor vehicles	0.00	0.00	0.00	0.00	2.64	1.76	0.65
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	4.20	0.00	1.41	1.25	0.00	0.00	1.06
Manufacture of fluid power equipment	0.00	0.00	1.19	0.00	0.00	0.00	1.08
Manufacture of pumps	2.34	1.97	0.78	1.39	0.00	1.28	1.18
Manufacture of compressors	0.00	5.77	0.00	0.00	0.00	0.00	0.69
Manufacture of other taps and valves	0.00	2.62	0.00	1.86	2.56	0.00	0.95
Manufacture of bearings, gears, gearing and driving elements	0.00	1.92	0.77	1.36	0.00	1.25	0.92
Manufacture of ovens, furnaces and furnace burners	0.00	0.00	0.00	1.70	2.35	0.00	0.87
Manufacture of lifting and handling equipment	0.61	1.54	0.61	1.09	0.50	1.34	0.99
Manufacture of office machinery and equipment (except computers and peripheral equipment)	0.00	0.00	1.38	0.00	0.00	0.00	0.83
Manufacture of power-driven hand tools	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of non-domestic cooling and ventilation equipment	0.62	1.05	0.83	0.74	1.54	0.68	0.88
Manufacture of other general-purpose machinery nec	0.73	0.92	0.98	0.87	1.20	1.00	0.96
Manufacture of other special-purpose machinery nec	1.08	0.91	1.09	1.94	0.00	1.19	1.09
Manufacture of electric motors, generators and transformers	0.00	1.47	1.75	1.04	1.43	0.96	1.23
Manufacture of electricity distribution and control apparatus	0.00	1.41	1.12	1.00	1.37	0.92	1.01
Manufacture of batteries and accumulators	0.00	0.00	2.87	0.00	0.00	0.00	1.73
Manufacture of fibre optic cables	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of other electronic and electric wires and cables	0.00	1.73	0.69	1.23	1.69	1.13	1.04
Manufacture of wiring devices	0.00	0.00	0.00	0.00	0.00	0.00	0.80
Manufacture of electric lighting equipment	0.75	0.63	0.75	0.89	0.61	0.41	0.60
Manufacture of other electrical equipment	0.76	1.28	0.77	1.36	1.88	0.84	1.00
Manufacture of electronic components	0.86	0.73	1.16	1.03	1.42	1.42	1.14
Manufacture of loaded electronic boards	1.56	2.62	0.00	1.86	1.28	0.86	1.10
Manufacture of computers and peripheral equipment	0.58	1.45	0.77	0.68	1.42	1.26	0.99
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	1.61	1.35	0.54	1.92	1.32	0.00	0.81
Manufacture of consumer electronics	1.00	1.68	0.67	0.59	0.82	0.55	0.81

Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	0.69	1.16	1.16	0.62	1.13	1.14	1.01
Manufacture of electronic industrial process control equipment	0.00	1.73	0.69	2.45	0.00	1.13	1.04
Manufacture of non-electronic instruments and appliances for measuring, testing and navigation, except industrial process control equipment	0.00	2.11	0.84	1.49	2.06	1.38	1.27
Manufacture of non-electronic industrial process control equipment	0.00	0.00	0.00	0.00	0.00	4.70	1.73
Manufacture of irradiation, electromedical and electrotherapeutic equipment	0.00	0.00	0.00	2.79	0.00	0.00	0.95
Manufacture of optical precision instruments	2.94	0.00	0.98	1.75	0.00	0.00	0.89
Manufacture of photographic and cinematographic equipment	0.00	0.00	1.81	0.00	0.00	0.00	1.09
Manufacture of magnetic and optical media	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacture of central heating radiators and boilers	0.00	0.00	0.00	2.36	0.00	0.00	0.80
Manufacture of other tanks, reservoirs and containers of metal	0.00	0.00	0.00	0.00	0.00	2.17	0.80
Manufacture of steam generators, except central heating hot water boilers	0.00	0.00	2.03	3.60	4.97	0.00	1.83
Manufacture of wire products, chain and springs	0.00	1.08	0.43	0.77	1.06	0.71	0.65
Support activities for petroleum and natural gas extraction	0.00	0.00	0.00	0.00	0.00	0.00	0.23
Engineering design activities for industrial process and production	0.54	0.94	0.63	0.72	1.06	1.34	0.85
Engineering related scientific and technical consulting activities	0.78	0.95	0.78	0.93	0.99	1.09	0.91
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	0.55	1.03	0.72	0.79	0.99	1.19	0.87
Technical testing and analysis	0.54	0.76	0.73	0.97	0.89	0.75	0.78
Environmental consulting activities	1.02	1.14	1.13	1.31	1.39	0.84	1.15
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	0.79	0.90	0.77	1.07	0.98	1.00	0.90
New Energy Systems	0.82	1.05	0.85	1.02	1.03	1.10	0.97

Source: ONS Business Counts, NOMIS

The number of enterprises has grown strongly over the last 5 years (Figure 4) albeit at a marginally slower rate than the Great Britain average (22% compared to 25%). This is almost twice the rate of business growth than average across industries in the consortium area (13%).

Figure 12 Number of enterprises within the new energy sector; consortium area: 2010 to 2015



Source: ONS Business Counts, NOMIS

Table 108 Change in number of enterprises within the new energy sector; consortium area and Great Britain: 2010 to 2015

	Consortium area		Great Britain
	Change in number of enterprises	% change in enterprises	% change in enterprises
Other research and experimental development on natural sciences and engineering	-10	-3	15
Other information technology and computer service activities	-535	-21	-21
Wired telecommunications activities	55	100	140
Wireless telecommunications activities	75	214	144
Satellite telecommunications activities	5	50	38
Other telecommunications activities	40	11	3
Wholesale of electronic and telecommunications equipment and parts	0	0	8
Wholesale of mining, construction and civil engineering machinery	0	0	14
Electrical installation	205	5	4
Other construction installation	225	49	60
Construction of utility projects for fluids	25	250	248
Construction of utility projects for electricity and telecommunications	20	133	405
Construction of other civil engineering projects nec	-510	-22	-16
Production of electricity	365	608	681
Transmission of electricity	0	#DIV/0!	100
Distribution of electricity	-5	-50	-15
Trade of electricity	30	#DIV/0!	1114
Manufacture of gas	0	#DIV/0!	-50
Distribution of gaseous fuels through mains	-5	-100	-29
Trade of gas through mains	0	#DIV/0!	600
Steam and air conditioning supply	0	#DIV/0!	0
Repair of fabricated metal products	55	220	138
Repair of machinery	190	100	95
Repair of electronic and optical equipment	20	200	150
Repair of electrical equipment	20	33	43
Repair and maintenance of ships and boats	30	75	43
Repair and maintenance of aircraft and spacecraft	275	423	249
Repair and maintenance of other transport equipment	55	275	223
Repair of other equipment	70	117	128
Installation of industrial machinery and equipment	65	68	122

Manufacture of electrical and electronic equipment for motor vehicles	0	0	10
Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	0	0	23
Manufacture of fluid power equipment	-5	-25	12
Manufacture of pumps	-5	-17	-15
Manufacture of compressors	-5	-50	-25
Manufacture of other taps and valves	0	0	-11
Manufacture of bearings, gears, gearing and driving elements	-5	-20	-12
Manufacture of ovens, furnaces and furnace burners	5	50	13
Manufacture of lifting and handling equipment	-5	-6	-7
Manufacture of office machinery and equipment (except computers and peripheral equipment)	0	0	9
Manufacture of power-driven hand tools	0	#DIV/0!	-25
Manufacture of non-domestic cooling and ventilation equipment	-15	-18	-17
Manufacture of other general-purpose machinery nec	0	0	-7
Manufacture of other special-purpose machinery nec	15	43	10
Manufacture of electric motors, generators and transformers	10	40	23
Manufacture of electricity distribution and control apparatus	-10	-14	-17
Manufacture of batteries and accumulators	0	0	-14
Manufacture of fibre optic cables	0	#DIV/0!	-11
Manufacture of other electronic and electric wires and cables	10	67	19
Manufacture of wiring devices	0	0	18
Manufacture of electric lighting equipment	0	0	5
Manufacture of other electrical equipment	10	18	32
Manufacture of electronic components	0	0	-1
Manufacture of loaded electronic boards	0	0	-3
Manufacture of computers and peripheral equipment	15	21	1
Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	10	67	88
Manufacture of consumer electronics	-10	-20	-21
Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	-5	-3	-7
Manufacture of electronic industrial process control equipment	0	0	-7
Manufacture of non-electronic instruments and appliances for measuring, testing and navigation, except industrial process control equipment	5	25	11
Manufacture of non-electronic industrial process control equipment	0	0	-37
Manufacture of irradiation, electromedical and electrotherapeutic equipment	-5	-33	47

Manufacture of optical precision instruments	5	50	40
Manufacture of photographic and cinematographic equipment	0	0	0
Manufacture of magnetic and optical media	-5	-100	-14
Manufacture of central heating radiators and boilers	0	0	-26
Manufacture of other tanks, reservoirs and containers of metal	-5	-33	-16
Manufacture of steam generators, except central heating hot water boilers	5	50	-6
Manufacture of wire products, chain and springs	0	0	-10
Support activities for petroleum and natural gas extraction	0	0	-27
Engineering design activities for industrial process and production	495	95	88
Engineering related scientific and technical consulting activities	530	62	68
Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	370	11	17
Technical testing and analysis	80	23	48
Environmental consulting activities	225	205	212
Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)	1,695	119	99
"SIA New Energy Systems"	4,165	22	25
All industries	25,700	13	17

APPENDIX M6: IRON & STEEL

Employment

Table 109 Employee jobs in the iron and steel manufacturing sector; consortium sub-area: 2014

	Corn wall & IOS	Glouc ester shire	Heart of the South West	South East Wale s	Swin don & Wilts hire	West of Engla nd	Cons ortia area	Great Britai n
Manufacture of basic iron and steel and of ferro-alloys	!	-	-	2,000	-	!	2,200	23,600
Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	-	!	!	200	-	!	600	7,800
Manufacture: iron and steel	!	-	500	2,200	-	!	2,800	31,400
All sectors (excluding farms)	197,400	276,600	680,400	594,700	303,800	559,300	2,612,100	27,777,800

Source: BRES via NOMIS

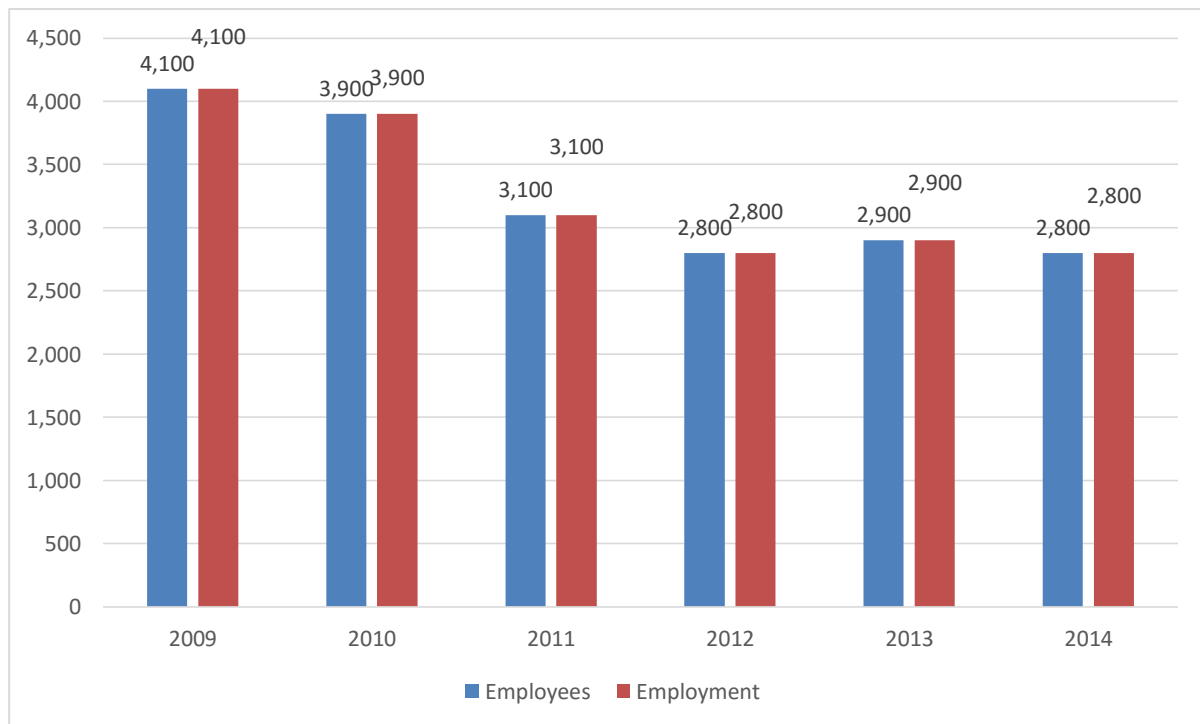
Table 110 Location Quotients for employee jobs in the iron and steel manufacturing sector; consortium area: 2014

	Corn wall & IOS	Glouc este rshire	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engla nd	Cons ortia area
Manufacture of basic iron and steel and of ferro-alloys	!	0.05	0.01	3.94	0.13	!	0.98
Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	0.09	!	!	1.00	0.00	!	0.88
Manufacture: iron and steel	!	0.12	0.60	3.21	0.10	!	0.96

Source: BRES via NOMIS

Employment within the iron and steel manufacturing sector has fallen by one-third (32%) since 2009. This compares with very modest growth within the sector nationally (0.2%) and across all sectors locally (0.6%).

Figure 13 Total employment and employee jobs in the iron and steel sector; consortium area: 2009 to 2014



Source: BRES, ONS via NOMIS

Enterprises

Table 111 Number of enterprises in the iron and steel sector; consortium sub area: 2015

	Corn wall & IOS	Glou ceste rshir e	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area	Great Britain
Manufacture of basic iron and steel and of ferro-alloys	0	5	10	20	5	5	45	445
Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	5	5	5	5	0	0	20	280
Manufacture: iron and steel	5	10	20	20	5	10	65	720
All industries	23,1 45	27,5 40	69,1 85	38,8 75	28,1 75	42,2 10	229, 125	2,382, 370

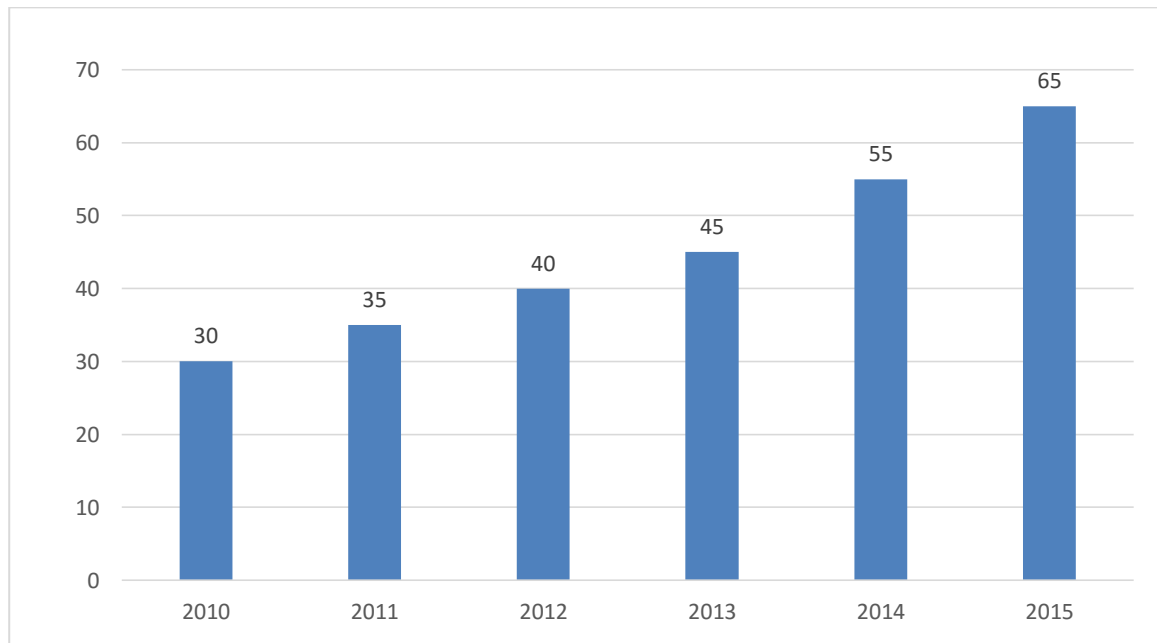
Source: ONS Business Counts, NOMIS

Table 112 Location quotients for share of enterprises in the iron and steel sector; consortium sub-area: 2015

	Corn wall & IOS	Glou ceste rshir e	Heart of the Sout h West	Sout h East Wale s	Swin don & Wilts hire	West of Engl and	Cons ortia area
Manufacture of basic iron and steel and of ferro-alloys	0.00	0.97	0.77	2.75	0.95	0.63	1.05
Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	1.84	1.54	0.61	1.09	0.00	0.00	0.74
Manufacture: iron and steel	0.71	1.20	0.96	1.70	0.59	0.78	0.94

Source: ONS Business Counts, NOMIS

Figure 14 Number of enterprises within the iron and steel sector; consortium area: 2010 to 2015



Source: ONS Business Counts, NOMIS

Table 113 Change in number of enterprises within the iron and steel sector; consortium area and Great Britain: 2010 to 2015

Sub-sector	Consortium area		Great Britain
	Change in number of enterprises	% change in enterprises	% change in enterprises
Manufacture of basic iron and steel and of ferro-alloys	35	350	305
Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	0	0	12
Manufacture: iron and steel	35	117	103
All industries	25,700	13	17

Source: ONS Business Counts, NOMIS

Table 114 Enterprise indicators for the iron and steel sector by LEP areas and South East Wales: 2010 and 2015

Rank of %	LEP area	%, 2015	Change, 2010 to 2015	
			Number	%
1	Black Country	0.182	10	22
2	Sheffield City Region	0.096	30	150
3	Tees Valley	0.091	10	200
4	Cumbria	0.086	15	300
5	Humber	0.070	10	100
6	Stoke-on-Trent and Staffordshire	0.055	10	100
7	South East Wales	0.051	10	100
8	North Eastern	0.051	15	150
9	Greater Manchester	0.046	20	100
10	Leeds City Region	0.045	25	125
11	Worcestershire	0.042	0	0
12	Greater Lincolnshire	0.041	5	50
13	Lancashire	0.040	10	100
14	Greater Birmingham and Solihull	0.040	5	25
15	Leicester and Leicestershire	0.040	10	200
16	Derby, Derbyshire, Nottingham and Nottinghamshire	0.037	15	150
17	Gloucestershire	0.036	10	#DIV/0!
18	Northamptonshire	0.034	5	100
19	The Marches	0.034	10	
20	New Anglia	0.033	10	100
21	Dorset	0.033	5	100
22	Coventry and Warwickshire	0.029	5	100
23	York, North Yorkshire and East Riding	0.029	10	200
24	Heart of the South West	0.029	10	100
25	South East	0.029	25	125
26	Liverpool City Region	0.027	0	0
27	Solent	0.026	5	100
28	Cheshire and Warrington	0.026	5	100
29	West of England	0.024	10	
30	Cornwall and Isles of Scilly	0.022	0	0
31	South East Midlands	0.021	10	200
32	Swindon and Wiltshire	0.018	0	0
33	Greater Cambridge and Greater Peterborough	0.017	0	0
34	Buckinghamshire Thames Valley	0.017	5	#DIV/0!
35	Thames Valley Berkshire	0.012	0	0
36	Coast to Capital	0.012	5	100
37	Hertfordshire	0.009	0	0
38	London	0.008	15	75
39	Enterprise M3	0.007	5	#DIV/0!
40	Oxfordshire	0.000	-5	-100

Source: ONS Business Counts, NOMIS

Table 115 Enterprises by employment size band; consortium area and Great Britain: 2015

Employment Size band	Consortium area			Great Britain
	No. Iron & Steel	% Iron & Steel	% all sectors	% Iron & Steel
0 to 4	40	61.5	75.2	58.3
5 to 9	5	7.7	13.3	11.8
10 to 19	5	7.7	6.4	9.0
20 to 49	10	15.4	3.3	11.8
50 to 99	5	7.7	1.0	4.9
100 to 249	5	7.7	0.5	2.8
250 to 499	0	0.0	0.2	0.7
500 to 999	0	0.0	0.1	0.7
1000+	0	0.0	0.1	0.7
Total	65	100.0	100.0	100.0

Source: ONS Business Counts, NOMIS

Table 116 Enterprises by legal status: consortium area and Great Britain: 2015

Legal Status	Consortium area			Great Britain
	No. Iron & Steel	Iron & Steel %	% all sectors	% Iron & Steel
Private sector total	65	100.0	99.3	100.0
Company (including building society)	55	84.6	58.3	88.2
Sole proprietor	10	15.4	23.6	9.7
Partnership	0	0.0	13.8	2.1
Non-profit body or mutual association	0	0.0	3.6	0.0
Public sector total	0	0.0	0.7	0.0
Public corporation	0	0.0	0.0	0.0
Central government	0	0.0	0.2	0.0
Local authority	0	0.0	0.5	0.0
Total	65	100.0	100.0	100.0

Source: ONS Business Counts, NOMIS

APPENDIX M7: SIC CODES USED TO DEFINE SWW-SIA THEMES

SIA Aerospace and advanced engineering

33160 : Repair and maintenance of aircraft and spacecraft
29100 : Manufacture of motor vehicles
29310 : Manufacture of electrical and electronic equipment for motor vehicles
29320 : Manufacture of other parts and accessories for motor vehicles
28110 : Manufacture of engines and turbines, except aircraft, vehicle and cycle engines
28150 : Manufacture of bearings, gears, gearing and driving elements
30110 : Building of ships and floating structures
30120 : Building of pleasure and sporting boats
30300 : Manufacture of air and spacecraft and related machinery
30400 : Manufacture of military fighting vehicles
30990 : Manufacture of other transport equipment nec
71121 : Engineering design activities for industrial process and production
71122 : Engineering related scientific and technical consulting activities
71129 : Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)
71200 : Technical testing and analysis
72190 : Other research & experimental development on natural sciences and engineering

SIA Digital Living Innovation

58210 : Publishing of computer games
58290 : Other software publishing
18201 : Reproduction of sound recording
18202 : Reproduction of video recording
18203 : Reproduction of computer media
26110 : Manufacture of electronic components
26120 : Manufacture of loaded electronic boards
26200 : Manufacture of computers and peripheral equipment
26301 : Manufacture of telegraph and telephone apparatus and equipment
26309 : Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)
26400 : Manufacture of consumer electronics
26511 : Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment
26512 : Manufacture of electronic industrial process control equipment
26701 : Manufacture of optical precision instruments
26702 : Manufacture of photographic and cinematographic equipment
26800 : Manufacture of magnetic and optical media
27310 : Manufacture of fibre optic cables
27320 : Manufacture of other electronic and electric wires and cables
27330 : Manufacture of wiring devices
59111 : Motion picture production activities
59112 : Video production activities
59140 : Motion picture projection activities
59200 : Sound recording and music publishing activities
61100 : Wired telecommunications activities
61200 : Wireless telecommunications activities

61300 : Satellite telecommunications activities
61900 : Other telecommunications activities
62011 : Ready-made interactive leisure and entertainment software development
62012 : Business and domestic software development
62020 : Computer consultancy activities
62030 : Computer facilities management activities
62090 : Other information technology and computer service activities
63110 : Data processing, hosting and related activities
63120 : Web portals
63910 : News agency activities
71121 : Engineering design activities for industrial process and production
95110 : Repair of computers and peripheral equipment

SIA Next Generation Microelectronics

Individual selections:

SIC 2007 subclass (5 digit)

33130 : Repair of electronic and optical equipment
26110 : Manufacture of electronic components
26120 : Manufacture of loaded electronic boards
26200 : Manufacture of computers and peripheral equipment
26301 : Manufacture of telegraph and telephone apparatus and equipment
26309 : Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)
26511 : Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment
26512 : Manufacture of electronic industrial process control equipment
26600 : Manufacture of irradiation, electromedical and electrotherapeutic equipment

SIA New Energy Systems

72190 : Other research & experimental development on natural sciences and engineering
62090 : Other information technology and computer service activities
61100 : Wired telecommunications activities
61200 : Wireless telecommunications activities
61300 : Satellite telecommunications activities
61900 : Other telecommunications activities
46520 : Wholesale of electronic and telecommunications equipment and parts
46630 : Wholesale of mining, construction and civil engineering machinery
43210 : Electrical installation
43290 : Other construction installation
42210 : Construction of utility projects for fluids
42220 : Construction of utility projects for electricity and telecommunications
42990 : Construction of other civil engineering projects nec
35110 : Production of electricity
35120 : Transmission of electricity
35130 : Distribution of electricity
35140 : Trade of electricity
35210 : Manufacture of gas
35220 : Distribution of gaseous fuels through mains
35230 : Trade of gas through mains
35300 : Steam and air conditioning supply

33110 : Repair of fabricated metal products
 33120 : Repair of machinery
 33130 : Repair of electronic and optical equipment
 33140 : Repair of electrical equipment
 33150 : Repair and maintenance of ships and boats
 33160 : Repair and maintenance of aircraft and spacecraft
 33170 : Repair and maintenance of other transport equipment
 33190 : Repair of other equipment
 33200 : Installation of industrial machinery and equipment
 29310 : Manufacture of electrical and electronic equipment for motor vehicles
 28110 : Manufacture of engines and turbines, except aircraft, vehicle and cycle engines
 28120 : Manufacture of fluid power equipment
 28131 : Manufacture of pumps
 28132 : Manufacture of compressors
 28140 : Manufacture of other taps and valves
 28150 : Manufacture of bearings, gears, gearing and driving elements
 28210 : Manufacture of ovens, furnaces and furnace burners
 28220 : Manufacture of lifting and handling equipment
 28230 : Manufacture of office machinery and equipment (except computers and peripheral equipment)
 28240 : Manufacture of power-driven hand tools
 28250 : Manufacture of non-domestic cooling and ventilation equipment
 28290 : Manufacture of other general-purpose machinery nec
 28990 : Manufacture of other special-purpose machinery nec
 27110 : Manufacture of electric motors, generators and transformers
 27120 : Manufacture of electricity distribution and control apparatus
 27200 : Manufacture of batteries and accumulators
 27310 : Manufacture of fibre optic cables
 27320 : Manufacture of other electronic and electric wires and cables
 27330 : Manufacture of wiring devices
 27400 : Manufacture of electric lighting equipment
 27900 : Manufacture of other electrical equipment
 26110 : Manufacture of electronic components
 26120 : Manufacture of loaded electronic boards
 26200 : Manufacture of computers and peripheral equipment
 26309 : Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)
 26400 : Manufacture of consumer electronics
 26511 : Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment
 26512 : Manufacture of electronic industrial process control equipment
 26513 : Manufacture of non-electronic instruments and appliances for measuring, testing and navigation, except industrial process control equipment
 26514 : Manufacture of non-electronic industrial process control equipment
 26600 : Manufacture of irradiation, electromedical and electrotherapeutic equipment
 26701 : Manufacture of optical precision instruments
 26702 : Manufacture of photographic and cinematographic equipment
 26800 : Manufacture of magnetic and optical media
 25210 : Manufacture of central heating radiators and boilers
 25290 : Manufacture of other tanks, reservoirs and containers of metal

25300 : Manufacture of steam generators, except central heating hot water boilers
 25930 : Manufacture of wire products, chain and springs
 09100 : Support activities for petroleum and natural gas extraction
 71121 : Engineering design activities for industrial process and production
 71122 : Engineering related scientific and technical consulting activities
 71129 : Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)
 71200 : Technical testing and analysis
 74901 : Environmental consulting activities
 74909 : Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)

SIA Resilience, Environment & Sustainability

91040 : Botanical and zoological gardens and nature reserve activities
 36000 : Water collection, treatment and supply
 37000 : Sewerage
 38110 : Collection of non-hazardous waste
 38120 : Collection of hazardous waste
 38210 : Treatment and disposal of non-hazardous waste
 38220 : Treatment and disposal of hazardous waste
 38310 : Dismantling of wrecks
 38320 : Recovery of sorted materials
 39000 : Remediation activities and other waste management services
 49100 : Passenger rail transport, interurban
 61300 : Satellite telecommunications activities
 63110 : Data processing, hosting and related activities
 65120 : Non-life insurance
 65202 : Non-life reinsurance
 72110 : Research and experimental development on biotechnology
 72190 : Other research & experimental development on natural sciences and engineering
 20130 : Manufacture of other inorganic basic chemicals
 20140 : Manufacture of other organic basic chemicals
 21100 : Manufacture of basic pharmaceutical products
 21200 : Manufacture of pharmaceutical preparations
 62012 : Business and domestic software development
 62020 : Computer consultancy activities
 62030 : Computer facilities management activities
 62090 : Other information technology and computer service activities
 71111 : Architectural activities
 71112 : Urban planning and landscape architectural activities
 71121 : Engineering design activities for industrial process and production
 71122 : Engineering related scientific and technical consulting activities
 71129 : Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)
 71200 : Technical testing and analysis
 74100 : Specialised design activities
 74901 : Environmental consulting activities
 74909 : Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)