WEST OF ENGLAND LOCAL ENTERPRISE PARTNERSHIP

WE ARE A PARTNERSHIP FOR GROWTH

WEST OF ENGLAND ADVANCED ENGINEERING AND AEROSPACE

Local Sector Skills Statement 2016

ADVANCED ENGINEERING AND AEROSPACE

Advanced Engineering and Aerospace is a highly dynamic and diverse industry. The West of England is home to the UK's largest aerospace and defence cluster and one of the largest concentration of aerospace activities in Europe. The Aerospace industry is working locally to establish iAero: a regional delivery method of national aerospace strategy; with a notable focus on skills

The West of England has a prominent cluster of companies on the north fringe of Bristol. Most internationally recognised aerospace companies are located here, supported by a strong supply chain of smaller and locally developed companies.

In 2014, the engineering sector contributed an estimated £455.6 billion (27.1%) of the UK's total £1,683 billion GDP. The sector has reported that 15% of UK manufacturers have reshored manufacturing back from overseas production in the past 12 months and grew by 2.8% in 2014.

KEY FACTS

As of 2013 there were 28,700 people employed in Advanced Engineering and Aerospace in the West of England. With 75% employed in advanced manufacturing and engineering.

- Within the West of England time and money are the key driving factors for businesses not engaging in skills and fewer than half have an allocated training budget. Leading skills gaps are Technical skills, Basic IT and leadership and management. Expected future demand will be for advanced IT and software skills and an increased requirement for skills at level 4 and above.
- In the academic year 13/14 less than 7% of the West of England LEP identified sector apprenticeship starts were attributed to the advanced engineering sector.
- Only 9% of higher level apprenticeship starts were recorded as advanced engineering.
- People with STEM skills are becoming harder to recruit. There was a 7% increase on businesses nationally reporting difficulties; this is compounded by a 10% increase in employers stating that suitable STEM skills are difficult to find in potential apprentices. The proportion of hard to fill vacancies is increasing.

2nd

UK'S GLOBAL RANKING FOR AEROSPACE PRODUCTION

87,000

GRADUATE LEVEL ENGINEERS REQUIRED EACH YEAR OVER THE NEXT TEN YEARS

9%

HIGHER LEVEL APPRENTICESHIP STARTS WERE RECORDED AS ADVANCED ENGINEERING

SKILLS PRIORITIES 2016

Improve careers education, information, advice & guidance (CEIAG)

Issue

Young people and those advising them in education do not understand the breadth, depth or accessibility of career opportunities across the engineering sector in the West of England. In addition there are a plethora of initiatives which add further complexity for both the employers and education institutions. 36% of STEM teachers feel confident in providing engineering careers advice, and 17 % of STEM teachers believe a career in engineering is undesirable for their students.

Objectives

- Support a co-ordinated approach to engagement in schools, utilising existing initiatives. eg Engineering UK has two STEM based strategic goals.
  - To improve the perception of engineering, engineering and technology
  - To improve the supply of engineering
- Add value to these engagements by delivering an industry-led careers activity in partnership with national or local initiatives.

Improve the quality and local responsiveness of education and training

Issue

Providers appear to business, preoccupied with the needs of the funding rather than the needs of employers, and the quality of provision is varied. The West of England business skills survey illustrated that employers have faith at least in local Further Education provision.

Objectives

- Work with industry and providers to develop an industry approval scheme or award for recognised local provision; building on the practices of the nuclear sector and creative industries.

Increase apprenticeships starts and improve access to higher and degree apprenticeships

Issue

Sourcing suitable training programmes and skills development opportunities, especially for the SMEs, is complicated and time consuming. Local employers indicated a lack of appropriate training or qualifications available regionally. In addition, with the advancement of new technologies such as additive layer manufacture and composites, there is a need to prepare for the future skills needs. UKCES cite emerging technologies as a current challenge and the growing 'computerisation of production processes.

Objectives

- Work with partners and providers to produce a map of provision based on engineering specialisms and enabling technologies facilities from level 3 to level 7 addressing the training needs for Additive Layer Manufacturing / 3D fabrication (ALM).
- Aim to become an ALM centre of excellence by 2020. Utilise the information available from other cities such as Sheffield to increase the variety of future specialist provision.

SKILLS PRIORITIES 2016

Engage SMEs to boost productivity and build capacity for growth

Issue

Prime and Tier 1 procurement requirements, within the sector, do not encourage training and lifelong learning and therefore SMEs within the supply chain are not obliged to provide training opportunities. A significant number of West of England engineering businesses have no allocated budget for training, yet almost two thirds report skills as a barrier to business growth. UKCES identify encouraging employers to invest in upskilling and developing their workforce as a key action for the future.

Objectives

- Increase SME uptake of apprentices by working with the leading firms to explore the possibilities of introducing skills and training requirements within the procurement process.
- Benchmark the sector against national research, public sector good practice and developments in the construction industries.

Promote pathways for employment to enhance equality and diversity in the workforce

Issue

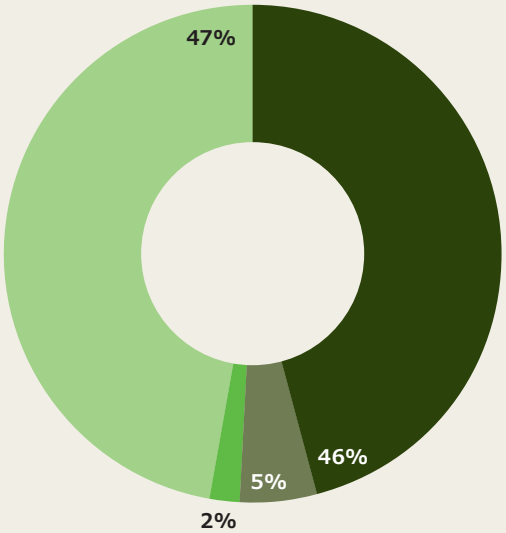
Diversity within the engineering industry remains a concern locally and nationally. There is still a disproportionate number of white males entering the industry through the apprenticeship route to the detriment of the BME communities and females. Both nationally and locally only 7% of engineering apprentices starts in 2012/13 were female. Over 40% of female engineering graduates do not progress into employment within the engineering sector.

Objectives

- Encourage all schools engagements to see an equal participation of female and male students and prioritise under-represented groups.
- Introduce an Apprentice Ambassador network to enable all schools to access apprentice speakers to encourage more young people, from a wider range of backgrounds into engineering. This will include utilising the support of existing networks and STEM initiatives.

Employment areas

- Manufacturing of electrical equipment, machinery, equipment n.e.c., air and spacecraft & related machinery, medical & dental instruments & supplies
- Research and experimental development on natural sciences and engineering
- Repair of electrical equipment/repair and maintenance of aircraft and spacecraft
- Engineering activities and related technical consultancy



KEY SECTOR ACHIEVEMENTS 2014/15

- Our local industry is leading the way in developing aerospace skills through the Employer Ownership of Skills programmes. Supported by the Aerospace Growth Partnership and with guidance from the ADS, through iAero.
- The West of England LEP are investing in a Future Technologies Centre to improve the relevance of, and modernise, local training. Bath College is consolidating provision at the newly formed Somer Valley site, to make better use of space and equipment through a B&NES Engineering Centre and Weston College has installed a 5 Axis machine in the new workshops, building FE provision up to industry standards.
- The Gatsby Mapping Initiative has provided the opportunity to fully understand and analyse the provision landscape.

Reference Documents

1 Source: BRES 2015, ONS based on the West of England LEP's definition of Advanced Engineering and Aerospace sector.

2 The West of England Business skills survey (2015), *Labour Insight Jobs (Burning Glass Technologies) Future employment data source: EMSI economic modelling.*

3 Engineering UK: The State of Engineering (2015).

4 AGP: Lifting Off: Implementing the strategic vision for UK Aerospace (2013).

5 Engineering UK: The State of Engineering (2014).

6 UKCES Sector Insights: Skills and performance challenges in the advanced manufacturing sector (2015).

7 EEF: Securing A Manufacturing Renaissance (2015).

8 SFA Data (2013/14).

Endorsement

LEP Advanced Engineering and Aerospace Sector Group Chair – Chris Steele.

LEP Advanced Engineering and Aerospace Sector Representatives – British Engineering Manufacturers Association (BEMA) and EEF The Manufacturers' Organisation.

BEMA

eef The manufacturers' organisation

Our Local Sector Skills Statement outline the skills priorities of employers to ensure they have access to a local workforce with the right skills at the right levels.

Our statements address themes including careers advice, curriculum, apprenticeships, productivity, equality and diversity. They are designed to help skills planning for the key West of England sectors, whilst promoting the need for greater partnership working between the education sector and employers.

Key Sector Resources

- The Advanced Composites Centre for Innovation and Science
- Composites Research Unit
- Aerospace Engineering Research Centre
- Bristol Robotics Laboratory
- Centre for Nanoscience and Quantum Computing
- Centre for Quantum Engineering
- Centre for Energy and the Design of Environments
- National Composites Centre

Key Providers

- University of the West of England
- University of Bath
- University of Bristol
- City of Bristol College
- Bath College
- South Gloucestershire and Stroud College
- Weston College
- BEMA
- BTEA

Professional Organisations

EE
www.eef.org.uk
WEAF/ iAero
www.weaf.co.uk
SWMAS
www.swmas.co.uk
ADS/ AGP
www.adsgroup.org.uk
BEMA
www.bema.co.uk
Engineering UK
www.engineeringuk.com

To find out more, please visit:

Local Sector Statements for all priority sectors
www.westofenglandlep.co.uk/skills

The West of England LEP and Business sector groups
www.westofenglandlep.co.uk/business

Information within this document is correct at the time of publication (November 2015).