FUTURE SKILLS ISSUES AFFECTING INDUSTRY SECTORS IN WALES

Electronics Sector

Futureskills Wales

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.

Sector Profile

Electronics is an important sector within Welsh manufacturing with:

- over 300 companies;
- 37,600 employees;
- turnover exceeding £2.5 bn per annum.

Key sub-sectors include:

- electronics (including opto-electronics);
- semiconductors;
- information technology, telecoms and software.

Sources of Change & Prospects for the Future

It is anticipated that the electronics sector in Wales needs to position itself in the higher value-added 'knowledge-based' sub-sector, **"the Welsh Electronics Sector must move up the value chain"**[1]. This sub-sector is capital and skill intensive. Digital TV will impact most areas of the sector. Whilst changes in technology will have an impact, the core skills in electronics remain the same. Global manufacturing cost competitiveness is having an effect on manufacturing efficiency resulting in 'cost down' and the need to reduce lead times.

The prospects for the sector are affected by over-capacity in some areas, particularly in consumer electronics, and cyclical demand in others, for example the semiconductor sub-sector. The immediate scenario for the sector in Wales, as for the rest of the UK, is some dislocation and possible decline, followed by recovery if the necessary transition to higher value-added operation can be made.

Skills Issues

The major skills issues are as follows:

1. The most acute skills issue is the **availability of the required experienced technicians and engineers** to meet current and projected future demand.
2. Implementing 'cost-down' activities has a direct **impact on skills at a supervisor and team leader level**. Developing **management skills** to support this process is also required.
3. **Prevention of short-term de-skilling which occurs in response to skills shortages and recruitment difficulties.** Complex tasks are being broken down into a series of lower-skill tasks. This process is especially prevalent in the semiconductor sub-sector and needs to be managed carefully.
4. There is a **shortage of specialist skills e.g. software process engineers** with C++, HTML and JAVA programming skills. One software firm has projected a demand for an additional 100 software engineers over the next 18 months.
5. Employers across all sub-sectors in Wales expect to train graduates engineers and, to a lessor extent technicians, over a period of time before they begin to add value to the business. There is a perception that **the technical and commercial skills being taught at University/College do not meet industry requirements.**
6. The **perception of the engineering industry** is still a barrier to potential entrants. This includes students at school who are deciding not to choose maths/science subjects as well as graduates who are choosing IT-related rather than manufacturing careers.
7. The report focusing on the supply and demand for digital training (ERES, 1999[2]) indicated that **attracting employees to Wales** is not an issue. By contrast, our consultations have highlighted that this **is a problem area** particularly in higher skills. Even attracting engineers from Bristol can be a difficulty.
8. **Basic skill levels** across all positions and **employability skills** for graduates have been highlighted as ongoing skills issues.
9. The **impact of moving from an analogue to a digital environment** has already had an impact on the semiconductor industry and will continue to have an impact on the consumer electronics industry.
10. The **cyclical nature** (boom/bust scenario) of the semiconductor industry requires sectoral planning.

Action on Skills

Whilst there are a number of skills issues facing the electronics sector as a whole there are important differences in terminology and emphasis between the electronics, semiconductor and software sub-sectors. A skills strategy embracing these differences needs to be developed and effectively communicated both within the sector and to key policy-makers.

The key recommendations are grouped under a number of themes and are shown in the matrix below.

[1] A Strategy for Electronics in Wales, Welsh Electronics Forum.
[2] The Market Demand for and Supply of Digital Training, Final Report, ERES, 1999

Themes & Recommendations matrix

Theme No:	Rec. No:	Action	Timescale	Key Partners
1	1a	Ensure that funding is available to embed and develop the Technician PDP programme beyond March 2001 and that lessons learnt from the pilot are integrated into delivery	on-going	CETW/SWEFIC
	1b	Consider work placements for technical students and incentives for SMEs offering places	2000/2001	FE Colleges/ HEIs/WEF
	1c	Develop closer links between employers and universities to ensure that the curriculum advances at the same pace as the technology	2000/2001	HEIs/WEF
	1d	Consider introducing a bursary scheme at HNC/D and degree level along similar lines to the current scheme offered to PGCE students who study more 'difficult' subjects	2000/2001	NAW
	1e	Develop effective careers information and promotional materials, it is important to attract more young people and women to the industry	2000/2001	WEF
2	2a	Ensure the Team Leader training programme is embedded and developed.	on-going	CETW/EMP
	2b	Consider cross-company sector mentoring at management/ team leader level	2000/2001	NTOs
	2c	Implement a cross-industry modular management development programme	2000/2001	NTOs
3	3a	Ensure that there are clear progression routes are developed and implemented within individual companies	on-going	WEF
4	4a	Implement the graduate development programme	2000/2001	WEF
	4b	Consider more sandwich students/innovative approaches to attracting graduates	2000/2001	HEIs/WEF
	4c	Courses to include more blocks of good quality employment-based training and incentives for SMEs offering places	2000/2001	FE Colleges/ HEIs/WEF
	4d	Employers need to consider what salaries and progression they need to offer to attract the best graduates and experienced engineers	on-going	WEF
	4e	Consider ways of keeping overseas graduates in the UK	2000/2001	WEF
5	5a	Develop closer ties with NTOs (EMTA, ITNTO etc)	2000/2001	NTOs/WEF
	5b	Audit NVQs/course curriculum against industry needs	on-going	NTOs
	5c	Develop better liaison/more formal links with colleges and universities	2000/2001	FE Colleges/ HEIs/WEF
	5d	FE & HE should develop industry-focused centres of excellence	2000/2001	FE Colleges/ HEIs/WEF
6	6a	Actively seek partnerships with local schools and EBPs	on-going	EBP/WEF/CETW
	6b	Proactively offer teacher/pupil/student placements and incentives for SMEs offering places	2000/2001	EBP/CETW
	6c	Promote sector plans and prospects to schools, young people and communities	2000/2001	EBP/Careers
7	7a	Develop an advertising aimed at individuals	2000/2001	WEF
	7b	Develop a sector pack and sub-sector packs	2000/2001	WEF
	7c	Develop sector/sub-sector web pages with links to fora and electronics companies	2000/2001	WEF
8	8a	Work with the Basic Skills Agency to implement common definitions and tests in recruitment and training needs analyses	2000/2001	NTOs
	8b	Develop pre-recruitment short courses focused on developing core technical skills and employability skills	2000/2001	NTOs
9	9a	Implement the main recommendation of the ERES report i.e. to second/contract an individual to act as a facilitator/marketeer	2000/2001	NAW
10	10a	Encourage a broad skills mix which is interchangeable between industries	2000/2001	NTOs
	10b	Team Wales to capitalise on the strategic planning role of sector forums	2000/2001	CETW
	10c	Investigate the possibility of developing short courses to enable operators, technicians and engineers to switch between manufacturing sectors e.g. mechatronics	2000/2001	NTOs

Notes

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