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CAREER PATHWAYS

INFORMATION AND COMMUNICATION TECHNOLOGIES SECTOR : NORTH WALES
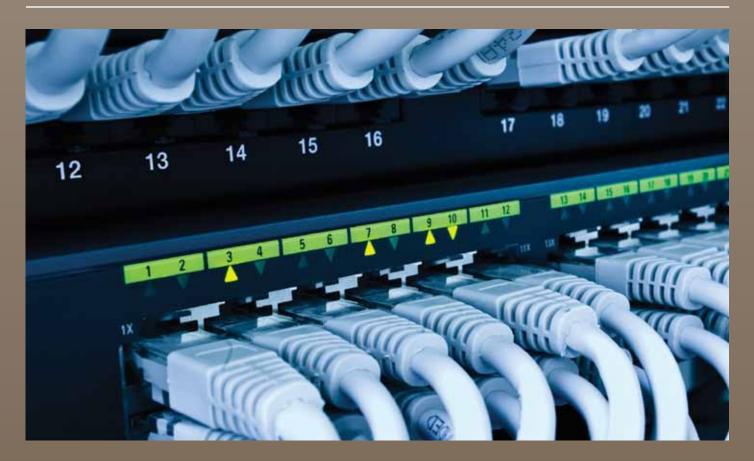
CAREER PATHWAYS

OVERVIEW: TRENDS

This is a fast growing and changing sector spanning a wide range of digital and electronic technologies. Trends are positive in this sector, with good potential for growth.

Welsh Government investment initiatives include the **Superfast Cymru** programme which is rolling out a nationwide superfast broadband infrastructure and £40 million pound investment in the **High Performance Computing (HPC) Wales** programme. There is a diverse range of software-related companies in North Wales. Overall the region has a good entrepreneurial base of small scale, home-grown software development companies.

There is significant R&D expertise and capacity for developing new technologies in the Computer Sciences sector. Innovation in IT applications for medicine and big data computing, are key trends with evidence of regional uptake.

More information about regional trends in this sector are to be found in the **Meet the Ambassadors: Information Technology factsheet** available on the Shaping the Future website.

SECTOR- WIDE OVERVIEW OF NECESSARY QUALIFICATIONS AND SKILLS

Key example: Communications Engineer

Experience	5 years	5 to 10 years	15 years+
Essential qualifications	BTEC L3 Telecommunications technology	BTEC L3 Telecommunications technology	City & Guilds certificate Electro-technical technology City & Guilds certificate Requirements for electrical installation
Desirable qualifications	BEng Electronics and communications NEBOSH Qualification Health and safety at work	BEng Electronics and communications Chartered Engineer CEng QCF L2 ILM Certificate in Team Leading NEBOSH Qualification Health and safety at work	BEng Electronics and communications Chartered Engineer CEng QCF L2 ILM Certificate in Team Leading NEBOSH Qualification Health and safety at work
Key competencies/ skills	Responsible Problem solving and logistics skills Innovative and Adaptable Creative thinker Teamwork skills STEM skills and qualifications Further sector- specific specialisms if required (see table 2)	As for 5 years, plus: Some team leadership and/or project management experience Further sector- specific specialisms if required (see table 2)	As for 10 years, plus: Leadership and management experience Project management experience Further sector- specific specialisms if required (see table 2)
Budget responsibilities	Some budget responsibility	Some budget responsibility	Significant experience of staff management and team leadership
Staffing responsibilities	Evidence of good team work	Some experience of team leadership / management	Significant experience of staff management and team leadership
Experience / milestones / highlights that are expected to support each level of experience. i.e., What evidence should be on the CV?	Qualifications evidence Further sector- specific specialisms if required (see table 2)	Evidence of continuing professional development (e.g. accredited courses) Evidence of experience in relevant industry roles Membership of relevant professional body Further sector- specific specialisms if required (see table 2)	Evidence of continuing professional development (e.g. accredited courses) Track record of key role played in successful project delivery; management and team leadership examples Membership of relevant professional body Further sector- specific specialisms if required (see table 2)

INDUSTRY SUB-SECTOR SPECIFIC SPECIALIST TRAINING

	Software engineering	Telecommunications engineering	Software design/ computer programming/ Systems analysis	IT/computing in medical science
Licence to practice	BTEC L3 software development	BTEC L3 Telecommunications technology	BTEC L3 Computer programming	BTEC L3 Computer programming
Gold standard	Software engineering degree BSc NEBOSH Qualification Health and safety at work	Electronics and Communications BEng NEBOSH Qualification Health and safety at work	Computer science BSc NEBOSH Qualification Health and safety at work	Computer Science BSc NEBOSH Qualification Health and safety at work
Examples of further specialist qualifications and courses	SQL server short courses Java, LINUX and UNIX courses Certified Information systems security professional (CISSP)	City & Guilds fibre optics Java, LINUX and UNIX courses Certified Information systems security professional (CISSP)	Information technology management for business (ITMB) degree Java, LINUX and UNIX courses Certified Information systems security professional (CISSP)	MSc/MPhil Computational biology Certified Information systems security professional (CISSP)

Further examples of required skills, qualifications, training and competencies related to selected job roles in this sector can be found in the **Career Pathways** briefings on the Shaping the Future website, and on the National Careers Service website: http://tinyurl.com/NCS-infotech

REGIONAL SKILLS AND QUALIFICATIONS GAPS

In relation to the IT and communications sector, **The National Strategic Skills Audit for Wales 2011**[1] notes that…*The changing nature of skills in Wales is predicted to continue to be primarily in high value roles such as project management, systems architecture, business process, change management, security, risk management, analytics and web / internet development, with an increasing need for customer and business oriented skills as well as sophisticated technical competencies. In the immediate term (1-3 years) employers report a priority need for IT & Telecoms professionals to have high level security and data protection skills to enable them to develop.*

Further information about specific skills gaps in Wales - the Sector Skills Councils Working in Wales Thematic Report - can be found on the LMI page of the Shaping the Future Website: http://tinyurl.com/STF-LMI

[1] http://www.ukces.org.uk/assets/ukces/docs/publications/ukces-employer-skills-survey-11.pdf

RELEVANCE OF JOBS IN SECTOR TO EXISTING MAGNOX JOB ROLES

Jobs in this sector, many of which relate to engineering and technician roles, and also to a number of HR, personnel, payroll and database administration roles, are an excellent match for many Magnox jobs. Employees are likely to have skills, experience and qualifications which are highly transferrable for this sector and give them a competitive advantage. With additional, carefully chosen, qualifications and training, Magnox employees are in a strong position to take advantage of opportunities in this sector. For example electrical engineering and digital software qualifications will give maintenance engineers a competitive advantage in this rapidly developing sector.

KEY WEBSITES

For a wide range of further information including job roles, skills, qualifications and training courses across this broad sector, see

http://tinyurl.com/NCS-infotech
http://www.bigambitionwales.com/
http://www.e-skills.com/
http://www.e-skills.com/research/research-publications/big-data-analytics/
http://www.ukces.org.uk/

For more Wales-specific skills gaps and shortages in this sector see the Sector Skills Wales Thematic Report at
http://tinyurl.com/STF-LMI

For further relevant LMI resources in Wales relating to skills and training see
http://www.learningobservatory.com/

For access to relevant Shaping the Future LMI resources, including Meet the Ambassador and Career Pathways briefings, see
http://tinyurl.com/STF-LMI

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