

FUTURE SKILLS ISSUES AFFECTING
INDUSTRY SECTORS IN WALES



Aerospace Sector

Executive Summary

Introduction

This document is one of a series commissioned by the Future Skills Wales Research Forum. The overall project aims to extend and complement the work begun by the original Future Skills Wales project, which forecast future generic skills needs across Wales using forecasting and survey data. The current project adds studies of future vocational skills needs within key sectors in Wales. Each sector study is based on desk research and qualitative interviews with practitioners and employers, and aims to provide an overview of the sector, the skills issues, and current and potential actions to further strengthen the sector.

Businesses and employees in each of the sectors studied have achieved great successes; that is why these sectors have become important for Wales. Our focus on current skills issues should not obscure these achievements or the determination of all concerned to meet current and future challenges.

Aerospace Sector Profile

Activity and Employment: there are currently around 17,000 people employed in the aerospace sector in Wales and over 70 companies that are involved essentially in the manufacture of, maintenance and overhaul of and equipment supply for aircraft.

Firms: major employers in Wales include BAE Systems, BA Maintenance, GE Systems and DARA. Firms are concentrated around Cardiff in the South-East, and in the North, but there are examples outside these concentrations.

Sources of change: There has been a very rapid consolidation among the US primary companies and major suppliers. A similar process of consolidation is on going in Europe with most notably the creation of EADS (European Aeronautic Defense and Space company). There is a subsequent risk that UK companies could be disadvantaged in terms of scale and by the emergence of a *vertically integrated* customer base.

A continuing peace dividend means that the armed forces are contracting in size and consequently there are fewer highly trained engineers leaving and wanting to continue in civil aviation. This combined with the long term decline of the industrial and manufacturing base has meant that traditional sources for recruitment by the civil aircraft engineering industry are less productive.

Prospects: the Airbus consortium recently announced the launch of the A3XX, a plane that will provide 35% more seats than the 747. It is estimated that of the 22,000 or so jobs that will arise from this project, some 8,000 will be at BAE Systems. This will impact on the plant at Broughton, which is building the wing box and some sub-assemblies for the A3XX.

It is clear that civil air transport is expected to remain a growth industry and so provide many business opportunities. Some forecasts indicate that the industry is set to grow twice as quickly as the rest of the economy over the next 15 years.

The industry DTI Foresight Report notes that the UK's current strong market position is in part based on government and industry R&D investments made in the 1970s and 1980s. As

current R&D investment is far below the levels enjoyed back then, the report notes that some analysts believe that the industry is 'living on borrowed time'.

Skills Issues

Cyclical training patterns: historically, the industry has experienced cyclical patterns in demand that have been reflected in the stop-go training activities of those companies affected.

Impact of lean methodologies: the introduction of the lean model of manufacturing, a derivation from an earlier example in the US automotive industry, has had implications for the structure of the workforce. The fundamental principle of decision making at the lowest level has resulted in a flattening in middle management and an emphasis on those with technical skills to take more team leadership roles.

Shortage of engineers and engineering graduates: evidence from a jointly sponsored SBAC/DTI UK-wide survey undertaken in 1998 showed that skills shortages were predominantly in engineering areas. Companies have also noted a shortage in the quality of engineering graduates, in particular their lack of work experience and apparent weaknesses in communication skills.

Managerial Skills: three key challenges for their approach to their managerial employees were identified:

- developing change management skills;
- developing communication skills;
- developing leadership skills.

IT Skills: there is a continued shortage of software engineers and technicians, this despite the increased number of computer studies trainees and an overall rise in the basic IT skills levels of new entrants. One reason for this is the increasing levels of competition from hi-technology firms.

Action on Skills

The sector is working actively on the issues identified as part of an overall strategy to meet current challenges and exploit the potential for the future. The table below sets out recommendations in support of this existing work. A more detailed explanation of the recommendations is provided in the main report.

Recommendations for Future Research

Work needs to be done to identify any 'latent' skill gaps, where a company operates a sub-optimal production strategy to conceal skill deficiencies.

The prospects for employment growth from the A3XX development and manufacture in North Wales need to be tracked, so that sub-regional training provision is kept under review with a view to meeting potential increases in demand.

Research needs to be undertaken to evaluate skills issues around Cardiff International Airport.

Further examination is needed into the extent to which the contraction of the armed forces and industrial and manufacturing base will affect the future supply of appropriately skilled labour.

Key Recommendations

Theme No:	Rec No:	Action	Timescale	Key Partners
1	1a	Facilitate cross-sector working group on lean techniques linking to existing initiatives	From 2000	Various fora
	1b	Review vocational qualifications to check applicability to lean manufacturing	2001/02	NTO/CETW/ Emps
	1c	Review/update assessor training and awareness of lean paradigm	2001/02	NTO/CETW/ Emps
2	2a	Increase the number of training places available to students	2001/02	CETW/WDA
	2b	Address the gap of JAR 66 training courses in North Wales	2001/02	SWAG/CETW
3	3a	Facilitate the expansion of the SWAG to involve more companies including those based in North Wales	2001	SWAG/Emps
4	4a	Support existing programmes promoting sector plans and prospects to schools, young people and communities	2001	Emps/EBPs SWAG/CS
	4b	Proactively seek partnerships with local schools, EBPs, FE and HE	2001	Emps/EBPs/ CETW
	4c	Develop a sector pack and sub-sector packs	2001	Emps/CETW/CS
	4d	Develop sector/sub-sector web pages with links to fora and electronics companies	2001	Emps/CETW/CS
	4e	Review feasibility of a Wales version of the UK Skills Show (NEC 5-9 July 2000)	Now for 2001	NTOs/Assembly/ UK Skills/fora
5	5a	Consider cross-company sector mentoring at management/team leader level	2001	Emps/CETW
6	6a	Audit NVQs/course curriculum against industry standards	2001/02	Emps/CAA/NTO
	6b	Develop better liaison/more formal links with colleges and universities	Ongoing	Emps/SWAG/ FE/HE
	6c	Proactively offer teacher/pupil/student placements	2001	Emps/SWAG/ FE/HE

