Suffolk

Manufacturing Sector

Leading learning and skills

Targeting the sectors vital to the economy of Suffolk

Introduction

> *"Manufacturing is the second largest contributor after Business Services to regional wealth and the East of England is home to more than 18,000 manufacturing businesses. This is a larger regional cluster than the North East, South West, East Midlands, Yorkshire & Humberside and Wales"*
>
> *East of England Regional Strategic Framework for Manufacturing*[1]

This paper is one of a series of papers outlining the workforce dynamics and skills and training issues in key sectors in the Suffolk economy. The focus of this document is the **Manufacturing Sector**

The paper covers the:

- Demographics of the workforce;
- Skills and qualifications profile of the workforce;
- Likely demand for and supply of new skills and workers, now and in the future; and,
- Business drivers.

And has the following structure:

- Introduction – this section - what this paper is about and its scope and derivation;
- Key findings about the sector at National and Regional level;
- The Suffolk context and key findings;
- Conclusions; and,
- Appendix – technical information.

Derivation of this paper

This paper does not report new research or analysis; it is a bringing together of a range of primary and secondary sources to give an overview of the manufacturing sector.

The evidence base for this report is generally National level findings. Regional and Suffolk level material is patchy, often extrapolated from National level material or using aged data, and difficult to source. **This paper, therefore, should be seen as complementary to the knowledge and expertise of the Suffolk Area Team rather than as the authoritative source on the Suffolk manufacturing sector**.

The substantial review paper of National and Regional sources used to develop and underpin this paper is available on East of England Team Site (SharePoint) – Manufacturing: National and Regional Sector Review. This paper is recommended reading for a detailed overview.

[1] East of England Regional Strategic Framework for Manufacturing 2007-2012. The definition within that report differs from the SSC footprint definition used in this report, including ICT for instance

Currently the Sector Skills Councils (SSCs) are working on their Sector Skills Agreements (SSAs) and Sector Qualifications Strategies (SQSs) which will help employers, learners and providers to recognise what skills need to be developed now and in the future and what qualifications have true economic value for learners and employers. These and their underpinning research are the primary references for understanding the skills needs and issues in each of the SSC footprints and are recommended further reading if an in depth understanding is sought. These resources can be accessed via individual SSC websites; a convenient means to access these are via The Alliance of Sector Skills Councils website – www.sscalliance.org.

Definition of the Manufacturing Sector:

The label "manufacturing sector" is a familiar one and is used on a day-by-day basis as a shorthand term for a very wide range of industrial sub-sectors and activities as different as mining to making fruit juice to producing printed circuit boards to building boats. There is no single unequivocal definition of the manufacturing sector for statistical or descriptive purposes and in particular manufacturing is not an alternative name for Engineering or vice versa. This paper is based on four different definitions which are described below:

- Value Chain;
- Manufacturing Sector – Standard Industrial Classification Codes;
- Sector Skills Council Footprint; ; and,
- Sector Skills Area Tier 1 and Tier 2 codes

Value Chain

The modern definition[2] of manufacturing is more than simply "making." It covers the full cycle of activities from research, design and development, production, logistics and services to end of life management. A company that outsources parts of this cycle (e.g. production) remains a manufacturing company. This is the broadest definition of the four used in this paper and is the one used by the East of England Development Agency.

Manufacturing Sector - Standard Industrial Classification (SIC) Codes

The Appendix gives a definition of the broad manufacturing sector based on SIC codes. This broad definition is the one most commonly used at a national level for reporting and forecasting purposes and was the key definition in use before the setting up of the Sector Skills Councils.

Sector Skills Councils Footprint

There are five Sector Skills Councils (SSCs) whose industry coverage relates to manufacturing:

- SEMTA - Science, engineering and manufacturing technologies;
- Proskills UK - Process and manufacturing in the building products, coatings, glass, printing, extractive and mineral processing industries;
- Improve Ltd - Food and drink manufacturing and processing;
- Cogent - Chemicals and pharmaceuticals, nuclear, oil and gas, petroleum and polymers; and,
- Skillfast-UK - Fashion and textiles.

The Appendix describes the industrial "footprint" for each SSC in terms of Standard Industrial Classification (SIC) codes[3]. These codes collectively describe a very broad range of activities and some such as retail sale of petroleum or washing and dry cleaning

[2] Better Skills for Manufacturing, House of Commons Trade and Industry Committee 2007 HC493-I

[3] See http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14012 for info on SIC 2003

of textile and fur products, for instance, would not naturally be considered as "manufacturing" by many observers. However, this composite "manufacturing SSC footprint" is the most "precise" definition available and is the one that underpins the majority of the findings set out in this paper.

Sector Subject Area Tier 1 and 2 Codes[4]

Some qualifications are relatively unique to a sector and can be used as a measure of sector specific activity. All qualifications on the Learning Aims Database (LAD) are coded against Sector Subject Area (SSA) codes to support that analysis. Tier 1 Codes identify the overall "sector" whilst Tier 2 identifies "sub-sectors." For the purposes of this paper the following definition has been used:

- 4 - Engineering and Manufacturing
  - 4.1 Engineering
  - 4.2 Manufacturing Technologies
  - 4.3 Transportation Operations and Maintenance
- 2 – Science and Mathematics
  - 2.2 Science
- 15 Business, Administration and Law
  - 15.3 Business Management
    - Single qualification family – Business Improvement Techniques

The Business Improvement Techniques family of qualifications has been included in the analysis as it is the qualification of choice for the Manufacturing SSCs for upskilling of the existing workforce.

Whilst the EEDA Manufacturing definition also includes Information and Communication Technology the supply side data presented in this paper does not include data for that "sub-sector" e.g. Tier 1 Code 6/Tier 2 Code ICT Practitioner.

4 See http://www.lsc.gov.uk/providers/Data/Datadictionary/DataDefinitions/Sector+Subject+Areas+Data+Definition.htm for a broad summary

National and Regional Summary Findings

> *"Investing in manufacturing skills is an investment in a growing sector of the UK economy, not as often assumed, a contracting sector"*[5]
>
> *Better Skills for Manufacturing, House of Commons Trade and Industry Committee 2007*

In 2005, the manufacturing sector accounted for 13.6% UK GDP and 11.8% of all employment. Manufactured products accounted for 54% UK exports and 60% of imports. Despite its decline relative to the service sector, manufacturing has grown in absolute terms over the last 20 years by an average of 1.2% a year[6]

Prospects for manufacturing, as a strong UK import/export sector, are linked to demand within the global economy and are also affected by changes in the sterling exchange rate

National Perspective

- Manufacturing is now seen as more than just "production" and manufacturing companies may have involvement throughout the product life cycle. As a result, there are increasing requirements for "service sector" skills such as customer service, marketing and branding and supply chain management;
- The sector is dominated by small companies employing less than 10;
- The workforce is ageing and women and ethnic minorities are under-represented except in the Skillfast footprint;
- Most common level for highest qualification held is Level 2 - but Level 3 is increasingly seen as the minimum for a successful career in the sector with only half those in the sector qualified to this level. The sector has a relatively high number of people without any qualifications ranging from 10% in the Cogent Footprint to 23% in the Skillfast footprint;
- The manufacturing sector is losing jobs faster than almost any other sector and particularly in lower skilled roles – but because of the ageing workforce the demand for new entrants will remain positive in all occupational areas;
- All the manufacturing SSCs report problems recruiting workers with suitable employability, technical and practical skills. Improve and Proskills report the most difficulty here but with SEMTA a higher proportion of skills shortages vacancies at a level above economy averages. Skills shortages are high in Technical and Practical Skills with skills shortage vacancies weighted to two occupational areas – Process, Plant and Machine Operatives and Skilled Trades;
- Employability skills, such as team working, and Technical and Practical skills are perceived to be lacking in new entrants. These, in common with the economy as a whole are the skills areas where skills gaps are most prevalent in manufacturing. Gaps are also identified in areas such as health & safety, leadership, multi-skillling, manufacturing and engineering skills sets. Skills gaps are most common among process, plant and machinery operative at around four times the whole economy average;
- Manufacturing is under immense competitive pressure to adapt in response to changes in the global economy and increasing competition with a focus on approaches such as lean manufacturing aimed at maximising the use of resources and expensive labour, automation and a move to niche, high value production rather than mass market, mass production;

[5] Better Skills for Manufacturing, House of Commons Trade and Industry Committee 2007, para. 4
[6] ibid

- Adoption of lean manufacturing approaches linked with use of the Business Improvement Techniques family of qualification is seen as a vital contributor to upskilling and increased productivity by the manufacturing SSCs;
- The sector struggles to attract new entrants because of its perceived reputation and because less young people are choosing the science, technology, engineering and mathematics pathways that support entry into the sector;
- The manufacturing sector trains less than the economy as a whole and companies employing less than 25 train least within the sector. Most training is carried out in the workplace;
- The current system of vocational qualifications is perceived by the sector as overly complex and does not have the confidence of the sector. There are also widespread concerns about the variable quality, flexibility of delivery and the currency of training available from public sector providers.

Regional Perspective

- Manufacturing is seen as a vitally important sector within the regional economy and many of its sub-sectors have been identified by EEDA as priorities for action. Many other sectors are stated to rely on manufacturing skills and expertise to support their success. At regional level, Agriculture and Food Processing, ICT, Research & Development and Pharmaceutical sectors are seen as having national or international significance;
- The East of England is not perceived nationally as a manufacturing "hot spot" overall but is seen as a relative "hot spot" for the Improve and parts of the SEMTA footprint (Electronics, Automotive, Aerospace and Bioscience). The Skillfast footprint is weakly represented;
- In terms of manufacturing employment within the SSC footprints, Essex is the largest county workforce at approximately 60,000 followed by Cambridgeshire, Hertfordshire and Norfolk at approximately 40,000 each and Suffolk and Bedfordshire & Luton at approximately 30,000 each;
- The SEMTA footprint is the biggest manufacturing employer in each county. Improve comes second in Norfolk and Suffolk, Proskills in Cambridge and Cogent in Hertfordshire. In Bedfordshire & Luton no secondary footprint predominates;
- Fifty percent of manufacturing businesses are in the SEMTA footprint – no other footprint is bigger than 20% and Skillfast is approximately 5%;
- Compared to national averages, East of England has relatively more large businesses in the Improve footprint with Cogent around average and Proskills, SEMTA and Skillfast relatively less. This may have implications for the use of supply chain approaches to stimulate demand for skills development at a local or regional level;
- There is no comprehensive, competent data set on **regional** skills shortages and gaps and it is assumed that the East of England position reflects the national position;
- Migrant labour is suggested to be a vital input into some areas of the manufacturing workforce, especially in volume production operation, and may be masking issues with business survival, productivity, competitiveness and skills mismatches;
- High level analysis of LSC support into manufacturing through analysis of participation in learning under Engineering and Manufacturing Technologies (Sector Subject Area Tier 4) category is inconclusive. This category contains qualifications which span a much broader range of SSC footprints than the manufacturing footprint used in this report with only four of the top ten qualifications by volume delivered in 06/07 fitting the manufacturing "footprint," three of which are NVQ aims;
- At regional level around 138 providers are delivering qualifications in the Engineering & Manufacturing Technology footprint with approximately 20 delivering participation at

500+ learners. FE is the main contributor to participation with WBL and NES second and third. Currently there are 12 providers supporting Business Improvement Techniques (BIT) with Train to Gain the strongest contributor. Despite the strategic importance of BIT market penetration and provider delivery infrastructure is at a very early stage;

- The Bioscience sector stands out as it appears that there is no vocational provision in support of that sector recorded in the ILR

Manufacturing in the Suffolk Economy

The Economic Strategy for Suffolk[7] does not specify sector-based tactics and references within the document to manufacturing are generally in passing.

Structure of Manufacturing in Suffolk

Suffolk is assessed to be over-represented relative to the region and GB in terms of employment in low added-value manufacturing enterprises[8], primarily because of the strength of its food processing sector, and consequently is vulnerable to the downside impacts of competition. IT and Telcoms industries, falling within the wider definition of manufacturing favoured by EEDA, are perceived as a real strength of the Suffolk economy although there have been disinvestments in this sector[9]. Suffolk has experienced redundancies in a range of both traditional and growth manufacturing sectors[10].

- Ipswich and wider Haven Gateway is the largest urban centre in the county and has strengths in manufacturing and ICT (e.g. Adastral Park);
- Lowestoft and Great Yarmouth – spanning the Suffolk-Norfolk border – has a concentration of activity relating to energy (offshore gas/wind & nuclear) and food & drink processing;
- Suffolk's rural areas and market towns are also linked with activity in food & drink processing and traditional engineering activities; and,
- West Suffolk– potential linkage with the Research & Development and hi-tech developments in Cambridge and along the M11 corridor.

Clusters

The EEDA Location Quotient Analysis[11] identifies a number of manufacturing sub-sectors that are particularly characteristic of the Suffolk manufacturing economy in terms of weight of their employment. These are:

- Oil & Gas (with Norfolk);
- Manufacture of Other Chemical Products nes (with Hertfordshire);
- Basic Metals (with Hertfordshire); and,
- Food & Drink (with Norfolk).

Employment

The Suffolk Labour Market Profile[12] (2005) identifies Suffolk's top four employment sectors as distribution, hotels & restaurants (26%), Public Sector (23%) and

[7] Expanding Suffolk's Horizon's: 2004-2007 – A New Economic Strategy for Suffolk

[8] Suffolk Labour Market Profile, 2005, Suffolk Development Agency

[9] Towards An Economic Development Strategy for Suffolk: Thematic and Spatial Issues Papers, and Baseline Analysis, SQW, 2004

[10] ibid

[11] Review of Approach to Sectors and Clusters, EEDA (Aug 06)

[12] However, data cited refers to 2003 and is based on the wider SIC definition of manufacturing

manufacturing/banking & financial services (both 15%). This report confirms the importance of the food & drink sector sub-sector.

The sectors suffering the greatest contraction, in line with national and regional trends, in employment are manufacturing and energy with the largest decreases in food & drink, machinery and fabricated metal sub-sectors (again pre-2003 figures). However the demand for new entrants to replace those leaving the sector workforce mean that there remains a positive demand for labour in the sector overall.

In terms of the percentage of total regional employment within each of the five SSC footprints (Table 1), Suffolk is second ranked in the region after Norfolk in the Improve footprint and 4th place or lower for all other SSC footprints.

Table 1: Number of employees in Manufacturing by SSC footprint in Suffolk

	SEMTA	Improve	Cogent	Proskills	Skillfast
Area	12,229	8,860	5,168	5,326	1,499
EoE Rank	6th	2nd	5th	4th	5th
Total EoE	114,064	38,018	41,208	38,477	13,047

Source: Annual Business Inquiry, 2006

Concentration of Business Units

Overall, the region has few business units in the Skillfast footprint compared to the England average.

Table 2 gives an overview of numbers of manufacturing business units by employer size band in Suffolk. An analysis[13] of the county share of the region's business units in each of the SSC footprints ranks Suffolk 3rd for Improve, 4th for Cogent and 5th for Proskills and SEMTA and 6th for Skillfast. Essex ranks number one for each of the SSC footprints. A comparison of the distribution of business units in each SSC footprint within each county ranks Suffolk 2nd for Improve and Cogent, 4th for Proskills and 5th for SEMTA and Skillfast.

Business Unit Size Distribution

Table 2: Number of businesses in Manufacturing by SSC footprint in Suffolk

Employer size band	SEMTA	Improve	Cogent	Proskills	Skillfast
No. Employees					
1-10	723	105	195	313	178
11-49	164	32	59	68	22
50-199	43	~	~	~	~
200 +	~	~	~	~	0
Total	~	164	~	~	~

Source: Annual Business Inquiry, 2006. Note ~ indicates data suppressed for reasons of confidentiality

Around 83% of all business units in Suffolk are micro businesses employing 1-10 employees compared to about 85% in the East of England and 84% in England. In the manufacturing sector (SSC footprint) around 77% are micro businesses compared to around 79% in the East of England and around 77% in England. The percentages of Suffolk manufacturing businesses units in the other employee size ranges are broadly in line with the national and regional averages.

[13] Manufacturing Sector: National and Regional Sector Review (LSC 2008). See East of England Team Site (SharePoint).

Suffolk Workforce

Diversity

The pattern of full/part time employment in manufacturing in Suffolk (Table 3) is consistent with national trends other than in the case of Proskills and Improve which are 3-4 percentage points higher on full-time employment. No conclusions can be reached for Skillfast as no national statistics have been located.

Table 3: Number of part time/full time employees in Manufacturing by SSC footprint in Suffolk

Employees Part time/Full time	SEMTA	Improve	Cogent	Proskills	Skillfast
Full Time	11,355 (93%)	8,376 (95%)	4,596 (89%)	4,636 (87%)	1,212 (81%)
Part Time	874 (7%)	484 (5%)	572 (11%)	671 (10%)	287 (19%)
Total	12,229	8,860	5,168	5,326	1,499

Source: Annual Business Inquiry, 2006

The age profile is presumed to follow the national and regional pattern.

The pattern of male/female employment in manufacturing in Suffolk (Table 4) is consistent with national trends except for Cogent which is noticeably lower (less male) than the national statistic for male employment (74%) and Proskills (77%) which is around 5 percentage points lower

Table 4: Number of employees in Manufacturing by SSC footprint in Suffolk by gender

Employees by Gender	SEMTA	Improve	Cogent	Proskills	Skillfast
Male	9,528 (78%)	6,354 (72%)	3,532 (68%)	3,811 (72%)	782 (53%)
Female	2,701 (22%)	2,506 (28%)	1,636 (31%)	1,516 (28%)	717 (48%)
Total	12,229	8,860	5,168	5,326	1,499

Source: Annual Business Inquiry, 2006

The utilisation of migrant labour in Suffolk is presumed to follow national and regional trends.

Future employment trends are presumed to follow the national and regional trends.

Qualifications

The distribution of levels of highest qualification held by the Suffolk manufacturing workforce is presumed to follow the national and regional trends.

Skills Shortages and Gaps

The pattern of skills shortages and gaps is presumed to follow the national and regional trends.

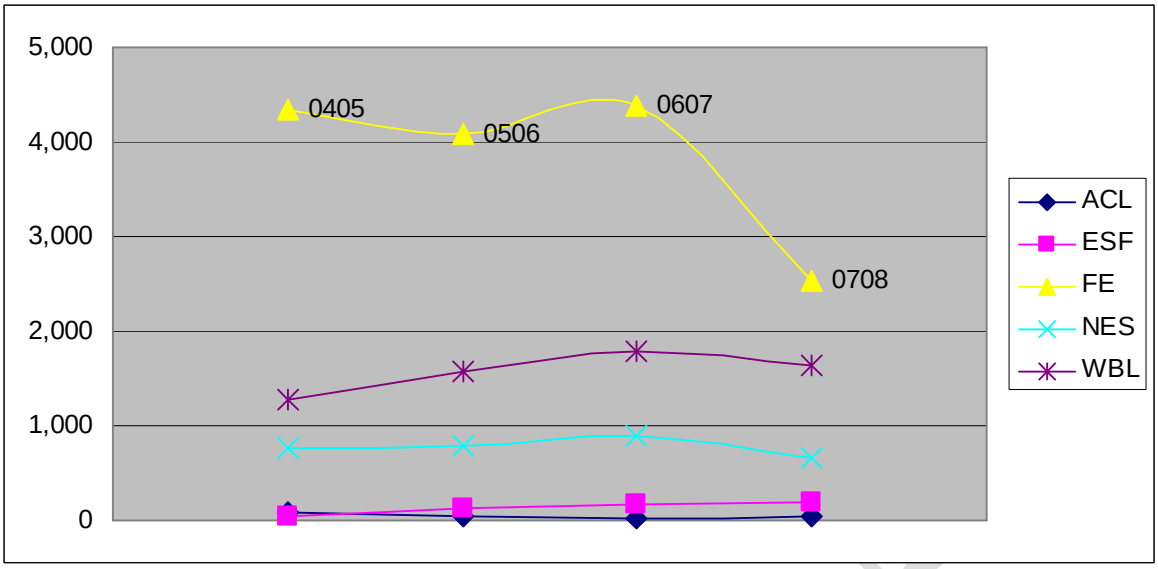
LSC ILR Activity

Provision Analysis

Engineering and Manufacturing Technologies (E&MT)

Chart 1 presents ILR sourced data on participation for Suffolk on learning aims in the Engineering & Manufacturing Technologies category. Train to Gain participation does not appear in this chart as participation against this funding stream are recorded in the ILR as regional participation. Using LSC of Learner to extract the Train to Gain data gives participation figures for 06/07 and 07/08 as 206 and 206 respectively.

Chart 1: Engineering and Manufacturing Technologies – Participation in Learning Aims by funding stream – Suffolk

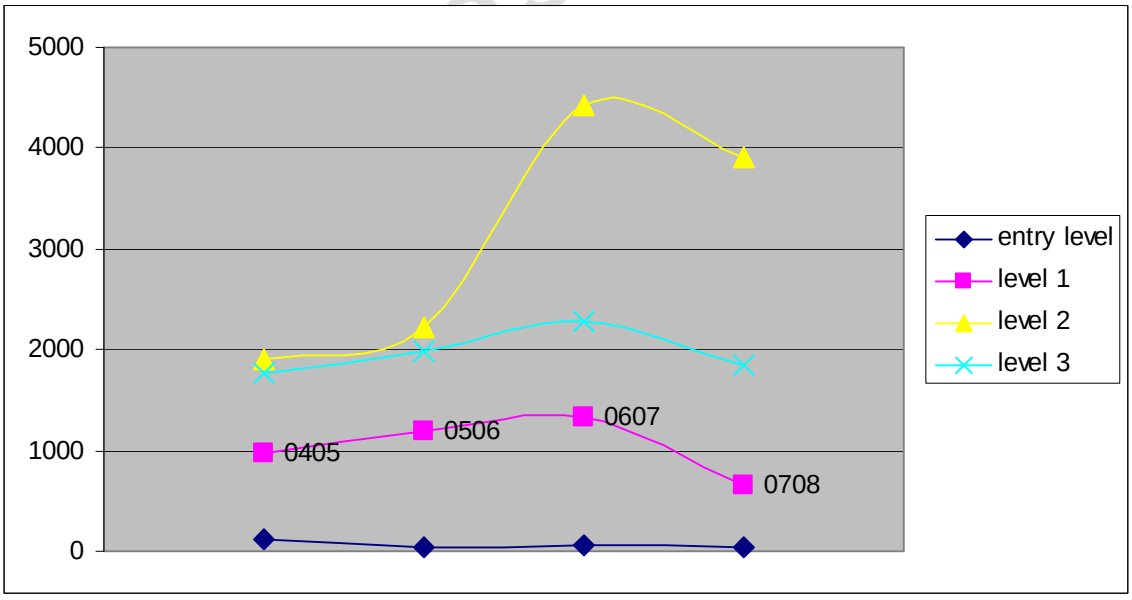


Source: E9000 Sector Skills Analysis V5. 07/08 data is FO1 release only. Suffolk Aims - not LSC of Learner

Comparing this participation data with the Business Improvement Techniques (BIT) delivery (Table 7) suggests around a quarter of Train to Gain delivery into E&MT is coming through BIT.

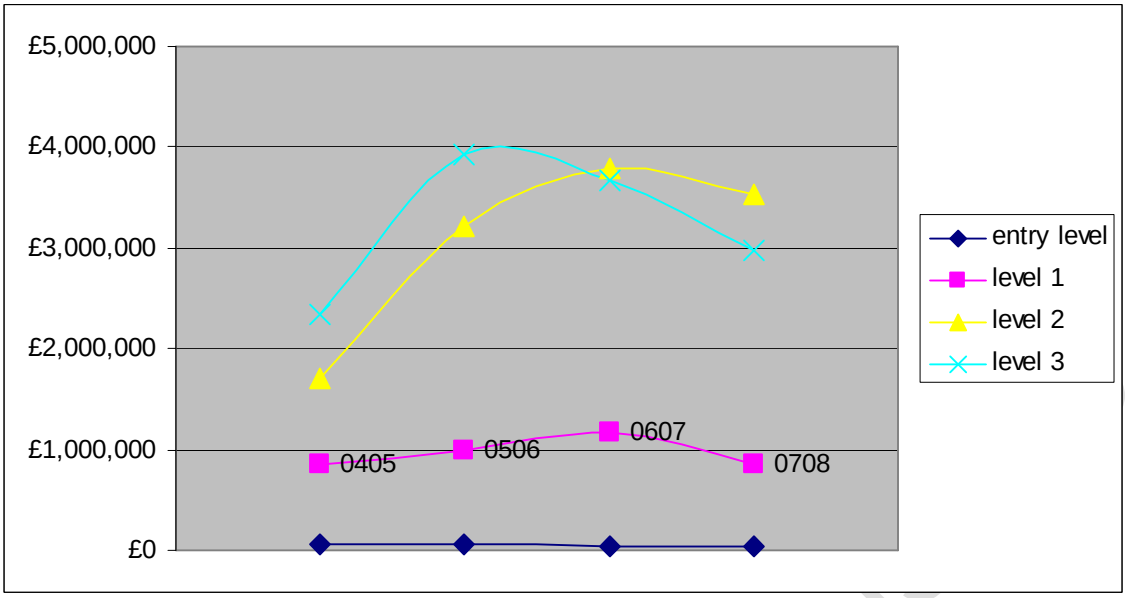
Charts 2 to 5 show additional Suffolk Level data on E&MT participation in relation to level of qualification, funding stream and SSA sub-category. There is a noticeable "spike" in L2 participation moving from a regional low in 04/05 and doubling to be highest in the region in 06/07. This step change does not appear to follow through into L3 participation.

Chart 2: Engineering and Manufacturing Technologies Learning Aims by Level - all funding streams



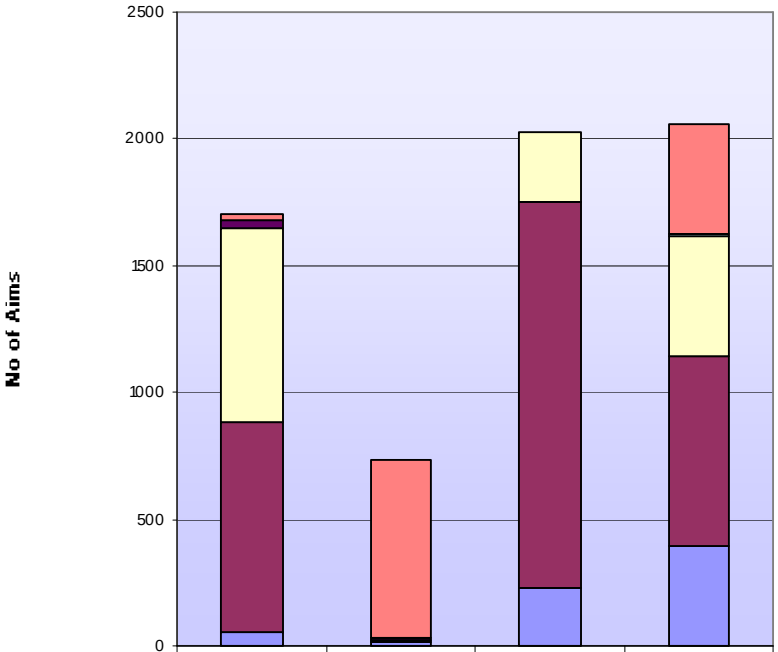
Source: E9000 Sector Skills Analysis V5. 07/08 data is FO1 release only. Suffolk Aims - not LSC of Learner

Chart 3: Engineering and Manufacturing Technologies Funding by level - all funding streams



Source: E9000 Sector Skills Analysis V5. 07/08 data is FO1 release only. Suffolk Aims - not LSC of Learner

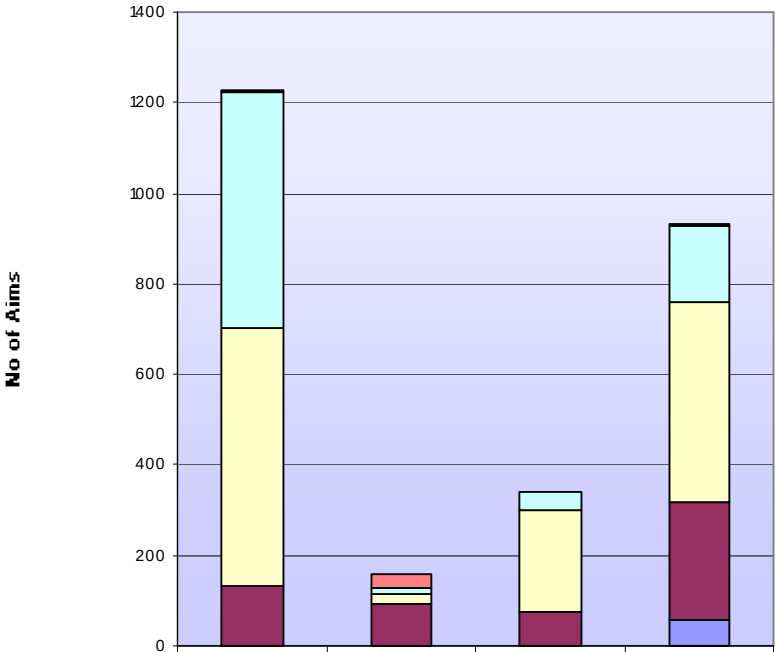
Chart 4: Engineering and Manufacturing Technologies 19+ performance 06/07



	Engineering	Engineering and Manufacturing Technologies	Manufacturing Technologies	Transportation Operations and Maintenance
not applicable	24	699		431
higher level	28	7		
level 4			2	11
level 3	768		273	466
level 2	822	10	1523	756
level 1	59	16	228	391

Source: E9000 Sector Skills Analysis V5.

Chart 5: Engineering and Manufacturing Technologies 16-18 performance 06/07



	Engineering	Engineering and Manufacturing Technologies	Manufacturing Technologies	Transportation Operations and Maintenance
not applicable		28		1
higher level	3			
level 3	522	14	38	168
level 2	571	23	226	443
level 1	131	93	75	262
entry level				56

Source: E9000 Sector Skills Analysis V5.

Qualifications Analysis

Review of ILR data for E&MT for 06/07 shows that around 154 different aims were followed. No aim had 1000+ participations and only 18 of the 154 aims followed in Suffolk had 100+ participants. Table 5 below identifies all those qualifications that had 100+ participations in 06/07.

Table 5: E&MT Learning Aims – 100+ participations in 06/07 - Suffolk

Learning Aim	No.
NVQ in Food and Drink Manufacturing Operations	978
Certificate in Electrotechnical Technology	770
Vocational study not leading to a recognised qualification, Engineering and Manufacturing Technologies (SSA 4)	671
NVQ in Performing Manufacturing Operations	551
NVQ in Passenger Carrying Vehicle Driving (Bus and Coach)	421
NVQ in Performing Engineering Operations	388
NVQ in Vehicle Maintenance and Repair	367
NVQ in Meat and Poultry Processing	329
NVQ in Electrotechnical Services	321
Certificate in Vehicle Maintenance and Repair	286
STCW 95 Basic Training - Personal Survival Techniques	190
Award in Vehicle Maintenance and Repair	166
STCW 95 Deck Officer of the Watch	156
Forklift Truck Training	130
Efficient Deck Hand	125
Certificate in Welding and Fabrication Practice	123
NVQ in Gas Network Operations - Mainlaying	113
STCW 95 Navigation, Radar & ARPA, Simulator - Operation	103

Source: E9000 Sector Skills Analysis V5. Suffolk Aims - not LSC of Learner

As in the regional analysis[14], a substantial proportion of the E&MT qualifications relate to the industrial footprint of Automotive Skills, GoSkills (Passenger Transport) and Summit Skills (Building Services Engineering - Electrotechnical) SSCs as well Lowestoft College's Maritime and Offshore specialism which are not within the manufacturing footprint used in this paper.

Provider Analysis

Table 6: E&MT Suffolk Provider analysis

Funding Type	0405	0506	0607	0708	Providers Active in 06/07
ACL	87	39	24	50	1
ESF	40	120	176	190	5
FE	4,333	4,094	4,373	2,528	4
NES	768	796	886	663	11
WBL	1,287	1,582	1,785	1,635	8
TtG			206	206	14

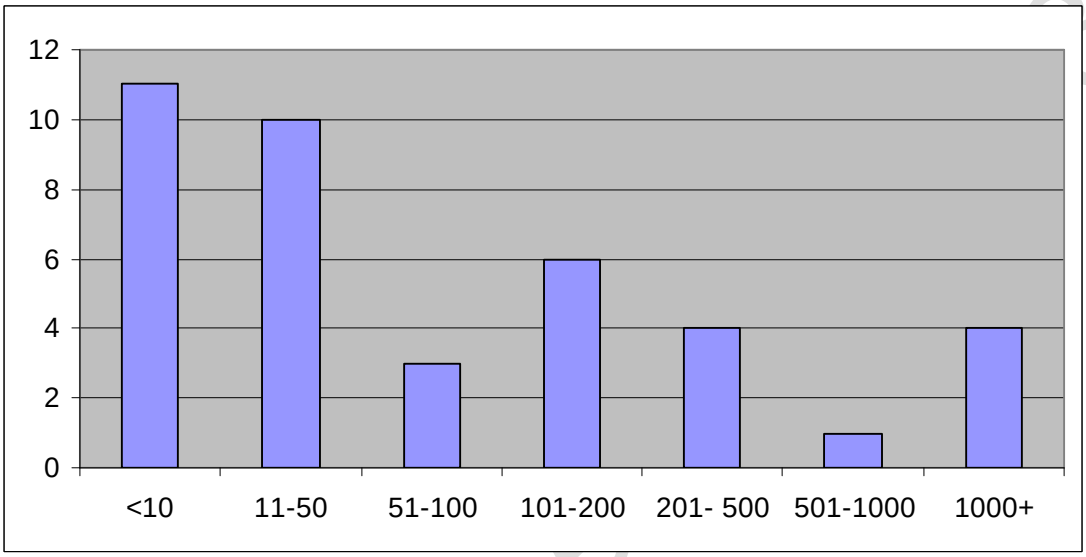
[14] See Manufacturing: National and Regional Sector Review (LSC 2008)

Source: E9000 Sector Skills Analysis V5. Note Train to Gain participation based on LLSC of Learner not Suffolk Aims.

Analysis of ILR suggests around 36 **different** providers have been active in this provision area since 04/05 (not including Train to Gain providers). Table 6 above shows the number of aims participated in by funding type by year and indicates the total number of providers who have been active in that funding type in 06/07.

Chart 6 takes 06/07 data and looks at the distribution of size of provider as measured by the numbers participating in E&MT aims. A small number of providers are delivering the majority of the volume with a relative large number of providers delivering 50 or less aims.

Chart 6 : Number of Aims distribution of E&MT providers – 06/07 - Suffolk



Source: E9000 Sector Skills Analysis V5. Suffolk Aims - not LSC of Learner

Four providers had more than 1000 participants in E&MT and one further provider (Carter & Carter) breached the 500+ level in 06/07. Lowestoft and Otley Colleges had 1000+ within FE with Suffolk College breaching the 750 FE level. Only one WBL provider, West Suffolk College, breached 500+ with Lowestoft and Suffolk Colleges with around 350 500 WBL participants each. The providers with 500+ participants on E&MT aims using all funding streams were:

- CARTER & CARTER GROUP PLC;
- Lowestoft College;
- Suffolk College;
- West Suffolk College; and,
- Otley College of Agriculture and Horticulture

Source: E9000 Sector Skills Analysis V5

Business Improvement Techniques (BIT)

Table 7 is based on LLSC of Learner rather than Suffolk aims. In 06/07 there were 7 providers supporting BIT in Suffolk, delivering around 20% of the regional participation in this qualification, with no provider supporting 50 or more on programme.

Table 7: Business Improvement Techniques – Suffolk Participation

Funding Type	0405	0506	0607	0708	Grand Total
ESF		30			30
FE	13		10	21	44
WBL					0
Train to Gain			57	73	130

Source: E9000 Sector Skills Analysis V5. Note Train to Gain participation based on LLSC of Learner not Suffolk Aims

Suffolk Findings

- As at the regional level, manufacturing is seen as a contributor to the Suffolk economy with the Food & Drink Processing, Energy and Engineering identified as significant manufacturing sub-sectors;
- Significant clusters relating to Oil and Gas (Cogent), Chemical nes (Cogent), Food & Drink (Improve); and Other Metals (SEMTA) have been identified;
- Manufacturing activity is perceived to be strong in around Ipswich, Great Yarmouth & Lowestoft and to have a supporting role in the wider rural economy;
- In terms of employment, Suffolk employs more in the Improve footprint than any other County apart from Norfolk and is 3rd for the number of Improve business units. In terms of the percentage of county business units in the Improve and Cogent footprints, Suffolk has the second highest percentage in the region after Norfolk;
- Currently available findings on skills needs, demand, gaps and shortages at a county level are either based on extrapolated national and regional data or on aged data. The current situation in Suffolk is, therefore, assumed to follow findings at a national level;
- Around 154 aims under Engineering & Manufacturing Technology were followed in 06/07 with only 18 of these breaching the 100+ mark. Of the top 10 aims, 5 relate to the manufacturing footprint two of which are in direct support of the food & drink processing sub-sector;
- Around 36 providers in Suffolk are delivering participation in the Engineering & Manufacturing Technologies category with four providers supporting 1000+ aims and one additional provider at the 500+ level. As at regional level, FE leads the way with WBL and NES second and third respectively. There are 7 providers delivering BIT, providing around 20% of the regional participation in this qualification but with no provider delivering 50+. Train to Gain is again the main delivery programme for this qualification;

Conclusions

- "Manufacturing" is and remains a critical sector for the regional economy and is a recognised component of the Suffolk economy but appears from published documents to be perceived as a risk factor for Suffolk rather than an opportunity;
- It appears that the Suffolk economy has relative strengths in Other Metals (SEMTA) and Chemicals nes (Cogent) sub-sectors and some further detective work is needed to understand the implications, if any, of these findings;
- The "Manufacturing sector" is diverse and complex, supported by five SSCs and eight SSAs, and will require a diverse and complex pattern of provision to respond fully to its skills needs. No general offer, other than perhaps BIT, is likely to meet needs across a broad spectrum of manufacturing employers;

- There is evidence of geographical variation across the region in terms of the clustering and the relative importance of sub-sectors. This suggests that may be possibilities at sub-regional level for new provision or marketing approaches;
- Further work is needed to understand the focus and impact of "manufacturing" providers and the impact of LSC subsidised provision within the Suffolk manufacturing footprint in order to understand the opportunities for any rationalisation of provision or of growth to support achievement of local/regional targets;
- Business strategies being used in the sector include productivity strategies where working practices and workforce skills are uprated and cost reduction strategies where automation, offshoring and migrant labour are used. Businesses seeking productivity improvements are likely to be more responsive to a skills development offer, especially those who are operating within supply chains and are subject to pressure from Tier 1 and Tier 2 suppliers for quality and cost improvements;
- It is likely that because of the relatively large numbers of the Suffolk manufacturing workforce employed in the Improve footprint where there are particular challenges around skills shortages and gaps for that workforce, that these will also be particular challenges for Suffolk manufacturing;
- The smaller businesses, which predominate in this sector, traditionally do not invest in training and this will be an important factor to address in growing delivery to this segment of the market;
- A key focus for LSC supported training into the sector will be in developing the employability, technical and practical skills of young and mature entrants to the sector and upskilling existing workers via Business Improvement Techniques;
- Further work is required to verify and refine the findings of this report with area office expertise and knowledge and to identify promising opportunities for refocusing, expending and developing the Suffolk "manufacturing offer."

Appendix

General Definition of the Manufacturing Sector

Broad sector definition of manufacturing in general use is based on a standard group of 27 sectors (see Table A1 below) defined by Standard Industrial Classification (SIC 2003) codes. These groups preserve the traditional manufacturing, services and public sector groupings of the economy. Manufacturing is defined as covering SIC 2003 codes 15-37 covering sectors 2 – 11.

Table A1: Classification of 27 SSDA Sector Matrix Industries

	Industries	SIC2003
1	Agriculture, etc	01-02, 05
2	Mining & quarrying	10-14
3	Food, drink & tobacco	15-16
4	Textiles & clothing	17-19
5	Wood, pulp & paper,	20-21
6	Printing & publishing	22
7	Chemicals, & non-metallic mineral products	23-26
8	Metals & metal goods	27-28
9	Machinery, electrical & optical equipment	29-33
10	Transport equipment	34-35
11	Other manufacturing & recycling	36-37
12	Electricity, gas & water	40-41
13	Construction	45
14	Sale & maintenance of motor vehicles	50
15	Wholesale distribution	51
16	Retailing	52
17	Hotels & restaurants	55
18	Transport	60-63
19	Communications	64
20	Financial services	65-67
21	Professional services	70, 71, 73
22	Computing services	72
23	Other business services	74
24	Public administration & defence	75
25	Education	80
26	Health & social work	85
27	Other services 9	90-9

Source: WORKING FUTURES 2004-2014: SPATIAL REPORT

Footprint Definitions for Manufacturing Group of SSCs

The definitions by SIC 2003 codes in Table A2 below are a 'best' fit to each SSC's core business sectors – their footprints - but the extent to which this is an exact fit to the SSC varies between SSCs. In some cases, the use of the core SIC codes excludes certain elements of the SSC footprint because they are included in other areas. A detailed breakdown at 4-digit SIC 2003 code level is given in the detailed National and Regional Manufacturing Sector Review paper on East of England Team Site (SharePoint).

Table A2: Manufacturing SSC footprint definition by SIC 2003 codes:

Definition of Sector			
Sector Skills Council	**Sector activity**	**SIC Codes - Description**	
Cogent SSC Ltd www.cogent-ssc.com	Chemicals, nuclear, oil and gas, petroleum and polymer industries	11, 23, 24 (**part**), 25 (**part**) & 5050	Note: Cogent also cover the nuclear industry and sign making, but it is not possible to isolate these in terms of SIC.
Improve Ltd www.improveltd.co.uk	Food and drink manufacturing and processing	15 (**part**) & 5138	
Proskills www.proskills.co.uk	Process and manufacturing of extractives, coatings, refractories, building products, paper and print	10, 12,13,14, 21, 22,2,2430, 26 (**part**) & 4030	
SEMTA www.semta.org.uk	Science, engineering and manufacturing technologies	25.1, 27 (**part**), 28 (**part**), 29, 30, 31, 32, 33, 34 & 35	Note: SEMTA also cover science sectors, not exclusively defined by SIC
Skillfast-UK www.skillfast-uk.org	Apparel, footwear and textile industry	17, 18. 19, 24.7, 51.16, 51.24, 51.4, 52.71, 51.42 & 93.01	

Source: Working Futures 2004-2014: Sectoral Report

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