Black Country Consortium
Economic Intelligence Unit

West Midlands Industrial Strategy Sector Evidence Full Pack

September 2018

West Midlands Combined Authority

DELIVERING INCLUSIVE GROWTH

Black Country Consortium
Economic Intelligence Unit

Table of Contents

Acknowledgement of Data/Evidence Input
Black Country Consortium Economic Intelligence Unit
Black Country LEP
West Midlands Growth Company
Coventry & Warwickshire LEP
Greater Birmingham & Solihull LEP
Warwickshire County Council

West Midlands
Combined Authority

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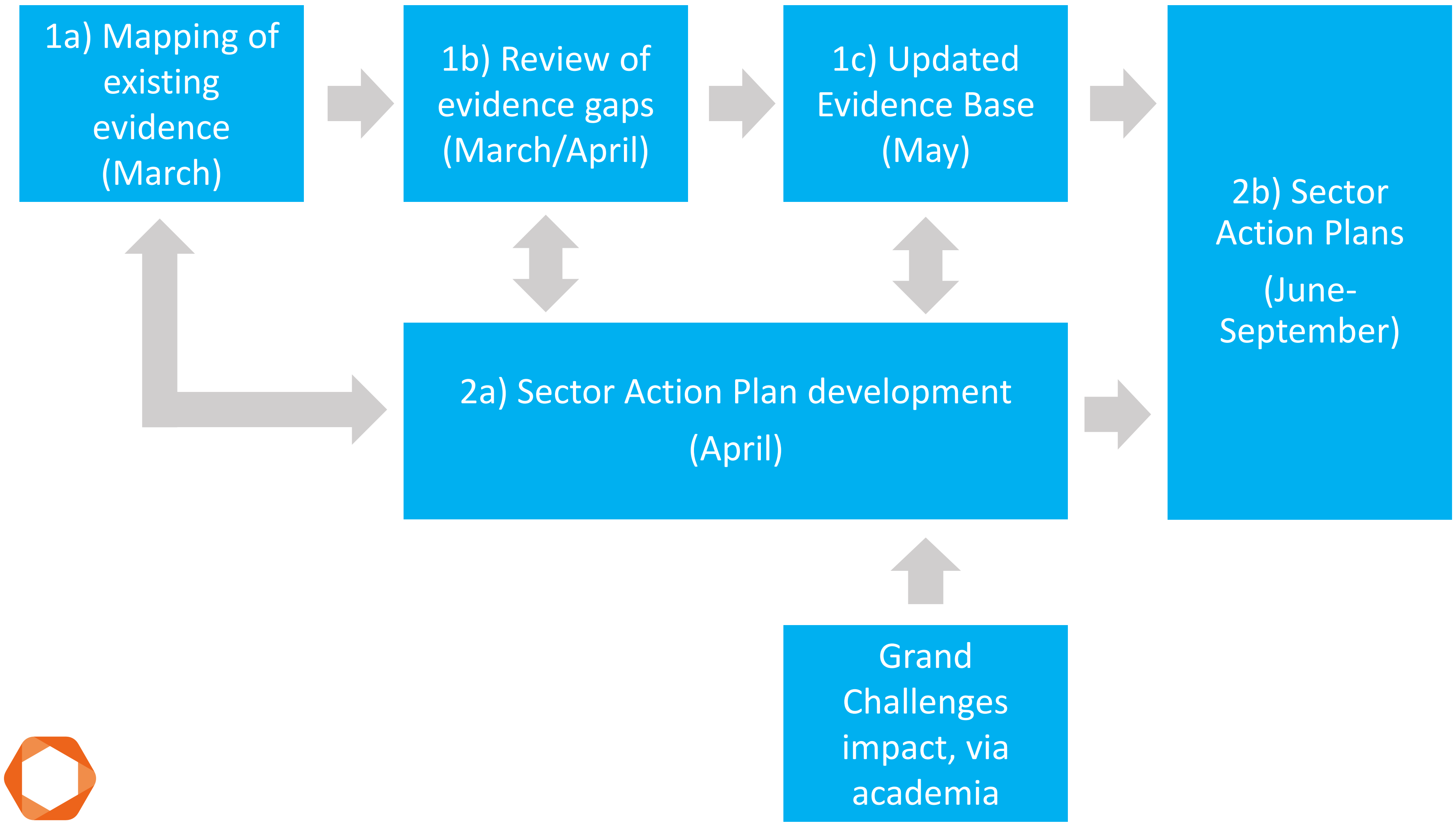
Evidence Base Approach/Process



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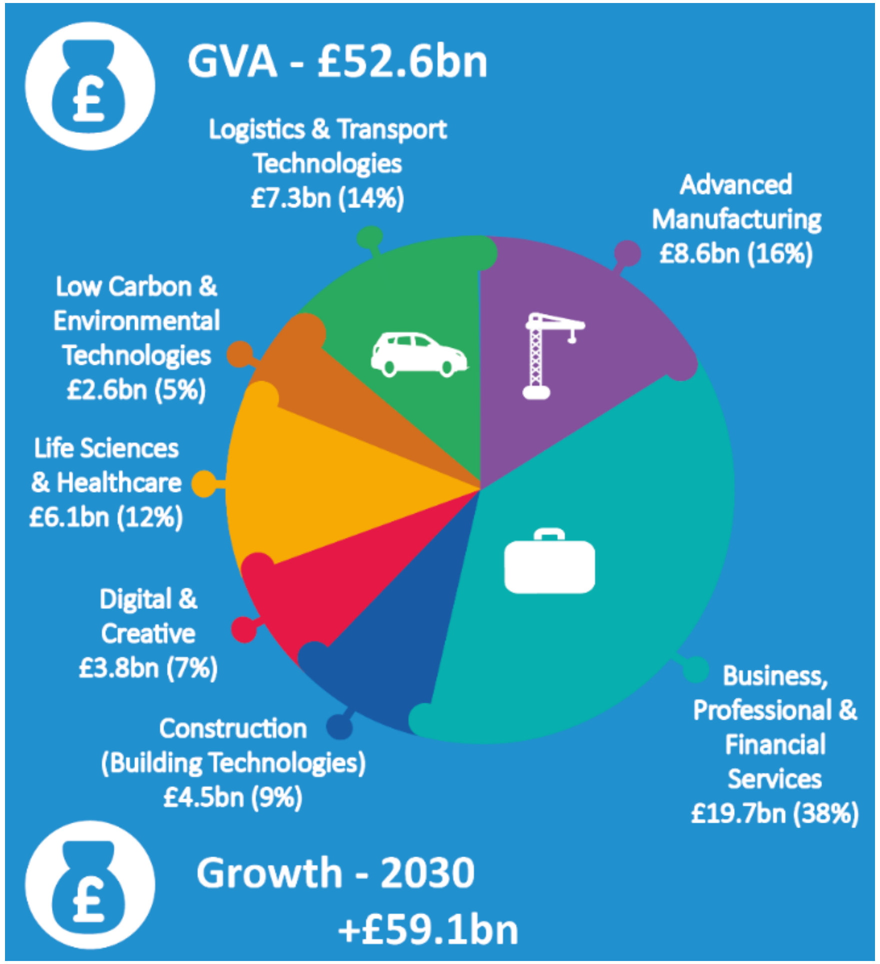
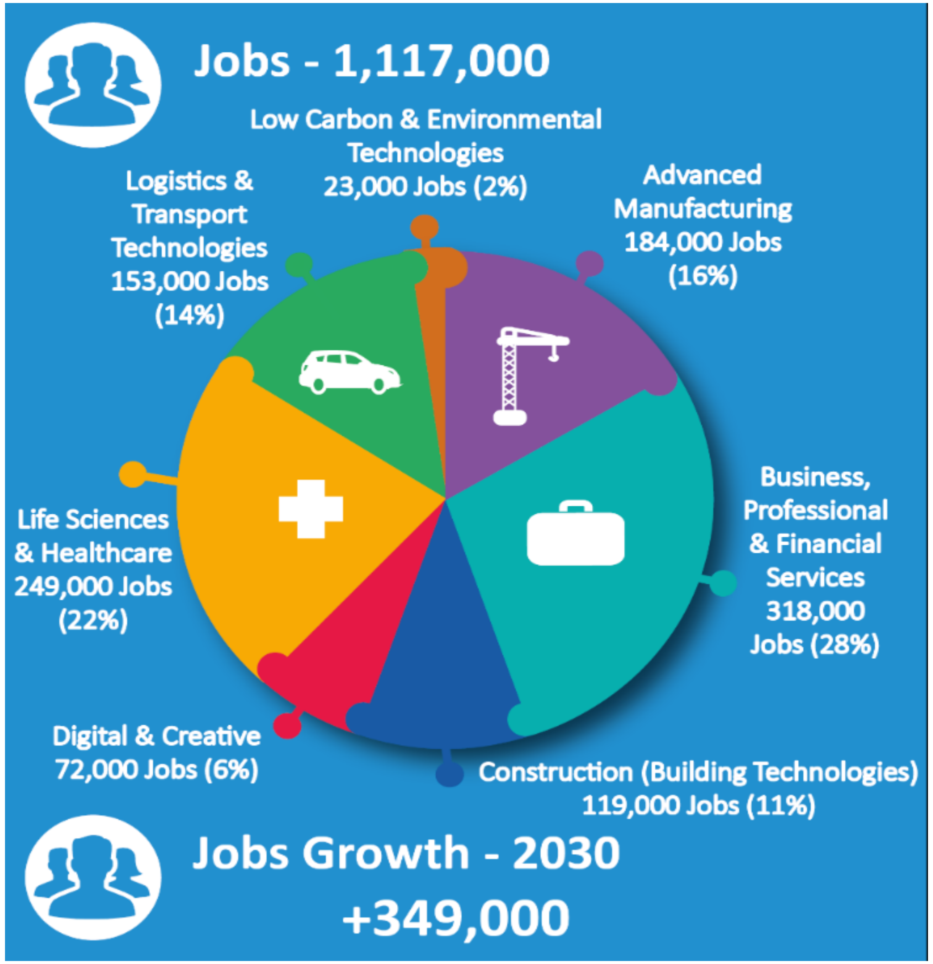
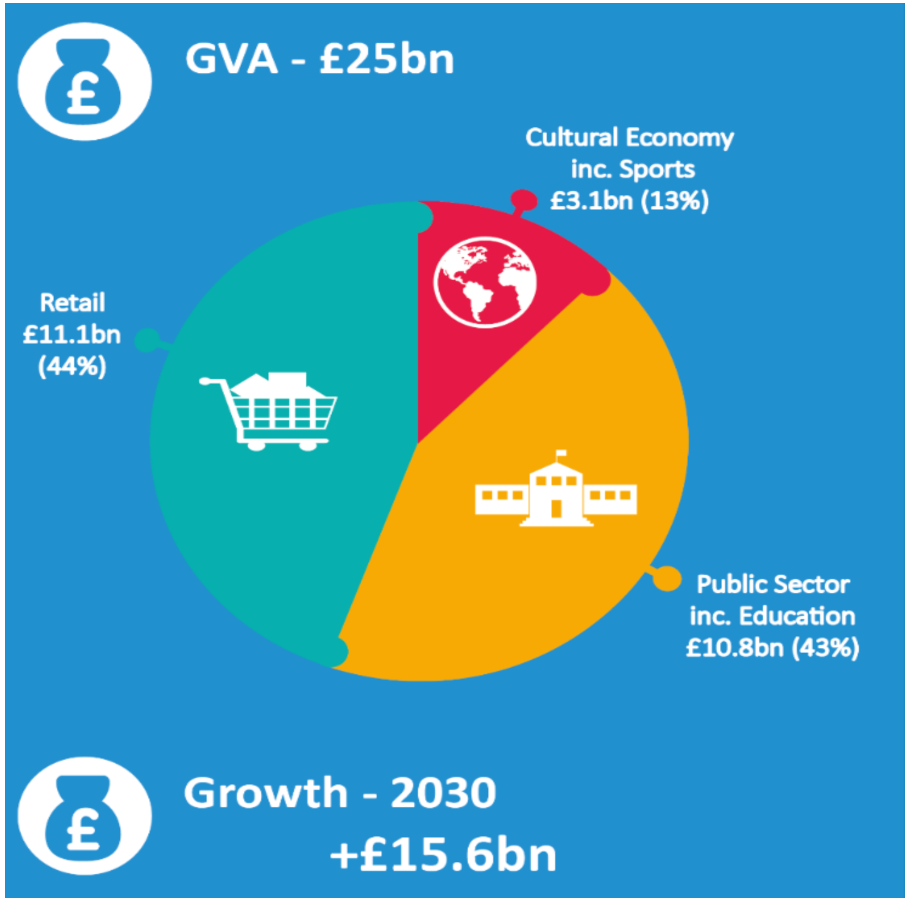
Strategic Economic Plan (SEP) Evidence: Transformational Sectors

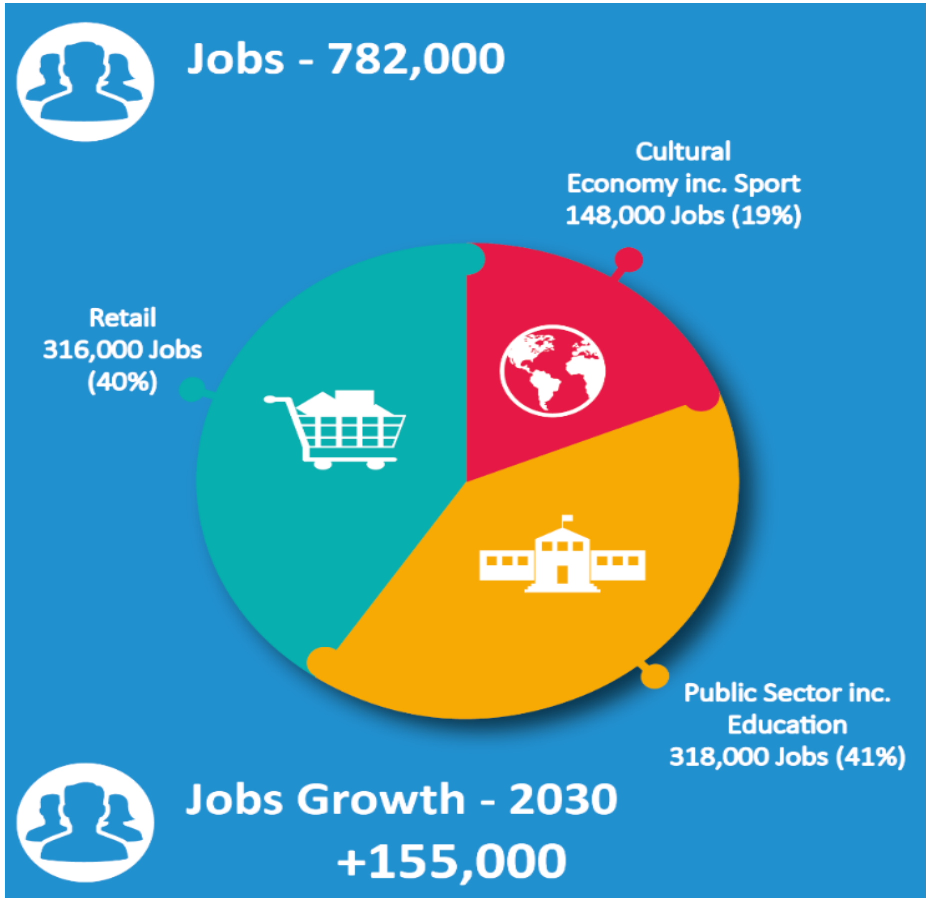




Note: Data displayed here is for 2013 and therefore doesn't match with 2015 data used in these slides

SEP Evidence: Enabling Sectors





Note: Data displayed here is for 2013 and therefore doesn't match with 2015 data used in these slides

Summary Statistics Across LIS Sectors (Current)

WMCA Sectors	GVA (£m, 2015)		Jobs (2015)	
	WMCA Total	%	WMCA Total	%
Core Sectors & Sub-Sectors (7 Transformational Sectors & relevant sub-sectors)	**£62,294**	**72.7%**	**1,252,215**	**62.6%**
Advanced Manufacturing and Engineering	**£12,110**	**14.1%**	**209,242**	**10.5%**
Automotive	£3,150	3.7%	46,500	2.3%
Rail	£32	0.04%	470	0.02%
Aerospace	£305	0.4%	4,500	0.2%
Food & Drink	£1,035	1.2%	20,683	1.0%
Metals & Materials	£4,047	4.7%	74,239	3.7%
Other Manufacturing	£2,057	2.4%	34,893	1.7%
Machinery	£1,152	1.3%	17,000	0.8%
Other Transport Manufacturing	£95	0.1%	1,400	0.1%
Agriculture	£236	0.3%	10,996	0.5%
Business, Professional and Financial Services	**£24,152**	**28.2%**	**405,989**	**20.3%**
Financial Services	£4,459	5.2%	56,265	2.8%
Legal & Accounting	£1,336	1.6%	43,142	2.2%
Real estate and Associated Consultancy	£10,457	12.2%	66,442	3.3%
Recruitment and HR	£1,583	1.8%	65,779	3.3%
Advertising and Market Research	£229	0.3%	7,148	0.4%
Support Services	£2,576	3%	70,736	3.5%
Other Service Activities	£3,511	4.1%	96,478	4.5%
Construction (Building Technologies)	**£7,089**	**8.3%**	**186,615**	**9.3%**
Digital & Creative	**£4,648**	**5.5%**	**74,917**	**3.7%**
Digital	£3,203	3.7%	46,061	2.3%
Creative	£1,445	1.7%	28,856	1.4%
Life Sciences & Healthcare	**£6,223**	**7.2%**	**228,289**	**11.4%**
Logistics & Transportation	**£4,718**	**5.5%**	**122,630**	**6.1%**
Low Carbon and Environmental Technologies	**£3,356**	**3.9%**	**24,533**	**1.2%**
Energy	£2,139	2.5%	11,913	0.6%
Water & Waste Activities	£1,217	1.4%	12,620	0.6%
Supporting Sectors (3 Enabling Sectors)	**£23,442**	**27.3%**	**749.442**	**37.4%**
Tourism (Cultural Economy including Sports)	**£3,523**	**4.1%**	**162,769**	**8.1%**
Public Sector inc. Education	**£9,818**	**11.5%**	**261,016**	**13.0%**
Retail	**£10,101**	**11.8%**	**325,656**	**16.3%**
Total (All 10 Sectors)	£85,736		2,001,657	

Source: Oxford Economic Model, via Black Country Economic Intelligence Unit Analysis

% of GVA and jobs is calculated from the total of all sectors
The blue shaded sectors are part of current WMCA LIS sector action plans

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Economic Modelling

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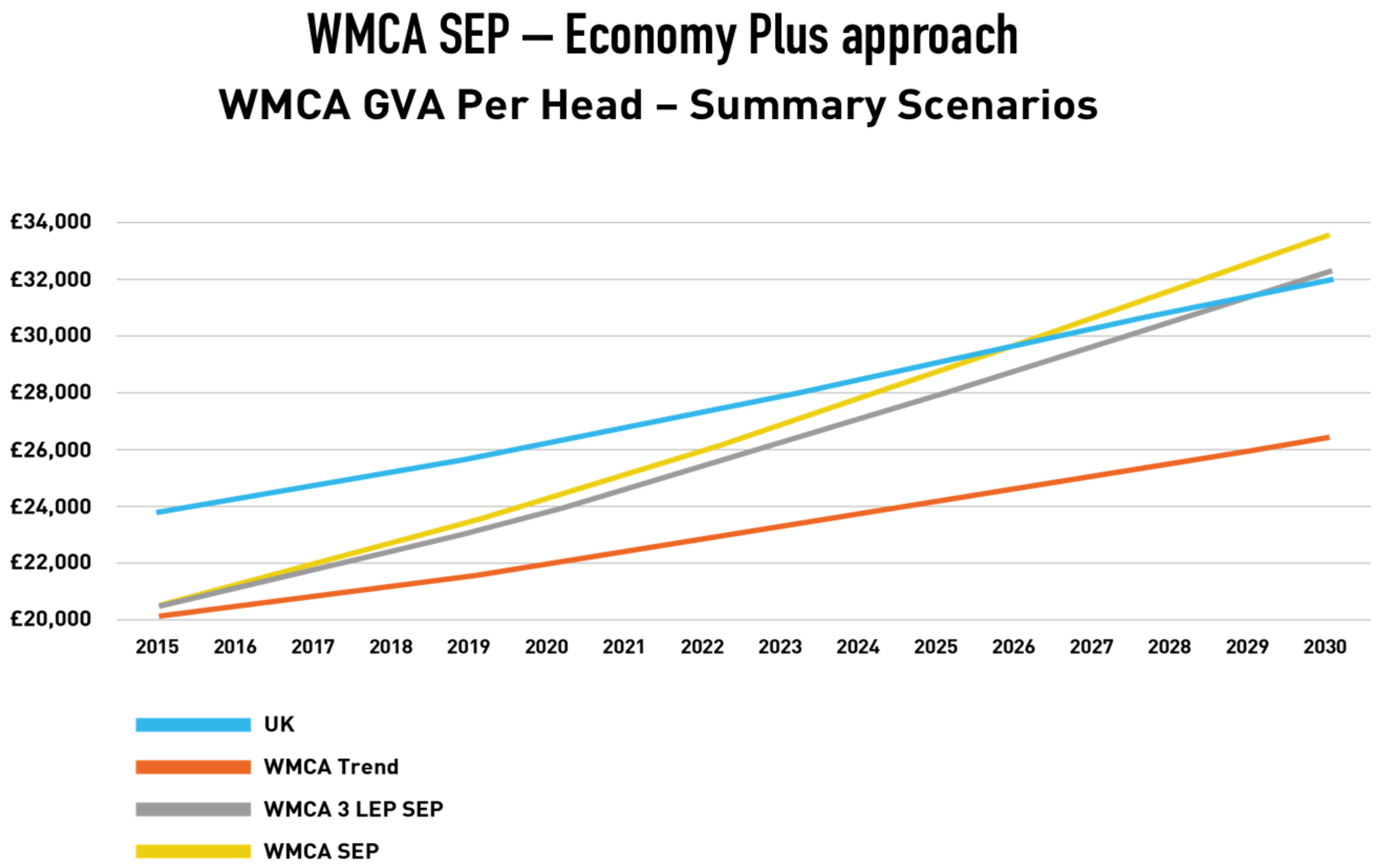

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Summary Statistics Across LIS Sectors (2030 Ambitions)

WMCA Sectors	GVA (£m, 2030 ambition)			Jobs (2030)		
	WMCA Total	%	Change required 2015	WMCA Total	%	Change required 2015
Core Sectors & Sub-Sectors (7 Transformational Sectors & relevant sub-sectors)	£113,438	74.3%	+£51,144	1,525,302	63.5%	+273,087
Advanced Manufacturing and Engineering	£18,562	12.2%	+£6,452	194,630	8.1%	-14,611
Automotive	£3,790	2.5%	+£639	35,004	1.5%	-11,496
Rail	£38	0.02%	+£6	354	0.01%	-116
Aerospace	£367	0.2%	+£62	3,387	0.1%	-1,113
Food & Drink	£2,054	1.3%	+£1,019	21,753	0.9%	+1,070
Metals & Materials	£6,120	4.0%	+£2073	70,363	2.9%	-3,876
Other Manufacturing	£4,119	2.7%	+£2,062	39,847	1.7%	+4,954
Machinery	£1,386	0.9%	+£234	12,797	0.5%	-4,203
Other Transport manufacturing	£114	0.1%	+£19	1,054	0.04%	-346
Agriculture	£575	0.4%	+£388	10,072	0.4%	-924
Business, Professional and Financial Services	£48,985	32.1%	+£24,833	531,572	22.1%	+125,583
Financial Services	£10,062	6.6%	+£5,603	69,043	2.89	+12,778
Legal & Accounting	£2.803	1.8%	+£1.467	51,652	2.1%	+8,510
Real estate and associated consultancy	£19,528	12.8%	+£9,071	99,118	4.1%	+32,676
Recruitment and HR	£3.341	2.2%	+£1.758	72,199	3.0%	+6,420
Advertising and market research	£796	0.5%	+£566	13,253	0.6%	+6,102
Support services	£6,857	4.5%	+£4,282	111,682	4.6%	+40,946
Other service activities	£5,597	3.7%	+£2,086	114,626	4.8%	+18,148
Construction (Building Technologies)	£10,891	7.1%	+£3,802	234,165	9.7%	+47,550
Digital & Creative	£10,997	7.2%	+£6,349	92,271	3.8%	+17,354
Digital	£7,855	5.1%	+£4,652	61,469	2.6%	+15,408
Creative	£3,142	2.1%	+£1,697	30,802	1.3%	+1,946
Life Sciences & Healthcare	£12,114	7.9%	+£5,892	323,796	13.5%	+95,507
Logistics & Transportation	£7,090	4.6%	+£2,372	125,476	5.2%	+2,846
Low Carbon and Environmental Technologies	£4,799	3.1%	+£1.443	23,391	1.0%	-1,142
Energy	£2,821	1.8%	+£683	11,595	0.5%	-318
Water & Waste Activities	£1,978	1.3%	+£760	11,796	0.5%	-823
Supporting Sectors (3 Enabling Sectors)	£39,241	25.7%	+£15,799	877,677	36.5%	+128,000
Tourism (Cultural Economy including Sports)	£6,070	4.0%	+£2,547	213,427	8.9%	+51,000
Public Sector inc. Education	£10,963	7.2%	+£1,145	257,015	10.7%	-4,000
Retail	£22,208	14.5%	+£12,107	407,235	16.9%	+82,000
Total (All 10 Sectors)	£152,679	100%	+£66,943	2,402,979		+401,000

Source: Oxford Economic Model, via Black Country Economic Intelligence Unit Analysis

% of GVA and jobs is calculated from the total of all sectors
The blue shaded sectors are part of current WMCA LIS sector action plans

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WMCA LIS Sectors & Sub-Sectors

Sectors	Sub-sector Specialisms
Advanced Manufacturing	Automotive
	Rail
	Aerospace
	Food and Drink
	Metals and Materials
Construction	
Business and Professional Services	Financial Services
	Legal & Accounting
Creative	
Low Carbon & Environmental	Energy
Logistics and Transport Technology	
Life Sciences	Diagnostics and Trials
	Devices
Tourism	

Supporting Sector Evidence Base – All Sectors

Ideas

WMCA Science & Innovation Audit
Scale & concentration of activity in WMCA, description of supportive assets & academic output

People

Oxford Economic Model
- Jobs by sub-sectors, occupations by sub-sectors & geographies

ESFA Data cube
- FE provision data (inc. apprenticeships) across subjects/sectors

HESA data
- HE provision data across subjects/sectors

Black Country Skills Factory supply/demand matrix
- Employer demand mapped against FE provision

NOMIS analysis
- Jobs, qualifications, earning, business counts etc

Labour Insight
- Job vacancy data from Burning Glass – skills, qualifications, sectors, job titles and more

Emsi
- Detailed occupational and sectoral datasets – incl. wages, LQ's, qualifications

Infrastructure

Business Environment

Oxford Economic Model
- GVA and productivity by sub-sectors & geographies

HVM City platform
- Supply chain portal hosting company & projects details

'FAME' database access
- Detailed company information, allows assessment of local strategic companies and details such as their ownership structure.

West Midlands Growth Company research
- Including knowledge of successful FDI projects

IDBR – Coventry & Warwickshire
- Government Business Register - Detailed company information; including location, full-time and part-time employees and sector

Chamber Quarterly Economic Survey (QES)
- Local business confidence survey

Places

Spatial analysis of companies and assets
- Mapping of companies across sectors

GiS
- Detailed labour market analysis of areas located within 1 hour drive/train from WMCA

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Advanced Manufacturing & its Sub-Sectors

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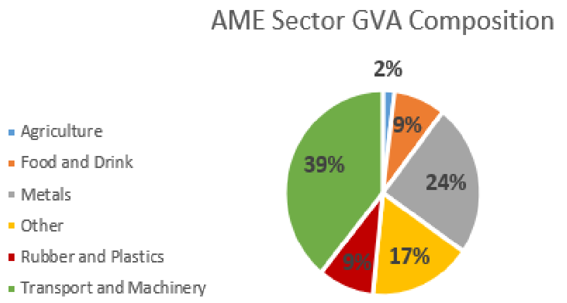
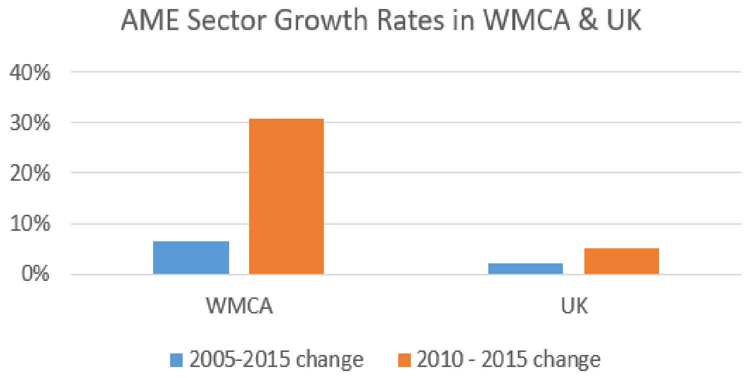
Advanced Manufacturing & Engineering (AME) Summary Statistics (Current)

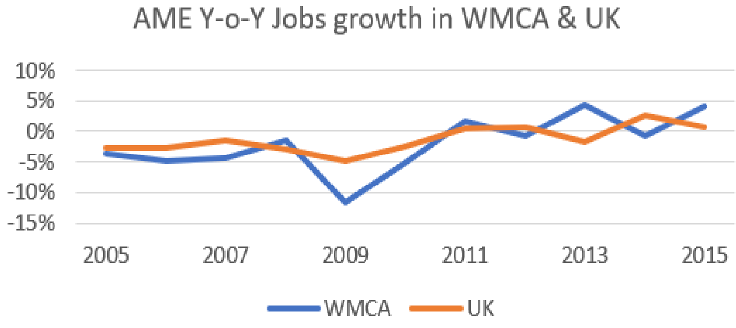
- **£12.1bn** WMCA GVA is attributed to AME, which is 14.1% of the whole economy. This makes AME the second largest sector behind BPFS. The **2030 GVA ambition for this sector is £18.6bn**
- There are **209,000 jobs** attributed to AME in the WMCA area, 10.5% of overall employment.
- Since 2010, GVA in **AME has grown over 30% in the WMCA**, far higher than the 5% growth for the sector in the UK overall.
- The WMCA has much more jobs reliant on key AME sectors than the UK overall: **transport & machinery (inc. automotive, aerospace & rail) makes up 3.4% of jobs in the WMCA compared to 1.4% in the UK overall.**
- The AME sub-sectors included for the LIS (see slide 4) make up 71**% of GVA (£8.6bn) and 70% of jobs (146,000).**

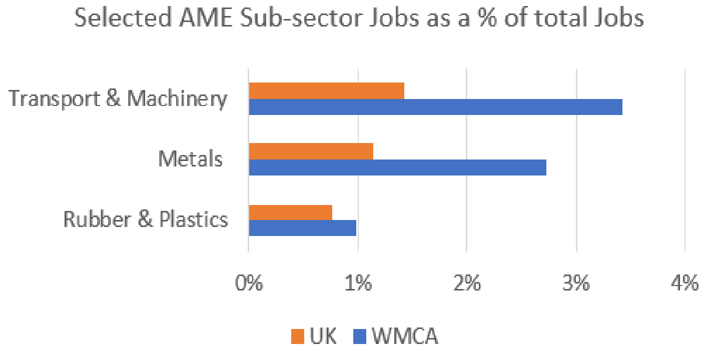
GVA Current: **12.1bn** 2030 Ambition: **£18.6bn (+£6.5bn)** **31% growth** since 2010





Jobs Current: **209,000** 2030 Ambition: **195,000 (-14,000)** **9% growth** since 2010





Source: Oxford Economic Model, via Black Country Economic Intelligence Unit Analysis

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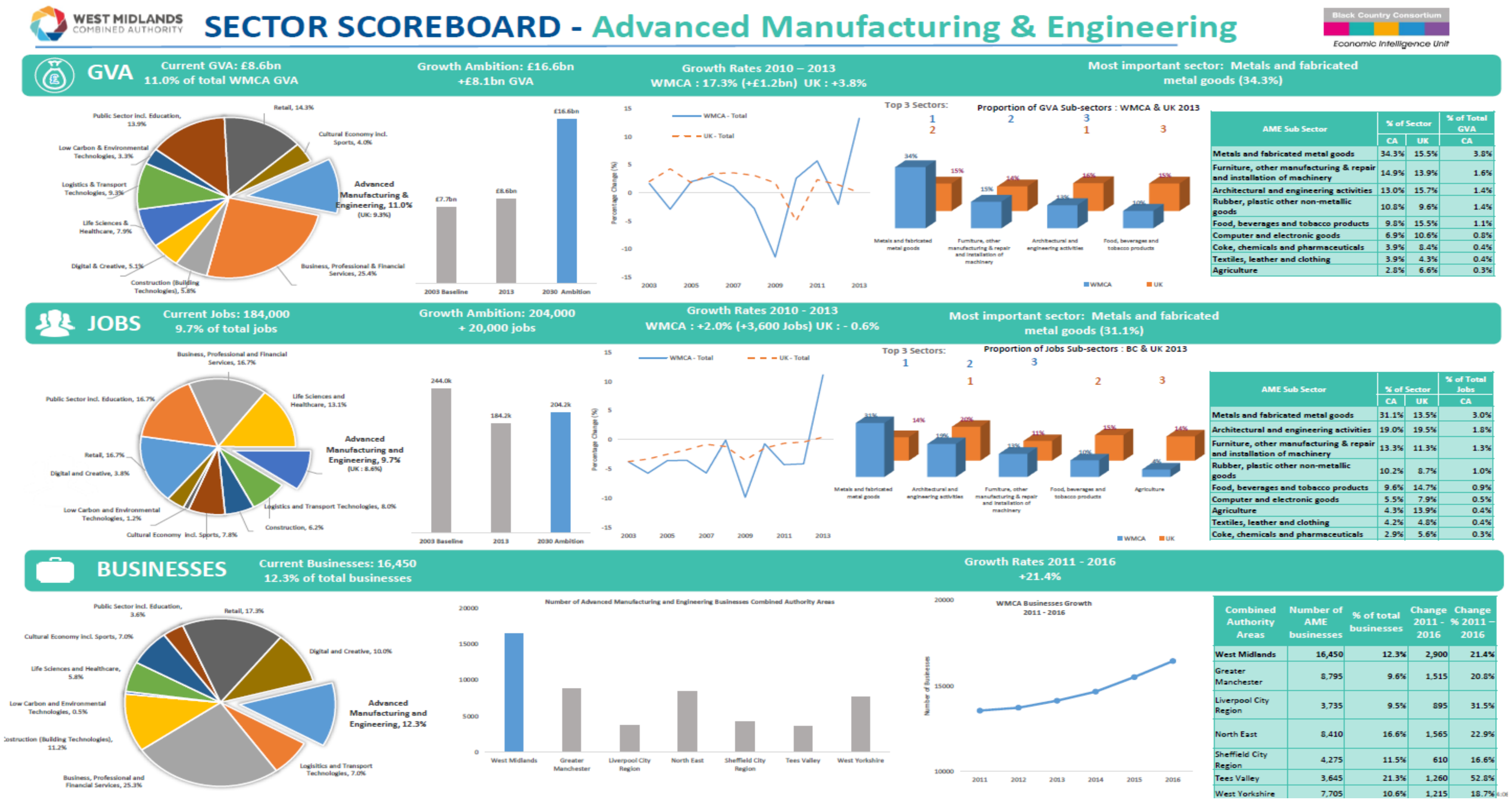
Previous deep-dive analysis on the sector (2013 data)



AME Sub Sector	% of Sector		% of Total GVA
	CA	UK	CA
Metals and fabricated metal goods	34.3%	15.5%	3.8%
Furniture, other manufacturing & repair and installation of machinery	14.9%	13.9%	1.6%
Architectural and engineering activities	13.0%	15.7%	1.4%
Rubber, plastic other non-metallic goods	10.8%	9.6%	1.4%
Food, beverages and tobacco products	9.8%	15.5%	1.1%
Computer and electronic goods	6.9%	10.6%	0.8%
Coke, chemicals and pharmaceuticals	3.9%	8.4%	0.4%
Textiles, leather and clothing	3.9%	4.3%	0.4%
Agriculture	2.8%	6.6%	0.3%

AME Sub Sector	% of Sector		% of Total Jobs
	CA	UK	CA
Metals and fabricated metal goods	31.1%	13.5%	3.0%
Architectural and engineering activities	19.0%	19.5%	1.8%
Furniture, other manufacturing & repair and installation of machinery	13.3%	11.3%	1.3%
Rubber, plastic other non-metallic goods	10.2%	8.7%	1.0%
Food, beverages and tobacco products	9.6%	14.7%	0.9%
Computer and electronic goods	5.5%	7.9%	0.5%
Agriculture	4.3%	13.9%	0.4%
Textiles, leather and clothing	4.2%	4.8%	0.4%
Coke, chemicals and pharmaceuticals	2.9%	5.6%	0.3%

Combined Authority Areas	Number of AME businesses	% of total businesses	Change 2011 - 2016	Change % 2011 – 2016
West Midlands	16,450	12.3%	2,900	21.4%
Greater Manchester	8,795	9.6%	1,515	20.8%
Liverpool City Region	3,735	9.5%	895	31.5%
North East	8,410	16.6%	1,565	22.9%
Sheffield City Region	4,275	11.5%	610	16.6%
Tees Valley	3,645	21.3%	1,260	52.8%
West Yorkshire	7,705	10.6%	1,215	18.7%

Source: Oxford Economic Model, via Black Country Economic Intelligence Unit Analysis

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WEST MIDLANDS COMBINED AUTHORITY

SECTOR SCOREBOARD - Advanced Manufacturing & Engineering

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£3.5bn GVA | Advanced Manufacturing & Engineering : Top 50 Businesses by GVA | £70,505 Average GVA per employee

No.	Company name	Industry Classification Benchmark	Ownership	GVA (£m)- Latest	GVA Components: Profit (Loss) before Tax th GBP Last avail. yr	GVA Components: Employee Costs Latest	GVA Components: Depreciation th GBP Last avail. yr	GVA Components: Total Amortization and Impairment th GBP Last avail. yr	GVA per employee	Employee costs + depreciation	GVA/ Costs	GVA Change 1yr %
1	Boparan Holdco Limited	Food Producers	UK	544,100	-54,200	512,800	55,100	30,400	23,683	567,900	95.8%	8.4%
2	AAH Pharmaceuticals Limited	Pharmaceuticals & Biotechnology	Foreign	329,762	230,277	89,194	7,473	2,818	118,194	96,667	341.1%	26.9%
3	Molson Coors Brewing Company (UK) Limited	Beverages	Foreign	237,523	83,731	104,676	47,148	1,968	118,940	151,824	156.4%	59.5%
4	Tulip Limited	Food Producers	Foreign	199,952	9,460	155,846	34,646		32,555	190,492	105.0%	-5.4%
5	Cadbury UK Limited	Food Producers	Foreign	163,727	99,278	64,006	4	439	146,840	64,010	255.8%	8.8%
6	Baxi Heating UK Limited	Construction & Materials	UK	104,955	36,357	55,584	5,139	7,875	67,626	60,723	172.8%	-4.5%
7	AGA Rangemaster Group Limited	Construction & Materials	Foreign	91,400	700	83,700	4,700	2,300	35,801	88,400	103.4%	3.4%
8	Pirelli UK Tyres Limited	Automobiles & Parts	Foreign	88,450	17,549	58,995	11,842	64	76,184	70,837	124.9%	10.0%
9	GE Energy Power Conversion UK Limited	Electricity	Foreign	84,982	4,370	77,711	2,901		67,393	80,612	105.4%	-2.1%
10	Epwin Group PLC	Construction & Materials	UK	84,100	18,600	60,000	5,500		37,968	65,500	128.4%	-1.8%
11	Tarmac Cement And Lime Limited	Construction & Materials	UK	78,000	16,400	38,800	21,800	1,000	99,490	60,600	128.7%	-9.0%
12	Timet UK Limited	Industrial Metals & Mining	Foreign	76,139	34,142	33,622	8,375		117,137	41,997	181.3%	4.2%
13	Specialist Building Products Limited	Construction & Materials	UK	73,036	16,649	51,418	4,278	691	39,078	55,696	131.1%	12.4%
14	Goodrich Control Systems	Aerospace & Defence	Foreign	72,100	26,500	37,600	3,500	4,500	125,391	41,100	175.4%	-69.2%
15	Castings Public Limited Company	Industrial Engineering	UK	69,395	19,676	42,866	6,853		61,141	49,719	139.6%	5.8%
16	B.E. Wedge Holdings Limited	Industrial Metals & Mining	UK	64,785	18,817	41,438	3,767	763	61,466	45,205	143.3%	33.7%
17	Marley Eternit Limited	Construction & Materials	Foreign	60,300	22,700	30,600	2,100	4,900	79,973	32,700	184.4%	22.3%
18	Assa Abloy Limited	General Industrials	Foreign	59,901	8,838	37,902	1,528	11,633	56,245	39,430	151.9%	30.6%
19	Wabtec Rail Limited	Industrial Transportation	Foreign	56,940	12,771	41,715	1,436	1,018	55,228	43,151	132.0%	16.4%
20	Goodyear Dunlop Tyres UK Limited	Automobiles & Parts	Foreign	52,308	12,289	37,347	2,634	38	73,261	39,981	130.8%	5.0%
21	Aviagen Limited	Food Producers	Foreign	51,233	39,254	10,528	1,451		179,136	11,979	427.7%	13.7%
22	Voith Industrial Services Limited	Automobiles & Parts	Foreign	49,580	4,039	44,931	450	160	22,996	45,381	109.3%	99.2%
23	Sertec Group Limited	Industrial Metals & Mining	UK	48,770	15,291	30,681	2,571	227	43,779	33,252	146.7%	43.6%
24	F.W. Thorpe Public Limited Company	Electronics & Electrical Equipment	UK	37,645	14,395	21,647	947	656	68,821	22,594	166.6%	17.0%
25	Saint-Gobain Glass (United Kingdom) Limited	Construction & Materials	Foreign	36,258	-1,500	35,610	2,148		35,864	37,758	96.0%	5.9%
26	Morgan Technical Ceramics Limited	General Industrials	UK	35,783	11,590	22,286	1,857	50	45,935	24,143	148.2%	-4.1%
27	Tarmac Building Products Limited	Construction & Materials	UK	33,549	3,275	27,804	2,470		42,738	30,274	110.8%	33.4%
28	Interiors Manufacturing Limited	Construction & Materials	UK	32,377	14,227	17,452	750	-52	92,771	18,202	177.9%	91.3%
29	Victoria P.L.C.	Household Goods & Home Construction	UK	32,219	-2,953	31,899	3,003	270	31,403	34,902	92.3%	35.7%
30	Sandvik Limited	Industrial engineering	Foreign	31,323	5,770	22,378	3,175		65,667	25,553	122.6%	12.5%
31	Clinigen Group PLC	Pharmaceuticals & Biotechnology	UK	30,493	8,355	11,182	441	10,515	196,729	11,623	262.4%	-6.3%
32	The Amtico Company Limited	Construction & Materials	Foreign	29,956	9,830	18,476	1,650		72,886	20,126	148.8%	19.3%
33	ZF Lemforder UK Limited	Automobiles & Parts	Foreign	29,798	6,412	16,075	7,311		85,626	23,386	127.4%	6.9%
34	Voestalpine Metsec PLC	Industrial Engineering	Foreign	29,629	13,518	13,600	2,511		86,889	16,111	183.9%	8.9%
35	Lytham Holdco Limited	Construction & Materials	Foreign	29,471	994	25,120	2,637	720	15,802	27,757	106.2%	32.7%
36	Page Aerospace Limited	Aerospace & Defence	Foreign	28,201	20,851	7,341	-31	40	176,256	7,310	385.8%	-2238.1%
37	Brintons Carpets Limited	Construction & Materials	Foreign	28,031	994	25,120	2,637	-720	15,030	27,757	101.0%	32.1%
38	Quartzelec Ltd	Construction & Materials	UK	28,030	2,458	24,524	1,032	16	48,328	25,556	109.7%	7.5%
39	Blanc Aero Industries UK Limited	Aerospace & Defence	UK	27,482	11,056	15,160	1,266		73,481	16,426	167.3%	-10.7%
40	Legrand Electric Limited	Electronics & Electrical Equipment	Foreign	26,740	6,836	17,142	1,413	1,349	51,721	18,555	144.1%	58.1%
41	Salts Healthcare Limited	Health Care Equipment & Services	UK	26,524	5,586	17,952	1,454	1,532	42,712	19,406	136.7%	22.8%
42	Elta Group Limited	Industrial Engineering	UK	26,482	3,409	20,983	1,414	676	41,836	22,397	118.2%	9.0%
43	Mondelez International Services Limited	Food Producers	Foreign	26,222	-249	19,780	6,691		66,723	26,471	99.1%	-9.2%
44	Maneto (UK) 3 Limited	Construction & Materials	Foreign	26,077	-7	22,427	1,720	1,937	55,131	24,147	108.0%	11.8%
45	Hadley Industries PLC	Industrial Metals & Mining	UK	25,607	6,161	15,881	3,565		51,731	19,446	131.7%	2.7%
46	Doncasters Aerospace Limited	Aerospace & Defence	Foreign	23,551	8,214	13,765	1,316	256	61,652	15,081	156.2%	-48.0%
47	Mettis Aerospace Limited	Aerospace & Defence	UK	23,407	2,914	17,098	2,774	621	45,806	19,872	117.8%	-5.4%
48	Covpress Limited	Automobiles & Parts	UK	23,274	5,226	15,713	2,335		79,979	18,048	129.0%	47.3%
49	Air Liquide UK Limited	Gas, Water & Multi-utilities	Foreign	23,137	7,117	11,877	4,143		83,527	16,020	144.4%	-7.1%
50	CPC Foods Limited	Food Producers	Foreign	22,927	6,160	14,398	898	1,471	50,723	15,296	149.9%	20.5%

Advanced Manufacturing & Engineering- UK 2013 GVA per employee - £49,267
34 of the above 50 companies (68%) have above average GVA per employee

GVA is calculated by adding together operating profit, employee costs, depreciation and amortisation/impairment charges.
There are 2 measures of companies' efficiency of wealth creation: labour productivity defined as GVA per employee and the ratio of GVA to the costs of employment and depreciation used to create it.
The data was produced by conducting a search of FAME for active companies with registered offices in the area and selecting the largest companies by turnover based on the most recent filed accounts.
Businesses have been classified using the 41 sectors in the Industry Classification Benchmark (ICB) structure for sector and industry analysis, supported by the IBC database which is maintained by FTSE International Limited.

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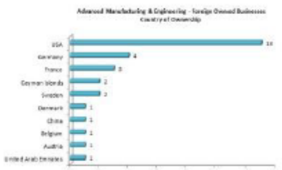
GVA Growth

- GVA generated by the top 50 businesses has increased by 7.4% over 1yr period
- 36 of the top 50 businesses have increased GVA over a 1yr period
- 16 businesses have increased GVA by 20% and over

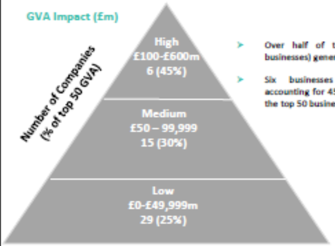
Foreign Ownership & Listing

- 29 companies in the top 50 are foreign owne
- The largest foreign owned company in the top 50 is ranked 2nd - AAH Pharmaceuticals Limite
- The largest number of global owners are in th USA (13 businesses)
- Average GVA per employee for these busines is £76,854
- 5 businesses are listed on the London Stock Exchange



Foreign Owned Strategic Businesses: City HQs	
USA	San Francisco
	Denver
	Deerfield
	Elgin
	Fairfield
	Omaha
	Farmington
	Wilmerding
	Akron
	Salem
	Farmington
	Deerfield
	Salem
Germany	Viebek
	Mannheim
	Lemforde
France	Courbevoie
	Limoges
	Paris
Sweden	Stockholm
Denmark	Randers
Belgium	Brussels
Austria	Linz

GVA Impact (£m)



- Over half of the top 50 businesses (29 businesses) generate under £50m GVA
- Six businesses generate over £100m, accounting for 45% of total GVA generated by the top 50 businesses

Sub Sector (Industry Classification Benchmark)	High: No. of businesses	High: GVA	Medium: No. of businesses	Medium: GVA	Low: No. of businesses	Low: GVA	Total Businesses	Total GVA	% of total GVA	Av. GVA per employee	Av. GVA/ Costs
Aerospace & Defence	0	0	1	72,100	4	102,641	5	174,741	5.0%	96,517	200.5%
Automobiles & Parts	0	0	2	140,758	3	102,652	5	243,410	6.9%	67,609	124.3%
Beverages	1	237,523	0	0	0	0	1	237,523	6.8%	118,940	156.4%
Construction & Materials	1	104,955	5	386,836	8	243,749	14	735,540	20.9%	52,749	129.1%
Electricity	0	0	1	84,982	0	0	1	84,982	2.4%	67,393	105.4%
Electronics & Electrical Equipment	0	0	0	0	2	64,385	2	64,385	1.8%	60,271	155.4%
Food Producers	3	907,779	1	51,233	2	49,149	6	1,008,161	28.7%	83,277	188.9%
Gas, Water & Multi-utilities	0	0	0	0	1	23,137	1	23,137	0.7%	83,257	144.4%
General Industrials	0	0	1	59,901	1	35,783	2	95,684	2.7%	51,090	150.1%
Health Care Equipment & Services	0	0	0	0	1	26,524	1	26,524	0.8%	42,712	136.7%
Household Goods & Home Construction	0	0	0	0	1	32,219	1	32,219	0.9%	31,403	92.3%
Industrial Engineering	0	0	1	69,395	3	87,434	4	156,829	4.5%	63,883	141.1%
Industrial Metals & Mining	0	0	2	140,924	2	74,377	4	215,301	6.1%	68,528	150.7%
Industrial Transportation	0	0	1	56,940	0	0	1	56,940	1.6%	55,228	132.0%
Pharmaceuticals & Biotechnology	1	329,762	0	0	1	30,493	2	360,255	10.2%	157,462	301.7%
Total	6	1,580,019	15	1,063,069	29	872,543	50	3,515,631			

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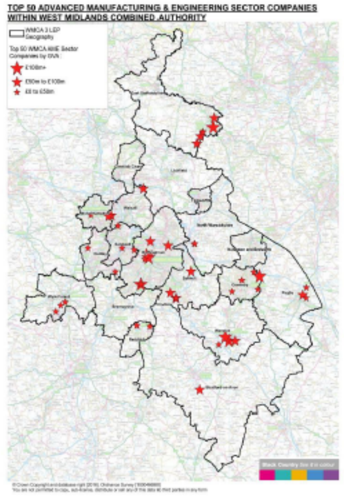
Location of Top Performing Businesses



Sub Sector Analysis

- 60% of GVA generated by the top 50 businesses is concentrated in 3 sub sectors: Food Producers (29.7%); Construction & Materials (20.9%) and Pharmaceuticals & Biotechnology (10.2%)
- The majority of high GVA businesses are Food Producers. This sub sector accounts for 30% of the total GVA generated by the top 50 businesses. Boparan Holdco is the highest ranking business
- Construction & Materials has the highest proportion of businesses in the top 50 (14 businesses)
- Pharmaceuticals & Biotechnology has the highest GVA per employee
- 12 of the 15 sub sectors have seen GVA growth over a one-year period, with 6 sectors growing above 20%. Beverages saw the highest growth rate (59.5%). Aerospace & defence experienced a negative growth rate of over 50%., however this sub sector has the second highest GVA/Costs ratio.
- 5 sectors have GVA/Costs ratio above the average for the top 50. The highest ratio is for Pharmaceuticals & Biotechnology (301.7%)

Source: FAME Database

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Automotive

WMCA Automotive Cluster

- In 2016 UK automotive manufacturers produced 1.8m vehicles; **operations in the WMCA area produce around 1/3 of these.**
- These include Jaguar Land Rover's Castle Bromwich and Solihull plants, Geely's LEVC in Coventry and Aston Martin in Gaydon.
- **Automotive supply chain** companies are a large part of the region's cluster. **21.2% of all the UK's motor vehicle parts & accessories manufacturing businesses are situated in the West Midlan**ds region – the most of any of the 12 UK regions.

- UK produces 2.5m engines (2016) per year, **over 500,000 units in the West Midlands**, at i54 (JLR) and Hams Hall (BMW).
- The West Midlands is **the centre of UK Auto R&D;** major centres include HORIBA-MIRA, Ricardo and the APC, NAIC and the NTDC. **The region leads the way in CAV & drivetrain technology including battery.**
- **Location quotient of 4.5** (7MET, 2015) – the highest of all sectors in WMCA and **second highest LQ for automotive in UK.**

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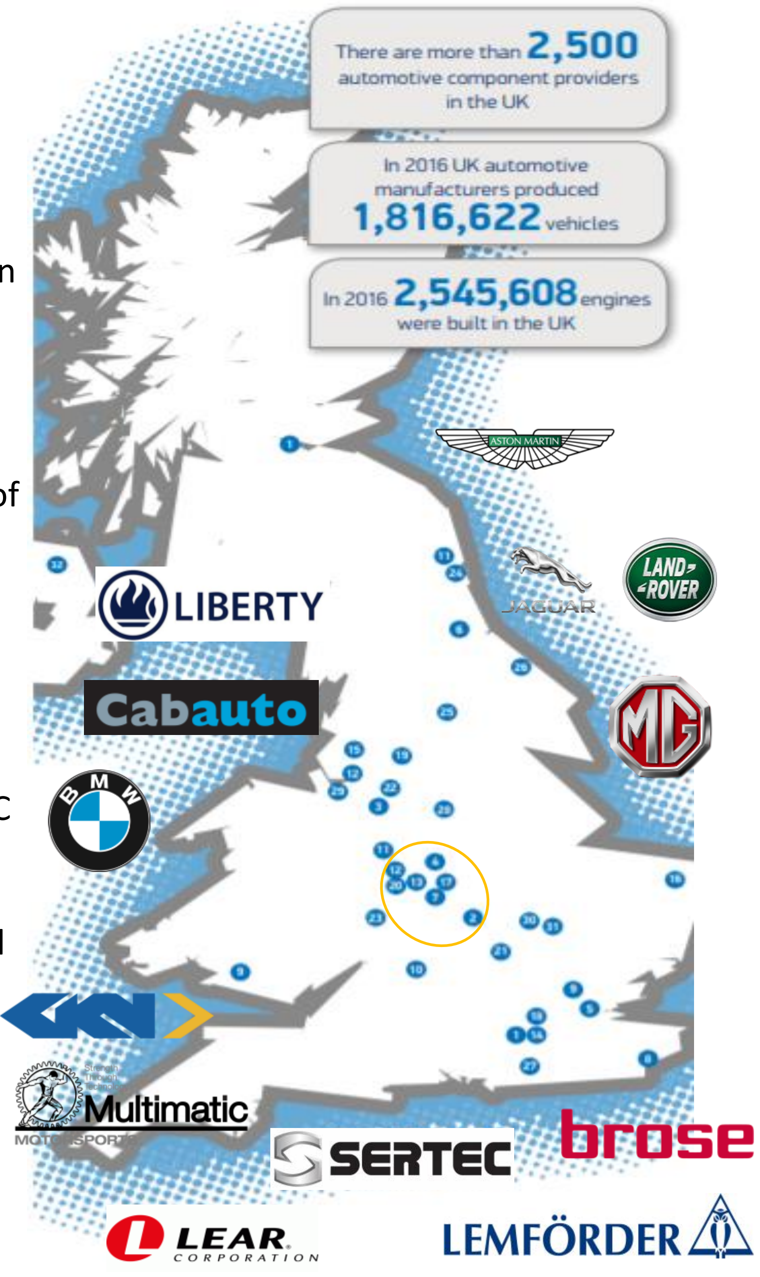
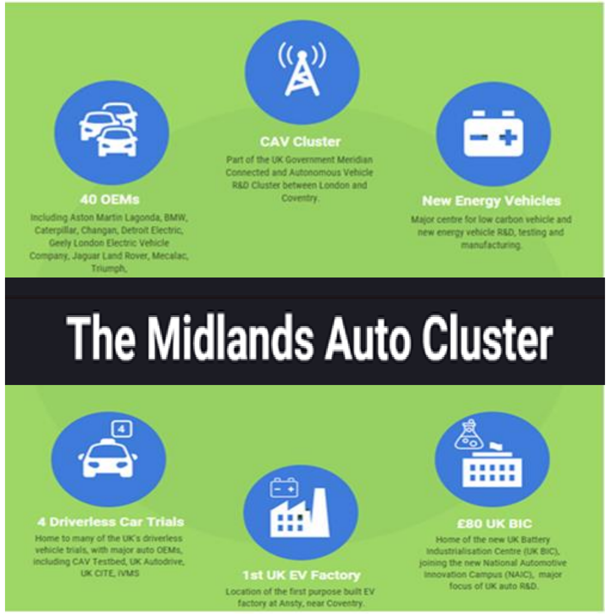
Key UK manufacturing sites



Key WMCA Manufacturing Sites

Key	Manufacturer	Model
2	Aston Martin	Comet, DB9, DB11, Rapide, Vantage, Vanquish.
4	BMW	4 Cylinder and i8 hybrid powertrain
7	Dennis Eagle	N and W truck range
12	Jaguar Land Rover	Engine range, Jaguar E- & F-Pace, XE, XJ & XF
13	Jaguar Land Rover	Land Rover, Discovery, Range Rover
17	Geely LEVC	TXe City Taxi



Source: SMMT

OEM Vehicle and Off-Highway Brands in the WMCA Area

JAGUAR
LAND ROVER
ASTON MARTIN
ASTON MARTIN
BMW
LEVC
PEOPLE DRIVEN
GEELY

DENNIS EAGLE
RosRoca
Thwaites
MECALAC
WESTFIELD
TRIUMPH
DETROIT ELECTRIC
DETROIT
GIBBS
RDM GROUP

BENTLEY
长安汽车
CHANGAN
TATA
TOYOTA
SAIC
上汽集团
SAIC MOTOR
UK Technical Centre
MG

ISUZU
Great Wall
Zetor
DETANK

FENDT
AGCO
Your Agriculture Company
MASSEY FERGUSON
Challenger
VALTRA
V
VOLVO
RENAULT TRUCKS
POLARIS
Indian
MOTORCYCLE

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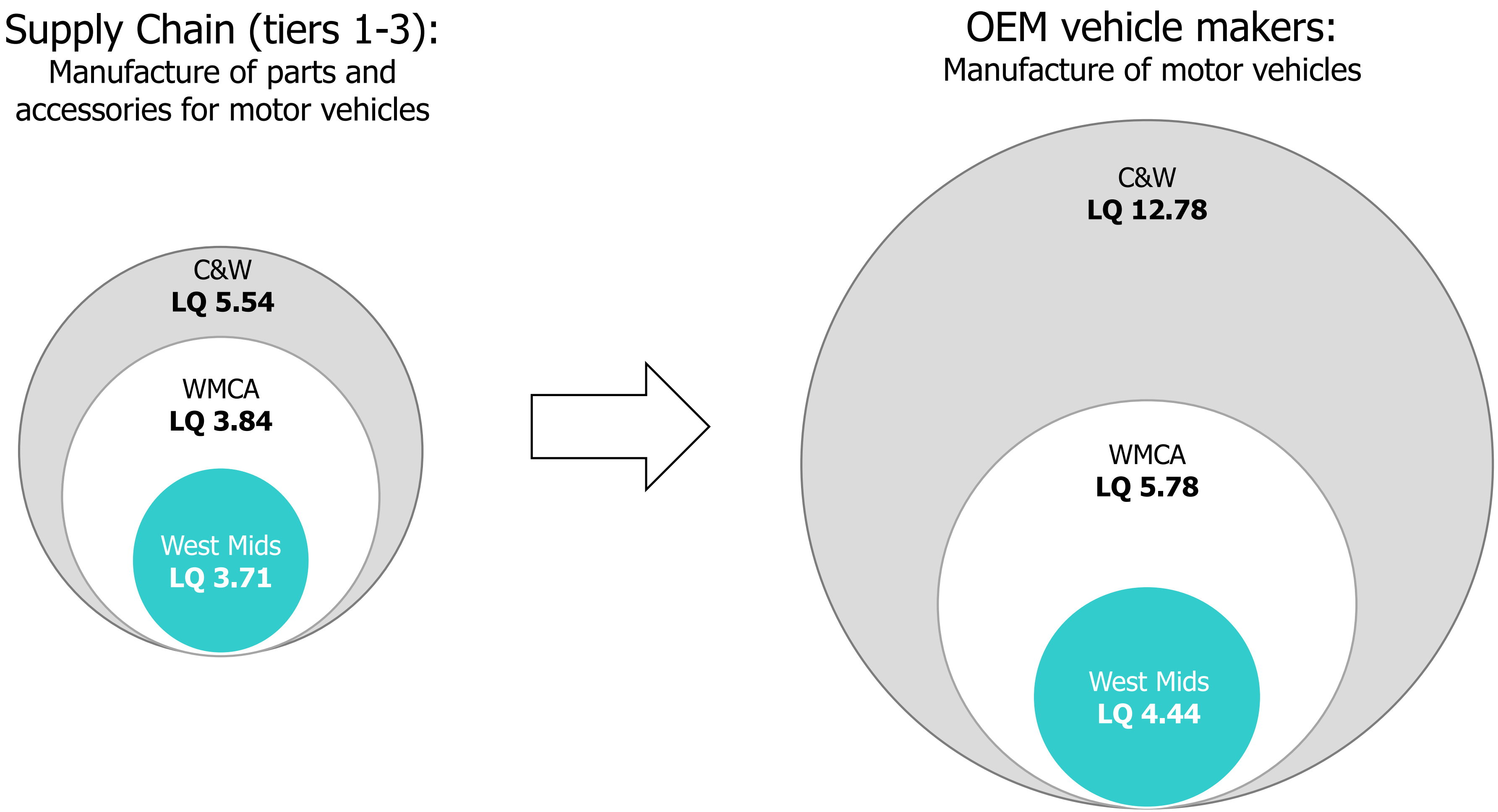
Strong Comparative Advantage



LQ – Location Quotient, WMCA – Combined Authority constituent members
Source: EMSI

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Connected Autonomous Vehicles

Powertrain and Battery Propulsion

Prototyping & Product Development

Key automotive sub-sector specialisms

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Connected Autonomous Vehicles

- £970bn global market by 2035, 50,000 UK jobs and £9bn GVA (£1-2bn UK) – CAV Vehicles and CAV Technologies.
  **Excludes new business models and mobility as a service*
- Major centres of CAV R&D at HORIBA-MIRA and WMG, University of Warwick. Potential for CAV application in agriculture with Harper Adams.
- WMCA area home to the UK's two main CAV vehicle manufacturers, Westfield and RDM
- Meridian is a £100 million initiative through UK Government to develop a coordinated national platform of CAV testing infrastructure, from London along the M40 corridor to Coventry, Meridian is based at University of Warwick
- 4 Major CAV trials here: UK CITIE, UK Autodrive, UK Central CAV Testbed and TIC-IT
- JLR and Waymo partnership to trial 20,000 driverless Jaguar i-Pace
- MIRA Technology Park is a 2msqft R&D campus, supplemented by the new 92 acre Southern Manufacturing Site (SMS). MIT spinout companies among those setting up there.
- New National Automotive Innovation Campus at the University of Warwick is Europe's largest auto R&D facility, and will drive new technologies
- SMART Mobility plan of WMCA, Midlands Connect and 5G digital infrastructure among opportunities for region with CAV
- Opportunities for links to Silicon Spa, Silicon Canal, Innovation Birmingham and AR/VR/ Simulation

West Midlands
Combined Authority

Powertrain and Battery Propulsion

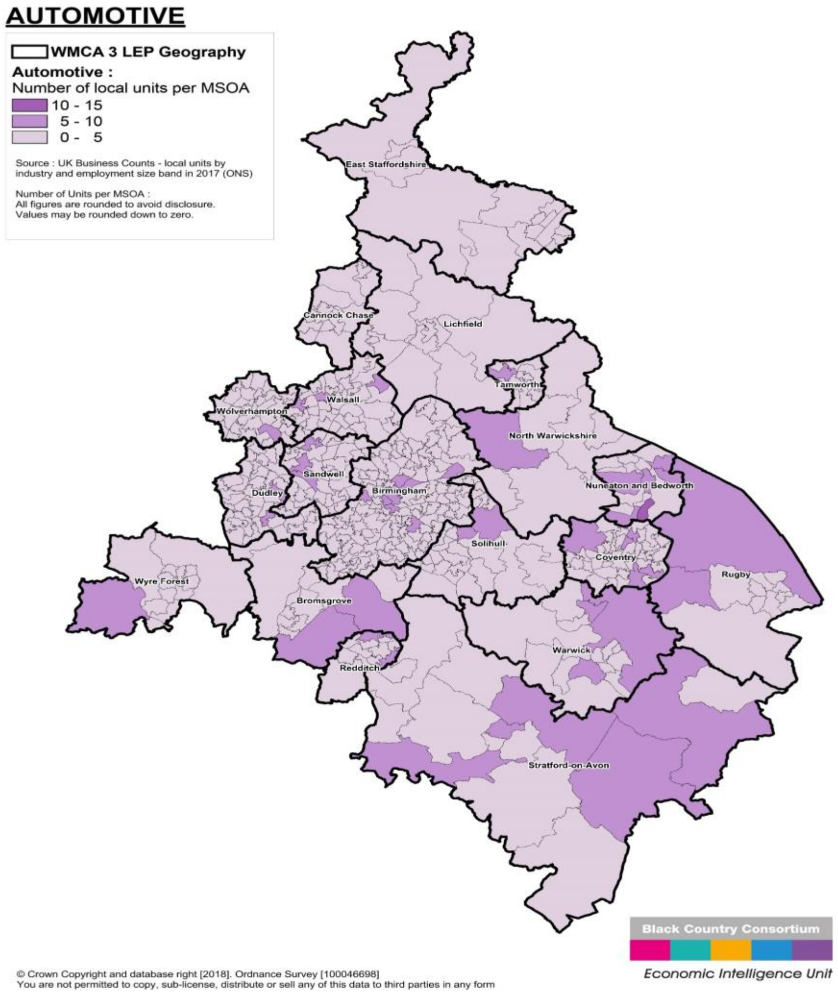
- Rapid growth in global EV sales: 1m units 2015 and 2m by 2016
- One third of sales in China; Norway 29% market share, followed by Netherlands 6.4%
- Challenge of charging infrastructure
- Existing WMCA area OEMs all developing Evs: Aston Martin and Jaguar Land Rover; BMW manufactures their flagship i8 hybrid powertrain at Hams Hall
- WMCA area attracting new EV investments, such as Geely LEVC, Detroit Electric and China Red Sun
- Cluster of powertrain tiers 1s: Delphi, Changan, Ricardo, Emerald Auto, WMG and recent announcements from FEV, Hofer Powertrain and AVL
- Innovative SMEs like Adelan, Sirius Automotive and Vehicle Repowering Solutions
- Strengths in universities and centres of excellence such as APC, and new facilities like NAIC
- UK Battery Industrialisation Centre opportunity to grow EV powertrain, attract battery manufacture
- Opportunities in EV power in off highway (e.g. JCB) and rail (Viva Rail electric D-Train, WMG Revolution very light rail
- EV light commercials – WMCA now home to Geely LEVC with scalable EV CV platform, fully electric Dynamo taxi and new £100m Metrocab Ecovotive CV platform
- Opportunity/ need to help existing diesel/ petrol supply chain to adapt to new hybrid and electric future. New supply chain opportunties
- Challenge to provide enough power for battery manufacture and other modern powertrain; challenge to create charging infrastructure
- Site of first purpose built EV factory in Geely London Electric Vehicle Company £320m facility to build new Txe City electric hybrid taxi

Prototyping & Product Development

- The WMCA area has the deepest, most diverse auto supply chain in UK
- Includes product design and powertrain engineering, prototype, test, low and volume build, light-weighting, BIW, interior trim, cyber and software
- Specialist auto engineering companies include Envisage, CadCam and HORIBA-MIRA, Ricardo, Multimatic,
- Prototype companies include HPL Prototypes, Arrk Europe
- Opportunities to further reshore supply chain, above the current 44%; WMCA proximity to OEM manufacturing sites
- Nissan is asking for £100m to help reshoring process
- UK supply chain gaps include forging of parts such as crankshafts; alloy wheels (Rimstock in the Black Country service the high end of the market); battery manufacture

West Midlands Combined Authority

Automotive: Spatial Focus



Super Strengths

Connected & Autonomous Vehicles (CAV)

- Leading location in UK for CAV R&D, including at WMG & Horiba Mira
- World-class testbeds for developing the next generation CAVs
- Private sector engagement with technology developments

Powertrain and Battery Propulsion

- Home to Multiple Low Carbon Centres of Excellence, and UKBIC from 2019
- Presence of companies developing EVs, and the first UK purpose built factory for Evs
- Integrated automotive supply chain supporting this development.

Prototyping & Product Development

- The WMCA features in all parts of the automotive process from component design to manufacturing commercial, motorsport and military land vehicles.
- Underpinned by a strong metals/materials sector.
- Strong connectivity & established skills base in the sector

West Midlands Combined Authority

Industry Profile

Our Competitive Advantage

- Strong cluster presence with **20 vehicle manufacturing sites, 35 automotive and off-highway OEM brands**
- 26 OEM Vehicle R&D Centres, 8 Automotive Centres of Excellence and 4 Low Carbon Centres of Excellence
- Good **access to auto supplier base**
- **Good connectivity** with well developed road and train network and international airport
- The WM region has **export expertise in machinery & transport goods** (71% of all goods exports compared to 41% nationally)
- High quality, sector focused science & research facilities and institutes
- GBSLEP (22,000) & CWLEP (21,000) have the most automotive jobs of all LEP areas
- The Midlands ranks as **a top global destination for automotive FDI**

Products , Services & Brands

- **JLR's Engine Manufacturing Centre** is home to the high technology, low emission Ingenium diesel engine for the Range Rover Evoque, Discovery Sport and Jaguar XE cars
- **Geely LEVC's** factory for the Txe City Taxi is the **first UK purpose built factory for EVs**
- **CAB Auto, IAC, Lear, IM Kelly, Grupo Antolin** produce interiors for major OEMs, including JLR, Aston Martin & Nissan
- Leading location in UK for **automotive R&D**.; including **CAV and EV** battery and energy storage
- **CAB Auto's seating** goes into the cars of some of the biggest automotive manufacturers, including JLR, Aston Martin & Nissan
- Rimstock PLC is a **world leading producer of alloy wheels**
- The region **produces 1/3 of all cars made in the UK**
- From 2014-2017, there were 82 successful WMCA FDI projects in automotive, creating 10,000 new jobs and safeguarding a further 3,000

In 2017-18, successful FDI investments have included:

- **Aston Martin Lagonda** 130,000sqft unit
- **Geely LEVC** – new HQ & factory open
- **JLR Gaydon** – Triangle and NVH

Centres of Excellence/Assets

Innovation:

- Advanced Propulsion Centre, University of Warwick
- National Automotive Innovation Centre (NAIC), University of Warwick (opening 2018)
- The National Transport Design Centre, Coventry
- HORIBA-MIRA Consultancy and MIRA Technology Park
- Battery Prototype Centre, Warwick
- Wton Science, Technology & Prototyping Centre
- UK Battery Industrialisation Centre (UKBIC), Coventry – opens 2019
- Wton Science, Technology & Prototyping Centre
- Changan UK Research and Development Facility
- SMMT Industry Forum

Training:

- Rolls-Royce University Technology Centre, Birmingham
- EEF Technology Training Centre
- WMG Academy for Young Engineers
- Black Country Skills Factory
- Lloyds Bank Advanced Manufacturing Centre
- Institute for Advanced Manufacturing

Production Processes:

- Manufacturing Technology Centre (MTC)
- Warwick Manufacturing Group (WMG)

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

Clean Growth

- Widespread manufacture and adoption of electric vehicles (EVs) – WM supply chain and residents will have to adapt.
- Powertrain & battery propulsion
- WM has significant innovation strengths – UK Battery Industrialisation Centre, Energy Research Accelerator etc)
- Energy Innovation Zones can help automotive innovation
- Opportunity for the WM to become a key area for EV charging infrastructure

Future Mobility

- Connected and autonomous vehicles, and better integration of passengers and goods.
- New automotive business models such as mobility as a service
- The West Midlands is the centre of UK transport innovation, including significant R&D facilities, industrial capacity and transport demonstration expertise

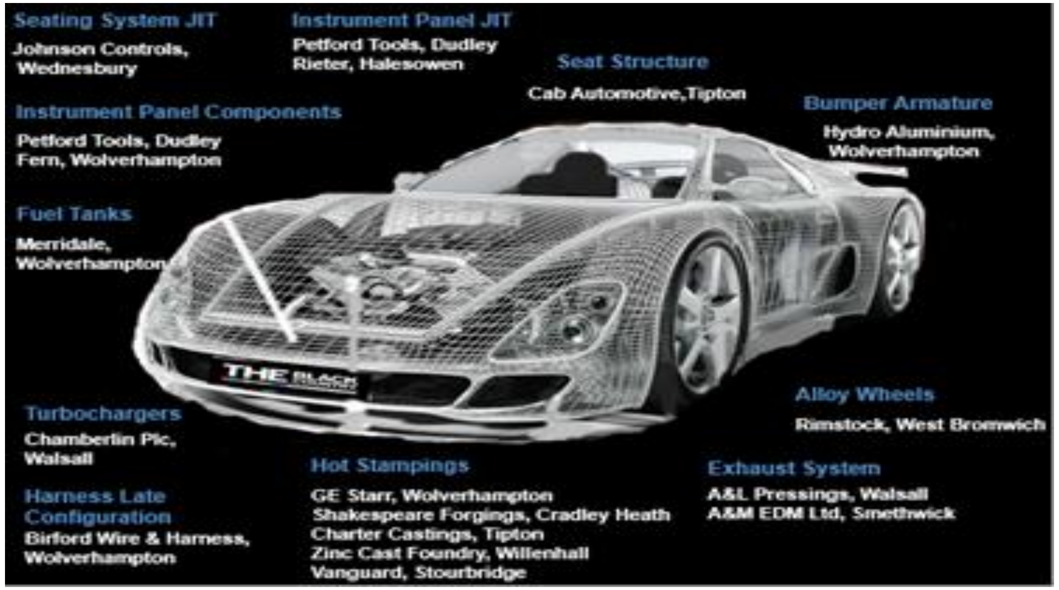
AI & Data

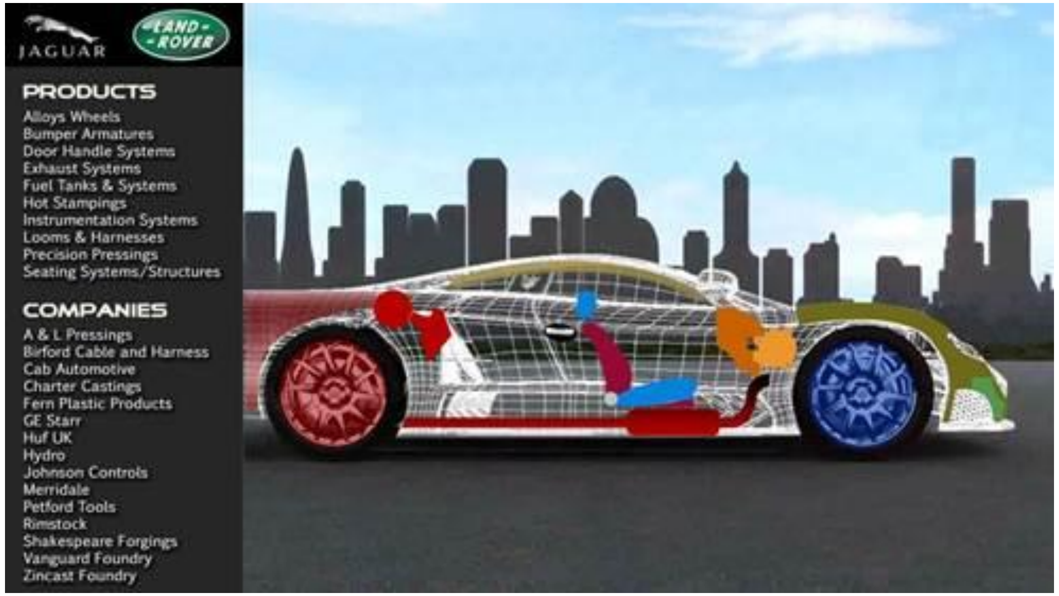
- Industry 4.0 opportunities and digital supply chains
- CAV
- Optimising more productive travel in the WM

20 vehicle manufacturing sites

Area	Company	Town	Type	Activity
CWLEP	Aston Martin Lagonda	Wellesbourne	Car	Low volume build
CWLEP	Aston Martin Lagonda	Nuneaton	Car	BIW Manufacture
CWLEP	Aston Martin Lagonda	Gaydon	Car	Vehicle Manufacture
CWLEP	BMW	Coleshill	Engine	Powertrain Manufacture
CWLEP	Detroit Electric	Leamington Spa	Car	Vehicle Manufacture
CWLEP	Dynamo Taxi (Nissan Electric)	Bedworth	Car	Taxi Coachbuilding
CWLEP	Geely LEVC	Ansty	Car	Vehicle Manufacture
CWLEP	Gibbs Amphibians	Nuneaton	Truck	Vehicle Manufacture
BSLEP	JLR Castle Bromwich	Birmingham	Car	Vehicle Manufacture
BCLEP	JLR i54	Wolverhampton	Engine	Powertrain Manufacture
BCLEP	JLR Lode Lane	Solihull	Car	Vehicle Manufacture
CWLEP	JLR Oxford Rd	Ryton	Car	Bespoke and limited edition vehicle preparation
CWLEP	JLR Oxford Rd	Ryton	Car	Pilot build facility
CWLEP	Microcab Industries Ltd	Coventry	Car	Vehicle Manufacture
CWLEP	Penso-Mercedes Vivio Taxi	Coventry	Car	Taxi Coachbuilding
CWLEP	RDM Group	Coventry	Car	Vehicle Manufacture
CWLEP	Terberg Ros-Roca Group - Dennis Eagle	Warwick	Truck	Vehicle Manufacture
CWLEP	Terex	Coventry	Off-Highway	Vehicle Manufacture
CWLEP	Thwaites Dumpers	Leamington Spa	Off-Highway	Vehicle Manufacture
BCLEP	Westfield	Kingswinford	Car	Vehicle Manufacture

Supported by a wealth of local tier 1,2 and 3 automotive suppliers…





Source: Black Country Bullet

Inward Investment Prospects

Typical investors

- Major/diversified players (e.g. OEMs and first tier component suppliers)
- Smaller niche suppliers in lower tiers of the supply chain

The region's USPs

The region has significant competitive advantage in this sector, based on:

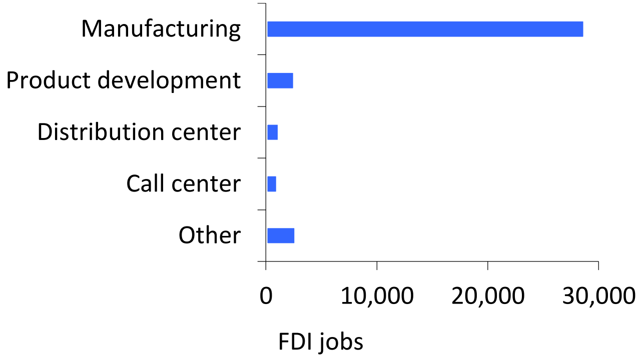
1. Access to the region's extensive automotive and transport technologies cluster with its extensive supply chain linkages
2. The breadth and depth of its skills and talent base
3. R&D/innovation specialisms/centres of excellence within our universities
4. Competitive operating costs in a European context

Potential wider impact on the region's economy

Investments typically generate substantial volumes of high value added (i.e. highly skilled with high GVA per worker) jobs– making a significant contribution to improving regional productivity

Job volume	Job value
High	High

Main types of automotive investment



Key emerging technologies driving business growth and investment

- Electrification – the development of electrified, battery-powered, fuel cell and plug-in hybrid vehicles
- Connected and Autonomous Vehicles – driverless cars and advances in IoT and data analytics, changing mobility models
- New and advanced materials and their applications in reducing costs/raising productivity, light weight design/reducing fuel consumption
- Industry 4.0 – with the introduction of the Internet of Things and Services into the manufacturing environment businesses are establishing global networks that incorporate their machinery, warehousing systems and production facilities in the shape of Cyber-Physical Systems (CPS)

Key source markets
Japan
Germany
United States
China
India
Canada
South Korea
France
UK

Key competitor locations:

UK: London, Manchester, Leeds, Surrey, Derby, Liverpool, Cowley, Nottingham, Bristol, Sheffield, Bradford, Belfast

Europe: Dublin, Berlin, Stuttgart, Munich

Global: Detroit, California, Tokyo

Sources:
IBM-PLI
FDI Intelligence
WMGC Regional Observatory deep dive intelligence
Black Country Consortium Economic Intelligence Unit LIS analysis

Summary Statistics: Automotive

- Estimated **£3.2bn GVA** attributed to automotive manufacturing in WMCA. **2030 Ambition of £3.8bn**
- **46,500 jobs** in the sub-sector locally. GBSLEP & CWLEP have the **most automotive jobs of all English LEP areas**
- The **majority (67%) of jobs** in transport and machinery manufacturing appear in automotive
- **Automotive business growth has been faster in WMCA than the UK** overall between 2011-2013 (3% growth) & 2014-2016 (12% growth)
- There is **high location quotients** across automotive SIC codes for the region, suggesting a significant cluster of activity compared to other parts of the UK.

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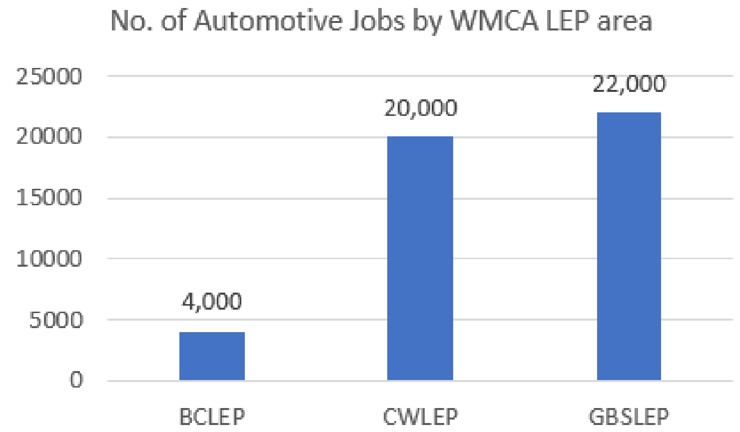
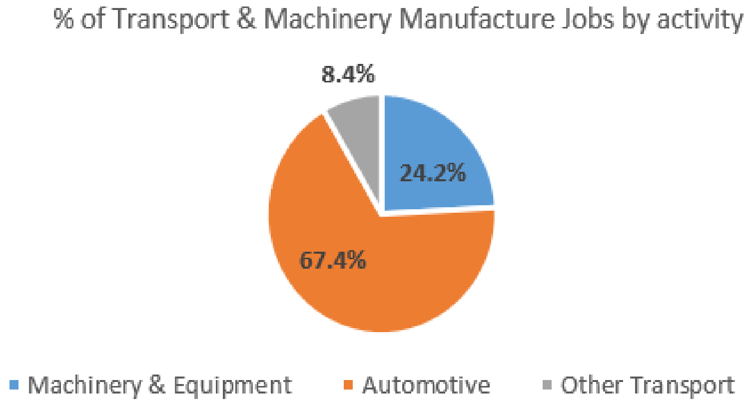
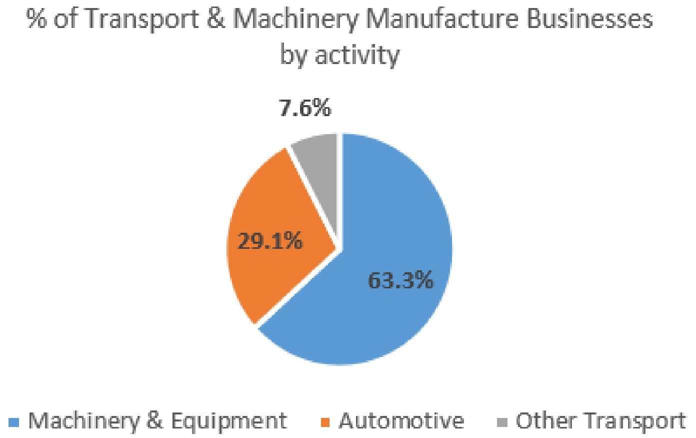
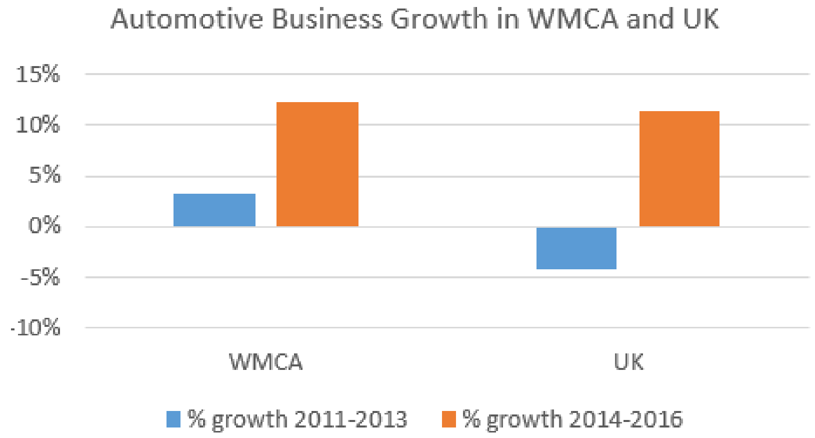
Jobs Current: **46,500** in automotive, of **68,500 across transport & machinery**





Businesses Current: **365** in automotive, of **1,255 across transport & machinery**





Source: Oxford Economic Model, via Black Country Economic Intelligence Unit Analysis

Supporting Sector Evidence Base – Automotive

Ideas

Automotive Council dashboards
- Measuring R&D levels, and university-industry collaboration

KPMG & SMMT – Digitalisation report
- Examines the digitalisation of automotive manufacturing in the UK

Warwick Manufacturing Group

Vehicle Dynamics & Safety Research Group, Coventry University

Future Engines & Fuels Lab, University of Birmingham

People

Automotive Council dashboards
- Cost, flexibility and productivity of labour; availability of skills, levels of investment & productivity

SEMTA/Automotive Council Training Provision report
- Sets out recommendations to ensure the workforce is equipped with the skills required for a world class UK automotive industry

Infrastructure

Automotive Council dashboards - Quality of rail, road and energy infrastructure

Business Environment

Black Country Bullet
- Automotive supplier database within HVM City

Research undertaken by WCC (2018)
- Strength of Local Manufacturing Sector in Coventry, Warwickshire and Leicestershire

West Midlands Growth Company IBM Research

SMMT analysis/reports
- Sector insight including key data

Drive Midlands
- Local knowledge and insight of automotive – regional prospectus reprt

EEF sector analysis
- Performance, supply chain, export trends etc

Engineering UK 2017 report
- In-depth analysis of the engineering sector in UK

IBIS World report on Automotive parts sector
- In-depth sector report, specifically on parts/supply chain

Aston university ESRC work

Places

Centres of Excellence

Black Country Consortium
Economic Intelligence Unit

Rail

West Midlands
Combined Authority

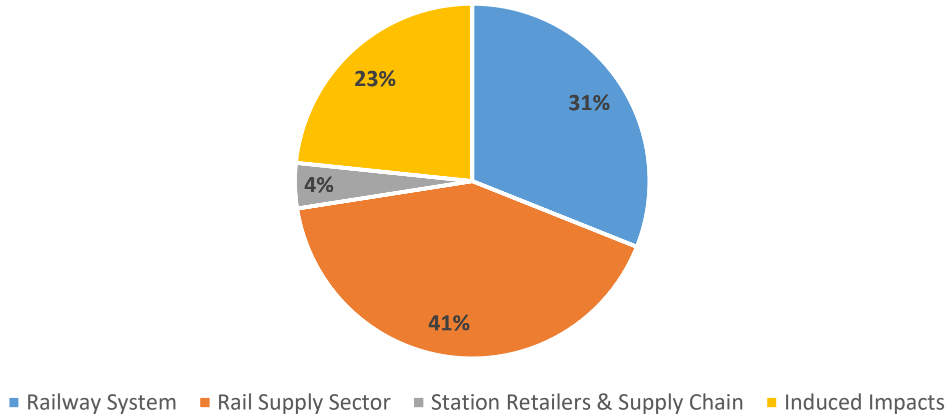
Defining the Rail Sector

Recent Oxford Economics (OE) study breaks the sector down into four industry groups:

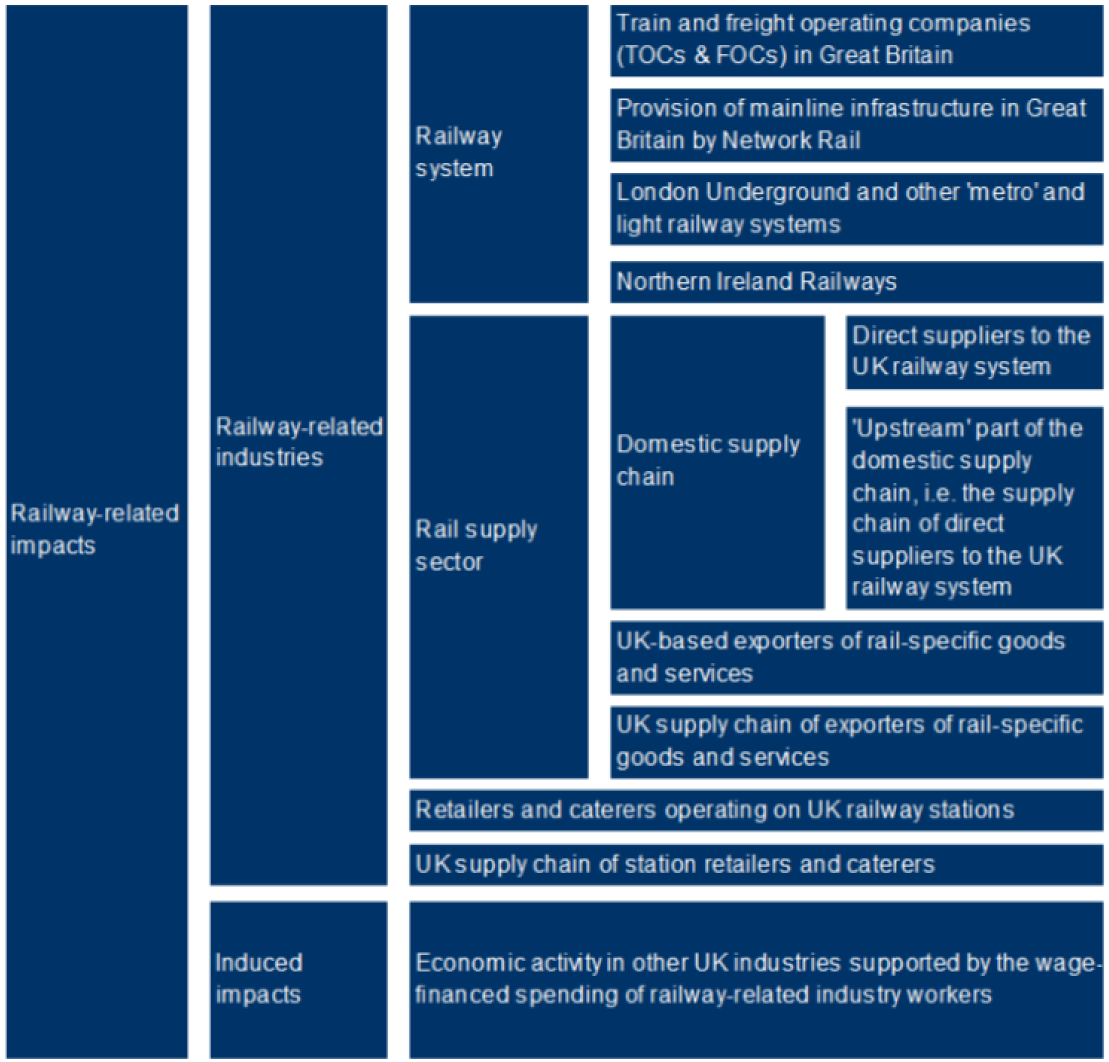
- The railway system
- The railway supply sector
- Retailers and caterers at UK railway stations
- 'Induced' UK economic activity supported by the wage-funded spending of workers employed in these industries.

Industry **GVA of £36.4bn** and **600k jobs** in the UK based on this.

Rail Industry GVA Distribution in the UK



UK 'railway-related' impacts and industry sectors used in OE report



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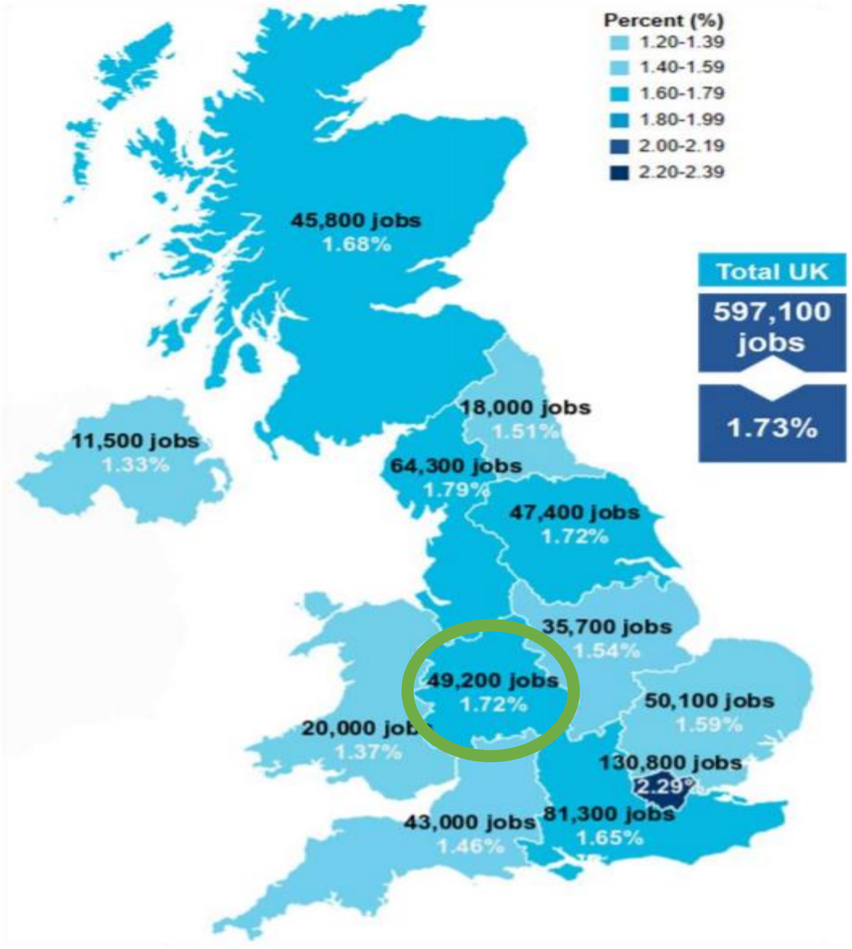
Source: Oxford Economics

WMCA Rail Cluster

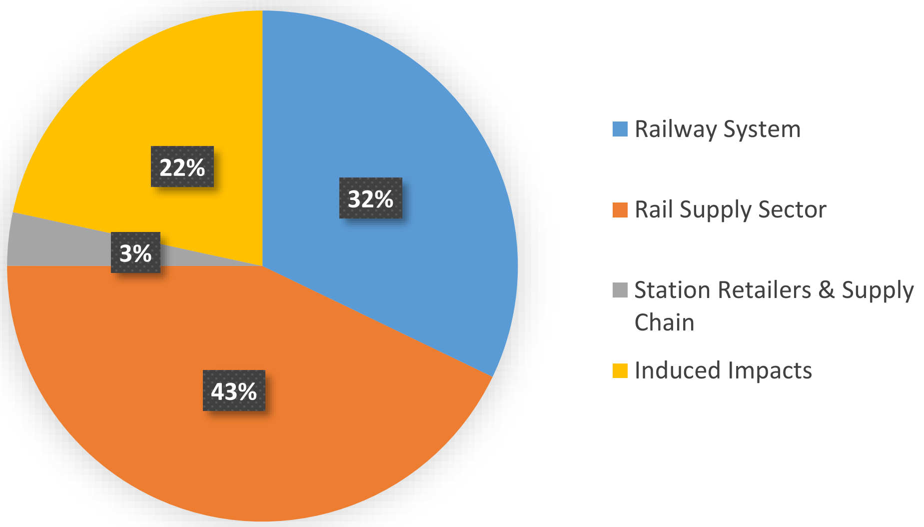
Railway-related impact jobs as a share of regional jobs



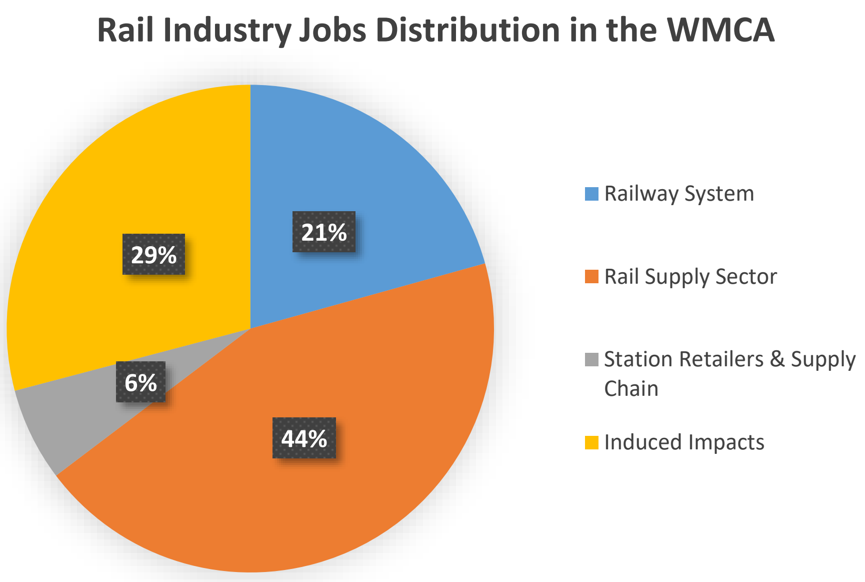
Source: Oxford Economics

- **1.72% of WM region jobs are railway-related (49,200 jobs)** according to a 2018 sector report by Oxford Economics. This is the joint second highest concentration of all UK regions outside of London.
- 'Railway-related' includes train operators and infrastructure providers (the **'railway system'**), and covers the entire UK **supply chain** to those businesses, exports of rail-specific goods and services, the activities of retailers and caterers at railway stations, and the supply chains behind those exporting and retailing activities.
- According to the report, rail contributes a total of **£2bn GVA impact & almost 40,000 jobs** in the WMCA. There are **17,000 WMCA jobs in the rail supply sector,** amounting to **£850m GVA . Rail supply sector jobs account for more jobs in the West Midlands (0.75%) than the UK overall (0.72%)**
- The railway system contributes **8,000 jobs in the WMCA, amounting to £650m GVA.** The rest of rail GVA and jobs comes through station retailers and wider induced impacts

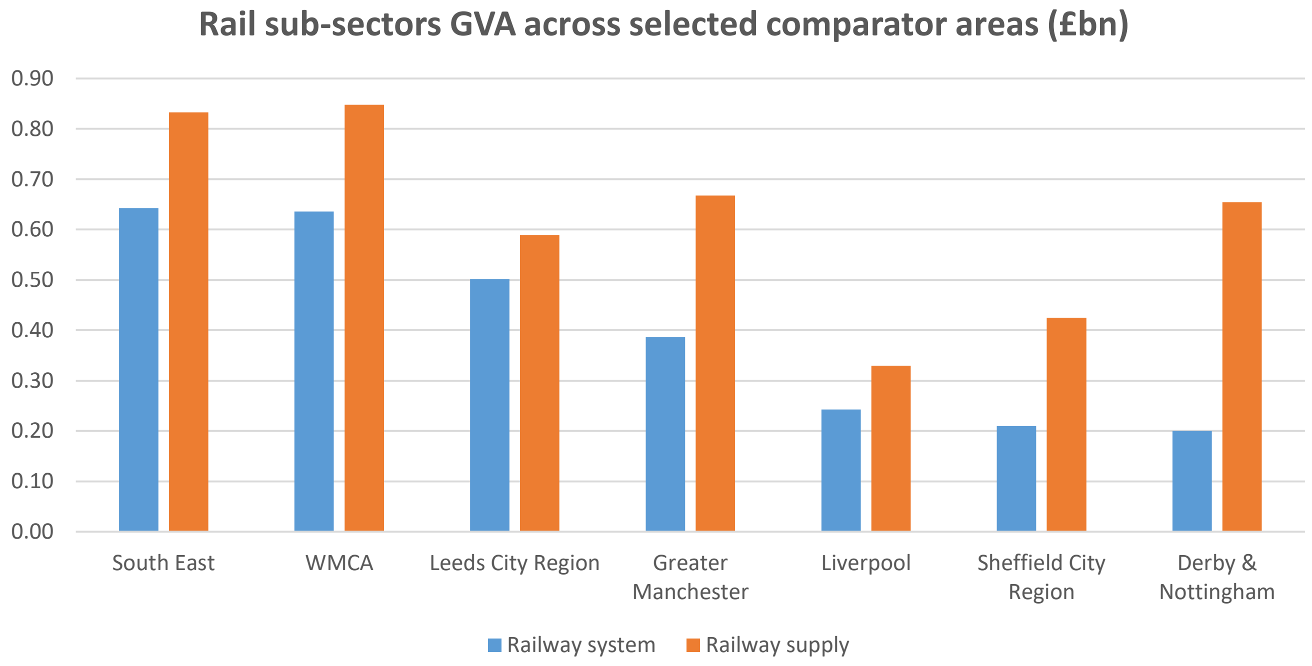
Rail Industry GVA Distribution in the WMCA



West Midlands Combined Authority



- Similarly to GVA, **almost half of rail industry impact jobs are within the rail supply sub-activity** reflecting the strength of manufacturing supply chains in the WMCA.
- A significantly less % of jobs (compared to GVA) are within the railway system (21%).
- **Induced impacts make up a higher proportion of jobs than they do for GVA** (29% compared to 22%) and station retailers have double the proportion of jobs than their proportion of sector GVA.

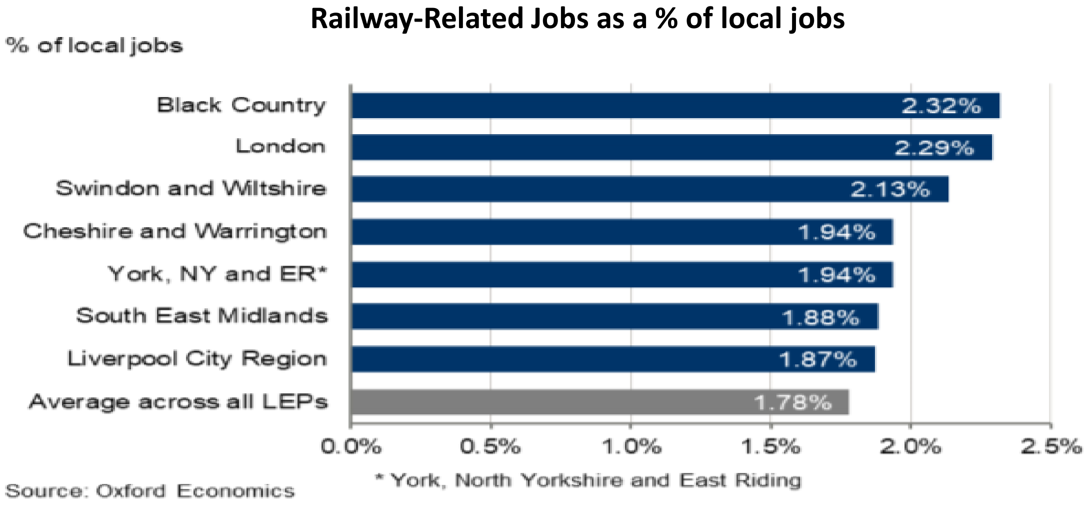


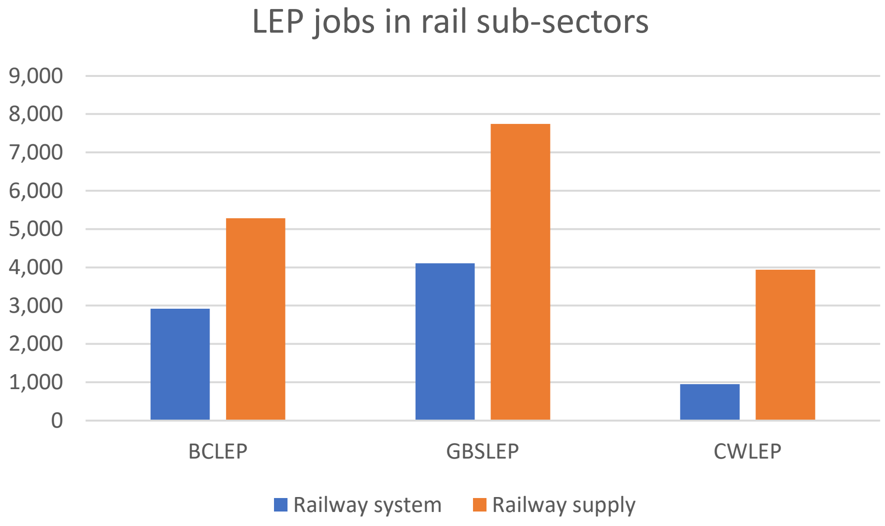
- With £850m, the **WMCA has the most railway supply GVA of comparative areas**, including other CA's.
- It also has the second highest amount of GVA within the railway system behind the South East LEP area.
- Nearby **Derby & Nottingham has a significant rail supply sector for its size**, providing £650m GVA within this sub-sector. This is useful for **cross-regional** rail supply chains within the Midlands.

West Midlands Combined Authority

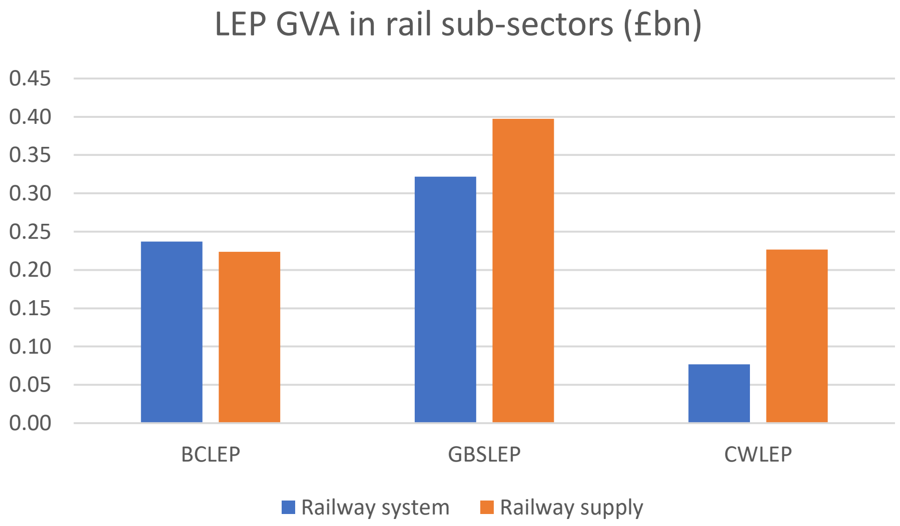
Source: Oxford Economics

- At the LEP level, the Black Country has the **highest % of railway related jobs (2.32%) as a share of total local jobs of all LEPs**. The case is the same for GVA. GBSLEP is also above the UK average when it comes to the share of rail jobs. The **Black Country also tops the LEP rankings when it comes to rail supply sector jobs as a share of all local jobs.**



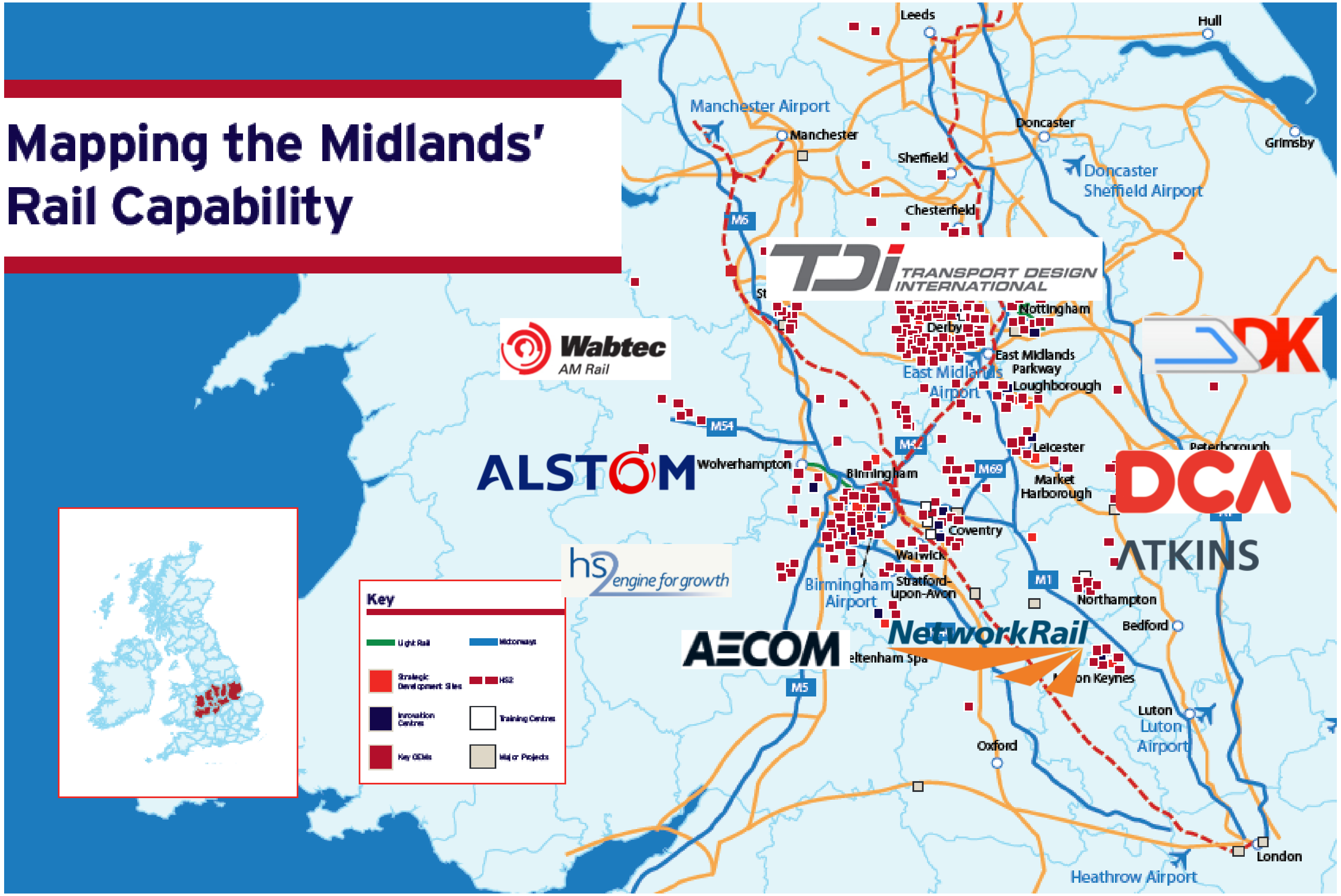


- Mainly due to its comparative size, **GBSLEP has the largest number of jobs and GVA across rail sub-sectors** of the 3 LEP areas
- There's a **significant cluster of activity within the Black Country** for both the railway system and the supply chain.
- The railway system contributes a significant amount of GVA/jobs in BCLEP and GBSLEP, but **next to nothing in CWLEP**



Source: Oxford Economics

WMCA Rail Cluster



Source: Midlands Engine

Super Strengths

HS2

- Will add £3bn GVA to the local economy
- Major contractors & consultancies setting up locally is contributing to a strong supply chain base
- WMCA is also home to HS2's HQ, its network control centre, maintenance facilities and the National High Speed Rail College.

Next Generation Rail Technology

- University of Birmingham's Centre for Railway Research is focusing on digital train technology through the UKRRIN (£92m industry-partnered investment) – new Digital Systems Centre.
- Birmingham will be the only university in the UK focusing on this digital aspect of train technology.
- Midland Metro will bring the country's first battery-operated trams
- The region is leading the way on Very Light Rail (VLR) with the VLR Innovation Centre & rail line.

Specialised University Landscape

- The **Birmingham Centre for Railway Research and Education** is a **leading institution for railway science and education**.
- The centre has over **130 academics, researchers and professional support staff,** helping to deliver world class research and thought leadership within railways, and offering an expanding portfolio of high-quality education programmes.
- It recently announced **£92million industry-partnered investment in research on digital train technology through the UK Rail Research and Innovation Network (UKRRIN).**
- As part of the this investment, new centres of excellence will be created across UK universities. Specifically, centres will be created in **Digital Systems, Rolling Stock and Infrastructure.**
- **The University of Birmingham led this consortium of universities**, partnered by leading industry supply chain partners and major UK rail industry clients.

- The landscape also includes the National College for High Speed Rail and the Advanced Propulsion Centre.
- WMG at the **University of Warwick** is developing a very light rail concept, known as the Revolution VLR.
- **WMG is a leading research institution for battery and energy storage and lightweighting.**
- **Quinton Rail Technology Centre is also the the only private test track in the UK.**

- **Warwick and Birmingham are key universities internationally in the rail space.**

Centre of Excellence in Digital Systems

University of Birmingham

Centre of Excellence in Rolling Stock

University of Huddersfield — Inspiring tomorrow's professionals
Newcastle University
Loughborough University

Centre of Excellence in Infrastructure

University of Southampton
The University Of Sheffield.
Heriot Watt University
Loughborough University
The University of Nottingham — United Kingdom · China · Malaysia

What will Birmingham's Digital Systems Centre do?

Future Railway Operations and Control

- Simulator development
- Traffic management
- System optimisation
- Simulation and testing for integration
- Next generation(s) of control systems

Data integration and cyber security

- Controlled access to national and international data
- Data modelling and architecture
- Integration of operations and customer-facing systems
- Data-driven railway
- Security for all data systems

Smart Monitoring and Autonomous Systems

- Next generations of smart condition monitoring
- Interconnected sensing systems
- Innovations in sensors and sensing

Introducing Innovation

- Road-mapping of benefit realisation
- Alignment of stakeholders for rapid technology adoption
- Identification of benefits and structuring stakeholder incentives
- System integration testing to speed up approval

Source: UKRRIN

Industry Profile

Our Competitive Advantage

- **HS2** – 2 West Midlands stations will add £3bn GVA to the local economy.
- **OnTrackWM –** rail supply chain virtual procurement tool (a part of HVM City).
- High quality, sector focused **science & research facilities and institutes, including very light rail research; battery and energy storage R&D.**
- **Good connectivity** with well developed road and train network and international airport
- Cluster of **rail construction specialists & consultancies** (AECOM, TDI etc) & presence of **international transport advisors** (Arup, WSP, Atkins etc)
- The WM region has **export expertise in machinery & transport goods** (71% of all goods exports compared to 41% nationally).
- Heavy **cross-over relationships with significant local automotive/aerospace/other manufacturing activity. WMCA cluster of all this manufacturing (particularly transport) activity** has an agglomeration affect for the rail sector.
- The intertwined nature of these industries means that many firms won't work explicitly in the rail sector. This ensures that the **activity figures suggested using SIC code analysis often underestimates the size & impact of the sector** locally
- Lightweighting and battery/energy storage expertise
- Rail creates high quality jobs within the region.

Products , Services & Brands

- **HS2 HQ -** based in Birmingham, for HS2 construction and supply chain, national control centre and rolling stock centre.
- **Wabtec AM Rail** - provide signalling services for the UK market and rail consultancy through out the UK and globally.
- **AECOM** – Rail construction specialists.
- **DK Rewinds** – Specialise providing parts and repairing traction motors that power Central line trains to London.

- **Wednesbury to Brierley Hill Metro Extension**
- OnTrackWM
- **Midland Metro** will see the country's first battery-operated trams on the streets in 2019
- Between 2014-17 there was **2 major FDI projects, creating 70 jobs**
- **HQ of Rail Alliance**
- **National High Speed Rail College** will be creating 300 engineers of the future every year.
- **VLR Innovation Centre** & Rail Line
- Major **HS2 contractors** setting up bases in and around the region (Balfour Beatty, VINCI etc).
- Light rail test facilities at the **QRTC (Quinton Rail Technology Centre)**, Long Marston

Centres of Excellence/Assets

Innovation:
- Birmingham Centre for Rail Research and Education
- UK Railway Research and Innovation Network (UKRRIN) led by University of Birmingham.
- WMG at the University of Warwick - very light rail; battery and energy storage
- Very Light Rail Innovation Centre & Test Track
- Quinton Rail Technology Centre - the only private test track in the UK.
- The National Transport Design Centre, Coventry
- MIRA Technology Park
- Advanced Propulsion Centre
- Wton Science, Technology & Prototyping Centre
- UKBIC (UK Battery Industrialisation Centre)

Production:
- Institute For Advanced Manufacturing and Engineering
- Manufacturing Technology Centre

Training:
- Network Rail Training Centre, Walsall
- National College for High Speed Rail, Aston
- EEF Technology Training Centre
- WMG Academy for Young Engineers

Black Country Consortium
Economic Intelligence Unit

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

Clean Growth
- Batteries will address many of the short-medium term energy storage issues in transport and housing
- The West Midlands is geographically central – it's a key transport hub for road and rail
- Very Light Rail
- Battery-operated trams in the WM (Midland Metro)

Future Mobility
- Autonomous condition monitoring and new communications control systems will allow convoying of trains with benefits for rail capacity
- The West Midlands is the centre of UK transport innovation, including significant R&D facilities, industrial capacity and transport demonstration expertise
- The region will benefit from HS2 investment

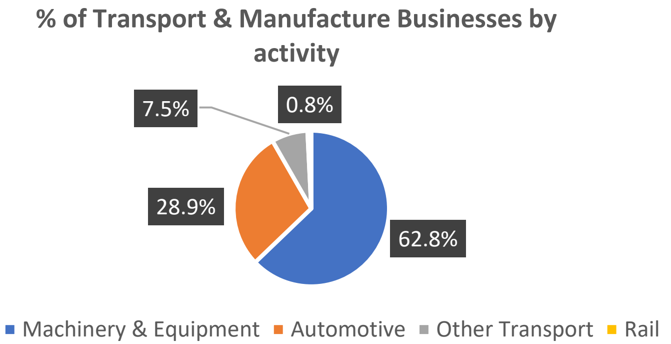
AI & Data
- Industry 4.0 opportunities and digital supply chains
- Optimising more productive travel in the WM
- Data sets are starting to grow around transport (e.g. TfWM and Swift card data)
- Smart cities

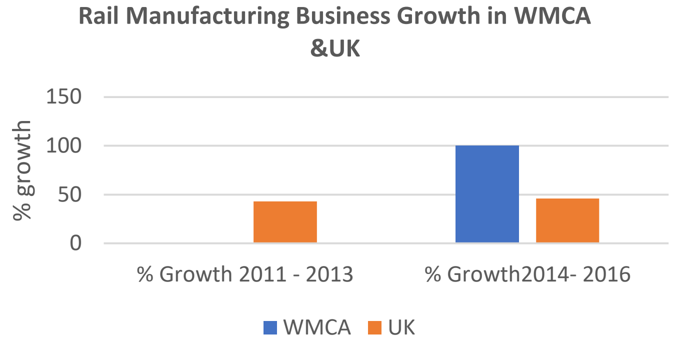
West Midlands
Combined Authority

Summary Statistics: Rail

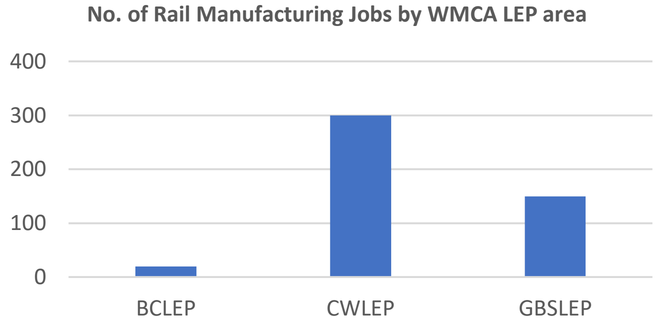
- Estimated **£32m GVA** attributed to rail manufacturing in WMCA. The 2030 ambition for this sector is £38m
- **470 jobs** in the sub-sector locally.
- **64%** of jobs are in CWLEP (300).
- Rail is small sub-sector of transport & machinery manufacturing, making up **0.8% of GVA in this sub-sector and 0.7% of jobs.**
- **The number of businesses has grew 100% between 2014-16**, more than double the growth rate for the UK overall.
- Rail manufacturing has an LQ of 1.2 in the WMCA
- This data reflects the SIC code: 30.20 Manufacture of railway locomotives and rolling stock, which understates the extent of rail activity in the area. Wider evidence suggests a much broader rail sector locally, with a **stronger cluster of activity in the WM region than suggested here (see earlier slide).**

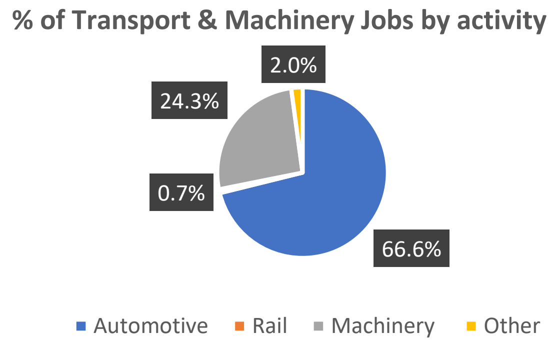
Businesses: Rail manufacturing accounts for 10 businesses in the WMCA



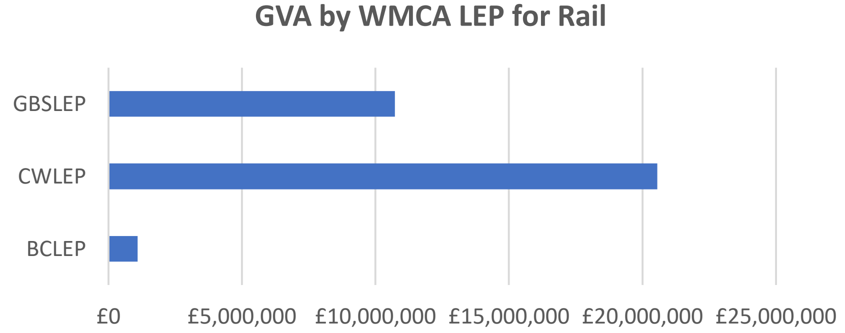


Jobs: **Current:** 470 in rail manufacturing





GVA: **Current** £32m **2030 Ambition:** £38m (+£6m)



Source: Oxford Economic Model

Supporting Sector Evidence Base – Rail

Ideas

Birmingham Centre for Railway Research and Education at the University of Birmingham

Oxford Economics Rail Industry Report

UK Rail Research and Innovation Network (UKRRIN)
- Including info on Birmingham's Centre of Excellence for Digital Systems

People

National Skills Academy Rail Sector Skills Research

Birmingham Centre for Railway Research and Education at the University of Birmingham

Infrastructure

HS2

The Midlands Prospectus: Opportunities in Rail

Business Environment

Midland Metro Alliance

The UK Rail Alliance
- **Largest dedicated B2B networking organisation based in Warwickshire**

Engineering UK 2017 report
- **In-depth analysis of the engineering sector in UK**

Rail Industry Association

Places

Aerospace

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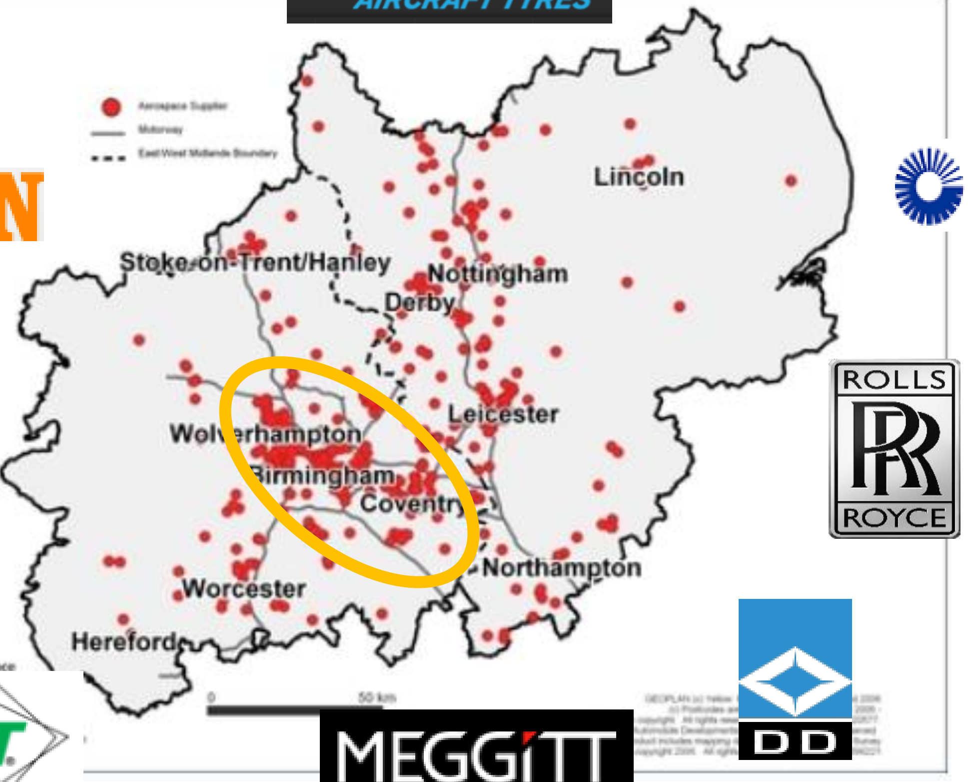
Combined Authority

WMCA Aerospace Cluster

- **25% of UK aerospace sector is based in the Midlands** (7% of Europe's & 3% of the world's), and WM is roughlyy half of this broad Midlands Engine-based cluster.
- Approx. 10% of UK aerospace activity is in the WM, with the EM being slightly larger at approx. 15%
- A cluster hub exists around Rolls-Royce Control Systems, Meggitt, Moog and UTC Aerospace in Birmingham, Wolverhampton and Coventry, which supply **electro-mechanical systems to control aircraft moving parts.**
- **Up to 70 WM companies supply parts to the latest passenger planes** of both Boeing & Airbus from wing components to engine and flight control systems.
- The SIA states that "feedback and further evidence provided by local partners in the development of the WM SIA indicates that **the level of employment supported by aerospace is likely to be significantly higher in practice than the SIC data suggest."**



Core Technology Competencies that Define Midlands Aerospace
1) systems that power aircraft: gas turbine engines and other aircraft propulsion systems
2) systems that control the moving parts of aircraft and engines: electrical, mechanical, electronic, hydraulic, pneumatic
3) specialist metal and composite materials for these systems
4) engineering design services, factory equipment and tooling

Source: Midlands Aerospace Alliance

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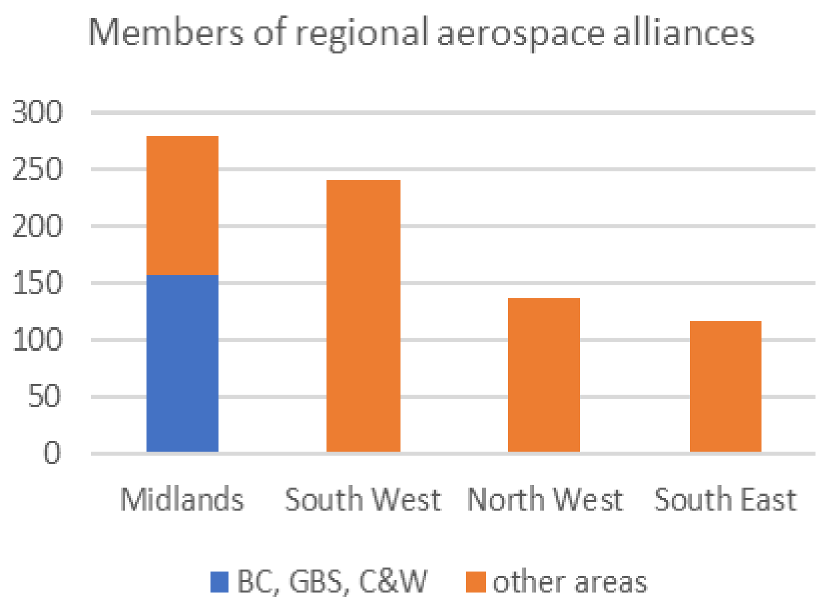
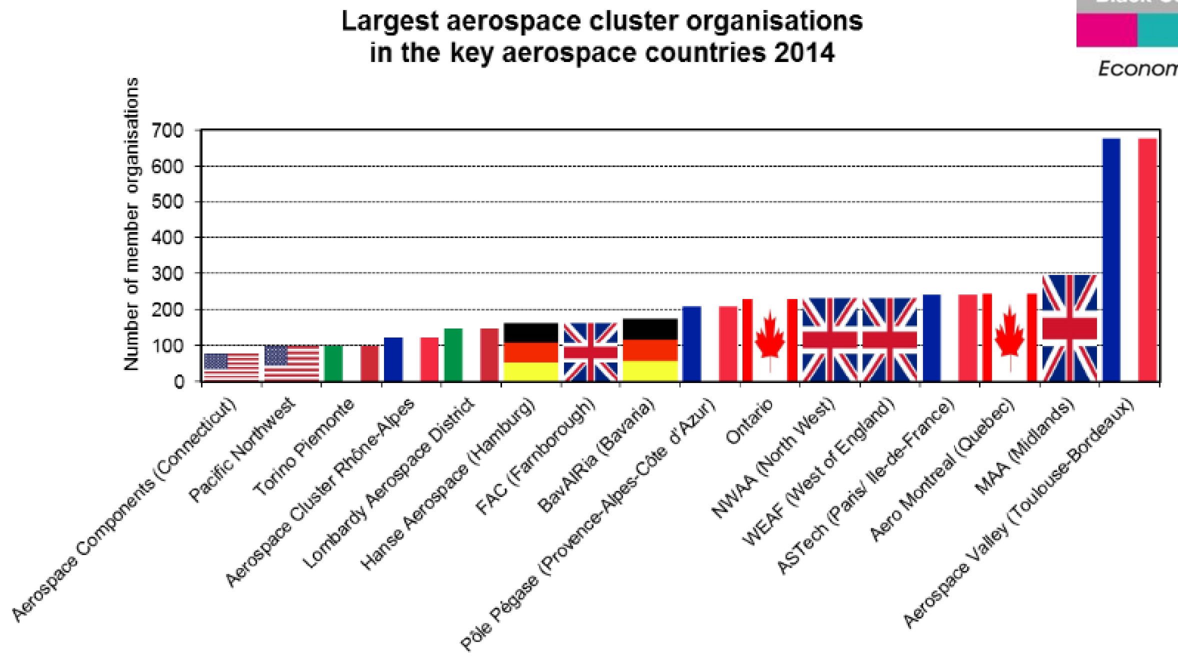
Combined Authority

WMCA Aerospace Cluster



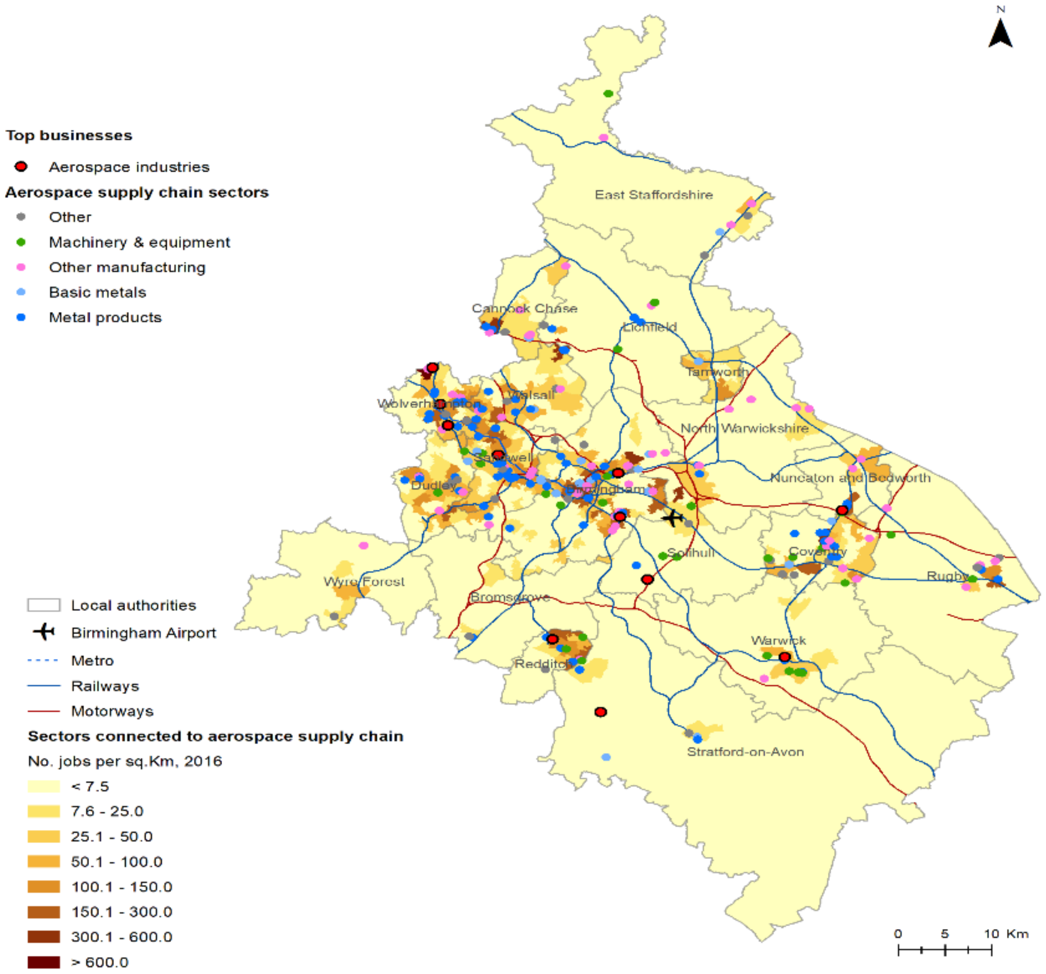


- Midlands Aerospace Alliance reports that it has **160 members covered by the WMCA area,** over half of its 300 Midlands membership.
- England is recognised as having four aerospace clusters: North West, South West, the Midlands & South East. Each is represented by a business-led cluster organisation (like the MAA). The graphic above shows that WMCA companies make up over half of the MAA's membership, and there are **more companies registered in the WMCA than the whole regions of other notable clusters (North West & South East).** The average size of WMCA companies does tend to be smaller than elsewhere though, due to many of these operating lower down in the supply chain.
- Analysis of aerospace cluster bodies globally suggests that there are **more member organisations in the WMCA footprint than in the recognised aerospace centres Connecticut, Hamburg, Piemonte or Lombardy.**
- Analysis shows that **44 of the 99 innovation actions in in the Midlands' NATEP programme are in the 3 LEP area**. Across England, 44 of the 418 innovation actions are in the 3 LEP area **(11%).**

Source: Midlands Aerospace Alliance

WMCA Aerospace Cluster

Black Country Consortium
Economic Intelligence Unit



Super Strengths

Electro-mechanical systems

- Aerospace in the WMCA is mainly focused on the production of electro-mechanical systems.
- Control systems for engines (e.g. Rolls Royce & Meggitt), and aircraft wing controls (clustered in Wolverhampton with Moog & UTC Aerospace).

Highly-Technical Component Manufacturing

- 70 WM companies supply widely varying quality parts to latest passenger planes, from tyres and wing components to engine and flight control systems.
- Sector encompasses the supply chain down to the lowest level (metals/materials supply) through to OEM (Rolls Royce), ensuring a well-integrated supply chain.

Civil Aircraft Focus

- Aerospace in the Midlands is roughly 80% focused on civil aircraft (compared to 50/50 with military in UK).
- Civil sector is growing at a much faster rate which bodes well for future aerospace growth locally.

West Midlands
Combined Authority

Over 70 Midlands businesses supplied the Airbus A380, including many from the WMCA area…

Source: Midlands Aerospace Alliance

Supply Chain Depth

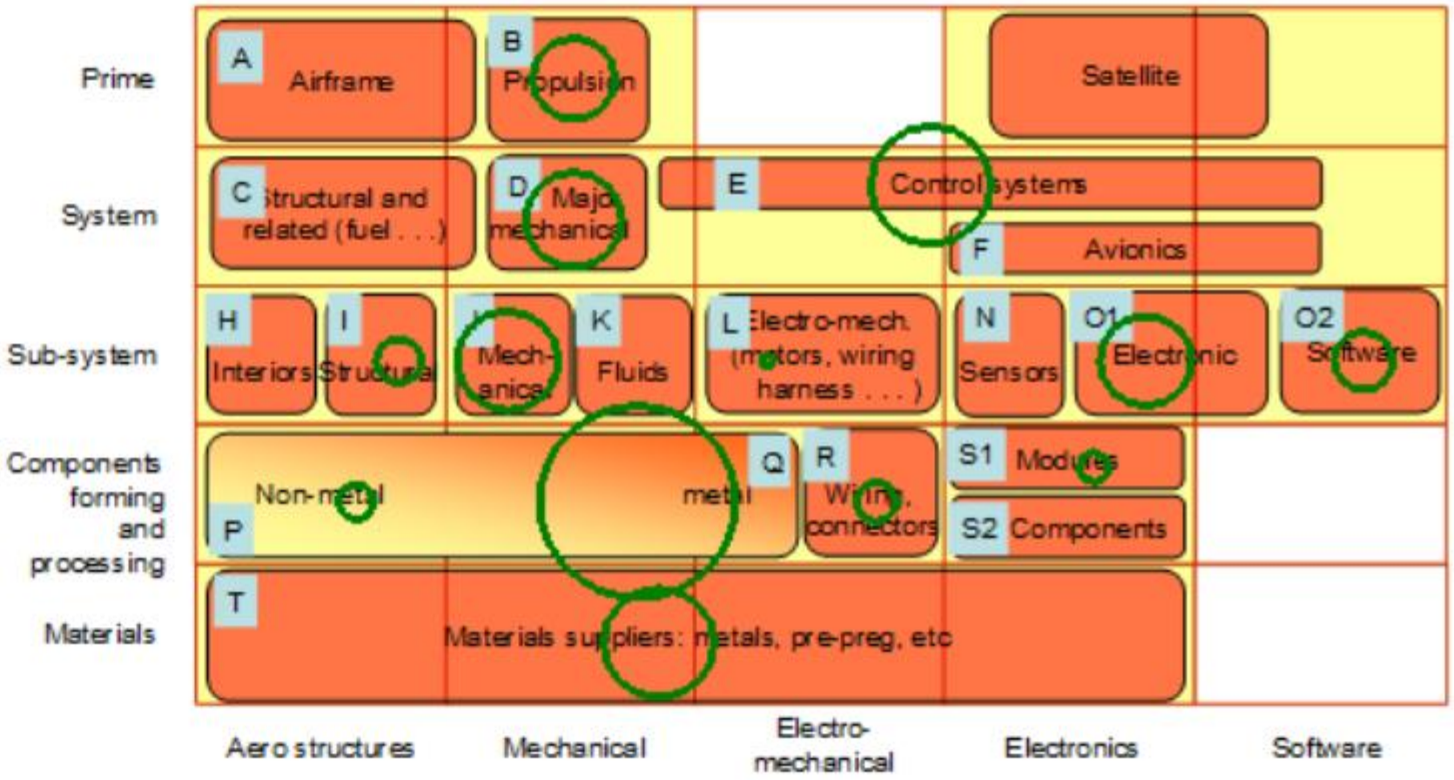


Figure 4.1: West Midlands "flying parts" sectors: relative sizes

Source: Midlands Aerospace Alliance

West Midlands Combined Authority

Supply Chain Depth

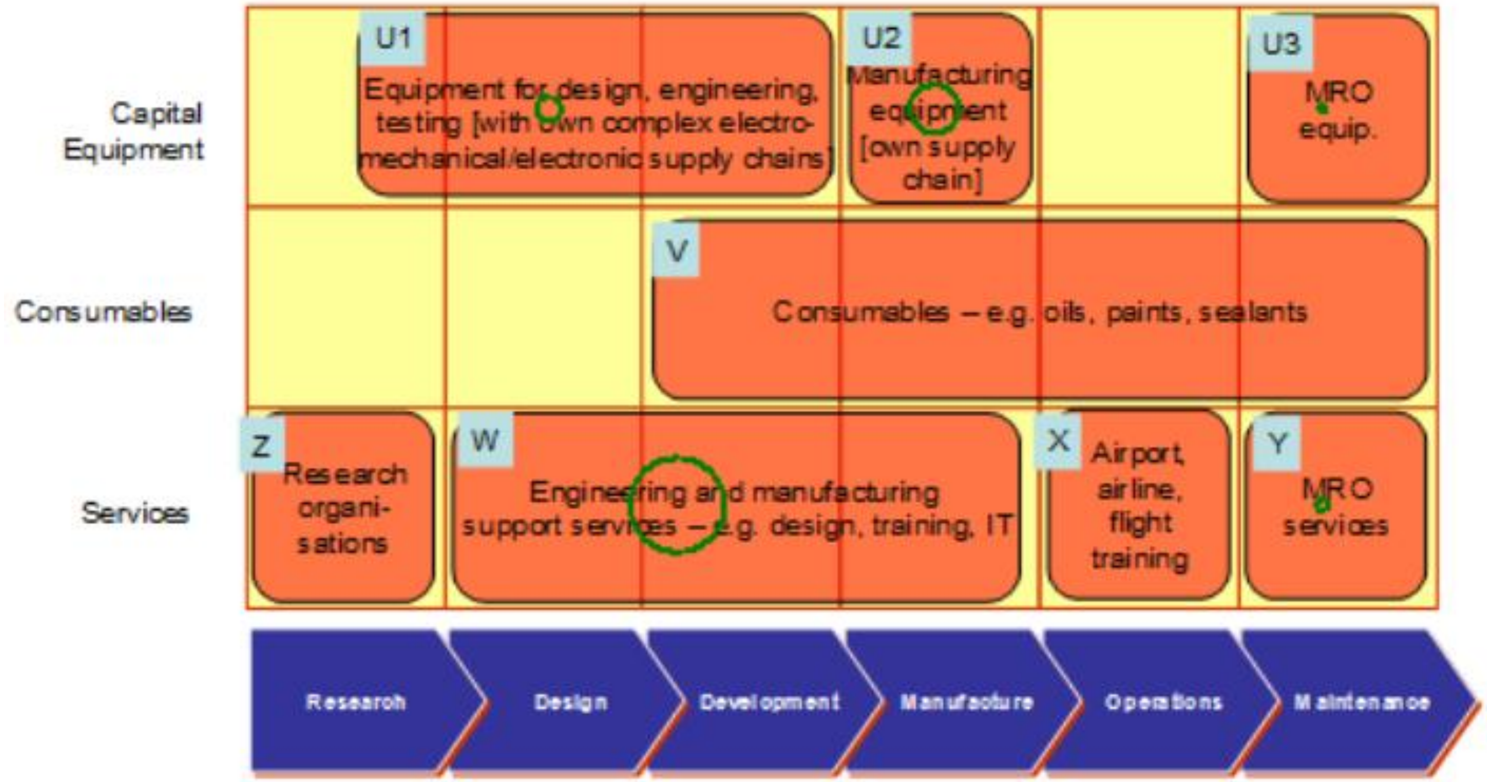
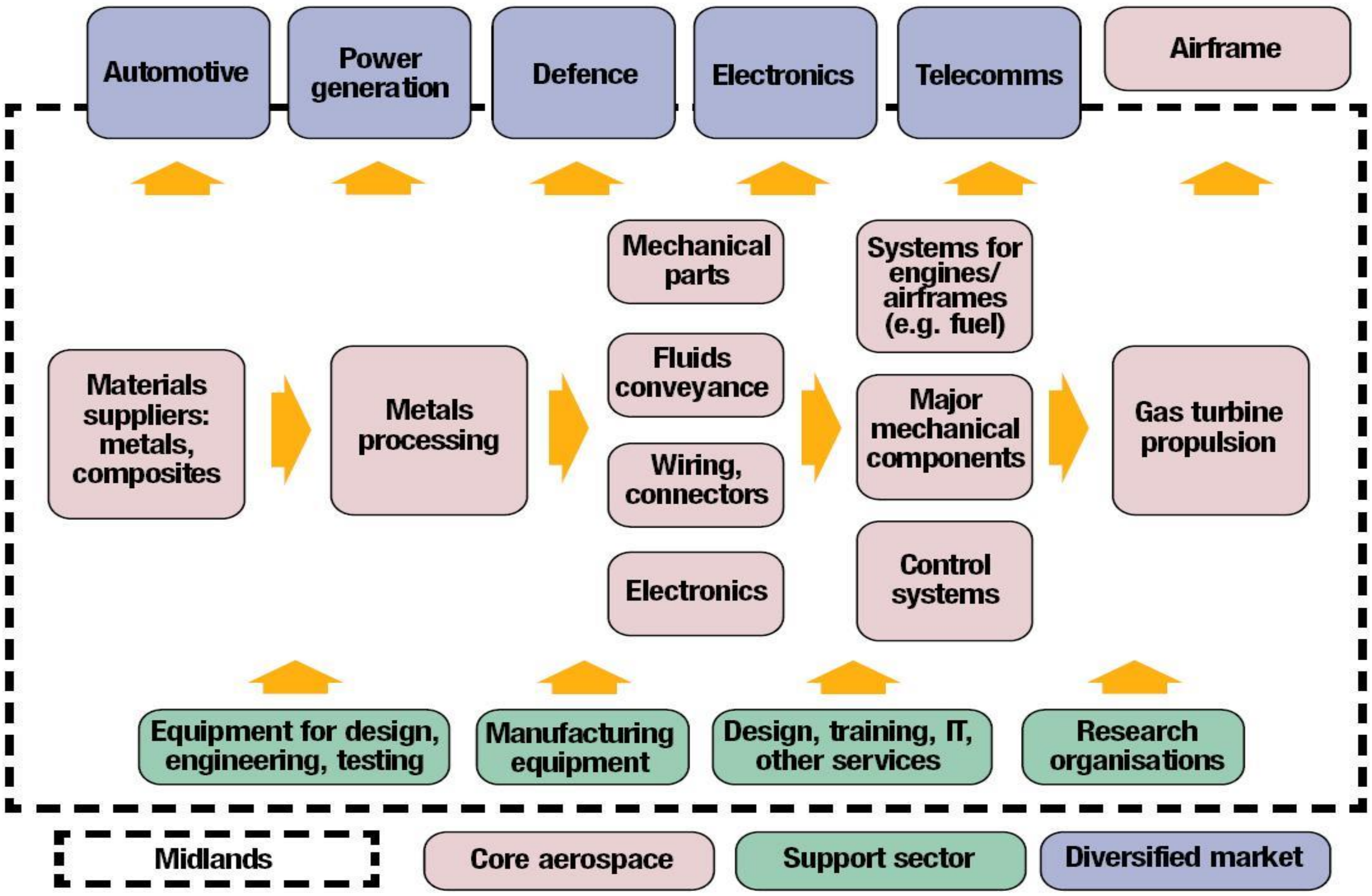


Figure 4.2: West Midlands "non-flying equipment and services" sectors: relative sizes

Source: Midlands Aerospace Alliance

West Midlands Combined Authority

Midlands Integrated Supply Chain



Source: Midlands Aerospace Alliance

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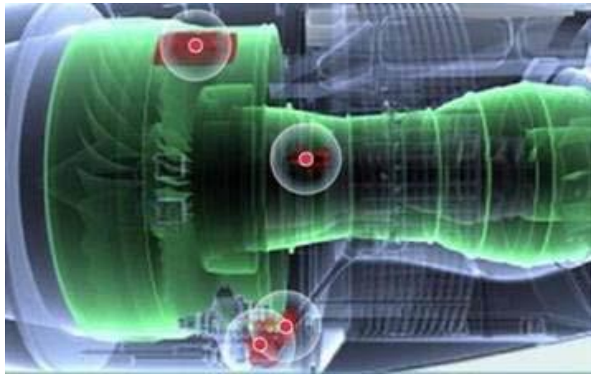
Combined Authority

Local Specialisms

Aerospace in the West Midlands is mainly focused on hydro-electro-mechanical systems:



Control systems for engines, particularly in Birmingham and Coventry

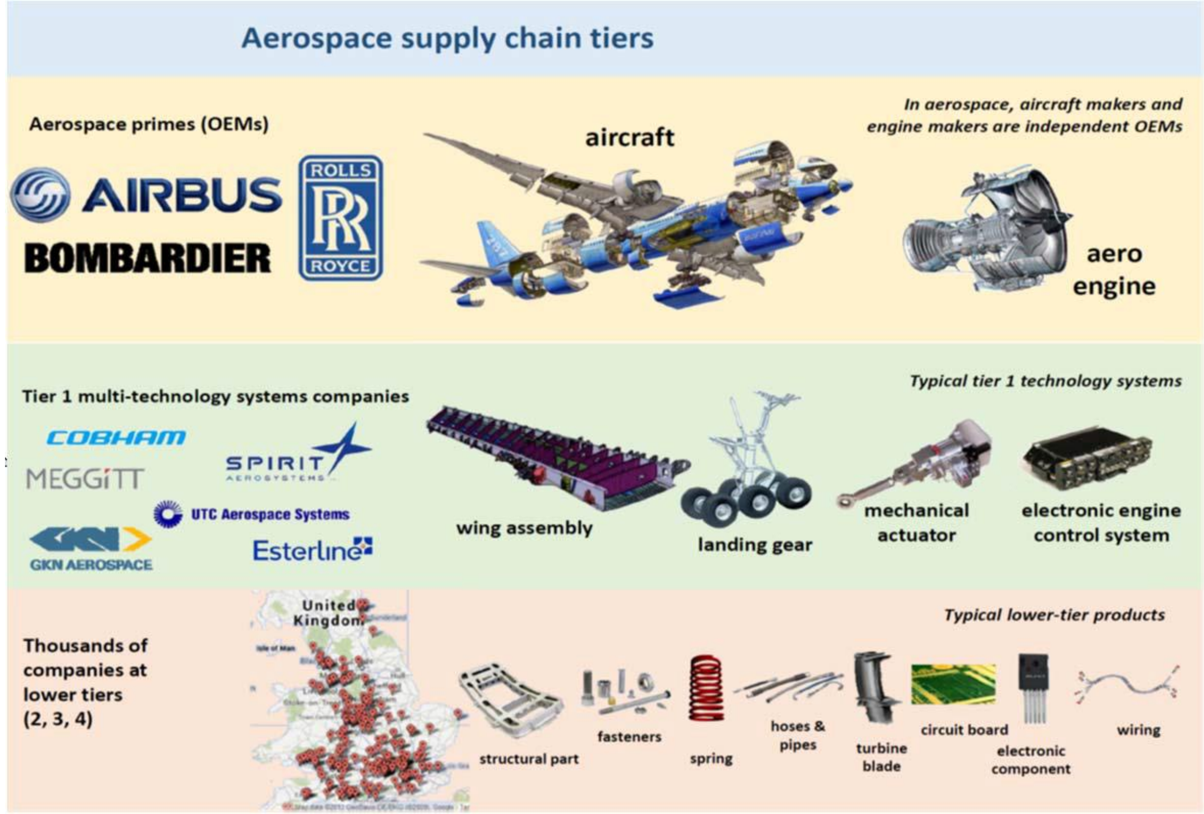
ROLLS ROYCE

MEGGiTT

MOOG

UTC Aerospace Systems

Aircraft wing controls, clustered in Wolverhampton



Aerospace in the West Midlands encompasses the supply chain down to the lowest level (metals/materials supply) through to OEM (Rolls Royce). The area has a significant strength in aerospace component manufacture (tiers 2,3,4) as well as high-level OEM/tier 1 production.

Source: Midlands Aerospace Alliance

West Midlands Combined Authority

Industry Profile

Black Country Consortium
Economic Intelligence Unit

Our Competitive Advantage

- **25% of UK aerospace sector is based in the Midlands** (7% of Europe's & 3% of the world's)
- **Midlands Aerospace Alliance** (over 300 members) represents the **largest aerospace cluster in Europe**
- **WM represents around 10% all UK aerospace jobs**
- High quality, sector focused **science & research facilities and institutes,** mainly used by OEMs.
- Unrivalled lead in **component design and manufacture**
- Base of aerospace companies throughout a **well-integrated supply chain.**
- **Close proximity to Rolls Royce** global HQ & production centre in Derby.
- **Good connectivity** with well developed road and train network and international airport
- The WM region has **export expertise in machinery & transport goods** (71% of all goods exports compared to 41% nationally)
- Strong position in aerospace's growth sectors (e.g. strengths in supplying large civil aircraft).

Products , Services & Brands

- **UTC Aerospace Systems –** Specialise in wing and engine actuation and heat exchangers
- **Meggitt –** focus on wheel and brake, fluid conveyance and heat exchangers.
- **Rolls Royce –** Engine control systems and mechanical parts, defence engines repair and overhaul.
- **Moog –** wing actuation, helicopter rotor actuation.
- **Timet –** Titanium for aircraft engines.
- **Arconic –** aerostructures

- Local manufacturers are focused on the development of **high technology systems, engines and motors, components and control systems.**
- Between 2014-17 there was **5 major aerospace FDI projects, creating 191 jobs & safeguarding 97.**
- **Coventry & Warwickshire Aerospace Forum** – a grouping of advanced engineering businesses collaborating with leading UK universities and associations
- Major new factory local moves/modernisations in recent years: Moog to i54, R-R to Birmingham Business Park, Meggitt to Ansty Park (£130m facility operational by 2019)

Centres of Excellence/Assets

Innovation:
- The National Transport Design Centre, Coventry
- MIRA Technology Park (inc. Southern Extension with CWLEP investment)
- Advanced Propulsion Centre
- Wton Science, Technology & Prototyping Centre
- Rolls-Royce University Technology Centre, Birmingham
- National Battery Prototype Centre, Warwick
- Engineering and Computer Science Research Centre
- Centre for Manufacturing and Materials Engineering, Coventry
- High Temperature Research Centre, UoB/Ansty
- The Proving Factory, Coventry

Production:
- Institute For Advanced Manufacturing and Engineering
- Warwick Manufacturing Group
- Manufacturing Technology Centre

Training:
- EEF Technology Training Centre
- WMG Academy for Young Engineers
- Black Country Skills Factory
- The Aerospace Academy, Solihull College
- Centre for Advanced Aeronautical Provision

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

Clean Growth

- Batteries will address many of the short-medium term energy storage issues in transport and housing
- WM has significant innovation strengths –e.g. UK Battery Industrialisation Centre)
- Energy Innovation Zones can help aerospace innovation

Future Mobility

- The West Midlands is the centre of UK transport innovation, including significant R&D facilities, industrial capacity and transport demonstration expertise
- Autonomous aircraft

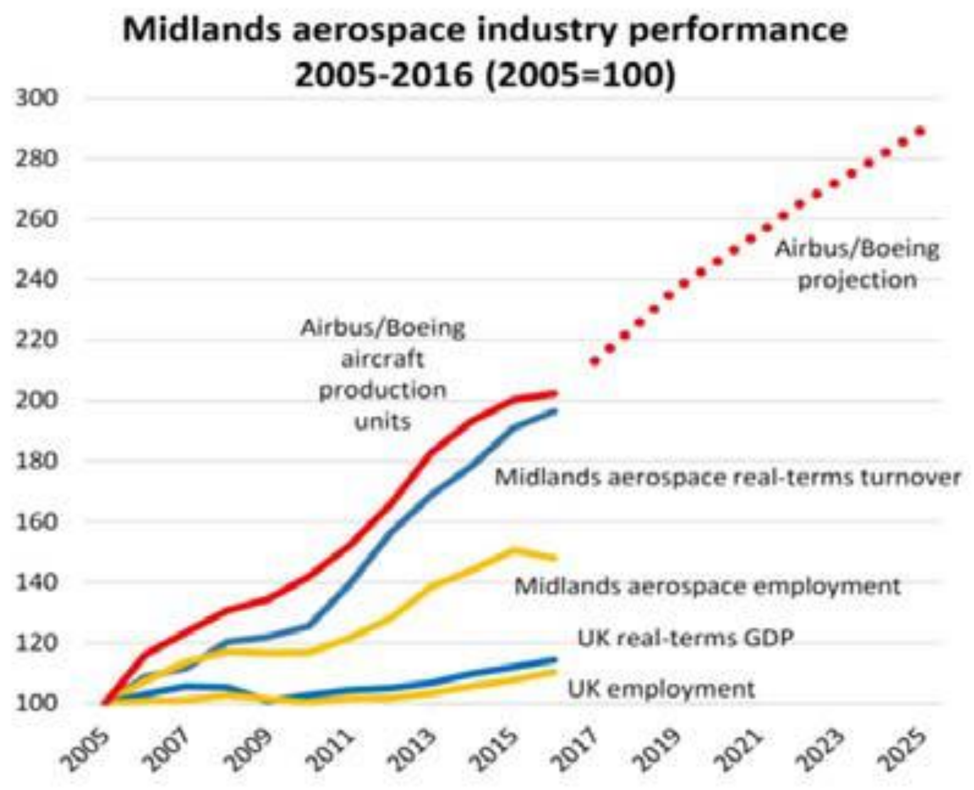
AI & Data

- Industry 4.0 opportunities and digital supply chains

Growth

- The MAA surveys its membership yearly
- The results show a **very fast growing industry in the region**
- Growth generally follows OEM production so **future growth expected** (given Boeing and Airbus forecasts).
- This is backed up by aerospace in the Midlands being **80% focused on civil aircraft** (compared to 50/50 with military in UK) – the civil sector is growing at a much faster rate.
- The **drivers behind civil aerospace growth** are:

- Growth in passenger km (linked to world economy trends)
- Export orientation of the industry (c. 90%)
- Greening of aerospace and aviation
- Duopolistic competition
- Industry's slow clock speed
- Future technology opportunities



Source: Midlands Aerospace Alliance

West Midlands Combined Authority

Summary Statistics: Aerospace

- Estimated **£305m GVA** attributed to aerospace manufacturing in WMCA. The 2030 ambition for this sub-sector is £367m. There are **4,500 jobs** in the sub-sector locally.

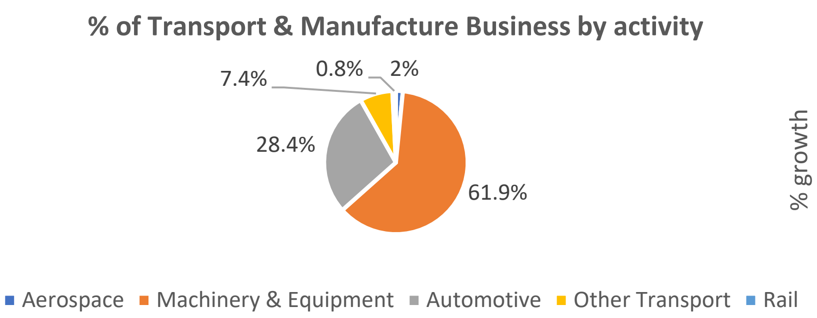
- However, this data understates the extent of aerospace activity in the WMCA, as it only reflects the SIC code: 30.30 Manufacture of air and spacecraft and related machinery. Wider evidence suggests a much broader aerospace sector locally, with **a stronger cluster of activity in the WM region than suggested here (see earlier slides)**

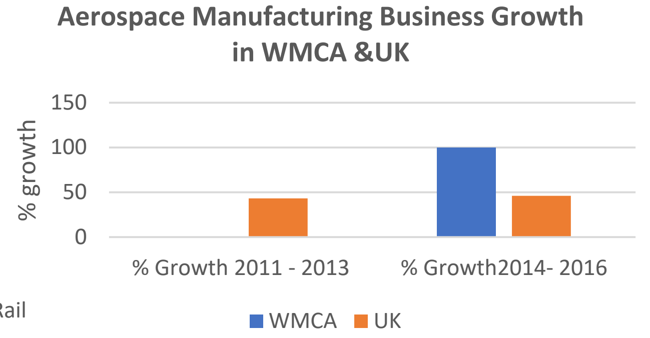
- National body ADS estimate UK aerospace turnover of £35bn. The West Midlands is roughly 10% of the sector nationally, thus representing approx. £3.5bn turnover. ADS estimate that GVA is 30% of turnover in aerospace so **aerospace GVA in the WM is around £1bn.**

- ADS estimate that there are 123,000 direct aerospace jobs in the UK, and double this when you include indirect jobs. This means that around **25,000 jobs in the WM are aerospace.**

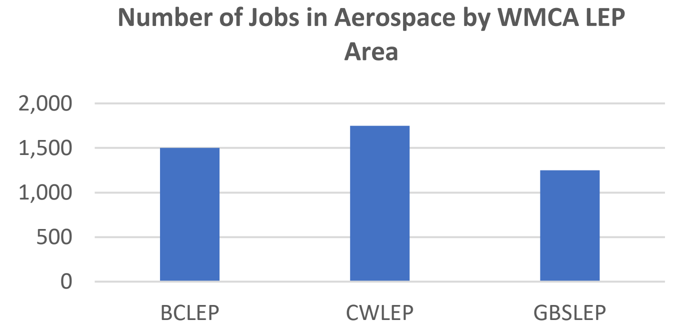
- Only measuring for SIC 30.30 ensures that much activity that is primarily for aerospace is not recorded. This aerospace activity is disguised as ‘metal working’ or ‘electro-mechanical equipment’.

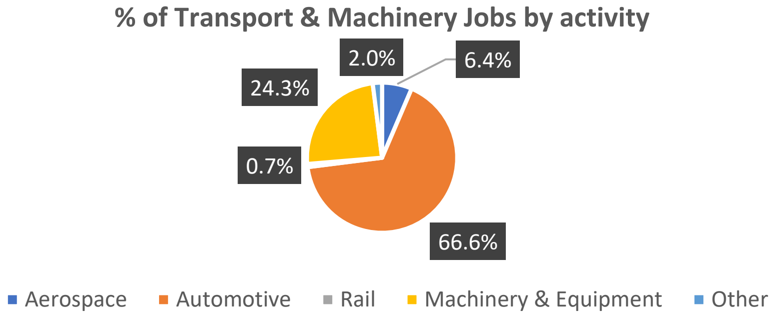
Businesses: Aerospace Accounts for **20 businesses** in the WMCA



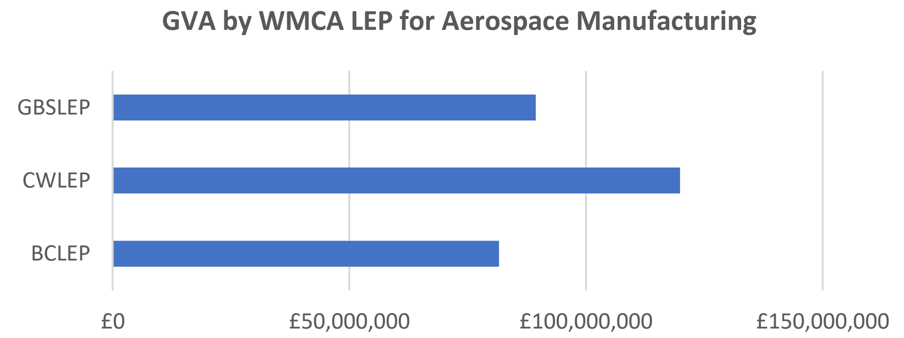


Jobs: Current: **4,500**





GVA: Current: **£305m** 2030 Ambition: **£367m**



Source: Oxford Economic Model

Opportunities

- More widespread innovation & R&D
- CITEC proposal
- 33,070 new aircraft are expected to be required in next 20 years, doubling of fleet from 2016 to 2035 (Global Airbus Outlook)
- WM tracking the rapid expansion of the world's aerospace industry.

ATI Strategic Technology Themes

1) **Aircraft of the future** – e.g. demand for more fuel-efficient aircraft will drive integration of more efficient turbofan engines
2) **Smart, Connected and more Electric Aircraft –** e.g. beyond 2030, new propulsion architectures will require disruptive electrical power system technology
3) **Aerostructures of the Future –** e.g. wings
4) **Propulsion of the Future** – e.g. new engine options focused on fuel efficiency

SWOT analysis for Midlands aerospace cluster

Strengths	**Weaknesses**
1 Global market access and reputation of key companies **2** Expertise in design, manufacturing, materials, strong research base **3** Broad range of flexible supply chains **4** Strong skills base with active labour market **5** Active regional clustering to build on	**1** Traditional supply chain companies unprepared to compete in global markets **2** Fragmented support for technology innovation along supply chain **3** Deficits in operations management capability **4** Ongoing skills, capability and knowledge gaps **5** Clustering weakened by poor vertical supply chain relationships
Opportunities	**Threats**
1 Global and inter-industry business opportunities across the sector **2** Innovation of new products and services using customer needs and major national programmes as drivers **3** Participation in industry supply chain improvement programmes **4** Potential to continue to draw young people into high-tech industry **5** Application of best practice in clustering within region and from other regions.	**1** Growing threat of developed economy and emerging market competitors across the board **2** Technology base in competing regions is increasingly capable as governments strategically target aerospace **3** Lean global competitors address quality, cost, delivery with increasing effectiveness for superior performance **4** Low cost of overseas labour and investments in growing large engineering cadres **5** Competitor regions invest heavily in widely agreed cluster development strategies

West Midlands Combined Authority

Sources:
Midlands Aerospace Alliance
Aerospace Technology Institute (ATI)

Supporting Sector Evidence Base – Aerospace

Ideas

Aerospace Growth Partnership

Aerospace Technology Institute

Rolls-Royce University Technology Centre, University Birmingham (Materials)

NATEP Directory

People

The Aerospace Academy, Solihull College

Infrastructure

Business Environment

Midlands Aerospace Alliance

- In-depth industry expertise, including mapping and understanding of supply chains.

MAS Company List

Engineering UK 2017 report

- **In-depth analysis of the engineering sector in UK**

Sharing in Growth UK (9% beneficiaries in West Midlands)

Places

Metals & Materials

Black Country Consortium
Economic Intelligence Unit

West Midlands
Combined Authority

WMCA Metals Cluster

- Location quotients (LQ) for WMCA 7MET - SIC24 Manufacture of basic metals: **2.9**; SIC25 Manufacture of fabricated metal products, except machinery and equipment: **2.5.** These are **second & third highest of all sectors in WMCA and for SIC25 no other UK NUTS2 area has a higher LQ.**

- Black Country local authorities have particularly high LQ's in some more specific SIC codes, such as **36** in Sandwell for the manufacture of other products of first processing of steel, and **17.1** in Walsall for the casting of metals.

Source: UK Metals Council

- The significant presence of automotive, aerospace and rail in the area ensures a **strong number of metals firms,** feeding into these industries' supply chains. Future investment in these wider sectors present opportunities for the WM metals industries.

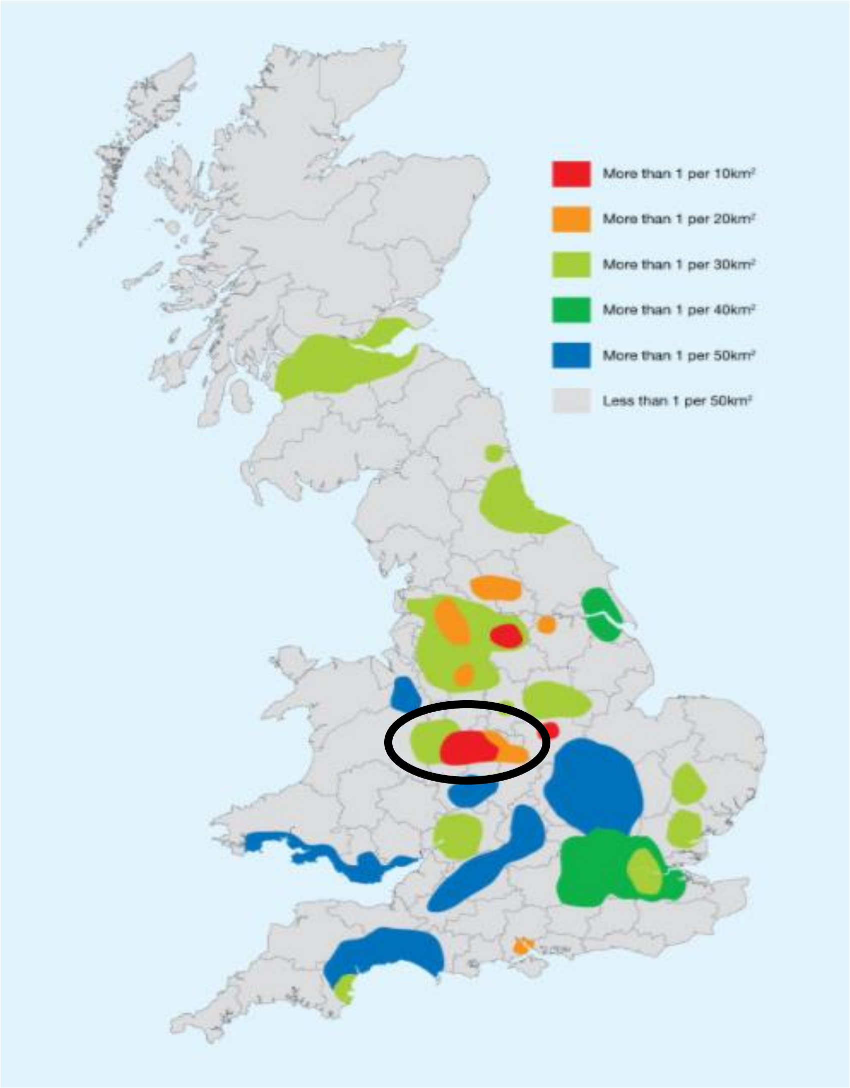
Black Country Comparative Industrial Advantage

	SITC Code & Description	Local Authority	UK Rank	Location Quotient
35:	Electricity, gas, steam and air conditioning supply	Sandwell	1	9.9
24:	Manufacture of basic metals	Sandwell	5	6.6
24:	Manufacture of basic metals	Walsall	8	5.9
31:	Manufacture of furniture	Dudley	7	7.1
101:	Processing and preserving of meat and production of meat	Sandwell	9	5.7
141:	Manufacture of wearing apparel	Sandwell	10	4.8
232:	Manufacture of refractory products	Dudley	4	7.7
233:	Manufacture of clay building materials	Walsall	9	6.4
233:	Manufacture of clay building materials	Dudley	10	2.8
241:	Manufacture of basic iron and steel and of ferro-alloys	Sandwell	2	4.2
241:	Manufacture of basic iron and steel and of ferro-alloys	Dudley	5	3
242:	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	Dudley	2	10.9
242:	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	Wolverhampton	3	8.7
242:	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	Walsall	8	5.9
243:	Manufacture of other products of first processing of steel	Sandwell	1	36
243:	Manufacture of other products of first processing of steel	Wolverhampton	4	18.2
244:	Manufacture of basic precious metals and other non-ferrous metals	Walsall	6	2.9
244:	Manufacture of basic precious metals and other non-ferrous metals	Dudley	10	0.8
245:	Casting of metals	Walsall	1	17.1
245:	Casting of metals	Sandwell	3	14.4
245:	Casting of metals	Dudley	6	9
251:	Manufacture of structural metal products	Sanwell	8	4.3
255:	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	Wolverhampton	5	8.8
255:	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	Dudley	6	7.9
255:	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	Sandwell	9	7.1
256:	Treatment and coating of metals; machining	Walsall	2	4.8
256:	Treatment and coating of metals; machining	Sandwell	6	3.8
257:	Manufacture of cutlery, tools and general hardware	Walsall	1	21.8
257:	Manufacture of cutlery, tools and general hardware	Sandwell	4	8.1
259:	Manufacture of other fabricated metal products	Sandwell	5	7.7

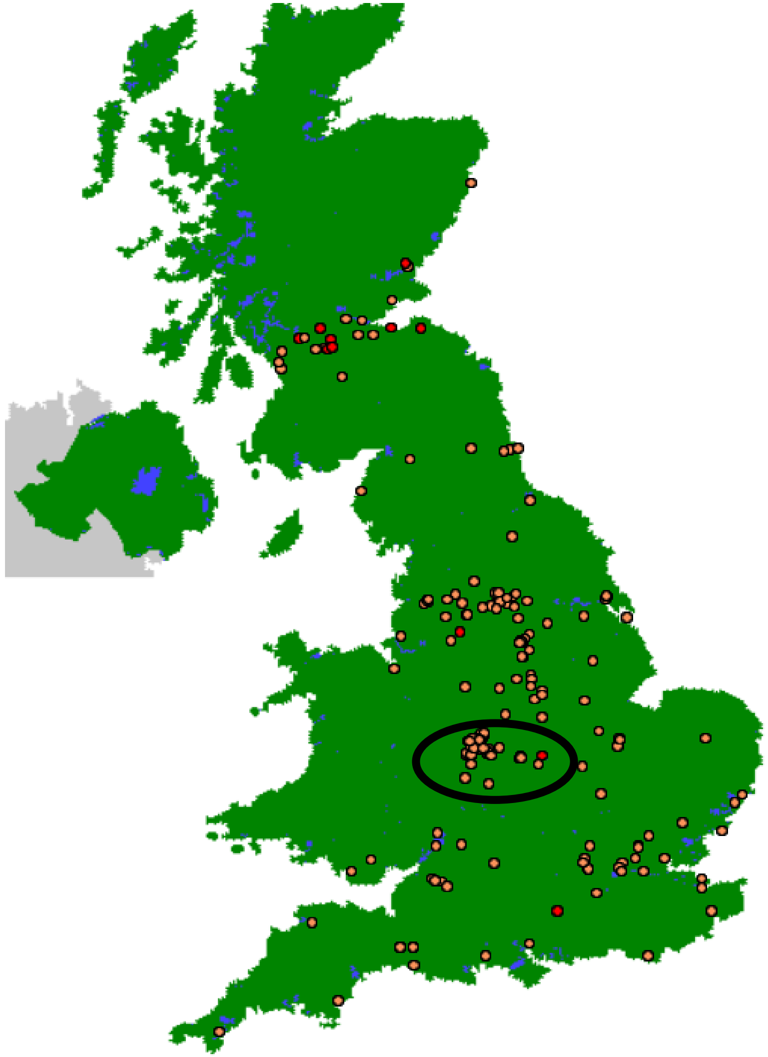
Source: ONS & WMEF

Source: WMEF Black Country Perspectives (2013)

UK Foundry Concentration



Source: UK Castings



Source: UK Foundries

WMCA Materials Cluster

- Location quotients (LQ) for WMCA 7MET - SIC22 Manufacture of rubber & plastics products: **1.3**; SIC23 23 : Manufacture of other non-metallic mineral products: **0.8.** This puts the LQ for SIC 22 in the top 10 of all SIC codes for employment concentration in the WMCA.

- According to a recent West Midlands Growth Company report, the **West Midlands has the largest concentration of materials related jobs in the UK.**

- **Leading innovation from the region's universities** is helping develop materials for industrial use and future applications. For example, the **Automotive Composites Research Centre at University of Warwick** builds on the universities experience within automotive to take advantage of new lightweight vehicle technology and application.

- The **Rolls-Royce University Technology Centre**, Birmingham is specifically focused on materials engineering. This is a key asset that reflects the research strengths in the WMCA in materials.

- Similar to metals, the area's **strong links to automotive, aerospace and rail** ensure the local materials industry is well-placed to make the most of existing markets.

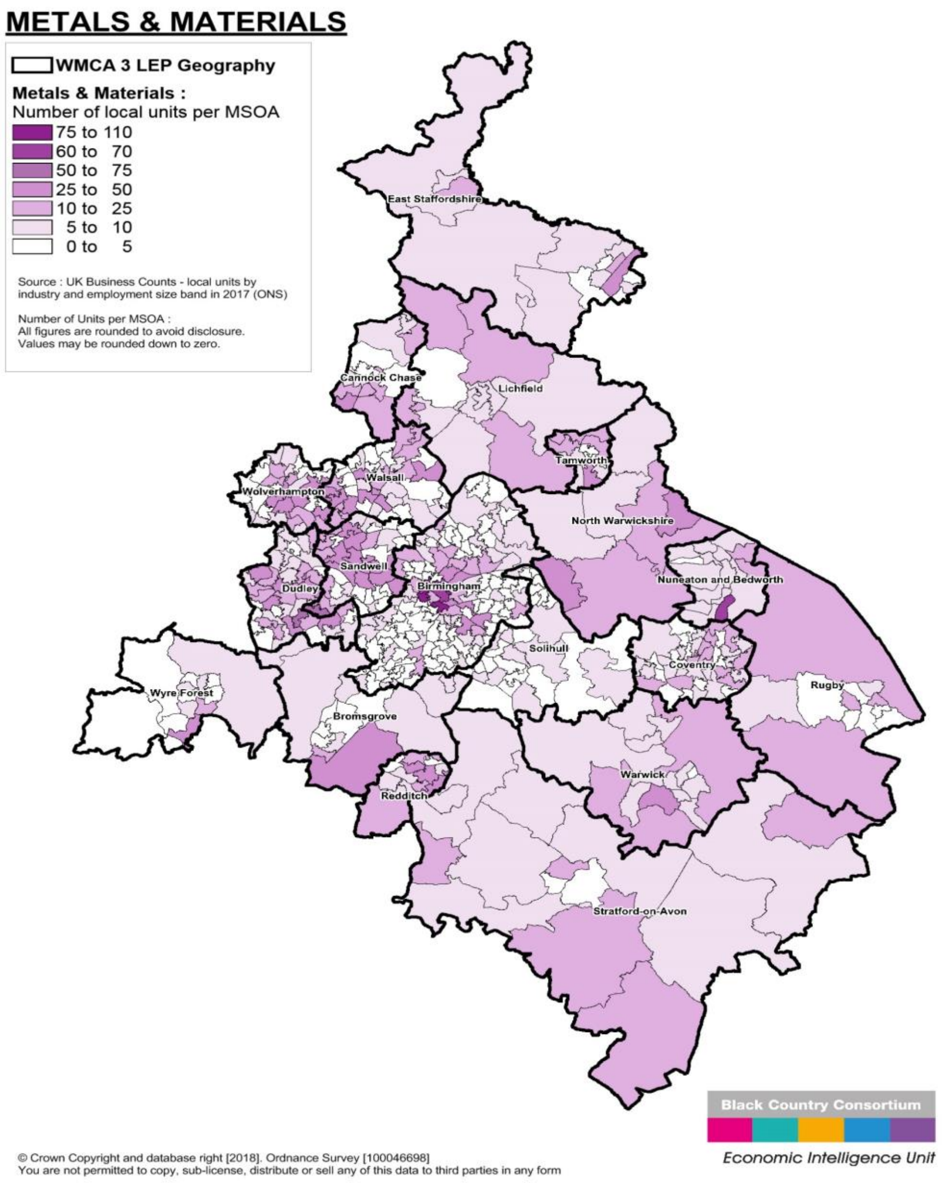
- **Rubber & Plastics Research Association** (RAPRA) based nearby in Shropshire (now run by Made in the Midlands)

ROLLS ROYCE

WARWICK
THE UNIVERSITY OF WARWICK

RAPRA
Rubber & Plastics Research Association

WMCA Metals & Materials Cluster



WMCA Super Strengths

Manufacture & Treatment of Metals

- Particularly in the Black Country where some SIC code activities are ranked 1st out of all UK local authorities for LQ.

Composites & Other Advanced Materials

- An extensive cluster of this activity within universities in the private sector, especially in Coventry.

Industry Profile

Our Competitive Advantage

- **Historic presence** within metals & materials manufacturing & metals treatment, leading to a significant concentration of infrastructure like furnaces and foundries.
- **Leading innovation** from the region's universities is helping develop materials for industrial use and future applications.
- The significant presence of automotive, aerospace and rail in the area ensures a strong number of metals & materials firms, feeding into these industries' supply chains. There is **widespread demand for these products locally.**
- **Good connectivity** with well developed road and train network and international airport
- **Highly concentrated** industry in WM
- Major infrastructure investments in the region (HS2 etc).
- The West Midlands has the **largest concentration of materials related jobs in the UK**. (WMGC)
- The WM region has **export expertise in machinery & transport goods** (71% of all goods exports compared to 41% nationally)
- Representation from **key industry bodies** locally – e.g. UK Metals Council, RAPRA

Products , Services & Brands

- **Assa Abloy -** World's largest lock manufacturer
- **Mitsubishi Chemical Carbon Fiber and Composites** – Key suppliers in manufacturing specialist materials.
- **Nord Composites –** Major composite material business, specialising in sealant and adhesive materials.
- **Precision Chains** make the chains for the London Underground escalators.
- **RMD Kwikform** helped install the roof of the Aquatics Centre for London 2012.
- **ZF Lemforder's** Darlaston factory supplies suspension control arms to Jaguar,

CASTINGS P.L.C
PRECISION CHAINS
MITSUBISHI CHEMICAL CARBON FIBER AND COMPOSITES
babcock
ASSA ASSA ABLOY
TATA STEEL
NORD COMPOSITES
MVP MAGNUM VENUS PRODUCTS EUROPE LIMITED

Centres of Excellence/Assets

Innovation:
- The National Transport Design Centre, Coventry
- MIRA Technology Park
- Advanced Propulsion Centre
- Wton Science, Technology & Prototyping Centre
- Rolls-Royce University Technology Centre, Birmingham
- Engineering and Computer Science Research Centre
- Automotive Composites Research Centre

Production:
- Institute For Advanced Manufacturing and Engineering
- Warwick Manufacturing Group
- Manufacturing Technology Centre
- Advanced materials characterisation and simulation hub (AMCASH)
- Alternative Raw Materials with Low Impact

Training:
- EEF Technology Training Centre
- WMG Academy for Young Engineers
- Black Country Skills Factory

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

Ageing Society
- Manufacture of key parts within new innovative healthcare products (materials)

Clean Growth
- Regional expertise in circular economy, industrial synergy, waste as a value stream (e.g. recycling of metals)
- Energy Innovation Zones

Future Mobility
- Impact of EVs and CAVs on WM metals/materials supply chain

AI & Data
- Industry 4.0 opportunities and digital supply chains

62

Summary Statistics: Metals & Materials

- **£4bn GVA** attributed to Metals and Materials in WMCA. With a **2030 ambition of £6.1bn**
- **74,200 jobs** in the sub-sector locally.
- The majority **(73%) of jobs and GVA (72%)** in Metals and Materials appear in Metals and Fabricated metal goods.

LQ's:

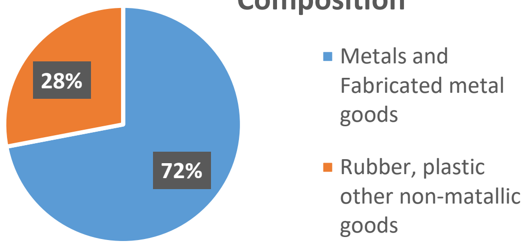
- SIC 24 : Manufacture of basic metals **2.9**
- SIC 25 : Manufacture of fabricated metal products, except machinery and equipment **2.5**

These are **the 2nd & 3rd largest LQ's in the WMCA** (7MET) out of all SIC codes. The WMCA has the **highest LQ of all areas for SIC 25 & the fourth largest for SIC 24.**

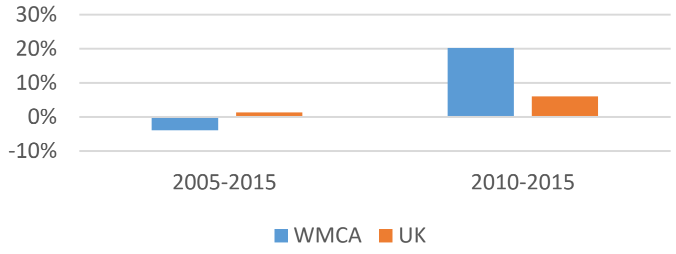
West Midlands Combined Authority

GVA Current: **£4bn** 2030 Ambition: **£6.1bn (+2.1bn)** **20% growth** Since 2010

WMCA Metals and Materials Sector GVA Composition

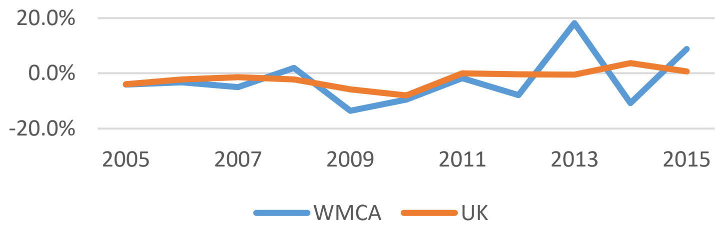


Metals and Materials GVA Growth in WMCA & UK

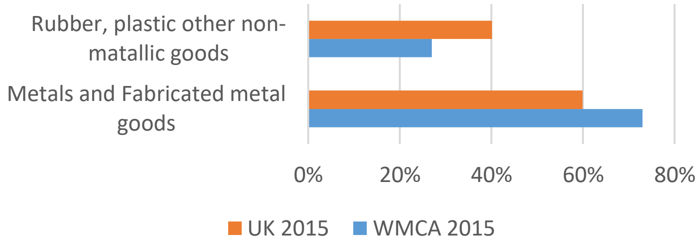


Jobs Current: **74,200** **4% growth** since 2010

Metals and Materials Job Growth Y-o-Y in WMCA & UK



% of Metals and Materials Jobs by Sub-Sector



- The **20% GVA growth within the WMCA in Metals & Materials since 2010 significantly surpasses the 6% figure for the whole of the UK.**
- In the WMCA, **Metals & Materials take up a much greater share of jobs and GVA to that of the UK overall** (73% of overall sub-sector jobs, compared to 60% in the UK).

Source: Oxford Economic Model

Supporting Sector Evidence Base – Metals/Materials

Ideas

Rolls-Royce University Technology Centre, University Birmingham (Materials)

Automotive Composites Research Centre

Advanced materials characterisation and simulation hub (AMCASH)

People

UK Metals Council insight, including Vision 2030 report

Infrastructure

Various local energy infrastructure report/intelligence, e.g. "Energy as an Enabler"

Business Environment

UK Metals Council insight

National Metalforming Centre

Engineering UK 2017 report

- **In-depth analysis of the engineering sector in UK**

UK Castings

West Midlands Economic Forum

UK Foundries

Composites UK

Places

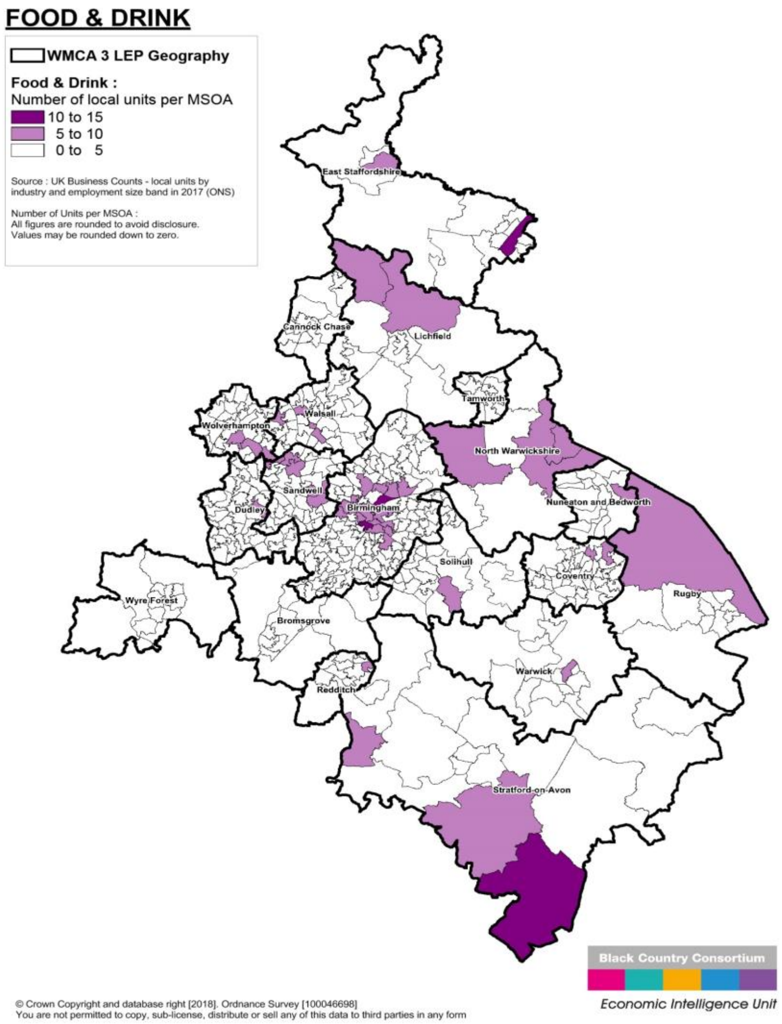
West Midlands Growth Company: "Make Your Mark"

Food & Drink

Black Country Consortium
Economic Intelligence Unit

West Midlands
Combined Authority

WMCA Food & Drink Cluster



WMCA Super Strengths

Major Employers

- Cadbury heritage, now including Mondelez's global chocolate research and development centre
- Marston's HQ
- Burton the home of UK brewing.
- These drive the sector locally & have an enabling effect on the visitor economy.

Niche Strengths

- Food and drink machinery
- Food and fluid control technology
- Photonics R&D

West Midlands Combined Authority

Industry Profile

Black Country Consortium
Economic Intelligence Unit

Our Competitive Advantage

- Good **access to supplier base**
- **Good connectivity** with well developed road and train network and international airport
- High quality, sector focused **science & research facilities and institutes**
- **Skills and experience** in the food supply chain and processing.
- Strong tradition of **photonics** R&D
- Leader in **food and drink machinery & equipment**
- **Access to a large domestic market**, a long pedigree in production and R&D and a first-class logistical network
- A strong base of fast growing SMEs and micro businesses which are driving growth and job creation.

Products , Services & Brands

- Birthplace of great British food and drink icons **Cadbury, Typhoo Tea, Bird's Custard & Marston's.**
- **East End Foods alone produces 30,000 lines for more than 3,500 retailers** and is one of the largest importers and suppliers of ethnic foods in Europe.
- Mondelez International houses its **global chocolate research and development centre** at Bournville.
- Healthy levels of inward investment, **with 25 new food and drink FDI projects in the West Midlands since 2009**
- **Burton-on-Trent is the home of brewing in the UK**

Centres of Excellence/Assets

Innovation:
- Wton Science, Technology & Prototyping Centre
- Engineering and Computer Science Research Centre
- Food Science research at University College Birmingham

Production:
- Institute For Advanced Manufacturing and Engineering
- Warwick Manufacturing Group
- Manufacturing Technology Centre
- Food and Drink Advanced Manufacturing Project, James Watt College (BMET)
- Food Technology Hub for Skills Excellence, University College Birmingham

Training:
- EEF Technology Training Centre
- WMG Academy for Young Engineers
- Black Country Skills Factory

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

Ageing Society

- Food manufacturers have a key role to play in reducing obesity/diabetes etc (sugar content, nutrients etc)

AI & Data

- Industry 4.0 opportunities and digital supply chains
- Particular opportunities within automation of machinery, but threats of job replacement
- Health data

Clean Growth

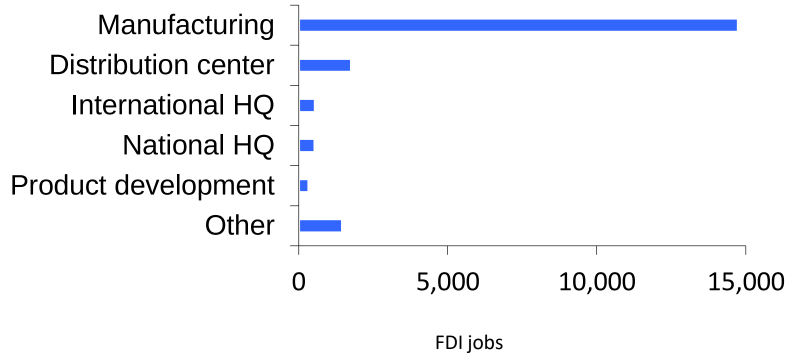
- Resource management and waste to energy value chains

Inward investment prospects – Food and Drink

Typical investors

- Specialist food and drink manufacturers and processors
- Manufacturers and processors and with an interest in UK market
- Investors looking to leverage the research capabilities at local universities – some may seek to establish R&D centres as well as manufacturing centres

Main types of food and drink investment



Key competitor locations:

UK: West Yorkshire, Great Manchester

Europe: Flanders, Vienna, Sofia, South Moravia, Prague, Aarhus, Tampere, Berlin, North Rhine-Westphalia

Global: Chicago, Cleveland, Grand Rapids, Shanghai, Shenzhen

The region’s USPs

2. Niche and specialist Food & Drink expertise (e.g. machinery and equipment)

3. Supply chain centre with large cluster of logistics companies and major supermarkets distribution

3. Strong food and drink within local universities, notably Birmingham University’s Formulation Engineering Department and University College Birmingham’s UCB's Food Innovation Facility

4. Central location with good connectivity and strong logistics network

Key emerging technologies driving business growth and investment

- Additive manufacturing (AM)
- Alternative protein sources
- Smart packaging
- Functional foods with specific health benefits
- IoT applications
- Synthetic biology

Main origin countries
United States
Switzerland
Germany
Ireland
Austria
Netherlands
Denmark
France
Brazil

Potential wider impact on the region’s economy

While a significant number of jobs created are lower skilled, many (e.g. food scientists/technologists with degrees and higher degrees) are high value added (i.e. highly skilled with high GVA per worker), making an important contribution to improving regional productivity.

Job volume	Job value
Medium	Medium

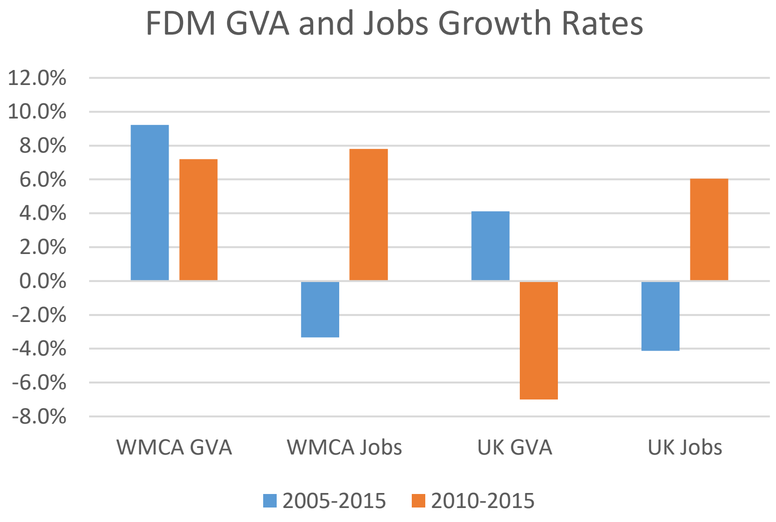
Sources:
IBM-PLI
FDI Intelligence
WMGC Regional Observatory deep dive intelligence
Black Country Consortium Economic Intelligence Unit LIS analysis

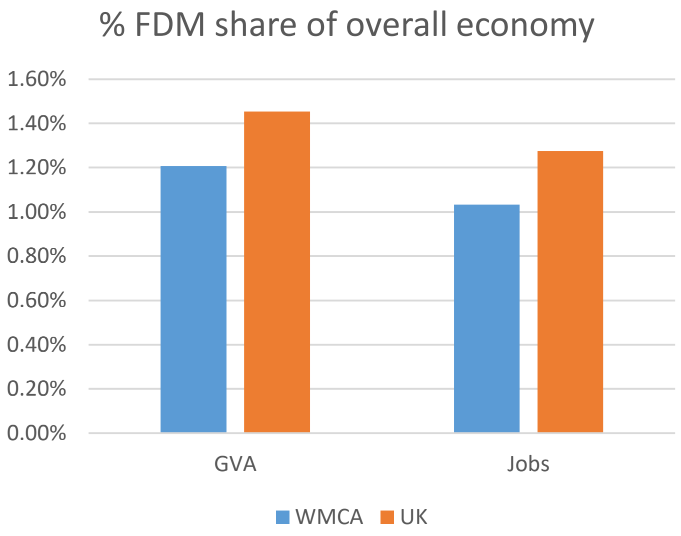
Summary Statistics: Food & Drink Manufacturing (FDM)

- **£1.04bn GVA** attributed to food & drink manufacturing (FDM) in WMCA. The 2030 ambition for this sub-sector is **£2.05bn**.

- **21,000 jobs** in the sub-sector locally, with an ambition to have 22,000 in 2030.

- FDM makes up **9% of AME GVA and 10% of AME jobs** in the WMCA area.





- **WMCA GVA in FDM has grown 9% since 2005 and 7% since 2010.** In the UK the sub-sector grew by 4% since 2005 & has declined 7% since 2010

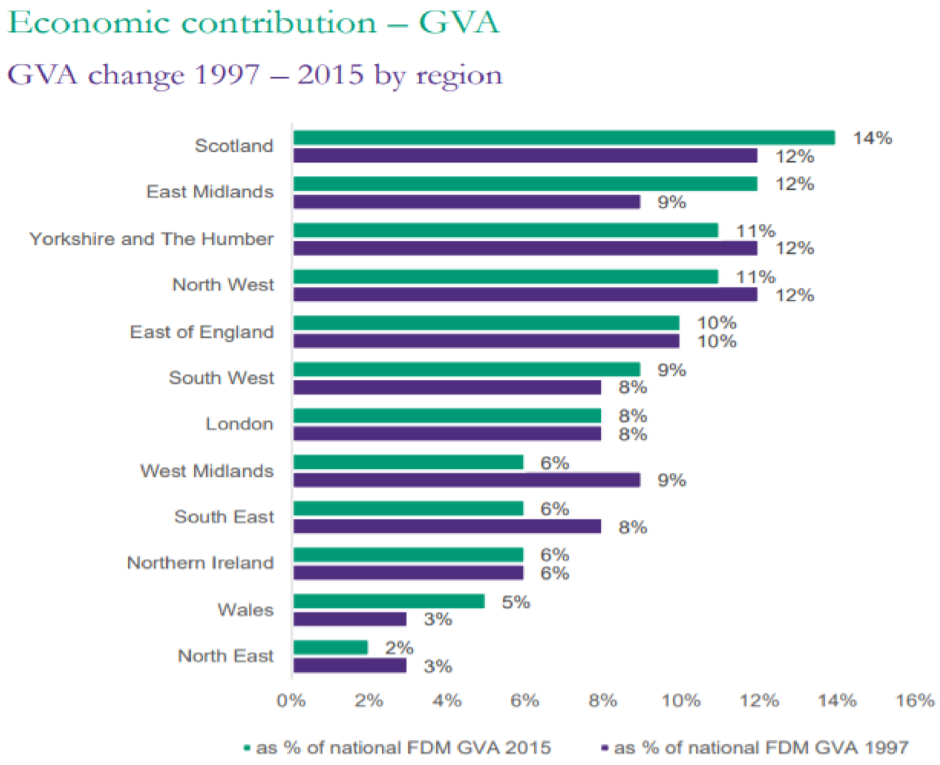
- For Jobs, whilst these have reduced since 2005 in WMCA, this was at a slower rate to that of the UK. Since 2010, jobs in **FDM have grown at a faster rate in the region than they have in the UK overall (8% compared to 6%).**

- **At the UK overall level FDM takes up a greater share of both GVA & Jobs compared with the WMCA area (**1.5% compared to 1.3% for GVA and 1.3% compared to 1.0% for jobs.

Source: Oxford Economic Model

- A 2017 report by the Food & Drink Federation suggests that the **West Midlands region has had the greatest long-term growth in FDM of the 12 UK regions/**

- The report finds that the West Midlands **share of national FDM GVA rose from 6% in 1997 to 9% in 2015** – the largest percentage point rise of all regions.



Source: Food & Drink Federation

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Combined Authority

Supporting Sector Evidence Base – Food/Drink

Ideas

Midlands Engine Science & Innovation Audit

- Scale & concentration of food & drink activity in the Midlands, description of supportive assets & academic output

People

Infrastructure

Business Environment

Engineering UK 2017 report

- In-depth analysis of the engineering sector in UK

Birmingham Food Council Reports and Pares (produced a GBSLEP Briefing 2016)

EEF sector analysis

- Performance, supply chain, export trends etc

Food & Drink Federation (FDF)

- Including Grant Thornton in-depth review of the sector

Places

West Midlands Growth Company: "Make Your Mark"

Business, Professional & Financial Services (BPFS) and its sub-sectors

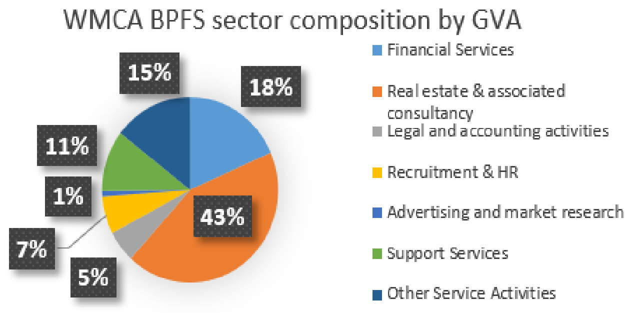
For further detail, see publication of BPFS sector deep-dive:

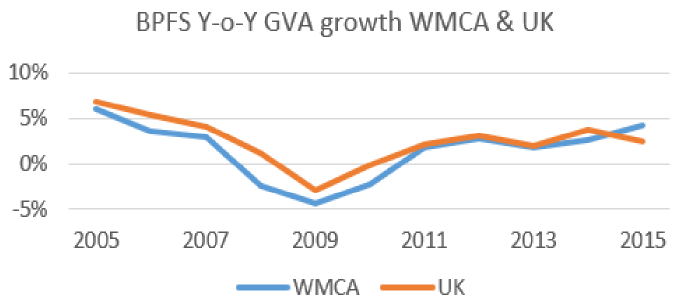
https://www.wmca.org.uk/media/2236/business-professional-and-financial-services.pdf

BPFS Summary Statistics (Current)

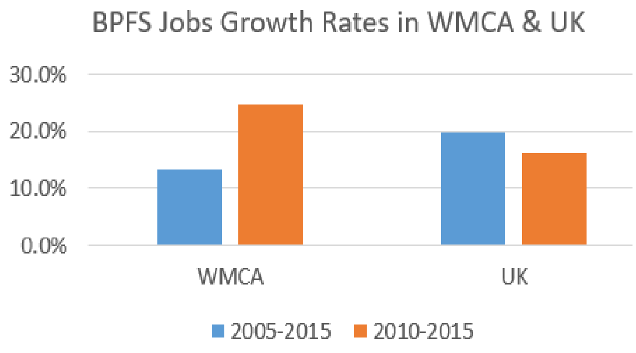
- **£24.5bn** WMCA GVA is attributed to BPFS, which is 28.2% of the whole economy. This makes BPFS the largest sector in the WMCA area. The **2030 GVA ambition for this sector is £49bn**
- There are **406,000 jobs** attributed to BPFS in the WMCA area, 20% of overall employment. This ensures BPFS is the largest sector for employment also.
- Since 2010, Jobs in **BPFS has grown 25% in the WMCA**, higher than the 16% growth for the sector in the UK overall.
- The WMCA has a similar reliance on more jobs in key BPFS sectors to the UK overall: **financial services makes up 3.3% of jobs in the UK compared to 2.8% in the WMCA.**
- The main BPFS sub-sectors included for the LIS (Financial Services & Legal & Accounting) make up 24% **of both GVA (£5.8bn) and jobs (99,000).**

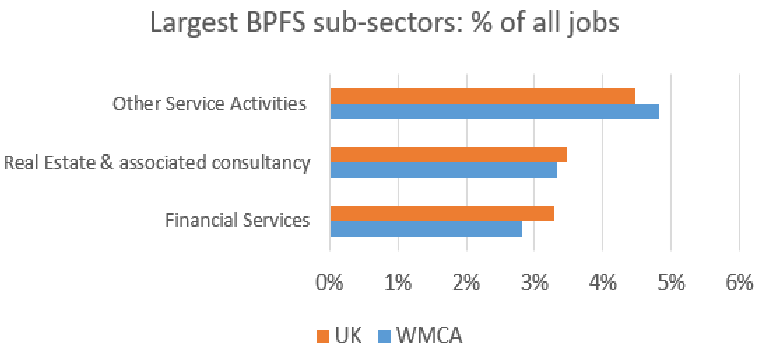
GVA Current: **24.5bn** 2030 Ambition: **£49bn (+£24.5bn)** **14% growth** since 2010





Jobs Current: **406,000** 2030 Ambition: **532,000 (+126k)** **25% growth** since 2010

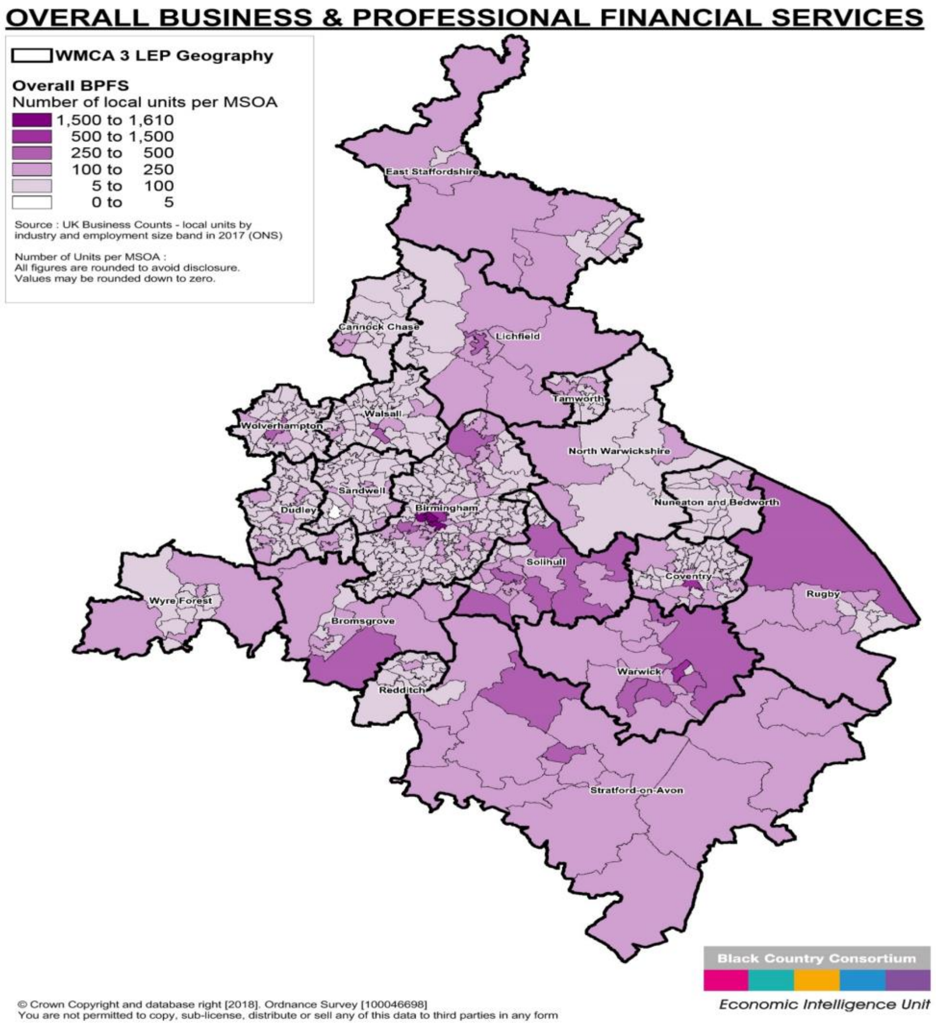




Source: Oxford Economic Model

West Midlands Combined Authority

BPFS: Spatial Focus

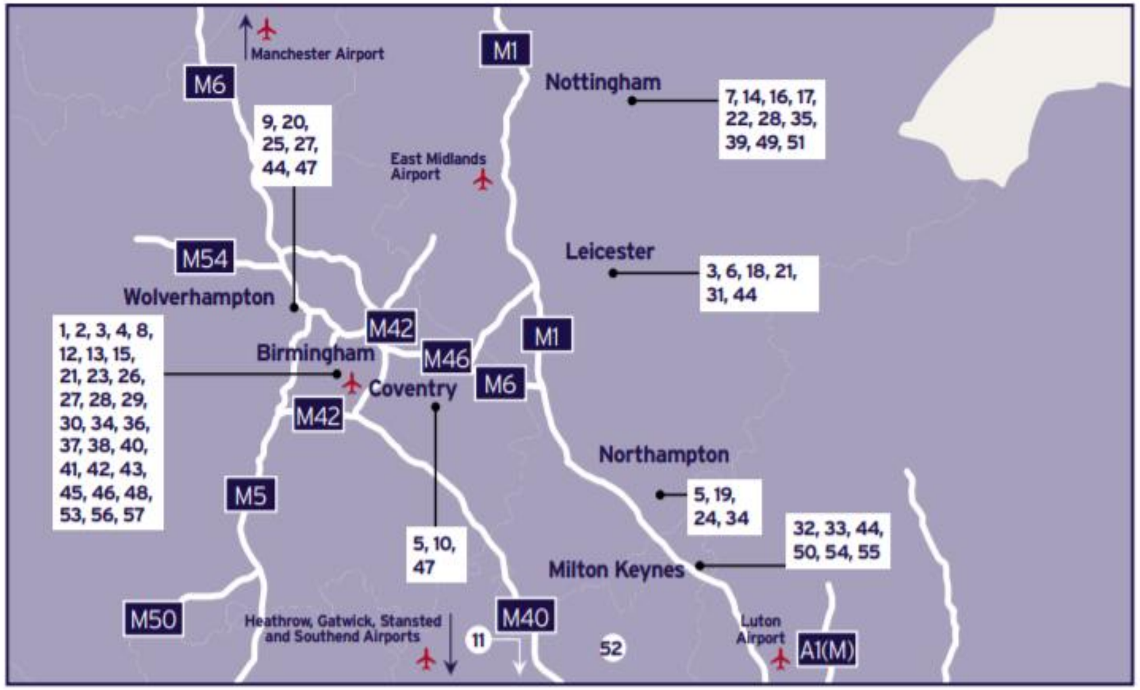


Black Country Consortium
Economic Intelligence Unit

West Midlands
Combined Authority

Key BPFS Employers in the Midlands

Midlands - Key Employers



1. Al Rayan Bank
2. Allianz
3. Aon
4. Axa Insurance
5. Barclaycard
6. Berkeley Insurance Group
7. Capital One
8. Certegy Card Services
9. Charter Court Financial Services
10. Coventry Building Society
11. Defaqto
12. Deutsche Bank
13. Direct Line
14. Domestic & General
15. Droplet
16. Experian
17. First Response Finance Limited
18. Global Payments UK
19. Handelsbanken
20. Hastings Insurance
21. HSBC
22. Ikano Bank Financial Services
23. Investec
24. iPSL
25. KGJ Insurance
26. Legal & General
27. Lloyds Banking Group
28. Mansfield Building Society
29. Marsh
30. Masterlease
31. Mattioli Woods
32. Mercedes Benz Financial Services
33. Merchants
34. Nationwide
35. NOW Pensions
36. Obillex
37. Old Mutual
38. Paragon Group
39. Pendragon Financial & Insurance Services
40. Phoenix Life
41. Royal & Sun
42. Royal Bank of Scotland
43. S&U plc
44. Santander
45. Secure Trust Bank
46. Standard Life
47. State Bank of India
48. Store Financial
49. TDX Group
50. Tech Mahindra
51. The Nottingham Building Society
52. The Share Centre
53. Thecitysecret
54. TSYS
55. VW Financial Services
56. Wesleyan Assurance
57. Zurich Insurance

Source: UKTI

West Midlands Combined Authority

Financial Services

Inward investment prospects – BPFS

Typical investors

- Start-ups and SMEs
- Units within larger multinational companies
- Outsourced services providers
- Companies setting up captive centres

The region's USPs

1. Strong talent pool with Birmingham as one of the main clusters of finance professionals in the UK

2. High degree of specialisation in HR, insurance and law

3. Strong collaboration between large firms fostering the talent of for future employment in the sector

4. Birmingham hosts the largest regional financial and professional services hub in the UK, one of the largest legal services clusters in Europe and the largest accountancy clusters outside London

5. Located in the heart of England, the region has very well connected transport system

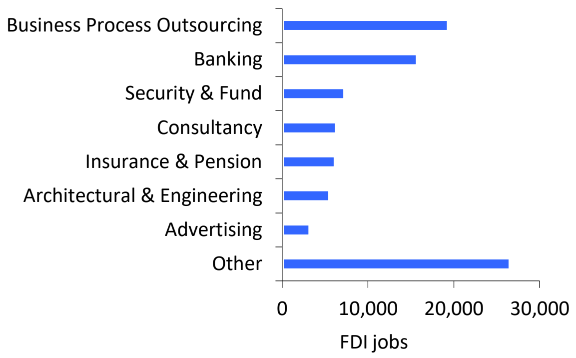
6. Well suited Grade A office developments in Birmingham at affordable prices

7. Lower cost alternative to London / South-East based companies and public sector organisations considering relocation

8. Opportunities arising from local and national infrastructure projects

Sources:
IBM-PLI
FDI Intelligence
WMGC Regional Observatory deep dive intelligence
Black Country Consortium Economic Intelligence Unit LIS analysis

Main types of BPFS investment



Main origin countries
United States
France
India
Spain
Australia
Germany
Canada
Ireland
Netherlands

Potential wider impact on the region's economy

Investments typically generate significant numbers of jobs. While some (e.g. in Shared Service Business Process Outsourcing Centres) are lower value added many others (e.g. in front/middle office operations) are high value added (i.e. highly skilled with high GVA per worker) jobs, making an important contribution to improving regional productivity.

Job volume	Job value
High	Medium

Key emerging technologies driving business growth and investment

Alongside challenges posed by complex regulation and new competition, new innovations in technology are creating both disruption and market opportunities. In particular:

- Blockchain technology, a public digital ledger shared among a network of computers worldwide, offers secure, fast and efficient transactions – doing away with cumbersome and expensive paper trails.

- Robo-advice, meanwhile, is an automated process of offering financial advice via computer, tablet or smartphone.

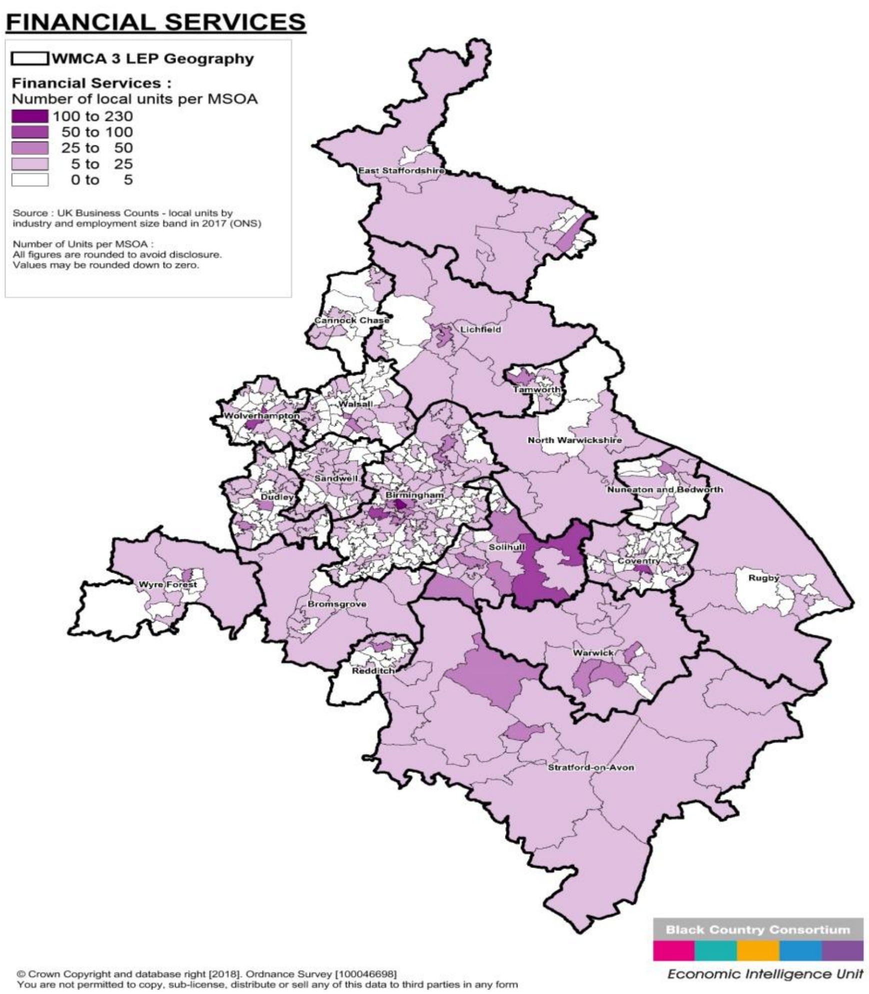
Key competitor locations:

UK: London, Manchester, Leeds, Newcastle

Europe: Paris, Frankfurt, Dublin, Zurich, Milan, Stockholm, Copenhagen, Amsterdam, Luxembourg, Warsaw, Brussels

Global: New York, Chicago, Washington D.C, Hong Kong, Taipei, Singapore, Shanghai, Beijing, Tokyo, Seoul, Sydney, Rio de Janeiro, Dubai, Toronto, Vancouver, Bangkok, New Delhi

WMCA Financial Services Cluster



Super Strengths

Full-service Offering

- Birmingham is the only full-service UK offering outside London.

Talent Pool

- Birmingham is one of the main clusters of finance professionals in the UK.
- Strong collaboration between large firms fostering the talent of for future employment in the sector.
- The West Midlands has a different distribution of occupations to the national picture, with a higher skilled, higher value profile of occupations in the sector.

Services for Local Industry

- Services match local specialisation and the local client base i.e. advanced manufacturing advice and guidance, exporting etc.

West Midlands Combined Authority

Industry Profile

Our Competitive Advantage

- Re-location of large firms (HSBC incoming)
- Birmingham is the **only full-service UK offering outside London**
- **Strong talent pool** & excellent links to London
- UK's **largest regional banking and professional services cluster.**
- Readily available **cutting-edge city centre office space** in new developments across the region.
- More business students – 16,275 – than any city outside London.
- City-Redi deep dive found that the West Midlands has a different distribution of occupations to the national picture, with a **higher skilled, higher value profile of occupations.**
- The recent growth in building offer such as Snowhill frees up other **high quality offices and there is a movement up the value chain, this opens up better office accommodation for the growing mid tier** (City – Redi deep dive)

Products , Services & Brands

- Home to **HSBC's new ring-fenced UK banking headquarters**
- Deutsche Bank
- Major banking offices such as **Lloyds Bank** & **Barclays**
- **Full-service offering**
- **Services match local specialisation** and the local client base, i.e. advanced manufacturing advice and guidance, exporting etc.
- **Islamic Finance** - Britain's first sharia compliant retail bank is headquartered in Birmingham

HSBC · BARCLAYS · NFU Mutual · Deutsche Bank · RBS · RSA · Legal & General · LLOYDS BANK · MARSH · Santander · WESLEYAN

Centres of Excellence/Assets

Business Schools
- Warwick Business School
- Birmingham Business School
- Aston Business School
- Coventry Business School
- Wolverhampton Business School

Colleges
- Professional Services Academy, BMet

Trade Representatives
- BPS Birmingham
- The CityUK

LEP Programmes/Investment
- Invest Black Country
- DY5 Enterprise Zone
- Black Country Growth Hub
- i9 Wolverhampton
- Black Country Transformational GOLD
- Friargate, Coventry
- Black Country Innovation Fund (pipeline)
- Wolverhampton City Council Broadband (pipeline)

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

AI & Data

- Technology enhancement the key agenda for large BPFS firms in the WMCA
- FinTech
- Connectivity – importance of broadband, 5G
- End-to-end customer journey
- Data-driven banking
- Automated services

Summary Statistics: Financial Services

Current size

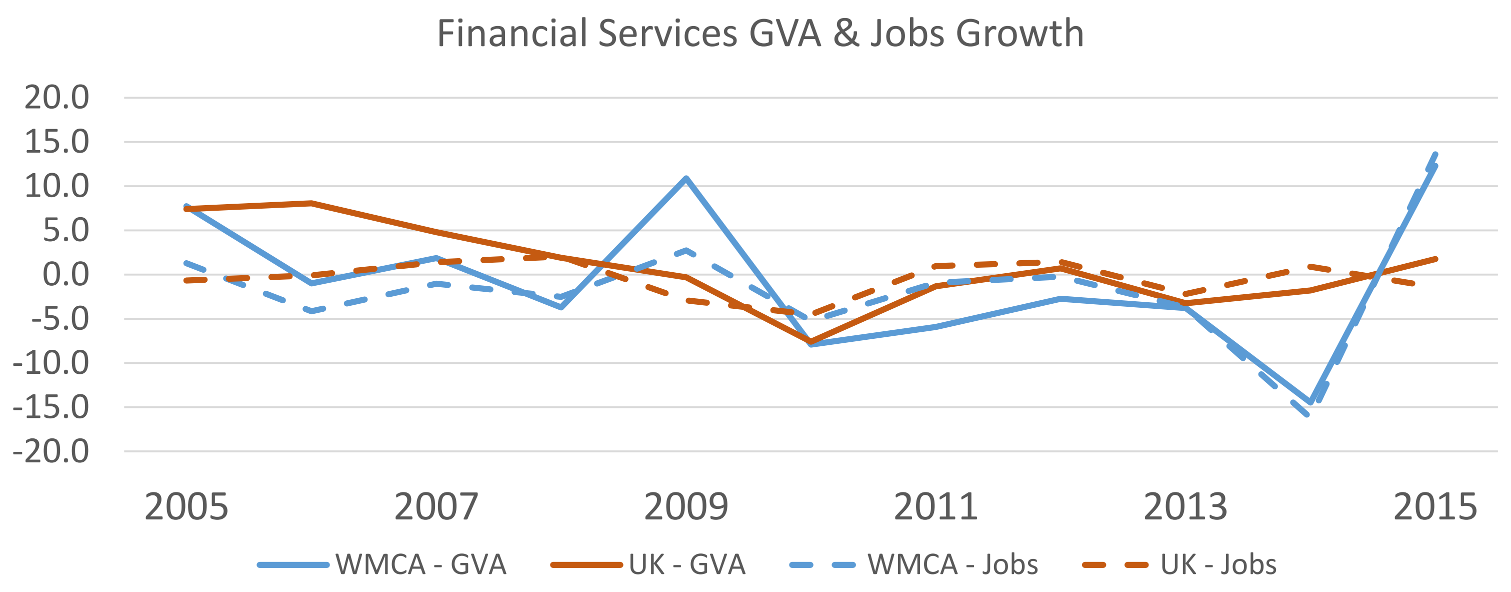
- **£4.5bn GVA in WMCA (18.5% of total BPFS)**
- **56,256 Jobs (14% of total BPFS)**
- **£79,251 GVA per worker**

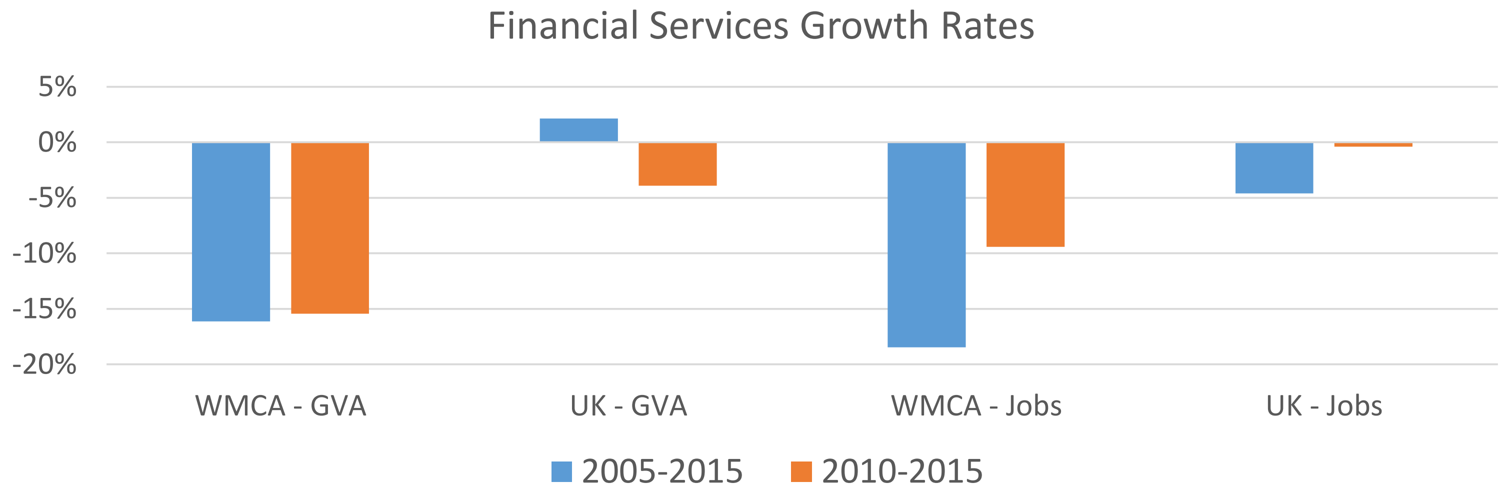
Trends

- GVA increased sharply in WMCA by **12.3% from 2014-2015**.
- This was post a big drop in the previous year but growth tracking higher.
- Jobs in BPFS (FS) increased by 13.5% in WMCA from 2014-2015, (but overall decrease of 9.4% since 2010)

2030 Ambition: £10bn

- This represents just under 70,000 jobs, and a GVA of £143k per worker





Source: Oxford Economic Model

Supporting Sector Evidence Base – Financial Services

Ideas

City-Redi/BPS Birmingham West Midlands CA Sector Deep Dive

People

City-Redi/BPS Birmingham West Midlands CA Sector Deep Dive

Infrastructure

City-Redi/BPS Birmingham West Midlands CA Sector Deep Dive

Business Environment

City-Redi/BPS Birmingham West Midlands CA Sector Deep Dive

PwC/CityUK Research

Deloitte Research

BPS Birmingham

TheCityUK regional report

The Midlands Engine Midlands Financial Centre of Excellence report

Places

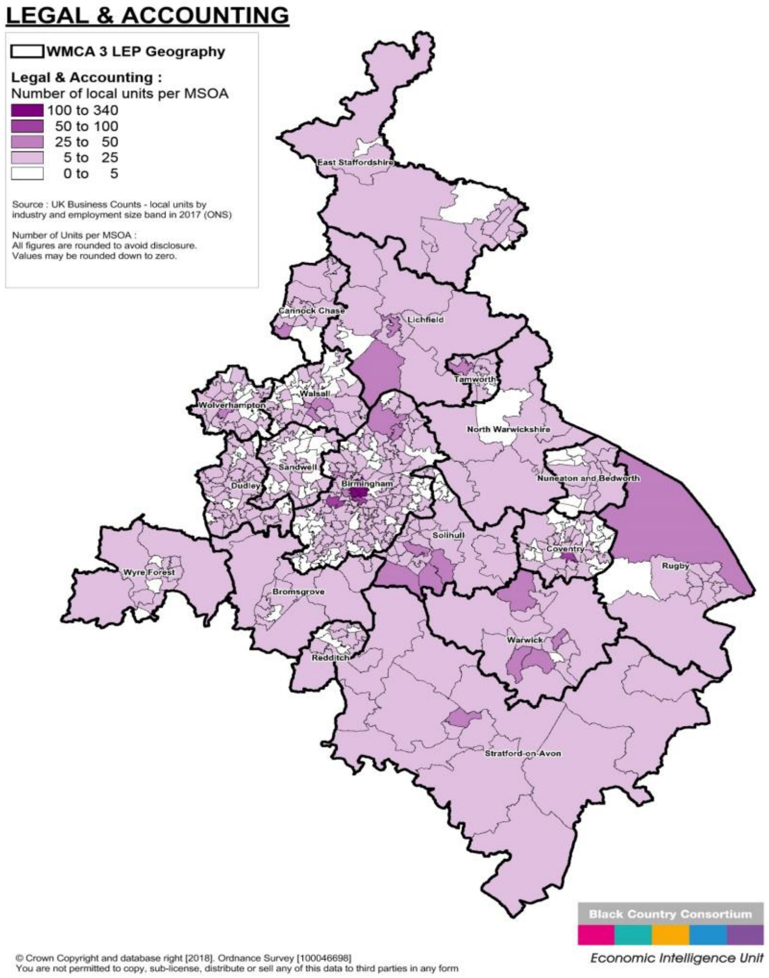
West Midlands Growth Company: "Make Your Mark"

Legal & Accounting

Black Country Consortium
Economic Intelligence Unit

West Midlands
Combined Authority

WMCA Cluster – Legal & Accounting



Super Strengths

Full-service Offering

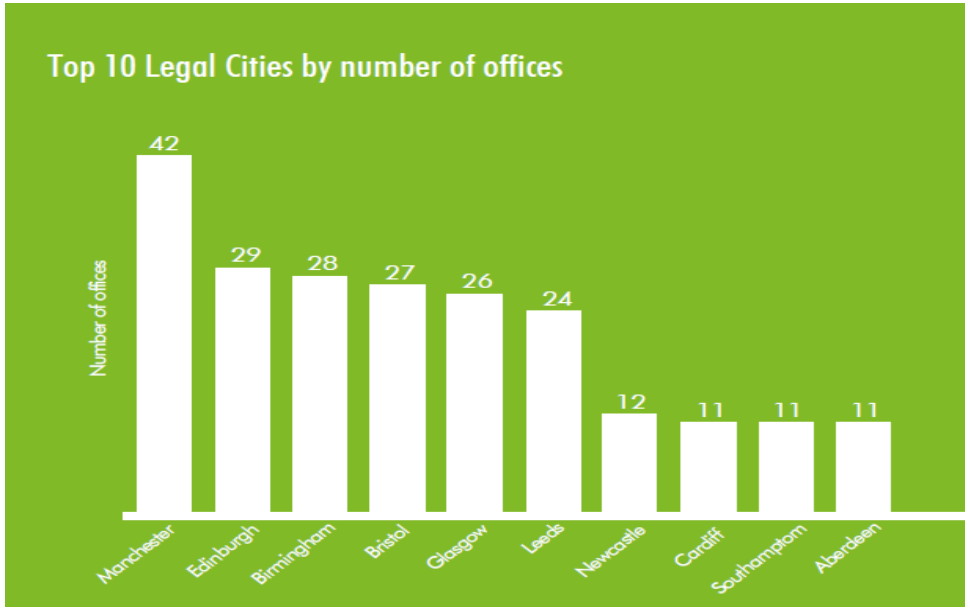
- Birmingham is the only full-service UK offering outside London.

Office Space

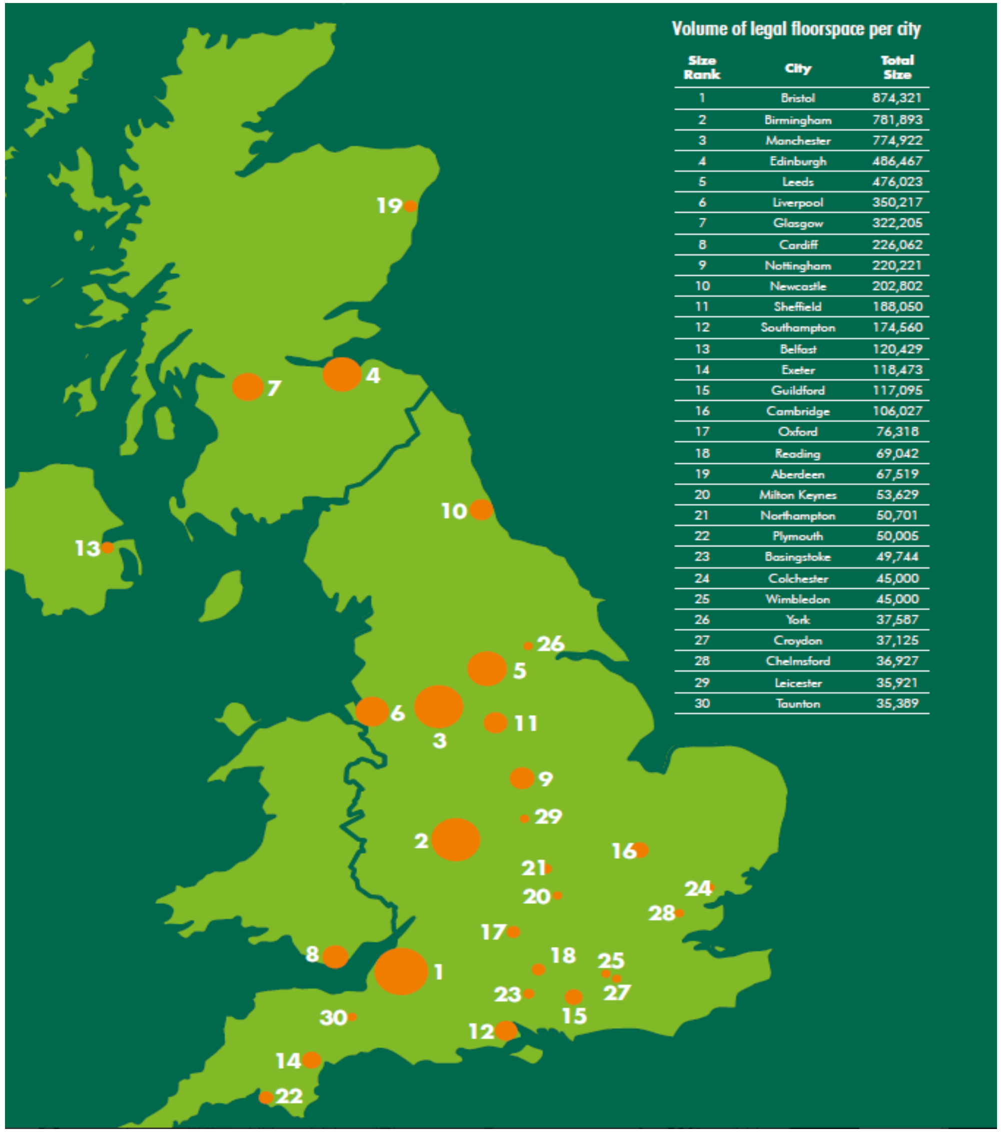
- Birmingham is a top city for current occupied floorspace (e.g. for law), but the region also continues to create further high quality office space for all activity, at a cheaper cost to London.

WMCA Cluster - Legal

CBRE's 'Law in the Regions' report identifies **Birmingham**, Bristol and Manchester as **primary UK legal centres outside of London**.



Birmingham is in the top 3 cities (outside London) for both **legal sector floorspace**, **number of legal offices** and **number of fee earners:** the second largest by floor space (781,893 sq ft.), third largest for number of offices (28) and second for number of fee earners (1,831)



Volume of legal floorspace per city

Size Rank	City	Total Size
1	Bristol	874,321
2	Birmingham	781,893
3	Manchester	774,922
4	Edinburgh	486,467
5	Leeds	476,023
6	Liverpool	350,217
7	Glasgow	322,205
8	Cardiff	226,062
9	Nottingham	220,221
10	Newcastle	202,802
11	Sheffield	188,050
12	Southampton	174,560
13	Belfast	120,429
14	Exeter	118,473
15	Guildford	117,095
16	Cambridge	106,027
17	Oxford	76,318
18	Reading	69,042
19	Aberdeen	67,519
20	Milton Keynes	53,629
21	Northampton	50,701
22	Plymouth	50,005
23	Basingstoke	49,744
24	Colchester	45,000
25	Wimbledon	45,000
26	York	37,587
27	Croydon	37,125
28	Chelmsford	36,927
29	Leicester	35,921
30	Taunton	35,389

West Midlands Combined Authority

Source: CBRE

Industry Profile

Our Competitive Advantage

- **Re-location of large firms** (PWC investment)
- Only **full-service UK offering** outside London
- **Strong talent pool** & excellent links to London
- UK's **largest regional legal & insurance cluster and the largest accountancy cluster outside London.**
- Readily available **cutting-edge city centre office space** in new developments across the region.
- Birmingham is in **the top 3 cities** (outside London) for both legal sector floorspace, number of legal offices and number of fee earners.

Products , Services & Brands

- PWC's **largest regional office is set to house 2,400 people**
- **Charter Court Financial Services** owns Precise Mortgages, an intermediary mortgage lender and Charter Savings Bank, one of the UK's leading challenger banks with over 40,000 savings accounts and balances in excess of £2billion since its launch in March 2015.
- All of the **"big 4"** with major operations in Birmingham

Deloitte. pwc EY Gateley Plc irwinmitchell GOWLING WLG KPMG Pinsent Masons Grant Thornton RSM BDO EVERSHEDS SUTHERLAND

Centres of Excellence/Assets

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Grand Challenges Context

Black Country Consortium
Economic Intelligence Unit

Link to Industrial Strategy Grand Challenges

AI & Data

- Technology enhancement the key agenda for large BPFS firms in the WMCA
- Connectivity – importance of broadband, 5G
- End-to-end customer journey
- Data-driven legal and accounting services
- Automated services

Future Mobility

- Significant legal and insurance issues around connected and autonomous vehicles.

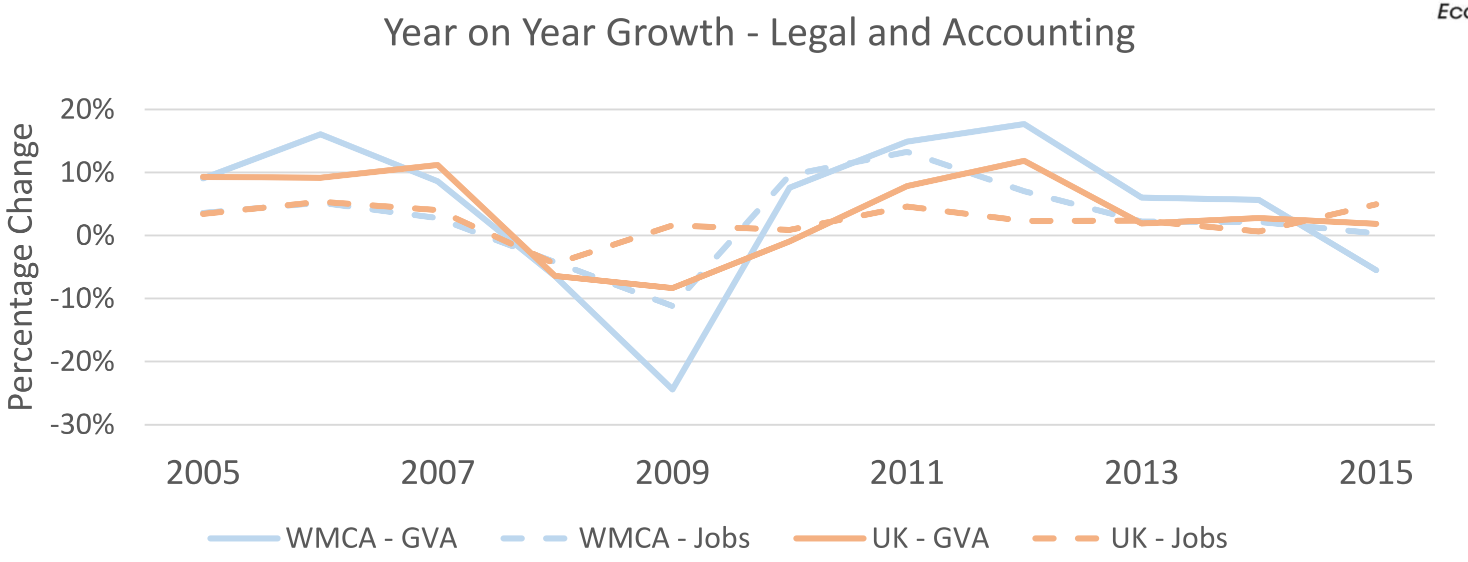
West Midlands
Combined Authority

Summary Statistics: Legal & Accounting

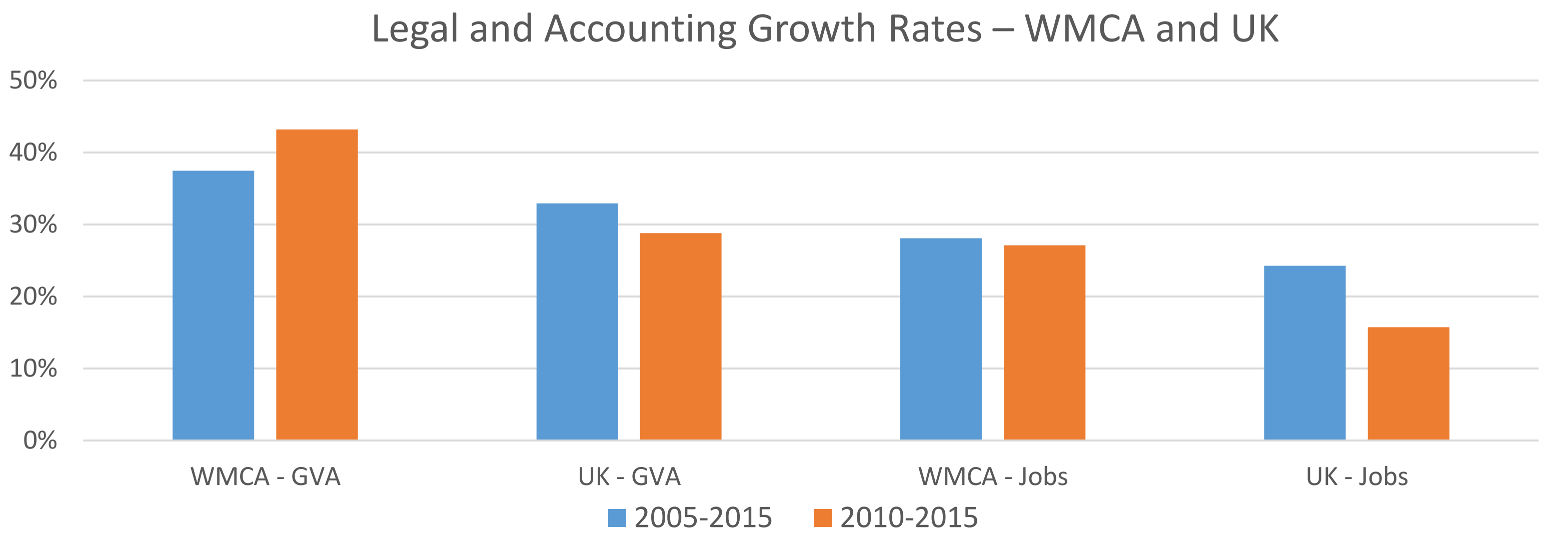
- £1.3bn GVA in WMCA
- 5.5% of BFPS GVA
- 1.6% of WMCA GVA
- 43, 142 Jobs, 10.6% of the sector in WMCA
- 2030 Ambition: £2.8bn GVA, 52k jobs and £54k GVA per employee

In the WMCA, **GVA has increased 43%** from 2010-2015, and 37.5% since 2005. At the UK average, growth has been slightly slower at 33% in the last decade and 29% since 2010.

Jobs growth has also been faster in WMCA compared with the UK over the last decade (28% compared to 24%) & the last 5 years (27% compared to 16%)



*WMCA GVA & jobs data points for 2013 smoothed through interpolation to address volatility



Source: Oxford Economic Model

West Midlands Combined Authority

Supporting Sector Evidence Base – Legal & Accounting

Ideas

City-Redi/BPS Birmingham West Midlands CA Sector Deep Dive

People

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PwC/CityUK Research

Deloitte Research

BPS Birmingham

TheCityUK regional report

The Midlands Engine Midlands Financial Centre of Excellence report

Places

CBRE – 'Law in the Regions' Report

Construction

Black Country Consortium
Economic Intelligence Unit

West Midlands
Combined Authority

Industry Profile

Black Country Consortium
Economic Intelligence Unit

Our Competitive Advantage

- **Major infrastructure investment** in the region (i.e. HS2).
- Ambition to build **215,000 homes by 2031**, with backing from government through a Housing Deal.
- SIA identified **"Sustainable Construction" as one of four Market Strengths.**
- R&D and commercial deployment by industry of **energy efficient and lower carbon building technologies**.
- **Opportunities of BIM technologies, building materials and technologies, and zero-carbon building and efficiency measures.**
- **High LQ's** confirm presence of a construction sector in WMCA (see next slide)
- Links in well with significant presence of manufacturing sectors.

Products , Services & Brands

- **Homeserve PLC** provide home emergency and repair services to over 7 million homes worldwide.
- A **Balfour Beatty** joint venture has be awarded HS2 contracts valued at circa £2.5 billion.
- **Barhale** was awarded a £21 million contract by the ODA, to design and construct a primary foul sewer and pumping station, as part of the Olympic Park development.

Centres of Excellence/Assets

University Centres

- The Built Environment, Information Systems & Learning Technology Research Centre, University of Wolverhampton
- The Centre for Environment and Society Research (CESR),Birmingham City University.
- The Centre for Low Impact Buildings, Coventry University
- Institute for Future Transport and Cities, Coventry
- Department of Civil Engineering at UoB

Colleges

- Stourbridge College Construction Centre
- University of Wolverhampton's Springfield Campus, home to the West Midlands Construction UTC.

Other

- HS2's national construction HQ
- Alternative Raw Materials with Low Impact

LEP Programmes/Investment

- School of Architecture and Built Environment (SOABE)
- Dudley Brownfield Land Improvement Phase 1
- Dudley Advance and Innovation Centre

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

Clean Growth

- 215,000 new homes planned in the next decade are a huge opportunity for clean growth and for building West Midlands construction.
- Design (and specifications and regulation) will greatly influence the way these support healthy living, ageing population, community engagement, urban spaces and infrastructure.
- Opportunities to improve housing stock and to reduce fuel poverty
- Energy efficient & low carbon construction, including through offsite techniques
- Regional expertise in circular economy, industrial synergy, waste as a value stream.

AI & Data

- BIM
- Smart buildings
- Automated construction

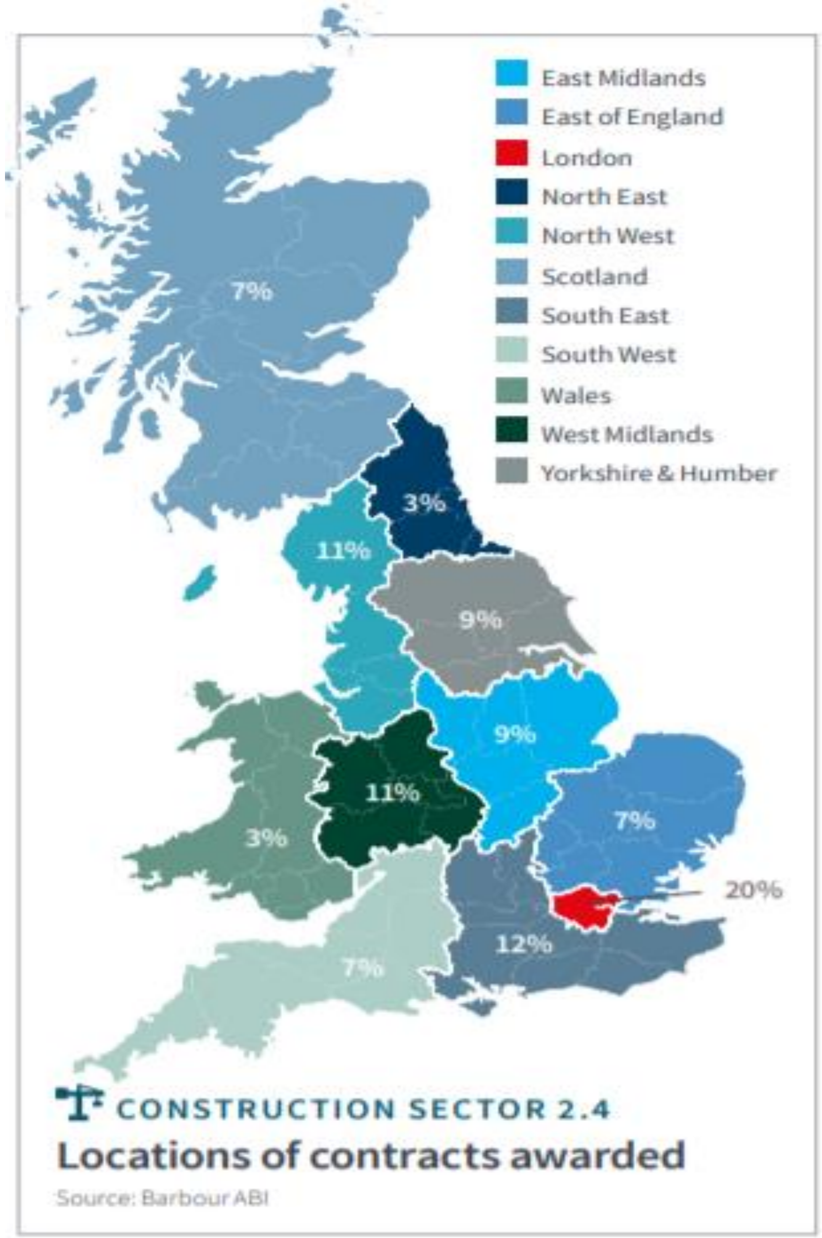
  links with potentially digital supply chains of manufacturing sector

WMCA Construction Cluster

- According to Barbour ABI, **11% of UK Construction contracts awarded in 2017 were in the West Midlands region**. This is the joint 2nd highest region outside of London.

- Recent **infrastructure and housing investment** announcements will provide a further boost to the sector.

- According to CITB, compared to the UK overall, the WM has a greater share of construction work within **industrial,** (5% of industry compared to 3%), **commercial** (21% compared to 18%) **and non-housing repair & maintenance (R&M)** (24% compared to 17%).



Source: Barbour ABI

WMCA Construction Sector Location Quotients (SIA)

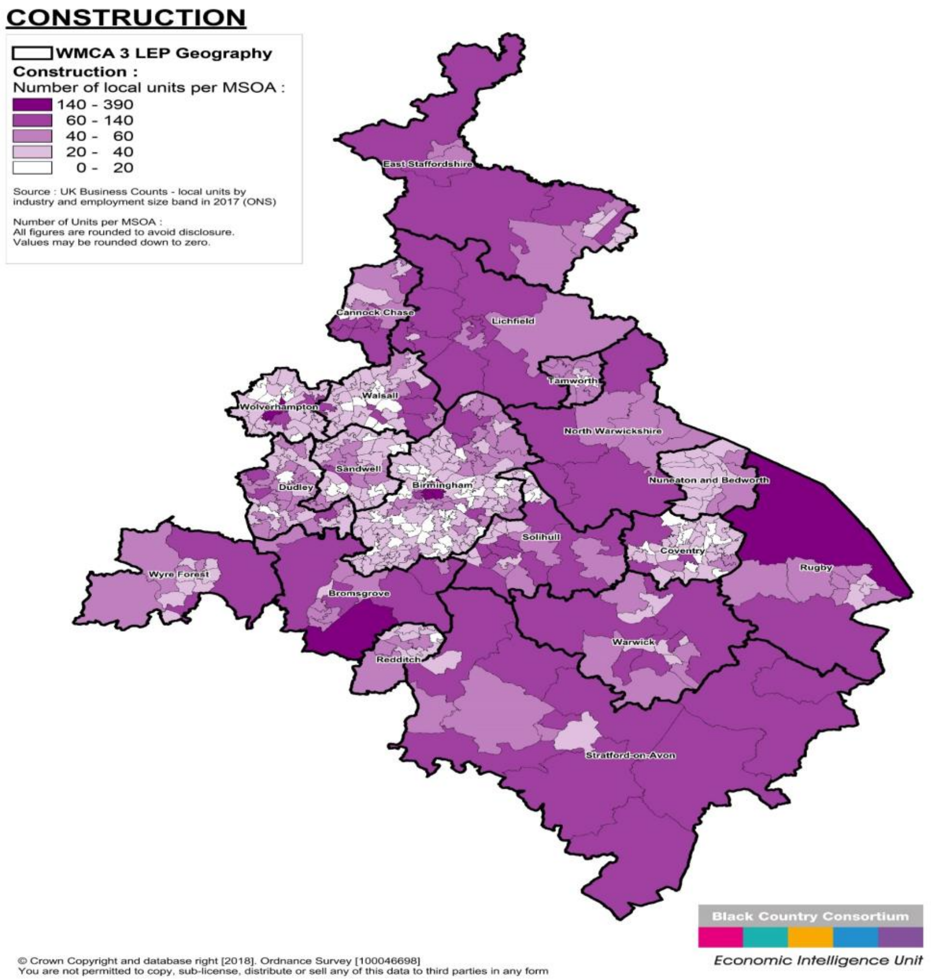
	Employment	LQ
Construction activities		
Development of building projects	1,750	0.4
Construction of residential and non-residential buildings	26,000	1.3
Construction of roads and railways	2,000	0.6
Construction of utility projects	225	0.2
Construction of other civil engineering projects	4,500	0.6
Demolition and site preparation	5,000	3.4
Electrical, plumbing and other construction installation activities	25,000	1.1
Building completion and finishing	14,000	1.1
Other specialised construction activities n.e.c.	15,000	1.6

Source: West Midlands SIA

- For most of the construction SIC code descriptions shown above, the WMCA has a LQ of higher than 1, meaning the region's employment share is higher than that of the national average.
- There's a **considerable cluster within the large sub-sectors of 'Construction of residential and non-residential buildings' and 'Other specialised construction activities n.e.c'** (1.6 and 1.3 LQ's respectively.
- **'Demolition and site preparation' has the largest cluster though, with 5,000 jobs representing an LQ of 3.4**

West Midlands Combined Authority

WMCA Construction Cluster



WMCA Super Strengths

Modular Construction

- Rising demand due to the need for faster and more efficient housing construction.
- Estimated to be worth £2-3bn per year in UK, & its market share of construction is increasing 25% per year.
- WMCA area has innovative firms in this space -e.g. SIMCO and LoCaL Homes.
- Led by housing providers – first off-site manufactured Wolverhampton & Coventry council homes in 2018.

Brownfield Land Remediation

- Development of strategic sites of employment and housing land is a key WMCA priorities.
- Action around improving this includes: Brownfield Research & Innovation Centre (BRIC), Land Remediation Fund, Land Commission

Internal Structures

- Fabricating and mechanical moving structures
- Specialists – e.g. Wembley arch

Sector Skills Development

- Skills supply/demand mapping and gapping
- Focused use of provision data to compare with employer demand
- See next slides

West Midlands
Combined Authority

CITB West Midlands Region Analysis

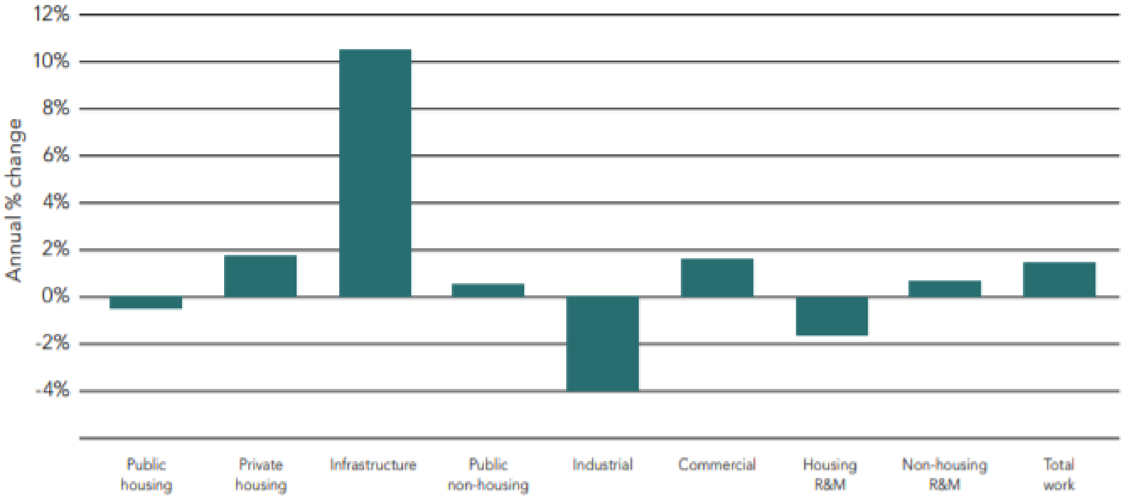
CONSTRUCTION INDUSTRY STRUCTURE 2015 – UK VS WEST MIDLANDS

	UK	West Midlands
Public housing	4%	3%
Infrastructure	15%	8%
Industrial	3%	5%
Housing R&M	18%	16%
Private housing	18%	17%
Public non-housing	7%	6%
Commercial	18%	21%
Non-housing R&M	17%	24%

Source: ONS, Experian.

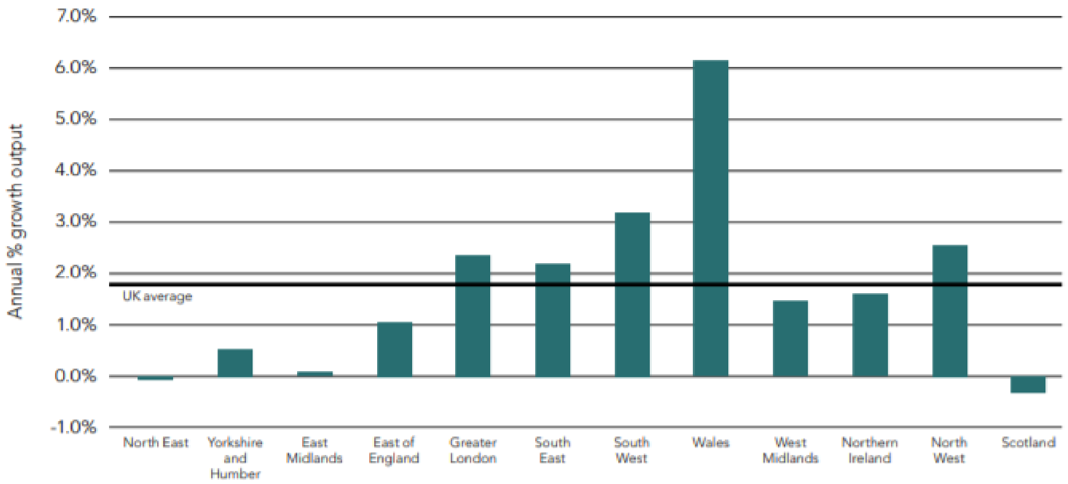
- **Infrastructure is substantially underrepresented in the region** compared to the UK average (15% of the industry in UK compared to 8% in the West Midlands).
- Construction output in the West Midlands is **forecast to grow at an annual average rate of 1.3% between 2017 and 2021, higher than all regions outside London except the North West and South East.**
- Employment is projected to grow at an annual **average rate of 0.4% a year between 2017 and 2021, compared to 0.6% at the national level**
- **The infrastructure sector is forecast to grow at an annual average rate of 10.6%** in the five years to 2021, driven by the impact of HS2**.**

ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH 2017-2021 – WEST MIDLANDS



Source: CSN, Experian.
Ref: CSN Explained.

ANNUAL AVERAGE OUTPUT GROWTH BY REGION 2017-2021



Source: CSN, Experian.
Ref: CSN Explained.

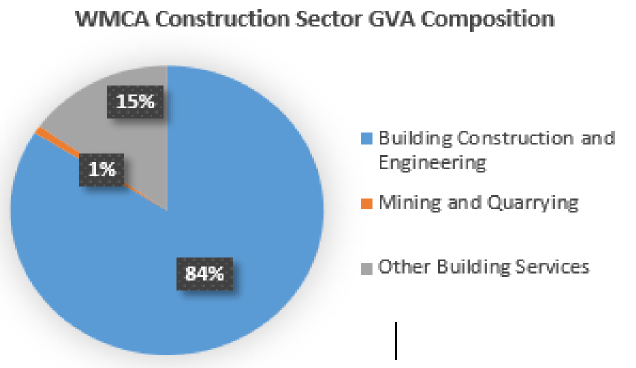
Source: CITB Regional Analysis

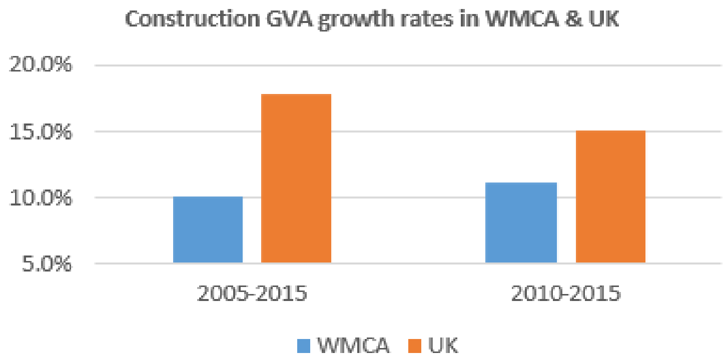
Summary Statistics: Construction (Current)

Black Country Consortium
Economic Intelligence Unit

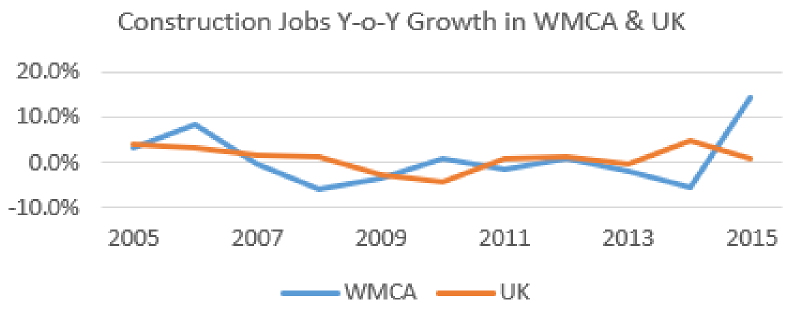
- **£7.1bn GVA** attributed to construction in WMCA, with 2030 ambition of **£10.9bn.**
- **186,000 jobs** in the sector locally. In 2030, the ambition is to have 234,000 construction jobs in the WMCA area.
- The **majority (70%) of jobs & GVA (84%)** appear within the 'Building Construction and Engineering' SIC code category.
- Construction GVA has **grown faster in the UK overall than in the WMCA** over the past 5 and 10 years.

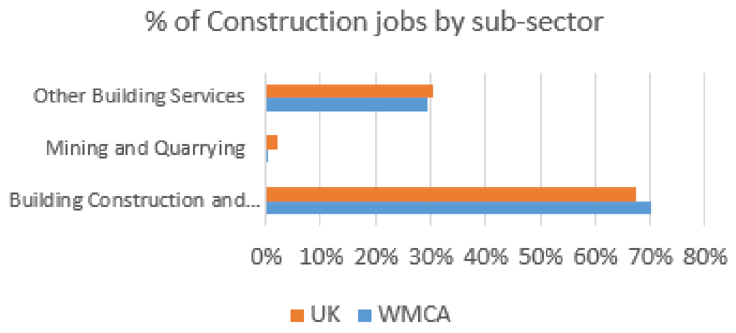
GVA Current: **£7.1bn** 2030 Ambition: **£10.9bn (+£3.8bn)** **11% growth** since 2010





Jobs Current: **186,000** 2030 Ambition: **234,000 (+48,000)** **5% growth** since 2010

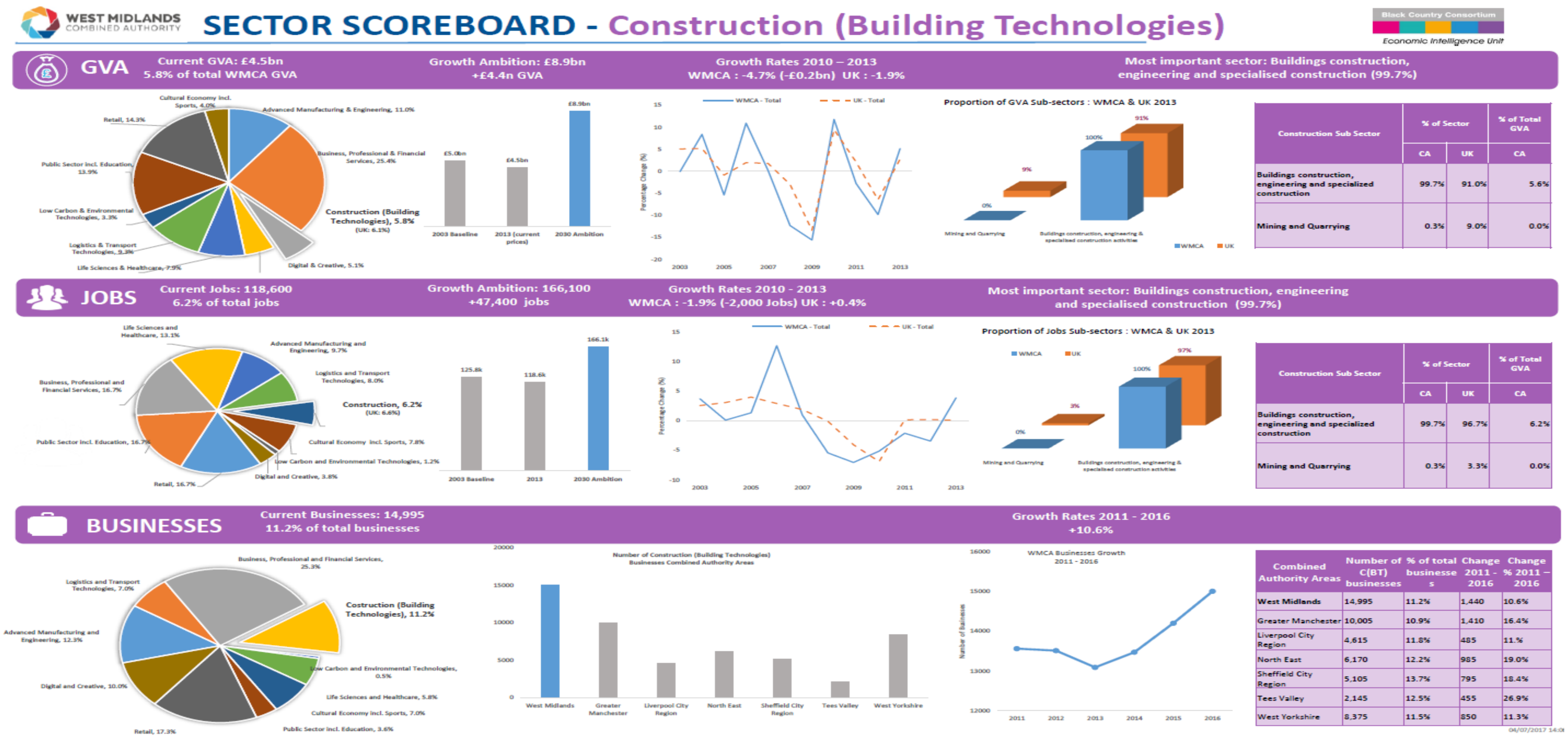




Source: Oxford Economic Model

West Midlands Combined Authority

Previous deep-dive analysis on the sector (2013 data)



Source: Oxford Economic Model

West Midlands Combined Authority

WEST MIDLANDS COMBINED AUTHORITY

SECTOR SCOREBOARD - Construction (Building Technologies)

Black Country Consortium
Economic Intelligence Unit

£2.8bn GVA | **Construction (Building Technologies): Top 50 Businesses by GVA** | £123,351 Average GVA per employee

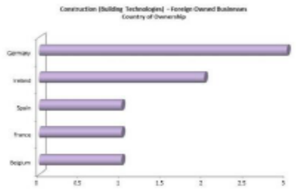
No	Company name	Industry Classification Benchmark	Ownership	Latest Operating Revenue (Turnover) th GBP Last avail. yr	Latest No of Employees Last avail. yr	GVA Latest	Employment Costs - Latest	Total Amortization and Impairment th GBP Last avail. yr	Depreciation th GBP Last avail. yr	Profit (Loss) before Taxation th GBP Last avail. yr	GVA per employee Latest	Employment Costs + Depreciation	GVA/ Costs	GVA Change 1yr %
1	Carillion PLC	Construction & Materials	UK	3,950,700	32,055	1,122,100	921,600	23,000	22,400	155,100	35,005	944,000	118.9%	16.3%
2	Tarmac Trading Limited	Mining	Foreign	2,033,800	2,919	325,500	126,200	1,600	77,200	120,500	111,511	203,400	160.0%	44.7%
3	Homeserve PLC	Support Services	UK	633,200	4,425	308,900	190,500	30,400	5,400	82,600	69,808	195,900	157.7%	13.6%
4	Interserve Construction Limited	Construction & Materials	UK	1,005,992	2,258	123,429	116,677	0	2,545	4,207	54,663	119,222	103.5%	1.8%
5	Brand Energy & Infrastructure Services UK, Ltd.	Construction & Materials	UK	78,816	1,165	54457	50363	-2,510	4,889	1,715	46,744	55,252	98.6%	-0.8%
6	Saint-Gobain Glass (United Kingdom) Limited	Construction & Materials	Foreign	174,415	1,198	53,320	46,505	0	5,193	1,622	44,508	51,698	103.1%	47.1%
7	Fortel Construction Group Limited	Construction & Materials	UK	69,334	893	36108	29682	872	136	5,418	40,434	29,818	121.1%	25.0%
8	Andrews Sykes Group PLC	Support Services	UK	60,058	519	35,565	17,239	0	4,959	13,367	68,526	22,198	160.2%	8.8%
9	I.M. Properties Development Limited	Construction & Materials	UK	83,858		34,575	0	0	0	34,575		0		145.9%
10	Uniper Technologies Limited	Support Services	Foreign	54,001	377	34,485	28,403	5	322	5,755	91,472	28,725	120.1%	12.7%
11	Lyndon Scaffolding PLC	Construction & Materials	UK	40,638	578	33,921	28,309	0	2,955	2,657	58,687	31,264	108.5%	14.2%
12	Fortel Services Limited	Construction & Materials	UK	69,341	885	33,905	28,543	0	136	5,226	38,311	28,679	118.2%	27.1%
13	Imtech Inviron Limited	Support Services	UK	100,774	854	33,837	38,811	26	350	-5,350	39,622	39,161	86.4%	-36.2%
14	Sandvik Limited	Construction & Materials	Foreign	150,468	477	31323	22378	0	3,175	5,770	65,667	25,553	122.6%	13.2%
15	Generation (UK) Limited	Construction & Materials	UK	80,531	241	30226	8593	0	5,880	15,753	125,419	14,473	208.8%	35.8%
16	Barhale PLC	Construction & Materials	UK	111,531	654	30,045	27,853	0	894	1,298	45,940	28,747	104.5%	61.6%
17	Quartzelec Ltd	Support Services	UK	65,458	580	28,030	24,524	16	1,032	2,458	48,328	25,556	109.7%	6.7%
18	Dyas UK Limited	Mining	Foreign	18,902	1	24,547	260	15,559	72,962	-64,234		73,222	33.5%	-19.1%
19	RMD Kwikform Limited	Support Services	UK	31,443	242	23663	12281	232	1,625	9,525	97,781	13,906	170.2%	25.3%
20	Sapcote Group PLC	Construction & Materials	UK	5,975	23	23,333	991	0	450	21,892	1,014,478	1,441	1619.2%	429.9%
21	Keller Limited	Construction & Materials	UK	64,210	381	23,069	20,437	0	1,732	900	60,549	22,169	104.1%	1044.9%
22	Tara Developments Limited	Construction & Materials	UK	94,223	134	21,487	9,460	189	1,713	10,125	160,351	11,173	192.3%	56.7%
23	M.V. Kelly Limited	Construction & Materials	UK	136,380	89	20,904	7,015	0	146	13,743	234,876	7,161	291.9%	256.9%
24	L & J Holdings Limited	Construction & Materials	UK	58,929	59	19,919	2,504	32	2,164	15,219	337,610	4,668	426.7%	21.2%
25	Hydratight Limited	Construction & Materials	Foreign	43,984	330	19,165	14,498	167	2,202	2,298	58,076	16,700	114.8%	-37.8%
26	Stepnell Limited	Construction & Materials	UK	95,560	427	17,903	17,746	60	909	-812	41,927	18,655	96.0%	29.7%
27	KEE Safety Group Limited	Construction & Materials	UK	51,094	357	17328	13837	18,078	449	-15,036	48,538	14,286	121.3%	29.9%
28	New Linx Housing Trust	Support Services	UK	37,950	107	17,192	4,656	0	4,563	7,973	160,673	9,219	186.5%	8.9%
29	Mapei (UK) Limited	Construction & Materials	Foreign	42,615	189	16000	7472	0	465	8,063	84,656	7,937	201.6%	16.4%
30	M & J Evans Construction Limited	Construction & Materials	UK	58,933	52	15,442	2,290	14	48	13,090	296,962	2,338	660.5%	16.4%
31	DSM Demolition Limited	Construction & Materials	UK	24,883	112	14,584	4,073	0	1,617	8,894	130,214	5,690	256.3%	-2.9%
32	W.T. Parker Ltd.	Support Services	UK	39,103	280	14,473	12,190	0	238	2,045	51,689	12,428	116.5%	-0.6%
33	Chasetown Civil Engineering Limited	Construction & Materials	UK	55,697	82	14,103	6,547	0	1,582	5,974	171,988	8,129	173.5%	36.1%
34	GRS (Roadstone) Limited	Mining	UK	125,323	138	13,883	6,593	90	347	6,853	100,601	6,940	200.0%	22.1%
35	Actemium UK Limited	Support Services	Foreign	25,981	234	12,758	10,694	0	130	1,934	54,521	10,824	117.9%	-6.6%
36	Acivico Limited	Construction & Materials	UK	38,325	343	11,943	12,573	0	0	-630	34,819	12,573	95.0%	
37	Shaylor Group PLC	Support Services	UK	81,448	179	11,884	8,494	0	207	3,183	66,391	8,701	136.6%	20.4%
38	Briggs Amasco Limited	Construction & Materials	UK	38,281	255	11,699	9,542	0	339	1,818	45,878	9,881	118.4%	5.8%
39	Kiely Bros. Limited	Construction & Materials	UK	56,529	252	11,180	7,391	0	0	3,789	44,365	7,391	151.3%	14.4%
40	Ischebeck Titan Limited	Construction & Materials	Foreign	26,739	90	10,631	5,506	24	1,532	3,569	118,122	7,038	151.1%	16.6%
41	Swisslog (UK) Ltd.	Construction & Materials	Foreign	31,742	176	10,508	10,714	544	96	-846	59,705	10,810	97.2%	4.7%
42	Simco External Framing Solutions (UK) Limited	Construction & Materials	UK	23,309	44	10487	6830	0	62	3,595	238,341	6,892	152.2%	317.8%
43	Geze UK Limited	Construction & Materials	Foreign	27,398	222	10,323	8,561	0	86	1,676	46,500	8,647	119.4%	15.8%
44	J.S. Wright & Co.Limited	Support Services	UK	34,437	140	10,122	7,728	0	70	2,324	72,300	7,798	129.8%	38.3%

GVA Growth

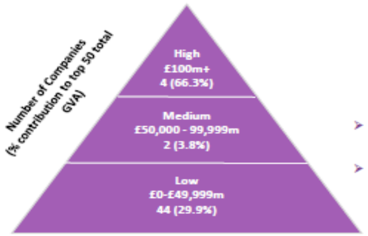
- GVA generated by the top 50 businesses has increased by 20.8% over 1yr period
- 40 of the top 50 businesses have increased GVA over a 1yr period
- 24 businesses have increased GVA by 20% and over
- 34 businesses have increased GVA by 10% and over

Foreign Ownership & Listing

- 8 businesses in the top are is foreign owned
- The largest foreign owned business is ranked 2nd - Tarmac Trading Limited
- Average GVA per employee for these businesses is £88,343
- 3 businesses are listed on the London Stock Exchange - Carillion PLC, Homeserve PLC and Andrew Sykes Group PLC



GVA Impact (£m)

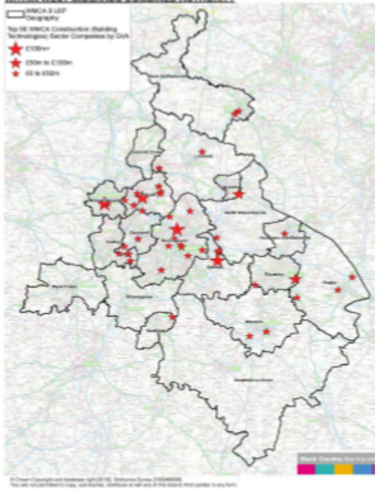


Foreign Owned Strategic Businesses: City HQs	
Germany	Dusseldorf
	Ennepetal
	Leonberg
Ireland	Dublin
Spain	Vamamo
France	Courbevoie
Belgium	Duffel

- Almost 90% of the top 50 businesses (44 businesses) generate under £50m GVA
- 4 businesses generate over £100m, accounting for 70% of total GVA generated by the top 50 businesses

Location of Top Performing Businesses

TOP CONSTRUCTION (BUILDING TECHNOLOGIES) SECTOR COMPANIES WITHIN WEST MIDLANDS COMBINED AUTHORITY



Sub Sector (Industry Classifcation Benchmark)	High		Medium		Low		Total Businesses	Total GVA	% of total GVA	Av. GVA per employee	Av. GVA/Costs	GVA Change 1yr %
	No. of businesses	GVA	No. of businesses	GVA	No. of businesses	GVA						
Construction & Materials	2	1,245,529	2	107777	31	577,148	35	1,930,454	68.1%	138,720	215.7%	22.2%
Mining	1	325,500	0	0	3	47,843	4	373,343	13.2%	127,753	163.4%	37.4%
Support Services	1	308,900	0	0	10	222,009	11	530,909	18.7%	74,646	135.6%	7.4%
Total	4	1,879,929	2	107,777	44	847,000	50	2,834,706				

Sub Sector Analysis

- 68% of GVA generated by the top 50 businesses is concentrated in 1 sub sector Construction & Materials
- Construction & Materials has the highest number of businesses in the top 50 (35 businesses)
- Construction & Materials has the highest average GVA per employee (£138,720)
- All sub sectors have seen GVA growth over a one-year period. Mining and Construction & Materials experienced growth above 20%.

04/07/

Source: FAME Database

West Midlands Combined Authority

Supporting Sector Evidence Base – Construction

Ideas

The Built Environment, Information Systems & Learning Technology Research Centre, University of Wolverhampton

The Centre for Environment and Society Research (CESR),Birmingham City University.

The Centre for Low Impact Buildings, Coventry University

People

CITB Data Tool

- Occupational demand for priority projects

CITB research & analysis, including WMCA Skills Gap Analysis Report

Infrastructure

Glenigan's Database

- Construction projects database across West Midlands region

National Centre for Brownfield Land, Wolverhampton

Business Environment

CITB research & analysis

- **Including West Midlands report**

Barbour ABI Intelligence

- **Including Construction Award Data**

Farmer Review

Places

Creative

Creative Industries Sector

£4bn+ GVA for Creative Industries across WMCA region (estimated BCC)

9,975 Creatives Enterprises across WMCA region and **48,800 jobs** (2015), second only to Manchester

£224m GVA from West Midlands Games Industry – with over 80% from the 'core' of fifty firms clustered around Leamington Spa (BOP)

240% increase in design jobs (2010-2015) with 80% advertising, marketing & PR jobs outside creative industries

Creative Industries recognised as a **catalyst of cross-sectoral innovation** across *all* sectors
The region's strong **Digital & Tech** sector further strengthens the regions advantage in enabling the development of new products and services across a wide range of industries

Birmingham recognised as a **'Creative Challenger'** Cluster with strong collaborations, sector specialisms, a diverse ecosystem and on track to become a central node in the UK's creative geography (NESTA)

£4.1bn GVA for Creative Economy across GBSLEP (9% of total) which **employs 50,000** (5.6% of total)

£1.9bn, creative services value chain and **£1.4bn creative content value chain** across GBSLEP

WMCA targets adding **£3bn in GVA and 18,000 jobs** to the region's Creative & Digital sector by 2021 and **£7bn GVA, 29,000 jobs and 18,000 NVQ4+'s** by 2030. https://www.wmca.org.uk/what-we-do/strategy page 40/41

Cultural Industries are a part of the creative industries and have significant economic activity across the region**,** including in **Birmingham** - arguably the **most significant Cultural sector outside London** with a focus on performance, theatre, dance and music. **Stratford-Upon-Avon** – with the **Royal Shakespeare Company** (RSC). **Wolverhampton** – with a wide-ranging cultural offer and **Coventry – with City of Culture in 2021,** alongside huge opportunities across the creative sector and the visitor economy through the **Commonwealth Games 2022**

Super Strengths

Games Production

10% of UK games industry, significant major games companies in region, strong connections into digital manufacturing

Next Generation Content Creation

Strengths in **Innovative and Immersive Content Creation** amplified by our **Young, Digital and Diverse** population and BBC3 moving its youth programming to the region

Creative Collaboration

Identified strengths **in creative and cross-sectoral collaborations** are driving growth across all sectors

Design

Substantial **advertising and marketing sector** with strengths including **web, product and fashion design, PR** and **data analysis**

Designer-Makers

Largest **Jewellery, high-value 'designer maker' and crafts cluster** in UK, including hand crafting within automotive production

Creative: Industry Profile

Our Competitive Advantage

- Nationally significant **Games Cluster** centred on Leamington Spa, more than 10% of UK gaming jobs
- Substantial strengths around **Advertising & Marketing, Design ICT & Web-based services**
- Strengths in **Next Generation Content Creation** amplified by our **Young and Divers**e population as creators of **'content, experiences, services and originals'**
- Largest high-value **Designer-Maker, Jewellery** and **crafts cluster** in UK, includes hand-crafting for automotive
- Strengths in **Creative and Cross-sectoral Collaboration**, with new **creative specialisms** and a **diverse ecosystem,** will drive product development and growth (NESTA 2018)
- **5G Test Bed** give's first-mover advantages to region
- Strong **Digital & Tech** sector compliments our creatives
- **Digbeth** has one of the largest creative clusters in the UK
- Significant cultural cluster centred around **'Performance', theatre** and **dance**
- **Commonwealth Games** and **Coventry City of Culture** will drive our region's profile and investibility beyond 2022
- Start-ups and SMEs benefit from **attractive business costs, expert professional advice and access to centres** of academic excellence
- Emerging potential as a High-End Production Centre

Products , Services & Brands

- **DCA Design** one of the world's leading product design and development consultancies
- **Codemasters** one of the UK's most successful games developers with global success for **McCrae, F1** and **Forza**
- **SEGA Hardlight** –for all of SEGAs mobile game products
- **Ubisoft –** games developer, including the **DJ Hero** game
- **Virtual Reality (VR)** and **Augmented reality (AR)** Market Leaders - including **Holosphere** and **Daden**
- **BBC3** bases production of its youth channel in the region
- **Father Brown**, produced at **BBC Birmingham**, now sells to an extraordinary 220 territories worldwide
- Major Performance Organisations - including **Royal Shakespeare Company** and **Birmingham Royal Ballet**
- **Film Birmingham**, Studio facilities, Location Services for high-end production and a 700 strong freelance database

Centres of Excellence/Assets

University Centres:

- STEAMhouse (BCU, Birmingham)
- International Centre of Excellence Serious Games Institute Centre of Disruptive Media (Coventry)
- National Institute of Coding (Coventry)
- With many other centres with strong industry links…

Other Centres:

- BBC Academy
- Digbeth Creative Quarter: 350+ businesses in Birmingham
- Birmingham Jewellery 'designer maker' Quarter, largest in UK
- Creative Quarter, Leamington Spa (pipeline)
- Performance Cluster centred on Royal Shakespeare Company
- International Dance Cluster, centred on Birmingham Royal Ballet and International Dance Festival
- Birmingham Ormiston Academy – regional centre for digital, creative & performing arts
- Birmingham Metropolitan College: Digital & Creative Career College
- 26HT Business Incubator
- Well-coordinated and creatively driven propositions around skills, both formal and informal: Creative Alliance, BOA, BMet Digital & Creative Career College, Quickcode Labs.

Digital Infrastructure:

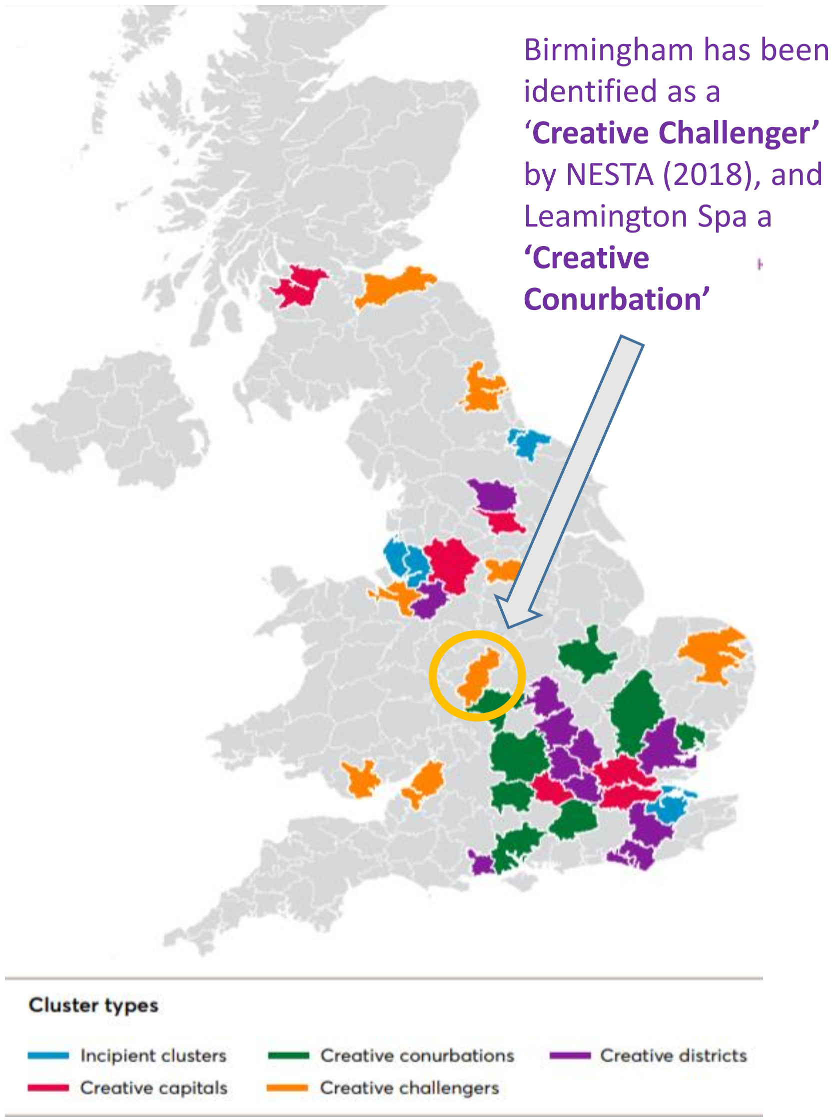
- Region-wide 5G Test Bed , 1-10Gb Fibre across parts of region

Strengths

Games Production, Next-Generation Content Creation, Creative Collaboration, Design, Designer-Makers

WMCA Creative Cluster

- **Creative GVA growth rate has been faster in WMCA than the UK** between 2013-2016 (16% growth)
- **Shared understanding amongst LEPs** and other partners that this sector plays a key role in **catalysing the aspiration of the region's 'young, diverse and digital' population**
- **BBC3 in region is** a magnet for young content makers across a variety of genres, including comedy and factual programming
- WMCA targets a **£7bn increase in Creative & Digital Sectors GVA** along with **29,000** more **creative jobs (2031)**
- Creative Industries recognised as a **catalyst of cross-sectoral innovation** across *all* sectors, e.g. AR and VR have many emerging applications, such as within advanced manufacturing. Within 10 years VR/AR will be a $100bn global industry
- Potential of **product and service innovation** across sectors is enhanced by being the **Largest Digital & Tech sector outside London**
- **86%** of **Creative jobs cannot be automated**, they also tend to be high-value, e.g., Advertising/Marketing Jobs achieve £112,600 GVA per worker, making the industry worth backing for the future



- Birmingham has a **nationally significant cluster of major arts organisations** – the strongest of any English core city outside London
- **Design and Design Thinking** is a key regional strength with **240% average growth of design jobs** across region (2010-2015), 80% in non-creative industries, represents unfulfilled cross-sectoral growth opportunities, e.g., in manufacturing
- The region has strengths around **'performance'** within the *creative experiences value chain*, especially in **theatre, dance and music**
- West Midlands is the **youngest region in Europe**, 40% of Birmingham's population is under 25 and 46% of Coventry's is under 30
- West Midlands is the region with **the most ethnically diverse population** outside the capital
- The region's **Diverse** population is a great enabler to be a **leader in new and innovative creative 'content, experiences, services and originals'**
- Birmingham City University (BCU) is the **largest provider of graduates in creative disciplines of any university** outside London and the South East
- Coventry is **the top ranked university nationally for Film Production** & Photography
- The WMCA offers m**uch lower business premises costs than other competitor creative cities**

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WMCA Creative Statistics

Definition of Creative Industries: *'Those **industries** which have their origin in individual **creativity**, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property'* (DCMS 2001). Intensity of creative occupations determines the included sub-sectors which are: Advertising & Marketing, Architecture, Crafts (Designer-Makers), Design & Designer Fashion, Film, TV, Video, Radio & Photography, IT software & computer services, Publishing, Museums, Galleries and libraries, Music, performing and visual arts. It includes a large part of the cultural industries.

Definition of Cultural Sector: *'Those industries with a cultural object at the centre of the industry'. (DCMS 2016) This includes the sub-sectors of: Arts (performing arts, artistic creation), Film, TV and Music, Radio, Photography, Crafts, Museums & Galleries, Libraries and Archives, Cultural Education and Heritage.*
DCMS also covers the Digital Sector, Gambling, Sport, Telecoms and Tourism
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/736270/DCMS_Sectors_Economic_Estimates_-_Methodology.pdf (p7,13,15)

There is a well understood link between a strong cultural offer in any given place and increased economic value by making the region more desirable to study, work and live in due to an improved quality of life for citizens. https://ahrc.ukri.org/documents/project-reports-and-reviews/measuringeconomicvalue/ (p2-9)

Across WMCA:
9,975 Creatives Enterprises across WMCA region
(second only to Manchester in CA's across UK)

48,800 Creative Jobs *within* creative industries across WMCA (BOP) with a further **40,000** creative jobs in other industries (extrapolated)

£4bn+ GVA estimated for creative industries across the West Midlands (extrapolated, but considered an under-estimate)

£224m GVA for Games industry across the West Midlands (2015) – of which £188 million was from the 'core' of fifty firms clustered around Leamington, Southam and Warwick

Around **50%** of creative jobs our freelance

Across GBSLEP:
50,000 employed across Creative Economy, **27,500** employed across Creative Industries
£2.1bn GVA for Creative Industries, **£1.9bn** GVA, **18,400** employed in Creative Services
£1.4bn GVA, **16,850** in Creative Content Production, **6,150** Digital/Creative Businesses in 2015, **32,000** Across Advertising & Marketing & ICT, Software & Computer Services
Unfulfilled potential to add **3,965** new enterprises and **30,000** new jobs
(from **5.6% to 9%** of workforce)

Across CWLEP:
9.45% annual growth in Digital Creative Cluster enterprises (2012-2016) to 1138
Across BCLEP:
£944m Black Country visitor economy from 28 million visitors (2016)
a **4.5% increase from 2014**. It provided **9,700** jobs in 2015

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Grand Challenges Context

Link to Industrial Strategy Grand Challenges

AI & Data

- Key cross overs with the digital sector
- Visitor services around the Commonwealth Games and City of Culture
- Potential impact of Channel 4 re-location
- Creative technologies in addressing isolation: This is both a community and a technology space. Coventry's City of Culture has a focus of wellbeing and community which may be an opportunity to look at digital and creative approaches to engaging with older people. Coventry is a recognised 'living lab' and the City of Culture could support testbed activity.

Supporting Sector Evidence Base: Creative Industries

Ideas

Creative Industries: A Toolkit for Cities & Regions (CIC 2017)
Creative Nation Report (NESTA 2018)
GBSLEP Creative Industries Delivery Plan / CI Steering Group
West Midlands Screen Bureau (CA/BFI)
WMCA Creative, Culture & Tourism Group

People

Creative Skillset Reports on Creative Workers, Freelancers, job trends
British Film Industry 2022 – Strategy for the UK
Create Together: Creative Industries Council strategy for Cross Industry Collaboration (CIC 2014)
Skills & Employment Boards (GBSLEP/CWLEP/BCLEP)
WMCA Diversity
ESFA Data cube - FE provision data (inc. apprenticeships) across subjects/sectors
HESA data - HE provision data across subjects/sectors
NOMIS analysis - Jobs, qualifications, earning, business counts etc
Oxford Economic Model - Jobs by sub-sectors, occupations by sub-sectors & geographies

Infrastructure

Significant Maker & 3d Design Engineering Cluster in Jewellery Quarter
Significant Creative & Digital Cluster in Digbeth, Birmingham
Significant Games Cluster focused around Coventry & Leamington Spa
Arguably the leading cultural sector outside London
Birmingham emerging Challenger Creative Cluster (NESTA 2018)
5G Test Bed to be built across region

Business Environment

GBSLEP Creative Economy Mapping Study (BOP/GBSLEP)
Games Industry in Coventry & Warwickshire Report (CWLEP/UKIE)
WMCA Culture, Creative & Tourism Study (Tom Fleming/WMCA Creative Group)
Independent review of Creative Industries (Sector Deal/Sir Peter Bazalgette)
WMGC 'Deep Dive Reports (around Creative & Digital)
Creative England Reports on screen and tech
Creative Industry Federation Reports on many subjects, including brexit
Chamber Quarterly Economic Survey (QES)

- Local business confidence survey

Chamber export documents
Local Research (inc. Black Country LEP & BCC Ltd. EIU, West Midlands Growth Company, GBSLEP, Coventry & Warwickshire LEP etc.)

Places

Spatial analysis of companies and assets - Mapping of companies across sectors
Centres of Excellence, Strong Cultural Offer across Region

Black Country Consortium
Economic Intelligence Unit

Life Sciences & Healthcare

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Life Sciences – Regional profile

- 5^{th} largest UK concentration of life sciences employment – after the 'golden triangle' (London-Cambridge-Oxford) and the North West (HMG, 2016)

- Established medical technologies cluster, covering the R&D, design and production of devices, diagnostics and software as a medical device (SQW, 2017)

- Established clinical trials capability including cost effective access to a integrated clinical and genomic data sets for a diverse patient population and trials networks for accelerated trials (IBM-PLI, 2017)

- Competitiveness for FDI in high value medical technologies R&D and manufacture drawing on regional strengths advanced manufacturing and digital (source: IBM-PLI, 2017)

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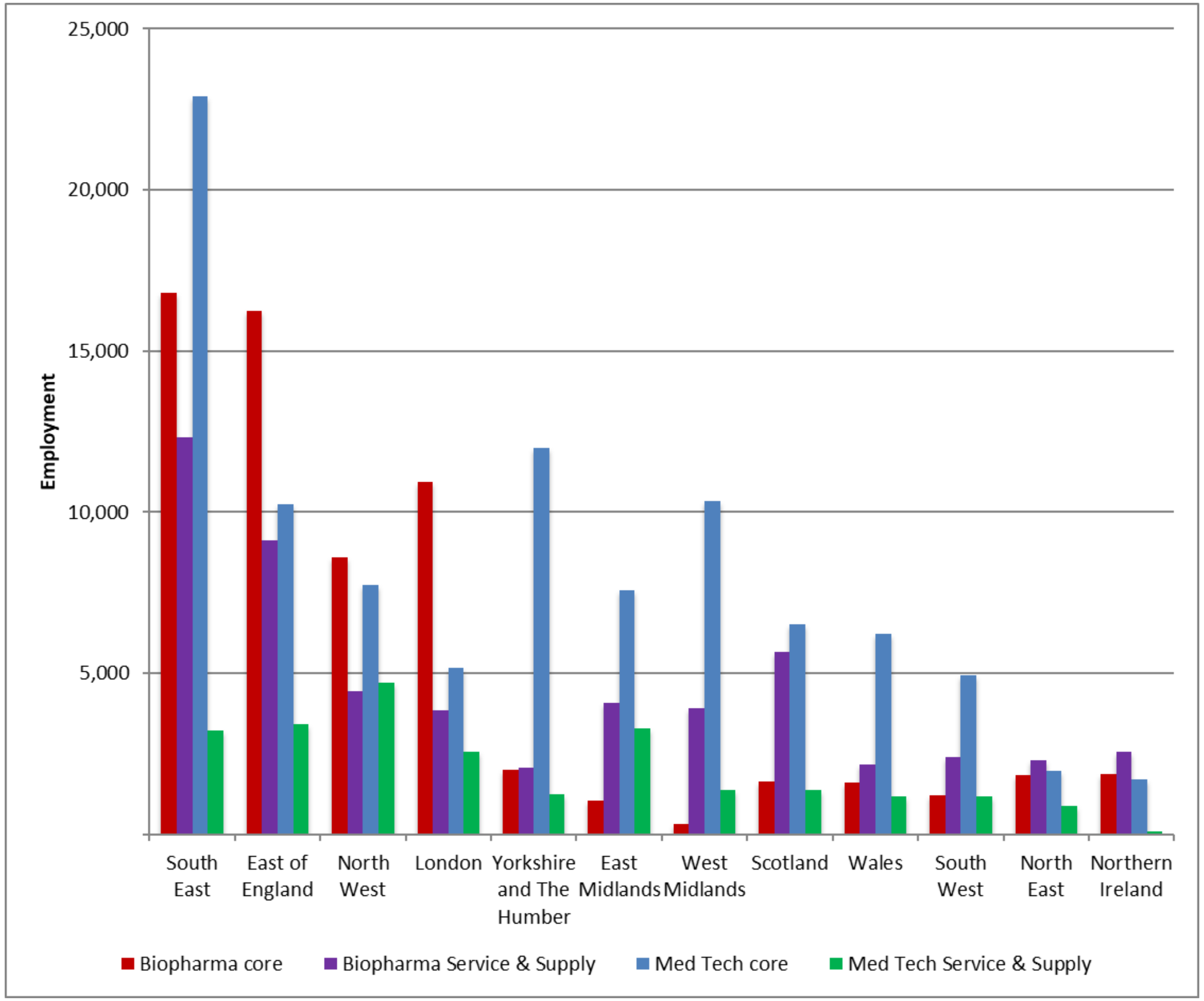
WMCA Life Sciences Cluster

- The Government's yearly **Strength & Opportunity** publication provides the most robust measure of life sciences activity in the UK.

- According to this data there are **400 life sciences businesses in the WMCA 3-LEP area, employing around 11,000 and generating approx. £4bn turnover** ('Strength & Opportunity', 2017).

- The **core Medical Technologies sector is the largest sub-activity of life sciences in the WM**, **employing over 7,000** people and making up 8% of the UK's total core Med Tech employment.

Life Sciences: Regional Distribution of Employment by Sub-Activity



Source: Strength & Opportunity 2017, Offi

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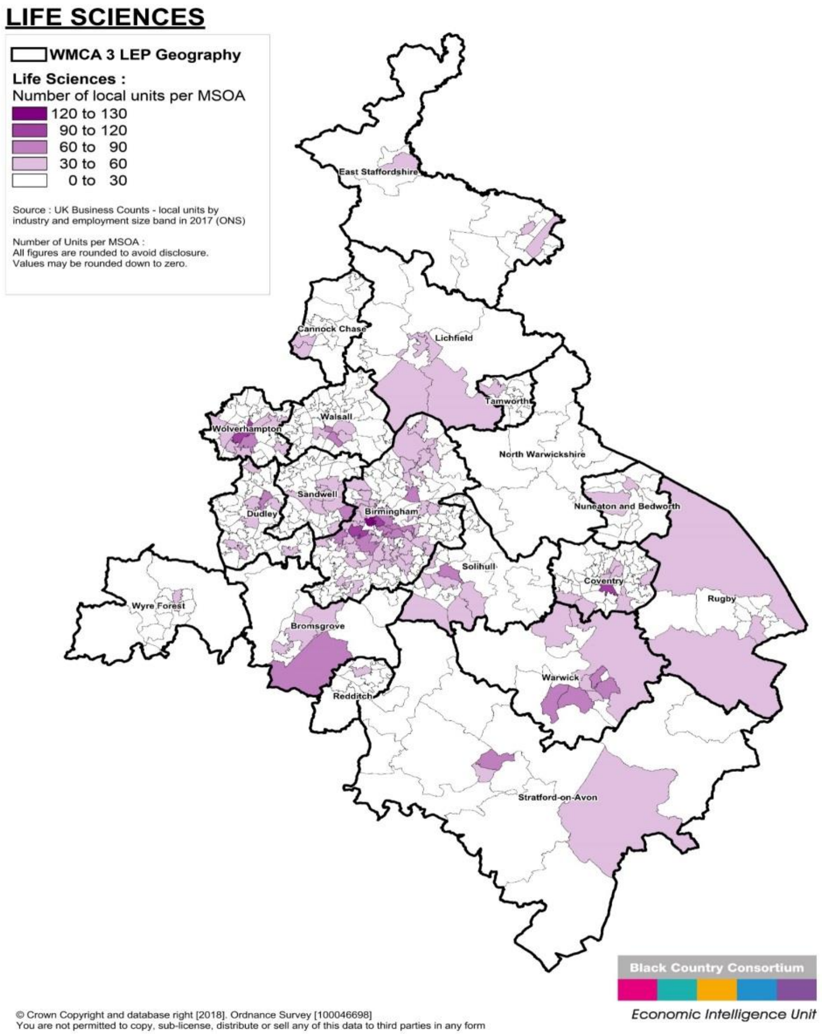
WMCA Life Sciences Cluster



Super Strengths

Medical Devices & Diagnostics

- Industry R&D, design and production of high tech medical devices and diagnostics including global players - The Binding Site, Salts Healthcare and Kimal and a fast-growing base of digital tech companies in healthcare
- Specialist industry support offer and facilities for med tech companies including the MD-TEC Medical Devices Testing and Evaluation Centre, the Manufacturing Technology Centre and the Serendip® Digital Health incubator
- Strong translational partnerships for med tech innovations e.g. the NHR Trauma Management Med Tech Cooperative

Clinical Trials & Data Testing

- Largest clinical trials base in Europe outside Oxford, including Cancer Trials Unit
- Advanced Electronic Healthcare systems support access to integrated genomic data for large, diverse, stable, patient population
- Accelerated trials network offer to industry for rapid, cost-effective trials

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Industry Profile

Black Country Consortium
Economic Intelligence Unit

Our Competitive Advantage

- Industry strengths and global competitiveness for **FDI in high tech medical devices R&D and manufacture** drawing on region's innovative and high tech manufacturing capabilities (IBM-PLI, 2017)
- **Clinical trials and data capabilities** – largest clinical trials base in Europe outside Oxford including Cancer Trials Unit and accelerated trials networks and access to large, integrated patient data sets for a diverse, stable population – drawing on leading capabilities and track record in health data collection and testing generating novel data types
- **Strength of our clinical and academic centres of excellence including the Queen Elizabeth hospital site which is one of the largest in Europe** and includes Europe's largest organ transplant centre, the world's largest single-site critical care unit and a world-class burns and defence medicine centre
- **Strong innovation ecosystem** including translational partnerships and facilities and a network of science parks, specialist incubations and innovation support
- **Strong supply of graduate talent** with three medical schools in the region at Universities of Birmingham, Warwick and Aston

Products , Services & Brands

Largest regional concentration of life sciences companies in the UK (WMGC), offering wide array of products/services:

- **Clinical trials** – largest clinical trials base in Europe outside Oxford
- **Precision medicine** including expertise in genetic/genomic testing and patient stratification
- **Specialist diagnostics** e.g. immunodiagnostics (The Binding Site), cancer diagnostics, Alzheimers
- **Medical devices** – e.g. stoma care (Salts Healthcare), procedure packs (Kimal), orthopaedic
- **Software as a medical device/digital health** e.g. Safe Patient Systems, Evolyst, CCBT Ltd

Centres of Excellence/Assets

In addition to numerous clinical and academic centres of excellence and translational facilities covering a wide range of disease areas:

Medical Devices
MD-TEC Medical Devices Testing and Evaluation Centre
NIHR Trauma Management Med Tech Cooperative
Manufacturing Technology Centre

Digital & Data
Institute of Translational Medicine
Health Data Research UK site (HDR-UK)
Four NHS Global Digital Exemplars
West Midlands Genomic Medicine Centre
Digital Health West Midlands
Institute of Digital Healthcare

Clinical Trials
No. of academic centres of excellence, e.g. Aston Brain Centre
Trials Acceleration Programme - Centre for Clinical Haematology

Graduate/College Base
3 Medical Schools (UoB, Warwick and Aston)
Advanced Life Sciences, Solihull College

Specialist incubation, innovation support and clusters
Life Sciences Park in Edgbaston, Birmingham
The BioHub Birmingham
Serendip® Digital Health Incubator and Innovation Engine @ Innovation Birmingham
Edgbaston Medical Quarter
WMAHSN Meridian Innovation & Adoption Service

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

AI & Data

- WM is a recognised data leader at acute, primary and public healthcare University Hospital Birmingham has 1.2 million patients – all have electronic records. Birmingham Health Partners are one of 4 Health Data Research Centres
- Technology both for closed data sets (clinical data) and open, anonymised data (data analytics) is developing

Ageing Society

- Unique opportunity in the West Midlands to create an environment for new industries in healthcare based on the richness of the population data and the integration of service provision to better articulate the challenges and opportunities
- Significant health challenges (obesity, diet, diabetes) which are not restricted to older patients but will have significant impact in later life
- The impacts of an ageing population on mobility and productivity are significant
- WM's diverse population is a USP in terms of becoming a testbed for research and industry
- Enabling people to continue to work and ensuring older people become regional assets (mentoring etc)

Competitive Advantage

Patient data - access to large, integrated clinical and genomic patient data sets for a **large**, **stable** and **diverse** patient population of over 5 million with a high prevalence of cancer and rare diseases that is being deployed by clinical and academic partnerships to generate and harnesses novel data types to deliver clinical gains –:

- West Midlands Genomics Medicine Centre (WMGMC) is delivering up to 13,000 of the nationwide 100,000 Genomes Project across 17 Trusts and has recruited 79% of the rare disease conditions (more than any other)
- UHB Global Digital Exemplar has one of the most advanced Electronic Healthcare Record (EHR) systems globally
- Genomics Networked Information Exchange (GeNIE) platform integrates clinical and genomic data across 17 Trusts
- Midlands Health Data Research UK (HDR-UK) site

Trials capability - expertise in genetic/genomic testing and patient stratification and accelerated trials models developed in blood cancers and being extended to other diseases and therapies

Advanced Manufacturing & Engineering – regional expertise including AI, automation and robotics, sensor technologies, big data analytics, simulation and modelling supporting the design, development, manufacture, testing and prototyping of complex medical device products and services - supports industry strengths and global competitiveness for **FDI in high tech medical devices R&D and manufacture** (IBM-PLI, 2017)

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Future Growth Opportunities

- Match between region's patient data offer and trials capability and growing industry requirements for faster, more effective trials and access to large, real-world evidence for stratified patient populations

- Leverage regional academic, NHS and industry expertise in advanced manufacturing & engineering technologies, digital and data to develop innovative technologies and treatments

- Strong translational partnerships across HE-NHS-industry

- Strong innovation ecosystem and asset base which is being continually developed – particular opportunity is Life Sciences Park in Edgabaston, Birmingham offering a opportunity for attracting and developing a strong cluster of innovative life sciences companies drawing on the strengths and capabilities assets in Edgbaston and the wider region including access to patient data and clinical trials and testing capabilities

West Midlands
Combined Authority

Sector Opportunities & Challenges

The West Midlands Science & Innovation Audit identified a market strength in '**Technologies for Better Health'** including:

- **Medical technologies**, covering the R&D, design and production of devices, diagnostics, and software as a medical devices
- Economic growth opportunity from the **application and commercialisation of research strengths in translational medicine** from our clinical and research base, and the accelerated access to new drugs, treatments and health technologies
- Cluster of assets in **Edgbaston** linked to wider assets across the 3-LEP geography

Growth Opportunities

- High tech medical devices R&D and manufacture
- Digital health
- Artificial intelligence
- Precision medicine
- Clinical trials
- Birmingham Life Sciences Park
- Harnessing the region's strengths and capabilities in digital and data and its engineering and manufacturing expertise to attract investment and grow the indigenous business base in medical technologies R&D manufacture and digital health.
- **Establishing the region internationally as one of Europe's premier medical, research and healthcare districts, with world-class expertise and quality care to choose from.**

Challenges in growing the regional industry include:

- Increasing awareness and profile of the region's strengths and opportunities
- Strengthening existing collaboration to create clear and seamless pathways for innovators, industry and investors including cross-sector
- Developing education and training pathways through cross-sector collaboration between industry, NHS and education
- Access to finance to support SME growth
- Supporting industry to access NHS and export markets
- Increasing region's supply of specialist facilities for industry including incubation and grow-on facilities

Inward investment prospects – Medical devices/Med tech

Typical investors

- Larger medical equipment manufacturers looking to establish or expand capacity for the UK and European market
- Investors looking to tap into the region's strong advanced manufacturing capabilities

The region's USPs

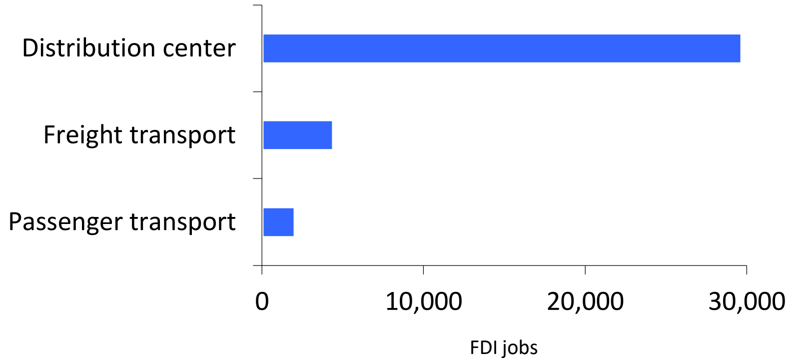
1. The UK has one of the largest company bases in electro-medical and control instruments manufacturing in the world
2. The West Midlands has the highest regional concentration of Medtech companies within the UK
3. Strong Medtech focused science & research activities
4. Strengths in testing and speed to clinical trials key as assets to support further growth
5. Favourable regulatory environment in the UK

Potential wider impact on the region's economy

A significant number of jobs (e.g. scientists/technologists with degrees and higher degrees) are high value added (i.e. highly skilled with high GVA per worker) jobs, making an important contribution to improving regional productivity.

Job volume	Job value
Medium	High

Main types of transport and logistics investment



Key emerging technologies driving business growth and investment

- Cloud computing and virtualisation technologies to monitor and utlilise capacity within vehicle fleets to accommodate peaks and troughs in demand
- Integrated delivery systems for shopping centres to increase transportation efficiencies and reduce traffic and bottlenecks
- Automated Guided Vehicles (AGV) in warehousing
- Drone transportation technologies

Key competitor locations:

UK: Manchester, Liverpool, Sheffield, Leeds, Glasgow

Europe: Dublin, Paris, Berlin, Dusseldorf

Global: Austin

Main origin countries
United States
Sweden
Japan
Germany
Switzerland
Spain
Netherlands
Israel
India
China

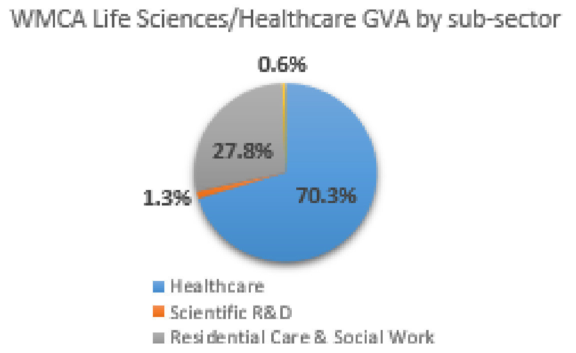
Sources:
IBM-PLI
FDI Intelligence
WMGC Regional Observatory deep dive intelligence
Black Country Consortium Economic Intelligence Unit LIS analysis

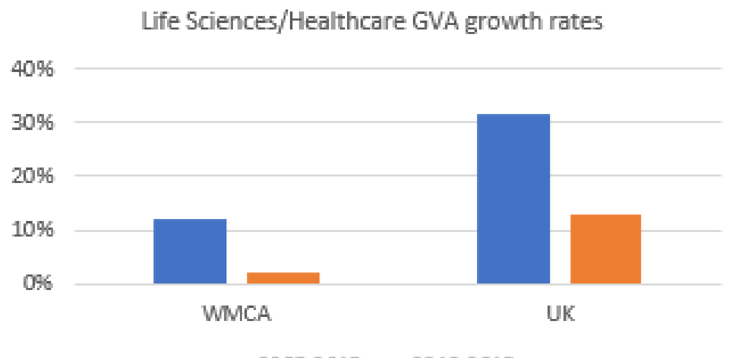
Summary Statistics: Life Sciences & Healthcare (Current)

Black Country Consortium
Economic Intelligence Unit

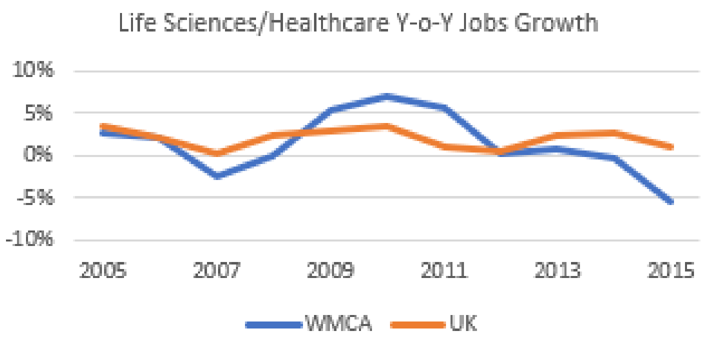
- *Data on this slide (& the following 2) uses the WMCA's initial SIC definition of Life Sciences & Healthcare: this **misses out a lot of life sciences activity that is scattered across other sector SIC codes and is therefore less robust than the S&O data for measuring life sciences in the region. Most of the data included here reflects health & social care activity rather than Life Sciences.***
- **£6.2bn GVA** attributed to life sciences & healthcare in WMCA. The 2030 ambition for this sector is £12.1bn.
- **228,300 jobs** in the sector locally, with an ambition of 323,800 for 2030.
- Life Sciences & Healthcare GVA has **grown faster in the UK overall than in the WMCA** over the past 5 and 10 years.

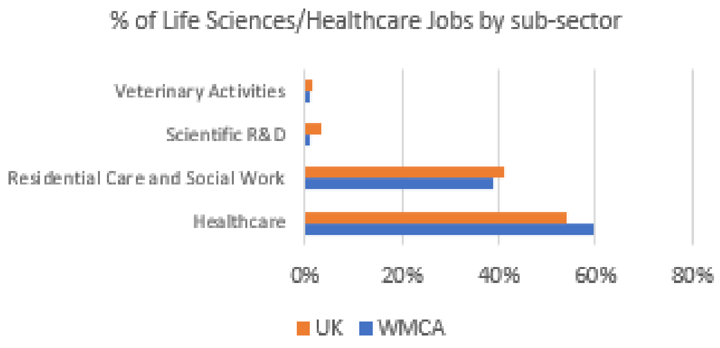
GVA Current: **£6.2bn** 2030 Ambition: **£12.1bn (+£5.9bn)**





Jobs Current: **228,300** 2030 Ambition: **323,800 (+95,500)**





Source: Oxford Economic Model

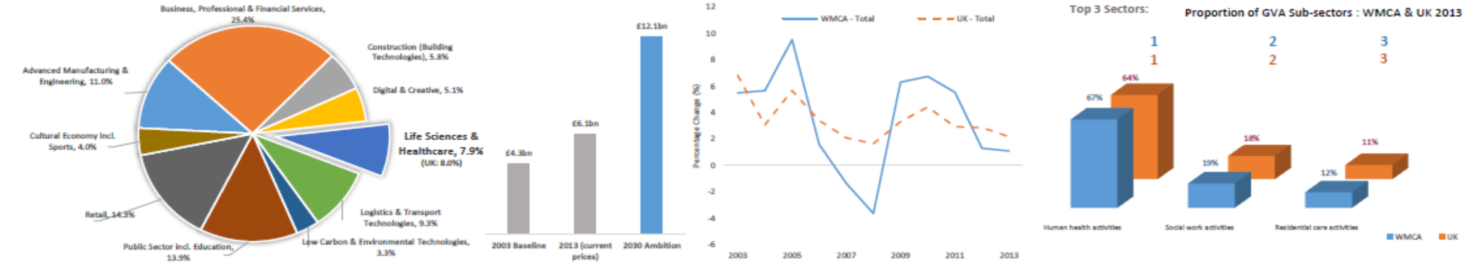
West Midlands Combined Authority

Previous deep-dive analysis on the sector (2013 data)

SECTOR SCOREBOARD – Life Sciences and Healthcare

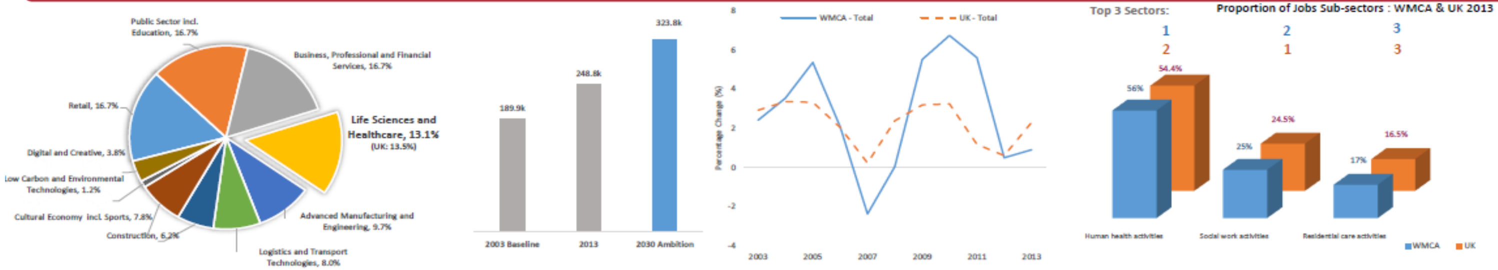
Black Country Consortium
Economic Intelligence Unit

GVA — Current GVA: £6.1bn, 7.9% of total WMCA GVA | Growth Ambition: £12.1bn, +£6.0bn GVA | Growth Rates 2010 – 2013 WMCA : +11.8% (+£0.6bn) UK : +8.1% | Most important sector: Human Health Activities (67.4%)



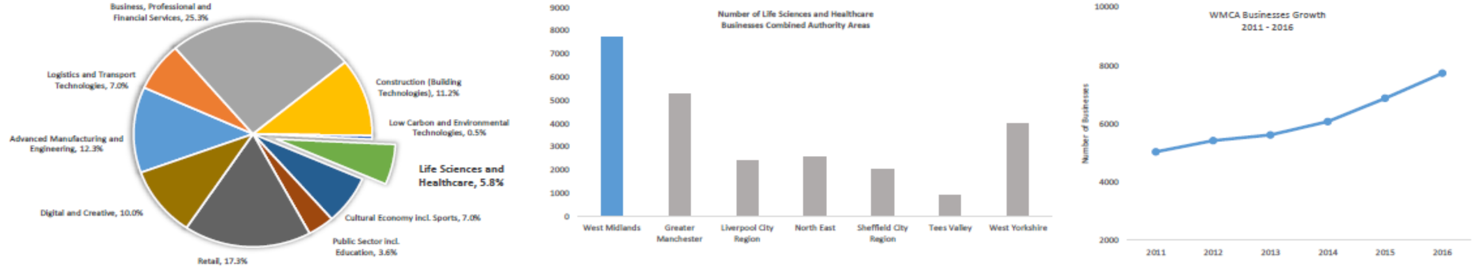
Life Sciences and Healthcare Technologies Sub Sector	% of Sector		% of Total GVA
	CA	UK	CA
Human health activities	67.4%	64.3%	5.1%
Social work activities	18.5%	17.7%	1.4%
Residential care activities	12.0%	11.0%	0.9%
Veterinary activities	1.1%	1.2%	0.1%
Scientific research and development	0.9%	5.8%	0.1%

JOBS — Current Jobs: 248,800, 13.1% of total jobs | Growth Ambition: 323,800 jobs, +75,000 jobs | Growth Rates 2010 - 2013 WMCA : +7.1% (+16,400 Jobs) UK : +4.1% | Most important sector: Human Health activities (55.7%)



Life Sciences and Healthcare Technologies Sub Sector	% of Sector		% of Total Jobs
	CA	UK	CA
Human health activities	55.7%	54.4%	7.3%
Social work activities	25.0%	24.5%	3.3%
Residential care activities	17.3%	16.5%	2.3%
Veterinary activities	1.4%	1.4%	0.2%
Scientific research and development	0.6%	3.1%	0.1%

BUSINESSES — Current Businesses: 7,735, 5.8% of total businesses | Growth Rates 2011 - 2016 +53.6%



Combined Authority Areas	Number of LS&H businesses	% of total businesses	Change 2011 - 2016	Change % 2011 – 2016
West Midlands	7,735	5.8%	2,700	53.6%
Greater Manchester	5,290	5.8%	1,775	50.5%
Liverpool City Region	2,395	6.1%	520	27.7%
North East	2,545	5.0%	410	19.2%
Sheffield City Region	2,025	5.4%	555	37.8%
Tees Valley	885	5.2%	205	30.1%
West Yorkshire	3,985	5.5%	1,250	45.7%

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Source: Oxford Economic Model

West Midlands Combined Authority

SECTOR SCOREBOARD - Life Sciences and Healthcare

Black Country Consortium
Economic Intelligence Unit

Life Sciences & Healthcare: Top 50 Businesses by GVA

£1bn GVA

£33,269 Average GVA per employee

No.	Company name	Industry Classification Benchmark	Ownership	Latest Operating Revenue (Turnover) th GBP Last avail. yr	Latest No of Employees Last avail. yr	GVA - Latest	GVA Components: Employment Costs - Latest	GVA Components: Total Amortization and Impairment th GBP Last avail. yr	GVA Components: Depreciation th GBP Last avail. yr	GVA Components: Profit (Loss) before Taxation th GBP Last avail. yr	GVA per employee	Employment Costs + Depreciation	GVA/ Costs	GVA Change 1yr %
1	Embrace Group Limited	Healthcare Equipment & Services	UK	112,433	4,588	72526	76,107	-3,298	3,534	-3,817	15,808	79,641	91.1%	376.3%
2	Core Assets Group Limited	Healthcare Equipment & Services	UK	168,336	1,540	53265	42,271	5,424	1,414	4,156	34,588	43,685	121.9%	8.8%
3	Ideapark Limited	Healthcare Equipment & Services	UK	168,336	1,540	53247	42,271	5,424	1,414	4,138	34,576	43,685	121.9%	9.0%
4	Sevacare (UK) Limited	healthcare Equipment & Services	UK	59,107	4,248	49847	48,007	209	263	1,368	11,734	48,270	103.3%	4.7%
5	Healthcare At Home Ltd	Healthcare Equipment & Services	UK	1,374,052	1,717	48512	52,723	655	2,340	-7,206	28,254	55,063	88.1%	31.9%
6	Thera Trust	Healthcare Equipment & Services	UK	53,725	2,663	46404	45,695	8	292	409	17,425	45,987	100.9%	13.1%
7	Alliance Medical Limited	Healthcare Equipment & Services	UK	92,068	687	45976	25,853	0	9,653	10,470	66,923	35,506	129.5%	-2.9%
8	Sovereign Hospital Services Limited	Healthcare Equipment & Services	UK	68,929	1,053	40908	36,782	0	134	3,992	38,849	36,916	110.8%	-12.7%
9	Lloyds Pharmacy Clinical Homecare Limited	Healthcare Equipment & Services	Foreign	450,088	816	40084	32,438	137	1,138	6,371	49,123	33,576	119.4%	#VALUE!
10	The Binding Site Group Limited	Pharmaceuticals & Biotechnology	UK	54,198	463	39345	18,087	1,832	1,920	17,506	84,978	20,007	196.7%	20.3%
11	The Extracare Charitable Trust	Healthcare Equipment & Services	UK	81,778	1,902	38190	30,542	78	2,023	5,547	20,079	32,565	117.3%	24.3%
12	Midshires Care Limited	Healthcare Equipment & Services	UK	40,682	1,849	34879	29,615	24	184	5,056	18,864	29,799	117.0%	19.7%
13	Halcyon Topco Limited	Pharmaceuticals & Biotechnology	UK	1,426,063	1,848	28444	56,216	19,369	2,452	-49,593	15,392	58,668	48.5%	57.1%
14	Larchwood Care Homes (South) Limited	Healthcare Equipment & Services	UK	46,605	1,190	27501	26,650	0	851	0	23,110	27,501	100.0%	103.2%
15	Mira Limited	Pharmaceuticals & Biotechnology	Foreign	45,683	484	26288	23,174	0	1,759	1,355	54,314	24,933	105.4%	5.9%
16	Larchwood Care Homes (North) Limited	Healthcare Equipment & Services	UK	40,479	1,262	25671	25,157	0	720	-206	20,342	25,877	99.2%	-15.1%
17	Foster Care Associates Limited	Healthcare Equipment & Services	UK	88,656	553	25311	17,906	388	1,076	5,941	45,770	18,982	133.3%	-14.1%
18	Radis Limited	Healthcare Equipment & Services	UK	21,997	1,454	19010	18,179	332	71	428	13,074	18,250	104.2%	13.7%
19	ST. Jude Medical U.K. Limited	Pharmaceuticals & Biotechnology	Foreign	25,745	159	18522	13,485	29	53	4,955	116,491	13,538	136.8%	15.0%
20	Air Liquide (Homecare) Ltd.	Healthcare Equipment & Services	Foreign	32,239	355	17162	12,096	0	3,685	1,381	48,344	15,781	108.8%	1.9%
21	Adas UK Limited	Support Services	UK	26,407	471	15974	14,991	0	326	657	33,915	15,317	104.3%	-2.9%
22	British Pregnancy Advisory Service	Support Services	UK	28,440	724	15565	14,785	0	854	-74	21,499	15,639	99.5%	1.9%
23	G P Homecare Limited	Healthcare Equipment & Services	UK	15,900	1,003	14254	13,357	159	47	691	14,211	13,404	106.3%	-5.9%
24	Solor Care Group Limited	Healthcare Equipment & Services	UK	21,221	799	13919	13,343	-87	1,058	-395	17,421	14,401	96.7%	-13.1%
25	Linnaeus Group Limited	Healthcare Equipment & Services	UK	19,894	224	12327	9,621	5,266	122	-2,682	55,031	9,743	126.5%	
26	Trident Reach The People Charity	Healthcare Equipment & Services	UK	13,292	790	12071	11,933	0	106	32	15,280	12,039	100.3%	6.4%
27	Select Health Care Limited	Healthcare Equipment & Services	UK	17,070	797	11850	8,345	0	725	2,780	14,868	9,070	130.7%	42.3%
28	Lasercare Clinics (Harrogate) Limited	Healthcare Equipment & Services	UK	25,172	384	11805	8,215	16	1,231	2,343	30,742	9,446	125.0%	3.7%
29	Canterbury Care Homes Limited	Healthcare Equipment & Services	UK	11,644	433	11625	6,669	544	4,488	-76	26,848	11,157	104.2%	123.1%
30	Practical Action	Healthcare Equipment & Services	UK	29,688	578	11547	10,412	4	370	761	19,978	10,782	107.1%	17.0%
31	The Sandwell Community Caring Trust	Healthcare Equipment & Services	UK	14,682	603	11293	11,000	0	0	293	18,728	11,000	102.7%	-0.8%
32	Horizon Care And Education Group Limited	Support Services	UK	16,746	450	11157	10,055	0	559	543	24,793	10,614	105.1%	16.2%
33	Willows Veterinary Services Limited	Healthcare Equipment & Services	UK	17,011	150	10622	7,634	4,293	47	-1,352	70,813	7,681	138.3%	
34	Acorns Children's Hospice Trust	Healthcare Equipment & Services	UK	13,925	327	10537	11,058	0	494	-1,015	32,223	11,552	91.2%	-13.9%
35	WCS Care Group Limited	Healthcare Equipment & Services	UK	12,987	605	9903	7,923	0	828	1,152	16,369	8,751	113.2%	19.3%
36	MTC Operations Limited	Pharmaceuticals & Biotechnology	UK	22,102	261	9811	9,781	0	0	30	37,590	9,781	100.3%	#DIV/0!
37	ST. Giles Hospice	Healthcare Equipment & Services	UK	13,647	328	9387	9,176	0	575	-364	28,619	9,751	96.3%	-0.1%
38	People In Action	Healthcare Equipment & Services	UK	11,132	537	9033	9,028	28	53	-76	16,821	9,081	99.5%	-0.5%
39	RMO International Healthcare LLP	Healthcare Equipment & Services	UK	9,416	163	8712.42	7,749	0	14	950	53,450	7,763	112.2%	2.9%
40	The Care Bureau Limited	Healthcare Equipment & Services	UK	9,140	564	8451.355	7,779	25	35	613	14,985	7,814	108.2%	8.1%
41	Changan UK R & D Centre Limited	Support Services	Foreign	17,398	75	7926	5,942	207	-126	1,903	105,680	5,816	136.3%	43.8%
42	The Myton Hospices	Healthcare Equipment & Services	UK	11,092	285	7640	6,913	3	494	230	26,807	7,407	103.1%	12.1%
43	Compton Hospice Limited	Healthcare Equipment & Services	UK	9,703	268	7439	6,428	0	368	643	27,757	6,796	109.5%	-6.7%
44	Swanswell Charitable Trust	Healthcare Equipment & Services	UK	9,529	283	7100.832	6,868	0	90	143	25,091	6,958	102.1%	-13.6%
45	Extel Limited	Healthcare Equipment & Services	UK	8,859	315	7038.385	5,044	0	250	1,744	22,344	5,295	132.9%	29.3%
46	Options Autism (2) Limited	Healthcare Equipment & Services		8,651	279	6897	5,064	0	550	1,283	24,720	5,614	122.9%	11.0%
47	Shuropody Limited	Healthcare Equipment & Services	UK	19,530	515	6364	7,384	101	548	-1,669	12,357	7,932	80.2%	2.4%
48	Langley House Trust	Healthcare Equipment & Services	UK	12,027	233	6338	5,706	0	413	219	27,202	6,119	103.6%	-5.1%
49	The Air Ambulance Service	Healthcare Equipment & Services		14,694	168	6329	3,554	0	275	2,500	37,673	3,829	165.3%	26.6%
50	Greenbrook Healthcare (Hounslow) Limited	Healthcare Equipment & Services		15,433	183	5778	5,288	0	20	470	31,574	5,308	108.9%	

Life Sciences & Healthcare: UK 2013 GVA per employee - £26,970

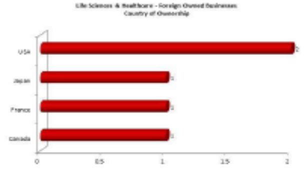
23 of the above 50 companies (46%) have above average GVA per employee

GVA Growth

- GVA generated by the top 50 businesses has increased by 25.8% over 1yr period
- 32 of the top 50 businesses have increased GVA over a 1yr period
- 11 businesses have increased GVA by 20% and over
- 20 businesses have increased GVA by 10% and over

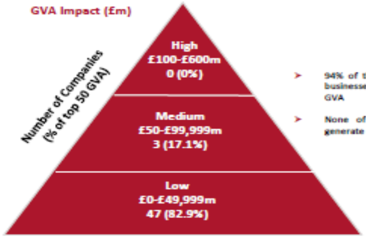
Foreign Ownership & Listing

- 5 businesses in the top 50 are foreign owned
- The largest foreign owned company in the top 50 is ranked 9th - Lloyds Pharmacy Clinical Homecare Limited
- The largest number of global owners are in the USA (2 businesses)
- Average GVA per employee for these businesses is £172,327
- 5 businesses are listed on the London Stock Exchange - GKN PLC, National Express Group PLC, IMI PLC, Halfords Group PLC, Rotala PLC



Foreign Owned Strategic Businesses: City HQs	
USA	San Francisco
	St Paul
Japan	Kyoto
China	Chongqing
France	Paris

GVA Impact (£m)



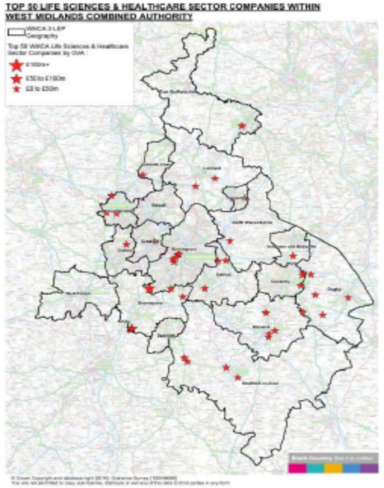
- 94% of the top 50 businesses (47 businesses) generate under £50m GVA
- None of the top 50 businesses generate over £100m

Sub Sector (Industry Classification Benchmark)	High: No. of businesses	High: GVA	Medium: No. of businesses	Medium: GVA	Low: No. of businesses	Low: GVA	Total Businesses	Total GVA	% of total GVA	Av. GVA per employee	Av. GVA/ Costs	GVA Change 1yr %
Healthcare Equipment & Services	0	0	3	179,038	38	697,716	41	876,754	83.5%	28,507	111.1%	0.3%
Pharmaceuticals & biotechnology	0	0	0	0	5	122,410	5	122,410	11.7%	61,753	117.5%	33.4%
Support Services	0	0	0	0	4	50,622	4	50,622	4.8%	46,472	111.3%	8.1%
Total	0	0	3	179,038	47	870,748	50	1,049,786				

Sub Sector Analysis

- 83.5% of GVA generated by the top 50 businesses is concentrated in 1 sub sector:
- Healthcare Equipment & Services has the highest number of businesses in the top 50 (41 businesses)
- Pharmaceuticals & Biotechnology has the highest average GVA per employee
- Pharmaceuticals & Biotechnology has the highest growth rate (33.4%).

Location of Top Performing Businesses



GVA is calculated by adding together operating profit, employee costs, depreciation and amortisation/impairment charges.
There are 2 measures of companies' efficiency of wealth creation: labour productivity defined as GVA per employee and the ratio of GVA to the costs of employment and depreciation used to create it.
The data was produced by conducting a search of FAME for active companies with registered offices in the area and selecting the largest companies by turnover based on the most recent filed accounts.
Businesses have been classified using the 41 sectors in the Industry Classification Benchmark (ICB) structure for sector and industry analysis, supported by the IBC database which is maintained by FTSE International Limited.

Source: FAME Database

West Midlands Combined Authority

Supporting Sector Evidence Base – Life Sciences & Healthcare

Ideas

West Midlands Academic Health Science Network

Medical Devices Testing and Evaluation Centre

Institute of Translational Medicine

West Midlands Science & Innovation Audit

Industry engagement

People

WMCA Productivity & Skills Commission

Industry engagement

Infrastructure

Midlands Health Data Records UK site
West Midlands Growth Company
Partner case studies

Business Environment

Government Bioscience and Health Technology database: annual report 2016
- Listing of West Midlands companies including sector, activity, turnover and employment band (note Medilink WM supply the West Midlands data and will have more recent figures)

Greater Birmingham Life Sciences Commission, July 2015
- Strengths, assets and opportunities
- Areas and recommendations for improvement

Medilink WM
- Company database (supplies the Bioscience and Health Technology database

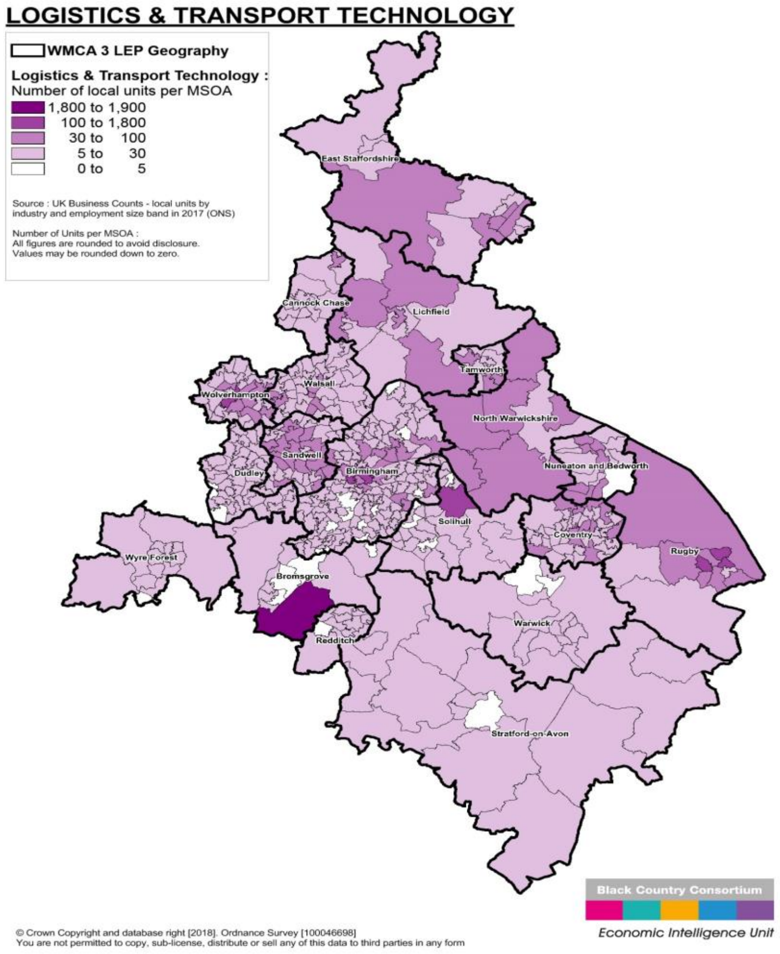
Inward investment research for the West Midlands Growth Company, IBM-PLI, 2017

Industry engagement

Places

Logistics & Transport

WMCA Logistics & Transport Cluster



Super Strengths

Central Location

- Central location with good connectivity and strong logistics network, underpinned by excellent access to the motorway network
- 90% of the UK population is within four hours' drive to the West Midlands. London is commutable in under 70 minutes and from just 45 minutes by 2026 due to HS2.

Courier Activity

- At 1.7, for Postal and Couriers, WMCA (7MET) has the highest location quotient of all UK NUTS2 areas, meaning the region has the largest share of employment in this sub-sector in the country.
- Key players present including the HQ's of DPD and Interlink Express, as well as a large number of logistics SME's

New Technology Application

- Such as automation, cloud computing, fleet management –all including cross-overs with manufacturing.
- The region's digital clusters to provide basis for this.

West Midlands Combined Authority

Industry Profile

Black Country Consortium
Economic Intelligence Unit

Our Competitive Advantage

- Central location with **good connectivity and strong logistics network**, underpinned by excellent access to the motorway network.
- **90% of the UK population is within four hours' drive to the West Midlands.** London is commutable in under 70 minutes and from just **45 minutes by 2026 due to HS2.**
- **Established transport manufacturing** industries (automotive, aerospace, rail) provide **useful sector cross-overs and collaboration opportunities.**
- Key location in the development of **next generation transport**, as identified in the SIA (electric vehicles, CAV). These are disruptive technologies within logistics & transport.
- Digital cluster (particularly in Birmingham & Leamington) has the **potential to apply AR/VR technologies etc to logistics.**
- In WMCA (7MET), Transportation and storage has the **third largest location quotient of all broad sectors ((1.2).**
- At **1.7, for Postal and Couriers, WMCA (7MET) has the highest location quotient of all UK NUTS2 areas,** meaning the region has the largest share of employment in this sub-sector in the country.

Products , Services & Brands

- **Birmingham Airport is the country's fastest growing airport,** handling 13 million passengers a year flying to 150 destinations.
- **UK HQ of DPD** in Smethwick.
- Rotala's registered bus services carry more than **29,000,000 passengers every year.**
- **National Express**, HQ'd in Birmingham, carries out **more than 882 million journeys** worldwide each year with its **fleet of over 29,000 vehicles.**

Centres of Excellence/Assets

Innovation:
- The National Transport Design Centre, Coventry
- Very Light Rail Innovation Centre
- Advanced Propulsion Centre, University of Warwick
- Birmingham Centre for Rail Research and Education
- Wton Science, Technology & Prototyping Centre
- Rolls-Royce University Technology Centre, Birmingham
- National Battery Prototype Centre, Warwick
- The Digital Media Technology Lab, BCU

Training:
- Network Rail Training Centre, Walsall
- National College for High Speed Rail, Aston

Production Processes:
- Manufacturing Technology Centre (MTC)
- Warwick Manufacturing Group (WMG)

Black Country Consortium
Economic Intelligence Unit

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

Clean Growth

- Electric and low emission logistics & transport vehicles, e.g. clean alternatives to diesel vans
- Cross-overs with automotive, rail and aerospace

Future Mobility

- CAV vehicles for logistics and public transport
- Understanding why people travel (and 'trip-chains' of different destinations) and how to create a transport system with an understanding of affordability, experience and productivity
- Improving the passenger experience through connectivity
- Maximising the impact of HS2
- Solving the perception that travel in the WM is problematic

AI/Data

- The WM has severe congestion which is affecting productivity, health (air quality and stress) and restricting clean growth of key logistics supply chains. The construction of HS2 will add to this in the short term. What data/system solutions may there be to optimise travel within the region?
- Customer/passenger data through TfWM and Swift card

West Midlands Combined Authority

Inward Investment Prospects – Transport and Logistics

Typical investors

- Major retail chains looking to establish distribution centres
- Specialist global transport and logistics providers

The region's USPs

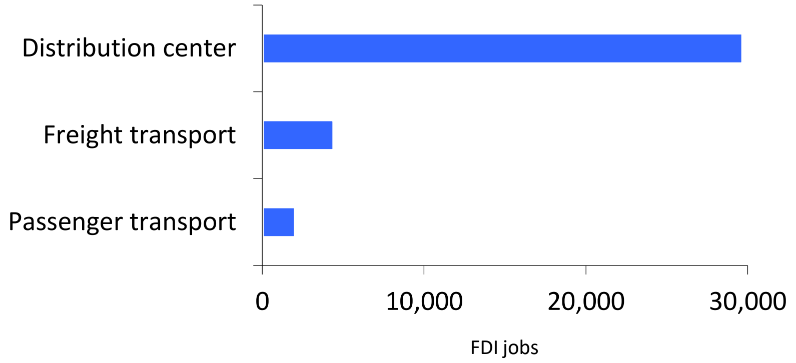
1. Strong and growing regional logistics sector (66% growth in the number of businesses in past 5 years)
2. Substantial workforce with relevant skills and experience
3. Central location with good connectivity and strong logistics network,
4. Access to large regional and UK market

Potential wider impact on the region's economy

While a significant number of jobs are created by investments, a significant proportion are relatively lower skilled (e.g. drivers, warehouse operatives). As a result investments in this sector make only a limited contribution to improving regional productivity.

Job volume	Job value
High	Low

Main types of transport and logistics investment



Key emerging technologies driving business growth and investment

- Automated Guided Vehicles (AGV) in warehousing
- Drone transportation technologies
- Cloud computing and virtualisation technologies to monitor and utlilise capacity within vehicle fleets to accommodate peaks and troughs in demand
- Integrated delivery systems for shopping centres to increase transportation efficiencies and reduce traffic and bottlenecks

Key competitor locations:

UK: London, Manchester, Liverpool, North East, Sheffield, Tees Valley, West Yorkshire

Europe: Antwerp, Rotterdam, Dusseldorf

Global: Chicago, Atlanta

Main origin countries
United States
Germany
France
Ireland
Netherlands
India
Japan
Australia
Hong Kong

S
IE
F
WMGC Regional Observatory deep dive intelligence
Black Country Consortium Economic Intelligence Unit LIS analysis

Summary Statistics: Logistics & Transport (Current)

Black Country Consortium
Economic Intelligence Unit

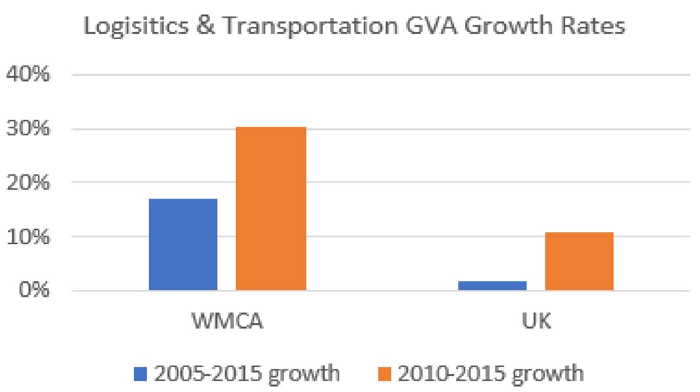
- **£4.7bn GVA** attributed to logistics & transport in WMCA, with a 2030 ambition of £7.1bn.

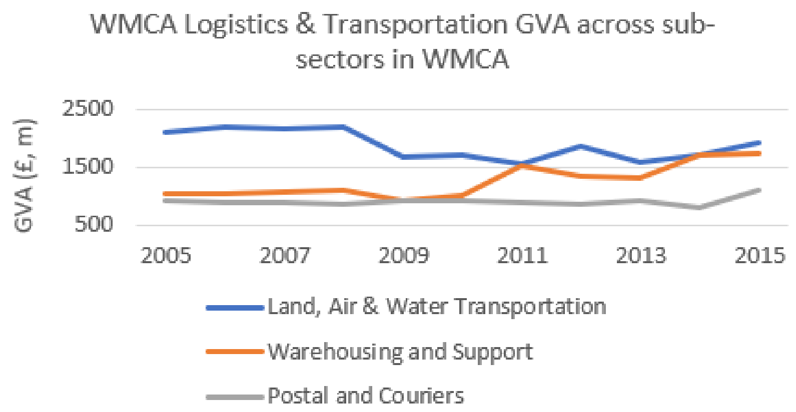
- **123,000 jobs** in the sector locally. In 2030, the ambition is that 125,000 jobs will exist in logistics & transport.

- Jobs & GVA is quite evenly spread across the three sub-sectors, though the **largest is 'Land, Air & Water Transportation'** (42% of jobs & 40% of GVA).

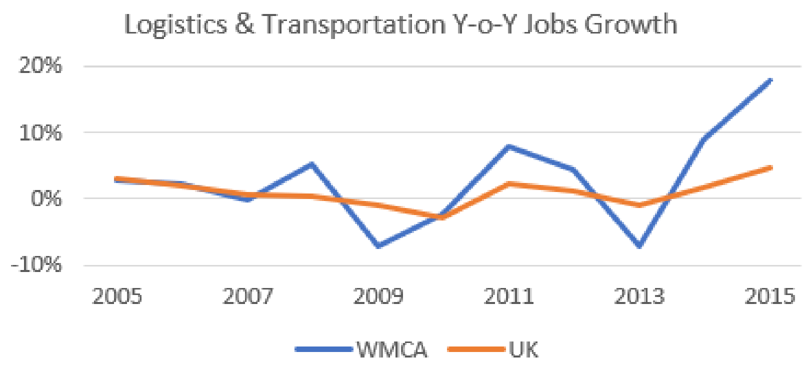
- Logistics & Transport GVA has **grown faster in the WMCA than it has in the UK overall WMCA** over the past 5 and 10 years (30% growth compared to 11% since 2010).

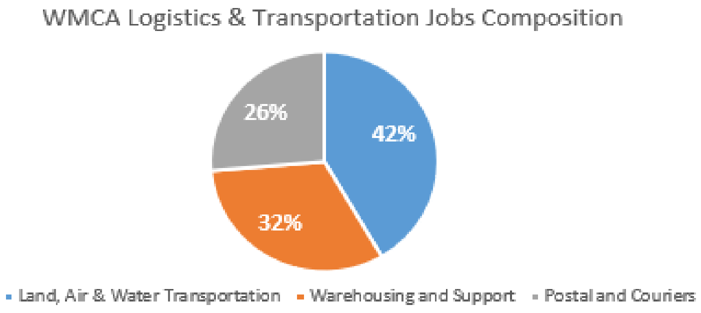
GVA Current: **£4.7bn** 2030 Ambition: **£7.1bn (+£3.4bn)** **30% growth** since 2010





Jobs Current: **123,000** 2030 Ambition: **125,000 (+2,000)** **34% growth** since 2010





Source: Oxford Economic Model

West Midlands Combined Authority

Previous deep-dive analysis on the sector (2013 data)

WEST MIDLANDS COMBINED AUTHORITY

SECTOR SCORECARD – TRANSPORT TECHNOLOGIES

Black Country Consortium
Economic Intelligence Unit

GVA

Current GVA: £3.6bn
4.6% of total WMCA GVA

Growth Ambition: £5.5bn
+£1.9bn GVA

Growth Rates 2010 – 2013
WMCA : +37.1% (+£3.5bn) UK : +17.2%

Most important sector: Machinery, motor vehicles and other transport (100%)

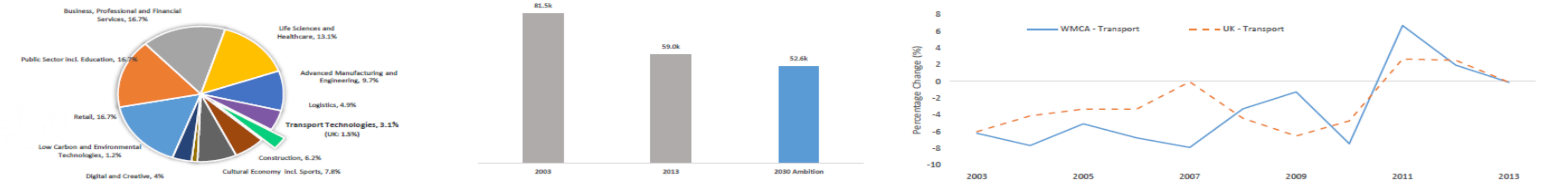
JOBS

Current Jobs: 59,000
3.1% of total jobs

Growth Ambition: 52,600
-6,400 jobs

Growth Rates 2010 - 2013
WMCA : +8.7% (+4,700 Jobs) UK : +5.2%

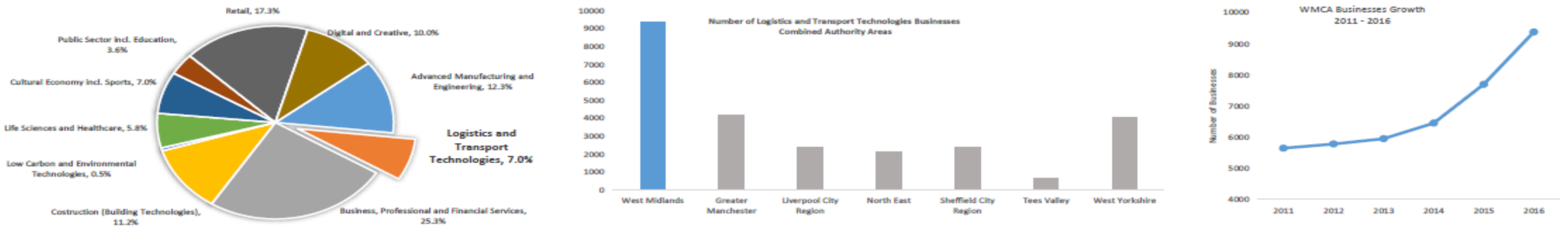
Most important sector: Machinery, motor vehic and other transport (100%)



BUSINESSES – inc. Logistics & Transport Technologies

Current Businesses: 9,375
7.0% of total businesses

Growth Rates 2011 - 2016
+66.1%



Combined Authority Areas	Number of L&TT businesses	% of total businesses	Change 2011 - 2016	Change % 2011 – 2016
West Midlands	9,375	7.0%	3,370	66.1%
Greater Manchester	4,140	4.5%	1,095	36.0%
Liverpool City Region	2,355	6.0%	1,030	77.7%
North East	2,125	4.2%	190	9.8%
Sheffield City Region	2,370	6.4%	835	54.4%
Tees Valley	675	3.9%	140	26.2%
West Yorkshire	4,045	5.6%	1,155	40.0%

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Source: Oxford Economic Model

West Midlands Combined Authority

SECTOR SCORECARD - LOGISTICS

Black Country Consortium
Economic Intelligence Unit

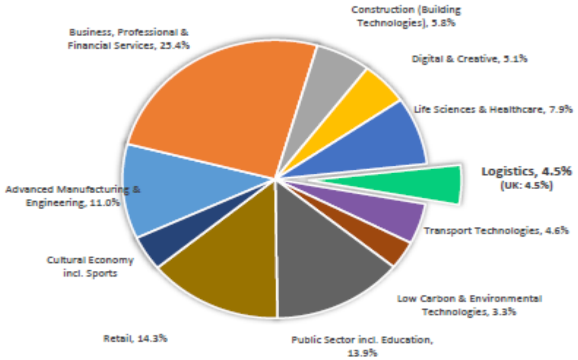
GVA

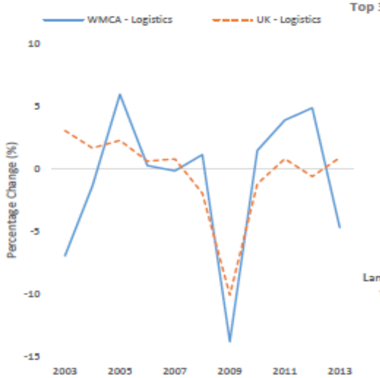
Current GVA: £3.5bn
4.5% of total WMCA GVA

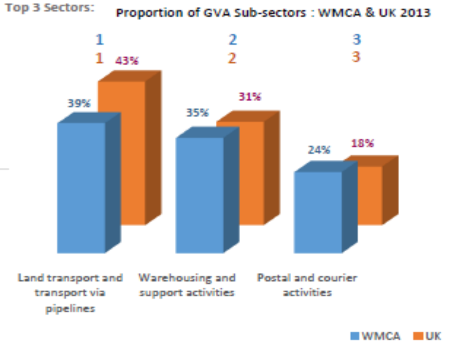
Growth Ambition: £6.9bn
+£3.4bn GVA

Growth Rates 2010 – 2013
WMCA : 3.8% (+£128m) UK : +1.1%

Most important sector: Land Transport and transport via pipelines (50.6%)







Logistics Sub Sectors	% of Sector		% of Total GVA
	CA	UK	WMCA
Land transport and transport via pipelines	39.1%	43.2%	1.8%
Warehousing and support activities	34.6%	31.1%	1.6%
Postal and courier activities	24.3%	17.6%	1.1%
Water and air transport	2.0%	8.1%	0.1%

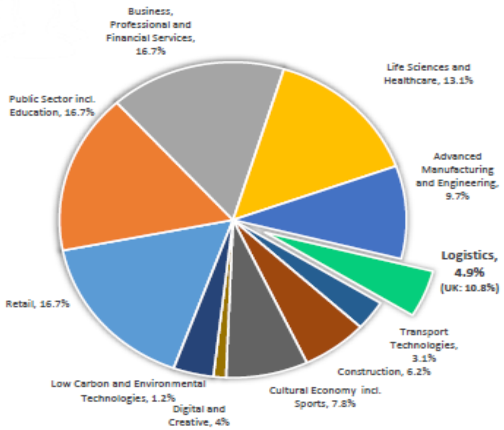
JOBS

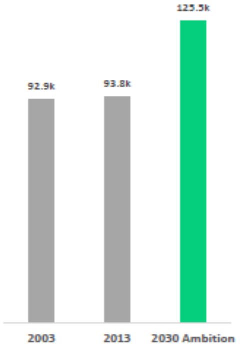
Current Jobs: 93,800
4.9% of total jobs

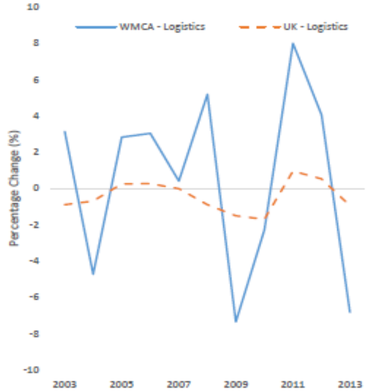
Growth Ambition: 125,500
+ 31,700 jobs

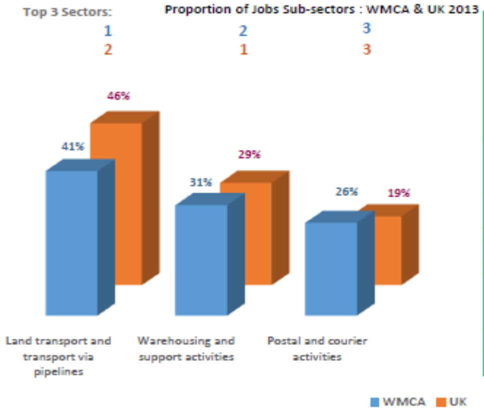
Growth Rates 2010 - 2013
WMCA : +4.7% (+4,200 Jobs) UK : +3.0%

Most important sector: Land Transport and transport via pipelines (40.9%)









Logistics and Transport Technologies Sub Sector	% of Sector		% of Total Jobs
	CA	UK	WMCA
Land transport and transport via pipelines	40.9%	45.8%	2.0%
Warehousing and support activities	31.3%	28.9%	1.5%
Postal and courier activities	26.3%	19.4%	1.3%
Water and air transport	1.5%	5.8%	0.1%

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Source: Oxford Economic Model

West Midlands Combined Authority

SECTOR SCORECARD - Logistics and Transport Technologies

black country consortium ltd economic intelligence unit

£11.7bn GVA | **Logistics & Transport Technologies: Top 50 Businesses by GVA** | £106,144 Average GVA per employee

Transport Technologies

No.	Company name	Industry Classification Benchmark	Ownership	Latest Operating Revenue (Turnover) th GBP Last avail. yr	Latest No of Employees Last avail. yr	GVA (Latest)	GVA Components: Employee Costs (Latest)	GVA Components: Total Amortization and Impairment th GBP Last avail. yr	GVA Components: Depreciation th GBP Last avail. yr	GVA Components: Profit (Loss) before Tax th GBP Last avail. yr	GVA per employee	GVA/ Costs	GVA Change (1yr %)
1	Jaguar Land Rover Limited	Automobiles & Parts	Foreign	19,079,000	32,479	4,679,000	2,182,000	774,000	626,000	1,097,000	144,062	166.6%	4.3%
2	GKN PLC	Automobiles & Parts	UK	7,231,000	47,063	2,543,000	1,886,000	147,000	265,000	245,000	54,034	118.2%	5.7%
3	Delphi Diesel Systems Limited	Automobiles & Parts	UK	428,383	2,600	174,458	120,181	4,256	18,780	31,241	67,099	125.5%	0.3%
4	TRW Limited	Automobiles & Parts	UK	306,601	2,005	125,272	67,151	440	10,017	47,664	62,480	162.3%	46.9%
5	Eriks Industrial Services Limited	Automobiles & Parts	Foreign	271,507	1,851	79,385	64,767	461	1,766	12,391	42,888	119.3%	-4.1%
6	Aston Martin Holdings (UK) Limited	Automobiles & Parts	UK	510,172	1,476	74,928	83,407	73,157	46,320	-127,956	50,764	57.8%	-3.9%
7	International Automotive Components Group Limited	Automobiles & Parts	UK	489,044	2,002	69,227	61,701	0	7,181	345	34,579	100.5%	8.7%
8	Titan Europe Limited	Automobiles & Parts	Foreign	280,271	2,051	58,979	61,753	738	12,573	-16,085	28,756	79.4%	-18.2%
9	Stadco Limited	Automobiles & Parts	Foreign	218,057	1,012	55,999	41,593	2	4,715	9,689	55,335	120.9%	14.0%
10	Dennis Eagle Limited	Automobiles & Parts	UK	146,564	624	34,163	21,906	663	890	10,704	54,748	149.9%	-3.9%
11	SAI Automotive Fradley Ltd	Automobiles & Parts	Foreign	150,681	499	28,373	14,781	16	741	12,835	56,860	182.8%	
12	Schaeffler (UK) Limited	Automobiles & Parts	Foreign	65,765	310	23,248	12,798	8	2,066	8,376	74,994	156.4%	-2.1%
13	Brose Limited	Automobiles & Parts	Foreign	153,802	405	21,595	12,953	0	3,714	4,928	53,321	129.6%	59.0%
14	DAU Draexlmaier Automotive UK Limited	Automobiles & Parts	UK	32,482	429	19,634	16,303	0	1,743	1,588	45,767	108.8%	14.5%
15	AWC Industries Limited	Automobiles & Parts	UK	58,424	748	19,405	15,323	-253	2,355	1,980	25,943	109.8%	-5.4%
16	Mahle Engine Systems UK Limited	Automobiles & Parts	Foreign	48,035	488	15,469	16,011	1,028	1,063	-2,633	31,699	90.6%	
17	Grupo Antolin Leamington Limited	Automobiles & Parts	Foreign	68,962	196	14,816	6,410	683	929	6,794	75,592	201.9%	-8.2%
18	Rudolph & Hellmann Automotive Limited	Automobiles & Parts	UK	34,152	495	13,977	13,612	0	61	304	28,236	102.2%	69.9%
19	CAB Automotive Ltd.	Automobiles & Parts	UK	44,169	304	13,019	10,554	0	795	1,670	42,826	114.7%	40.2%
20	Paintbox Group Limited	Automobiles & Parts	UK	45,434	350	12,685	10,407	77	906	1,295	36,243	112.1%	17.6%
21	Uk-Nsi CO. Limited	Automobiles & Parts	Foreign	68,109	385	11,657	10,841	0	1,530	-714	30,278	94.2%	-16.0%
22	HUF U.K. Limited	Automobiles & Parts	Foreign	51,654	340	11,588	8,928	24	1,273	1,363	34,082	113.6%	103.4%

Logistics

No.	Company name	Industry Classification Benchmark	Ownership	Latest Operating Revenue (Turnover) th GBP Last avail. yr	Latest No of Employees Last avail. yr	GVA (Latest)	GVA Components: Employee Costs (Latest)	GVA Components: Total Amortization and Impairment th GBP Last avail. yr	GVA Components: Depreciation th GBP Last avail. yr	GVA Components: Profit (Loss) before Tax th GBP Last avail. yr	GVA per employee	GVA/ Costs	GVA Change (1yr %)
1	National Express Group PLC	Travel & Leisure	UK	1,919,800	42,622	1,130,300	875,900	25,700	104,300	124,400	26,519	115.3%	7.9%
2	IMI PLC	Industrial Engineering	UK	1,567,000	11,711	747,100	507,100	37,500	39,800	162,700	63,795	136.6%	-15.5%
3	J.C.B. Service	Industrial Engineering	Foreign	2,343,100	8,875	532,600	376,400	14,200	39,300	102,700	60,011	128.1%	-14.1%
4	Halfords Group PLC	Other	UK	1,021,500	11,038	313,300	203,400	6,300	23,800	79,800	28,384	137.9%	0.4%
5	Dpdgroup UK Ltd	Industrial Transportation	Foreign	872,547	6,136	310,759	191,138	840	14,452	104,329	50,645	151.2%	
6	Goodrich Actuation Systems Limited	Aerospace & Defence	Foreign	269,700	1,330	71,800	77,200	6,800	5,300	-17,500	53,985	87.0%	-22.7%
7	Birmingham Airport Limited	Travel & Leisure	UK	130,700	448	65,827	19,095	0	22,010	24,722	146,935	160.1%	14.5%
8	Moog Wolverhampton Limited	Aerospace & Defence	Foreign	125,337	438	45,829	20,786	2,902	1,999	20,142	104,632	201.1%	20.1%
9	Agco Limited	Industrial Engineering	Foreign	309,491	511	45,065	30,824	0	1,360	12,881	88,190	140.0%	17.2%
10	Davies Turner PLC	Industrial Transportation	UK	158,003	823	33,076	27,228	0	1,603	4,245	40,190	114.7%	7.5%
11	Rotala PLC	Travel & Leisure	UK	50,889	1,041	30,804	27,037	0	3,025	742	29,591	102.5%	0.9%
12	Interlink Express Parcels Limited	Industrial Transportation	Foreign	203,987	11	27,423	382	0	0	27,041	2,493,000	7178.8%	6.6%
13	Palletways Group Limited	Industrial Transportation	UK	237,081	521	26,709	23,370	2,140	462	737	51,265	112.1%	25.5%
14	Thwaites Limited	Industrial Engineering	UK	77,704	233	25,961	12,644	0	549	12,768	111,421	196.8%	43.8%
15	Iforce Group Limited	Industrial Transportation	UK	50,067	710	20,234	18,634	404	415	781	28,499	106.2%	33.7%
16	Hydratight Limited	Industrial Engineering	Foreign	43,984	330	19,165	14,498	167	2,202	2,298	58,076	114.8%	-37.8%
17	Carver Group Limited	Industrial Engineering	UK	44,060	233	19,145	16,109	861	344	1,831	82,167	116.4%	32.7%
18	Aspray Transport Limited	Industrial Transportation	UK	35,910	760	18,865	15,568	0	2,226	1,071	24,822	106.0%	5.9%
19	Ansaldo Nuclear Engineering Services Limited	Industrial Engineering	UK	37,104	310	18,692	14,581	247	676	3,188	60,297	122.5%	-0.3%
20	Amada United Kingdom Limited	Industrial Engineering	Foreign	65,148	211	16,499	8,233	0	269	7,997	78,194	194.1%	15.1%
21	A.Clarke & Co.(Smethwick)Limited	Industrial Transportation	UK	37,844	457	16,377	14,588	0	1,540	249	35,836	101.5%	14.0%
22	Norgren Limited	Industrial Engineering	UK	75,019	408	15,359	17,695	202	1,379	-3,917	37,645	80.5%	-0.2%
23	Concentric Birmingham Limited	Industrial Engineering	Foreign	43,717	216	15,350	6,473	0	836	8,041	71,065	210.0%	24.4%
24	Bulwell Precision Engineers Limited	Aerospace & Defence	UK	30,731	308	14,204	9,971	0	810	3,423	46,117	131.8%	21.3%
25	Napier Turbochargers Limited	Industrial Engineering	Foreign	31,896	148	14,170	5,629	1,423	1,012	6,106	95,743	213.4%	3.7%
26	HS Marston Aerospace Limited	Aerospace & Defence	Foreign	36,034	322	13,678	13,635	142	798	-897	42,478	94.8%	13.4%
27	The Alternative Parcels Company Limited	Industrial Transportation	UK	98,834	486	13,359	9,540	0	1,391	2,428	27,488	122.2%	6.5%
28	Fanuc UK Limited	Industrial Engineering	Foreign	49,367	87	12,149	6,513	408	315	4,913	139,644	177.9%	166.8%

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GVA Growth

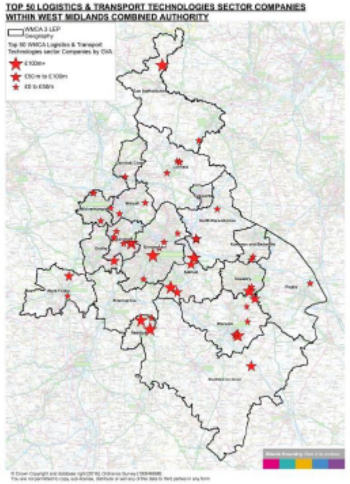
- GVA generated by the top 50 businesses has increased by 5.7% over 1yr period
- 33 of the top 50 businesses have increased GVA over a 1yr period
- 13 businesses have increased GVA by 20% and over
- 21 businesses have increased GVA by 10% and over

Foreign Ownership & Listing

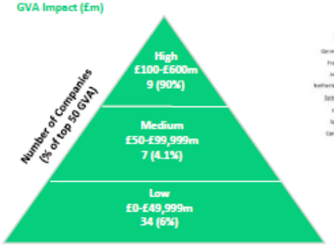
- 23 companies in the top 50 are foreign owned
- The largest foreign owned company in the top 50 is ranked 1st - Jaguar Land Rover Limited
- The largest number of global owners are in the USA (7 businesses)
- Average GVA per employee for these businesses is £172,327
- 5 businesses are listed on the London Stock Exchange - GKN PLC, National Express Group PLC, IMI PLC, Halfords Group PLC, Rotala PLC

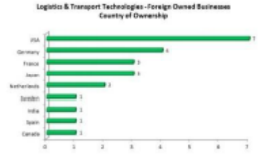
Foreign Owned Strategic Businesses:	City HQs
USA	Quincy
	Farmington
	East Aurora
	Menomonee Falls
	Wilmerding
	Duluth
Japan	Nagaoka, Niigata
	Kanagawa
	Yamanashi
France	Paris
Germany	Bamberg
	Herzogenaurach
	Velbert
	Kirchheim
Spain	Burgos
Sweden	Linkoping
India	Mumbai
Canada	Aurora

Location of Top Performing Businesses



GVA Impact (£m)





- 68% of the top 50 businesses (34 businesses) generate under £50m GVA
- 9 businesses generate over £100m, accounting for 90% of total GVA generated by the top 50 businesses

Sub Sector (Industry Classification Benchmark)	High: No. of businesses	High: GVA	Medium: No. of businesses	Medium: GVA	Low: No. of businesses	Low: GVA	Total Businesses	Total GVA	% of total GVA	Av. GVA per employee	Av. GVA/ Costs	GVA Change 1yr %
Aerospace & Defence	0	0	1	71,800	3	73,711	4	145,511	1.2%	61,803	128.7%	-6.0%
Automobiles & Parts	4	7,521,730	5	338,518	13	239629	22	8,099,877	69.0%	51,390	123.5%	5.6%
Industrial Engineering	2	1,279,700	0	0	10	201,555	12	1,481,255	12.6%	78,854	152.6%	-12.1%
Industrial Transportation	1	310,759	0	0	7	156,043	8	466,802	4.0%	343,968		41.8%
Travel & Leisure	1	1,130,300	0	0	2	96,631	3	1,226,931	10.5%	29,591	102.5%	0.9%
Other	1	313,300	0	0	0	0	1					
Total	9	10,555,789	6	410,318	35	767,569	50	11,733,676				

Sub Sector Analysis

- 69% of GVA generated by the top 50 businesses is concentrated in 1 sub sector: Automobiles & Parts
- Automobiles & Parts has the highest number of businesses in the top 50 (22 businesses)
- Industrial Transportation has the highest average GVA per employee
- Industrial Transportation has the highest growth rate (41.8%). Aerospace & Defence and Industrial Engineering have seen a negative growth rate over a 1year period.

Logistics & Transport Technologies: UK 2013 GVA per employee - £48,283
Businesses shaded in above table have above average GVA per employee: 28 (56%)

GVA is calculated by adding together operating profit, employee costs, depreciation and amortisation/impairment charges.
There are 2 measures of companies' efficiency of wealth creation: labour productivity defined as GVA per employee and the ratio of GVA to the costs of employment and depreciation used to create it.
The data was produced by conducting a search of FAME for active companies with registered offices in the area and selecting the largest companies by turnover based on the most recent filed accounts.
Businesses have been classified using the 41 sectors in the Industry Classification Benchmark (ICB) structure for sector and industry analysis, supported by the IBC database which is maintained by FTSE International Limited.

Draft

Source: FAME Database

Supporting Sector Evidence Base – Logistics & Transport

Ideas

West Midlands Science & Innovation Audit

People

Infrastructure

West Midlands Freight Strategy

West Midlands Strategic Transport Plan, 'Movement for Growth'

Business Environment

West Midlands Growth Company IBM Research

Places

West Midlands Growth Company: "Make Your Mark"

Low Carbon & Environmental Technologies

Black Country Consortium
Economic Intelligence Unit

West Midlands
Combined Authority

WMCA Low Carbon & Environment Cluster

- CWLEP ranks 2nd, and BCLEP 4th, out of all LEPs for **% of total GVA attributed to Energy & Environmental Tech** (6.6% and 4.65%).[1]
- West Midlands (7MET) has the **highest GVA of all UK NUTS2 regions in this sector**, and the 2nd highest employment (behind South Western Scotland). This is driven by a high GVA in both sub-sectors, in different areas of the region (Water/Waste in CWLEP, and Energy in BCLEP).[1]
- CWLEP is 2nd only to Thames Valley for the **lowest % of workers who have no qualifications across Energy & Environmental Tech** (11%). The area is also second on % of workers in these sectors Level 4 qualifications and above (40%).[2]
- The West Midlands Science & Innovation Audit identifies 'Energy Storage and Systems' as one of the four key Market Strengths, pointing to **major academic assets** (e.g. Energy Systems Catapult, Energy Research Accelerator) and **the scale and significant concentration of industry (see table 2).**
- WMCA's **central location** makes it attractive for infrastructural and logistical purposes

[1]*ONS Regional Accounts (2015 data)*
[2]*2011 Census data*

West Midlands Combined Authority

Table 2: Scale and concentration of activity in Energy & Environmental Tech SIC codes

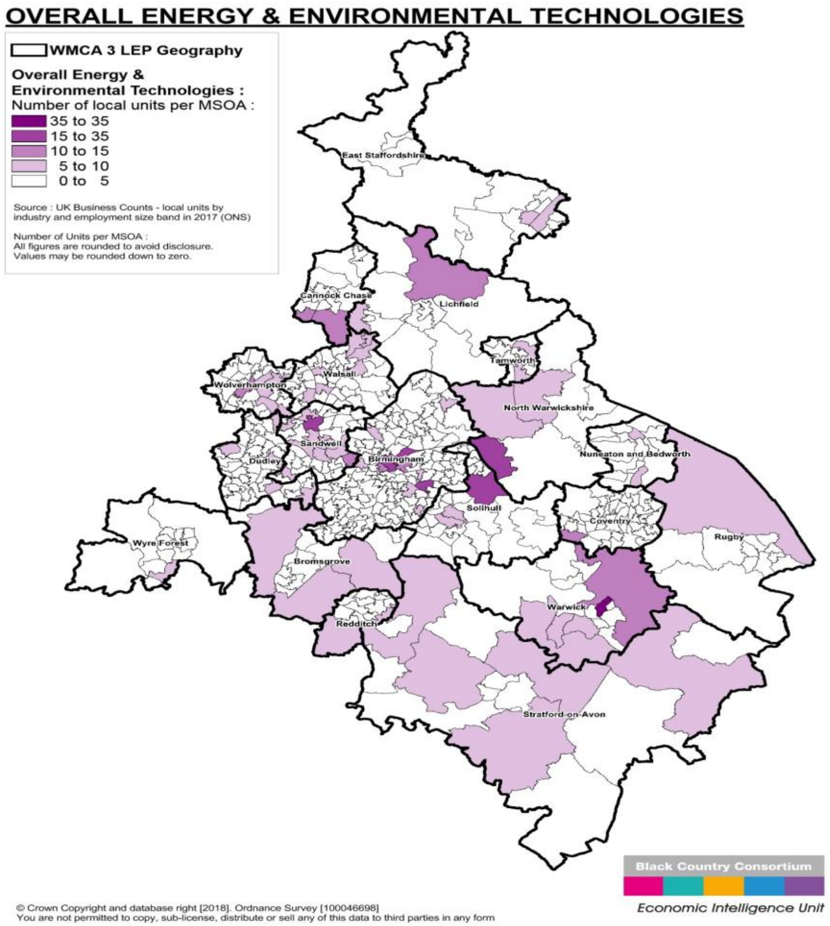
	Employment	LQ	Enterprises
Core Energy industries			
Electricity, gas, steam and air conditioning supply	11,000	1.4	5
Water collection, treatment and supply	3,500	1.7	10
Waste collection, treatment and disposal activities; materials recovery	7,000	0.9	60
Remediation activities and other waste management services	900	2.5	-

Source: West Midlands Science & Innovation Audit

Table 2 shows all the SIC codes included in our sector definition except for Sewerage. The 'LQ' column, meaning location quotient shows that **in three out of the four sector SIC codes, the WMCA is above the UK average for employment concentration.**

The high LQ for 'Electricity, gas, steam and air conditioning supply' reflects the presence in the area of **some of the largest and most important energy firms in the UK**, including National Grid, E.ON UK, and npower.

WMCA Low Carbon & Environment Cluster



Super Strengths

Battery Development

- Key players locally, both private sector and innovation/research assets (ERA, Catapult
- Links in well with automotive manufacturing cluster

Organised Partnerships

- e.g. Energy Capital

Major HQs

- E.g. National Grid, E.on, Severn Trent, South Staffs, Cadent

West Midlands Combined Authority

Industry Profile

Our Competitive Advantage

- WM has an **inbuilt natural global competitive advantage** in its energy infrastructure, energy sector skills, diversity of local markers and innovation asset base in energy systems.
- Home to the **UK headquarters of some of the most significant energy and water businesses** in the country (for example National Grid, Cadent, E.ON, Severn Trent).
- Hosts a **significant portion of the UK's energy innovation and research and deployment capacity** in the Energy Systems Catapult, our universities and various technology consultancies.
- WMCA's (7MET) LQ in Electricity, gas, steam & air conditioning supply of 1.4 is the **joint highest for all broad sectors (with manufacturing) in the area.**

Products , Services & Brands

- **South Staffordshire Water** supplies high quality drinking water to approximately 1.3m people and approximately 35,000 commercial customers.
- **Alutrade** was involved in the recycling of materials from the opening ceremony of the London Olympic Games - specifically the Olympic Rings and the mock-up of Big Ben. The aluminium recycler was involved in the removal of seating from the water polo venue too.
- **ELG Carbon Fibre** have developed the CARBISO™ product range, an innovative line of reclaimed carbon fibre products. CARBISO™ stands for high quality isotropic reclaimed carbon fibre products.

Centres of Excellence/Assets

Research Centres
- Energy Systems Catapult, Birmingham
- Energy Research Accelerator
- European Bioenergy Research Institute, University of Aston
- Energy Innovation Centre, Warwick Manufacturing Group
- Centre for Cryogenic Energy Storage, University of Birmingham
- Centre for Fuel Cell Research, University of Birmingham
- Brownfield Research & Innovation Centre (BRIC), Wolverhampton

Training
- EPSRC Centres for Doctoral Training, University of Birmingham

Programmes
- Climate-KIC Accelerator programme
- Energy Capital
- Tyseley Energy Park access to road (to unlock site for pipeline below)
- Hydrogen Buses
- European Bioenergy Research Institute
- Low Carbon SMEs
- Accelerating Thermal Energy Technology Adoption

LEP Programmes/Investments
- Built Environment Climate Change Innovations (BECCI)
- Environmental Technologies Resource Efficiency Support Service (ENTRESS)
- Low Carbon Growth Support

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

Clean Growth

- Batteries will address many of the short-medium term energy storage issues in transport and housing. Longer-term, there will be a need to improve the energy density of storage – either through improving battery technology or through other storage technologies such as hydrogen.
- Energy Innovation Zones (under Energy Capital) will facilitate place-based approaches to energy innovation and infrastructure in constrained zones.
- Air quality is a major concern across the region - Clean Air Zones will be established in Birmingham and Coventry and are a significant political driver for clean growth.
- Value from waste - building on strong supply chains to generate further value through clean growth.

Future Mobility

- Electric Vehicles & other commercialised opportunities
- Significant innovation strengths in the WM (UK Battery Industrialisation Centre, Energy Research Accelerator etc).

AI/Data

- Smart energy
- Energy storage
- Cross-overs with energy efficient construction technologies

Inward investment prospects – Low Carbon & Environment

Typical investors

- Energy service providers and utility companies
- Engineering and technology companies with battery and energy storage businesses
- Automotive companies looking to develop new cleaner car propulsion solutions.

The region's USPs

1. High demand for electric cars and associated energy storage market due to mature regional automotive cluster
2. Good pool of professionals with expertise in batteries, energy storage or electric vehicles
3. The region's universities are the most active in Europe in research on lithium ion batteries – and have the most patents granted in climate change mitigation technologies related to transportation
4. Strong regulatory support framework to stimulate the sales of electric vehicles in the UK
5. Cost saving potential compared to other strong quality location candidates

Main types of investment

- Production
- Warehouse
- Laboratory
- Office

Potential wider impact on the region's economy

Investments tend to be capital intensive and typically generate relatively limited numbers of jobs. Nevertheless a significant number (e.g. engineers and scientists/technologists with degrees and higher degrees) are high value added (i.e. highly skilled with high GVA per worker) jobs, making an important contribution to improving regional productivity.

Job volume	Job value
Low	High

Key emerging technologies driving business growth and investment

Development of cheaper, longer life nanowire, solid state, nickel metal hydride, graphene and hydrogen based battery technologies for:

- Electric vehicles
- Smart phones
- Smart homes
- Smart wearable technologies

Key competitor locations:

UK: Manchester, Liverpool,

Global: USA (e.g. Austin), China

Main origin countries
United States
South Korea
Italy
China
Japan
France

Sources:
IBM-PLI
FDI Intelligence
WMGC Regional Observatory deep dive intelligence
Black Country Consortium Economic Intelligence Unit LIS analysis

Summary Statistics: Low Carbon & Environment (Current)

The core Low Carbon & Environmental Tech sector contributes **£3.3bn** GVA in WMCA, **4% of the region's total** (the smallest of the 10 sectors). In the UK overall, the sector only takes up 2.5% of total GVA. Within the WMCA…

- The Energy sub-sector contributes **£2.1bn** (63.7% of the sector)
- Water & Waste Activities takes up the remaining **£1.2bn** (36.3%)

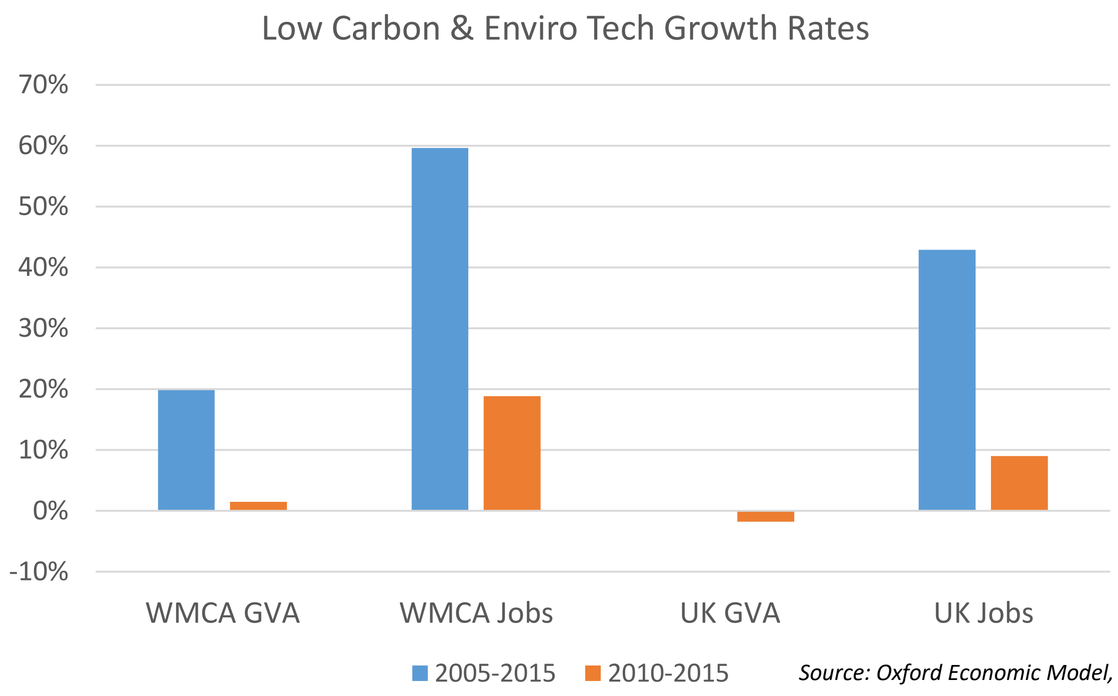
There are **24,500 jobs** in this sector in WMCA, with the Energy and Water & Waste Activities sub-sectors having an almost equal share of these.

At the UK level, the share of jobs in this sector is more sided **towards Water & Waste Activities - 60% of sector** jobs - than **Energy: 40% of sector jobs.**

Identifying the exact amount of activity outside our narrow sector definition is difficult, but it's likely that additional activity **takes the number of jobs associated with Low Carbon & Environmental Tech to above 50,000** in the WMCA area. Employment figures below give examples of the type of additional sub-sectors we are talking about; of course not all of the jobs in these sub-sectors will be related to Energy & Environment (particularly engineering activities), but it allows us to estimate.

Supporting Industry	Employment (2015)
Manufacture of coke and refined petroleum products	225
Manufacture of other organic basic chemicals	500
Manufacture of electric lighting equipment	1,250
Other professional, scientific and technical activities n.e.c	8,000
Engineering activities and related technical consultancy	23,000
Technical testing and analysis	5,000

Source: Business Register and Employment Survey (BRES)



Source: Oxford Economic Model,

- The graph above shows **that substantially high growth in jobs over the last decade hasn't been converted into equally as substantial high growth in GVA**. This is the case for both the WMCA and UK overall.
- In WMCA**, jobs have increased from 16k in 2005 to 24.5k in 2015 but GVA has only risen from £2.8bn to £3.3bn**. The disparities in GVA & Jobs growth overtime can mostly be attributed to the Energy sub-sector – this has had 14% growth in jobs since 2010 but a 3.6% decline in GVA.
- A possible reason for the contrasting levels of GVA and jobs growth in this sector is a **decrease in economic activity since the financial crisis due to** softening demand, with fixed costs remaining the same.

West Midlands Combined Authority

Productivity

Low Carbon & Environmental Tech is the **most productive of our sector definitions** both in the UK and WMCA by a considerable amount (measured by GVA per employee). Additionally, this is the **only sector in which the WMCA has a higher GVA per employee than the UK overall**, reflecting the considerable cluster of Energy & Environmental companies that are present in the region. As shown by Table 1, the WMCA has a **higher productivity than the UK across both of the sector's sub-sectors**, with Energy being the sub-sector which mostly drives the high GVA per employee figures.

- Our ambitions shouldn't be scaled back due to good performance within this sector locally; we should look to **build on successes** and **ensure the region is the UK's core area for energy production.**

Jobs growing faster than GVA has resulted in a **decline of GVA per employee**, in both the WMCA and UK (displayed in Figure 2).

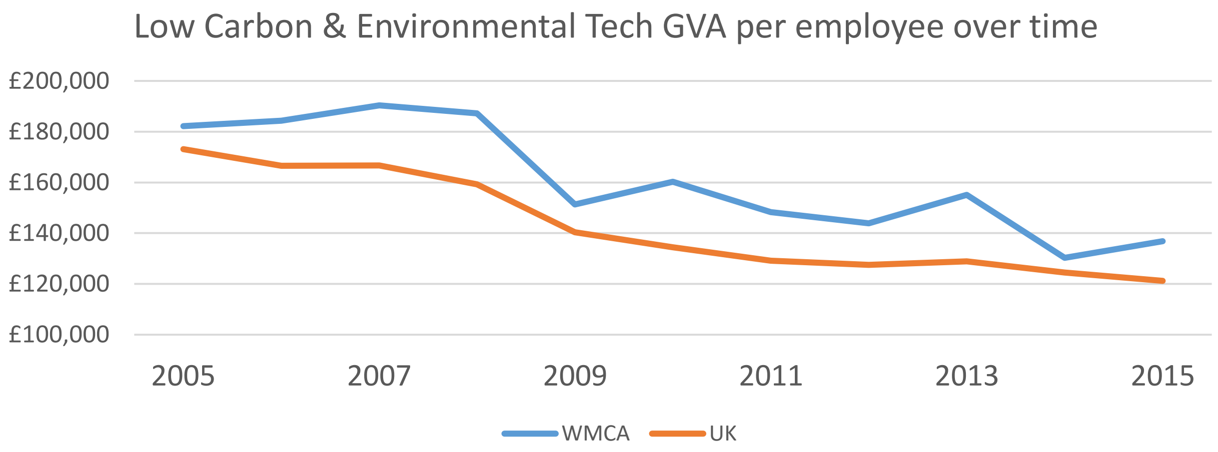
In 2007, WMCA GVA per employee was at a decade high of £190k; it is now £136k & the **gap between WMCA and the UK has narrowed since 2010.**

Nevertheless, all 3 LEP areas have a higher GVA per employee in the sector than the UK overall:
CWLEP: £148,000
BCLEP: £130,000
GBSLEP: £132,000
And **CWLEP has the highest productivity of all LEPs in this sector.**

Table 1: Productivity in Low Carbon & Environmental Tech

	GVA (£m, 2015)		Jobs (2015)		GVA per employee (2015)		
	WMCA Total	%	WMCA Total	%	WMCA	UK	Difference
Energy	£2,139	63.7%	11,913	48.6%	£179,537	£169,398	£10,138
Water & Waste Activities	£1,217	36.3%	12,620	51.4%	£96,437	£88,908	£7,529
Sector overall	**£3,356**		**24,533**		£136,789	£121,183	£15,605

Source: Oxford Economic Model



Source: Oxford Economic Model

West Midlands Combined Authority

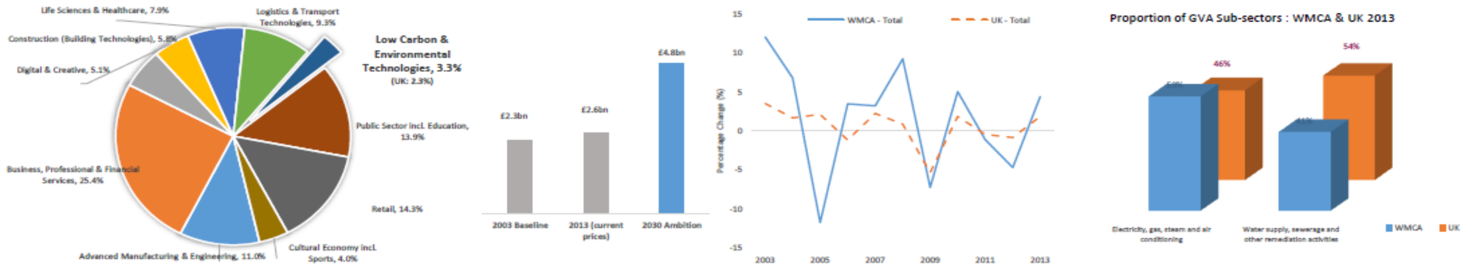
Previous deep-dive analysis on the sector (2013 data)

WEST MIDLANDS COMBINED AUTHORITY

SECTOR SCOREBOARD – Low Carbon and Environmental Technologies

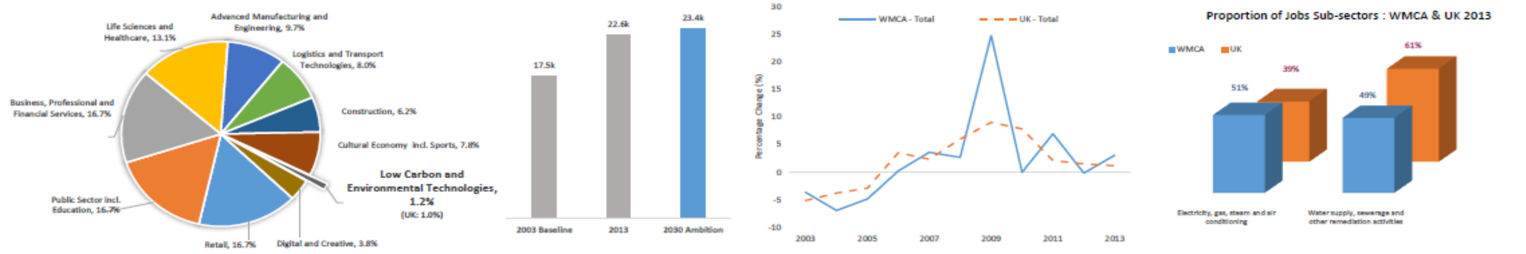
Black Country Consortium
Economic Intelligence Unit

GVA | Current GVA: £2.6 bn 3.3% of total WMCA GVA | Growth Ambition: £4.8bn +£2.2bn GVA | Growth Rates 2010 – 2013 WMCA : +1.5% (£+0.1bn) UK : +0.5% | Most important sector: Electricity, gas, steam and air conditioning (59.1%)



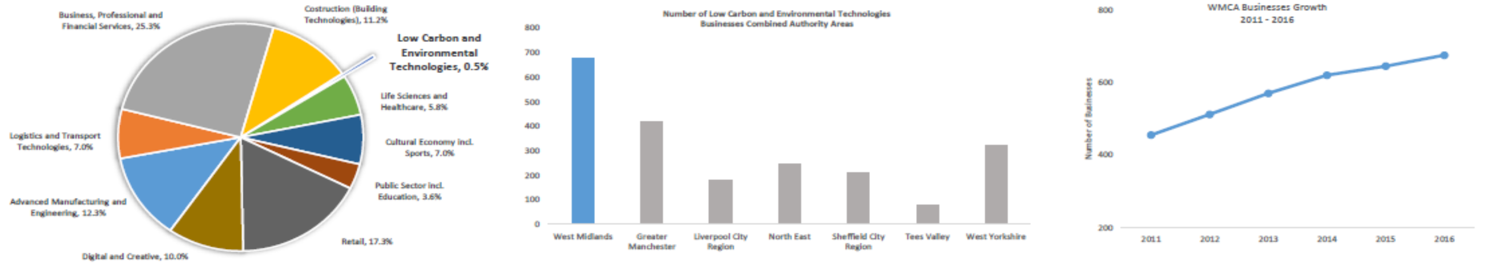
Low Carbon and Environmental Technologies Sub Sector	% of Sector		% of Total GVA
	CA	UK	CA
Electricity, gas, steam and air conditioning	59.1%	46.3%	1.9%
Water supply, sewerage and other remediation activities	40.9%	53.7%	1.3%

JOBS | Current Jobs: 22,600 1.2% of total jobs | Growth Ambition: 23,400 + 800 jobs | Growth Rates 2010 - 2013 WMCA : 9.9% (+2,000 Jobs) UK : +4.7% | Most important sector: Electricity, gas, steam and air conditioning (51.0%)



Low Carbon and Environmental Technologies Sub Sector	% of Sector		% of Total Jobs
	CA	UK	CA
Electricity, gas, steam and air conditioning	51.0%	39.4%	0.6%
Water supply, sewerage and other remediation activities	49.0%	60.6%	0.6%

BUSINESSES | Current Businesses: 675 0.5% of total businesses | Growth Rates 2011 - 2016 +48.4%



Combined Authority Areas	Number of LC&ET businesses	% of total businesses	Change 2011 - 2016	Change % 2011 – 2016
West Midlands	675	0.5%	220	48.4%
Greater Manchester	420	0.5%	100	31.3%
Liverpool City Region	180	0.5%	35	24.1%
North East	245	0.5%	70	40%
Sheffield City Region	210	0.6%	60	40%
Tees Valley	80	0.5%	25	45.5%
West Yorkshire	320	0.4%	110	52.4%

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Source: Oxford Economic Model

West Midlands Combined Authority

SECTOR SCOREBOARD - Low Carbon and Environmental Technologies

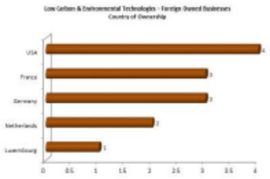
Black Country Consortium
Economic Intelligence Unit

£2.2bn GVA | **Low Carbon & Environmental Technologies: Top 50 Businesses by GVA** | £98,364 Average GVA per employee

No.	Company name	Industry Classification Benchmark	Ownership	Latest Operating Revenue (Turnover) th GBP Last avail. yr	Latest No of Employees Last avail. yr	GVA - Latest	Employment Costs - Latest	Total Amortization and Impairment th GBP Last avail. yr	Depreciation th GBP Last avail. yr	Profit (Loss) before Taxation th GBP Last avail. yr	GVA per employee	Employment Costs + Depreciation	GVA/ Costs	GVA Change 1yr %
1	E.On UK PLC	Gas, Water & Multi-utilities	Foreign	1,126,000	1,624	948,000	155,000	0	77,000	716,000	583,744	232,000	408.6%	731.6%
2	Severn Trent PLC	Support Services	UK	1,786,900	7,459	915,600	324,500	-25,100	293,900	322,300	122,751	618,400	148.1%	16.9%
3	South Staffordshire Water PLC	Support Services	Foreign	123,876	430	69,033	19,681	0	21,355	27,997	160,542	41,036	168.2%	-5.1%
4	Uniper UK Limited	Gas, Water & Multi-utilities	Foreign	215,000	643	40,000	17,000	0	29,000	-6,000	62,208	46,000	87.0%	
5	First Utility Limited	Gas, Water & Multi-utilities	UK	847,309	947	38,984	31,847	4,091	1,348	1,698	41,166	33,195	117.4%	14.1%
6	Impello PLC	Support Services	UK	847,947	950	37,959	32,187	4,098	1,352	322	39,957	33,539	113.2%	11.1%
7	Integrated Water Services Limited	Support Services	Foreign	53,011	592	20,681	17,594	776	355	1,956	34,934	17,949	115.2%	5.5%
8	The Coventry And Solihull Waste Disposal Company Limited	Gas, Water & Multi-utilities	UK	25,941	71	15,216	3,763	34	3,862	7,557	214,310	7,625	199.6%	6.1%
9	UK Power Reserve Limited	Gas, Water & Multi-utilities	UK	16,830	46	8,777	2,196	174	1,817	4,590	190,804	4,013	218.7%	26.4%
10	Veolia ES Birmingham Limited	Support Services	Foreign	39,260	194	7,956	7,510	0	1,127	-681	41,010	8,637	92.1%	-41.2%
11	Green Frog Power Limited	Gas, Water & Multi-utilities	UK	16,140	16	7,584	968	0	1,318	5,298	474,000	2,286	331.8%	61.2%
12	Hydrosave UK Limited	Support Services	Foreign	11,114	317	7,410	7,288	0	347	-225	23,375	7,635	97.1%	3.5%
13	MES Environmental Limited	Support Services	Foreign	17,853	109	6,505	4,324	0	142	2,039	59,679	4,466	145.7%	1.3%
14	Green Rigg Windfarm Limited	Gas, Water & Multi-utilities	UK	9,224		6,204	0	0	2,243	3,961		2,243	276.6%	-31.5%
15	Tardis Environmental UK Limited	Support Services	UK	10,582	79	6,074	2,490	0	405	3,179	76,886	2,895	209.8%	32.2%
16	Weir Waste Services Limited	Support Services	UK	14,800	110	5,162	3,677	0	1,190	295	46,927	4,867	106.1%	10.1%
17	Recycoal Limited	Mining	Foreign	15,178	123	5,020	4,892	0	8,604	-8,476	40,813	13,496	37.2%	-2.6%
18	Jacopa Limited	Gas, Water & Multi-utilities	UK	14,903	73	4,149	3,598	107	142	302	56,836	3,740	110.9%	
19	Green Compliance Water Division Limited	Gas, Water & Multi-utilities	Foreign	11,288	132	4,107	6,196	0	0	-2,089	31,114	6,196	66.3%	-38.2%
20	Environmental Resource Group Limited	Support Services	UK	11,451	109	3,664	2,485	0	228	951	33,615	2,713	135.1%	
21	Willshee's Skip Hire Limited	Support Services	UK	9,382	58	3,267	1,610	300	490	868	56,336	2,099	155.6%	771.5%
22	Tom White Waste Limited	Support Services	UK	8,658	82	3,190	2,045	0	524	621	38,903	2,569	124.2%	33.0%
23	Tullo Wind Farm Limited	Gas, Water & Multi-utilities	Foreign	4,309		3,032	0	0	1,018	2,014		1,018	297.8%	9.0%
24	Alutrade Limited	Support Services	UK	15,498	55	2,917	1,943	0	685	289	53,036	2,628	111.0%	-7.6%
25	Tuke And Bell Limited	Support Services	UK	7,295	94	2,817	2,362	0	21	434	29,969	2,383	118.2%	1.9%
26	Chemtech Waste Management Ltd.	Support Services	UK	10,762	75	2,778	1,799	0	210	769	37,040	2,009	138.3%	875.3%
27	Economy Energy Trading Limited	Gas, Water & Multi-utilities	UK	36,208	50	2,579	1,436	0	47	1,096	51,580	1,483	173.9%	186.9%
28	District Energy Limited	Gas, Water & Multi-utilities	UK	5,011		2,349	0	0	104	2,245		104	2258.7%	7.0%
29	Rusholme Windfarm Limited	Gas, Water & Multi-utilities	UK	4,332		2,285	0	0	1,558	727		1,558	146.7%	3.2%
30	Glide Utilities Limited	Gas, Water & Multi-utilities	UK	15,873	58	2,247	1,297	92	135	723	38,741	1,432	156.9%	20.9%
31	JBR Recovery Limited	Support Services	UK	48,944	43	2,012	1,578	0	221	213	46,791	1,799	111.8%	4.9%
32	Midland Oil Refinery Limited	Mining	UK	9,020	45	1,985	1,599	52	168	166	44,103	1,767	112.3%	-5.9%
33	Enablelink Limited	Support Services	UK	26,116	21	1,808	575	0	554	679	86,095	1,129	160.1%	21.2%
34	Glass Moor II Windfarm Limited	Gas, Water & Multi-utilities	UK	2,594		1,358	0	0	784	574		784	173.2%	-44.0%
35	One Stop Recycling Limited	Support Services	UK	21,290	26	1,264	1,089	0	229	-54	48,615	1,318	95.9%	-1.9%
36	Jack Moody Limited	Support Services	UK	2,550	31	986	1,103	0	95	-213	31,797	1,198	82.3%	-86.4%
37	Yorkshire Windpower Limited	Gas, Water & Multi-utilities	UK	2,037	4	979	0	0	42	937	244,750	42	2331.0%	-37.8%
38	Oberon Recycling Ltd	Support Services	UK	3,955		934	468	3	29	434		497	187.9%	
39	Eneco Burn of Whilk Limited	Gas, Water & Multi-utilities	Foreign	2,778		867	0	0	914	-47		914	94.9%	-6292.9%
40	Alutrade Can Recycling Limited	Support Services	UK	17,235	17	863	871	0	532	-540	50,765	1,403	61.5%	-53.8%
41	ELG Carbon Fibre Limited	Support Services	Foreign	2,814	66	847	1,872	75	742	-1,842	12,831	2,614	32.4%	6.7%
42	Lal-Grs Limited	Support Services	UK	4,154		826	0	0	90	737		90	923.3%	-16.4%
43	TPG Wind Limited	Gas, Water & Multi-utilities	UK	1,688		683	0	0	0	683		0		1119.6%
44	Valpak Recycling Limited	Support Services	UK	5,315	7	588	247	0	76	265	84,000	323	182.0%	6.1%
45	Sunpower Corporation UK Limited	Gas, Water & Multi-utilities	Foreign	8,817	4	536	359	0	0	176	133,889	359	149.1%	-16.2%
46	Dunton Environmental Limited	Support Services	UK	6,588		534	0	0	152	382		152	350.6%	50.1%
47	Visy Recycling Europe Limited	Support Services	UK	26,952	11	417	712	0	0	-295	37,909	712	58.6%	-349.7%
48	Reactive Integrated Services Ltd	Support Services	UK	6,817		398	0	0	40	359		40	1001.0%	-21.8%
49	WM. M. Briers & Son (Tamworth) Limited	Support Services	UK			373	0	0	373	0		373	100.0%	-11.0%
50	Premier Metal Recyclers Limited	Support Services	UK	29,661	1	276	258	0	0	18	276,000	258	107.0%	24.9%

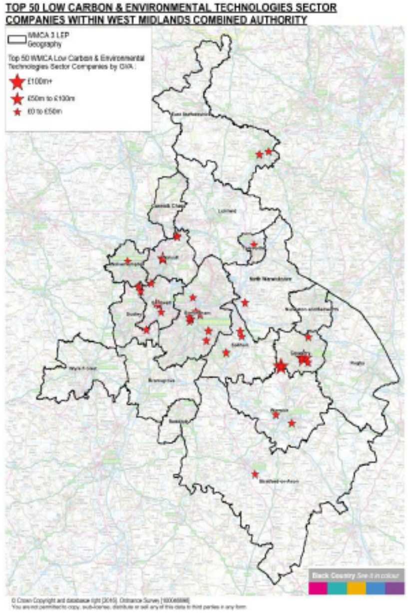
GVA Growth
- GVA generated by the top 50 businesses has increased by 86.1% over 1yr period
- 28 of the top 50 businesses have increased GVA over a 1yr period
- 13 businesses have increased GVA by 20% and over
- 17 businesses have increased GVA by 10% and over

Foreign Ownership & Listing
- 13 companies in the top 50 are foreign owned
- The largest foreign owned company in the top 50 is ranked 1st - E.On UK PLC
- The largest number of global owners are in the USA (4 businesses)
- Average GVA per employee for these businesses is £107,649
- 1 business is listed on the London Stock Exchange - Severn Trent PLC

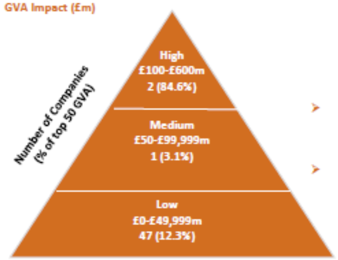


Foreign Owned Strategic Businesses: City HQs	
USA	New York
France	Paris
	Courbevoie
Germany	Dusseldorf
	Duisburg
Netherlands	Rotterdam
Luxembourg	Luxembourg

Location of Top Performing Businesses



GVA Impact (£m)



- 94% of the top 50 businesses (47 businesses) generate under £50m GVA
- 2 businesses generate over £100m, accounting for 84.6% of total GVA generated by the top 50 businesses

Sub Sector (Industry Classification Benchmark)	High		Medium		Low		Total Businesses	Total GVA	% of total GVA	Av. GVA per employee	Av. GVA/Costs	GVA Change 1yr %
	No. of businesses	GVA	No. of businesses	GVA	No. of businesses	GVA						
Gas, Water & Multi-Utilities	1	948,000	0	0	18	141,936	19	1,089,936	49.5%	176,928	422.2%	433.1%
Support Services	1	915,600	1	69,033	27	122,508	29	1,107,141	50.2%	63,740	187.3%	13.8%
Mining	0	0	0	0	2	7,005	2	7,005	0.3%	42,458	74.8%	-3.6%
Total	2	1,863,600	1	69,033	47	271,448	50	2,204,081				

Sub Sector Analysis
- Support Services has the highest number of businesses in the top 50 (29 businesses)
- Gas, Water & Multi-utilities has the highest average GVA per employee and the highest growth rate

Low Carbon & Environmental Technologies: UK 2013 GVA per employee - £105,412
9 of the above 50 companies (18%) have above average GVA per employee

GVA is calculated by adding together operating profit, employee costs, depreciation and amortisation/impairment charges.
There are 2 measures of companies' efficiency of wealth creation: labour productivity defined as GVA per employee and the ratio of GVA to the costs of employment and depreciation used to create it.
The data was produced by conducting a search of FAME for active companies with registered offices in the area and selecting the largest companies by turnover based on the most recent filed accounts.
Businesses have been classified using the 41 sectors in the Industry Classification Benchmark (ICB) structure for sector and industry analysis, supported by the IBC database which is maintained by FTSE International Limited.

Source: FAME Database

West Midlands Combined Authority

Supporting Sector Evidence Base – Low Carbon & Environment

Ideas

Energy Capital

Climate-KIC

EBRI (Aston University)

West Midlands Science & Innovation Audit

People

Infrastructure

Aecom Powering Growth Report

Productivity & Skills Commission Infrastructure Report

West Midlands Regional Energy Policy Commission

Productivity & Skills Commission/BC LEP Energy Report: "Energy as an Enabler"

Business Environment

Sustainability West Midlands

Midlands Environmental Business Company (MEBC) members surveys

Places

Tourism

Black Country Consortium
Economic Intelligence Unit

West Midlands
Combined Authority

Industry Profile

Our Competitive Advantage

- The **West Midlands is the UK's fastest growing region for international visitors** – attracting a record 2.3 million overseas visits in 2017, up by nearly 50% over the last six years.
- For **business visitors, Birmingham outperforms other regions**, driven by the gateway effect and BHX, accounting for ½ all business trips and 1/3 of all day visits.
- **Business, conference and exhibition tourism** is a particular strength. Stratford is one of the UK's largest cultural tourism draws, with **around 4.9 million people visiting Shakespeare's England every year.**
- WM has unique chance to capitalise on role as host of two global sporting and cultural events (**Coventry City of Culture in 2021 and the Commonwealth Games in 2022)** – with the opportunity to drive economic growth and leave lasting community legacies.
- Opportunity to generate economic benefits by growing numbers of overnight stays through **leveraging cultural and heritage assets of the region**, as well as increasing GVA and job creation by strengthening region's images through developing business tourism via high profile events and conferences.
- The sector employs the **youngest and most diverse workforce** of any sector in the region.

Products , Services & Brands

- **Coventry: UK City of Culture 2021**
- **Birmingham: Commonwealth Games 2022**
- **Birmingham Royal Ballet**
- City of Birmingham **Symphony Orchestra**
- **Shakespeare's** England
- **Black Country Living Museum**
- Home to the UK's most popular theatre, the **Birmingham Hippodrome**
- An array of art venues with leading collections and varied programmes, such as the **New Art Gallery in Walsall, the Herbert Art Gallery & Museum in Coventry and Ikon Gallery in Birmingham**
- **Birmingham has more green open space than any other city in the country.**

Centres of Excellence/Assets

Centres:

- Digbeth Creative Quarter: 350+ businesses in Birmingham
- Birmingham Jewellery 'designer maker' Quarter, largest in UK
- Performance Cluster centred on Royal Shakespeare Company
- International Dance Cluster, centred on Birmingham Royal Ballet and International Dance Festival
- Birmingham Ormiston Academy – regional centre for digital, creative & performing arts
- Birmingham Metropolitan College: Digital & Creative Career College

Digital Infrastructure:

- Region-wide 5G Test Bed , 1-10Gb Fibre across parts of region

Grand Challenges Context

Link to Industrial Strategy Grand Challenges

AI & Data

- Visitor services around the Commonwealth Games and City of Culture
- Potential impact of Channel 4 re-location
- Creative technologies in addressing isolation: This is both a community and a technology space. Coventry's City of Culture has a focus of wellbeing and community which may be an opportunity to look at digital and creative approaches to engaging with older people. Coventry is a recognised 'living lab' and the City of Culture could support testbed activity.

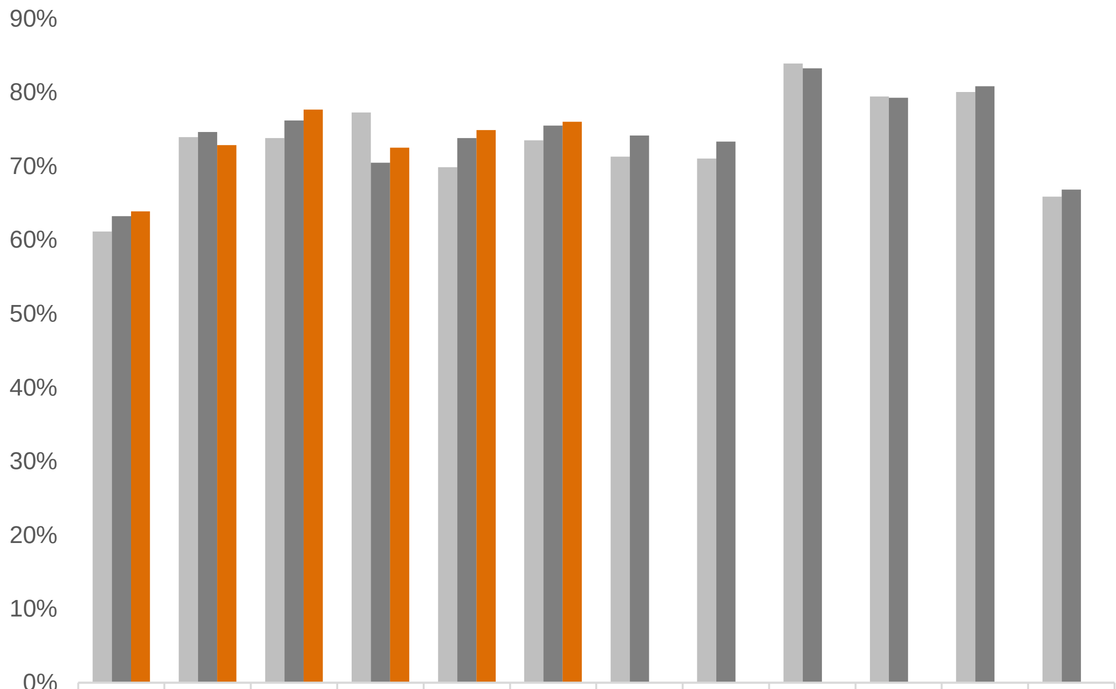
WMCA Tourism Cluster

2016 was a particularly good year for tourism as the fall in the value of Sterling after the EU referendum made the UK a very cost competitive destination for domestic and international tourists alike. International Passenger Survey data released by the Office for National Statistics on 20th July reveals that 2017 was even better – and a record year for UK tourism:

- There were 39.2 million overseas visits to the UK, up by 4% on 2016
- International visitors spent £24.5 billion, up by 9% on 2016
- 284.8 million nights were spent in the UK by in-bound visitors, up by 3% on 2016
- Holiday visits rose by 11% to 15.4 million
- Holiday spending rocketed by 22% to £10.6 billion

The **WMCA region has shared in this growth** – and there are signs that the area's visitor economy has continued to thrive in the first half of 2018. After **matching or exceeding 2016 figures for most of 2017, hotel occupancy rates have been higher still in all of the first 6 months of 2018.**

Trends in hotel occupancy rates in the WMCA area



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	61.1%	73.9%	73.8%	77.3%	69.8%	73.5%	71.3%	71.0%	83.9%	79.5%	80.0%	65.9%
2017	63.2%	74.6%	76.2%	70.5%	73.8%	75.5%	74.2%	73.3%	83.2%	79.3%	80.8%	66.8%
2018	63.9%	72.9%	77.7%	72.5%	74.9%	76.0%						

Sources:
ONS International Passenger Survey
Visit Britain
STR Global

West Midlands Combined Authority

WMCA Tourism Cluster

The West Midlands attracted a record **2.3million international overnight visits** in 2017, a 6% increase on 2016. This is the **second highest growth of all UK regions, with the longer term growth of 49% between 2012 and 2017 being the fastest of all regions.**

While at 21% the proportion of international overnight visits for leisure purposes is half the UK average, the **proportion of visits for business purposes is nearly double at 39%.** Indeed the proportion of visits of business purposes is the highest in the country, reflecting the West Midlands’ growing status as a conference location.

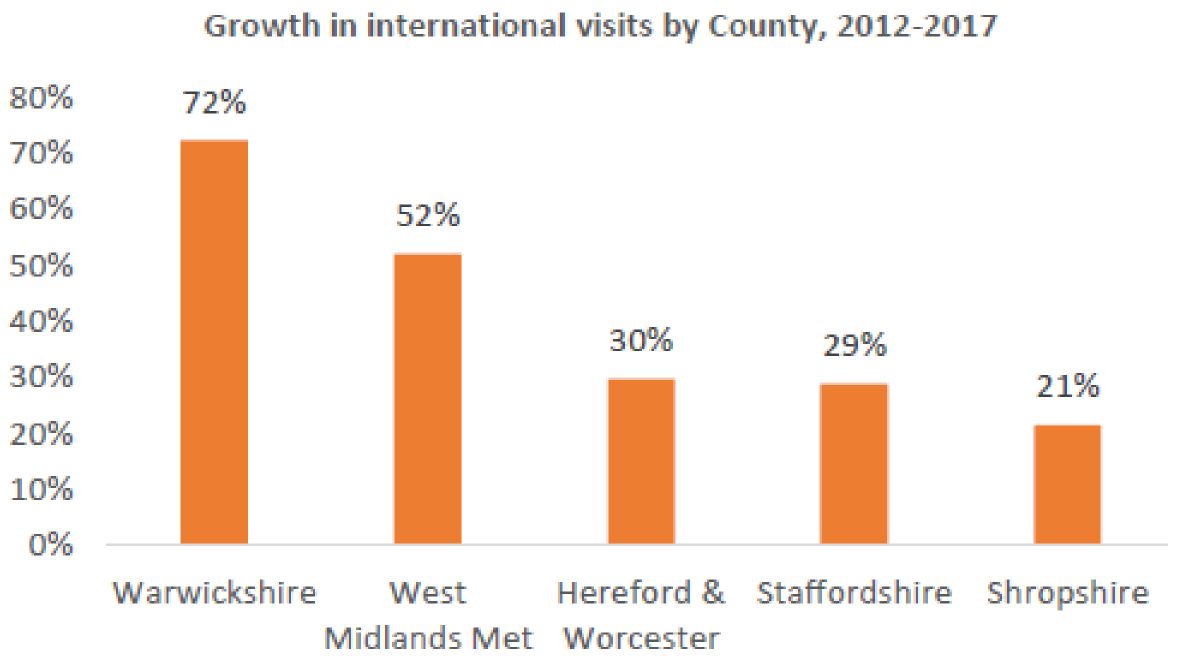
Source: West Midlands Inbound Tourism Analysis – West Midlands Growth Company

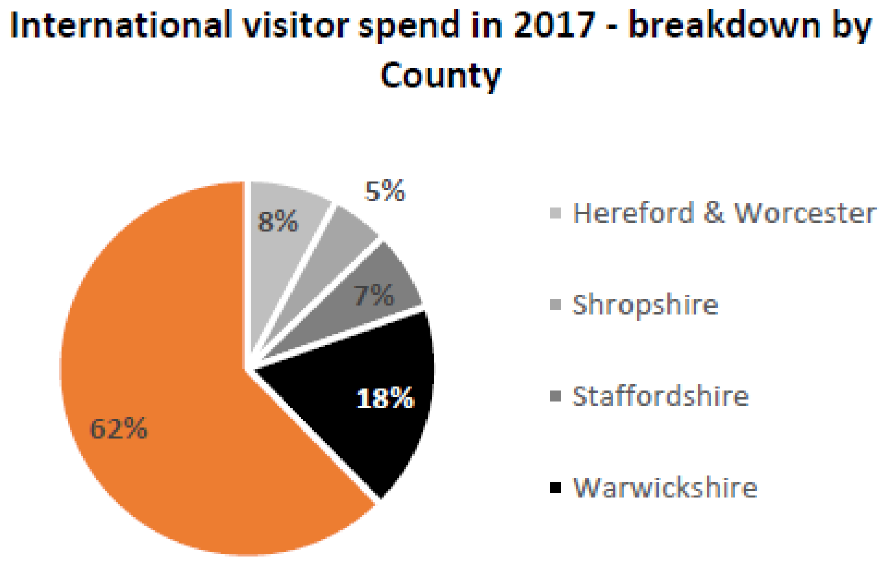
West Midlands
Combined Authority

WM Regional Analysis

In the WM region, the **strongest growth in numbers of international overnight visits overall has been in Warwickshire**, where numbers have risen by nearly 165,000 (more than 70%) over the last 5 years. **Growth has also been strong in the WMCA 7-MET area where numbers have risen by more than half a million (more than 50%).**

In 2017, **international overnight visitors spent more than £800 million in the region**, which was up nearly £330 million (40%) on five years ago. Of this more than **£500 million (more than 60%) was spent in the 7-MET WMCA**, and nearly £150 million in Warwickshire.



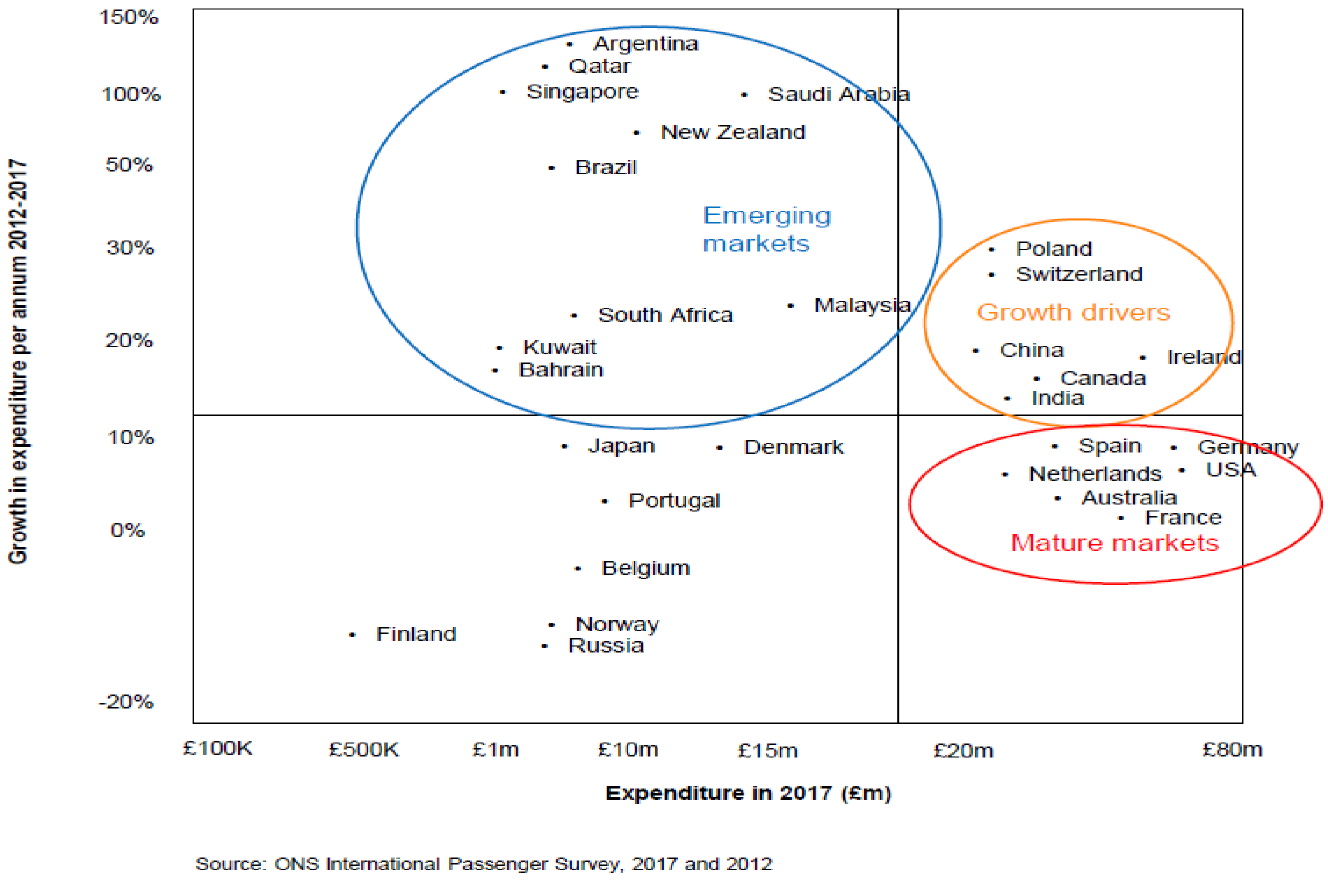


Source: West Midlands Inbound Tourism Analysis – West Midlands Growth Company

West Midlands Combined Authority

WMCA Tourism Profile

West Midlands Tourism Key Source Markets



Source: West Midlands Inbound Tourism Analysis – West Midlands Growth Company

Super Strengths

Wide-Ranging Offer

- Shakespeare, major sporting events, theatre, art and the uniqueness of the Black Country Living Museum.

Business Tourism

- The proportion of visits of business purposes in the West Midlands is the highest in the country, reflecting the region's growing status as a conference location.

Major Events on the Horizon

- Commonwealth Games and City of Culture provide the whole region with the opportunity to drive economic growth and leave lasting community legacies.

Young & Diverse Workforce

- The sector employs the youngest and most diverse workforce of any sector in the region.
- Tourism can lead the way in promoting inclusivity within the regional workforce

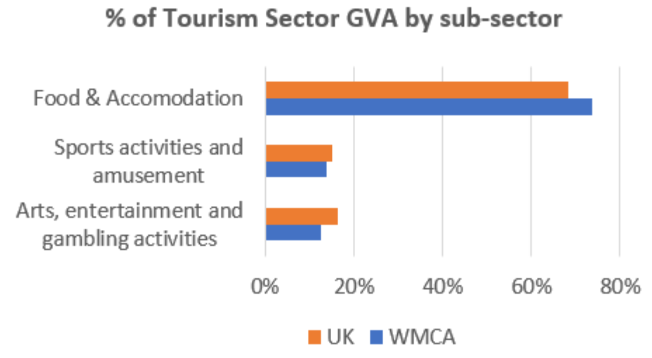
West Midlands Combined Authority

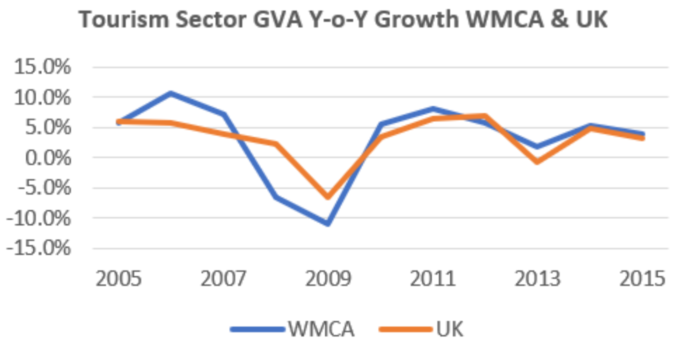
Black Country Consortium
Economic Intelligence Unit

Summary Statistics: Tourism

- **£3.5bn GVA** attributed to tourism in the WMCA, with a 2030 ambition of £6.0bn.
- **163,000 jobs** in the sector locally. In 2030, the ambition is that 213,000 jobs will exist in tourism, an increase of 50,000.
- The **Food & Accommodation sub-sector dominates in terms of GVA and jobs**, making up almost three-quarters of activity in both the WMCA and the UK.
- This data reflects the initial tourism (cultural economy including sports) WMCA sector definition. Using the ONS definition of tourism adds approximately **46,000 more WMCA jobs** in the sector and around **£1bn extra GVA.**

GVA Current: **£3.5bn** 2030 Ambition: **£6.0bn (+£2.5bn)** **27% growth** since 2010





Jobs Current: **163,000** 2030 Ambition: **213,000 (+50,000)** **18% growth** since 2010

Source: Oxford Economic Model

West Midlands Combined Authority

Previous Analysis of the ‘Cultural, Creative Industries and Tourism’ Sector in the WMCA

WEST MIDLANDS COMBINED AUTHORITY

SECTOR SCORECARD – Culture, Creative Industries & Tourism

Black Country Consortium
Economic Intelligence Unit

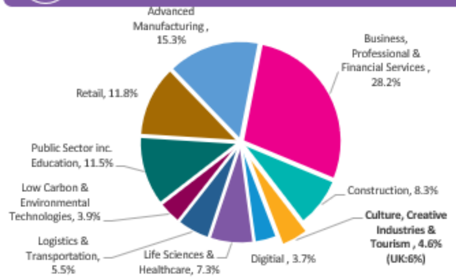
GVA

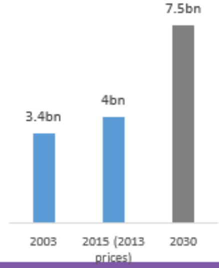
Current GVA: £4bn
4.6 % of total WMCA GVA

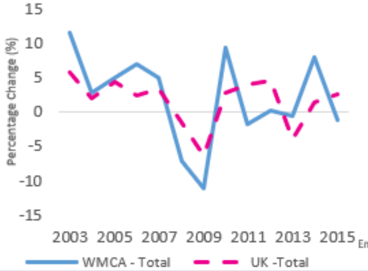
Growth Ambition: £7.5bn
+£3.5bn GVA

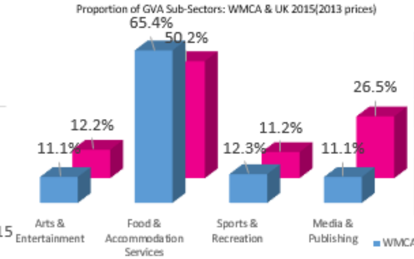
Growth Rates 2010 – 2015
WMCA : +4.7% UK : +9.3%

Most important sector: Food & Accommodation Services(65.4%)









Culture, Creative Industries & Tourism Sector	% of Sector		% of Total GVA
	CA	UK	CA
Arts & Entertainment	11.1%	12.2%	0.5%
Food & Accommodation	65.4%	50.2%	3.0%
Sports & Recreation	12.3%	11.2%	0.6%
Media & Publishing	11.1%	26.5%	0.5%

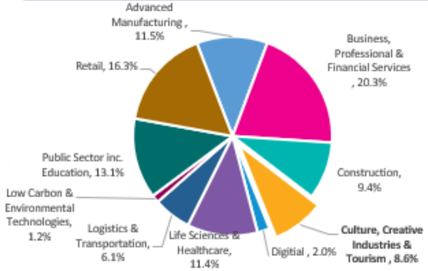
JOBS

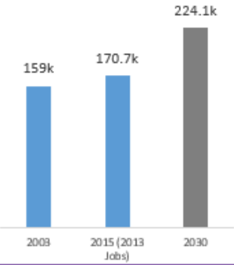
Current Jobs: 170,716
8.6% of total WMCA Jobs

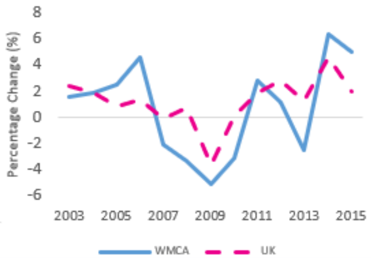
Growth Ambition: 224,144
+53.4k Jobs

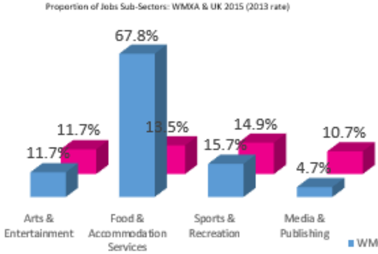
Growth Rates 2010 – 2015
WMCA: +13% UK: +11.2%

Most important sector: Food & Accommodation Services 67.8%









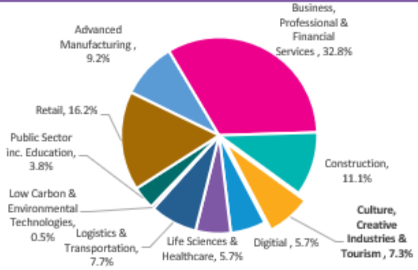
Culture, Creative Industries & Tourism Sector	% of Sector		% of Total Jobs
	CA	UK	CA
Arts & Entertainment	11.7%	11.7%	1.0%
Food & Accommodation	67.8%	62.7%	5.8%
Sports & Recreation	15.7%	14.9%	1.3%
Media & Publishing	4.7%	10.7%	0.4%

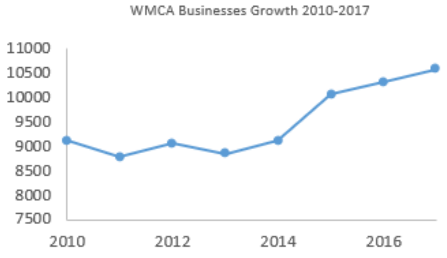
BUSINESSES

Current Businesses: 10,570
7.3% of total WMCA Businesses

Growth Rates 2010 – 2017:
WMCA: 15.8%

WMCA have the highest number of Culture, Creative & Tourism businesses





Combined Authority Areas	Number of Culture, Creative and Tourism businesses	% of total businesses	change 2010-2017	Change % 2010 - 2017
West Midlands	**10,570**	**7.3%**	**1,445**	**15.8%**
Greater Manchester	8,565	8.5%	2,095	32.4%
Liverpool City Region	3,930	9.4%	750	23.6%
North East	6,140	11.7%	1,025	20.0%
Sheffield City Region	3,665	9.4%	720	24.4%
Tees Valley	1,625	9.3%	290	21.7%
West Yorkshire	6,980	9.1%	1,510	27.6%

Source: Oxford Economic Model

West Midlands
Combined Authority

SECTOR SCORECARD – Culture, Creative Industries & Tourism

Black Country Consortium
Economic Intelligence Unit

Culture, Creative Industries & Tourism: Top 50 Businesses by GVA

GVA: 3.1bn

£23,073 Average GVA per employee

No.	Company name	Industry Classification Benchmark	Ownership	Latest Operating Revenue (Turnover) th GBP Last avail. yr	Latest No of Employees Last avail. Yr	GVA (£m) - Latest	Employment Costs - Latest	Total Amortisation and Impairment th GBP Last avail. Yr	Depreciation th GBP Last avail. Yr	Profit (Loss) before Tax th GBP Last avail. Yr	GVA per employee	Employment costs + depreciation	GVA/ Costs	GVA Change 1yr %
1	Compass Contract Services (U.K.) Limited	Food & Accommodation Services	UK	1,709,191	54,878	932,127	794,940	10,581	30,289	96,317	16,985	825,229	113%	9.8%
2	Mitchells & Butlers PLC	Food & Accommodation Services	Foreign	2,180,000	45,891	872,000	680,000	2,000	113,000	77,000	19,002	793,000	110%	4.9%
3	Marston's PLC	Food & Accommodation Services	UK	1,011,300	2,547	356,700	216,600	1,100	38,700	100,300	140,047	255,300	140%	10.1%
4	Genting UK PLC	Arts & Entertainment	Foreign	319,700	4,583	144,400	103,100	-13,000	24,900	29,400	31,508	128,000	113%	
5	West Bromwich Albion Group Limited	Sports & Recreation	UK	98,337	169	89,044	73,533	13,049	1,282	1,180	526,888	74,815	119%	
6	Recon Group UK Limited	Sports & Recreation	UK	73,827	1,064	73,608	61,473	23,737	2,944	-14,546	69,180	64,417	114%	
7	Inspired Gaming (UK) Limited	Sports & Recreation	Foreign	72,636	775	57,464	32,022	8,490	13,151	3,801	74,147	45,173	127%	-36.3%
8	Aston Villa FC Limited	Sports & Recreation	UK	47,689	175	45,899	52,769	23,737		-6,938	262,280			-31.1%
9	Claverley Holdings Limited	Media & Publishing	UK	90,739	958	44,185	36,591	3,983	3,686	-75	46,122	40,277	110%	-3.7%
10	Dassault Systemes UK Limited	Media & Publishing	Foreign	68,785	286	32,653	26,812	3,500	358	1,983	114,171	27,170	120%	5.9%
11	Orchid Pubs & Dining Limited	Food & Accommodation Services	UK	129,407	3,092	31,472	39,482	63	7,588	-15,861	10,179	47,070	67%	13.5%
12	Angel Springs Limited	Food & Accommodation Services	Foreign	48,328	467	25,814	13,692	9,149	3,674	-701	55,276	17,366	149%	132.5%
13	Camping And Caravanning Club Limited(The)	Food & Accommodation Services	UK	59,477	678	25,174	14,162	591	4,304	6,117	37,130	18,466	136%	9.8%
14	Codemasters Group Holdings Limited	Media & Publishing	Foreign	50,056	462	24,779	20,449	13,750	743	-10,163	53,634	21,192	117%	10.7%
15	Punch Taverns Limited	Food & Accommodation Services	UK	424,900	517	24,100	24,900	149,600	9,000	-159,400	46,615	33,900	71%	-74.6%
16	Giraffe Concepts Limited	Food & Accommodation Services	N/A	51,066	1,962	21,209	19,409	1	5,612	-3,812	10,810	25,021	85%	
17	Drewal 633 Limited	Sports & Recreation	UK	82,909	802	17,236	34,835	11,041	15,440	-44,080	21,491	50,275	34%	-20.4%
18	Wolverhampton Wanderers Football Club (1986) Limited	Sports & Recreation	UK	23,740	282	15,698	28,235	7,613	680	-20,830	55,667	28,915	54%	-46.6%
19	Incs FS Limited	Media & Publishing	Foreign	22,660	482	15,287	35,561	3	1,180	-21,457	31,716	36,741	42%	-18.4%
20	Mclean Restaurants Limited	Food & Accommodation Services	UK	35,840	632	13,638	9,622	247	974	2,796	21,580	10,596	129%	18.5%
21	Friars 702 Limited	Food & Accommodation Services	UK	25,114	1,173	13,403	11,383	543	620	857	11,426	12,003	112%	7.3%
22	A.B.M. Catering Limited	Food & Accommodation Services	UK	25,022	982	13,117	12,114	84	209	711	13,358	12,323	106%	5.4%
23	Kyra Enterprises Limited	Food & Accommodation Services	UK	32,812	609	12,453	10,072	155	1,095	1,132	20,447	11,166	112%	13.6%
24	First Motorway Services Limited	Food & Accommodation Services	Foreign	18,311	383	12,108	5,144	7	6,192	765	31,614	11,336	107%	87.5%
25	Astrad Limited	Food & Accommodation Services	UK	31,918	908	11,755	9,859	90	931	875	12,946	10,790	109%	11.7%
26	SSE Audio Group Holdings Limited	Arts & Entertainment	UK	27,507	160	10,986	5,542	329	2,490	2,626	68,663	8,032	137%	8.2%
27	Wright Restaurants Ltd	Food & Accommodation Services	UK	31,014	986	10,793	9,213	578	634	368	10,947	9,847	110%	19.1%
28	Scholastic Limited	Media & Publishing	Foreign	38,059	251	10,209	9,782	218	324	-114	40,674	10,106	101%	9.9%
29	Rookery Foods Limited	Food & Accommodation Services	UK	28,375	985	9,824	7,283	64	846	1,632	9,974	8,128	121%	12.4%
30	Birmingham City Football Club PLC	Sports & Recreation	UK	17,250	208	9,430	22,199	2,962	665	-16,396	45,338	22,864	41%	-20.0%
31	MJ Restaurants Limited	Food & Accommodation Services	UK	28,961	802	9,228	8,338	407	458	25	11,507	8,796	105%	10.2%
32	I & A Restaurants Ltd	Food & Accommodation Services	UK	25,830	790	9,227	7,159	287	400	1,381	11,680	7,559	122%	824.7%
33	PSL Purchasing Limited	Food & Accommodation Services	UK	11,159	69	8,837	4,914	116	260	3,547	128,074	5,174	171%	7.2%
34	HA HA Bar And Grill Limited	Food & Accommodation Services	UK	30,646	587	8,813	9,214	10	1,512	-1,923	15,014	10,726	82%	-21.4%
35	Eden Hotel Collection Limited	Food & Accommodation Services	UK	17,600	450	8,800	8,417	25	1,009	-651	19,556	9,426	93%	-7.4%
36	Bracebridge Holdings Limited	Arts & Entertainment	UK	13,901	377	7,548	6,074	28	670	777	20,022	6,744	112%	85.0%
37	Double Diamond Gaming Limited	Arts & Entertainment	UK	20,882	460	7,545	8,628	465	1,796	-3,345	16,401	10,424	72%	-19.5%
38	Robert Holdcroft Limited	Food & Accommodation Services	UK	18,692	614	6,833	5,933	14	675	211	11,129	6,608	103%	18.2%
39	Foodbuy Europe Limited	Food & Accommodation Services	UK	17,309	63	6,498	3,093	157	65	3,182	103,140	3,158	206%	-8.5%
40	A & S Restaurants Ltd	Food & Accommodation Services	UK	17,674	353	6,421	4,793	113	443	1,072	18,189	5,236	123%	24.8%
41	Birmingham Museums Trust	Arts & Entertainment	UK	10,900	239	5,250	5,329	12	819	-910	21,967	6,148	85%	-27.6%
42	Snowdome Group Limited	Sports & Recreation	UK	7,755	180	5,202	2,175	1	673	2,353	28,900	2,848	183%	3.8%
43	Westbourne Leisure Limited	Food & Accommodation Services	UK	17,643	168	5,065	2,490	74	590	1,911	30,151	3,080	164%	37.4%
44	Mercato Solutions Limited	Media & Publishing	UK	5,947	101	4,118	2,934	15	816	354	40,776	3,749	110%	-12.1%
45	Penn Enterprises Limited	Food & Accommodation Services	UK	31,918	908	4,094	2,217	90	931	855	4,509	3,148	130%	4.5%
46	Professional Pizza Company Limited	Food & Accommodation Services	N/A	8,873	289	3,949	2,644	406	180	719	13,666	2,825	140%	15.1%
47	Green Room Design Limited	Arts & Entertainment	UK	9,122	58	3,573	3,284	514	89	-314	61,596	3,373	106%	20.5%
48	Birmingham Repertory Theatre Limited(The)	Arts & Entertainment	UK	11,210	147	3,515	3,683	42	138	-348	23,912	3,821	92%	-19.5%
49	The Black Country Living Museum Trust	Arts & Entertainment	UK	6,188	123	3,389	3,072	6	294	17	27,554	3,366	101%	-5.7%
50	Clockfair Holdings Limited	Arts & Entertainment	UK	6,145	134	3,328	2,865	8	239	216	24,834	3,104	107%	-43.2%

GVA Growth

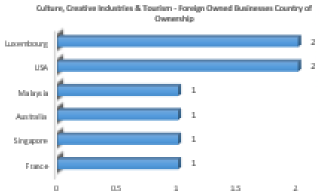
- 29 of the top 50 businesses have increased GVA over a 1year period
- 7 businesses have increased GVA by 20% and over
- 26 businesses have increased GVA by 10% and over

GVA Per Employee

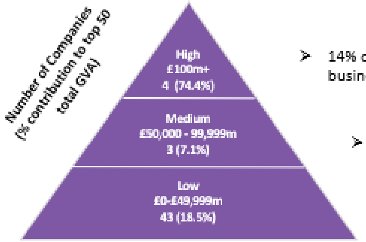
- Top 50 businesses GVA per employee is £23,073 – 27 (54%) out of the 50 businesses are above average

Foreign Ownership

- 9 businesses in the top 50 are foreign owned
- The largest foreign owned business is ranked 2nd – Mitchells & Butlers
- Average GVA per employee for these businesses is £22,298

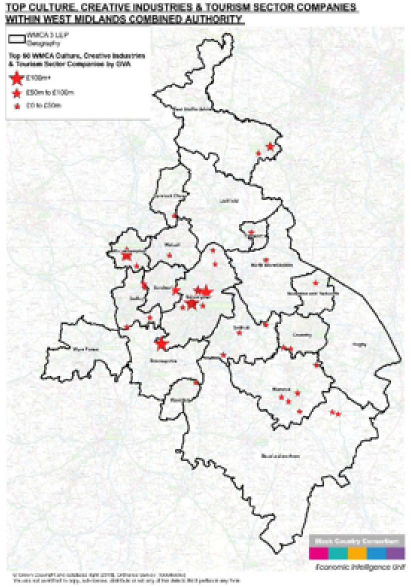


GVA Impact (£m)



- 14% of the top 50 businesses (7 businesses) generate over 50m GVA
- 4 businesses generate 74% of the top GVA of the top 50 businesses in this sector

Location of Top Performing Businesses



Sub Sector (Industry Classification Benchmark)	High		Medium		Low		Total Businesses	Total GVA	% of total GVA	Av. GVA per employee	Av. GVA/Costs	GVA Change 1yr %
	No. of businesses	GVA	No. of businesses	GVA	No. of businesses	GVA						
Arts, entertainment and gambling activities	1	144,400	0	0	8	45,134	9	189,534	6.1%	30,176	102.8%	-0.2%
Food and Accommodation Services	3	2,160,827	0	0	24	302,625	27	2,463,452	79.5%	20,228	119.1%	45.6%
Media & Publishing	0	0	0	0	6	131,231	6	131,231	4.2%	51,666	100.0%	-1.3%
Sports & Recreation	0	0	3	220,116	5	93,465	8	313,581	10.1%	85,795	96.0%	-25.1%
Total	4	2,305,227	3	220,116	43	572,455	50	3,097,798				

Sub Sector Analysis

- Almost 54% of GVA generated by the top 50 businesses is in Food & Accommodation Services
- Food & Accommodation Services has the highest number of businesses in the top 50 (27 businesses)
- Average GVA per employee is highest in Sports & Recreation (£85,795)

Source: FAME Database

West Midlands Combined Authority

Supporting Sector Evidence Base - Tourism

Ideas

West Midlands Science & Innovation Audit

People

Infrastructure

Business Environment

West Midlands Quarterly Economic Digest (Summer 2018)

West Midlands Growth Company: WMCA Monthly Hotel Market Monitor

West Midlands Inbound Tourism Analysis

Visit Britain

STR Global

Places

West Midlands Growth Company: "Make Your Mark"

Appendix: SIC codes by Sector

Black Country Consortium
Economic Intelligence Unit

West Midlands
Combined Authority

SIC code	Description	SEP Sector	WMCA LIS Sector
SIC 01-03	Agriculture	Advanced Manufacturing and Engineering	Not selected directly – part of wider Advanced Manufacturing sector
SIC 05-09	Mining and Quarrying	Construction (Building Technologies)	Construction (Building Technologies)
SIC 10-12	Food, beverages and tobacco products	Advanced Manufacturing and Engineering	Food and Drink Manufacturing
SIC 13-15	Textiles, leather and clothing	Advanced Manufacturing and Engineering	Creative
SIC 16-18	Wood products, paper products printing	Digital and Creative	Creative
SIC 19-21	Coke, chemicals, pharmaceuticals	Advanced Manufacturing and Engineering	Not selected directly – part of wider Advanced Manufacturing sector
SIC 22-23	Rubber, plastic other non-metallic goods	Advanced Manufacturing and Engineering	Metals & Materials
SIC 24-25	Metals and fabricated metal goods	Advanced Manufacturing and Engineering	Metals & Materials
SIC 26-27	Computers and electronic goods	Advanced Manufacturing and Engineering	Not selected directly – part of wider Advanced Manufacturing sector
SIC 28-30	Machinery, motor vehicles and other transport	Logistics and Transport Technologies	Parts of this split up into automotive, aerospace & rail sub-sectors
SIC 31-33	Furniture, other manufacturing & repair and installation of machinery	Advanced Manufacturing and Engineering	Not selected directly – part of wider Advanced Manufacturing sector
SIC 35	Electricity, gas, steam and air conditioning	Low Carbon and Environmental Technologies	Energy and Environmental Technologies
SIC 36-39	Water supply, sewerage and other remediation activities	Low Carbon and Environmental Technologies	Energy and Environmental Technologies
SIC 41-43	Buildings construction, engineering & specialised construction activities	Construction (Building Technologies)	Construction (Building Technologies)

SIC code	Description	SEP Sector	WMCA LIS Sector
SIC 45-46	Wholesale and motor vehicles trade	Retail	N/A (Retail not included)
SIC 47	Retailing	Retail	N/A (Retail not included)
SIC 49	Land transport and transport via pipelines	Logistics and Transport Technologies	Logistics and Transport
SIC 50-51	Water and air transport	Logistics and Transport Technologies	Logistics and Transport
SIC 52	Warehousing and support activities	Logistics and Transport Technologies	Logistics and Transport
SIC 53	Postal and courier activities	Logistics and Transport Technologies	Logistics and Transport
SIC 55	Accommodation	Cultural Economy inc Sports	N/A (Cultural Economy not included)
SIC 56	Food and beverage service activities	Cultural Economy inc Sports	N/A (Cultural Economy not included)
SIC 58-60	Publishing, motion picture and broadcasting activities	Digital and Creative	Creative
SIC 61	Telecommunications	Digital and Creative	Digital
SIC 62-63	Computer programming and information services activities	Digital and Creative	Digital
SIC 64	Financial service activities	Business, Professional and Financial Services	Financial Services
SIC 65	Insurance, reinsurance and pension funds	Business, Professional and Financial Services	Financial Services
SIC 66	Activities auxiliary to financial services	Business, Professional and Financial Services	Financial Services
SIC 68	Real estate activities	Business, Professional and Financial Services	Not selected – a part of wider BPFS sector
SIC 69	Legal and accounting activities	Business, Professional and Financial Services	Legal and Accounting
SIC 70	Activities of head offices	Business, Professional and Financial Services	Not selected – a part of wider BPFS sector
SIC 71	Architectural and engineering activities	Advanced Manufacturing and Engineering	Not selected – a part of wider BPFS sector
SIC 72	Scientific research and development	Life Sciences and Healthcare	Life Sciences and Healthcare

SIC code	Description	SEP Sector	WMCA LIS Sector
SIC 73	Advertising and market research	Business, Professional and Financial Services	Not selected – a part of wider BPFS sector
SIC 74	Other professional, scientific	Digital and Creative	Not selected – a part of wider BPFS sector
SIC 75	Veterinary activities	Life Sciences and Healthcare	Life Sciences and Healthcare
SIC 77	Rental and leasing activities	Business, Professional and Financial Services	Not selected – a part of wider BPFS sector
SIC 78	Employment activities	Business, Professional and Financial Services	Not selected – a part of wider BPFS sector
SIC 79	Travel agency, tour operator and other	Business, Professional and Financial Services	Not selected – a part of wider Retail sector
SIC 80	Security and investigation activities	Public Sector inc Education	N/A (Public Sector not included)
SIC 81	Services to buildings and landscape	Public Sector inc Education	N/A (Public Sector not included)
SIC 82	Office administrative, office support	Business, Professional and Financial Services	Not selected – a part of wider BPFS sector
SIC 84	Public administration and defence	Public Sector inc Education	N/A (Public Sector not included)
SIC 85	Education	Public Sector inc Education	N/A (Public Sector not included)
SIC 86	Human health activities	Life Sciences and Healthcare	Life Sciences and Healthcare
SIC 87	Residential care activities	Life Sciences and Healthcare	Life Sciences and Healthcare
SIC 88	Social work activities	Life Sciences and Healthcare	Life Sciences and Healthcare
SIC 90-92	Arts, entertainment and gambling activities	Cultural Economy inc Sports	N/A (Cultural Economy not included)
SIC 93	Sports activities and amusement	Cultural Economy inc Sports	N/A (Cultural Economy not included)
SIC 94-96	Activities of membership, repair of computers & Other personal service activities	Business, Professional and Financial Services	Not selected – a part of wider BPFS sector