

1 The Skills Action Plan for the United Kingdom

The research suggests that the priorities for the country are to:

- increase the skills of the ICT professional workforce in work;
- increase the capacity of Further Education to deliver courses required to up-skill the ICT professional workforce and their uptake;
- encourage private training providers to deliver courses in underserved regions, to meet the demand of employers for a more productive ICT workforce;
- promote the capability of Further Education to develop the ICT workforce particularly in the area of software and systems development;
- develop strategies to counteract, where appropriate, the uneven distribution of ICT graduates towards the capital and South East;
- improve the pass rate at GCSE level Computer Science, particularly in regions where it is less popular than other subjects;
- increase the percentage of ICT undergraduates who ultimately join the ICT workforce;
- address the specific concerns identified for each region in the separate regional outputs of this project.

The consultation with stakeholders agreed the following actions would help to address these priorities:

Demand Side Actions

- Improve the links between employers and HE/FE sector to ensure that course content and qualifications are relevant and that employers use the resources available to them.
- Develop and promote new entry points and career pathways into the sector, and encourage employers to consider wider recruitment pools
- Encourage employers to address their working practices to make the sector more attractive to new recruits
- Encourage employers to take up staff training and development programmes currently on offer, such as ESIB.²

Supply Side Actions

- Improve the capacity of HE/FE to develop and update courses that reflect the needs of employers. This requires shorter development times and more current teaching equipment.
- Review the funding mechanisms to ensure that they support the needs of employers and are not bound by redundant frameworks.
- Encourage funding training in small discrete packages that are relevant to needs, easily accessible and do not place unnecessary burden on employers.
- Ensure that graduates are more workplace ready and require less upskilling to enter industry by creating a more rounded degree content that has commercial and communication skills.

² E-Skills Into Business – a best practice programme aimed at improving ICT business efficiency by benchmarking employee skills and targeting training.

2 Executive summary - the gaps between supply and demand

2.1 The workforce in the United Kingdom

In the United Kingdom it is estimated that the ICT workforce comprises some 1,230,000 professionals across twelve regions. The majority are employed in companies engaged in IT and Telecommunications itself (39%), while 18% are in Public Services, 13% in Sales and Leisure, while 10% are in Manufacturing (non-metals). The typical ICT professional in the UK and any of its regions is male, permanently employed and working full time. The UK workforce is 67% male. Staff numbers working in Internal IT Operations were 340,000 representing 37% of the total workforce, and far exceeding all other functions. Development was some way behind with 236,000 staff (36%).

2.2 Demand side conclusions

Conclusions relating to growth

- 1 Companies in the UK still plan for growth of their ICT professional workforce.
- 2 The anticipated growth of the workforce is substantially less than one year ago.
- 3 The number of employers intending to downsize is negligible.
- 4 There is considerable regional variation, with a much higher proportion of employers in the South East and Wales predicting growth than the UK average.
- 5 There is regional diversity in the amount of growth predicted by employers, ranging from nearly 15% in the West Midlands to just 6% in the East Midlands.

Conclusions relating to skills shortages

- 1 Whilst skills shortages still pervade the intensity of them is less.
- 2 The skills shortages remain in the areas of development professionals and operations managers.
- 3 Software and systems developer roles are most commonly the hardest to recruit, closely followed by Operations Management.

Conclusions relating to skills gaps

- 1 Skills gaps continue to constrain employers in the UK with 46% (42% 2001) reporting a need for improvement.
- 2 The South East and Northern Ireland respondents were most likely to report a skills gap, those in Yorkshire and the North East were least likely.
- 3 Skills gaps are most likely in ICT dedicated firms, and least likely in non-dedicated firms.

2.3 Supply side conclusions

Conclusions relating to secondary education

The UK appears to have increased the interest in Computer Studies at both GCSE and A level over the last three years. In the case of the former, the number of entries is up, but so is the failure rate. This suggests that the quality of candidates has declined, standards have been raised, or the expansion has been under-resourced. An increase in the resources and improvements in the teaching staff may improve the pass rate.

Conclusions relating to Further Education

FE colleges have strong representation in urban areas, although some have initiative designed to reach rural communities.

The UK has seen an increase in the take up of FE courses, and each region has seen a net increase over the last four years.

In terms of the number of completions per 1,000 employees, there is some regional difference, with the North East ranking highest.

Whilst companies in all regions of the UK continue to grow, they do so at a far slower rate than previous years. Employers place more emphasis on improving the workforce than growing it. Skills shortages are focussed on development professionals.

Conclusions relating to Higher Education

The UK as a whole has seen a stable 12,500 odd graduates entering ICT employment over the last four years.

Numbers opting for ICT related secondary courses have been rising for years, yet there is no apparent increase in the sector's ICT intake.

Graduates are massively disproportionately attracted to the South East and London.

Conclusions relating to private training provision

Private ICT training in the UK is a vibrant activity, with hundreds of providers of varying scope and scale.

There is a strong regional clustering of providers in easily identifiable hotspots.

All regions, with the exception of Wales, were identified as having an office of a major national or international training provider, although there was considerable variation in the level of access to professional private training.

2.4 The gap analysis model

The results of the e-skills UK model for supply and demand of ICT professionals is shown in the table below. For full details of how this data is arrived at please refer to the section on methodology.

Driver	What employers want		What education provides	
	Measure (units)	2001 UK	2002 UK	
New recruits.	Percentage of companies planning growth (%)	NA	27	GCSE Computer studies passes (England and Wales) 55,743
	Increase expected by those that plan to grow (%)	23	12	A level computer studies passes (England and Wales) 15,483
	Additional professionals in those establishments that plan to grow (1000's)	207	40	FE courses in ICT completed at level 3 or above in 2001 (England) 69,684
Filling of vacancies with experienced hires.	Percentage of companies with hard to fill vacancies (%)	NA	8	Graduates joining the workforce (UK) 12,450
	Vacancies reported as hard to fill by employers (%)	49	NA	
Improvements in the skills of the workforce.	Percentage of companies reporting workforce not fully skilled (%)	42	46	Number of private training providers per 10,000 companies (UK) 10.8
	Number of ICT professionals in the region	1.23M		Private courses offered by large providers (UK) 15,818

Table 2-1: The gap analysis model

2.5 The expansion in the number of ICT professionals required by the UK

The number of new ICT professionals for the UK in 2001 and 2002 is indicated in the table below:

	The number of employees in each role 2001	Approximate predicted requirement, 2001	Approximate implied requirement 2002
Internal Operations	340,000	55,000	10,575
Systems Support Operators/ Administrators	109,000	19,000	3,650
Training Professionals	68,000	9,000	1,725
Helpdesk Support Operators	68,000	11,000	2,125
Operations Managers	58,000	11,000	2,125
Development Roles	236,000	85,000	16,375
Services Development Professionals	17,000	6,000	1,150
Software Development Professionals	85,000	23,000	4,425
Internet/Web Professionals	26,000	14,000	2,700
Technicians/Engineers	40,000	13,000	2,500
Systems Development Professionals	30,000	9,000	1,725
Sales and Marketing	100,000	19,000	3,650
IT Sales Professionals or Account Managers	72,000	13,000	2,500
IT Marketing Professionals	24,000	5,000	975
Strategy and planning	68,000	16,000	3,075
Business Analysts	24,000	5,000	975
Systems/Network Architects	14,000	5,000	975
ICT Consultants	10,000	3,000	575
External Customer Services	110,000	32,000	6,175
Customer Systems Support Professionals	51,000	13,000	2,500
Technical Support Specialists	24,000	8,000	1,550
Field and Core Technicians	17,000	7,000	1,350

Notes:

2001 employee figures are based on companies with more than 5 employees.

An indication of the number of ICT professionals is shown in grey italics for 2002 and is based on the assumption that the pattern of growth across the occupational roles is similar to that predicted by employers in 2001.

The bold entries above are functional areas, with job roles appearing in smaller text below; for example External Customer Services includes the roles Customer Systems Support Professionals and Technical Support Professionals. Only roles with a noteworthy uptake are shown.

Table 2-2: Expected approximate requirements by region in sector roles

From this table we conclude that there is still a need for new people although this is considerably less than it was in 2001.

2.6 The nature of skills gaps

The following technical skills gaps were found in the United Kingdom in 2001.

Proportion of establishments with a gap in specific skill	2001
IT Operating systems	11%
Networking	8%
Database Applications	5%
Tools	4%
Internet	3%
Hardware	1%
Multimedia/DTP	1%
No technical problems	37%
No answer given	30%

Table 2-3: Percentage of establishments with skills gaps

The regional boost survey participants reported that their workforce needed the following skills:

Proportion of employers reporting a need for a specific skill (2002)	2002
Basic IT Platform Skills ³	14%
Interpersonal	12%
Tools	10%
IT Operating Systems	8%
Database Applications	7%
Internet	6%
Networking	6%
Security	2%
Telecoms	1%
Manufacturing	0%

Table 2-4: Skills needed in the UK's workforce

³ The less obvious terms in this table are defined in section **Error! Reference source not found.**, the Glossary of Terms