

Report on Research Findings



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1 EXECUTIVE SUMMARY

1.1 Background and Objectives

This report outlines the results of a survey of employers conducted by George Street Research and Frontline Consultants on behalf of TalentScotland. The research focuses on employers' current and future skill needs in the areas of Electronics or Advanced Engineering, Advanced ICT and Digital Media.

TalentScotland is a joint project involving the Scottish Government, Scottish Enterprise, Highlands and Islands Enterprise and Scottish Development International. It aims to promote Scotland as an outstanding place to live and work for talented professionals, and as a great choice for academic study.

To help achieve this TalentScotland provides an international subscriber database populated by industry professionals who have the skills and experience that employers may have difficulty recruiting from the local market. Access to this database is available free to employers and professionals through the recently updated TalentScotland website.

A key aim of the survey is to populate the refreshed web site with more up-to-date information to more accurately reflect changes in job opportunities and skill needs associated with the progress of electronic technologies and digital media. The survey results will also enable TalentScotland to focus delivery of its services more closely on the needs of Scottish employers and help them to compete more effectively for the specific skills they have difficulty recruiting.

1.2 Methodology and Sample

The survey consisted of 3 stages:

Desk research

This was the starting point for the project reviewing material that is already in the public domain with the objective of establishing a current picture of the sectors and setting an overview of how things stand at present.

A quantitative survey

Telephone interviews were conducted with employers in the relevant sectors; Digital Media, Advanced ICT and Electronics or Advanced Engineering; 206 interviews were achieved.

Sample was supplied by TalentScotland and came from a number of stakeholder organisations, including Scottish Enterprise, Skillset, Publishing Scotland and TalentScotland.

The questionnaire was designed in conjunction with TalentScotland and Skills Development Scotland with input from Scottish Government, Skillset and e-skills UK.

Qualitative interviews

There were two waves of qualitative interviews:

- Before the quantitative stage - Initial interviews (a focus group and five in-depth telephone interviews) with key stakeholders from organisations with an interest in these sectors including representatives from Scottish Enterprise and Skills Development Scotland as well as other organisations.

- After the quantitative stage - Follow-up interviews with 21 respondents to gather more in-depth information on specific issues arising from the telephone interviews.

1.3 Main Findings

The following paragraphs summarise the main findings from the 3 strands of research.

Sector and activity

The terms used by respondents to describe their business sector vary widely; some respondents identify with the sector they sell to rather than their business activity.

In terms of business activity, there is a large degree of overlap between the sectors of interest to TalentScotland especially between Digital Media and Advanced ICT as well as between Electronics or Advanced Engineering and Advanced ICT.

It can, therefore, be difficult to position businesses in specific business sectors, which provides TalentScotland with a challenge in targeting specific communications at specific sectors.

Methods of recruitment

Companies use a range of approaches to recruitment, key among these is the use of recruitment agencies (43% make use of this method). Use of recruitment agencies increases with company size.

Findings from the qualitative interviews show that the use of recruitment agencies is just one of a number of approaches used and is often not the first choice.

Cost is often an issue in the choice of method used and, especially in the current economic climate, businesses are often able to obtain good quality staff who are made redundant by competitor organisations.

Employment approaches

Many of the businesses interviewed (70%) employ mainly or all permanent staff.

There are differences in the make-up of the workforces across the sectors, with Digital Media companies more likely to make use of freelance workers.

Attitudes towards training of new staff

Two-thirds of businesses (66%) expect to have to give new members of staff some internal training and this is especially the case amongst ICT companies.

More employers with experience of hard to fill vacancies expect to have to provide some internal training, than those without this experience.

Skill areas

Skills identified by respondents as important to their business at the present time differ by sector, with the primary skills identified as product development (mentioned by 71% of Electronics or Advanced Engineering respondents), software development (87% of Advanced ICT respondents) and creative development (86% of Digital Media respondents).

While sales was identified as the main skill important in the business and commercial functions at present by those in the Electronics or Advanced Engineering (95%) and the Advanced ICT (92%) sectors, most of those working in Digital Media said business development 88%).

The skill areas identified as priorities by respondents are:

- Mechanical engineering (33% of Electronics or Advanced Engineering);
- Software development (59% of Advanced ICT);
- Web development and support (40% of Digital Media);
- General business or commercial areas – sales (62% of all respondents).

These are also the top areas in which respondents felt they would need new or additional skills in the next 2/3 years.

Recruitment

The data shows that many respondents in the Electronics or Advanced Engineering and Advanced ICT sectors have difficulties recruiting specific skills of relevance to their business (47% of E/E companies and 41% of ICT companies) and many of these respondents also expect to have difficulties in recruiting specific skills in the next 2/3 years.

The data for Digital Media companies as well as for the recruitment of general and commercial skills shows a different picture with 19% of Digital Media companies reporting difficulties recruiting specific skills. Just over a fifth (23%) of companies had experienced difficulties recruiting general business or commercial skills.

Businesses who are experiencing difficulties expect this situation to continue for the next 2/3 years.

Barriers to recruitment

When asked to say spontaneously what the key barriers to recruitment were, for those in the Electronics or Advanced ICT sector the top answer was ‘a lack of the right kind of people’ or ‘a small talent pool’ (27%). This was also the main answer given by those in Advanced ICT (31%). In addition, respondents reported this was the key barrier to recruitment within their business and commercial functions (28%).

However, for those within Digital media the key barrier was “a lack of people with the relevant skills” (29%).

Findings also indicate that many businesses have a need for staff who combine both technical expertise and commercial skills.

While all three areas show strong potential for growth in the years ahead, the desk research uncovered issues around a lack of key skills, i.e. technical IT skills, and generic skills such as business skills.

The qualitative and quantitative research showed employers seeking combined skills at a relatively senior level, for example technical skills with skills in sales or marketing.

60% of respondents reported that they had faced barriers to recruitment within Scotland in the last 12 months. The two key barriers to recruitment in Scotland within the last 12 months were identified as:

- a lack of applicants with a specific skill(s) – 65%; or
- a lack of applicants with suitable levels of experience – 61%.

These are also the two most anticipated barriers to recruitment in the next 12 months.

In particular, respondents noted a lack of candidates at more senior and professional levels:

- professionals with some experience (61%);
- fully skilled professionals (45%).

Far fewer Digital Media companies reported difficulties than did companies from other sectors, and there were also fewer difficulties reported in general business or commercial areas.

Vacancies and hard to fill vacancies

The sector showing the highest average number of current vacancies and of current hard to fill vacancies is Electronics or Advanced Engineering.

Key reasons for hard to fill vacancies, across sector areas, were identified as both:

- applicants not being of sufficient quality; and
- having few / no applicants for specific posts .

While just over half of all companies (52%) thought that hard to fill vacancies would have some impact on their business, amongst respondents with actual experience of hard to fill vacancies this figure rose to over 80%. Respondents who have previously experienced hard to fill vacancies claim this has a major (42%) or minor (39%) impact on how their establishment performs.

Key impacts on performance of hard to fill vacancies are a delay in developing new products or services (61%), difficulties in meeting customer service objectives (50%) or loss of business or lost orders to competitors (44%).

The main methods of dealing with hard to fill vacancies were: internal training for existing staff (25%); re-advertising posts (22%); building links with universities/colleges/schools (22%); or advertising in other parts of the UK outwith Scotland (22%).

Examples of hard to fill vacancies

Amongst the 100 examples of hard to fill vacancies provided by respondents:

- Advanced ICT companies mostly mentioned jobs related to software development or programming.
- Electronics or Advanced Engineering companies mainly provided examples of specialist engineers and design engineers.
- Digital Media companies also mentioned problems filling vacancies in software development.
- For the general business or commercial functions, the main types of hard to fill vacancies given as examples were in the area of sales.

Recruitment outwith Scotland

Over a third of companies (34%) had recruited from outwith Scotland in the past 12 months. The main reasons given for recruiting outside Scotland were the quality of candidates and skills required.

Half of companies (50%) had recruited within the UK, just under a third (31%) had recruited within the EU and half (50%) had recruited from outside the EU.

Key reasons for recruiting outwith Scotland were a lack in the quality of candidates (21%) and desired skills (20%).

For those who had not recruited outwith Scotland, the main reason given for this was that they had not had a need to do so (41%).

Relocation expenses were identified as the main barrier to recruitment from outwith Scotland (21%). While over a quarter of those who had never recruited outside Scotland perceived relocation expenses as a barrier (26%) only 11% of those who had actually recruited outwith Scotland gave this response.

Respondents perceive there to be a greater number of barriers to recruitment the further afield they go.

TalentScotland website

Just over half of respondents (51%) had heard of the TalentScotland website; awareness was highest amongst Advanced ICT companies (60%).

Just over 1 in 10 (11%) had used the website to advertise vacancies; usage was highest amongst Advanced ICT companies (16%). Only 5% of Digital Media companies had used the website to advertise vacancies.

Respondents most likely to have used the website to advertise vacancies were those with locations in Scotland, the UK and outwith the UK (18% compared to 9% of companies based solely in Scotland)

1.4 Conclusions

While respondents identified with the sectors being researched; Electronics or Advanced Engineering, Advanced ICT and Digital Media; many placed themselves in more than one of these sectors with cross over particularly noted between Digital Media and Advanced ICT as well as between Electronics or Advanced Engineering and Advanced ICT. This would indicate that a focus on skill need rather than need within sectors may be more helpful.

Although TalentScotland do not formally support Advanced ICT, a number of companies employing advanced ICT skills report that they are already engaged with the project; again this may be due to the cross over between sectors. This would indicate an opportunity for TalentScotland in this area, and especially in relation to software development.

Employers needing skills within Electronics or Advanced Engineering are supported by TalentScotland, provided they are within the Electronics, Energy or Life Sciences industries; this could be further extended to companies needing related skills in the areas of Advanced ICT as well as within the Aerospace, Defence and Marine sectors. Mechanical and software engineering skills emerged as key for many within Electronics or Advanced Engineering.

For Digital Media companies, again cross over with Advanced ICT and anticipated difficulties in software development and programming skills offer opportunities for support targeted at skills; however the reliance on freelancers in this sector should be borne in mind.

For the general business and commercial functions, the skills needed combine technical and general business skills; the need for sales skills was especially highlighted by respondents.

Findings indicate a degree of correlation of recognition and use of the website with experience of hard to fill vacancies. It may be that use of the resource could be increased by creating a top of mind awareness of the benefits presented by the TalentScotland website in relation to hard to fill vacancies.

Companies with locations outwith the UK were more likely to have used the website than companies solely located within Scotland and the UK. This could indicate a need for TalentScotland to promote the website and associated benefits more to companies who do not have an international presence.

2 BACKGROUND AND OBJECTIVES

2.1 Introduction

Despite a global recession, current economic development strategy backed by a Scottish Government drive have kept the attraction of skilled people from abroad to Scotland in the 'priority' category. Prominent economic theorists still see 'place' as a major attractor for people and TalentScotland has been at the forefront of promoting the wider reasons for technologists and engineers to locate in Scotland for the last ten years.

The Technology Talent Pool project was developed and established to address the skills gap identified within the design community in Scotland. The project was established as a key component of support of the Alba Centre project.

www.talentscotland.com is a website subsequently launched by Scottish Enterprise. This currently provides information on jobs available, information on employers in Scotland and overviews of four key industry areas: energy, life sciences, electronic technologies and financial services.

The aim of the website is to encourage managers, technologists, engineers and in general, those with high-level skills to register their details with TalentScotland, and express their interest of working in Scotland. Once registered, these technologists and engineers will receive company and industry news, lifestyle updates and job vacancies with a view to working and living in Scotland.

Awareness-raising is carried out through international marketing campaigns, the website and monthly newsletters. Individuals who are registered as a job seeker with the website also receive job alerts of any new vacancies when they become available. They are then able to apply directly to the company indicating their interest in the vacancy.

The project was developed at a time when Scotland was attempting to move up the value chain in terms of the type of jobs that were available within the wider electronics sectors. There was a significant manufacturing base and this, allied to the Alba project, had moved Scotland forward as a research and design location. However, global market forces have since seen manufacturing suffer, and slowed the progress in developing 'smart' businesses.

Therefore, TalentScotland has operated in a difficult market, which has made the need for it greater, as Scotland attempts to punch above its weight in attracting the level of skills required to have an impact in the sectors that it serves. As times have changed, so have the 'types' of businesses and make-up of sectors that TalentScotland targets.

2.2 A need for research

In preparation for the launch of a refreshed website, TalentScotland identified the need to review its intervention under Electronic Technologies. Electronic Technologies on TalentScotland currently facilitates talent attraction across a range of technology areas including electronics design, some areas of software, and games.

Much of this focus is based on an historical view of the electronics industry in Scotland and therefore is unlikely to reflect current skill needs. There was also a feeling that TalentScotland's approach to software was too narrow and that, in addition to games, other areas of the digital media industry may warrant TalentScotland support.

The research therefore looks broadly at the skills needs of Enabling Technologies, Advanced ICT and Digital Media and will inform the scope of TalentScotland in relation to these areas.

Specifically research was commissioned in order to provide:

- A logical breakdown of the sectors by technologies, skills and job descriptions.
- A clear understanding and profile of issues impacting the technology sector – specifically to include skills and recruitment barriers.
- An assessment of current and future skills requirements, by sector.
- Identification of current skills gaps, skills shortages and recruitment difficulties – and the effect that any current skills development / recruitment projects are having.
- An assessment of the impact any skills shortages are currently having on company and sector performance.
- An assessment of employers' views of international recruitment and any barriers to this.

George Street Research and Frontline Consultants were commissioned to carry out research that would provide the required information and this report provides the findings from this research.

3 METHODOLOGY AND SAMPLE

3.1 Desk research

The starting point for the project was to consider the material that is already in the public domain, strategies and research that has been undertaken by, or on behalf of sector support organisations. The objective of this phase of the work was to establish a current picture of the sectors and to set an overview of how things stand at present, without going over old ground that has already been covered. Findings from the desk research conducted by Frontline Consultants are provided in the following chapter.

3.2 Quantitative stage

Following on from the desk research, a quantitative stage of telephone interviews was undertaken. George Street Research worked closely with the project team from TalentScotland and Skills Development Scotland to develop a questionnaire to be administered by the in-house telephone team at George Street Research. Other stakeholder organisations, including Scottish Government, Skillset and e-skills UK, were given the opportunity to comment on the questionnaire before the interviews commenced, including Skills Development Scotland, which took an active part in the design and delivery of the research project. A small pilot was conducted and this led to some changes to the questionnaire before the final version was agreed.

The sample was provided by TalentScotland and came from a number of stakeholder organisations, including Scottish Enterprise, Skillset, Publishing Scotland and TalentScotland. Databases from these organisations were merged, any records pertaining to companies outwith the relevant sector areas were removed, and the remaining records returned to TalentScotland for final checking. At this stage, in order to ensure that companies were not being over-burdened by research requests, a number of records were removed at the request of Scottish Enterprise. The final sampling frame comprised 1,543 firms.

While the databases used a variety of different classifications for sector information this was all retained to allow for some quota setting on different sectors. Geographic profiling, using the Scottish Enterprise regions, was added to the sample by the GIS Analysts at Scottish Enterprise. The research aimed to achieve 200 interviews across a spread of geography, size of firm and sectors; the following definitions were used:

Digital Media: jobs within the areas of advertising, design, interactive leisure software, publishing, software and computer services, TV and radio, typically requiring a relevant qualification at degree level or above.

Advanced ICT: jobs within Information and Communications Technology requiring a high-level of technical proficiency, typically requiring a qualification in computing or computer science at Degree level or above.

Enabling Technologies: cross cutting technologies that support Scotland's key sectors. For the purposes of the research, the term **Electronics or Advanced Engineering** was used to encapsulate jobs covered by Enabling Technologies. The focus was on jobs in these areas requiring a high-level of technical proficiency, typically requiring a qualification in a relevant engineering discipline at Degree level or above.

Industries/sectors: for ease, these terms are sometimes used in the research to refer to Digital Media, Advanced ICT and Enabling Technologies (Electronics or Advanced

Engineering). It is, however, recognised that ICT is both a sector and a technology, whilst Enabling Technologies is not a sector, rather a range of technologies serving a variety of sectors such as Energy, Aerospace, Defence and Marine.

A total of 206 interviews, just over 13% of the sample, were conducted with respondents who produce goods and services and who employ staff within one or more of the areas of interest: Electronics or Advanced Engineering (E/E), Advanced ICT (ICT), and/or Digital Media (DM). Interviews were completed between 18th August and 17th September 2010. Appendix 3 contains a copy of the questionnaire.

Sample profile

To ensure inclusion of a spread of company sizes and types, respondents were asked to provide some basic classification information to sit alongside information from the sample provided by TalentScotland.

Table 3.1 shows a profile of the 206 respondents in terms of their sector areas according to the information provided by respondents at Q5, 6 and 7.

Table 3.1: Quantitative Sample Profile (1)

	TOTAL (Base 206) %	E/E (Base 94)* %	ICT (Base 110)* %	DM (Base 73)* %
Sector areas (respondents perceptions, from Q5, 6, 7)				
All three areas	1	3	3	4
E/E & ICT	16	34	29	-
E/E & DM	2	4	-	5
ICT & DM	14	-	26	40
E/E only	27	59	-	-
ICT only	22	-	42	-
DM only	18	-	-	51
Sector (from sample) (multicode)				
Advanced Engineering	25	53	11	-
Digital Media	33	12	26	77
ICT	32	16	52	27
Devices and Systems	16	30	10	1
Software	12	3	21	15
IT Services	11	3	17	12
Web Design & Development	14	2	14	33
Film, TV, Radio Production	11	3	5	27
Graphic	10	2	10	26
Design/Publishing/Printing				
Informatics and Computing	8	7	13	4
Communications and Networks	8	11	11	1
Environmental Tech	7	13	6	1
Unclassified	10	11	14	10

* Please note that the base figures above for E/E, ICT and DM are not mutually exclusive (ie a company can appear in 1, 2 or all 3 of these columns)
Figures may not add to 100% due to rounding

Sector area(s)

As can be seen in Table 3.1, **a significant minority of businesses place themselves in more than one sector.**

- Of the companies involved in Digital Media, 40% also reported that they were involved in Advanced ICT
- 34% of those involved in Electronics or Advanced Engineering were also involved in Advanced ICT (ICT)

- 29% of those in ICT were also involved in Electronics or Advanced Engineering; and 26% were involved in Digital Media
- There was little cross over between Electronics or Advanced Engineering (E/E) and Digital Media (DM).

These sector areas have been used as the basis for many of the charts and tables in this report to illustrate differences and commonalities across sectors and combined sectors. Use of these combined sectors is preferable to the stand-alone sector data because the base figures for E/E, ICT and DM are not mutually exclusive (i.e. a company can appear in 1, 2 or all 3 of these categories). It should be borne in mind that some of the categories have small base sizes and, although their results have been charted, we have not commented on data from these groups. Differences which are mentioned are significant at least at the 95% confidence level.

Table 3.2: Quantitative Sample Profile (2)

	TOTAL (Base 206) %	E/E (Base 94)* %	ICT (Base 110)* %	DM (Base 73)* %
Company				
Head Office	50	46	58	53
Reg. Office	10	17	9	3
Sole Office	36	31	29	44
Branch	4	6	4	-
Employees on site				
1 to 5	32	20	25	53
6 to 20	29	21	34	32
21 to 50	13	18	16	7
51 to 100	12	17	12	3
101 to 250	6	12	5	-
Over 250	8	12	8	5
Employees in E/E / ICT / D/M				
1 to 5	36	27	26	53
6 to 20	31	24	38	34
21 to 50	13	17	18	5
51 to 100	8	11	8	1
101 to 250	5	9	4	1
Over 250	7	13	5	3
Company location				
Scotland only	60	50	55	77
Scotland/UK	13	13	15	12
Scot/UK/Elsewhere	28	37	29	11
Company turnover				
< £250k	24	16	19	40
£251k - £1m	26	16	32	30
£1m - £5m	13	14	16	11
£5m - £10m	5	7	8	1
>£10m	19	32	15	4
Don't know/Refused	12	15	9	14
SE region				
Aberdeen City/Shire	13	16	13	8
Highlands & Islands	1	1	1	1
Tayside	7	5	9	10
East of Scotland	39	35	41	47
West of Scotland	37	40	34	32
South of Scotland	2	2	3	3

* Please note that the base figures above for E/E, ICT and DM are not mutually exclusive
 Figures may not add to 100% due to rounding

As can be seen in table 3.2, in terms of company type, a majority of respondents were based at their head office or were a sole office. Respondents were asked to provide the number of employees based at the site where the interview was conducted as well as the total number of staff working across all company sites who are involved in the relevant sectors.

A majority of businesses within the ICT and Digital Media sectors were relatively small, employing 20 or less staff; this was particularly high within the DM sector (85%). The majority of staff in the companies interviewed was employed in Electronics or Advanced Engineering (E/E), ICT or Digital Media (DM) and most were based at the sites which took part in the research.

The profile of Digital Media companies differs from those in the other sectors, in that:

- They employ the fewest staff in the relevant skills areas, with over half (53%) having between 1 and 5 employees, compared to 27% in Electronics or Advanced Engineering and 26% in Advanced ICT
- They are more likely to be based in Scotland only (77%), compared to 50% in E/E and 55% in ICT
- They report lower turnover, with 40% giving a figure of under £250,000 compared to 16% of E/E companies and 19% of ICT companies.

3.3 Qualitative Stage

Two stages of qualitative work were conducted on this study; one during the phase of desk research, prior to the telephone interviews.

The initial stage of qualitative work was conducted among key stakeholders from organisations with an interest in these sectors and included representatives from Scottish Enterprise and Skills Development Scotland as well as other organisations. This stage of the research comprised a focus group and a series of five in-depth telephone interviews. Findings from this element fed into development of the questionnaire and topic guide used in subsequent stages of the research.

A second stage of in-depth face-to-face interviews was conducted after the telephone interviews were completed and these were designed to help understand the quantitative findings and provide more in-depth information on specific issues arising from the telephone interviews.

A total of 21 in-depth interviews were conducted between 28th September and 8th October 2010 among businesses who had participated in the telephone interviews. Interviews were conducted across a range of businesses in terms of company type, number of employees and turnover. The profile of participants in these interviews is provided below.

Table 3.3: Qualitative Sample Profile

CLASSIFICATION			
Company		Number of employees at site (fte)	
Head Office	11	1 to 5	5
Regional Head Office	1	6 to 20	5
Sole office	8	21 to 50	7
Branch	1	51 to 100	-
		101 to 250	2
		Over 250	2
Company location		No. employees in ET/DM/Ad ICT (fte)	
Scotland only	14	1 to 5	5
Scotland and UK	1	6 to 20	8
Scotland, UK and Outwith UK	6	21 to 50	4
		51 to 100	-
		101 to 250	1
		251 to 1,000	3
		Over 1,000	
Company Turnover			
Up to £250,000	4		
£251,000 - £1,000,000	4		
£1,000,001 - £5,000,000	4		
£5,000,001 - £10,000,000	3		
Over £10,000,000	4		
Refused	2		

The qualitative sessions

A topic guide was developed and agreed, focused around the research objectives, and structured in such a way as to allow plenty of room for participants to raise their own subjects for discussion and to make further comments. A copy of the topic guide used is in Appendix 3.

The qualitative research generated a wealth of data, which has been systematically analysed by the staff involved in conducting the interviews. Internal debriefings were regularly held by executives moderating the qualitative discussions, to ensure that any new issues emerging could be explored in subsequent discussions. These debriefing meetings also focused on key findings emerging, so that the moderators could begin the analysis process.

Key emergent themes and issues were identified and the data analysed to identify underlying influences, describe trends and links between ideas and behaviour, as well as sub-group differences and to document both explicit comment and implied views or reasons. Moderator notes, transcripts and audio recordings all fed into the analysis. Throughout this report, we have used quotations from respondents to illustrate points.

4 MAIN FINDINGS – DESK RESEARCH

4.1 An overview of the Digital Media, ICT, Electronics and Advanced Engineering sectors in Scotland

To support the main research, some initial desk research was undertaken to consider the current state of play in the above sectors. This information enabled current issues to be taken into account and supported the development of question sets.

At the start of the process there were some differing views on the make-up of the types of companies, technologies and skill-sets that make up these ‘target sectors’. One of the headings commonly used is ‘enabling technologies’ and whilst this is not a sector in its own right, it is highly descriptive of an influential and growing technology driven element of many sectors – both new and traditional.

Whilst new, technology driven businesses are working with and influencing the skills that more traditional businesses and sectors now require, they are also creating sub-sets of modern sectors in a fast-moving process where there is undoubtedly room for overlap and ‘grey areas’ when bringing information together.

The key issue is to set out current information on the sectors, focussing on economic opportunity and the types of jobs, skills and recruitment support required as these are the issues that TalentScotland will ultimately base their decisions on.

An economic driver

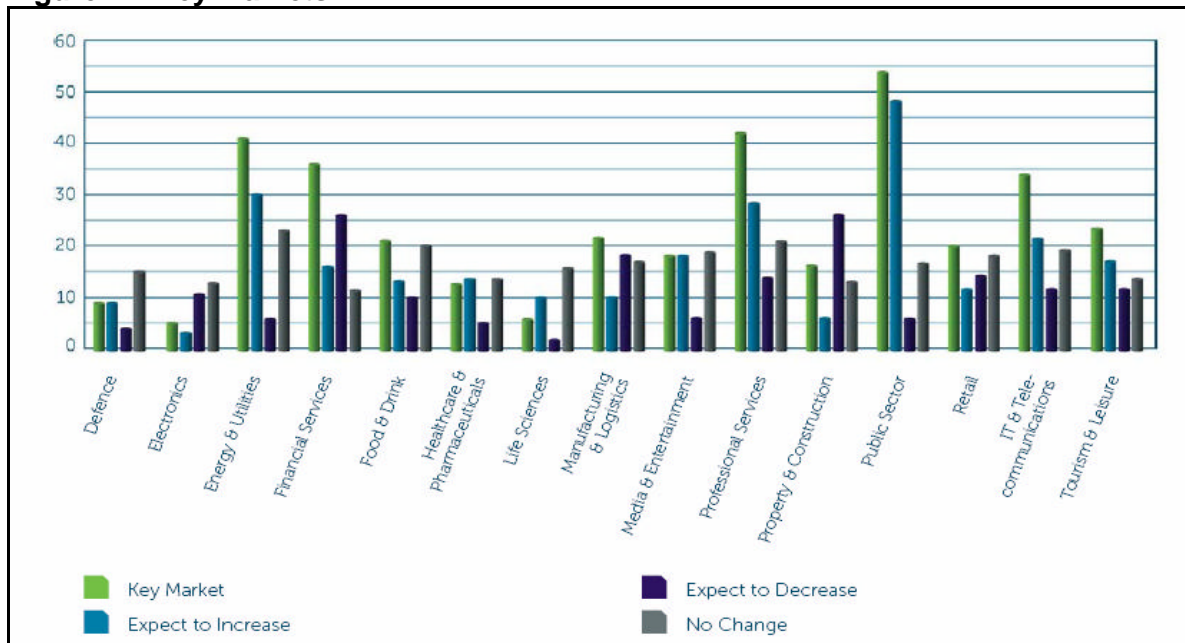
The technology base in Scotland is not only supporting its ‘own sector’ to grow (whether that is ICT, Creative Industries or any other of the sectors that provide support through an enabling technology) but is supportive of a wide range of Scottish industries and sectors. The graph below (4.1) highlights the breadth of opportunity in potential areas of influence.

For example, Scotland has a ‘rich heritage’ in the energy, aerospace, defence and marine industry with potential growth opportunities¹. According to ScotlandIS the energy and utilities sector was noted as one of the areas most likely to grow² as the graph below shows. The graph also highlights defence as being one of Scotland’s key market areas with 9% believing that this would increase, 15% however felt that this sector was likely to stay the same.

¹<https://www.scottish-enterprise.com/your-sector/enabling-technologies/et-scotland/et-key-facts.aspx>

² Scottish Technology Industry Survey 2009, ScotlandIS

Figure 4.1 Key markets



(Scottish Technology Industry Survey 2009, ScotlandIS)

Some key facts about **Electronics and Advanced Engineering** taken from the Scottish Enterprise and SDI websites include;

- There are over 180 companies operating in the aerospace, defence and the marine sector with sales worth over £2.28 billion
- There are more than 100 companies in the defence sector with over 4,350 employees and sales worth over £684 million
- There are more than 125 companies involved in shipbuilding and ship-repair, employing over 5,500 people with sales worth £530 million
- The electronics industry in Scotland comprises approximately 1000 companies, which employ around 55,000, constituting 2.5 per cent of workforce.
- Electronics manufacturing generates annual revenue in excess of \$21 billion – 14 per cent of GDP.
- More than 5000 engineering, software and technology students graduate each year in Scotland.
- Total global end-market for electronics was over \$1 trillion in 2005.
- There are 90 optoelectronics companies in Scotland who employ 4200 people and have a combined annual turnover of £800 million.
- The microelectronics sector in Scotland employs 7500 people in 150 companies.

The **ICT market** is currently valued at \$2.0 trillion³. It is thought that software, telecoms and IT services employ approximately 100,000 people in Scotland⁴. E-skills UK suggest that the ICT market could generate £2.8 billion to Scotland's economy over the next few years⁵. Some key facts about the ICT industry listed on the Scottish enterprise website include;

- there are more than 800 ICT companies in Scotland
- the Scottish ICT sector has several companies who compete internationally such as

³ <http://www.scottish-enterprise.com/your-sector/digital-markets/dm-industry.aspx>

⁴ Scottish Technology Industry Survey 2009, ScotlandIS

⁵ TechCounts UK - Scotland, 2010, e-skills UK

- Craneware, Axios Systems and Memex
- Scotland has great strengths in its academic institutions including the University of Abertay, who designed and launched the world's first degree in Computer Games Design and the University of Edinburgh where the new £42 million purpose-built Informatics Forum will create a world-leading facility for the School of Informatics
- Scotland also leads the field in Europe for call and data centres and underpinning software in ICT

According to Price Waterhouse Cooper the **Digital Media market** is also set to grow, suggesting that online and wireless games will see a growth rate of 17% and 19% respectively until 2012⁶. The Department for Culture, Media and Sport break Digital Media down into the following sub sectors⁷;

- Animation
- Content for Computer Games
- Facilities (which includes Post Production, Studio and Equipment Hire, Special Physical Effects, Outside Broadcast, Processing Laboratories, Transmission, Manufacture of AV Equipment and Other Services for Film and TV)
- Film
- Interactive Content Design
- Commercials and Promos
- Corporate Production
- Photo Imaging
- Publishing (Books, Journals, Magazines, Newspapers, Directories and Databases, News Agencies and Electronic Information Services)
- Radio; and
- Television

Some key facts about the Digital Media industry include;

- Scotland is home to games companies who provide more than 700 high quality jobs and turnover of more than £20m⁸ a year; for example, Rockstar North (developers of the fastest selling global entertainment product of all time, the video game Grand Theft Auto IV)⁹. While the games sector has a large annual turnover, it is not immune to the current economic climate and in September 2010, the largest independent games company in Scotland, Realtime Worlds went into administration
- in Glasgow, the financial district at Pacific Quay is a highly distinctive, world class business location for digital media¹⁰
- industry findings suggest that the Creative Industries in Scotland are characterised by small businesses (97% of enterprises had 0-49 employees in 2008)¹¹
- 40% of the Creative Industries workforce in Scotland is also thought to be freelancers, a total of 19,950¹²

⁶ <http://www.scottish-enterprise.com/your-sector/digital-markets/dm-industry.aspx>

⁷ Strategic Skills Assessment for the Creative Media Industries in Scotland, Skillset 2010

⁸ Digital Inspiration, Strategy for Scotland Digital Media Industry

⁹ <http://www.scottish-enterprise.com/your-sector/digital-markets/dm-industry.aspx>

¹⁰ <http://www.scottish-enterprise.com/your-sector/digital-markets/dm-industry.aspx>

¹¹ <http://www.scotland.gov.uk/Resource/Doc/289922/0088836.pdf>

¹² Strategic Skills Assessment for the Creative Media Industries in Scotland, Skillset 2010

Research has shown that each of these areas has strong growth potential – and they also have significant influence on other sectors. A difficulty bringing this type of material together is the different interpretations used in describing sectors. Our research has largely been based on how Scottish Enterprise define these sectors; however the quantitative and qualitative research shows that this may not be done in the same way for other organisations within these industries. It is also evident that some of these sub sectors are linked to each other; for example, a key aspect of animation (defined as part of Digital Media) will be informatics and computing software (described as part of Enabling Technologies or more specifically ICT). This linkage between and across sub sectors was demonstrated by the research. For example, some respondents within the games sector described their business sector as being ICT, others described themselves as working within Digital Media.

4.2 Analysis of the scope and issues within ICT, Electronics and Advanced Engineering and Digital Media in Scotland – recruitment and retention patterns

One of the linking factors across this research is that organisations in these sectors are highly dependant on graduates from universities. The highly skilled graduates produced are seen as a unique advantage to Scotland¹³. Aerospace, Defence & Marine, one of the industries highly dependent on electronics and advanced engineering skills, is currently employing approximately 22,000 people and supporting the jobs of a further 30,000¹⁴. According to a strategy produced by Scottish Enterprise, the success of the industry is down to its highly skilled workforce – seeing a high proportion of graduates. Average salaries are over one third greater than the Scottish average – making it an attractive career choice for young graduates¹⁵.

However according to e-skills there has been a 50% reduction in applicants to computing degree courses (one of the key areas described under the ICT sector) since 2001. This along with the fact that certain job roles within this sector are set to increase may cause a significant skills shortage.

Some of the key job roles undertaken within ICT and telecoms are highlighted in the table below.

¹³ Enabling Technologies Strategy for Scotland, Technology Advisory Group

¹⁴ <http://www.scottish-enterprise.com/your-sector/aerospace/aerospace-strategy.aspx>

¹⁵ Scottish Aerospace, defence and Marine Industry Strategy 2009, Scottish Enterprise

Figure 4.2: Number of ICT & Telecoms professionals by occupation 2009-2018

SOC	Description	2009		Average growth per annum	2018		Growth in population 2009-2018
		Total	%		Total	%	
1136	ICT Managers	294,000	26%	1.3%	332,000	27%	+38,000
2131	IT Strategy & Planning Professionals	139,000	12%	1.9%	165,000	13%	+26,000
2132	Software Professionals	334,000	30%	2.0%	401,000	32%	+67,000
3131	IT Operations Technicians	119,000	11%	0.3%	123,000	10%	+4,000
3132	IT User Support	68,000	6%	0.3%	70,000	6%	+2,000
4136	Database Assistants / Clerks	62,000	6%	-1.2%	55,000	4%	-7,000
5242	Telecoms Engineers	45,000	4%	-0.2%	44,000	4%	-1,000
5243	Line Repairers and Cable Jointers	11,000	1%	-0.1%	11,000	1%	-
5245	Computer Engineers	41,000	4%	-0.2%	40,000	3%	-1,000
	Total	1,113,000	100%	1.2%	1,241,000	100%	+128,000

(Source: Growth rates (Experian 2009) applied to data from Office for National Statistics Labour Force Survey (ONS LFS) April-June 2009)

Digital media

The Digital Media Industry (also known as the Creative industry) in Scotland has a highly educated workforce, with 62% of the workforce in possession of a Scottish Credit and Qualifications Framework (SCQF) Level 9 qualification and 22% educated to post graduate level¹⁶. Furthermore the Digital Media sector is seen as an attractive area to work in as many can collaborate their passion with work, for example, photography. It is for this reason that the industry has seen an over-supply of new entrants¹⁷. Many people within the industry also believe that experience is of more value than qualifications, which is often assisted through voluntary work¹⁸.

Training is also an important aspect within the sector; due to its ever changing landscape skills constantly need updated. Research done in 2008 showed that more than 68% of the workforce had undertaken training over the last year¹⁹. While demand for this training remains high, with one in every two members of the workforce suggesting that they have outstanding training requirements²⁰ the practicalities of companies being able to provide suitable training is low due to the economic down turn. In times of such recession training is one of the first things to go.

The majority of Scotland's Creative Industries are located within the central belt in particularly Dundee, Edinburgh and Glasgow. Dundee hosts a number of firms in Content for Computer Games development; Edinburgh has around 50% of Scotland's Book Publishing industry; and Glasgow is home to the television industry with the BBC, and STV located there²¹.

¹⁶ Strategic Skills Assessment for the Creative Media Industries in Scotland, Skillset 2010

¹⁷ Strategic Skills Assessment for the Creative Media Industries in Scotland, Skillset 2010

¹⁸ Strategic Skills Assessment for the Creative Media Industries in Scotland, Skillset 2010

¹⁹ Skillset (2008) Creative Media Workforce Survey (excludes publishing, photo imaging and film production)

²⁰ Skillset (2008) Creative Media Workforce Survey (excludes publishing, photo imaging and film production)

²¹ Strategic Skills Assessment for the Creative Media Industries in Scotland, 2010

Skillset reveal that approximately 19,550 people are employed in the creative media industries in Scotland of which a large proportion are thought to be freelancers²². Due to the recession the Creative Industry has had to restructure and along with training the next outlay to go is freelancers. With an industry typically characterised by the high levels of freelancing this may leave a number of skills gaps within the industry.

Here the desk research shows that Enabling Technologies are seeing high numbers of graduates in areas such as aerospace, defence and marine while ICT are seeing a decrease in graduates in some of their key areas. This along with the increase in demand for Software Professionals along with ICT Managers and Strategy & Planning Professionals may cause potential skills gap here. On the other hand a lack of training and a reduction in freelance workers within Digital Media Industries could leave a potential skills gap despite the over-supply of graduates. This is due to the emphasis on experience rather than qualifications within the industry sector. Despite these findings there is a substantial gap in information relating to the recruitment and retention of staff in both these areas, which has meant relying on a limited number of sources for information.

4.3 An initial assessment of the skills demand and extent to which there are skills shortages and recruitment and retention barriers

Despite enjoying relatively high numbers of graduates in relation to engineering, the Scottish Aerospace, defence and Marine Industry Strategy 2009 highlight the following issues in relation to skills shortages:

- there is low awareness/use of existing skills support programmes
- there is a lack of coordination and engagement in attracting staff within the market
- there is a lack of knowledge of skills initiatives to develop a pipeline of future skills, including school initiatives
- there is a lack of joint working with academia to identify, and address, industry skills needs as well as insufficient funding for Master's level courses in universities

In terms of the ICT sector the Government published the 'Digital Britain' Report in June 2009, it is a strategic vision for ensuring that the UK is at the leading edge of the global digital economy and positioning the UK as a 'long-term leader in communications'²³ It is clear from this that ICT skills are needed within the enabling technologies sector if the UK is to achieve its vision of a 'Digital Britain'.

Some of the key trends driving skills demand within this segment of the industry include²⁴;

- increase in security and data protection - cyber crime has no boundaries and is growing rapidly in sophistication and scale
- innovation - successful innovation requires the skills to leverage technological innovation into business innovation
- the rise of social networks – such as facebook and twitter

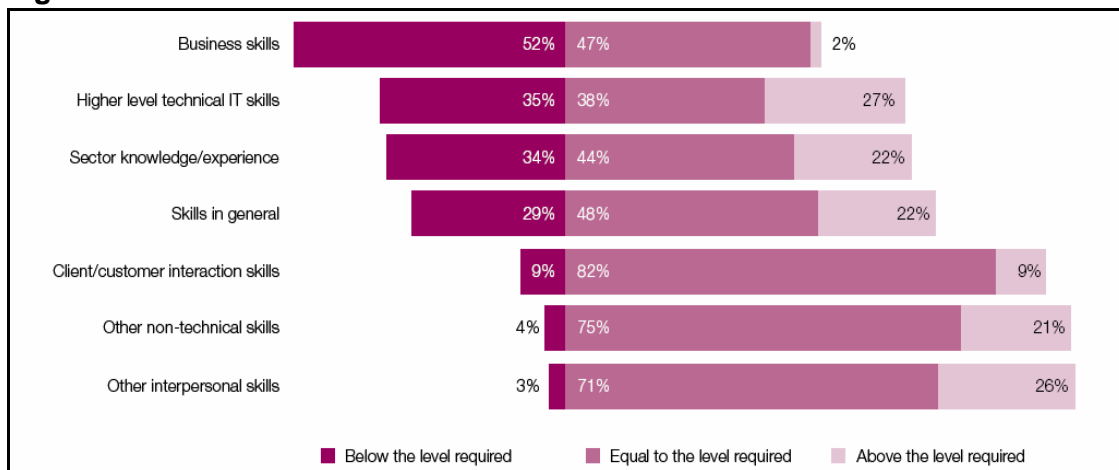
²² Strategic Skills Assessment for the Creative Media Industries in Scotland, 2010

²³ Digital Britain; Final Report' Department for Culture, Media and Sport and Department for Business Innovation and Skills, June 2009

²⁴ TechCounts UK, 2010, e-skills UK

ICT will need to develop more of the higher value skills of leadership and relationship management, project and programme management skills, business intelligence, information analytics and architecture skills to handle increasingly complex technology systems²⁵. It is apparent that many IT & Telecoms recruiters have issues in recruiting applicants with business skills, higher level technical skills, sector knowledge/experience and skills more generally as illustrated in the figure on the next page:

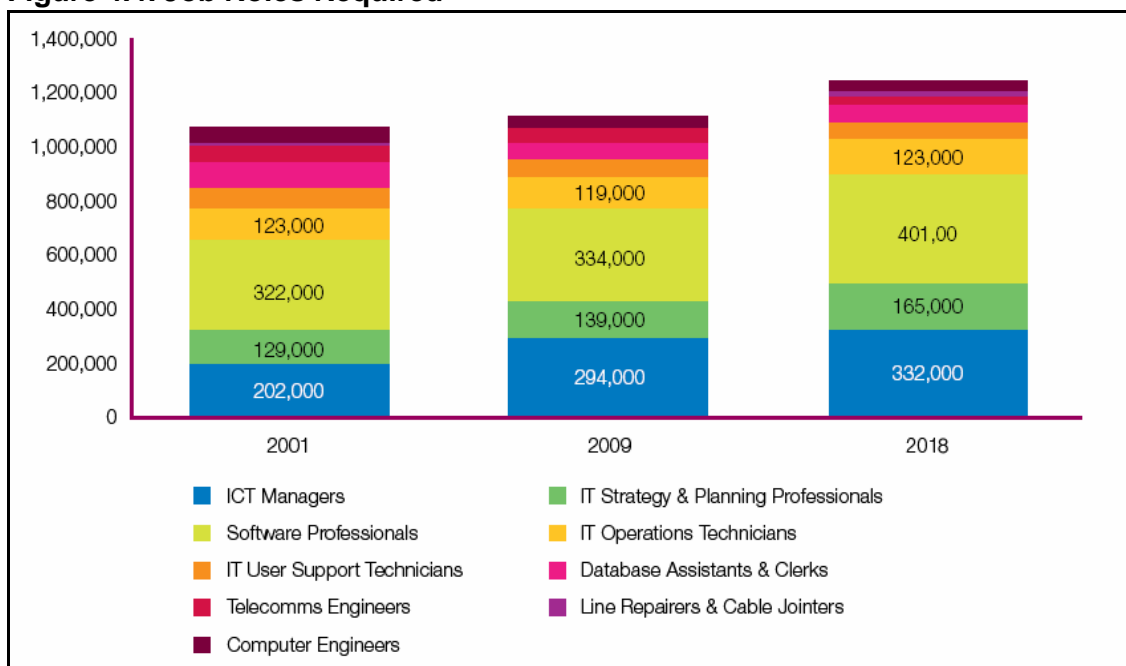
Figure 4.3: Recruitment skills



(Source: e-skills UK 2009 employer survey)

The table below goes on to look at the job roles that will be required over the years.

Figure 4.4: Job Roles Required



(Source: ONS LFS 2001, 2009. 2018 from growth rates (Experian 2009) applied to data from Office for National Statistics Labour Force Survey (ONS LFS) April-June 2009)

The main increase in growth will be high value roles such as management, strategy and planning skills as well as sophisticated technical competencies which echo findings above in

²⁵ TechCounts UK, 2010, e-skills UK

terms of greater requirement for the workforce to have business and leadership skills as well as the technical ability.

Digital Media

A recent report on the impact of the recession on the UK's Creative Media industries suggested that 50% of employers in the UK reported difficulties in trying to recruit people with the skills they required and 15% expect it to become harder to recruit the right people in the next 12 months²⁶.

There are various reasons thought to be the driving force for such demand in skills in Scotland, some of which are highlighted below;

- increased need for digital technology – has led to diffusion in the ways creative content is distributed²⁷
- globalisation of the industry – “in a global economy in which knowledge is the key economic resource, it is crucial that Scottish companies can trade and create new knowledge assets in collaboration with world leaders”²⁸
- innovation - rapid innovation is transforming the potential for the sector, with speed to market and implementation key to success. Innovation in digital media is driven by technology development, by changes in markets and by increasingly demanding, sophisticated and digitally aware consumers²⁹

According to Skillset the two main areas where the industry is seeing a skills gap are:

- technical skills - which centre on developments in new digital technology
- industry skills – business management and leadership skills such as finance, marketing and management

The Creative Media industry in Scotland relies on contribution from a wide range of occupations across the sector. These range from creative and technical such as content design, visual effects and animators through to management and professional roles. Figure 1.3 shows a full breakdown of employment by occupation in the Creative Media Industries in Scotland, compared with the UK.

²⁶ Strategic Skills Assessment for the Creative Media Industries in Scotland, 2010

²⁷ Strategic Skills Assessment for the Creative Media Industries in Scotland, 2010

²⁸ Digital Inspiration, Strategy for Scotland Digital Media Industry

²⁹ Digital Inspiration, Strategy for Scotland Digital Media Industry

Figure 4.5: Occupation Breakdown for the Creative Industries Sector

	Creative Media Jobs Scotland (Excl. Pub.)	Creative Media Jobs in UK (Excl. Pub.)
	%	%
OCCUPATIONAL GROUP		
Strategic Management	6%	5%
Creative Development	1%	2%
Production	13%	11%
Legal	*	1%
Broadcast Management	5%	3%
Broadcast Engineering & Transmission	1%	2%
Editorial, Journalism and Sport	4%	5%
Content Development	1%	1%
Art and Design	7%	9%
Animators	4%	3%
Costume/Wardrobe	*	1%
Make Up & Hairdressing	*	1%
Camera/Photography	13%	10%
Lighting	1%	2%
Audio/Sound/Music	3%	3%
Transport	*	*
Studio Operations	*	*
Technical Development	1%	3%
Editing	2%	2%
Laboratories and Imaging Services	10%	5%
Manufacture	0%	1%
Servicing	*	1%
Retail and Exhibition	13%	10%
Libraries and Archives	*	2%
Distribution, Sales and Marketing	4%	2%
Business Management	8%	13%
Other	1%	2%
All	100%	100%

(Source: Skillset (2009) Employment Census, Skillset (2008) Photo Imaging Workforce Survey, Skillset/UK Film Council (2008) Feature Film Production Workforce Survey)

Summary

These findings show that for Digital Media, ICT and those within Enabling Technologies, the key skills lacking are around technical skills i.e. technical IT skills, and generic skills such as business skills. It is also clear that innovation is a common factor driving these skill demands for both areas in order to stay ahead of the game.

As before there was limited information regarding these sectors under the names used by Scottish Enterprise - particularly Enabling Technologies and instead information was drawn from IT and telecommunications documents which represent some of the areas classified by Scottish Enterprise that come under the heading of Enabling Technologies. There was also a lack of information regarding the specific job roles required by the Digital Media industry, sourcing only the number of the workforce in current employment roles.

This perhaps flags up the important issue that a sectoral approach within technology may now require TalentScotland to re-define its approach to ensure that their support to businesses that need to recruit technologists is not skewed or lessened by sectoral differences or posturing.

5 MAIN FINDINGS – QUANTITATIVE AND QUALITATIVE RESEARCH

5.1 Sector and activity

In summary:

- In terms of business activity, there is a large degree of overlap between the sectors of interest to TalentScotland.
- The terms used by respondents to describe their business sector vary widely; some respondents identify with the sector they sell to rather than their business activity
- It can, therefore, be difficult to position businesses in specific business sectors, which provides TalentScotland with a challenge in targeting specific communications at specific sectors.

In order to try and ascertain the degree of overlap between sectors, at the beginning of the telephone interviews all respondents were asked to describe their main area of business activity and how they would describe the main industry sector in which their business operates.

In relation to business activity, the terms used by respondents varied widely. Even when summarised, there were 30 activity codes across the 206 companies. Activities mentioned most frequently included:

- Applications software / software development 17%
- Industrial equipment and/or machinery / industrial design 13%
- Broadcasting / TV, Film or Video production 10%

In relation to their business sector, while **some made use of the terms engineering, electronics, ICT or digital media, most gave more specific answers.** Again, these responses were summarised into a list and this contained 35 sector codes. It should also be noted that **several respondents identified with the sector they sell to rather than their business activity.** For example, one company which develops environment-related software for businesses gave their sector as environment.

When we look at business activity against reported sector, while a small number of companies with similar activities give roughly the same sector, this is not the case for the majority of companies. For example, for activities summarised as ‘applications software / software development’, 7 of the 36 respondents who mentioned this type of activity said they work within the software sector. However, the other 19 respondents cited 15 of the other 35 sector codes on our coding list.

Similarly, while 9 out of the 20 respondents who were included in the code for ‘broadcasting, TV, film or video production’ activities said they belonged to the sector coded ‘Film, TV, Radio Production / Videos, DVDs, Home entertainment’, 7 described themselves as in the ‘digital media’ sector, 3 as ‘various sectors’ and 1 as ‘other public sector’.

The sectors mentioned most frequently by respondents were:

- Manufacturing and processing 12%
- Advanced engineering 9%
- Oil and/or gas 8%

- ICT 8%
- Digital media 7%

A full list of activities and sectors cited by respondents is provided in Appendix 1.

These findings were borne out by the qualitative discussions where some respondents noted that they operated across a number of different sectors. For example, one worked within digital media, ICT, software, web design and development, film, TV, radio production and graphic design, publishing and printing. **As such, it can be difficult to pigeon-hole businesses into specific business sectors and target specific communications.** Additionally, the sectors used by TalentScotland (electronic technologies, life sciences, electronics and financial services) do not necessarily equate with the sectors that respondents would use to describe their own area of work. One respondent noted the difficulties in describing sectors and sub sectors,

“When we talk about digital media, digital media is defined as companies that work in advertising, within film, within TV which is broadcast, broadcasting includes radio, publishing, gaming, mobile, wireless, internet, web development and in the internet web development that includes some companies within in the ICT space; not companies that are doing what I would call IT services like infrastructure companies who are developing databases, CRM systems in that area.”

5.2 Methods of recruitment

In summary

- A range of approaches to recruitment is adopted. The key method of recruitment is recruitment agencies, and the use of agencies increases with company size
- The qualitative findings show that the use of recruitment agencies tends to be one of a number of approaches used and is often not the first choice, primarily because of cost
- In the current economic climate, businesses are often able to obtain good quality staff who are made redundant by competitor organisations

The **main method of recruitment, mentioned by 43% of all telephone respondents, was the use of recruitment agencies, although a number of approaches to recruitment are adopted.** However, the data shows that use of this recruitment method increases with company turnover, from 24% of those with a turnover of less than £250k to 67% of companies with a turnover in excess of £10m.

As can be seen in Table 5.1 overleaf, different sector areas make use of different methods of recruitment; however the small base sizes for some groups should be noted. Key differences are that:

- DM companies show more use of ‘word of mouth’ (27%) and trusted talent / sector knowledge (24%), and are less likely to use recruitment agencies (19%) or newspaper advertising (8%) than those in other sectors
- Companies within both E/E and ICT showed the highest use of the TalentScotland website (16% and 13% compared to 7% overall).
- A small number of companies involved only in ICT said that they make use of the

TalentScotland website; an interesting finding as TalentScotland do not profess to cover ICT. This could be indicative of the different ways companies identify the sector in which they operate.

Table 5.1: Methods of recruitment by sector areas (Q3)

	Total (206) %	All 3 areas (3) %	E/E & ICT (32) %	E/E & DM (4) %	ICT & DM (29) %	E/E only (55) %	ICT only (46) %	DM only (37) %
Recruitment agencies	43	-	56		38	49	54	19
Other websites	32	100	44	75	31	20	39	22
Trusted talent/sector knowledge	21	33	25	25	31	16	15	24
In-house	21	67	19	50	14	25	33	-
Newspaper ads	20	-	22	50	24	29	15	8
Universities/colleges	17	-	28	-	24	13	15	11
Word of mouth	16	-	13	25	14	11	15	27
Technical publications	12	-	9	25	3	13	11	19
Job centres	12	-	13	-	10	9	20	8
TalentScotland website	7	-	16	-	-	7	13	-

The qualitative findings show that while some businesses use recruitment agencies, this approach tends to be used as one of a number of approaches, rather than the sole approach to recruitment. Most respondents commented on the expense of using a recruitment agency and, in the first instance, preferred to use alternative free sources. S1 jobs, Monster, trusted talent / sector knowledge and word of mouth were all cited by qualitative respondents as regularly used channels for recruitment searches.

In the current economic climate, most respondents were unwilling to pay unnecessary recruitment fees. Aside from issues over the cost of using a recruitment agency, there was also a degree of cynicism from some respondents about the calibre of candidates that some recruitment agencies provide for interview. Where recruitment agencies were used, this tended to be when other recruitment approaches had failed to find appropriate candidates.

One qualitative respondent noted that their organisation regularly had problems with recruiting one particular type of employee but that the talent pool was so small, they knew all likely candidates on a worldwide basis and that sector knowledge was the only approach they could adopt. Some of the respondents also noted that their first approach is to ask existing staff if they would recommend anyone and pay a bonus if a successful recruit is an outcome. In addition, due to the economic situation, redundancies have made it possible for employers to pick and choose staff made redundant by competitors.

5.3 Employment approaches

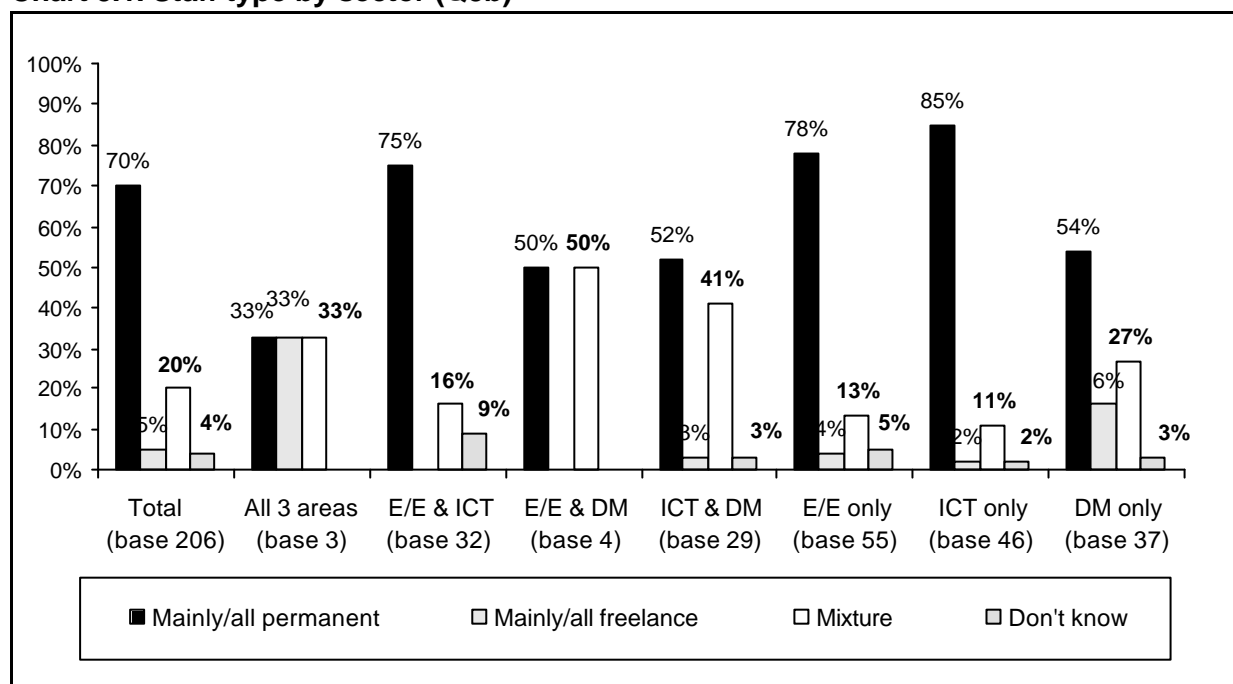
In summary

- A majority of businesses (70%) employ mainly or all permanent staff, although there are sector differences, with companies in the DM sector using higher proportions of freelancers than other sectors

Businesses were asked to say how their workforce splits between permanent staff and freelancers / contractors. **Seventy percent reported they employ mainly or all permanent staff**, only 5% said mainly or all contractors and 20% said they employ a mixture of the two. Four percent said they did not know.

There was a marked difference between Digital Media companies and the companies in Electronics or Advanced Engineering or in Advanced ICT. As can be seen in Chart 5.1, sector groups that include DM companies show lower proportions of permanent staff and higher percentages of freelancers than the other groups.

Chart 5.1: Staff type by sector (Q3b)



This was borne out by findings of the qualitative research and a number of reasons were provided as to why there is a greater reliance on contract or freelance staff:

- Some of these businesses work on a project by project basis and are reluctant to take staff on to whom they might not be able to offer continual employment. Two specifically noted that the variety of work they undertake is so broad and / or geographically spread that they rely heavily on freelance staff
- Some need very specific skills for certain projects and these skills might not be required on an ongoing basis

5.4 Attitudes towards training of new staff

In summary

- A majority of businesses (66%) expect to have to give new members of staff some internal training and only around one in three businesses expects new members of staff to have the skills they need or to have transferable skills
- More employers with experience of hard to fill vacancies, than those without this experience, expect to have to provide some internal training, to have to provide a lot of internal training or to put new staff through external training or further qualifications.

Telephone respondents were asked to say which of a series of statement(s) best applied to their business. As shown in Table 5.2, the majority of companies (66%) expect to have to give new members of staff some internal training and this is the case regardless of company size, location and across most sectors (with large enough base sizes for comparison). In addition, companies involved in ICT are significantly more likely than other areas to expect to have to give new members of staff some internal training.

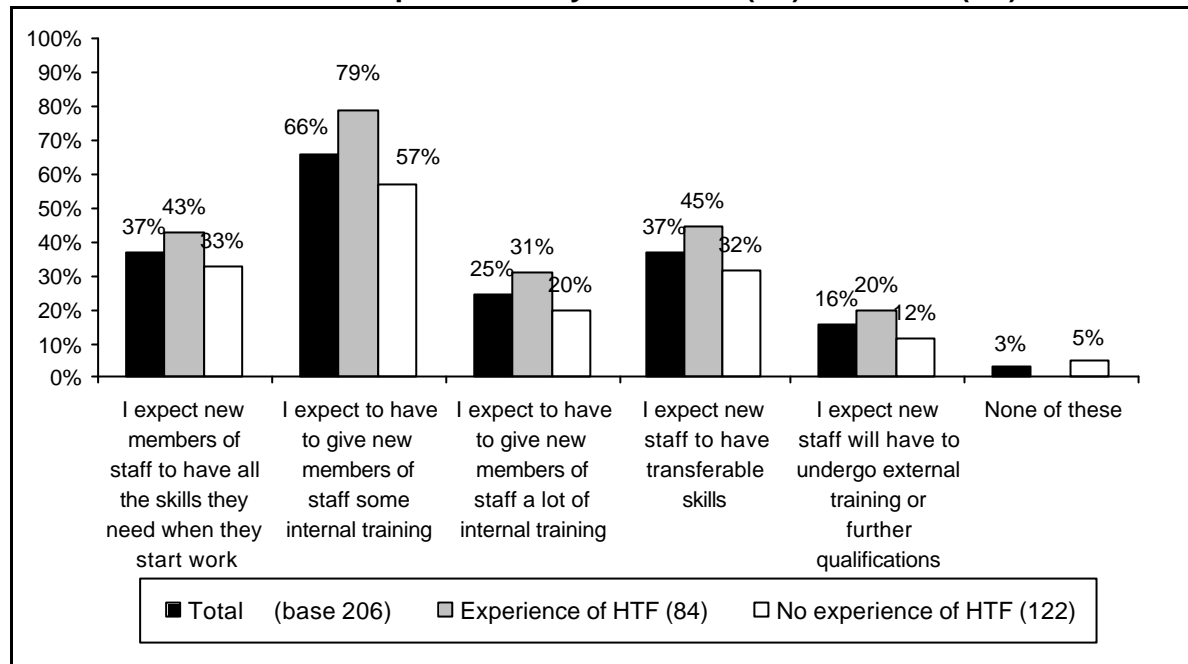
Around one in three respondents expects new members of staff to have all the skills they need when they start work or to have transferable skills (both mentioned by 37%). Only 25% expect to have to give new members of staff a lot of internal training and 16% that new staff will have to undergo external training or further qualifications.

Table 5.2: New staff skill requirements by sector areas (Q4)

	Total (206) %	All 3 areas (3) %	E/E & ICT (32) %	E/E & DM (4) %	ICT & DM (29) %	E/E only (55) %	ICT only (46) %	DM only (37) %
I expect new members of staff to have all the skills they need when they start work (no training needed)	37	67	44	50	41	22	35	49
I expect to have to give new members of staff some internal training	66	33	72	50	83	65	78	38
I expect to have to give new members of staff a lot of internal training	25	-	38	-	21	29	28	11
I expect new staff to have transferable skills	37	-	44	50	52	29	39	32
I expect new staff will have to undergo external training or further qualifications	16	-	22	-	14	18	15	11
None of these	3	-	-	-	-	4	-	11

As can be seen in Chart 5.2, there is a significant difference between companies who have experience of hard to fill (htf) vacancies and those who do not. This data shows that higher proportions of employers who have experienced hard to fill vacancies expect to have to provide some internal training, to have to provide a lot of internal training or to put new staff through external training or further qualifications.

Chart 5.2: New staff skill requirements by hard to fill (htf) vacancies (Q4)



Respondents participating in the qualitative discussions noted that most training given tends to be internal and this is often to enhance or build upon existing skills. Internal training is often delivered through online courses and / or personal study.

One respondent noted *“I have a new member of staff who didn’t have all the skills I needed but then no-one else did either and I felt he would fit well with the team. He is currently doing a lot of online work and reading relevant manuals to learn these skills and this is the approach we tend to adopt for most new staff. Most training here is ‘on-the-job’ training.”*

5.5 Skill areas

In summary

- Skills important to businesses differ by sector, with the primary skills identified as product development (E/E), software developers (ICT) and creative developers (DM)
- The top priority skill areas are mechanical engineering (in E/E), software development (in ICT) and web development and support (in DM)
- New or additional skills likely to be needed in the next 2/3 years are the same as those that are currently important to businesses
- In terms of what is required for business or commercial skills, respondents identify sales, marketing, business development, financial management and strategic decision making; these skills are also those that are identified as being required in the next 2/3 years

Skills important to business

It is important to have an understanding of the skills that are important to businesses in order to help plan for business growth. The telephone survey asked a series of questions in relation to each of the three areas of interest; Electronics or Advanced Engineering (E/E), Advanced ICT (ICT) and Digital Media (DM). Respondents were only asked the questions relevant to the sector or sectors in which they employ staff.

In the first instance, respondents were asked *“Which of the following skill areas are*

important to your business at the present time?“ Respondents could choose from a pre-prepared list (different for each sector) and were also encouraged to add any other skill areas of importance. A full list of all skill areas is in the appended questionnaire.

- Among respondents employing people within the area of Electronics or Advanced Engineering (n=94), the area mentioned by the highest percentage (71%) was product development
- For Advanced ICT companies (n=110), the area mentioned by the highest percentage (87%) was software development
- For Digital Media companies (n=73), the area mentioned by the highest percentage (86%) was creative development.

Four skill areas are common to both ICT and DM:

- Database design and support (ICT 71%, DM 51%)
- Software development (ICT 87%, DM 58%)
- Software programming (ICT 83%, DM 56%)
- Web development and support (ICT 59%, DM 73%).

Top three priority skills areas

Using the same lists, respondents were asked to list their top three priority skill areas and the main responses given were:

- Mechanical engineering was mentioned most frequently (33%) by E/E companies
- Software development was mentioned most frequently by ICT companies (59%)
- Web development and support was mentioned most frequently by DM companies (40%).

New or additional skills

Again using the same list, respondents were asked *“In which areas, if any, is your company likely to recruit new or additional skills in the next 2/3 years in order to meet its business objectives?”*

60% or more of respondents in each of the sectors identified areas in which they are likely to recruit new or additional skills in the next 2/3 years.

Some companies were not yet sure of their future skill needs (17% of E/E, 14% of ICT and 10% of DM companies said ‘don’t know’). Similar numbers of E/E and ICT companies (17% E/E and 20% ICT) said they would not be recruiting new or additional skills; this rose to almost a third (30%) of DM companies.

The data shows that skills requirements will be largely the same and are not expected to change much in the next 2/3 years, with the same skills being mentioned by respondents:

- The top answer from E/E companies was again mechanical engineering (29%)
- ICT companies again said software development (44%)
- The top skill for DM companies was web development and support (27%).

Table 5.3 shows total figures for each of the questions.

Table 5.3: Skill areas important to business (Q5a1,a2,b, 6a1,a2,b, 7a1,a2,b)

	Important now %	Top 3 priority areas %	New or additional skills %
Electronics/Advanced Engineering (Base 94)			
Product development	71	30	22
Product Engineering	68	9	14
Quality/Test	63	23	16
Electronic/hardware Engineering	62	28	19
Mechanical Engineering	62	33	29
Product design	61	20	17
Applications Engineering	55	12	14
Manufacturing	53	21	12
Software Engineering	52	24	24
Electrical Engineering	51	12	16
Embedded Software	47	15	12
Modelling and simulation	44	9	11
Process Engineering	38	18	15
Advanced ICT (Base 110)			
Software Development	87	59	44
Software Programming	83	40	23
Database Design & Support	71	18	14
Information Management & Security	69	8	8
Systems Analysis & Design	68	20	16
Solution development & implementation	64	7	11
Technical/ICT Support	61	24	15
Web Development & Support	59	18	15
Solutions architecture, analysis & design	58	11	16
IT Service Management & delivery	55	14	9
Business Analysis	53	7	8
Programme, project & supplier management	48	13	10
Telecomms & Networking	46	13	9
Business Process Change	45	6	6
Digital Media (Base 73)			
Creative Development	86	37	16
Content creation /development	73	19	10
Web Development & Support	73	40	27
Art & design	70	32	19
Production	62	23	11
Software Development	58	21	15
Software Programming	56	19	14
Editing	53	22	5
Audio/Sound/Music	52	8	5
Database Design & Support	51	14	4
Animators	38	3	5
Interactive TV & radio	27	5	1
Broadcast Management	26	0	1
Broadcast Engineering	14	0	3

General business or commercial areas

Respondents participating in the telephone interviews were also asked whether they employ people within general business or commercial functions in the areas of E/E, ICT or DM. Those who claimed this was the case were then asked which skill areas are important to them at present. Sales emerged as the top area overall (92%) as well as the top answer for E/E (95%) and ICT (92%) companies. DM companies gave business development (88%) as the top answer (see Table 5.4).

Table 5.4: Business or commercial skill areas important to business (Q8)

	E/E (Base 64)* %	ICT (Base 75)* %	DM (Base 40)* %
Business development	91	88	88
Marketing	84	81	83
Sales	95	92	85
Strategic Decision Making	86	77	60
Financial Management	72	71	70

* Please note that the base figures above for E/E, ICT and DM are not mutually exclusive (ie a company can appear in 1, 2 or all 3 of these columns)

The areas identified as priorities from the list of general business or commercial skills areas were:

- Sales (65%)
- Business development (62%)
- Marketing (49%)
- Financial management (33%)
- Strategic decision making (33%).

Where new or additional business or commercial skills are expected to be needed in the next 2/3 years in order to meet business objectives, these are similar to those already mentioned and show that in the area of general business or commercial skills, requirements for the foreseeable future are likely to remain the same as at present.

- Sales (36%)
- Marketing (26%)
- Business development (24%)
- Financial management (13%)
- Strategic decision making (10%).

While 53% of respondents identified new or additional business or commercial skill areas, 42% did not envisage needing new or additional skills in these areas and 5% said 'don't know'. These figures differ from those noted in relation to sector specific skills, with more respondents saying 'none of these' in relation to business or commercial areas.

This is, perhaps, not surprising given the fact that skills in the more specific areas are more liable to change as technology and products change; than are skills in the more general areas of business.

5.6 Recruitment

In summary

- The data shows that many respondents in the E/E and ICT sectors have difficulties recruiting specific skills of relevance to their business (47% of E/E companies and 41% of ICT companies) and many of these respondents also expect to have difficulties in recruiting specific skills in the next 2/3 years
- The data for DM companies and for recruitment of general and commercial skills shows a different picture; less than a fifth of DM companies identified difficulties recruiting specific skills while just over a fifth of companies identified difficulties recruiting general business or commercial skills

- Where recruitment difficulties are experienced, businesses do not expect these to change in the next 2/3 years
- Key barriers to recruitment are a lack of the right kind of people / small talent pool, a lack of people with experience or a lack of people with the relevant skills
- The qualitative data shows that for many businesses, there is a need for a combination of skills ie staff who have both technical expertise and commercial skills

Difficulties and anticipated difficulties in recruiting required skills

Respondents participating in the telephone interviews were asked whether they have experienced difficulties recruiting any of these skill areas from within Scotland. Importantly, **the data shows that many respondents, especially in the E/E and ICT sectors, report difficulties recruiting specific skills of relevance to their business.**

DM companies were far less likely than those in the other sectors to have experienced or to anticipate recruitment difficulties; responses from each area are shown in the following table:

Table 5.5: Experienced difficulties recruiting from within Scotland (Q5c,Q6c,Q7c)

	E/E (Base 94)* %	ICT (Base 110)* %	DM (Base 73)* %
Have experienced difficulties	47	41	19
Have not experienced difficulties	46	55	77
Unsure	7	5	4

* Please note that the base figures above for E/E, ICT and DM are not mutually exclusive (ie a company can appear in 1, 2 or all 3 of these columns)

Respondents were also asked whether they envisage difficulties recruiting any of these skill areas from within Scotland in the next 2/3 years. As can be seen in table 5.6, more than half of respondents in the E/E sector anticipate difficulties.

Table 5.6: Anticipate difficulties recruiting from within Scotland (Q5d,Q6d,Q7d)

	E/E (Base 94)* %	ICT (Base 110)* %	DM (Base 73)* %
Anticipate difficulties	51	33	19
Do not anticipate difficulties	40	53	74
Unsure	9	15	7

* Please note that the base figures above for E/E, ICT and DM are not mutually exclusive (ie a company can appear in 1, 2 or all 3 of these columns)

Many of our qualitative respondents noted that the current economic climate has benefited their business in terms of being able to pick and choose staff made redundant by competitors. This, along with a reduction in recruitment due to the economic climate, could explain the number of quantitative respondents who have not experienced and do not anticipate difficulties.

In the general and commercial areas of business 23% had experienced difficulties while 20% anticipate difficulties in the next 2/3 years.

Those respondents noting any difficulties in recruitment in Scotland either now or in the next 2/3 years, were asked to say whether difficulties at each area related to a specific level of competence. The definitions used were not competent (i.e. no prior knowledge, training, or experience), partially competent (i.e. has some knowledge, skills and experience but more

learning is needed to apply skills fully) or fully competent (i.e. has all the knowledge, skills and experience required for the role).

Table 5.7 shows that the main area where E/E respondents had experienced difficulties was **mechanical engineering; mechanical engineering, along with software engineering** are the main areas where difficulties in recruitment are anticipated.

Table 5.7: Difficulties in recruitment - Electronics/Advanced Engineering (Q5c,d)

	Experienced difficulties (Base 44) %	Anticipates difficulties (Base 48) %	Main level of competence associated
Mechanical Engineering	41	33	partially
Software Engineering	32	33	fully
Electronic/hardware Engineering	27	25	partially
Quality/Test	23	19	fully
Product development	20	19	fully
Electrical Engineering	20	21	partially
Product Engineering	18	17	partially
Applications Engineering	18	19	partially
Product design	14	15	fully/partially
Modelling and simulation	14	13	fully
Process Engineering	14	13	fully
Manufacturing	9	10	fully
Embedded Software	7	6	fully

Table 5.8, below, shows that for ICT companies the main area where difficulties had been experienced and were anticipated was **software development**.

Table 5.8: Difficulties in recruitment - ICT companies (Q6c,d)

	Experienced difficulties (Base 45) %	Anticipates difficulties (Base 36) %	Main level of competence associated
Software Development	56	53	fully
Software Programming	38	28	fully
Technical/ICT Support	27	31	fully
Solutions architecture, analysis & design	27	25	fully
Web Development & Support	24	17	partially
Solution development & implementation	22	19	fully
Systems Analysis & Design	20	17	fully
Programme, project & supplier management	18	22	fully
Database Design & Support	16	11	fully
Information Management & Security	13	11	fully
Business Analysis	13	8	fully
IT Service Management & delivery	11	17	fully
Telecomms & Networking	11	14	fully
Business Process Change	11	11	fully

As can be seen in table 5.9, the small number of DM companies who had or anticipate recruitment difficulties also identified **software development and software programming** as areas where they had experienced and also anticipate difficulties; difficulties are also anticipated in **web development and support**.

Table 5.9: Difficulties in recruitment - DM companies (Q7c,d)

	Experienced difficulties (Base 14) %	Anticipates difficulties (Base 14) %	Main level of competence associated
Software Development	57	50	fully
Software Programming	57	50	fully
Web Development & Support	50	50	fully
Creative Development	14	21	fully
Content creation /development	14	14	fully
Editing	7	14	fully

In the area of general business or commercial skills, respondents gave **sales** as the main area where they had experienced difficulties in recruitment. **Sales** is also the main area where difficulties are anticipated.

Table 5.10: Difficulties in recruitment – General business and commercial (Q8c,d)

	Experienced difficulties (Base 30) %	Anticipates difficulties (Base 26) %	Main level of competence associated
Sales	73	69	fully
Business development	40	42	fully/partially
Marketing	37	42	fully
Financial management	13	15	fully

Main Problems encountered

Those respondents who reported difficulties were then asked “When you refer to difficulties recruiting the skills you need, can you tell me the main problems you have had or envisage?”

Regardless of business sector, there is a degree of commonality with references to the right kind of people not being available / small talent pool, that there is a lack of people with experience / already involved in the sector or a lack of people with relevant skills.

Respondents in DM differ slightly to those in E/E or ICT and focus more on the need for team working and attitude of staff. The main problems, mentioned by 10% or more from each area, were:

Electronics or Advanced Engineering (n=52)

- The right kind of people not available / not available in my sector / small talent pool (27%)
- Lack of people with (enough) experience / people already involved in the industry / with appropriate backgrounds / with proven track records (23%)
- Lack of people with the relevant skills / enough skill / proven skills (19%)
- Salary expectations too high (12%).

Advanced ICT (n=48)

- The right kind of people not available / not available in my sector / small talent pool (31%)
- Lack of people with the relevant skills / enough skill / proven skills (17%)
- Lack of people with (enough) experience / people already involved in the industry / with appropriate backgrounds / with proven track records (17%)
- Lack of people with specified skill (15%).

Digital Media (n=17)

- Lack of people with the relevant skills / enough skill / proven skills (29%)

- Finding (technical) people who can work well within a team / people with technical skills who can work well with creative people (12%)
- Not enough people with the right attitude / who are professional / personality issues (12%).

General Business or Commercial (n=32)

- The right kind of people not available / not available in my sector / small talent pool (28%)
- Lack of people with (enough) experience / people already involved in the industry / with appropriate backgrounds / with proven track records (25%)
- Lack of people with the relevant skills / enough skill / proven skills (13%)
- Lack of people with a wide range of skills / range of skills too narrow, specialised / need transferable skills (13%).

Overall, respondents participating in the qualitative discussions noted a broad range of skills needs, although most noted that a lack of skills does not cause a major problem for the business and most vacancies appear to be filled within around two months or less. One or two instances were cited where businesses have particular difficulties in attracting new staff; one respondent noted that their business has problems attracting analogue engineers and this has been an ongoing problem for some number of years and is envisaged to be ongoing in the future.

Importantly, what **many employers require is a combination of both technical and commercial skills**, particularly in the smaller businesses that cannot afford to hire a range of staff with different business skills. Most of our qualitative respondents noted the need for staff who have good technical expertise, who can be client facing with additional skills in sales, marketing or business development. For example, one respondent needs solution architects with a background in geology and with a firm understanding of IBM Maximo and business processes.

“We need many skills. For instance, we obviously need technical skills and that’s an area which I could talk about in great detail. But we also need people who can market, who can understand the market, who can project the market and identify market trends, and steer us in the right direction. We need people who can help to build the infrastructure of a company which is not necessarily technical. So there’s a whole range of skills which need to be... for instance, people on the technical front who also have a managerial skill, people who can take the product ideas and translate them into a product which is simple to market.”

“Particularly in the past, we have found the sales side to be quite challenging. It’s a hard market to recruit in anyway but the sales people that we have need to have technical understanding too, so they have either had an engineering background or from working their way through the offshore side of the business, through managing operations and then sales. They are really technical advisors to the clients so that has been one of our biggest challenges. But there is this year, the business focus is to recruit at the front end and we have had more success this year than we have ever had in the past.”

Another respondent noted they require skills at a high level and that while they grow some staff through apprenticeships, they also need a steady flow of experienced engineers and these are harder to find.

There were also comments that depending on business needs, graduates can be of limited use for two or three years, as they do not have commercial or business skills and so cannot be client facing until they have built up some experience.

As well as the need for combined technical and business / commercial skills, some respondents noted the importance of recruiting staff who will work effectively as part of a team and fit with the company culture. This appeared to be more important in smaller businesses. One respondent has made a conscious effort to reduce his core team of staff and use more freelancers. Part of his reasoning for this was that after a period of rapid growth where his core team doubled from 10 to 20, he felt the team spirit had been lost and there was a growing sense of disaffection within the company. He has since reduced his core team back down to around 10 and feels that the company has a much more positive ethos.

A small number of respondents – often but not solely in relation to engineering – queried whether universities produce enough graduates in the relevant subject; two respondents noted that the number of engineering graduates has been decreasing in recent years. One respondent commented,

“The skill set that’s being taught in the universities doesn’t have a perfect match to the skill-set we needed. We were using software – software technology in particular – that is not really being advanced in the university system at the moment In the university system, most people will learn... particularly given languages like C++; they will learn Java, very typically and teach them the basics of how to build sub-web from an object orientated point of view. They’ll often learn about UNIX. They’ll have UNIX platforms in the university We’re using a new/newer version (it’s ten years old now) – but you know, it’s still growing and it’s growing market share, I suppose, called .NET. There is a skills shortage there.”

5.7 Barriers to recruitment

In summary

- The two key barriers to recruitment in Scotland within the last 12 months are a lack of applicants with a specific skill(s) or a lack of applicants with suitable levels of experience and, in particular, at more senior and professional levels. These are also the two most frequently cited barriers to recruitment in the next 12 months

Barriers to recruitment within Scotland in the last 12 months

All telephone respondents were asked “*What barriers have you experienced in recruiting staff from within Scotland in the last 12 months?*” Despite the recession when, as evidenced by some comments from qualitative respondents there is potentially a larger pool of unemployed talent from which to recruit, **60% said they had faced barriers** to recruitment in the last 12 months.

As can be seen in Table 5.11, there were again some differences between responses from DM only companies and those in other sectors, with almost two-thirds (65%) of DM companies reporting no barriers to recruitment.

Table 5.11: Whether experienced barriers within Scotland in last 12 months (Q9a)

	Total (206) %	All 3 areas (3) %	E/E & ICT (32) %	E/E & DM (4) %	ICT & DM (29) %	E/E only (55) %	ICT only (46) %	DM only (37) %
Have experienced barriers	60	100	53	75	72	64	67	35
Have not experienced barriers	40	-	47	25	28	36	33	65

The two key barriers mentioned across most sectors were **a lack of applicants with a specific skill or skills and a lack of applicants with suitable levels of experience**.

Smaller proportions of respondents referred to other reasons such as the geographic location of the business, that they have too few applicants, the general quality of applicants or that salary expectations are too high. Table 5.12 provides a breakdown for all potential barriers to recruitment in Scotland in the past 12 months.

Table 5.12: Barriers to recruiting in Scotland in past 12 months (Q9a)

	Total (123) %	All 3 areas (3) %	E/E & ICT (17) %	E/E & DM (3) %	ICT & DM (21) %	E/E only (35) %	ICT only (31) %	DM only (13) %
Lack of applicants with a specific skill or skills	65	100	65	67	57	63	68	69
Lack of applicants with suitable levels of experience	61	100	71	67	38	74	61	38
Geographic location of business	37	33	41	100	33	40	35	23
Too few applicants	36	33	35	67	33	40	32	31
General quality of applicants	35	67	29	33	38	31	39	31
Salary expectations too high	31	33	29	33	24	31	32	38
Lack of applicants with the required academic qualifications	27	-	18	-	19	40	35	8
Lack of basic skills	24	67	12	-	29	17	26	38
Lack of recruitment budget	23	67	18	-	24	14	32	23
No applicants	10	-	6	-	14	17	3	8

Base: Those facing barriers at Q9a

There were some significant differences in terms of number of employees, turnover and geography:

- Companies with between 1 and 5 employees (n=75) were less likely to mention a lack of applicants with suitable levels of experience (25%) than companies with over 100 employees (61%)
- Companies with between 1 and 5 employees (n=75) were less likely to mention too few applicants (9%) or lack of applicants with the required academic qualifications (8%) than companies with 51 to 100 employees (44% and 44%, n=16)
- Companies with a turnover of less than £250k (n=50) were more likely to say they had not experienced barriers (58%) than companies with a turnover of £251k to £1m (28%, n = 54)
- Companies with a turnover of less than £250k (n=50) were also less likely to mention salary expectations being too high (8%) than companies with a turnover of £1m to £10m (34%; n = 38)
- Only 4% of companies with a turnover of less than £250k (n=50) mentioned a lack of applicants with the required academic qualifications, compared to 26% of companies with turnover of over £10m (n=39)
- 46% of 26 companies based in Aberdeen mentioned geographic location compared to 17% of companies in the East (n=81) and 18% of those in the West (n=77)

The data shows significantly higher numbers of companies with experience of hard to fill vacancies mentioning each of the barriers than companies without this experience.

Barriers to recruitment within Scotland in the next 12 months

Once again, over half of all companies expect to encounter barriers to recruitment in the next 12 months, and once again a much higher percentage of DM companies said they do not expect any barriers.

Table 5.13: Anticipate barriers within Scotland in next 12 months (Q9b)

	Total (206) %	All 3 areas (3) %	E/E & ICT (32) %	E/E & DM (4) %	ICT & DM (29) %	E/E only (55) %	ICT only (46) %	DM only (37) %
Anticipate barriers	52	100	47	75	52	60	61	30
Do not anticipate barriers	47	-	53	25	48	38	39	70

It is not envisaged that barriers to recruitment within Scotland will change significantly in the next 12 months, with data being largely the same as that shown for barriers to recruitment within the last 12 months, although slightly smaller proportions of respondents cite each issue in relation to the next 12 months.

Table 5.14: Barriers to recruiting in Scotland in next 12 months (Q9b)

	Total (108) %	All 3 areas (3) %	E/E & ICT (15) %	E/E & DM (3) %	ICT & DM (15) %	E/E only (33) %	ICT only (28) %	DM only (11) %
Lack of applicants with a specific skill or skills	65	100	60	67	67	67	64	55
Lack of applicants with suitable levels of experience	62	100	67	67	40	76	61	36
Geographic location of business	37	33	47	67	40	36	32	27
Too few applicants	31	33	27	67	33	39	25	18
General quality of applicants	30	33	20	-	33	30	36	27
Lack of applicants with the required academic qualifications	28	-	20	-	33	42	25	9
Salary expectations too high	27	33	33	-	20	27	32	18
Lack of basic skills	19	33	13	-	20	18	21	18
Lack of recruitment budget	18	33	20	-	13	9	29	18
No applicants	10	-	7	-	13	18	4	9

Base: Those anticipating barriers at Q9b

Specific recruitment issues

All respondents who identified a lack of applicants with the required academic qualifications, specific skill(s) or suitable levels of experience as issues were then asked for further detail on each issue (n=102).

Reasons given as to why finding applicants with the required academic qualifications or with specific skills is an issue were similar, regardless of sector or business type. Answers given by over 10% were:

- **Limited talent pool with relevant levels of experience (65%)**
- Limited talent pool with relevant skills (46%)
- Universities / Colleges not offering courses that fit our needs (34%)
- Competition from other employers within Scotland (29%)

- Salary expectations too high (24%)
- Limited talent pool with relevant academic qualifications (24%)
- Competition from other employers within the UK (21%)
- Applicants not keen to live/work in our geographical location (18%)
- Lack of interest in our sector (18%)
- Lack of / poor career progression (13%).

A lack of suitable levels of experience (n=80) were again fairly consistent across sector and business type. **The skills most lacking are at a professional level.**

- Professionals with some experience (61%)
- Fully skilled professionals (45%)
- Entry level professionals (40%)
- Managerial staff with some experience (21%)
- Operators / technicians or tradesmen with some experience (16%)
- Entry level operators / technicians or tradesmen (15%)
- Entry level managerial (11%)
- Fully skilled operators / technicians or tradesmen (10%)
- Senior managers (4%).

Once again, the qualitative discussions showed that employers do not tend to have much by way of problems recruiting staff at an operational or entry level; rather, **these problems occur at a more senior and professional level** where a combination of skills is required. One qualitative respondent noted that their company has grown quickly and it is their strategy to continue to grow. Whilst they largely need mechanical engineers, they also require innovative skills to ensure that the company demonstrates an innovative approach to client solutions. It is anticipated that recruitment will be an ongoing issue for the foreseeable future but only limited difficulties are anticipated and these difficulties will come at the very highest skills levels.

5.8 Vacancies

In summary

- Key reasons for having hard to fill vacancies are applicants not being of sufficient quality or having few / no applicants for specific posts
- Those who have previously experienced hard to fill vacancies claim this has a major (42%) or minor (39%) impact on how their establishment performs. Key impacts on performance is a delay in developing new products or services, difficulties in meeting customer service objectives or loss of business or orders to competitors
- Key means of dealing with hard to fill vacancies are internal training for existing staff or re-advertising posts or advertising in other parts of the UK outwith Scotland

It has already been noted that there are consistent issues in relation to recruitment across different business sectors and it is important to understand the extent to which this impacts on the number of vacancies experienced and how hard these are to fill.

Number of vacancies

During the telephone interviews respondents involved in E/E, ICT and DM were asked a series of questions about industry vacancies in their company, and about vacancies in general business or commercial functions. The questions asked were in relation to the:

- Number of current vacancies
- Number of current hard to fill vacancies
- Hard to fill vacancies in the last 12 months
- Hard to fill vacancies expected in the next 12 months
- Reasons for vacancies being hard to fill.

The total vacancies by sectors are shown in table 5.15 below.

Table 5.15: Total vacancies by sectors (Q10,11,12,13)

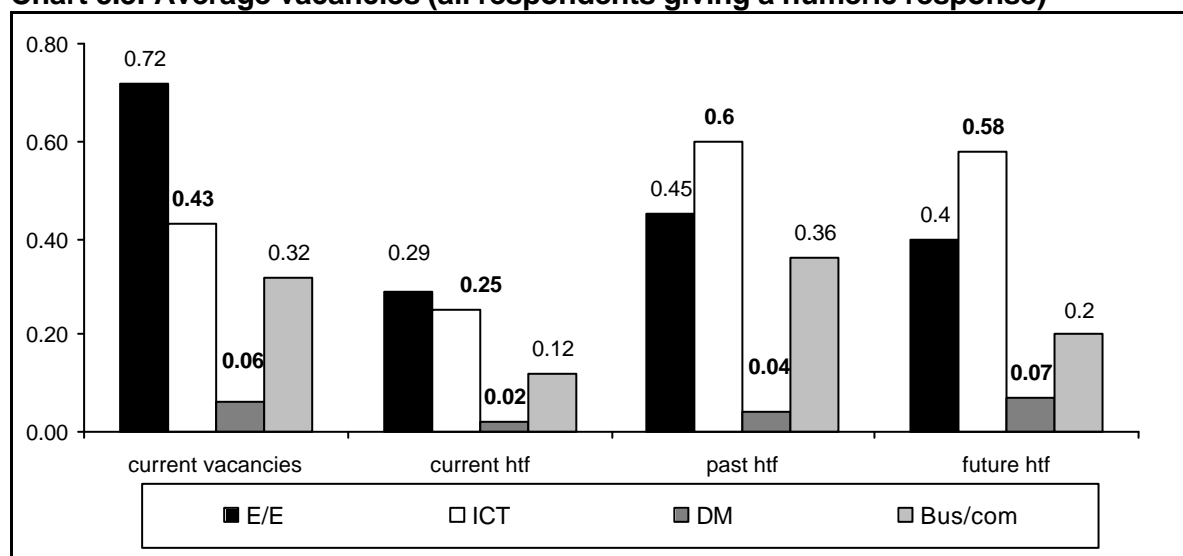
	Total (206 respondents)	E/E (94)	ICT (110)	DM (73)
Total current vacancies	247	147	88	12
Total current htf vacancies	115	60	50	5
Total previous htf vacancies	226	93	124	9
Total expected htf vacancies	204	79	111	14

The number of vacancies in business and commercial areas were:

- current vacancies (64)
- current htf vacancies (25)
- past htf vacancies (72)
- expected htf vacancies (39)

The average number of vacancies for each of these questions is shown in Chart 5.3. E/E companies report the highest number of current vacancies and current hard to fill vacancies; ICT companies reported the highest number of hard to fill vacancies in the past 12 months and expect the highest number in the coming 12 months.

Chart 5.3: Average vacancies (all respondents giving a numeric response)

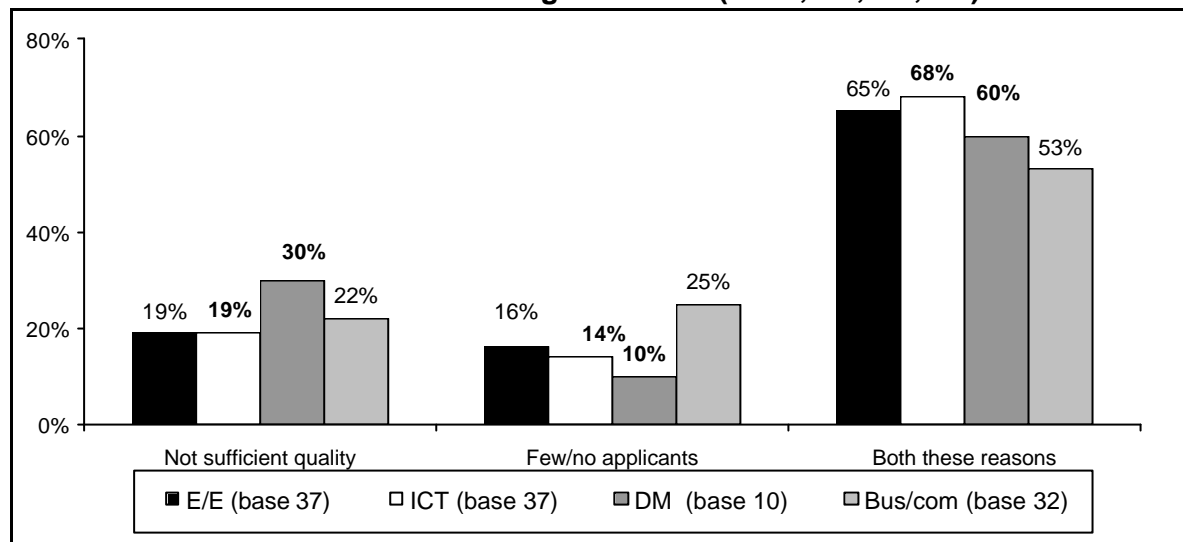


Source: Q10, 11, 12, 13

Companies with hard to fill (htf) vacancies (current, past or future) were asked to say what they thought was the reason for these vacancies being hard to fill.

As shown in Chart 5.4, across all areas with htf vacancies, the majority of respondents said these were due to a combination of applicants not being of sufficient quality and having few / no applicants. Where there are differences, a higher percentage of companies with htf vacancies in DM said this was due to applicants not being of sufficient quality while for business/commercial areas the main reason given was few or no applicants.

Chart 5.4: Reasons for vacancies being hard to fill (Q10e,11e,12e,13e)



Base: all those reporting htf vacancies

The impact of hard to fill vacancies

All respondents were asked whether having hard to fill (htf) vacancies has an impact on how their establishment performs:

- 24% said it has a major impact
- 28% said a minor impact
- 47% said 'no'.

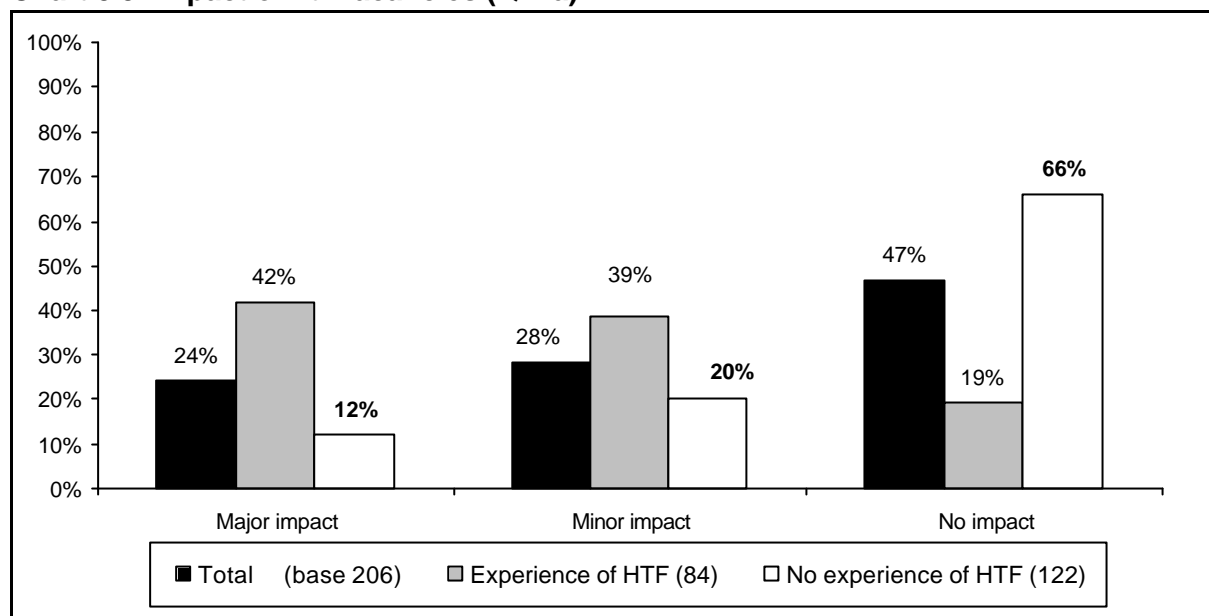
DM companies reported less impact from htf vacancies than those in the other sector areas. Looking at companies which said 'no impact', there was a significant difference between DM only companies (73% of 37) compared to those involved in ICT only (37% of 46). In addition, 11% of DM only companies said htf vacancies have a minor impact, compared to 43% of ICT only companies.

When we examine differences:

- Higher proportions of those in larger firms (based on number of employees and turnover) reported that htf vacancies had a major impact on performance
- Higher proportions of companies with multiple bases, including outwith the UK, said htf vacancies have a major impact.

Not surprisingly, when we examine the data relating to **companies with actual experience of htf vacancies**, similar proportions report major (42%) and minor (39%) impacts and only 19% said these vacancies have no impact on company performance. These figures are considerably higher than responses from those with no recent experience of htf vacancies.

Chart 5.5: Impact of htf vacancies (Q14a)



Base: all those who have experienced htf vacancies

Source: Q14a

Reported impacts

Of the 108 businesses who reported some impact on performance, the key issue identified was a delay in developing new products or services (61%); 50% reported difficulties meeting customer service objectives and 44% said loss of business or orders to competitors. Other answers (from 5% or more) were:

- Difficulties meeting quality standards (33%)
- Increased operating/running costs (26%)
- Withdrawing from offering certain products or services altogether (23%)
- Difficulties introducing new working practices (19%)
- Difficulties introducing technological change (19%)
- Restrictions on growth/slower growth (8%)
- High/increased workload for existing staff / more work for me (5%).

Measures to deal with hard to fill vacancies

All respondents were asked to say what measures they might take to deal with hard to fill vacancies. The key measure mentioned was 'internal training for existing staff'. For businesses with experience of htf vacancies other options cited were; waiting then advertising again; and advertising in other parts of the UK (outside Scotland) (40%).

Responses from those who have experienced htf vacancies recently and those who have not are presented in Table 5.16.

The data showed significant differences among different sector areas with 35% of companies involved in ICT only (n=46) and 29% of E/E only companies (n=55) saying a measure taken to deal with htf vacancies is 'internal training for existing staff' compared to 8% of DM only companies (n=37). Businesses with 1 to 5 staff (13% of 75) were significantly less likely to cite 'internal training for existing staff' than those with 21 to 50 staff (41% of 27) and those with 51 to 100 staff (50% of 16).

Table 5.16: Measures taken to deal with htf vacancies (Q15)

	Total* (206) %	Experience of htf (84) %	No experience (122) %
Internal training for existing staff	25	43	13
Wait then advertise again	22	40	10
Build links with universities/colleges/schools	22	37	11
Advertise in other parts of the UK (outside Scotland)	22	40	9
More use of recruitment agencies	21	33	13
Increase salary level(s)	18	31	9
Recruit from other parts of the UK (outside Scotland)	18	27	11
Changed job specifications	17	30	8
Internal training to recruit new, less trained, staff	16	25	10
Recruit at lower skill level	15	24	9
Enhanced terms and conditions	15	25	7
Contracted work out	14	21	9
Hired contract staff	14	21	8
Advertise in the EU	14	26	5
Increased recruitment budget	13	21	7
Recruit from within the EU	12	23	5
Advertise outside the EU	12	23	4
Recruit outside the EU	11	18	7
Offering external training	9	13	6
Hired part time staff	7	10	6
Don't know	4	5	4

*33% said they had no experience of taking measures to deal with hard to fill vacancies

In general across the sample, smaller businesses are less likely to take measures to deal with htf vacancies. For example, only 12% of those with 1 to 5 staff (n=75) mentioned building links with universities/colleges/schools, compared to 37% of those with 21 to 50 staff (n=27) and 39% of companies with over 100 staff (n=23).

Those most likely to undertake advertising in other parts of the UK are from both E/E and ICT (38%, n=32), E/E only companies (29%, n=55) and ICT only companies (24%, n=46); in comparison to DM only companies (3%, n=37) giving this answer.

Companies based in Aberdeen (42%, n=26) are most likely to increase salary levels as a measure to deal with htf vacancies.

5.9 Examples of Hard to Fill Vacancies

In summary

- Over one hundred examples of hard to fill vacancies were provided.
- Within Advanced ICT most of the jobs mentioned were related to software development or programming.
- Specialist engineers and design engineers featured most prominently in the hard to fill vacancies in Electronics or Advanced Engineering.
- Hard to fill vacancies in software development also featured strongly amongst Digital Media companies.

Respondents were invited to give examples of a job or role that is hard to fill from within Scotland and 115 examples were provided (47 in the area of Electronics or Advanced engineering, 34 in ICT, 18 in DM and 23 in the general business/commercial aspects; some jobs crossed over sectors). Summaries of these are included in Appendix 2.

What is missing in ICT?

Of the 34 job examples provided, 10 were specific jobs in software development and 10 in programming, with 20 being in the software development field of work.

Specific skills mentioned as missing were predominantly programming language skills.

Levels of experience lacking for these posts were predominately among professionals; few respondents reported a lack of academic qualifications as an issue.

What is missing in Electronics or Advanced Engineering?

Among the 47 specific examples of jobs which were hard to fill, specialist engineers and design engineers were mentioned most frequently.

Experience, rather than lack of skills, was mentioned most often as a factor and, again, levels of experience lacking for these posts were overwhelmingly professionals. Although many respondents saw lack of academic qualifications as an issue, no qualification was mentioned by more than 2 respondents.

What is missing in Digital Media?

Among the 18 specific examples of jobs which were hard to fill. Most frequently mentioned were Editors (3 mentions), Website / Digital Developers / Designers (3), and Programmers (3).

The main specific field of work mentioned was Software Development (5 mentions) And a wide range of skills, again including programming language skills, were mentioned.

Once again, levels of experience lacking for these posts were predominately among professionals. Lack of academic qualifications was only mentioned in 3 cases.

What is missing in General Business or Commercial?

Among the 23 specific examples of htf jobs, the most prominent were Sales staff (13 mentions). Sales, commercial or marketing experience, along with technical or IT knowledge were mentioned most frequently as missing skills. As with the other sectors, the levels of experience were predominately professionals. Lack of academic qualifications was mentioned by a small number.

5.10 Recruitment outwith Scotland

In summary

- Over a third of companies had recruited from outwith Scotland in the past 12 months.
- Half of these companies had recruited within the UK, just under a third had recruited within the EU and half had recruited from outside the EU.
- The quality of candidates and skills required emerged as the main reasons for recruiting outwith Scotland.
- Relocation expenses were identified as the main barrier to recruitment from outwith Scotland and respondents perceive there to be a greater number of barriers to recruitment the further afield they go.

All respondents participating in the telephone interviews were asked whether they had recruited from outside Scotland in the past 12 months and 34% said that they had. Companies with a turnover of over £10m (n=39) were more likely (51%) to have recruited outwith Scotland compared to 22% of those with a turnover of under £250k (n=50).

Respondents who had recruited outwith Scotland (n=70) were then asked where these employees had come from; 50% said they came from other parts of the UK, 31% said within the EU and 19% said outside the EU.

Again, there were differences relating to company turnover; 18% of companies with turnover under £250K (n=11) said other parts of the UK compared to 65% of the £1m to £10m companies (n=17), although the small base sizes should be noted.

None of the companies with offices across the UK (n=9) had recruited staff from within the EU; this compared to 27% of companies with offices outwith the UK (n=30) and 45% of those operating in Scotland only (n=31).

Reasons for recruiting outwith Scotland

Those respondents who had recruited outwith Scotland were also asked what the main factors were that led them to do so. The quality of candidates and skills required emerged as the main reasons (cited by 21% and 20% respectively). Other reasons given (by more than 10%) were:

- They just happened to be from outside Scotland / wasn't particularly looking for people from outside Scotland (14%)
- We have branches in other parts of the UK / needed staff in that part of the UK / developing business in other parts of the UK (11%)
- Could not get people with appropriate levels of experience within Scotland / they had the experience we were looking for (11%)
- Better availability / no locals available / lack of applicants from within Scotland (10%).

Reasons for not recruiting outwith Scotland

Those respondents who had not recruited outwith Scotland (n=136) were asked why and the main reason given was that they haven't needed to / no need to go outside Scotland (41%). The other key reason, cited by 28% of respondents was that there had been no recruitment in the last 12 months / that there was a hiring freeze or that there were no vacancies.

Other reasons given (by over 5%) were:

- Haven't had the opportunity / no interest from people outside Scotland / no suitable applicants from outside Scotland (7%)
- There are enough people here / Scottish recruits easily available / able to find staff here (7%)
- No particular reason / just hasn't happened (7%).

Barriers to recruitment outwith Scotland

All respondents were read a list of possible barriers to recruitment and asked "*Which of these do you see as specific barriers to recruiting in other parts of the UK, within the EU and outside the EU?*" The top answer in each case was 'no barriers' (cited by 45% for other parts of the UK; 33% within EU and 26% outside EU, suggesting **that respondents perceive there are a greater number of barriers to recruitment, the further afield they go**).

As can be seen in Table 5.17, relocation expenses were seen as the top barrier to recruiting from all three areas.

Table 5.17: Perceived barriers (Q18)

	Other parts of UK %	Within EU %	Outside EU %
No barriers	45	33	26
Relocation expenses	21	21	22
Salary expectations	17	14	13
Difficulty in attracting candidates to Scotland	15	12	11
General overall risk	13	14	15
Difficulty in attracting candidates to particular area of Scotland	13	7	7
Recruitment took longer than expected	9	10	12
Interview difficulty / cost	8	6	8
Cost of living	7	8	8
Language barriers	4	16	18
Difficulty mapping qualifications	3	7	10
Visa / work permit requirements	2	5	20
Sponsoring for work permit	1	3	12
Don't know	10	22	24

There were some differences between categories and these are discussed in the following paragraphs.

Recruiting within the UK:

- Companies involved in both ICT and DM showed a higher percentage mentioning relocation expenses (34% of 29); companies involved in DM only were least likely to mention this (11% of 37)
- 30% of companies based in the East (n=81) mentioned relocation expenses as a barrier compared to 13% of those in the West (n=77); 12% in the East and 3% in the West cited interview difficulty / cost
- 18% (n=55) of companies involved only in E/E mentioned difficulty in attracting candidates to a particular area of Scotland, but none of the 37 DM only companies mentioned this
- Companies with the largest turnover showed higher percentages mentioning attracting candidates to a particular area of Scotland as a barrier, 26% of those with a turnover £1m to £10m (n=38), and 18% of those with a turnover of over £10m (n=39). This compared to only 6% of companies with a turnover of less than £250k (n=50). One in five (20%) companies with actual experience of hard to fill vacancies (n=84) mentioned this barrier, compared to only 7% of those without experience of htf vacancies (n=122)
- Companies with the largest turnover showed higher percentages mentioning difficulties in attracting candidates to Scotland; 24% of those with a turnover £1m to £10m (n=38), and 23% of those with a turnover of over £10m (n=39); compared to only 4% of companies with a turnover of less than £250k (n=50). Again, more companies with experience of hard to fill vacancies mentioned this barrier (26%) than those without this experience (7%).

Recruiting within the EU:

- While the main response given in relation to perceived barriers to recruiting within the EU was 'no barriers' (mentioned by 33% of all respondents), there were differences in relation to the TalentScotland website. While 49% of those who had heard of the website but not used it (n=45), 32% of those who had only looked at it (n=38) and 31% who hadn't heard of it (100) said there were no barriers, only 9% of those who had used

the website to advertise vacancies (n=23) gave this response. This may be that those using the website are more likely to be aware of barriers or those who came up against barriers turned to the website.

- There was a difference in perception between those who had recruited outwith Scotland (n=70) and those who had not (n=136). More of those with this experience (43%) said there were no barriers than those without the experience (27%).
- Those who had actual experience of htf vacancies were more likely to mention salary expectations, difficulty in attracting candidates to Scotland and recruitment taking longer than expected than those who did not.
- The proportions of those mentioning language barriers as a barrier to recruiting within the EU decrease with company size, from none of the companies with over 100 employees, only 6% of those with 51 to 100 employees (n=16) and 7% employing 21 to 50 (n=27), rising to 21% of those with 1 to 5 employees (n=75) and 22% of those with 6 to 20 employees (n=64). A similar progression was also noted in relation to increasing turnover.
- As may be expected, more (21%) of the companies operating from a purely Scottish base (n=123) mentioned a language barrier than those who also operate outwith the UK (7% of 57).
- The perception of salary expectations as a barrier differed between those with experience of hard to fill vacancies (23% of 84) and those without this experience (8% of 122).
- Those companies involved in both E/E and ICT (n=32) were more likely to mention recruitment taking longer than expected (25%) than any of the other sector areas. Again, there were differences between those with experience of hard to fill vacancies (20% of 84) and those without this experience (3% of 122).
- There was a difference in relation to awareness of the TalentScotland website. While 2% of those who had heard of the website but not used it (n=45), 8% of those who had only looked at it (n=38) and 11% who hadn't heard of it (100) mentioned recruitment taking longer than expected as a barrier, 26% of those who had used the website to advertise vacancies (n=23) gave this response.
- In terms of difficulty attracting candidates to Scotland, there were differences between those with experience of hard to fill vacancies (23% of 84) and those without this experience (5% of 122). And, once again, there was a difference in relation to awareness of the TalentScotland website. While 16% of those who had heard of the website but not used it (n=45), 18% of those who had only looked at it (n=38) and 22% of those who had used the website to advertise vacancies (n=23), only 6% of those who hadn't heard of the website (100) mentioned this barrier.
- Finally, over a quarter of those who had never recruited outside Scotland perceived relocation expenses as a barrier (26% of 136) but only 11% of those who had recruited outwith Scotland (n=70) gave this response.

Recruiting outwith the EU

- The main differences noted were between those with experience of hard to fill vacancies and those without this experience. Higher proportions of those with actual experience of htf vacancies cite each barrier than those who have not experienced hard to fill vacancies. These are presented in the following table.

Table 5.18: Perceived barriers by experience of htf vacancies (Q18)

	Experience of htf vacancies (84) %	No experience (122) %
No barriers	12	36
Visa / work permit requirements	36	10
Relocation expenses	30	16
Recruitment took longer than expected	23	4
Difficulty in attracting candidates to Scotland	19	6
Sponsoring for work permit	19	7
Difficulty mapping qualifications	18	4
Interview difficulty / cost	15	3

Visa / work permits

- Looking at the area of visa/work permits, the data also highlights differences between those who have recruited outside Scotland (n=70) and those who have not (n=136). Companies who have recruited outside Scotland were significantly more likely to mention this barrier (33%) than those who had not (14%).
- In addition, 22% of companies who operate solely in Scotland (n=123) and 25% who operate outwith the UK (n=57) mentioned visa/work permits compared to only 4% of companies who operate UK-wide (n=26).

Relocation expenses

- 31% of companies in the East (n=81) but only 16% of those in the West (n=77) mentioned this barrier
- Companies who have not recruited outside Scotland were more likely to mention this barrier (26%, n = 70) than those who had (13%, n = 136)

Recruitment taking longer than expected / sponsoring for work permit

- For both barriers, there were significant differences in responses between companies involved in both E/E and ICT (n=32) and those only working in E/E (n=55). While 28% of E/E and ICT companies mentioned both these barriers, only 2% of E/E only companies mentioned sponsoring for work permit and 5% mentioned recruitment took longer than expected.

The qualitative interviews showed that those respondents who had recruited from outwith the EU were less happy to do so in future and this was because of a number of reasons. At least two respondents have had experience of supporting a number of students through providing a certificate of sponsorship and employment for 2 years as a Category 2 immigrant. However, at the end of the two year period, there is no guarantee that the employee will be allowed to remain in the country and, if this is the case, the business will have put time, effort and expense into this with limited rewards. One of these respondents noted that the salary levels they are expected to pay foreign engineers if they are to have a better chance of becoming a Category 2 immigrant are too high and queried why salary rates in Scotland are compared to those in the South East of England.

Many qualitative respondents who do not have actual experience of recruiting from abroad assume that there will be problems with this process and that it could be lengthy, time consuming and expensive. In the words of one respondent who outlined a number of key barriers,

“Outwith the UK, if they are outwith the European economic union, they have to have a certificate of sponsorship which is the new word for work permit, so they have to apply for that and that is obviously a points based system. So

they have to either find out if they can qualify for the points and obviously the government looks to see why can't someone apply for the position locally when you are looking to recruit from abroad. I have been here for four years and we haven't used that method very often but when we have it does slow things down because obviously you have to wait until that happens. Then the person needs to hand in their notice and it makes the process quite lengthy and obviously if they are relocating on their own it's fine, but if you are relocating with a partner and children it makes it quite a lengthy so you have got to try and sell the local area, the schooling, the education and the social aspects, so it makes recruiting outwith the EU a lot longer."

5.11 TalentScotland website

In summary

- Just over half of respondents (51%) had heard of the TalentScotland website.
- Only 11% of respondents had used this site to advertise vacancies.
- Respondents more likely to have used the website to advertise vacancies were those with multiple sites across Scotland, the UK and outwith the UK

Respondents participating in the telephone interviews were asked whether they had heard of the TalentScotland website and just over half (51%) said that they had. Around one in five had heard of it but never looked at it, or heard of it but not used it and 11% had used the TalentScotland website to advertise vacancies (this was highest among those in E/E and ICT sectors and lowest among those in DM).

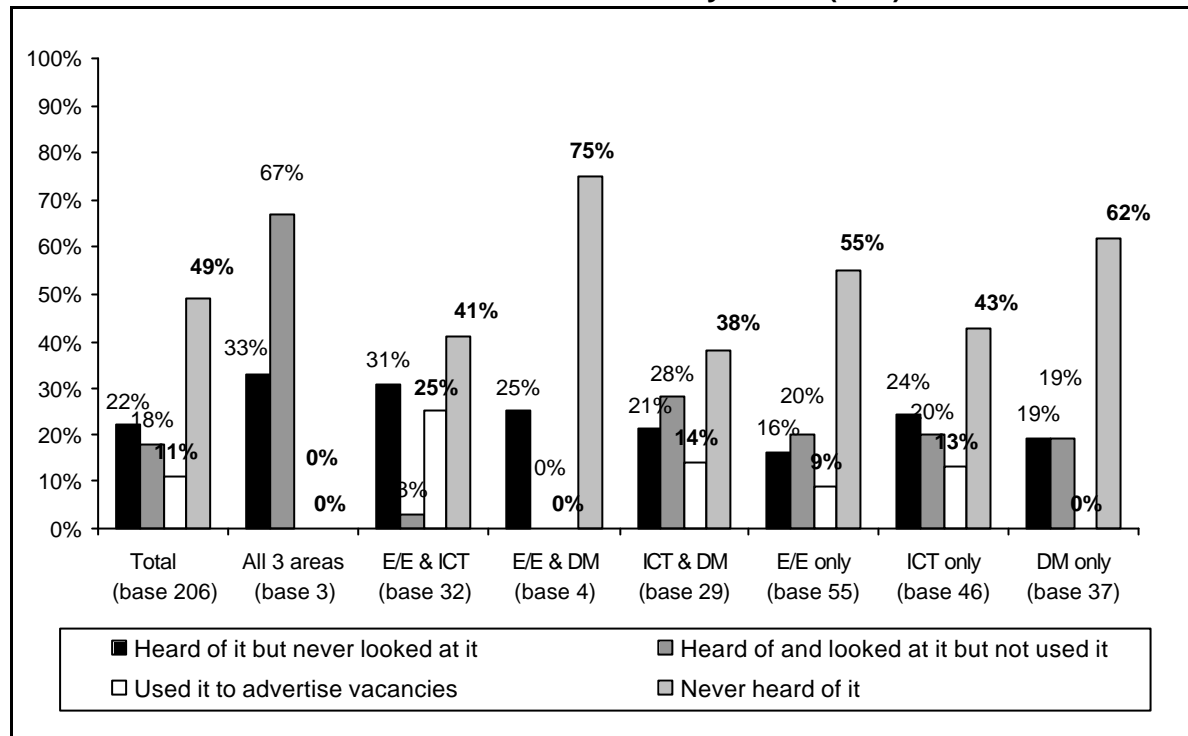
Table 5.19: Awareness of TalentScotland website (Q19)

	TOTAL (Base 206) %	E/E (Base 94)* %	ICT (Base 110)* %	DM (Base 73)* %
Heard of it but never looked at it	22	22	25	21
Heard of/looked at but not used	18	15	18	23
Used it to advertise vacancies	11	14	16	5
Never heard of it	49	49	40	51

* Please note that the base figures above for E/E, ICT and DM are not mutually exclusive (ie a company can appear in 1, 2 or all 3 of these columns)

As can be seen in Chart 5.6, companies involved in both E/E and ICT show the highest use of the TalentScotland website (25%). Companies involved in E/E and DM or DM only had fairly low awareness of the website (75% and 62% respectively had not heard of the website).

Chart 5.6: Awareness of TalentScotland website by sector (Q19)



Companies located in Scotland, the UK and outwith the UK were more likely (18%) to have used the website to advertise vacancies than those based solely in Scotland (9%) or in Scotland and the UK (8%).

There was a significant difference between companies with no experience of hard to fill vacancies and those with experience. While 57% of those with no experience of htf vacancies had never heard of the website, this dropped to 37% of those who had experienced difficulties. There was also a difference in usage; 7% of those with no experience of htf vacancies had advertised on the TalentScotland website, this figure rose to 18% of those with experience of hard to fill vacancies.

Respondents participating in the qualitative discussions who had not previously heard of the TalentScotland website were receptive to any alternative recruitment channels, particularly if there is no charge for using the service. That said, there were some queries as to the levels of expertise and creditability that potential staff might have.

A small number of these respondents went online during the discussion and queried the structure of the TalentScotland website. We noted earlier that many respondents self-classify across a wide range of business sectors, sometimes in multiple sectors, and some respondents were unsure as to which sector was relevant to them from energy, life sciences, electronics and financial services. Indeed, two respondents noted that none of these sectors were relevant to them and would have exited the website had they not been participating in the research. One respondent suggested there should be a section for ICT / computing as they considered that more appropriate than existing sectors.

The data suggests there is a need for further communication with potential users of the TalentScotland website in order to increase awareness of the site and what it offers.

APPENDIX ONE

**LIST OF ACTIVITIES AND SECTORS CITED BY
RESPONDENTS**

Main area of business activity	Main industry sector
ADVANCED ENGINEERING	PHOTONICS SECTOR
ADVISING POLICIES AND MANAGING FORESTRIES	ENVIRONMENTAL SECTOR
AUDIO VISION INSTALLATION	AUDIO
BACK UP POWER SUPPLIED FOR COMPUTER EQUIPMENT	ANY BUSINESS WITH COMPUTING
BRAND CONSULTING	HIGHER AD. TO RETAIL, IT'S VERY VARIED EDUCATION
BROADCASTING	MEDIA
BUSINESS ANALYSTS	BUSINESS SERVICES
BUSINESS CENTRE	FILM AND TV INDUSTRY
CARE SERVICES	SOCIAL CARE
CHARITY TEACHING ABOUT NANO TECHNOLOGY	NOT SPECIFIC TO ANY INDUSTRY
CHEMICAL MANUFACTURING	CHEMICALS
CHIP MANUFACTURER & SOFTWARE DEVELOPMENT	MANUFACTURING
COMPUTER GAMES	SOFTWARE DEVELOPMENT
COMPUTER NUMERICAL CONTROL PROFILING	PROFILING
CONSULTING	OIL AND GAS
CONSULTING, PROGRAMME MANAGEMENT, PROJECT CONSULTANCY	ICT
CONSUMER ELECTRONIC	CONSUMER ELECTRONIC
CORPORATE VIDEO PRODUCTION	A MIXTURE
CREATIVE DESIGN	FOOD AND DRINK SECTOR
DEFENCE ELECTRONICS DEVELOPMENT & MANUFACTURE	DEFENCE
DESIGN	DESIGN ENGINEERING
DESIGN	CREATIVE INDUSTRIES
DESIGN AND MAGAZINE PUBLISHING	PUBLISHING
DESIGN AND MANUFACTURE	MANUFACTURING
DESIGN AND MANUFACTURE OF DRILLING TOOLS	OIL AND GAS
DESIGN AND MANUFACTURE OF INDUSTRIAL SENSOR	ENGINEERING AND ASSEMBLY
DESIGN AND MARKETING	MARKETING
DESIGN AND SALES	HOME ENTERTAINMENT
DESIGN WEB SITES & SOFTWARE MGT.	DIGITAL MEDIA
DESIGN, DEVELOPMENT AND MANUFACTURE	BIO-TECHNOLOGY

DEVELOPING SOFTWARE EQUIPMENT	ENERGY SECTOR
DEVELOPMENT & SUPPLY OF TEST SOLUTIONS	MILITARY
DEVELOPMENT OF IT SYSTEMS	IT
DEVELOPMENT OF SOFTWARE	OIL & PETROLEUM
DIGITAL COMMS	ICT AND CREATIVE INDUSTRIES
DIGITAL CONTENT FOR TV	TV
DIGITAL FINE ART PRINTER	ART & GRAPHIC
DIGITAL MEDIA	CORPORATE CLIENTS
DIGITAL MEDIA PRODUCTION & PROMOTION	MEDIA
DIGITAL PRINTERS	DIGITAL PRINTING AND MARKETING
DIGITAL SOFTWARE & WEB DEVELOPMENT	SOFTWARE
E COMMERCE	INTERNET SERVICES
EDUCATION + ELECTRICAL ENGINEERING	ELECTRONICS
EDUCATION THROUGH THEATRE	EDUCATION
ENGINEERING CONTRACTOR	ENGINEERING
ELECTRICAL RECYCLING	RECYCLING
ELECTRONIC ENGINEERING	SEMI-CONDUCTORS
ELECTRONICS	ELECTRONICS
ELECTRONICS SERVICING	ELECTRONICS
ELECTRONICS SUB-CONTRACT MANUFACTURER	MANUFACTURING
ENGINEERING	MONITORING SYSTEM
ENGINEERING	PHARMACY & CHEMICAL INDUSTRY
ENGINEERING CONSULTING	OIL AND GAS
ENGINEERING SOFTWARE	COMPUTING (IT)
ENTERPRISE IT	IT VENDORS SERVICES
EVENTS MANAGEMENT	DK
FILM & PHOTOGRAPHY	FILM
FILM MAKING	MEDIA SECTOR
FILM PRODUCTION	FILM, TV
FILM PRODUCTION	FILM AND TELEVISION
FINANCIAL SOFTWARE SUPPLIER	SOFTWARE

GAMES	SOFTWARE
GAMES DEVELOPMENT	SOFTWARE DEVELOPMENT / I PHONE APPS
GAMES DEVELOPMENT, SOCIAL NETWORKING, SMARTPHONE	DIGITAL MEDIA
GAMES MANUFACTURE	COMPUTER GAMES MANUFACTURING
GAS TURBINES	ENERGY
GRAPHIC / PRINT / DESIGN	DIGITAL MEDIA
GRAPHIC DESIGN	PUBLISHING / MARKETING
GRAPHIC DESIGN FOR PRINTERS	CHARITY
GUIDE PATH LIGHTING	ENGINEERING
HIGHER EDUCATION	EDUCATION
HYDRAULIC NAVAL ENGINEERING	MANUFACTURING
INDUSTRIAL GLASS, PROCESSORS	MANUFACTURING
INTERACTIVE WEBCASTING	DK
IT	IT
IT AND SAGE BOOK-KEEPING LEARNING CENTRE	EDUCATION
IT COMMUNICATIONS	IT
IT COMPANY	HOUSE BUILDING AND CONSTRUCTION
IT CONSULTANCY	IT CONSULTANCY
IT INFRASTRUCTURE	IT
IT SERVICES	IT SERVICES
IT SERVICES	HEALTH
IT SUPPORT	IT
IT SUPPORT	IT
IT SUPPORT	IT
IT SUPPORT	SOFTWARE
MACHINERY MANUFACTURE	MACHINERY - MANUFACTURING
MACHINING	OIL AND GAS
MANUFACTURE	OIL AND GAS
MANUFACTURE	CONSTRUCTION- MANUFACTURING
MANUFACTURE AND DESIGN	ENTERTAINMENT
MANUFACTURE OF AUTOMOTIVE PARTS	MANUFACTURING AND ELECTRONICS

MANUFACTURE OF PUMP	OIL & GAS
MANUFACTURES OF AV EQUIPMENT	CONCERTS / TOURING / CORPORATE EVENTS ENTERTAINMENT
MANUFACTURING	CLOTHING
MANUFACTURING	LOCKING DEVICES FOR TELECOMS
MANUFACTURING	OIL AND LEAD
MANUFACTURING - SOLDERING	MANUFACTURING
MANUFACTURING AND ENGINEERING.	OIL AND GAS
MANUFACTURING BUSES	MANUFACTURING
MANUFACTURING MACHINERY	MANUFACTURING
MANUFACTURING OF 3D MOULDS	AUTOMOTIVE
MANUFACTURING POLYMERS	POLYMERS (PLASTICS)
MARINE SURVEYING CONSULTANCY	ENVIRONMENTAL
MARKETING	FILM & TV PRODUCTION
MARKETING	MARKETING
MARKETING DEVELOPMENT	IT
MEDIA PRODUCTION	PUBLIC SECTOR EDUCATION SOCIAL
MEDIA PRODUCTION	MEDIA
MEDIA, NEWS BROADCASTING	TV
MULTI-MEDIA	PROPERTY
NEW MEDIA	PUBLIC SECTOR
OIL SERVICE COMPANY	OIL AND GAS
ONLINE BRAND DEVELOPMENT	DESIGN & ADVERTISING
ONLINE RETAILER	ONLINE RETAIL
OPTO ELECTRONIC MEASUREMENT SYSTEM	ENGINEERING
OUTSOURCING	IT SOLUTIONS
PACKAGING	PACKAGING
PASSENGER INFORMATION SYSTEMS	MANUFACTURES
PLASTIC INJECTION MOULDING	PLASTICS
PRECISION ENGINEERING	ENGINEERING
PRINT MANUFACTURERS	MANUFACTURING
PROCESS MANAGEMENT PROCESS CONTROL	OIL AND GAS

PRODUCTION OF BATTERIES FOR ELECTRIC VEHICLES	ENVIRONMENTAL BATTERY
PROJECT MANAGEMENT SUPPORT	TELECOMS
PROVIDING EXPERT SUPPORT TO TECHNOLOGY SME MARKET ACROSS ICT	ECONOMIC DEVELOPMENT
PROVISION OF TECHNOLOGY SOLUTIONS TO THE OIL AND GAS INDUSTRY	IT
PUBLISH	PUBLISHING
RADIO BROADCASTING	MEDIA
RADIO EQUIPMENT	RETAIL
RECEPTION DEVELOPMENT TELECOM	ENGINEERING (AUTOMOTIVE)
REPAIR AND REFURBISHMENT OF ELECTRONICS	ELECTRONICS
REPAIR AND RESALE OF LASERS	ELECTRONICS
RESEARCH AND DEVELOPMENT	SEMI-CONDUCTOR INDUSTRY
RESEARCH AND DEVELOPMENT	ENGINEERING (HYDRAULICS)
RESEARCH AND DEVELOPMENT	MECHANICAL ENGINEERING DESIGN
RETAIL OF ICT PRODUCTS	RETAIL
SELL AND PROMOTE TELECOMS	ELECTRONIC COMPONENTS
SEMI-CONDUCTOR DEVELOPMENT	COMMUNICATIONS
SEMI-CONDUCTOR MANUFACTURING	TECHNOLOGY / SEMI-CONDUCTOR
SEMI-CONDUCTORS	SEMI-CONDUCTORS
SIMULATION SOFTWARE DEVELOPMENT + SALES + CONSULTANCY SERVICES	BUSINESS PROCESS MANAGEMENT
SOFTWARE	MANUFACTURING
SOFTWARE & HARDWARE DEVELOPMENT	SECURITY
SOFTWARE & INTERNET	SOFTWARE
SOFTWARE CONSULTANCY	IT
SOFTWARE DESIGN	HEALTH & LIFE SCIENCES
SOFTWARE DEVELOPER	CREATIVE INDUSTRIES
SOFTWARE DEVELOPMENT	ENERGY
SOFTWARE DEVELOPMENT	FINANCIAL SERVICES
SOFTWARE DEVELOPMENT	ALL SOFTWARE
SOFTWARE DEVELOPMENT	OIL AND GAS
SOFTWARE DEVELOPMENT	PROFESSIONAL SERVICES
SOFTWARE DEVELOPMENT	ENVIRONMENTAL

SOFTWARE DEVELOPMENT	MEDICAL
SOFTWARE DEVELOPMENT	SOFTWARE FOR BUSINESSES E.G. BANKS
SOFTWARE DEVELOPMENT	TEXTILES
SOFTWARE DEVELOPMENT	CONTACT CENTRES
SOFTWARE DEVELOPMENT	UTILITIES (POWER AND WATER)
SOFTWARE DEVELOPMENT	TECHNOLOGY
SOFTWARE DEVELOPMENT	COMPUTING PLATFORMS WEB DEVELOPMENT
SOFTWARE DEVELOPMENT	MEDICAL
SOFTWARE DEVELOPMENT	OIL AND GAS
SOFTWARE DEVELOPMENT & CONSULTANCY	CONSTRUCTION & IT
SOFTWARE DEVELOPMENT (AIRLINES)	AVIATION
SOFTWARE DEVELOPMENT AND CONSULTANCY	IT
SOFTWARE DEVELOPMENT AND CONSULTING, ECOCOMMERCE AND ONLINE TICKETING	TRAVEL, ENTERTAINMENT AND RETAIL
SOFTWARE DEVELOPMENT AND SUPPORT	MONITORING SERVICE (ALL SECTORS)
SOFTWARE DEVELOPMENT, CONSULTANCY	IT
SOFTWARE DEVELOPMENT+	TELECOMS
SOFTWARE ENGINEERING	UTILITIES AND TELECOMS RETAIL
SOFTWARE FOR MANUFACTURERS	ENGINEERING SOFTWARE
SOFTWARE PROGRAMMING	SOFTWARE
START-GRID SUPPLY & DEMAND	ELECTRICAL ENGINEERING
SUB & SEAS ENGINEERING	OIL AND GAS
SUBSEA ENGINEERING	PETROLEUM
SUB-SEA POLYMERS	MANUFACTURING
SUPPLY AND MANUFACTURE OIL COMPONENTS	OIL AND GAS
SUPPLY OF ONLINE BOOKING SYSTEMS	TRAVEL & TOURISM SECTORS
TECHNICAL TEXTILES	TECHNICAL TEXTILES
TECHNOLOGICAL SYSTEMS DEVELOPMENT	SECURITY
TECHNOLOGY THINK TANK	AGNOSTIC - NO INDUSTRY
TELECOMS	TELECOMS
TELECOMS	ELECTRONS

TELEVISION PRODUCTION	TELEVISION PRODUCER
THERMOPLASTICS	ENGINEERING
TREATMENT OF WATER IN THE OIL INDUSTRY	OIL
TV AND VIDEO PRO	PRIVATE CLIENTS AND VOLUNTARY SECTOR
TV PRODUCTION	MEDIA SECTOR
TV PRODUCTION	GOVERNMENT SECTOR
TV PRODUCTION AND MEDIA TRAINING	BUSINESS & TV PRODUCTION SECTOR
VIDEO PRODUCTION	CORPORATE
VIDEO PRODUCTION	VP
VIDEO PRODUCTION	CORPORATE VIDEO AND MARKETING
VIDEO PRODUCTION	MEDIA
VIDEO PRODUCTION	MULTIMEDIA
VIDEO PRODUCTION AND WEB DESIGN	DIGITAL COMMUNICATIONS
WEB - DATA ANALYSIS	MARKETING AND PR
WEB DESIGN	WEB DESIGN
WEB DESIGN	WEB DESIGN
WEB DEVELOPMENT	MARKETING
WEB DEVELOPMENT	IT
WEB DEVELOPMENT, IT SOLUTIONS	GENERAL MEDIA
WEBSITE DESIGN	TOURISM AND LEISURE SECTOR
WEBSITES	WEB DESIGN
WHOLESALE, IT	DON'T KNOW

APPENDIX TWO

EXAMPLES OF HARD TO FILL VACANCIES

What is missing in ICT?

Of the 34 job examples provided, 10 were specific jobs in software development and 10 in programming, with 20 being in the software development field of work.

Six of the 34 examples stated that no associated skills were missing, while 3 simply stated that it was experience that was missing. Specific skills mentioned as missing included C++ (6 examples), C (2 examples), Java (4 examples) and .NET (2 examples). Single mentions included: Action Script, Facebook, Fortran, Cobol, Microsoft Dynamics AX, VB Script, Touchscreen, Landmark Suite application, Maximo, Mobile application development, Oracle, and PHP development.

Levels of experience lacking for these posts were predominately among professionals: professionals with some experience (20), fully skilled professionals (16) and entry level professionals (6).

Of the 34 job examples, 23 were felt not to be lacking in academic qualifications. Among the remainder were single mentions of BSc Computer Science, PhD Computer Science, Degree in software engineering, Sun Certification and a Teaching qualification. Software design and development was mentioned on two occasions.

Seven of the 34 ICT job examples were described as not having the skills and experience required available within the UK (as well as Scotland), and 6 of these as only having the necessary skills and knowledge available outside the EU. These were specifically in programming (2), software development (1), application consulting (1), project management (1) and geology (1). Specific mentions of associated skills missing in these six posts were: Action Script, Facebook, Microsoft Dynamics AX, Landmark Suite application, and Mobile application development (all single mentions).

What is missing in Electronics or Advanced Engineering?

Among the 47 specific examples of jobs which were hard to fill were Designers / Design Engineers (7), Software Engineers (4 examples), Mechanical Engineers (3), Programmers (3), Field Engineers (3), Process Engineers (3), C and C Machinists / Operators (2) and Project / Programme Managers (2). Additionally, 12 other examples were of individual mentions of types of specialist engineer.

Specific fields of work were: Software Development (5), Electronics or Electronic Engineering (5), Systems or Process Engineering (4), Product Design or Development (4), Electrical Engineering (3), Design Engineering (3), Naval or Offshore Engineering (3), Mechanical Engineering (2), Optics or Optical Engineering (2) and Oil and Gas (2).

Nineteen of the 47 examples referred to no particular skills as being missing. Where reference was made, 8 examples simply mentioned experience as being the factor missing rather than skills. Specific skills associated with the post identified as being missing included general engineering skills and practices (2 examples), understanding of embedding systems (2 examples), and analogue design (2 examples). Many single mentions were made, which included: C++, Java, ASP

.NET, Touchscreen, adapting specific skills to lasers, CAD, design experience in the oil and gas industry, digital software design, optical engineering, handling of optical components, pump products, understanding of semi-conductors, high voltage engineering, Ruby on Rails, Computer Science, Lab View, Test Stand Java CTL, low level drivers, Material Science, Mathematical and Ocean Study, photo lithography, magnetics, power management, power supply design and steel forging.

Levels of experience lacking for these posts were again overwhelmingly professionals, either with some experience (26), fully skilled (16) or entry level professionals (9).

Of the 47 job examples in Electronics or Advanced engineering, 27 were felt not to be lacking in academic qualifications, 2 were unsure and 2 stated vocational training was required rather than academic training. Academic qualifications felt to be lacking included BSc in Electronic / Electrical Engineering (2 examples). Single mentions were made of Phd in Magnetic and Electrical Plating, BSE in Oceanography, BSE or Phd in Computer Science, Degree in Mechanical Engineering, Degree in Electronic Engineering and EEE graduate. Four examples were of an unspecified degree or HND.

Nine of the 47 Electronics or Advanced Engineering job examples were described as not having the skills and experience required available within the UK (as well as Scotland), and 2 of these as only having these skills and experience available outside the EU. The nine jobs where the necessary skills and experience were unavailable in the UK were specifically in process or development engineering (3 job examples), power supply design engineering, analogue circuit design, field engineering, senior electro-acoustic engineering, electronic engineering, and senior MMIC designs. Specific mentions of associated skills missing in these nine posts were: power supply design, power management, analogue design, simulation and verification and general engineering skills (all single mentions).

What is missing in Digital Media?

Among the 18 specific examples of jobs which were hard to fill were Editors (3 mentions), Website / Digital Developers / Designers (3), Programmers (3), Graphic Designers (2), Senior Software Developers (2), Project Managers (2) Producers (1), Product Developers (1) and Gallery Directors (1).

Specific fields of work which the jobs included were: Software Development (5 mentions), TV (2), Film or Video (2), Motion Graphics (2), Web Development (2) and Vision / Audio Visual (2). Two further examples stated any field of work available.

Two of the 18 examples referred to no particular skills as being missing, and a further 2 were unsure. 2 examples simply mentioned experience as being the factor missing rather than skills, and 3 referred to a lack of general industry skills and knowledge. Specific missing skills associated with the post identified included Java (2 mentions), with single mentions made of C++, Touchscreen, Ruby on Rails, Computer Science, Action Script, Facebook app., Adobe Package, Maths and Science Programming, Drupal, and web technology.

Levels of experience lacking for these posts were predominately among professionals: professionals with some experience (9 job examples), fully skilled professionals (7) and entry level professionals (3).

Of the eighteen job examples in digital media, 14 were felt not to be lacking in academic qualifications and 1 was unsure. Amongst the three examples where academic qualifications were specified as being lacking were BSc Computer Science, BSE or Phd in Computer Science, and Sun Certification, all with one mention each.

Four of the 18 Digital Media job examples were described as not having the skills and experience required available within the UK (as well as Scotland), and 3 of these as not being available within the EU either. The four jobs where the necessary skills and experience were unavailable in the UK were specifically in Programming, Motion Graphics Design, Film Production and Film / Video Editing, all mentioned once.

What is missing in General Business or Commercial?

Among the 23 specific examples of htf jobs, the most prominent were Sales staff (13 mentions). Amongst sales staff jobs, two were in sales in foreign languages (1 Spanish and 1 Swedish) and another in multinational sales. Other jobs mentioned were Account Managers (2 jobs), Marketing Executives / Assistants (2), Sales Manager (1), Advertising Executives (1), Business Process Manager (1), Customer Support Staff (1), Production Manager (1) and Project Manager (1).

Fields of work for these jobs were mostly described in the same general terms as for the job roles, as follows: Sales and / or marketing (6 jobs), Business Administration (4), Accounts (2), Project / Product Management (2), Product Design (1), Call Centre (1) and Customer Support (1). Several more specific fields of work were mentioned including Audio Sales (1 job), Software Sales (1), Wind Sector (1), Composite Products (1), Glass Processes (1) and Oil and Gas (1).

Five of the 23 job examples referred to no particular skills as being missing. Four examples mentioned commercial, sales or marketing experience as being the factor missing rather than skills, and 2 referred to a lack of general industry skills and knowledge. A further four jobs referred to a lack of technical or IT knowledge. Specific skills associated with the post identified as being missing included single mentions of entrepreneurial skills, strategic thinking skills, ERP systems, OSI Soft (PI), Polymers, Spanish language skills and Swedish language skills.

Levels of experience lacking for the posts were predominately professionals with some experience (13 job examples), fully skilled professionals (3) and entry level professionals (3). Additionally lacking were managerial staff with some experience (5 mentions).

Of the 23 job examples in business and commercial functions, 18 were felt not to be lacking in academic qualifications and 3 mentioned sales or marketing or retail

experience as lacking. One job quoted a BSc in Microbiology as lacking and 1 noted Swedish language as lacking.

Four of the 23 Business and Commercial job examples were described as not having the skills and experience required available within the UK (as well as Scotland), and 2 of these as not having the skills or experience available within the EU either. The four jobs where the necessary skills and experience were unavailable in the UK were specifically in sales with knowledge of OSI Soft (PI), call centre sales, oil and gas industry sales and Spanish language sales.

All the examples given by respondents are shown on the following pages.

Case: 28
Specific job: ACCOUNT MANAGER
Function(s) under which specific job falls:
General Business or commercial
Field of work:
ACCOUNTS
Associated skills with post which are missing:
STRATEGIC THINKING
Levels of experience lacking for post type:
Managerial staff with some experience
Academic qualification relating to post felt lacking:
RETAIL EXPERIENCE
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 47
Specific job: ACCOUNT MANAGER
Function(s) under which specific job falls:
General Business or commercial
Field of work:
ACCOUNTS
Associated skills with post which are missing:
RELEVANT COMMERCIAL EXPERIENCE
Levels of experience lacking for post type:
Managerial staff with some experience
Senior managers
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 32
Specific job: ADVERTISING EXEC
Function(s) under which specific job falls:
General Business or commercial
Field of work:
SELLING ADS IN MAGAZINES
Associated skills with post which are missing:
KNOWLEDGE OF MARKET
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 31
Specific job: ANALOG CIRCUIT DESIGNERS
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
ANALOG CIRCUIT DESIGN
Associated skills with post which are missing:
POWER MANAGEMENT, ANALOG DESIGN, SIMULATION AND VERIFICATION
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
ELECTRONICS DEPARTMENT WORKERS WITH EXPERIENCE LEVELS OF 7-10 YEARS
Available elsewhere in UK: No
Available within the EU: Yes
Available outside EU:

Case: 72
Specific job: APPLICATION CONSULTANT
Function(s) under which specific job falls:
Advanced ICT
Field of work:
TRAINING AND IMPLEMENTATION
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU: No
Available outside EU: Yes

Case: 189
Specific job: APPLICATION SOFTWARE DEVELOPER FOR MOBILE DEVICES
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPER
Associated skills with post which are missing:
PROGRAMMING SKILLS
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
DON'T CARE
Available elsewhere in UK: Yes
Available within the EU:
Available outside EU:

Case: 84

Specific job: APPLICATIONS ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

ELECTRONICS AND TELECOMMUNICATIONS

Associated skills with post which are missing:

EMBED SYSTEMS

Levels of experience lacking for post type:

Fully Skilled professionals

Academic qualification relating to post felt lacking:

ELECTRONIC ENGINEERING DEGREE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 69

Specific job: BUSINESS DEVELOPMENT AND SALES

Function(s) under which specific job falls:

General Business or commercial

Field of work:

BUSINESS AND COMMERCIAL

Associated skills with post which are missing:

TRAINING AND TECHNICAL KNOWLEDGE

Levels of experience lacking for post type:

Managerial staff with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Don't know

Available within the EU

Available outside EU:

Case: 163

Specific job: BUSINESS PROCESS MGR

Function(s) under which specific job falls:

General Business or commercial

Field of work:

BUSINESS ADMINISTRATION

Associated skills with post which are missing:

ERP SYSTEMS - (SUPPLY CHAIN MGMT)

Levels of experience lacking for post type:

Professionals with some experience

Fully Skilled professionals

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 63
Specific job: C AND C MACHINIST
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
OIL AND GAS
Associated skills with post which are missing:
NONE
Levels of experience lacking for post type:
Operators / technicians or tradesman with some experience
Fully skilled operators / technicians or tradesman
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 37
Specific job: C AND NC OPERATOR
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
SPECIAOLIST MACHINING OPERATOR
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Fully skilled operators / technicians or tradesman
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 188
Specific job: C++ SOFTWARE DEVELOPER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPER
Associated skills with post which are missing:
C++ AND FORTRAN
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
UNDERGRADUATE DEGREE BACHELOR
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 7
Specific job: CAD ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
SYSTEMS ENGINEER
Associated skills with post which are missing:
CAD
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
DEGREE AND CAD
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 198
Specific job: CONSULTANTS
Function(s) under which specific job falls:
General Business or commercial
Field of work:
SALES AND GENERAL BUSINESS
Associated skills with post which are missing:
OSI SOFT (PI)
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU No
Available outside EU: Yes

Case: 46
Specific job: CONTACT CENTRE ASSOCIATE
Function(s) under which specific job falls:
General Business or commercial
Field of work:
CALL CENTRE
Associated skills with post which are missing:
SALES EXPERIENCE
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU No
Available outside EU: No

Case: 178
Specific job: CSC
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
GLASS MACHINERY
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level operators / technicians or tradesman
Operators / technicians or tradesman with some experience
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 78
Specific job: CUSTOMER SUPPORT STAFF
Function(s) under which specific job falls:
General Business or commercial
Field of work:
CUSTOMER SUPPORT
Associated skills with post which are missing:
KNOWLEDGE OF OUR OWN SOFTWARE SYSTEMS
Levels of experience lacking for post type:
Entry level professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 147
Specific job: DESIGN ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
DESIGN ENGINEER
Associated skills with post which are missing:
DESIGN EXPERIENCE, OIL AND GAS
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
DEGREE
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 61
Specific job: DEVELOPER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
CUSTOMER EXPERIENCE
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NOT APPLICABLE
Available elsewhere in UK: No
Available within the EU: Don't know
Available outside EU:

Case: 95
Specific job: DEVELOPMENT ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
PROCESS ENGINEERING
Associated skills with post which are missing:
NOTHING IN PARTICULAR JUST BREADTH OF COURSES AND KNOWLEDGE
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU: Yes
Available outside EU:

Case: 110
Specific job: DIGITAL DEVELOPER
Function(s) under which specific job falls:
Digital Media
Field of work:
WEBSITE DEVELOPMENT
Associated skills with post which are missing:
DK
Levels of experience lacking for post type:
Entry level professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU:
Available outside EU:

Case: 195
Specific job: DIGITAL PROVIDER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 25
Specific job: EDITING
Function(s) under which specific job falls:
Digital Media
Field of work:
TV
Associated skills with post which are missing:
JUST EXPERIENCE
Levels of experience lacking for post type:
Fully skilled operators / technicians or tradesman
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 73
Specific job: EDITOR
Function(s) under which specific job falls:
Digital Media
Field of work:
EDITING OF FILM / VIDEO
Associated skills with post which are missing:
GENERAL SKILLS FROM THE COLLEGE
Levels of experience lacking for post type:
Entry level operators / technicians or tradesman
Academic qualification relating to post felt lacking:
NONE
Available elsewhere in UK: No
Available within the EU Don't know
Available outside EU:

Case: 88
Specific job: ELECTRONIC ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
ELECTRONICS
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU: Yes
Available outside EU:

Case: 104
Specific job: ENGINEER AT A SKILLED LEVEL
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
PHOTONICS ENGINEER
Associated skills with post which are missing:
HANDLING OF OPTICAL COMPONENT, PROCESS/DESIGN, CUSTOMERS,
UNDERSTANDING OF SEMI-CONDUCTOR
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU:
Available outside EU:

Case: 196
Specific job: EXPERIENCED GEOLOGISTS
Function(s) under which specific job falls:
Advanced ICT
Field of work:
APPLIED GEOLOGY WITH IT KNOWLEDGE
Associated skills with post which are missing:
LANDMARK SUITE APPLICATION
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU: No
Available outside EU: Yes

Case: 8
Specific job: FIELD ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
MECHANICAL / ELECTRONIC ENGINEERING
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level professionals
Academic qualification relating to post felt lacking:
GRADUATE ENGINEER
Available elsewhere in UK: No
Available within the EU: Yes
Available outside EU:

Case: 148
Specific job: FIELD SERVICE ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
NO
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 65
Specific job: FUNCTIONAL CONSULTANT
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE AND APPLICATIONS SUPPORT
Associated skills with post which are missing:
ORALCE JD EDWARDS
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 14
Specific job: GALLERY DIRECTOR
Function(s) under which specific job falls:
Digital Media
Field of work:
VISION MIXTURE
Associated skills with post which are missing:
ANY SKILLS ASSOCIATED WITH THIS POST
Levels of experience lacking for post type:
Entry level operators / technicians or tradesman
Academic qualification relating to post felt lacking:
DON'T KNOW
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 36
Specific job: GRADUATE ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
OFF SHORE ENGINEERING
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 15
Specific job: GRADUATE MECHANICAL ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
MECHANICAL ENGINEERING
Associated skills with post which are missing:
DON'T KNOW
Levels of experience lacking for post type:
Entry level professionals
Academic qualification relating to post felt lacking:
DEGREE INN MECHANICAL ENGINEERING
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 43
Specific job: GRAPHIC DESIGNER
Function(s) under which specific job falls:
Digital Media
Field of work:
MOTION GRAPHIC
Associated skills with post which are missing:
AFTER-EFFECTS, ADOBE PACKAGE
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 10
Specific job: HARDWARE DESIGN ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
HIGH SPEED DIGITAL ELECTRONICS
Associated skills with post which are missing:
LOW LEVEL DRIVERS AND UNDERSTANDING OF EMBEDDED SYSTEMS
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
C++ - FPG8 PROGRAMING, DIGITAL ELECTRONIC DESIGN
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 102
Specific job: HYDRAULIC ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
SYSTEMS MODELLING
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 193
Specific job: IPHONE APPS; PROGRAMMERS - TECHNICAL-MINDED PEOPLE IN COMPUTING
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Advanced ICT
Digital Media
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
JAVA / C++ / TOUCHSCREEN / RUBY ON RAILS / COMPUTER SCIENCE
Levels of experience lacking for post type:
Don't know
Academic qualification relating to post felt lacking:
BSE PhD COMPUTER SCIENCE
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 18
Specific job: IT OPERATOR
Function(s) under which specific job falls:
Advanced ICT
Field of work:
PROGRAMMING
Associated skills with post which are missing:
LACK OF JAVA SKILLS
Levels of experience lacking for post type:
Fully skilled operators / technicians or tradesman
Entry level professionals
Academic qualification relating to post felt lacking:
DON'T KNOW
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 47
Specific job: JAVA DEVELOPER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
JAVA
Levels of experience lacking for post type:
Fully skilled operators / technicians or tradesman
Academic qualification relating to post felt lacking:
DEGRE SOFTWARE ENGINEER
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 121
Specific job: JUNIOR MARKETING EXECUTIVE

Function(s) under which specific job falls:
General Business or commercial

Field of work:
MARKETING

Associated skills with post which are missing:
KNOWLEDGE OF IT

Levels of experience lacking for post type:
Entry level operators / technicians or tradesman

Academic qualification relating to post felt lacking:
BASIC MARKETING EXPERIENCE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 106

Specific job: LASER ENGINEER

Function(s) under which specific job falls:
Electronics or Advanced Engineering

Field of work:
LASERS

Associated skills with post which are missing:
ADAPTING SPECIFIC SKILLS TO LASERS

Levels of experience lacking for post type:
Professionals with some experience

Academic qualification relating to post felt lacking:
NO - VOCATIONAL TRAINING

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 101

Specific job: LEAD DEVELOPER

Function(s) under which specific job falls:
Advanced ICT

Field of work:
SOFTWARE DEVELOPMENT

Associated skills with post which are missing:
DOT NET. FRAMEWORK DEVELOPMENT

Levels of experience lacking for post type:
Professionals with some experience
Fully Skilled professionals

Academic qualification relating to post felt lacking:
NONE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 140

Specific job: LECTURES - ENGINEERING AND COMPUTING

Function(s) under which specific job falls:

Advanced ICT

Field of work:

LECTURER

Associated skills with post which are missing:

DON'T KNOW

Levels of experience lacking for post type:

Fully Skilled professionals

Managerial staff with some experience

Academic qualification relating to post felt lacking:

TEACHING QUALIFICATION AND EXPERIENCE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 31

Specific job: MAGNETIC ELECTRONIC MANUFACTURE, MEMS PROCESS DEVELOPMENT ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

MEMS PROCESS DEVELOPMENT

Associated skills with post which are missing:

PHOTO LITHOGRAPHY EXPERIENCE IN MAGNETICS AND RESEARCH IN THAT AREA

Levels of experience lacking for post type:

Fully Skilled professionals

Academic qualification relating to post felt lacking:

PHD MAGANETIC MEMS AND ELECTRICAL PLATING

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 90

Specific job: MARKETING ASSISTANT

Function(s) under which specific job falls:

General Business or commercial

Field of work:

PRODUCT MANAGEMENT

Associated skills with post which are missing:

NO

Levels of experience lacking for post type:

Professionals with some experience

Entry level managerial

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 170
Specific job: MCSC
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE (MICROSOFT)
Associated skills with post which are missing:
MCSC / SME KNOWLEDGE
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 192
Specific job: MECHANICAL ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
DESIGNING PRESSURE EQUIPMENT
Associated skills with post which are missing:
MATERIAL SCIENCE
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 112
Specific job: METAL WORKER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
STEEL CASTINGS AND FORGINGS
Associated skills with post which are missing:
STEEL FORGING
Levels of experience lacking for post type:
Operators / technicians or tradesman with some experience
Fully skilled operators / technicians or tradesman
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 98
Specific job: MOTION GRAPHICS DESIGNER
Function(s) under which specific job falls:
Digital Media
Field of work:
MOTION GRAPHICS
Associated skills with post which are missing:
DON'T KNOW
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU: No
Available outside EU: No

Case: 48
Specific job: MULTINATIONAL SALES
Function(s) under which specific job falls:
General Business or commercial
Field of work:
SALES
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
INTERNATIONAL SALES
Available elsewhere in UK: Yes
Available within the EU:
Available outside EU:

Case: 100
Specific job: OFF LINE EDITORS
Function(s) under which specific job falls:
Digital Media
Field of work:
TV PRODUCTION
Associated skills with post which are missing:
JUST EXPERIENCE REALLY
Levels of experience lacking for post type:
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU:
Available outside EU:

Case: 87
Specific job: OFFICIAL ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
OPTICAL ENGINEERING
Associated skills with post which are missing:
EXPERIENCE IN MODULE OPTICAL ENGINEERING
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Academic qualification relating to post felt lacking:
BSC IN ELECTRICAL / ELECTRONIC ENGINEERS
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 125
Specific job: OPTICS ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
OPTICS
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
VOCATIONAL TRAINING
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 15
Specific job: PLC PROGRAMMER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
EXPERIENCE
Levels of experience lacking for post type:
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 155
Specific job: POWER SUPPLY DESIGN ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
DESIGN ENGINEERING
Associated skills with post which are missing:
POWER SUPPLY DESIGN
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
EEE GRADUATE
Available elsewhere in UK: No
Available within the EU Don't know
Available outside EU:

Case: 128
Specific job: PROCESS ENGINEERING
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
PROJECT MANAGERS
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU No
Available outside EU: Yes

Case: 132
Specific job: PRODUCERS
Function(s) under which specific job falls:
Digital Media
Field of work:
FILM
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Professionals with some experience
Fully Skilled professionals
Managerial staff with some experience
Senior managers
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU No
Available outside EU: Yes

Case: 53
Specific job: PRODUCT CHAMPION (SOFTWARE SALES)
Function(s) under which specific job falls:
General Business or commercial
Field of work:
SOFTWARE SALES
Associated skills with post which are missing:
LACKING TECHNICAL EXPERTISE
Levels of experience lacking for post type:
Entry level professionals
Academic qualification relating to post felt lacking:
NONE
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 105
Specific job: PRODUCT DEVELOPER
Function(s) under which specific job falls:
Digital Media
Field of work:
AUDIO VISUAL SKILLS
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 203
Specific job: PRODUCT ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
ENGINEERING
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 178
Specific job: PRODUCTION MANAGER
Function(s) under which specific job falls:
General Business or commercial
Field of work:
GLASS PROCESSES
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level managerial
Managerial staff with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 131
Specific job: PROGRAM MANAGER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
PRODUCT DEVELOPMENT
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 29
Specific job: PROGRAMMER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
C++ DEVELOPER
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 70
Specific job: PROGRAMMER
Function(s) under which specific job falls:
Advanced ICT
Digital Media
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
ACTION SCRIPT, FACEBOOK AP.
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
BSC COMPUTER SCIENCE
Available elsewhere in UK: No
Available within the EU: No
Available outside EU: Yes

Case: 134
Specific job: PROGRAMMER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPER
Associated skills with post which are missing:
C++, COBOL
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU:
Available outside EU:

Case: 145
Specific job: PROGRAMMER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
DISTRIBUTED COMPUTING PLATFORM
Associated skills with post which are missing:
MOBILE APPLICATION DEVELOPMENT
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU: No
Available outside EU: Yes

Case: 68
Specific job: PROGRAMMER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
DESIGN (WEB)
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level operators / technicians or tradesman
Operators / technicians or tradesman with some experience
Academic qualification relating to post felt lacking:
NO - VOCATIONAL
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 163
Specific job: PROGRAMMER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
PHP DEVELOPER
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
PHP
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 169
Specific job: PROGRAMMES
Function(s) under which specific job falls:
Advanced ICT
Field of work:
WEB DESIGN & PROGRAMMES
Associated skills with post which are missing:
ESP VB SCRIPT DATABASE
Levels of experience lacking for post type:
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NOT REALLY IMPORTANT
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 30

Specific job: PROJECT MANAGER

Function(s) under which specific job falls:

Digital Media

General Business or commercial

Field of work:

RUNNING PROJECT

Associated skills with post which are missing:

A COMBINATION OF INDUSTRY KNOWLEDGE AND ORGANISATION SKILLS

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NOT APPLICABLE

Available elsewhere in UK: Don't know

Available within the EU

Available outside EU:

Case: 67

Specific job: PROJECT MANAGER

Function(s) under which specific job falls:

Advanced ICT

Field of work:

SOFTWARE DEVELOPMENT

Associated skills with post which are missing:

OIL AND GAS

Levels of experience lacking for post type:

Professionals with some experience

Entry level managerial

Academic qualification relating to post felt lacking:

SOFTWARE DESIGN AND DEVELOPMENT

Available elsewhere in UK: No

Available within the EU No

Available outside EU: Yes

Case: 109

Specific job: PROJECT MANAGER

Function(s) under which specific job falls:

Digital Media

Field of work:

ANY

Associated skills with post which are missing:

WEB TECHNOLOGY UNDERSTANDING

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 172

Specific job: PROJECT MANAGER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

ENGINEERING

Associated skills with post which are missing:

EXPERIENCE - 15 YEARS +

Levels of experience lacking for post type:

Senior managers

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 184

Specific job: PUMP DESIGN SPECIALISTS

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

DK

Associated skills with post which are missing:

EXPERIENCE OF PUMP PRODUCT RANGE

Levels of experience lacking for post type:

Fully Skilled professionals

Academic qualification relating to post felt lacking:

DK

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 34

Specific job: QUALITY ELECTRICAL ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

ELECTRICAL ENGINEER

Associated skills with post which are missing:

DEGREE

Levels of experience lacking for post type:

Fully Skilled professionals

Academic qualification relating to post felt lacking:

15 YEARS EXPERIENCE MINIMUM

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 144

Specific job: RADIO FREQUENCY DESIGNERS

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

HARDWARE DESIGN

Associated skills with post which are missing:

NO

Levels of experience lacking for post type:

Managerial staff with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 91

Specific job: SALES AND BUSINESS DEVELOPMENT OFFICER

Function(s) under which specific job falls:

General Business or commercial

Field of work:

WIND SECTOR

Associated skills with post which are missing:

CONDITION MONITORING SENSOR

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 92

Specific job: SALES AND MARKETING, SALES PEOPLE

Function(s) under which specific job falls:

General Business or commercial

Field of work:

ADMINISTRATION / BUSINESS / SALE.

Associated skills with post which are missing:

RELEVANT SALES / MARKETING EXPERIENCE

Levels of experience lacking for post type:

Managerial staff with some experience

Academic qualification relating to post felt lacking:

BSC MICRO BIOLOGY

Available elsewhere in UK: Don't know

Available within the EU

Available outside EU:

Case: 64

Specific job: SALES MANAGER

Function(s) under which specific job falls:

General Business or commercial

Field of work:

OIL AND GAS

Associated skills with post which are missing:

NO

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: No

Available within the EU: Yes

Available outside EU:

Case: 68

Specific job: SALES STAFF

Function(s) under which specific job falls:

General Business or commercial

Field of work:

NO

Associated skills with post which are missing:

ENTREPRENURIAL SKILLS

Levels of experience lacking for post type:

Entry level operators / technicians or tradesman

Academic qualification relating to post felt lacking:

NO (VOCATIONAL)

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 94

Specific job: SALES

Function(s) under which specific job falls:

Advanced ICT

Field of work:

SOFTWARE

Associated skills with post which are missing:

KNOWLEDGE OF LOCAL MARKET

Levels of experience lacking for post type:

Entry level professionals

Professionals with some experience

Academic qualification relating to post felt lacking:

NONE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 107

Specific job: SALES

Function(s) under which specific job falls:

General Business or commercial

Field of work:

COMPOSITE PRODUCTS

Associated skills with post which are missing:

POLYMERS

Levels of experience lacking for post type:

Professionals with some experience

Fully Skilled professionals

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 161

Specific job: SALES

Function(s) under which specific job falls:

General Business or commercial

Field of work:

AUDIO SALES

Associated skills with post which are missing:

5 YEARS & EXPERIENCE

Levels of experience lacking for post type:

Entry level professionals

Academic qualification relating to post felt lacking:

NONE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 30

Specific job: SENIOR DEVELOPER

Function(s) under which specific job falls:

Digital Media

Field of work:

SOFTWARE DEVELOPER

Associated skills with post which are missing:

TECHNICAL ABILITY AND KNOWLEDGE

Levels of experience lacking for post type:

Fully Skilled professionals

Academic qualification relating to post felt lacking:

NOT APPLICABLE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 86

Specific job: SENIOR ELECTRO-ACOUSTIC ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

DESIGN ENGINEERING

Associated skills with post which are missing:

NO

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: No

Available within the EU: Yes

Available outside EU:

Case: 85

Specific job: SENIOR MECHANICAL ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

INSTRUMENTS + TOOLS FOR OIL AND GAS

Associated skills with post which are missing:

GENERAL ENGINEERING PRACTICES

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU:

Available outside EU:

Case: 144

Specific job: SENIOR MMIC DESIGNS

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

HARDWARE ENGINEER

Associated skills with post which are missing:

NO

Levels of experience lacking for post type:

Professionals with some experience

Fully Skilled professionals

Managerial staff with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: No

Available within the EU: No

Available outside EU: Yes

Case: 183

Specific job: SENIOR OCEANOGRAPHER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

OCEANOGRAPHY

Associated skills with post which are missing:

MATHEMATICAL AND OCEAN STUDY

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

BSE OCEANOGRAPHY

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 175

Specific job: SENIOR PHP DEVELOPER

Function(s) under which specific job falls:

Digital Media

Field of work:

SOFTWARE DEVELOPMENT

Associated skills with post which are missing:

EXPERIENCE IN SOFTWARE ENGINEERING

Levels of experience lacking for post type:

Fully Skilled professionals

Academic qualification relating to post felt lacking:

NOT REALLY

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 144

Specific job: SENIOR SOFTWARE ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

SOFTWARE DEVELOPMENT

Associated skills with post which are missing:

NO

Levels of experience lacking for post type:

Professionals with some experience

Managerial staff with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 3

Specific job: SENIOR WELDING ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

NAVAL ENGINEERING

Associated skills with post which are missing:

COMPLIANCE / HIGH LEVEL OF EXPERIENCE / HANDS ON NAVAL EXPERIENCE

Levels of experience lacking for post type:

Senior managers

Academic qualification relating to post felt lacking:

NOT SURE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 20

Specific job: SOFTWARE - BUSINESS ANALYST

Function(s) under which specific job falls:

Advanced ICT

Field of work:

PROJECT MANAGEMENT FOR IT

Associated skills with post which are missing:

C

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 57

Specific job: SOFTWARE DESIGN

Function(s) under which specific job falls:

Advanced ICT

Field of work:

PROGRAMMING FOR DESIGN

Associated skills with post which are missing:

NO

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

DESIGN FOR SOFTWARE DEVELOPMENT

Available elsewhere in UK: Don't know

Available within the EU

Available outside EU:

Case: 136
Specific job: SOFTWARE DEVELOPER (C++)
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
C++
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 71
Specific job: SOFTWARE DEVELOPER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE
Associated skills with post which are missing:
DOT. NET AND C++
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 72
Specific job: SOFTWARE DEVELOPER
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
DYNAMICS AX (MICROSOFT DYNAMICS AX)
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU No
Available outside EU: Yes

Case: 56
Specific job: SOFTWARE DEVELOPERS
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFTWARE DEVELOPMENT
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Entry level operators / technicians or tradesman
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 19
Specific job: SOFTWARE DEVELOPMENT
Function(s) under which specific job falls:
Advanced ICT
Field of work:
SOFT DEVELOPER
Associated skills with post which are missing:
GENERAL EXPERIENCE
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NONE
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 177
Specific job: SOFTWARE ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
SOFTWARE DEVELOPMENT & TESTING
Associated skills with post which are missing:
LAB VIEW, TEST STAND JAVA CTL
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
DEGREE (MSc)
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 85

Specific job: SOFTWARE ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

INSTRUMENTATION + USER INTERFACES

Associated skills with post which are missing:

DIGITAL SOFTWARE DESIGN

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 10

Specific job: SOFTWARE ENGINEERING

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

SOFTWARE DEVELOPMENT

Associated skills with post which are missing:

NO

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 46

Specific job: SOFTWARE JAVA PROGRAMMER

Function(s) under which specific job falls:

Advanced ICT

Digital Media

Field of work:

SOFTWARE DEVELOPER IN JAVA

Associated skills with post which are missing:

JAVA PROGRAMMING

Levels of experience lacking for post type:

Fully Skilled professionals

Academic qualification relating to post felt lacking:

SUN CERTIFICATION

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 143

Specific job: SOFTWARE MANAGER

Function(s) under which specific job falls:

Advanced ICT

Field of work:

SOFTWARE DEVELOPMENT

Associated skills with post which are missing:

C SHARP DEVELOPMENT

Levels of experience lacking for post type:

Entry level professionals

Professionals with some experience

Fully Skilled professionals

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 196

Specific job: SOLUTION ARCHITECTS

Function(s) under which specific job falls:

Advanced ICT

Field of work:

ADVANCED IT

Associated skills with post which are missing:

MAXIMO

Levels of experience lacking for post type:

Fully Skilled professionals

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 51

Specific job: SPANISH SPEAKING SALES OPERATIVE

Function(s) under which specific job falls:

General Business or commercial

Field of work:

SALES AND MARKETING

Associated skills with post which are missing:

SPANISH LANGUAGE SKILLS

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

NO

Available elsewhere in UK: No

Available within the EU Yes

Available outside EU:

Case: 126

Specific job: SUBSTATION MONITORING ENGINEER

Function(s) under which specific job falls:

Electronics or Advanced Engineering

Field of work:

ELECTRONIC ELECTRICAL ENGINEERING

Associated skills with post which are missing:

HIGH VOLTAGE ENGINEERING

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

BSC ELECTRIC / ELECTRONIC ENGINEERING

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 51

Specific job: SWEDISH SALES

Function(s) under which specific job falls:

General Business or commercial

Field of work:

SALES AND MARKETING

Associated skills with post which are missing:

SWEDISH LANGUAGE SKILLS

Levels of experience lacking for post type:

Professionals with some experience

Academic qualification relating to post felt lacking:

SWEDISH

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 121

Specific job: TECHNICAL DIRECTORS

Function(s) under which specific job falls:

Advanced ICT

Field of work:

SOFTWARE DEVELOPMENT

Associated skills with post which are missing:

NONE

Levels of experience lacking for post type:

Professionals with some experience

Fully Skilled professionals

Academic qualification relating to post felt lacking:

NONE - PRACTICAL EXPERIENCE. WE CAN'T AFFORD TO RETRAIN PEOPLE

Available elsewhere in UK: Yes

Available within the EU

Available outside EU:

Case: 6
Specific job: TECHNICAL PRESALES
Function(s) under which specific job falls:
Electronics or Advanced Engineering
General Business or commercial
Field of work:
PRODUCT DESIGN
Associated skills with post which are missing:
NO
Levels of experience lacking for post type:
Operators / technicians or tradesman with some experience
Fully skilled operators / technicians or tradesman
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Don't know
Available within the EU
Available outside EU:

Case: 89
Specific job: TECHNICAL SPECIALIST
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
PROJECT - ANALOGUE SWITCHING
Associated skills with post which are missing:
SYSTEM DESIGN / ANALOGUE SYSTEM DESIGN
Levels of experience lacking for post type:
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NONE- JUST CAN'T GET PEOPLE TO APPLY
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 179
Specific job: TEST ENGINEER PROCESS ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
MANUFACTURING ENGINEERS
Associated skills with post which are missing:
GENERAL ENGINEERING SKILLS
Levels of experience lacking for post type:
Professionals with some experience
Fully Skilled professionals
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: No
Available within the EU Yes
Available outside EU:

Case: 58
Specific job: VARYING FIELD SERVICE ENGINEER
Function(s) under which specific job falls:
Electronics or Advanced Engineering
Field of work:
FIELD ENGINEER
Associated skills with post which are missing:
15 YEARS EXPERIENCE / HND ELECTRONIC MECHANICAL
Levels of experience lacking for post type:
Professionals with some experience
Academic qualification relating to post felt lacking:
MINIMUM HND
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 109
Specific job: WEB DESIGNER
Function(s) under which specific job falls:
Digital Media
Field of work:
ANY FIELD
Associated skills with post which are missing:
COMMUNICATION, PRESENTATION, MATHS SCIENCE/PROGRAMMING
Levels of experience lacking for post type:
Entry level professionals
Professionals with some experience
Academic qualification relating to post felt lacking:
NONE
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

Case: 17
Specific job: WEB DEVELOPER
Function(s) under which specific job falls:
Digital Media
Field of work:
PHP WEB DEVELOP
Associated skills with post which are missing:
DRUPAL KNOWLEDGE
Levels of experience lacking for post type:
Fully skilled operators / technicians or tradesman
Professionals with some experience
Academic qualification relating to post felt lacking:
NO
Available elsewhere in UK: Yes
Available within the EU
Available outside EU:

APPENDIX THREE

**TELEPHONE QUESTIONNAIRE
TOPIC GUIDE**

6388 Talent Scotland

Technology Survey Draft Telephone Questionnaire

STRICTLY PRIVATE AND CONFIDENTIAL

This questionnaire is the property of George Street Research Limited, 24 Broughton Street, Edinburgh, EH1 3RH. Telephone 0131 478 7520.

Respondent's Name

Job Title

Company

Address

.....

Postcode Telephone Number

Interviewer Name Interviewer Number

Date of Interview ID Number

<u>CLASSIFICATION</u>			
Company		Sample (multicode from sample)	
Head Office	1	ET Sourcebook	1
Regional Head Office	2	DMET Sourcebook	2
Sole office	3	ICT Companies	3
Branch	4	SE DMET	4
		Skillset	5
Number of employees at site (fte)		Publishing Scotland	6
1 to 5	1	TS ElecTech	7
6 to 20	2	TalentScotland	8
21 to 50	3	TS Energy	9
51 to 100	4	Requested	10
101 to 250	5		
Over 250	6	SE Region (from sample)	
		Aberdeen City & Shire	1
No. employees in ET/DM/Ad ICT (fte)		Highlands & Islands	2
1 to 5	1	Tayside	3
6 to 20	2	East of Scotland	4
21 to 50	3	West of Scotland	5
51 to 100	4	South of Scotland	6
101 to 250	5		
251 to 1,000	6	Sector (multicode from sample)	
Over 1,000	7	Advanced Engineering	1
		Digital Media	2
Company location		ICT	3
Scotland only	1	Devices and Systems	4
Scotland and UK	2	Software	5
Scotland, UK and Outwith UK	3	IT Services	6
		Web Design & Development	7
Company Turnover		Film, TV, Radio Production	8
Up to £250,000	1	Graphic Design/Publishing/Printing	9
£251,000 - £1,000,000	2	Informatics and Computing	10
£1,000,001 - £5,000,000	3	Communications and Networks	11
£5,000,001 - £10,000,000	4	Environmental Tech	12
Over £10,000,000	5	Unclassified	13
		INTERVIEW LENGTH	

Good morning/afternoon/evening. My name is ... and I am calling from George Street Research, an independent research agency. May I please speak to someone within your HR department, or the person responsible for dealing with recruitment for staff who are in any way involved in Electronics or Advanced Engineering, Advanced ICT, and Digital Media, perhaps the Technical Manager? We would like to talk to them about a survey regarding people and skills requirements, which we are undertaking on behalf of the Scottish Enterprise TalentScotland Project.

ONCE CONNECTED TO RELEVANT PERSON: My name is ... and I am calling from George Street Research Ltd, an independent research agency. We are conducting a survey on behalf of the Scottish Enterprise TalentScotland project, to investigate how they can best target talent attraction support at the skills and people requirements of the Electronics or Advanced Engineering, Advanced ICT, and Digital Media sectors. We would be grateful if you could spare 20 minutes to help with this work, we can either conduct the interview straight away, or if you prefer, I can call you back at a more convenient time.

IF AGREEMENT TO CONDUCT INTERVIEW NOW, PROCEED, OTHERWISE ARRANGE TIME TO CALL BACK.

READ OUT

I'd just like to make you aware of the reasons behind this research which builds on the work of the Sector Skills Councils, particularly Skillset and e-skills UK:

We aim to identify specific skills shortages affecting Scottish employers across a range of technology areas, and to assess the need for employers to attract skilled and experienced staff from outside Scotland.

We are speaking to employers who need Electronics or Advanced Engineering, Advanced ICT, and Digital Media skills

Within these areas we are referring to jobs requiring a high-level of technical proficiency, typically requiring a relevant qualification at degree level or above

Q1. How would you describe your main area of business activity?

WRITE IN

Business activity:

Q2 And how would you describe the main industry sector which would include your business? We are looking here for the term you would use to describe the overall sector in which your business operates?

WRITE IN

Sector:

ASK ALL

Q3a Could you please tell me how you recruit staff?

DO NOT READ OUT – CODE ALL MENTIONED

In-house	1
Recruitment agencies	2
Headhunters	3
Trusted talent / knowledge of sector	4
Advertising in technical publications	5
Advertising in newspapers etc	6
Through the Talent Scotland website	7
Through other websites	8
Through universities / colleges	9
Recruitment fairs	10
Job Centre	11
Social media	12
On-spec applications	13
Other	14
.....	
Don't know	15

Q3b How does your workforce split between permanent staff and freelancers/contractors? Would you say it is mainly or all permanent staff, mainly or all freelancers/contractors or a mixture of the two?

Q3c Can you tell me how many permanent staff you have at present?

For permanent staff I mean both full-time and part-time employees on your payroll. Please include yourself but exclude the self-employed, non-employee trainers, outside contractor/agency staff or any employees under 16?

Q3d And can you tell me how many freelancers you have at present? By that we mean working on a freelance basis (a contract of 364 days or less) or as a sole trader / working on a self-employed basis.

	Q3b	Q3c No. Permanent	Q3d No. Freelancers
Mainly or all permanent staff	1		
Mainly or all freelancers/contractors	2		
A mixture of the two	3		
Other	4		
.....			
Don't know	5		

ASK ALL

Q4. Which of the following statements apply to your business?

READ OUT MULTICODE

I expect new members of staff to have all the skills they need when they start work (no training needed)	1
I expect to have to give new members of staff some internal training	2
I expect to have to give new members of staff a lot of internal training	3
I expect new staff to have transferable skills	4
I expect new staff will have to undergo external training or further qualifications	5
None of these	6

READ OUT. I am now going to ask a few questions about the skills that are important to your business

Q5. Would you say your company employs people within the area of Electronics or Advanced Engineering, this would include the use of freelancers? We're referring to people in these areas requiring a high-level of technical proficiency, typically with a qualification in a relevant engineering discipline at Degree level or above

Yes	1	No	2
-----	---	----	---

IF YES – ASK Q5a – IF NO GoTo Q6

Q5a1 Which of the following skill areas are important to your business at the present time? Please feel free to add any other skill areas **within Electronics or Advanced Engineering** which are essential or important to your business at the present time (**READ OUT**)

Q5a2 ONLY from those coded at Q5a1. And which would you say are your top 3 priority areas?

Q5b. In which areas, if any, is your company likely to recruit new or additional skills in the next 2/3 years in order to meet its business objectives?

Q5c. Have you experienced difficulties recruiting any of these skill areas from within Scotland?

Q5d. And do you envisage difficulties recruiting any of these skill areas from within Scotland in the next 2/3 years?

Q5e. ASK any with difficulties at Q5c or Q5d. For those areas with difficulties, is that associated with a particular level of competence where 1 is Not Competent (no prior knowledge, training, or experience), 2 is Partially Competent (has some knowledge, skills and experience but more learning is needed to apply skills fully), 3 is Fully Competent (has all the knowledge, skills and experience required for the role) (WRITE in – 1,2,3, n/a or dk)

	Q5a1	Q5a2	Q5b	Q5c	Q5d	Q5e
						Write in
Product design	1	1	1	1	1	
Product development	2	2	2	2	2	
Product Engineering	3	3	3	3	3	
Applications Engineering	4	4	4	4	4	
Embedded Software	5	5	5	5	5	
Software Engineering	6	6	6	6	6	
Electronic/hardware Engineering	7	7	7	7	7	
Mechanical Engineering	8	8	8	8	8	
Electrical Engineering	9	9	9	9	9	
Process Engineering	10	10	10	10	10	
Manufacturing	11	11	11	11	11	
Modelling and simulation	12	12	12	12	12	
Quality/Test	13	13	13	13	13	
None of these	14	14	14	14	14	n/a
Don't know	15	15	15	15	15	n/a
Other (Write in)	16	16	16	16	16	

Q5f. ASK any with difficulties at Q5c or Q5d.

When you refer to difficulties recruiting the skills you need, can you tell me the main problems you have had or envisage? **WRITE IN**

Q6. Would you say your company employs people within the area of Advanced ICT, this would include the use of freelancers? We are referring to people within Information and Communications Technology requiring a high-level of technical proficiency, typically with a qualification in computing or computer science at Degree level or above

Yes	1	No	2
-----	---	----	---

IF YES – ASK Q6a – IF NO GoTo Q7

Q6a1 Which of the following skill areas are important to your business at the present time? Please feel free to add any other skill areas **within Advanced ICT** which are essential or important to your business at the present time (**READ OUT**)

Q6a2 ONLY from those coded at Q6a1. And which would you say are your top 3 priority areas?

Q6b. In which areas, if any, is your company likely to recruit new or additional skills in the next 2/3 years in order to meet its business objectives?

Q6c. Have you experienced difficulties recruiting any of these skill areas from within Scotland?

Q6d. And do you envisage difficulties recruiting any of these skill areas from within Scotland in the next 2/3 years?

Q6e. ASK any with difficulties at Q6c or Q6d. For those areas with difficulties, is that associated with a particular level of competence where 1 is Not Competent (no prior knowledge, training, or experience), 2 is Partially Competent (has some knowledge, skills and experience but more learning is needed to apply skills fully), 3 is Fully Competent (has all the knowledge, skills and experience required for the role) (WRITE in – 1,2,3, n/a or dk)

	Q6a1	Q6a2	Q6b	Q6c	Q6d	Q6e
						Write in
Systems Analysis & Design	1	1	1	1	1	
Software Development	2	2	2	2	2	
Software Programming	3	3	3	3	3	
Technical/ICT Support	4	4	4	4	4	
Information Management & Security	5	5	5	5	5	
Telecomms & Networking	6	6	6	6	6	
Database Design & Support	7	7	7	7	7	
Web Development & Support	8	8	8	8	8	
Business Analysis	9	9	9	9	9	
Business Process Change	10	10	10	10	10	
Programme, project & supplier management	11	11	11	11	11	
Solutions architecture, analysis & design	12	12	12	12	12	
Solution development & implementation	13	13	13	13	13	
IT Service Management & delivery	14	14	14	14	14	
None of these	15	15	15	15	15	n/a
Don't know	16	16	16	16	16	n/a
Other (write in)	17	17	17	17	17	

Q6f. ASK any with difficulties at Q6c or Q6d.

And when you refer to difficulties recruiting the skills you need, can you tell me the main problems you have had or envisage? **WRITE IN**

Q7. Would you say your company employs people within the area of Digital Media, this would include the use of freelancers? We are using the term Digital Media to refer to the areas of advertising, design, interactive leisure software, publishing, software and computer services, TV and radio. We talking about people within these areas requiring a high-level of technical proficiency, typically with a qualification at degree level or above

Yes	1	No	2
-----	---	----	---

IF YES – ASK Q7a – IF NO GoTo Q8

Q7a1 Which of the following skill areas are important to your business at the present time? Please feel free to add any other skill areas **within Digital Media** which are essential or important to your business at the present time (**READ OUT**)

Q7a2 ONLY from those coded at Q7a1. And which would you say are your top 3 priority areas?

Q7b. In which areas, if any, is your company likely to recruit new or additional skills in the next 2/3 years in order to meet its business objectives?

Q7c. Have you experienced difficulties recruiting any of these skill areas from within Scotland?

Q7d. And do you envisage difficulties recruiting any of these skill areas from within Scotland in the next 2/3 years?

Q7e. ASK any with difficulties at Q7c or Q7d. For those areas with difficulties, is that associated with a particular level of competence where 1 is Not Competent (no prior knowledge, training, or experience), 2 is Partially Competent (has some knowledge, skills and experience but more learning is needed to apply skills fully), 3 is Fully Competent (has all the knowledge, skills and experience required for the role) (WRITE in – 1,2,3, n/a or dk)

	Q7a1	Q7a2	Q7b	Q7c	Q7d	Q7e
						Write in
Creative Development	1	1	1	1	1	
Art & design	2	2	2	2	2	
Animators	3	3	3	3	3	
Audio/Sound/Music	4	4	4	4	4	
Production	5	5	5	5	5	
Broadcast Management	6	6	6	6	6	
Broadcast Engineering	7	7	7	7	7	
Editing	8	8	8	8	8	
Content creation /development	9	9	9	9	9	
Software Development/	10	10	10	10	10	
Software Programming	11	11	11	11	11	
Database Design & Support	12	12	12	12	12	
Web Development & Support	13	13	13	13	13	
Interactive TV & radio	14	14	14	14	14	
None of these	15	15	15	15	15	n/a
Don't know	16	16	16	16	16	n/a
Other (write in)	17	17	17	17	17	

Q7f. ASK any with difficulties at Q7c or Q7d.

When you refer to difficulties recruiting the skills you need, can you tell me the main problems you have had or envisage? **WRITE IN**

The following questions are about skills in General Business or Commercial areas of work within the sectors we have mentioned (Electronics or Advanced Engineering, Advanced ICT or Digital Media)

Q8. Would you say your company employs people within General Business or Commercial functions in these areas, this would include the use of freelancers?

Yes	1	No	2
-----	---	----	---

IF YES – ASK Q8a – IF NO GoTo Q9

Q8a1 Which of the following skill areas are important to your business at the present time? Please feel free to add any other skill areas within General Business or Commercial functions which are essential or important to your business at the present time **(READ OUT)**

Q8a2 ONLY from those coded at Q8a1. And which would you say are your top 3 priority areas?

Q8b. In which areas, if any, is your company likely to recruit new or additional skills in the next 2/3 years in order to meet its business objectives?

Q8c. Have you experienced difficulties recruiting any of these skill areas from within Scotland?

Q8d. And do you envisage difficulties recruiting any of these skill areas from within Scotland in the next 2/3 years?

Q8e. ASK any with difficulties at Q8c or Q8d. For those areas with difficulties, is that associated with a particular level of competence where 1 is Not Competent (no prior knowledge, training, or experience), 2 is Partially Competent (has some knowledge, skills and experience but more learning is needed to apply skills fully), 3 is Fully Competent (has all the knowledge, skills and experience required for the role) (WRITE in – 1,2,3, n/a or dk)

	Q8a1	Q8a2	Q8b	Q8c	Q8d	Q8e
						Write in
Business development	1	1	1	1	1	
Marketing	2	2	2	2	2	
Sales	3	3	3	3	3	
Strategic Decision Making	4	4	4	4	4	
Financial Management	5	5	5	5	5	
None of these	6	6	6	6	6	n/a
Don't know	7	7	7	7	7	n/a
Other (Please write in)	8	8	8	8	8	

Q8f. ASK any with difficulties at Q8c or Q8d.

When you refer to difficulties recruiting the skills you need, can you tell me the main problems you have had or envisage? **WRITE IN**

I am now going to ask you some detailed questions about recruitment difficulties and how you respond to them. So thinking across all the areas we have been discussing

ASK ALL

Q9a What barriers have you experienced in recruiting staff from within Scotland in the last 12 months? **(READ OUT - MULTICODE)**

Q9b And do you anticipate any of these barriers to recruitment in the next 12 months? **(READ OUT - MULTICODE)**

	Q9a	Q9b	
Lack of applicants with the required academic qualifications	1	1	Ask Q9c
Lack of applicants with a specific skill or skills	2	2	Ask Q9c
Lack of applicants with suitable levels of experience	3	3	Ask Q9c&d
Lack of recruitment budget	4	4	GoTo Q10a
Salary expectations too high	5	5	GoTo Q10a
Geographic location of business	6	6	GoTo Q10a
General quality of applicants (poor attitude, motivation, personality etc)	7	7	GoTo Q10a
Lack of basic skills	8	8	GoTo Q10a
No applicants	9	9	GoTo Q10a
Too few applicants	10	10	GoTo Q10a
Other	11	11	GoTo Q10a
.....			
None	12	12	GoTo Q10a

ASK those coded 1, 2 or 3 at Q9a or Q9b

Q9c. And can you tell me why you think finding suitable applicants is an issue?
MULTICODE (READ OUT IF REQUIRED)

Universities / Colleges not offering courses that fit our needs	1	
Applicants not keen to live/work in our geographical location	2	
Salary expectations too high	3	
Limited talent pool with relevant academic qualifications	4	
Limited talent pool with relevant skills	5	
Limited talent pool with relevant levels of experience	6	ask Q9d
Competition from other employers within Scotland	7	
Competition from other employers within the UK	8	
Competition from other employers internationally	9	
Lack of / poor career progression	10	
Difficulty with obtaining work permits /immigration issues	11	
Lack of good terms and conditions of employment	12	
Lack of interest in our sector	13	
Other	14	
.....		

ASK those coded 3 at Q9a or Q9b or coded 6 at Q9c

Q9d. You said you faced/will face a lack of suitably experienced applicants.
What level(s) of experience in particular **MULTICODE**

Entry level operators / technicians or tradesman	1
Operators / technicians or tradesman with some experience	2
Fully skilled operators / technicians or tradesman	3
Entry level professionals	4
Professionals with some experience	5
Fully Skilled professionals	6
Entry level managerial	7
Managerial staff with some experience	8
Senior managers	9

Now thinking about specific vacancies (including the use of freelancers)

Ask all coded 1 at Q5 – Others check routing at Q11a

Q10a. How many vacancies do you currently have in the area of Electronics or Advanced Engineering?

.....
(WRITE in number, 0 if none, DK if don't know) IF NONE/DK GoTo Q10c

Q10b. How many of these vacancies are you finding it hard to fill?

.....
(WRITE in number, 0 if none, DK if don't know)

Q10c. And in the last 12 months, have you had any **hard to fill** vacancies in these areas

.....
(WRITE in number, 0 if none, DK if don't know)

Q10d. And do you expect to have any **hard to fill** vacancies in the next 12 months?

.....
(WRITE in number, 0 if none, DK if don't know)

Ask all with hard to fill vacancies at Q10b, Q10c or Q10d

Q10e. In general, are these vacancies hard to fill because applicants have not been of sufficient quality, because there have been few or no applicants or both of these reasons?

Not sufficient quality	Few / no applicants	Both these reasons
1	2	3

Ask all coded 1 at Q6 – Others check routing at Q12a

Q11a. How many vacancies do you currently have in the area of Advanced ICT?

.....
(WRITE in number, 0 if none, DK if don't know) IF NONE/DK GoTo Q11c

Q11b. How many of these vacancies are you finding it hard to fill?

.....
(WRITE in number, 0 if none, DK if don't know)

Q11c. And in the last 12 months, have you had any **hard to fill** vacancies in these areas

.....
(WRITE in number, 0 if none, DK if don't know)

Q11d. And do you expect to have any **hard to fill** vacancies in the next 12 months?

.....
(WRITE in number, 0 if none, DK if don't know)

Ask all with hard to fill vacancies at Q11b, Q11c or Q11d

Q11e. In general, are these vacancies hard to fill because applicants have not been of sufficient quality, because there have been few or no applicants or both of these reasons?

Not sufficient quality	Few / no applicants	Both these reasons
1	2	3

Ask all coded 1 at Q7 – Others GoTo at Q13a

Q12a. How many vacancies do you currently have in the area of Digital Media?

.....
(WRITE in number, 0 if none, DK if don't know) IF NONE/DK GoTo Q12c

Q12b. How many of these vacancies are you finding it hard to fill?

.....
(WRITE in number, 0 if none, DK if don't know)

Q12c. And in the last 12 months, have you had any **hard to fill** vacancies in these areas

.....
(WRITE in number, 0 if none, DK if don't know)

Q12d. And do you expect to have any **hard to fill** vacancies in the next 12 months?

.....
(WRITE in number, 0 if none, DK if don't know)

Ask all with hard to fill vacancies at Q12b, Q12c or Q12d

Q12e. In general, are these vacancies hard to fill because applicants have not been of sufficient quality, because there have been few or no applicants or both of these reasons?

Not sufficient quality	Few / no applicants	Both these reasons
1	2	3

ASK ALL

Q15. What measures, if any, do you take to deal with hard to fill vacancies?

MULTICODE (READ OUT IF REQUIRED)

Recruit at lower skill level	1
Hired part time staff	2
Hired contract staff	3
Contracted work out	4
Build links with universities/colleges/schools	5
Advertise in other parts of the UK (outside Scotland)	6
Advertise in the EU	7
Advertise outside the EU	8
Increased recruitment budget	9
Wait then advertise again	10
Internal training for existing staff	11
Internal training in order to recruit new, less trained, staff	12
More use of recruitment agencies	13
Increase salary level(s)	14
Enhanced terms and conditions	15
Changed job specifications	16
Offering external training	17
Recruit from other parts of the UK (outside Scotland)	18
Recruit from within the EU	19
Recruit outside the EU	20
Other	21
.....	
None / not applicable	22
Don't know	23

ASK ALL

Q16a. Within the areas we have been speaking about, can you give me any specific examples of a job or role that is hard to fill from within Scotland

Yes	1	WRITE IN Specific Job (e.g. programmer)
No	2	GoTo Q17

Q16b. And would that fall within the area of Electronics or Advanced Engineering, Advanced ICT, Digital Media, or General business or commercial functions in these areas?

MULTICODE

Electronics or Advanced Engineering	1
Advanced ICT	2
Digital Media	3
General Business or commercial	4

Q16c. And what field of work would that be in?

WRITE IN Field of Work (e.g. software development)
.....

Q16d. And is there a particular skill/skills associated with that type of post that you feel is lacking?

WRITE IN Skill(s) (e.g. Java/C++)
.....

Q16e. What levels of experience are lacking for that type of post?
(READ OUT – MULTI CODE)

Entry level operators / technicians or tradesman	1
Operators / technicians or tradesman with some experience	2
Fully skilled operators / technicians or tradesman	3
Entry level professionals	4
Professionals with some experience	5
Fully skilled professionals	6
Entry level managerial	7
Managerial staff with some experience	8
Senior managers	9

Q16f. And is there a particular academic qualification related to that post which you feel is lacking?

WRITE IN Academic Qualification(s)
.....

Q16g. Are the skills and experience you describe available elsewhere in UK ?

IF NO at Q16g ASK Q16h. Are they available from within the EU?

IF NO at Q16h ASK Q16i. Are they available from outside the EU?

	Q16g UK	Q16h Within EU	Q16i Outwith EU
Yes	1	1	1
No	2	2	2
Don't know	3	3	3

Q16a1. Do you have any other examples?

Yes	1	WRITE IN Specific Job (e.g. programmer)
No	2	GoTo Q17

Q16b1. And would that fall within the area of Electronics or Advanced Engineering, Advanced ICT, Digital Media, or General business or commercial functions in these areas?

MULTICODE

Electronics or Advanced Engineering	1
Advanced ICT	2
Digital Media	3
General Business or commercial	4

Q16c1. And what field of work would that be in?

WRITE IN Field of Work (e.g. software development)
.....

Q16d1. And is there a particular skill/skills associated with that type of post that you feel is lacking?

WRITE IN Skill(s) (e.g. animation)
.....

Q16e1. What levels of experience are lacking for that type of post?
(READ OUT – MULTI CODE)

Entry level operators / technicians or tradesman	1
Operators / technicians or tradesman with some experience	2
Fully skilled operators / technicians or tradesman	3
Entry level professionals	4
Professionals with some experience	5
Fully skilled professionals	6
Entry level managerial	7
Managerial staff with some experience	8
Senior managers	9

Q16f1. And is there a particular academic qualification related to that post which you feel is lacking?

WRITE IN Academic Qualification(s)
.....

Q16g1. Are the skills and experience you describe available elsewhere in UK ?

IF NO at Q16g1 ASK Q16h1. Are they available from within the EU?

IF NO at Q16h1 ASK Q16i1. Are they available from outside the EU?

	Q16g1 UK	Q16h1 Within EU	Q16i1 Outwith EU
Yes	1	1	1
No	2	2	2
Don't know	3	3	3

Q16a2. Do you have any other examples?

Yes	1	WRITE IN Specific Job (e.g. programmer)
No	2	GoTo Q17

Q16b2. And would that fall within the area of Electronics or Advanced Engineering, Advanced ICT, Digital Media, or General business or commercial functions in these areas?

MULTICODE

Electronics or Advanced Engineering	1
Advanced ICT	2
Digital Media	3
General Business or commercial	4

Q16c2. And what field of work would that be in?

WRITE IN Field of Work (e.g. software development)
.....

Q16d2. And is there a particular skill/skills associated with that type of post that you feel is lacking?

WRITE IN Skill(s) (e.g. animation)
.....

Q16e2. What levels of experience are lacking for that type of post?
(READ OUT – MULTI CODE)

Entry level operators / technicians or tradesman	1
Operators / technicians or tradesman with some experience	2
Fully skilled operators / technicians or tradesman	3
Entry level professionals	4
Professionals with some experience	5
Fully skilled professionals	6
Entry level managerial	7
Managerial staff with some experience	8
Senior managers	9

Q16f2. And is there a particular academic qualification related to that post which you feel is lacking?

WRITE IN Academic Qualification(s)
.....

Q16g2. Are the skills and experience you describe available elsewhere in UK ?

IF NO at Q16g2 ASK Q16h2. Are they available from within the EU?

IF NO at Q16h2 ASK Q16i2. Are they available from outside the EU?

	Q16g2 UK	Q16h2 Within EU	Q16i2 Outwith EU
Yes	1	1	1
No	2	2	2
Don't know	3	3	3

READ OUT: I would now like to ask a few more questions about international recruitment

ASK ALL

Q17. Have you recruited anyone from outside Scotland in the last 12 months?

- Yes 1 ASK Q17a
- No 2 GoTo Q17c

ASK all coded 1 at Q17

Q17a. Did the staff come from ...

- Other parts of the UK 1
- Within the EU 2
- Outside the EU 3

ASK all coded 1 at Q17 then GoTo Q18a

Q17b. What are the main factors that have led to you recruiting from outside Scotland?
PROMPT FOR SKILL OR LEVEL ASSOCIATED WITH ANY SPECIFIC EXAMPLES

ASK all coded 2 at Q17

Q17c. May I ask why you haven't recruited outside Scotland in the last 12 months?
PROMPT FOR SKILL OR LEVEL ASSOCIATED WITH ANY SPECIFIC EXAMPLES

ASK ALL

Q18a. Which of these do you see as specific barriers to recruiting in **other parts of the UK?**

(READ OUT) MULTICODE

Q18b. And recruiting **within the EU?**

Q18c. And recruiting **outside the EU?**

	Q18a	Q18b	Q18c
Language barriers	1	1	1
Difficulty mapping qualifications	2	2	2
Relocation expenses	3	3	3
Cost of living	4	4	4
Difficulty in attracting candidates to Scotland	5	5	5
Difficulty in attracting candidates to particular area of Scotland	6	6	6
Visa / work permit requirements	7	7	7
Sponsoring for work permit	8	8	8
Recruitment took longer than expected	9	9	9
Interview difficulty / cost	10	10	10
Salary expectations	11	11	11
General overall risk	12	12	12
Other	13	13	13
.....			
No barriers	14	14	14
Don't know	15	15	15

ASK ALL

Q19. Can I ask whether you have heard of the Talent Scotland website?

- Heard of it but never looked at it 1
- Heard of and looked at it but not used it 2
- Used it to advertise vacancies 3
- Never heard of it 4

Read out (read brackets if coded 1,2,3 at Q16a)

(As you know) The TalentScotland project makes it easier for companies to overcome skills shortages by attracting experienced individuals from outside Scotland. Through TalentScotland employers have access to an international database of skilled technical, commercial and management talent interested in Scotland as a career location.

The results of today’s research will help determine the future scope of the TalentScotland project in relation to technology skills, and may be used to inform submissions to the Migration Advisory Committee in relation to the Shortage Occupations.

Q20. We are hoping to talk to a small number of people in greater depth. Would you be agreeable to us re-contacting you with a view to one of our Researchers talking to you at date and time convenient to you? This would be either over the telephone or in person.

- Yes 1
- No 2

Q21. Talent Scotland would be interested to know the firms who have contributed to this survey. Are you happy for us to tell Talent Scotland that you assisted us with this research, we would pass on your firm’s name only and this would not be linked to the responses you have given us.

- Yes 1
- No 2

If you have any queries regarding this research you can contact the Market Research Society (0500 396 999) or Joe Kerr (quote ref: 6388) at George Street Research on (0131 478 7543)

CHECK CLASSIFICATION, THANK AND CLOSE

Declaration

I declare that this interview was conducted by me with the above named respondent in accordance with survey instructions and MRS code of conduct.

Signed Date

6388 – TALENT SCOTLAND

Draft Topic Guide

The following question areas have been developed to provide a framework for discussion. All relevant topic areas should be discussed and covered during the discussion but should be addressed in a way that facilitates a relaxed and natural flow of conversation.

Thank again for participating in the telephone questionnaire and explain that we are following through on some of the issues raised during the telephone interviews.

We are looking for 10 case studies to be written up as part of our reporting – if you have respondents who you think will be useful for this element of the work, please ask for their agreement.

Remind respondent of confidentiality, MRS Code of Conduct

Introduction / Background

- Length of time in business
- What sector are you in? What other types of business do you believe your sector comprises? What changes, if any, has this sector seen in recent years and what changes, if any, are expected in the next 2-3 years

Company / sector overview

- What are the key drivers impacting on business growth
- How will the company/sector emerge from recession
- What external or market factors are impacting on staff/skills requirements now and what will impact in the future

Current staffing

- Number of staff (permanent / temporary / contract); advantages of taking on permanent / temporary / contract staff, what are business preferences and why
- Frequency of recruitment of staff; average length of time for staff retention; how does this differ across different staff types
- Sources for recruitment of staff – geographical eg local, national Scotland, national UK, international and how eg direct applications, recruitment agencies, headhunters, training schemes, own website, advertising (where), on-spec applications, recruitment fairs, universities / colleges, referrals etc
- Timescale for staff and skills requirements eg length of time taken to recruit individual members of staff, process used, how do respondents verify that potential staff have the necessary skills; to what extent, if any, do respondents compromise on required skill set vis a vis other requirements of new staff such as fit with organisation culture, preparedness to relocate etc

- Views on recruiting from within Scotland; how easy is it to recruit staff locally / within Scotland; what issues impact, probing on quality of available staff / availability of staff with required skills / availability of staff with experience / staff who will fit with company culture / quality of graduates / sector experience / salary expectations / competition from other countries etc
- Views on recruiting from abroad (outwith Scotland); how difficult is it to recruit internationally; to what extent does this impact on likelihood of recruiting internationally; are there specific immigration issues / compliance or regulatory issues that impact on international recruitment; does this impact more so when recruiting from some countries rather than others (probing on rest of UK, EU, outwith Europe); What skills, at what levels, from outwith Scotland benefit the local talent pool
- Why do staff leave the business (eg dislike Scottish location / higher salaries elsewhere / better career opportunities elsewhere / lack of training locally to develop skills etc)
- What types of staff are difficult / easy to recruit, probing on managerial, financial, marketing, technical, engineering, design, support

Future staffing

- Details of approaches to recruitment (eg via headhunters / recruitment agencies, careers fairs, advertising, word of mouth, internal promotions, universities / colleges etc)
- Likely numbers of staff to be recruited in short / medium / long term; what skills do these staff need to offer
- What recruitment approaches are the most / least effective and why

Skills needs

- What skills needs does the business require and how easy is it to access these; what changes have there been to skills needs since inception of the business and what has brought these changes about
- How frequently do skills needs change and what factors prompt these
- Perceived reasons for any skills shortage (eg lack of skills / low numbers of applicants with relevant skills / need for training / lack of applicants with any skills / dislike of geographic location / dislike of relocation / packages and benefits on offer / lack of right attitude / lack of experience / lack of development of necessary skills / etc)

Retention of staff

- How easy is it to retain staff once they are recruited; what does the business offer to staff to retain them in the short / medium / long term; have there been / will there be changes to what is offered to retain staff
- Identification of barriers to retention and any initiatives adopted to overcome these barriers

Skills gaps

- What skills gaps currently exist and how do employers overcome these; what consideration has been given to skills gaps in the future and how will these be dealt with
- Impact of skills gaps on business performance

Training and support

- Business approach to training and support of staff (initial and ongoing / internal and external)
- What current public sector support is available to you

TalentScotland

- Awareness of TalentScotland; how would respondent describe the role of TalentScotland
- What role do organisations such as TalentScotland play in helping to attract staff; identification of ways in which this role could be extended / changed

The future

- How does respondent perceive recruitment and retention of staff, skills gaps etc to be in the future
- What steps are being taken to deal with any problems / issues in relation to staff recruitment / retention

Any other comments