

# SOLVING THE UK SKILLS SHORTAGE

## TECHNOLOGY

DELIVERED BY

ROBERT WALTERS



totaljobs





Robert Walters, totaljobs and Jobsite surveyed over 550 technology professionals across the UK to gain insight into key skill shortage trends, the potential impact of Brexit in a global market, changing candidate expectations and the recommended recruitment strategies to combat the skills gap.

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# KEY FINDINGS

## THE TOP SKILLS IN DEMAND IN THE TECHNOLOGY INDUSTRY:



Cyber Security



BI and Data Management



Software Development

## CANDIDATE COMPETENCY FOR SOUGHT AFTER SKILLS:



56%  
Cyber Security



41%  
General Professional Skills



35%  
Software Development

# 81%

OF EMPLOYERS EXPECT THEIR WORKLOAD TO INCREASE THROUGHOUT 2018

# 20%

OF TECH EMPLOYERS HIGHLIGHT THEY NEED TO ENCOURAGE MORE FEMALES INTO THE SECTOR

ONLY 10% OF PROFESSIONALS BELIEVE THE UK TECH INDUSTRY IS PREPARED TO COMPETE ON A GLOBAL SCALE

## WHERE ARE TECHNOLOGY PROFESSIONALS LOOKING FOR JOBS?



69%  
Searching on LinkedIn



79%  
Online Job Boards



71%  
Using a recruitment agency

HALF OF TECHNOLOGY PROFESSIONALS THINK THE RECRUITMENT PROCESS TAKES TOO LONG



# CHAPTER ONE

## SHORTAGES IN THE TECHNOLOGY SECTOR

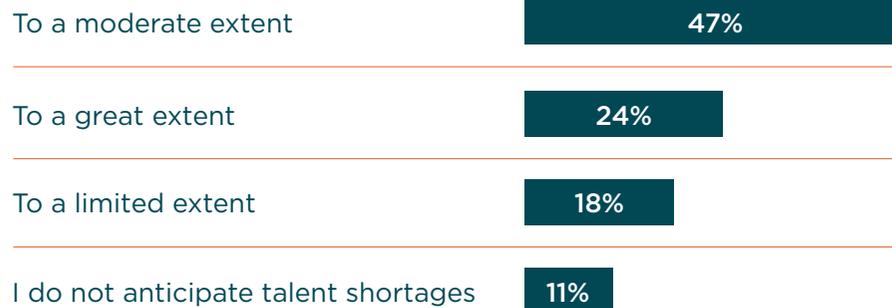
The technology industry is one of the most dynamic in the UK and as a result, demand for IT professionals is sky rocketing. High-calibre tech specialists are increasingly sought after to support new start-ups and SMEs and provide vital in-house functions for larger firms.

The emergence of new technologies, including Artificial Intelligence (AI) and self-service Business Intelligence (BI), has also triggered a recruitment surge, with businesses attempting to secure IT professionals that will fill new, specialist roles.

Whilst technological leaps can allow businesses to gain competitive advantage, they also bring new recruitment challenges. Many hiring managers in the industry are faced with a distinct sector-specific skills gap, which is exacerbated further by national trends.

National factors such as an ageing workforce as well as the lasting effects of the recession have left a significant impression on the industry.

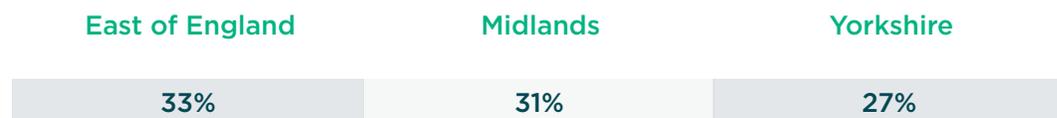
### TO WHAT EXTENT DO YOU ANTICIPATE SKILLS SHORTAGES?



Over 70% of technology employers expect to face at least a moderate talent shortage in 2018, with almost a quarter of respondents (24%) stating the shortage will greatly impact their recruitment.

Establishing a sustainable talent pipeline is an area of concern for hiring managers. While over 60% rate the overall quality of their candidate pool as adequate, almost a quarter (23%) state that they receive a low quality of applications. Technology employers are recognising that they will need to adapt their recruitment strategies to ensure they attract the top-tier tech specialists.

## TOP THREE REGIONS EXPECTING SKILLS SHORTAGES



The UK regions which were expecting to see the most significant skills shortage were the East of England with a third of technology employers (33%), followed by the Midlands (31%), whereas only 5% of respondents in the South East felt that talent shortages would affect the quality of their candidate pool

## AT WHAT LEVEL OF SENIORITY DO YOU EXPECT TO FACE THE MOST ACUTE TALENT SHORTAGES?



The research highlighted the type of role and seniority, where talent is perceived to be low. The majority of respondents (55%) expect to face the most acute talent shortages in mid-management level positions. 36% of employers identify junior and executive level positions as those to be most affected by skills shortages, and under 10% expect to encounter problems when recruiting for senior and director level positions.

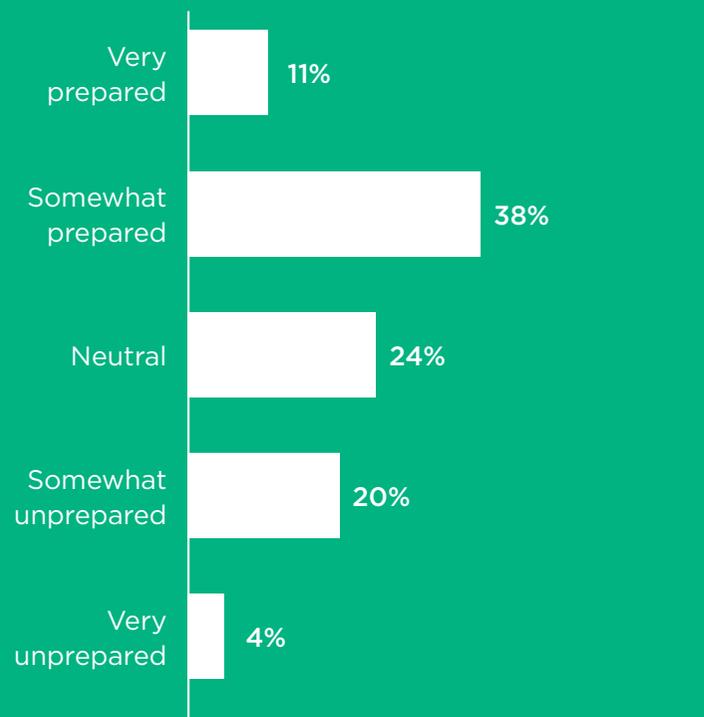
This suggests that the technology industry has been negatively impacted by the recession, as a reduction in technology graduate schemes has led to talent shortages years later in junior and mid management positions.

# CHAPTER TWO

## COMPETING ON A GLOBAL SCALE

As the technology sector continues to accelerate, businesses face increased pressure to keep up with the pace of change of the industry to continue to compete on a global level. Coupled with this, candidates are increasingly looking for careers with global potential, and will opt for businesses with strong economic performance across multiple countries.

### HOW WELL IS THE UK SET TO COMPETE ON A GLOBAL SCALE?



Only 11% of professionals believe that the UK technology industry is prepared to compete on a global scale, and over 55% of those surveyed agree that skills shortages in the technology industry will be exacerbated by Britain's departure from the EU, which is expected to impact Yorkshire (73%), London (62%) and the North of England (54%) most negatively.

## WHERE WILL SHORTAGES BE EXACERBATED BY BREXIT?

London	North	South East	Midlands	Yorkshire
62%	54%	43%	52%	73%

Technology employers in the UK rely on the migration of international professionals coming to the UK to fill positions – a fall in net migration is likely to decrease the candidate pool for hiring managers looking for specific technical skills.

**50%**

**OF TECH EMPLOYERS EXPECT TO FACE TALENT SHORTAGES  
IN 2018**





# CHAPTER THREE SKILLS IN DEMAND

## TOP SKILLS IN DEMAND IN 2017



34%  
Cyber  
Security



33%  
General Professional  
Skills



30%  
Software  
Development

## TOP SKILLS IN DEMAND IN 2018



56%  
Cyber  
Security



41%  
BI & Data  
Management



35%  
Software  
Development

Cyber security professionals remain the most in demand within the technology sector with over 56% of tech hiring managers stating it is a focus this year. However, the changing technology landscape also means newer, emerging skills are becoming paramount for organisations. 41% of employers highlight that business intelligence (BI) and data management professionals are most in demand in 2018, due to advances in technology and the benefits of transparent and instantaneous dashboard reporting.

Employers across the UK are increasingly realising the value of BI as a transformative organisational function, key to gaining competitive advantage. In this way, companies are prepared to invest in recruiting skilled BI and data management professionals to drive business growth.

The outlook for software development is positive, as organisations continue to recruit for those positions in 2018. 35% of employers expect software developers to be the most sought after professionals in 2018, a 5% increase in comparison to 2017. This illustrates that the profession is still experiencing a steady increase in demand and remains a core technology function in UK businesses.

As demand for specialist technology professionals is increasing, general professional skills that a third of employers demanded from professionals in 2017 are now not so fundamental to recruit for technology positions. Transferrable skills such as organisation, time management, stakeholder management, communication and problem solving have experienced a 10% drop in demand over the past twelve months.

## WHAT ARE THE MOST SOUGHT AFTER TECHNOLOGY SKILLS?



**OTHER SKILLS THAT TECHNOLOGY EMPLOYERS HIGHLIGHTED AS ESSENTIAL INCLUDED SYSTEMS ANALYSIS/ENGINEERING (18%), WEB DESIGN & DEVELOPMENT (18%) AND PROGRAMME MANAGEMENT (18%).**



## STRONGEST SKILLS AMONG TECHNOLOGY PROFESSIONALS

As demand for generalist skillsets is on the decline, professionals rank their ability highest in these soft, transferrable skills. Almost 80% believe their general professional skills are at an advanced level. Nearly 60% of professionals possess customer relationship management experience and the vast majority (88%) believe their project management ability is at least at an intermediate level.

## ADVANCED SKILLS AMONG TECHNOLOGY PROFESSIONALS



## WHERE IS IMPROVEMENT REQUIRED?

Regarding industry specific skills that employers consider most important, professionals rank their knowledge in these areas significantly lower. Of the professionals surveyed, only 11% are advanced cyber security professionals, with the majority (54%) only possessing a basic understanding of the discipline. Similarly, only a quarter of professionals are highly skilled software developers, whilst 39% are at an intermediate level, 42% do not possess this skill.

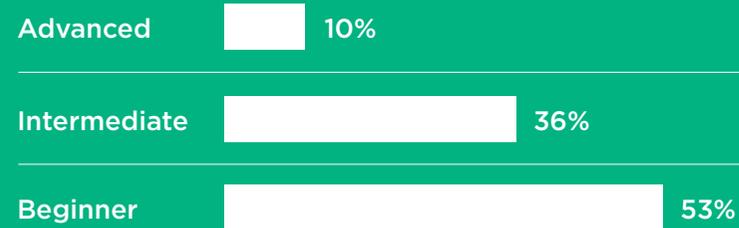
There are significant disparities for skills specific to the technology industry - the technical skills in demand by employers and perceived to be the most integral by professionals are not currently being matched by a skilled candidate pool.

As highly qualified candidates are in short supply, businesses will have to develop creative recruitment strategies to ensure they are attracting top tier professionals in an increasingly competitive market.

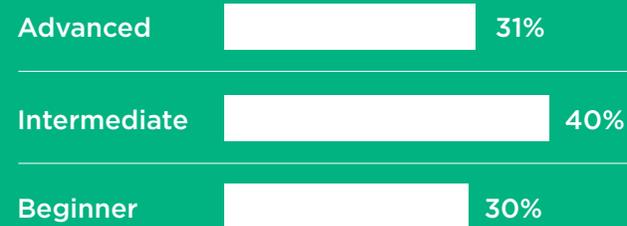


## CANDIDATE COMPETENCY FOR SOUGHT AFTER SKILLS

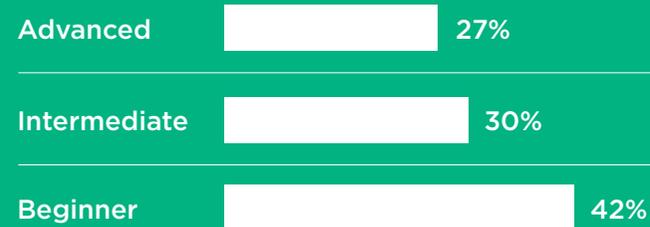
### CYBER SECURITY



### BI AND DATA MANAGEMENT



### SOFTWARE DEVELOPMENT





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**ALTHOUGH GENERAL PROFESSIONAL SKILLS ARE STILL VALUED BY BUSINESSES, INDUSTRY-SPECIFIC SKILLS ARE WHAT MANY EMPLOYERS ARE LOOKING FOR FIRST IN POTENTIAL STAFF.**

Lee Allen, Sales Director, Jobsite

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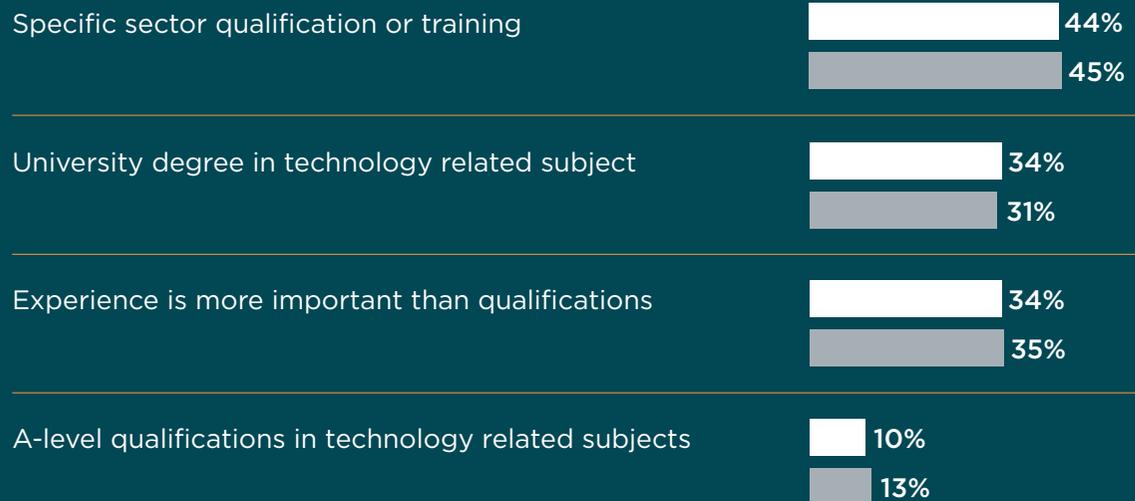


## QUALIFICATIONS IN THE TECHNOLOGY INDUSTRY

Employers and professionals agree that technology specific qualifications or training are essential for the continual development of professionals in a rapidly evolving technology landscape. 44% of respondents believe a robust qualification structure and dynamic training programmes are essential to ensure professionals possess core technical competencies, and can further adapt to new and emerging technologies in the profession.

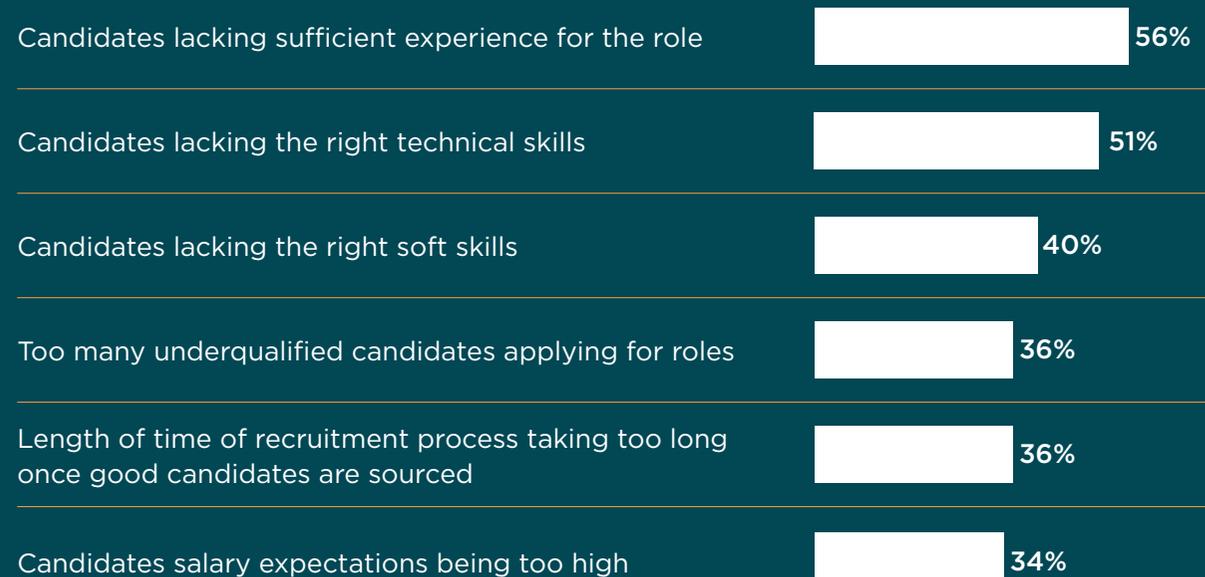
There are, however, disparities between technology candidates and hiring managers. Candidates consider prior experience in a technology role as more important than possessing a university degree in a technology related subject, whereas 34% of technology employers believe both are equally as important to a technology career.

## WHAT QUALIFICATIONS ARE IMPORTANT TO THE TECHNOLOGY SECTOR?



# CHAPTER FOUR CHALLENGES FOR TECH RECRUITMENT

## WHAT ARE YOUR TOP CHALLENGES WHEN RECRUITING TECHNOLOGY PROFESSIONALS?



Other challenges that businesses highlighted included facing fierce competition for candidates who receive multiple job offers (27%), having insignificant recruitment budget to invest in an effective recruitment strategy (24%) and losing out on candidates who receive competitive counter offers and buy back propositions from their current employer (18%).

## LACK OF SKILLS



For the technology industry, the most significant barriers to recruiting professionals are centred around a lack of relevant skills, experience and technical qualifications. Over half (55%) of hiring managers agree that the majority of candidates lack the sufficient experience for the role and 51% receive applications from candidates who do not possess the right technical skills.

35% of employers find that many underqualified candidates are applying for roles, and 4 in 10 tech hiring managers find that candidates lack the right 'soft skills' such as communication, teamwork and time management.

## COMPETING FOR CANDIDATES



More than a quarter of hiring managers (27%) admit that the high-calibre candidates they do manage to source often receive multiple job offers. In a market saturated with employers, this is driving salary increases as businesses find they have to compete to secure the top tier professionals. More than a third (34%) are dealing with high salary expectations from candidates, which can be particularly crippling for start-up tech firms and SMEs whose recruitment budgets cannot stretch to the market rate.

This particular challenge is felt most acutely across the North (44%) and East of England (67%), where tech salaries become highly inflated in an attempt to compete with London, a hub for tech professionals.

## REGIONS SUFFERING FROM HIGH SALARY EXPECTATIONS

London	North	South East	Midlands	Yorkshire	East of England
21%	44%	38%	36%	45%	67%

## LENGTH OF RECRUITMENT PROCESS



Those that are managing to source high quality tech professionals (35%) find the process takes too long to generate a hire. With such intense competition between employers in the current market, a lengthy process increases the window for rival businesses to reach sought after candidates. Hiring managers will need to ensure that hiring processes are quick and efficient to avoid losing top talent.

## PROFESSIONAL PERSPECTIVE

Technology professionals deviate from hiring managers when assessing the barriers to finding technology jobs. The top challenge they experience when seeking a new technology position is the length of the recruitment process following their application. As many technology positions require specific technical skills for roles, the application process can be more complex, with competency tests adding lengthy steps to the recruitment process. As almost half (49%) think the process is too lengthy, it could deter top tier professionals from applying for these positions in future.

### WHAT ARE YOUR TOP CHALLENGES WHEN APPLYING FOR TECHNOLOGY POSITIONS?



4 in 10 professionals highlight that they are unable to find a suitable company to work for. This is due to multiple factors including not offering enough education or training, not being in a suitable location to commute, or companies having a poor reputation in the market. Almost a third of tech professionals (32%) are unsatisfied with the work-life balance on offer with many roles. This suggests employers need to offer more flexibility in the roles they currently advertise, for example agile working, the use of portable tech and flexitime.



## CHAPTER FIVE MANAGING RISING WORKLOADS

81% of employers expect their workload to increase throughout 2018, with over 4 in 10 anticipating a significant increase.

This comes as businesses are increasingly recognising the importance of data and analytics to aid decision making, coupled with new emerging technologies that require additional resource.

To manage this workload increase, over two-thirds (64%) would hire interim professionals to temporarily fill skills gaps, whilst only 11% of businesses would decline jobs or projects, with over 45% of professionals choosing to attempt to increase output by increasing the workload across their current team.

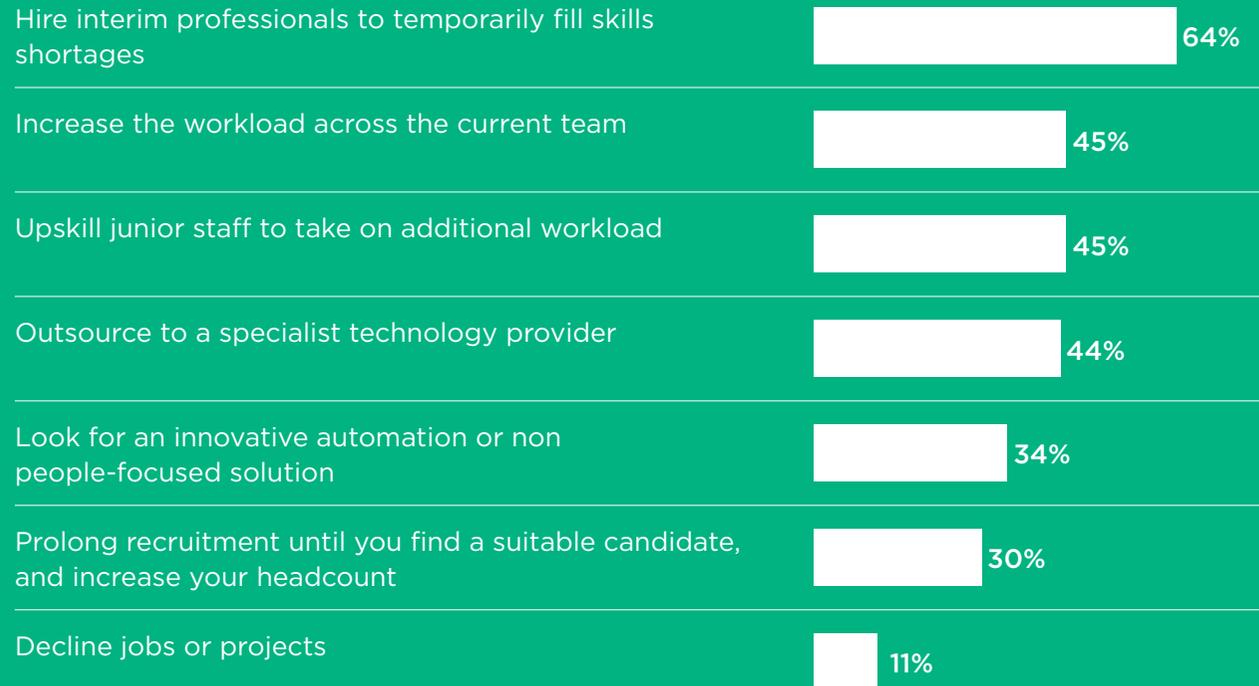
Another popular strategy is internal training and upskilling junior staff, which can not only add to the knowledge and skill base of a department, but also aids productivity and boosts retention. 45% of businesses are investing in an internal development strategy to leverage the skills of their current workforce.

# 81%

**OF TECHNOLOGY EMPLOYERS EXPECT THEIR WORKLOAD  
TO INCREASE THROUGHOUT 2018**



## HOW WOULD YOU MANAGE AN INCREASE IN WORKLOAD?



## OUTSOURCING

A unique industry trend is the number of businesses choosing to transfer work that requires niche technology skill sets. 44% of hiring managers are outsourcing additional workload to specialist technology providers who have the skills and resources to deal with this effectively.

# CHAPTER SIX

## COMBATTING SKILLS SHORTAGES

It is now more difficult than ever for companies to source top tech talent, encouraging companies to re-strategise approaches to recruitment and adapt their compensation packages to meet candidate expectations.

Many technology employers benchmark salaries according to competitor and market rates, but many are also realising that candidates are also looking for non-monetary benefits. As well as a competitive salary, technology professionals with multiple job offers will base their decision on several factors, such as flexible or agile working, opportunity to upskill within the role and fast-track career progression.

### TOP 5 STRATEGIES CURRENTLY USED TO COMBAT SKILLS SHORTAGES



Other options that businesses use to address the skills gap include utilising an internal referral programme (36%), whilst over a quarter (27%) are now starting to look for professionals who are willing to relocate inside the UK.

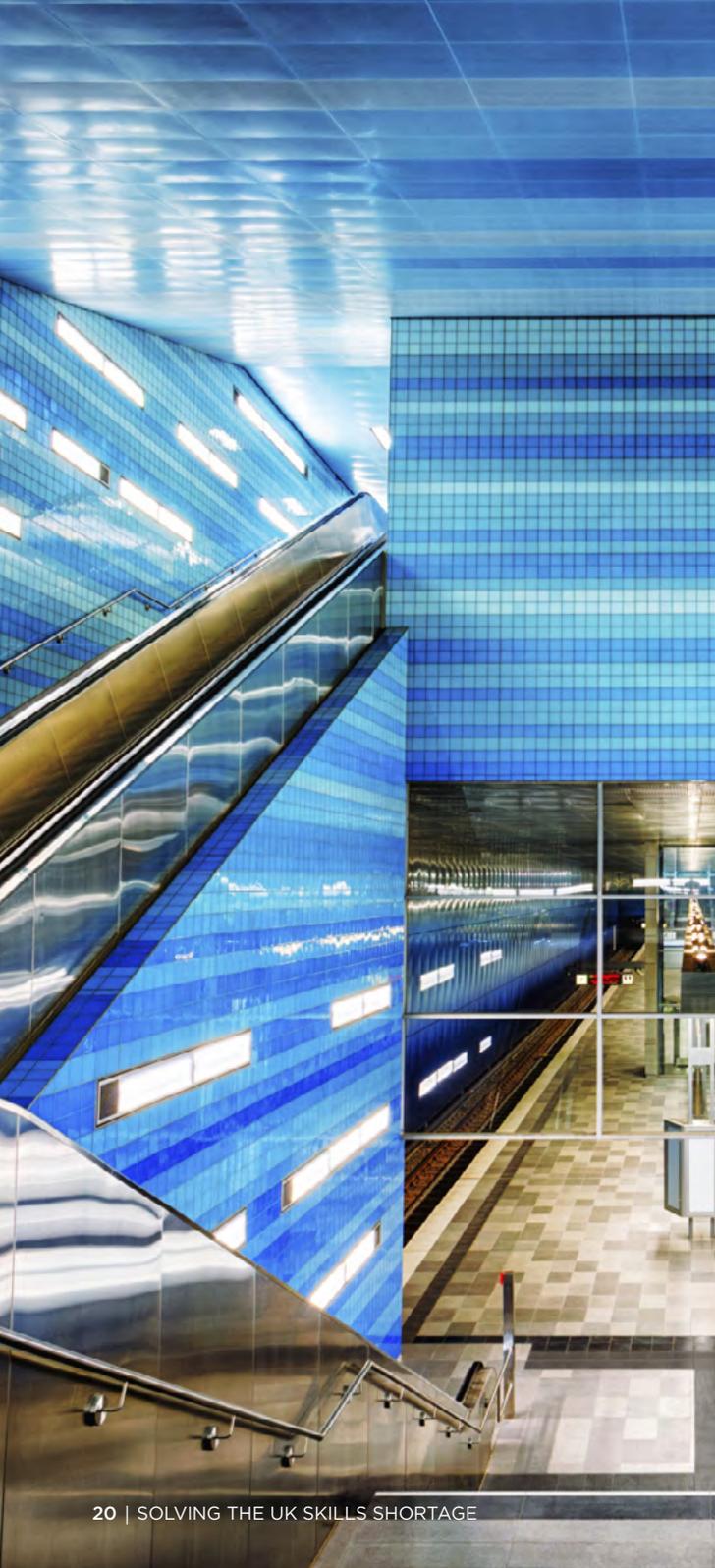


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**STRONG GROWTH IS EXPECTED TO CONTINUE AS FINTECH STARTUPS AND CONSULTANCIES EMERGE ACROSS THE SECTOR AND ESTABLISHED BUSINESSES LOOK TO INVEST FURTHER IN THEIR IT FUNCTIONS. PROFESSIONALS SHOULD ANTICIPATE AN INCREASE IN DEMAND FOR SELECT TECHNOLOGY SKILLS OVER THE NEXT 12 MONTHS, INCLUDING BI, DEVOPS AND SOFTWARE DEVELOPMENT.**

Ahsan Iqbal, Director, Robert Walters

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The top approaches that businesses currently adopt to combat talent shortages include both short-term tactics and long-term strategies. Almost two thirds of employers (63%) recruit temporary or contract workers to address skills deficiencies in their organisations. Over half of the respondents (53%) engage with recruitment agencies to recruit for specific skills and 51% were focusing on their current workforce, using training to upskill technology professionals and move professionals into more senior positions.

## TEMPORARY OR CONTRACT RESOURCE



Contractors are often a preferred choice for tech employers due to their specialist knowledge. This group of professionals are industry experts, having acquired skills and knowledge from working on multiple projects. This enables companies to capitalise on their enhanced skills immediately.

## UPSKILLING



Upskilling is often overlooked by employers, despite the various advantages this can bring to an organisation. Internal training and development, opportunities to achieve formal qualifications and exposure to technology events and seminars are just some of the internal methods businesses can adopt to maximise the potential of a ready-made pool of talent. A robust internal training programme will also pique the interest of prospective candidates, who value opportunities to upskill when seeking new roles. Despite this, only half of business are adopting this strategy to limit the talent shortages they anticipate this year.

## RECRUITMENT AGENCIES



This channel is often coupled with recruiting contract resource, as specialist technology contractors engage frequently with specialist recruitment agencies to look for their next opportunity. Engaging with a recruitment consultant allows you to both expand and refine your talent pool, as well as to receive market intelligence to improve your talent search.

Recognising that technology recruitment market is saturated with employers, a growing number of businesses are looking to attract candidates who are willing to relocate, both in the UK (27%) and internationally (17%). Engaging with international recruitment agencies can give hiring managers access to talent from around the globe.

## REGIONAL DIFFERENCES

Regionally, employers in the technology sphere follow similar patterns in their approaches to alleviating talent shortages. However, in contrast to just a quarter of technology employers across the rest of the UK, 45% of employers in Yorkshire also headhunt for technology roles from similar organisations. Similarly, in comparison to the 50% industry average, two-thirds (67%) of tech employers in the South East use internal training as a preferred strategy to address skills shortages.

## LOCATIONS THAT HEADHUNT FROM COMPETITORS

London	North	South East	Midlands	Yorkshire
21%	44%	38%	36%	45%

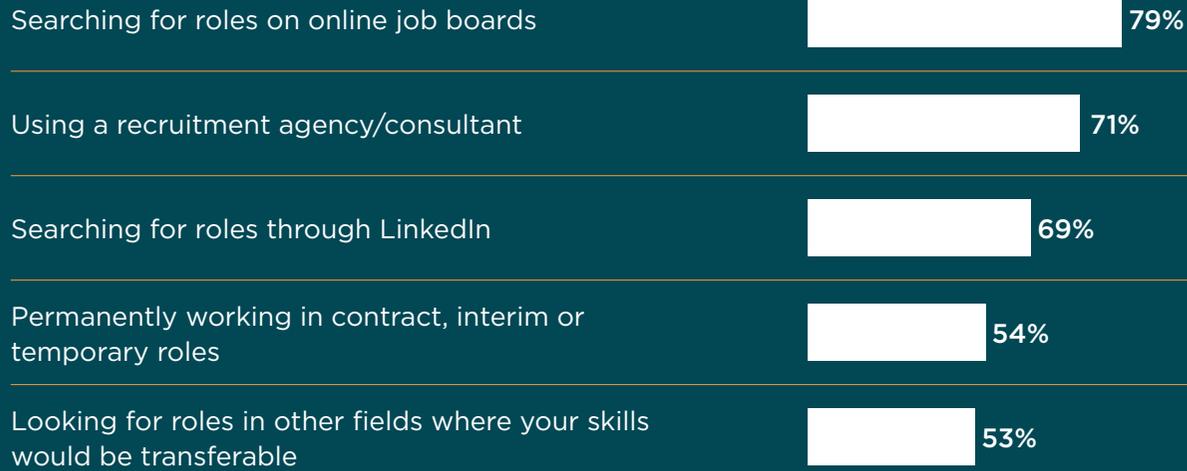


**A DIVERSE AND COMPREHENSIVE ATTRACTION STRATEGY IS KEY TO REACH BOTH ACTIVE AND PASSIVE TECHNOLOGY CANDIDATES. EMPLOYERS ENGAGING WITH CANDIDATES ON MULTIPLE PLATFORMS AND DISTINGUISHING THEIR EMPLOYMENT OFFERS ARE MORE LIKELY TO SOURCE THE TOP INDUSTRY TALENT.**

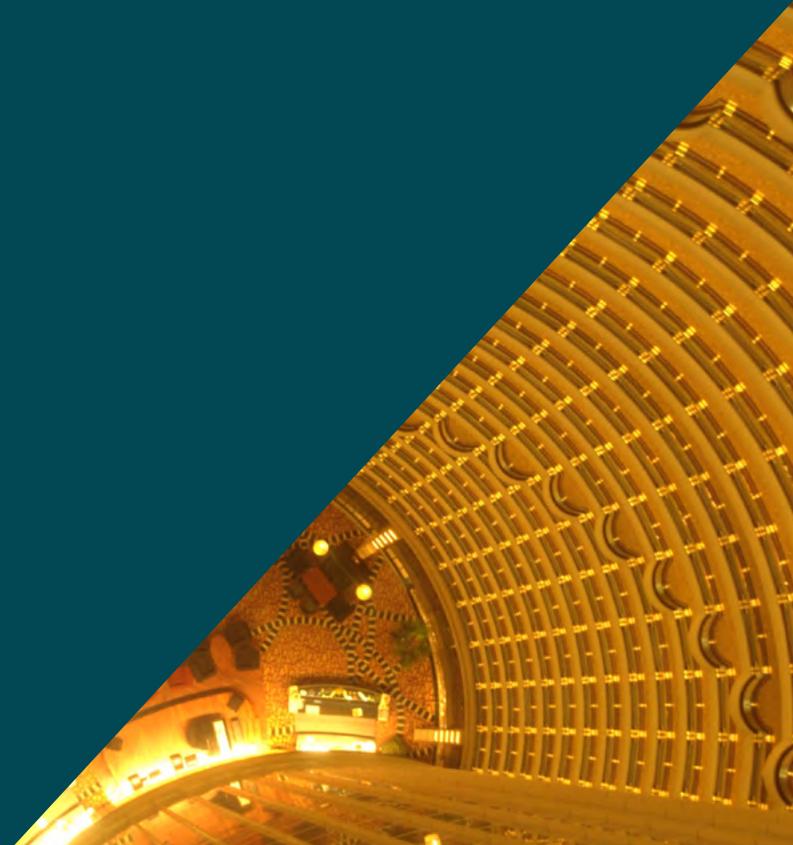
Wayne Bennett, Associate Director, Robert Walters



## HOW TECHNOLOGY PROFESSIONALS SEARCH FOR JOBS



There is alignment between the tactics adopted by employers and the options technology professionals take to find their next career opportunity. 71% of technology professionals liaise with a recruitment agency when making a career transition. 54% of professionals would consider working in temporary or contract roles permanently, reflecting that contactors are a growing pool of skilled candidates.



## TOP 3 CANDIDATE RECRUITMENT CHANNELS



53%  
Employers



71%  
Candidates



28%  
Employers



79%  
Candidates



38%  
Employers



69%  
Candidates

## RECRUITMENT AGENCIES

## ONLINE JOB BOARDS

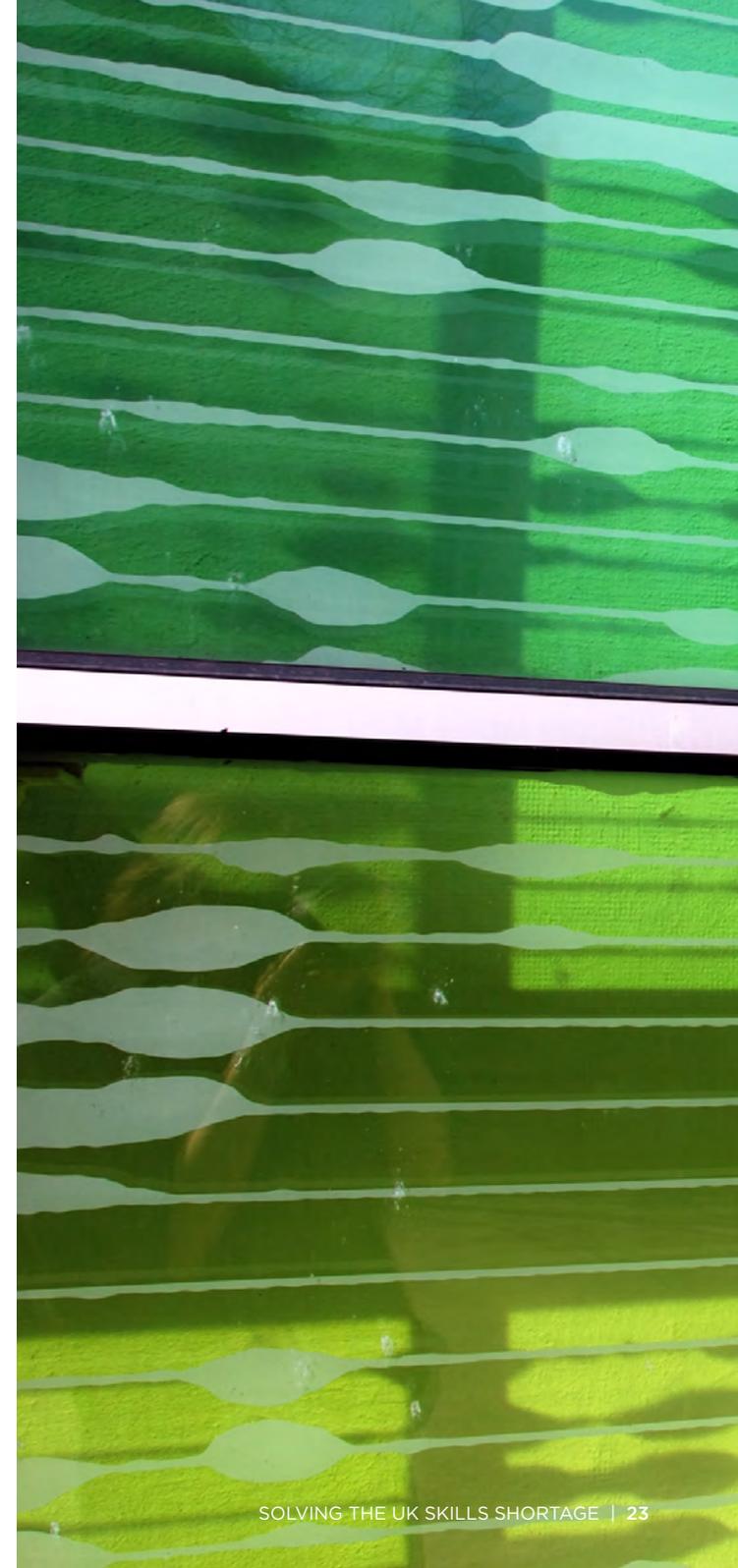
## LINKEDIN

Discrepancies between employer and candidate behaviour occur with searching for roles on online job boards, with an overwhelming majority of professionals (79%) searching for roles on online job boards, whereas only 28% of employers directly advertise technology jobs on this platform. 69% of candidates were searching for technology positions on LinkedIn in comparison to 38% of employers.

Other popular route candidates currently make use of include referrals from friends or a family member (40%), looking for roles in other industries where they can utilise transferrable skills (53%) and enrolling in training or qualifications independently in order to progress professionally (29%).

## SOCIAL MEDIA

Whilst social media is emerging as a testing ground for recruitment, only 16% of professionals are currently utilising this platform to look for their next technology opportunity. Although, as the use of social media continues to grow in importance and more professionals profile their skills and experience on multiple platforms, it could be an effective way to create a network of passive technology candidates going forward.



# CHAPTER SEVEN

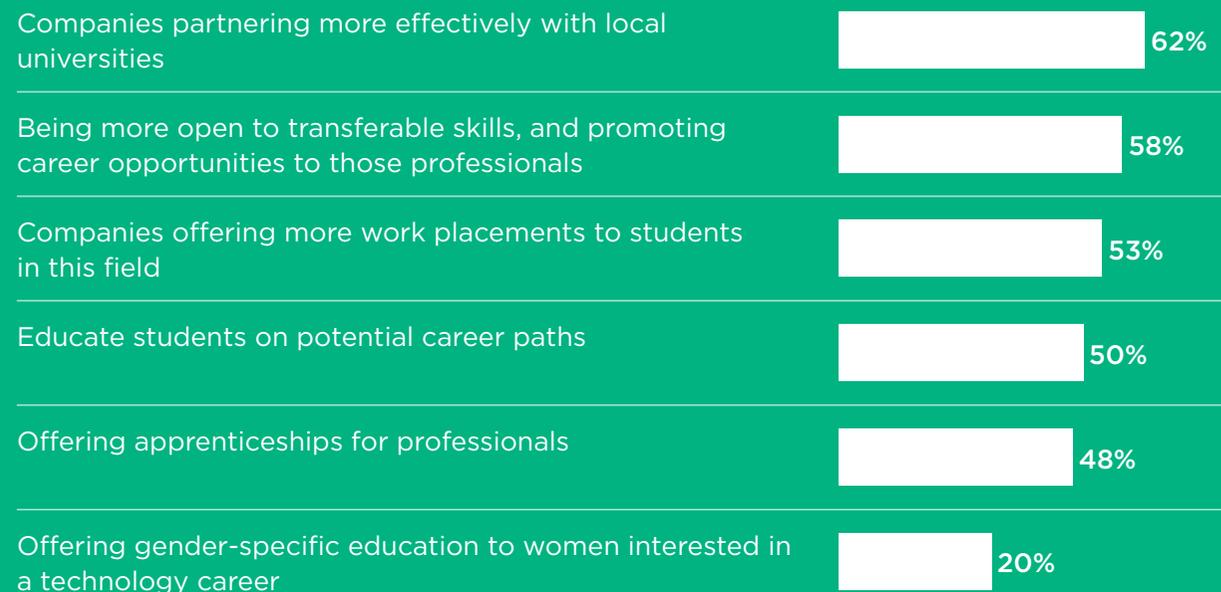
## CREATING A SUSTAINABLE TALENT PIPELINE

Technology professionals were also surveyed on the future strategies that should be employed to ensure a sustainable talent pipeline for the industry.

As niche and emerging skillsets are creating new specialist roles, half of hiring managers (50%) agree that there will need to be more focus on educating students on the numerous potential career paths available in the field.

### TOP 6 STRATEGIES TO PROMOTE TECHNOLOGY CAREERS

#### EMPLOYERS



## REGIONAL DIFFERENCES

There are some interesting regional differences between the top talent strategies adopted to promote tech careers. Addressing the dwindling pool of specialist candidates, hiring managers in London (70%) are preparing to be more open to transferrable skills, and are promoting career opportunities to professionals that can be shaped into highly-skilled tech professionals. On the other hand, 7 in 10 employers in the South East are looking at offering more work placements to students enrolled in technology-related degrees, looking to upskill professionals whilst at a junior/graduate level.

## TOP STRATEGY TO PROMOTE TECHNOLOGY CAREERS BY REGION



### LONDON

Being more open to transferrable skills



### NORTH WEST, MIDLANDS, EAST OF ENGLAND

Companies partnering more effectively with universities



### YORKSHIRE

Educate students on potential career paths



### SOUTH EAST

Companies offering more work placements to students in this field

However, the majority of employers (62%) consider establishing effective partnerships with universities as the most effective way to promote technology careers, with an emphasis on targeting areas of study specific to a career in technology. Two-thirds of hiring managers think there is room for improvement for the UK education system to support students to pursue a career in technology. Increasing communication between businesses and universities could serve to eliminate this current shortfall within education. 20% acknowledge that gender-specific education should be provided to women interested in a tech career in order to increase diversity within the field.

## TOP 6 STRATEGIES TO PROMOTE TECHNOLOGY CAREERS

### PROFESSIONALS



Whilst over 55% of professionals believe that companies partnering with local universities would be an effective strategy to promote careers in the industry, the overall viewpoint for 65% of candidates is that companies should be more open to transferrable skills.

Rather than focusing on recruiting specialist skillsets as a short-term 'stop gap', from a long-term perspective, employers should be looking for high-potential candidates with a strong core skillset, with the view to upskill them to in-demand specialisms.

58% of companies are realising that they need to be more open to transferrable skillsets, which go hand in hand with technical skills. With business increasingly relying on data in their decision making, many tech leaders will seek to boost their teams with talent that can improve analytical problem-solving, along with those who have high-performance communication skills to support business decision-making and collaboration with a variety of internal stakeholders.

# CHAPTER EIGHT

## KEY CONCLUSIONS



Over 70% of technology employers expect to face at least a moderate talent shortage in 2018, with almost a quarter (24%) stating the shortage would greatly impact their recruitment.



There are significant skills shortages for skills specific to the tech industry. Many professionals only have a basic understanding of Cyber Security, BI and Data Management and Software Development - skills in demand by employers.



Almost two-thirds of technology professionals think employers should be more open to transferrable skills and promote their opportunities to professionals in other industries.



2 in 10 technology employers recognise that more needs to be done to encourage more diversity within the industry and would consider providing gender-specific education to women interested in pursuing a career in the field.



There is a degree of dissatisfaction from the current candidate pool around current technology jobs. 47% find companies do not offer high enough salaries, 40% cannot find a suitable company to work for and 32% are unsatisfied with the work-life balance on offer for many roles.



In a fiercely competitive industry, employers need to improve their attraction strategies. More than a quarter of employers compete for candidates receiving multiple job offers, while nearly half of professionals find the recruitment process takes too long.



Advertising roles on online job boards, searching for talent on LinkedIn and looking to upskill candidates with transferrable skills are key ways employers can diversify their recruitment strategies.



Only 11% of professionals believe the UK technology industry is prepared to compete on a global scale, and over 55% agree that skills shortages will be exacerbated by Britain's departure from the EU.



Almost two-thirds (64%) of technology employers would employ temporary or contract resource to address their increase in workload this year. 45% would increase the workload across their current team or upskill their junior staff.



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