

techUK Response to the Migration Advisory Committee Call for Evidence: Shortage Occupation List - RQF Levels 3-5 (medium skill)

22 June 2020

10 St Bride Street
London
EC4A 4AD

T 020 7331 2000
F 020 7331 2040
www.techuk.org

techUK | Representing the future

Contact:
Nimmi Patel | Policy Manager – Skills, Talent & Diversity
T 07805744520
E nimmi.patel@techuk.org

About techUK

techUK represents the companies and technologies that are defining today the world that we will live in tomorrow. The tech industry is creating jobs and growth across the UK. More than 850 companies are members of techUK, these range from leading FTSE 100 companies to new innovative start-ups. The majority of our members are small and medium-sized businesses and with staff UK-wide. The sectors that techUK members engage with include: Information and Communication, Professional, Scientific and Technical Activities.

Executive Summary

- Last year the UK technology sector grew six times faster than any other sector, creating new jobs and opportunities for people up and down the UK. Migration has been, and continues to be, a primary driver of growth within the UK's tech sector and is critical in delivering continued innovation, competitiveness, and employment opportunities.
- Access to talent and skills remains the number one issue for techUK's members and is vital to ensuring continued growth and prosperity for the UK economy. It is therefore crucial that the UK remains an attractive destination for this talent. The UK economy could forfeit as much as £141.5 billion in GDP growth if we fail to close the digital skills gap¹.
- techUK members face a range of recruitment difficulties and continue to combat these issues but still face a lack of tech talent in the UK's workforce.
- Spotlighting the Data Centre sector, which sits within the digital and tech industries, techUK has highlighted occupations that should be on the Shortage Occupation List due to the recruitment difficulties in finding skills for that role. In doing so would provide the sector with the talent and specialist skills it needs to support our digitally-driven economy, especially as we look to economically recovering from this public health crisis.

1. Digital sector overview

Last year the UK tech sector represented 7.7% of the UK economy, created 800,000 jobs and contributed £149 billion to the UK economy¹. Employment in the digital tech economy increased by 40% between 2017 and 2019. To drive this growth the sector relies on the ability to complement domestic talent with international talent from across the globe. 13% of the UK's digital tech workforce is international² – a higher rate than in other sectors.

This skills gap is not unique to the UK, making tech talent in high demand across international competitive markets. Anything that slows down the process of recruitment makes us less attractive as a nation. Tech workers are some of the most mobile and in-demand professionals in the world. If the UK wants to be a global hub for tech then it needs to be open and attractive to the best tech talent and remain to have strong links with Europe.

¹ Tech Nation (2020) [UK Tech For a Changing World](#).

² Tech Nation (2017) [The nationality of workers in the UK tech industry – Tech Nation Talent: Part 1](#).

2. How techUK members recruit

As highlighted in techUK's response to the Migration Advisory Committee Call for Evidence: Salary Threshold and Points-based System³, techUK member companies have recruited from the UK and Ireland, employed from EEA countries, and non-EEA countries in the past three years and are likely to recruit workers from all these areas in the next 12 months.

techUK members recruit using a range of methods including, but not limited to:

- Company website/careers site.
- Recruitment agencies.
- Job Boards and Job Boards databases, such as Indeed Jobs.
- Social media, including LinkedIn.
- Networking events.
- Internal notices.

The tech industry has seen strong growth in recruitment activity which has been driven by skilled and highly skilled jobs. The industry has been creating jobs faster than it could fill them because of its rapid growth. There has been a 150% increase in demand for roles within the digital tech sector over 2015-2018⁴.

3. Recruitment difficulties

According to a survey from Deloitte, 62% of UK business executives say that their tech talent pool does not have the capability they need to deliver their digital strategy⁵. New technologies such as AI and Machine Learning are creating requirements for specialist skills that the labour market is struggling to supply—which has led to intensifying competition for talent and upwards pressure on tech salaries.

Common recruitment issues reported by employers:

- Competition with others in what is a growing sector.
- High levels of competition for workers in key technical roles.
- Low number of applicants.
- Struggling to find certain skillsets and quality to meet technical roles.
- Low number of applicants with qualifications that are required for the job.

On average, it takes techUK members between 2-3 months to fill a vacancy. For one telecommunications service provider, it can take up to 70 days to fill an engineering role. techUK's Data Centre Programme has highlighted that they often see roles taking 6-9 months to be filled.

For tech SMEs, access to talent is a significant concern due to a combination of extreme competition for domestic talent, difficulty bearing the costs and administrative burdens of recruiting non-EU talent, experiencing depressed recruitment from the EU due to the uncertainties of Brexit. This is seen as a major impediment on growth, with one member stating: "I know of companies desperate to grow but they can't because they cannot get the talent they need"⁶. At the same time, the UK has

³ techUK (2019) [techUK Response to the Migration Advisory Committee Call for Evidence on the Future System of Salary Thresholds and Points-Based System](#).

⁴ Tech Nation (2020) [UK Tech For a Changing World](#).

⁵ Deloitte (2018) [Less than half of executives believe they have the skills and abilities to lead in the digital economy](#).

⁶ techUK (2019) [techUK Report: Tech SMEs and no deal Brexit](#).

seen a fall in EU net migration which is exacerbating recruitment difficulties, especially for skilled roles.

4. Overcoming recruitment difficulties

4.1 Upskilling the workforce

Building up a tech talent pool requires investment in education and training. Tech companies are committed to building a strong domestic talent pipeline and are aligning future industry skills needs with pipeline development. The tech industry remains engaged in retraining and upskilling by increasing trainee and apprenticeships programmes and supporting the shaping of upcoming T-levels. Engineering and Manufacturing Technologies and ICT apprenticeships continue to remain in the top six sector areas of apprenticeship starts in England, with 81,000 starts in 2018.

techUK members are making significant investments in lifelong learning strategies and helping people to navigate a pathway through the changing nature of jobs, the types of tasks people do at work, and new opportunities that the future economy will bring. Retraining and upskilling is one of techUK member BAE Systems' six guiding principles for the development of future skills⁷. They have identified core skill needs and cross-reference these with our employees' capabilities to identify where retraining is needed.

FDM Group, which specialises in equipping candidates with the latest digital skills in areas such as software development, data science and cyber security, has implemented new online programmes to continue training during the COVID crisis. As part of this new online programme, around 90 training classes involving 500 trainees take place every day. The company has hired a total of 182 new IT trainees into its courses in the UK during the official lockdown period and has pledged to continue this trend¹⁰.

techUK member EY launched the 'EY badges' programme in 2018 to help employees earn digital credentials by developing future focused skills and gain experiences that can shape their career. Eighteen months into the programme, over 15000 badges have been successfully completed on either bronze, silver, gold or platinum level with 65000 courses in progress at this point⁹. There are 87 different badges available in overarching domains of data analytics and leading technologies. Employees at EY recognise the programme helps prepare them to manage future disruptive technologies, deliver better services to clients, and further their own careers by developing their personal branding.

It is vital for innovation and growth that employees continue to learn throughout their careers and companies that want to attract the best talent need to provide opportunities for future employees to build on their skills.

4.2 Increasing salaries

⁷ BAE Systems (2019) [Future skills for Our UK Business](#).

⁸ techUK (2020) [Creating jobs and supporting the economy during COVID-19](#).

⁹ techUK (2019) [EY prepares its People for the Future of Work](#).

The median annual earnings for all employees in the UK digital sector was at £36,300 in 2018—51.3% higher than the UK average¹⁰. The tech sector overcomes recruitment difficulties by ensuring they offer competitive salaries.

“We do consistent salary surveys to ensure we are competitive in the market.” (MicroFocus, techUK Member, June 2020)

The UK also recorded the highest salary rise worldwide for tech workers in 2019, compared with other tech hotspots such as San Francisco and New York¹¹. This highlights the growing need for tech talent in the UK, providing those working in the sector with an indication of their market worth and emphasising the future need for these skills.

Despite this, techUK has noted the large wage inflation, which in some cases only larger companies can afford to pay. A techUK member in the Data Centre sector stated that they had seen a 40% raise in wages for network engineers.

4.3 Expanding the talent pool to include more diverse candidates

Organisations that lack diversity put themselves at a disadvantage, overlooking potential new sources of talent. techUK members continue to highlight the social benefits of having a diverse team—from the transfer of knowledge from EU staff to UK staff, to the importance of diversity of opinion in a team. Innovation thrives from diversity of thought. Businesses with culturally diverse teams are more likely to develop new products than those with homogenous teams¹².

The tech sector is extremely aware of its diversity problem. Although women represent 47% of the UK workforce, they only make up 17% of the tech sector. With a small and competitive talent pool to choose from, it is vital that organisations do not unintentionally exclude women and people from ethnic minorities from the thriving industry.

techUK is a founding signatory of the Tech Talent Charter - a commitment by organisations to a set of undertakings that aim to deliver greater diversity in the tech workforce of the UK, one that better reflects the make-up of the population. This initiative is just one of many showing how keen the industry has been to change its previous male-dominated narrative and remove existing practices that could exclude female talent. The industry has also been keen to support campaigns for gender balance, forward BAME and LGBTQ+ agenda in STEM from classroom to the boardroom, and initiatives that help build more inclusive workplaces for those with neuro-diverse backgrounds or different accessibility needs. techUK looks to build with diversity not just in mind but around the decision-making table using new recruitment methods and channels.

4.4 Highlight career progression opportunities

The tech sector has promoted opportunities across the business in an effort to retrain skilled talent. A benefit of a rapidly growing sector, those who demonstrate skills and capabilities can be promoted and there is plenty of scope for career development.

¹⁰ Department for Digital, Culture, Media and Sport (September 2019) [Digital Sector Economic Estimates](#).

¹¹ Hired (2020) [State of Software Engineers Report](#).

¹² T&F Online (2015). [Cultural Diversity, Innovation, and Entrepreneurship: Firm-level Evidence From London](#).

In order to effectively prepare our workforce in an everchanging digital economy, we need to inspire and support people into digital roles. But often there is a lack of awareness of the career opportunities that exist and how to get to them. The tech sector has been working to raise awareness of the opportunities available and the diversity of routes available.

“We have created a new internal mobility site to encourage and promote opportunities across the business and continue to partner with Talent Enablement to encourage career growth and development. We consider remote workers and different locations for positions. We also run campaigns on social media and via our CRM to target job seekers and raise brand awareness.”
(techUK Member, June 2020)

Digital skills need to be well defined and there is more that Government and industry can do to have clear accessible routes for people to acquire the skills that match their interest, ability and ambition.

4.5 Work with Government to build a pipeline of talent

The tech industry remains at the forefront of driving digital skills through pioneering collaboration with Government and universities. The Institute of Coding, a consortium of more than 60 universities, businesses and industry experts aims to tackle the UK’s digital skills gap and since its launch, it has seen 400k learners signed up for digital skills courses¹³.

techUK has also welcomed joint government-industry collaborations to drive up AI skills in the UK. In particular the creation of a nationwide programme of industry-funded AI Masters courses. Supported by techUK members including Deepmind, QuantumBlack, Cisco and BAE Systems, Infosys and Accenture this programme will see an initial 200 new AI Masters places at UK universities being created¹⁴. Creating a steady pipeline of tech talent is imperative to the UK remaining a leader in the AI and data revolution and these partnerships are needed to develop the next generation of AI talent.

We will always need to have access to global talent if we are to remain at the cutting-edge of new technologies. The skills needed to power our modern, digital economy simply do not exist in sufficient quantity within the UK’s resident labour market today. An estimated 1.2 million new technical and digitally skilled people are needed by 2022 to satisfy future skills needs¹⁵. Whilst our industry is working in close partnership with Government to ensure the domestic pipeline is strengthened, this will not happen overnight.

5. Knowing occupations in the sector are in shortage

Other than the number of vacancies, increase in demand of digital skills from employers and an analysis of job adverts can help measure whether occupations in the tech sector are in shortage. Burning Glass used a novel big-data approach to assess the demand for digital skills in the job market by mining of employers’ online job adverts to determine the digital skills they request of job seekers¹⁶. This approach offers an alternative perspective to understand the specific digital skills needed for which roles.

¹³ Institute of Coding (2020) [Institute of Coding sees a massive increase in enrolments, with over 400k learners signed up for digital skills courses since launch.](#)

¹⁴ techUK (2019) [techUK welcomes key AI skills announcements.](#)

¹⁵ UK Commission for Employment and Skills (2015) [Sector insights: skills and performance challenges in the digital and creative sector.](#)

¹⁶ DCMS & Burning Glass (2019) [No Longer Optional: Employer Demand for Digital Skills.](#)

Nesta has built a new skills taxonomy which shows the skill groups needed by workers in the UK¹⁷. The taxonomy can be used as a framework to measure the demand for certain skills among employers, the current supply of those skills from workers, and the potential supply based on courses offered by education providers and employers.

Exploring skills gaps is another way to see that occupations are in shortage. The Data Skills Taskforce, chaired by Accenture and the Alan Turing Institute, and of which techUK is a member, acts as a knowledge and best practice sharing forum across key participants from industry, higher education, and schools. The Data Skills Taskforce is currently looking at the gap between the supply of students coming through with the required data knowledge and skills and the demand required by employers to quantify the UK data skills gap.

6. Beyond Brexit and Freedom of Movement

With Freedom of Movement ending in six months, techUK members fear an immediate shortage of talent and lack of access to talent pools and technical expertise as a result. The sector has benefited from accessing talent by tapping into the flexible EEA labour market and importing talent from further afield when needed. techUK members initially saw a reduction in applications from candidates outside of the UK after the referendum vote and expect that this will continue to be a concern moving forward.

Data from Atomico shows both British and foreign job seekers are losing interest in UK tech jobs in favour of ones in mainland Europe. Searches for tech jobs in the UK declined by 3% between 2017 to 2019—which is particularly striking when you compare it with tech talents’ interest in jobs in the rest of Europe. Over the same two-year period, searches for tech jobs in Belgium increased by 76%, 45% in Portugal and 42% in Sweden¹⁸. When combined with the shortage of tech talent and the prospect of being cut off from Europe’s talent pool due to Brexit, this decrease in searches could make it even harder for British companies to source tech workers.

The UK tech sector’s ability to attract and retain talent relies on businesses being able to be agile and dynamic to plan for the future. Leaving the European Union is an unprecedented opportunity to rethink our migration policy and design a new smart migration system around the movement of skills. techUK welcomes the number of steps Government has already taken to restate the UK’s commitment to science, research and innovation. The Global Talent Visa scheme, reinstatement of post-study work visas, and removal of the Tier 2 visa cap are welcome steps.

Looking beyond the system itself, Government must ensure that people with the skills and talent we need feel welcome in the UK—we must ensure that the narrative around the UK’s openness is as positive as the policies that underpin it as companies will continue to hire from outside of the UK once Freedom of Movement has ended to plug skills shortages in their companies.

7. Impact of COVID-19 on the tech sector

Whilst the frontline response to the public health crisis remains the priority, tech firms are also now focused on the outlook for the rest of the year and how they can plan for the post-lockdown re-start and economic recovery that will need to follow. As one of the fastest growing parts of the economy the tech sector should be at the vanguard of the economic recovery.

¹⁷ Nesta (2018) [Linking skills to occupations: Using big data to build a new occupational taxonomy for the UK](#).

¹⁸ Atomico (2019) [State of European Tech Report 2019](#).

At the beginning of the lockdown, 94.4% of businesses in the Information and Communication sectors were still continuing to trade. By mid-May, the number of businesses in the Information and Communication sector still continuing to trade had seen a very small drop to 93.8%, making it one of least affected sectors¹⁹. However, impacts on supply chains and the customers and clients the sector serves, will mean a longer gestation for turbulence which businesses in the sector are planning for.

7.1 Recruitment

COVID-19 has impacted the tech sector with regards to demand and supply of workers and the process of recruitment at organisations.

“We are currently focusing on internal redeployment and internal recruitment.” (techUK Member, June 2020)

Tech hiring activity amongst 100 of the U.K.’s top tech companies fell 31% in March 2020 from data from job site Adzuna, with over 25,000 job vacancies across the tech sector been lost between March and April²⁰.

As the UK looks to recover from the COVID crisis which has left millions unemployed, we believe the tech sector can provide opportunities for good, resilient jobs. Securing this talent is vital, as tech businesses often make decisions about where to place investment based on whether the talent can easily be located in that jurisdiction. This has a direct knock on impact on the creation of other jobs. Between 2009 and 2015, 234,000 jobs in “advanced industries” (which includes tech roles) created a further 147,000 ‘non-tradable’ jobs within the local area surrounding where these advanced industries jobs were created²¹. Migrant workers therefore do not simply fill a gap, they create opportunities for domestic workers.

7.2 Skills

Government should consider what role they can play to incentivise the uptake of technology in the recovery phase, including upskilling furloughed and newly unemployed workers.

Retraining and upskilling sits at the heart of driving productivity and enabling job growth. As we enter an uncertain economic situation, we will see groups of newly unemployed who will need help retraining for another sector and those motivated to refine their skill set for jobs of the future. With 82% of job vacancies requiring digital skills²², retraining can be a first step in helping people to build up the skills employers need during time spent at home.

The appetite for digital and tech skills is high. This number will only continue to grow, especially in the current climate where digital skills will be vital in helping those affected by the pandemic get back into employment or upskill during furlough.

techUK recognises that international recruitment has previously acted as a comfort blanket for some businesses; now a renowned focus on upskilling the domestic workforce is needed. The need for international talent should not be seen as a stop-gap until such time as the UK is able to train a

¹⁹ ONS (2020) [Business Impact of COVID-19 Survey \(BICS\) results 23 March – 17 May](#).

²⁰ Tech Crunch (2020) [UK tech job vacancies fall 31% in less than 4 weeks, according to job site data – so who is still hiring?](#)

²¹ Resolution Foundation (2017) [A rising tide lifts all boats?](#)

²² DCMS & Burning Glass (2019) [No Longer Optional: Employer Demand for Digital Skills](#).

sufficient domestic talent pool. If the UK is to home to the world-leading tech companies, the ability to attract international talent will be vital. Companies will always want to hire the best and brightest talent available to them, wherever they come from. This principle will not change as the domestic talent pool grows.

8. Spotlight on Data Centre sector

techUK would like to offer an in-depth analysis of the Data Centre sector, which sits within the digital and tech industries, and focus on job roles that sit within occupations in this sector. The occupations in shortage recommended to the Shortage Occupation List have been drawn from this sector.

The UK Data Centre sector is a world leading industry that enable all our digital activity – commercial, governmental, societal, and academic. A data centre is a building (or self-contained unit within a building) that houses computing equipment such as servers along with associated components such as telecommunications, network and storage systems. They provide the core digital infrastructure that underpins our modern economy.

Data centres are catalysts for jobs, growth, and exports, underpinning an internet economy that contributes over 16% of domestic output and 24% of total UK exports²³. Each new data centre contributes between £397 million and £436 million per year to the UK economy²⁴ and the contribution of each existing data centre is estimated to lie between £291 million and £320 million per annum. techUK estimates that there are between 400-450 recognisable facilities, around half of which are run by commercial operators, who provide data centre services to third parties.

The demand for efficient, resilient data centre facilities is growing at a rate previously unseen, with the UK sector growing faster than other G20 countries. Overall, the UK economy is estimated to be currently utilising only around 58% of the full potential of data to boost revenues and productivity²⁵.

8.1 Data Centre skills shortages & recruitment difficulties

The data centre sector is suffering an acute technical skills shortage, both in the short and long-term. The number of individuals emerging from the UK's domestic education system with STEM skills and qualifications is insufficient to meet the sector's needs, leading operators to recruit from across Europe and beyond. At least one in five key technical roles is filled by international talent across the sector and in a techUK SME member data centre company two-thirds of their staff are EU citizens.

“As a UK based data centre operator, we have seen the number of good quality technical engineers decline significantly over the past 3 years. As demand outstrips supply, smaller operators such as ours are beginning to feel the squeeze. There is no doubt in my mind that the lack of skilled labour in the UK data centre and cloud sectors will hamper growth of companies such as ours unless change is forthcoming very soon.” (techUK Member, October 2019)

In terms of its skills needs, the data centre sector has complex requirements. This is because it is not a single sector, but rather a composite of different industries: construction, IT, communications, facilities management, engineering – to name just a few. As a result, the sector has technical skills needs across multiple disciplines. Data centres also need people who are multi-disciplined as these specialist technical areas have to work together, not in isolation. The core requirements are also

²³ Frontier Economics (2017) [The UK Digital Sectors After Brexit](#).

²⁴ Digital Realty (2019) [Data Economy Report 2018](#).

²⁵ Digital Realty (2019) [Data Economy Report 2018](#).

changing, from pure mechanical and electrical engineering skills to a broader range of technical competences covering areas like IT and connectivity.

Data centres require ‘T-shaped professionals’ who have both broad and deep skills across both business and technical domains: The vertical stem of the T is a foundation of deep disciplinary skills. The horizontal bar of the T adds the breadth of skill necessary to work across an organisation with the ability to influence others, collaborate across disciplines, and develop creative solutions to complex business problems²⁶. IBM is working to hire T-shaped professionals by exploring ways to scan and code an applicant’s resume to assess their ‘T-score’. A study abroad experience, for instance, may show someone’s ability to adapt, while a leadership role when volunteering on a football team may demonstrate management traits²⁷.

The Data Centre sector faces similar recruitment difficulties as outlined previous but since they have seen a large drop off in applications since 2016, and companies have been prepared to offer training to less well qualified recruits. Often it is another six months on top of the time to fill the vacancy (between 7-12 months) before the employee is trained and ready for the role.

The sector is growing rapidly to support our increasing dependence on internet-enabled applications and activities ranging from government services to social media and the associated explosion in digital data that we are experiencing as a result. This growth trend looks set to continue with the advent of big data, the internet-of-things, digital transformation, autonomous vehicles, machine learning and artificial intelligence.

Roles often reported by data centre operators as hard to fill include:

- Design engineer
- Network architect
- Network engineer
- Electrical engineer
- Mechanical / facilities engineer
- Operations manager
- Energy manager
- Shift manager / site technician
- Technical sales manager
- Technical procurement manager
- Cloud support engineer
- Customer operations manager
- Digital solutions architect
- Sustainability Engineer/Manager

Operators report that technical skills in short supply relate to data centre functions such as:

- Technical or job specific skills
- Advanced or specialist IT skills
- Manual dexterity – for example, to mend, repair, assemble, construct or adjust things
- Specialist skills or knowledge needed to perform the role including:
 - Power system management
 - Mechanical refrigeration
 - Cooling infrastructure management

²⁶ Steven Miller, Journal of Organization Design (2014) [Collaborative Approaches Needed to Close the Big Data Skills Gap](#).

²⁷ UIPD (2015) [Equipping Students and Employees with Essential T-shaped Skills Webinar](#).

- Air flow management / fluid dynamics
- Switching and routing
- Hardware virtualisation
- Cabling and network management
- IT hardware engineering
- IT software engineering
- Critical systems experience
- Cloud transformation
- End-to-end infrastructure
- Technical project management

8.2 Combating recruitment difficulties in Data Centre sector

Data Centre operators have a number of choices. They can increase salaries (and risk a bidding war), develop their own staff (and risk poaching), relax recruitment criteria (and increase training costs), outsource (and risk losing control) or ask existing staff to cover the gap (and risk losing them). Many are investing in staff development with larger operators implementing bespoke training schemes, and others are working more proactively with training providers, industry associations and suppliers.

techUK's Data Centre Programme aims to ensure the sector is strategic in approach and is working with operators and external stakeholders to overcome recruitment difficulties by:

- Supporting career progression, where activities include developing bespoke apprenticeship standards²⁸. Data centres are keen to showcase career progression in the sector as it's an environment needing a full suite of roles ranging from technician to consulting engineer and beyond.
- Clarifying career paths within the sector, encouraging students to retain STEM subjects²⁹.
- Improving the level of professional registration³⁰. Working in a data centre provides engineers with multiple routes to Chartered status and salaries are very competitive because technical staff are in high demand.
- Promoting the sector as a career destination of choice³¹ by working with third parties on outreach to education, raising awareness of the sector's critical role, helping operators to recruit and retain more women³² and promoting role models³³.

9. Occupations that are in shortage

The MAC has previously accepted all jobs in the occupation codes for RQF6 and above to be placed on the Shortage Occupation List: 2121 Civil engineers, 2122 Mechanical engineers, 2123 Electrical engineers, 2124 Electronics Engineers, 2129 Engineering professionals not elsewhere classified, 2135 IT business analysts, architects and systems designers, 2136 Programmers and software development professionals.

The occupations listed below should be on the Shortage Occupation List due to the recruitment difficulties in finding skills for that role. techUK's engagement with members has highlighted job roles within the Data Centre sector that are particularly in demand from employers. The demand has been further highlighted during this public health crisis. This decision will affect the wider UK labour

²⁸ techUK (2017) [Trailblazer Apprenticeships Explained](#).

²⁹ techUK (2019) [Careers in the Digital Economy - Data Centre Professionalism Group Communication](#).

³⁰ techUK & IET (2019) [Professional registration for technical staff working in data centres](#).

³¹ techUK (2018) [Data centres: powering our digital universe](#).

³² techUK (2018) [So You Want To Employ More Women?](#)

³³ techUK (2018) [Personal perspectives from our Sector Superheroes](#)

market and economy by providing the sector with the talent and specialist skills it needs to support our digitally-driven economy. **techUK would like to see the following all job occupations under the relevant SOC codes accepted onto the Shortage Occupation List for RQF3 and above.**

Job title	SOC Code	Minimum RQF Level
IT specialist managers	3132 IT user support technicians	RQF 4
IT business analysts	2135 IT Business Analysts, architects and system designers	RQF 5 or relevant experience
Senior developers	2136 Programmers and software development professional	RQF 5 or relevant experience
Manufacturing engineer	3113 Engineering technicians	RQF 5
Design engineer	2126 Design and development engineers	RQF 5
Network engineer	2139 Information technology and telecommunications professionals n.e.c	RQF 5
Electrical engineer	3113 Engineering technicians	RQF 5
Network architect	2139 Information technology and telecommunications professionals n.e.c	RQF 4
Database administrator	3131 IT operations technicians	RQF4
IT technician	3131 IT operations technicians	RQF4 or relevant experience
Network administrator	3131 IT operations technicians	RQF3
Systems administrator	3131 IT operations technicians	RQF3
Operations manager	2133 IT specialist managers	RQF3 or relevant experience
Electrical technician	3112 Electricals and electronic technicians	RQF 3
Electronics technician	3112 Electricals and electronic technicians	RQF 3
Mechanical technician	3113 Engineering technicians	RQF 3
Energy manager	2142 Environment professionals	RQF 4
Customer operations manager	2133 IT specialist managers	RQF3 or relevant experience
Site technician	3119 Science, engineering and production technicians n.e.c	RQF3 or relevant experience
Process technician	3119 Science, engineering and production technicians n.e.c	RQF3 or relevant experience
Production controller	3116 Planning, process and production technicians	RQF3 or relevant experience
Production planner	3116 Planning, process and production technicians	RQF3
Sustainability manager	2142 Environment professionals	RQF 4
System manager	2133 IT specialist managers	RQF3
Technical sales manager	2133 IT specialist managers	RQF3 or relevant experience
Technical procurement manager	2133 IT specialist managers	RQF3 or relevant experience
Digital solutions architect	2135 IT business analysts, architects and system designers	RQF 5