

## Under-representation in digital and tech careers

### Analysis to support Workforce Integration Network Skills Academies

#### Introduction

The Greater London Authority (GLA) has commissioned research on workforce diversity and inclusion research in the Green Economy, Creative and Cultural Industries, Digital & Tech, Health and Social Care and Hospitality. This is intended to support the London recovery programme and the mission to help Londoners into Good Work. The findings will inform the development of the Mayor's sector skills academies and Workforce Integration Network (WIN) employer toolkits, along with wider skills and employment policy.

This output reports on the evidence review, which is developing a source evidence report for each of the selected sectors, covering baseline information as well as messages from the existing evidence on diversity and inclusion challenges, and strategies in place to address these. This will build towards a fuller understanding of the barriers and opportunities for underrepresented groups in general and the issues Londoners face, as well as strategies that academy hubs could set in place related to getting in and getting on in work in these sectors. The source information for each sector will be summarised within final reporting. The information collated here can help shape the focus of the planned stakeholder consultations.

#### Approach

The approach to the review uses three stages:

- Collating GLA and London intelligence on each of the key sectors at baseline
- Searching for research and insights on under-representation and strategies to address this from relevant sectoral and equalities bodies
- Providing draft content to inform final reporting.

This source reports covers digital and tech careers.

## Digital and tech careers

---

The digital technology sector accounts for 7.7 per cent of UK GVA. It employs 2.98 million people with a further 1.87 million people employed in tech roles right across the economy. These jobs are generally highly skilled and pay substantially more than the average UK salary, with an average annual income of £62,500. Tech firms in London and the South East account for more than half of the UK's tech economy. Over the last 20 years, the global economy has been digitising rapidly, making digital skills an increasingly vital requirement for employers. The pandemic has accelerated this change at pace. The tech industry has the second highest number of job vacancies in the UK (after healthcare) and had 100,000 unfilled vacancies per month at the end of the second quarter in 2021. Although opportunities in the digital sector are lucrative, they are not equitable, and the pandemic has exacerbated the division between those who are digitally-skilled and those who are not.

### Sub-sector(s) of focus and suggested key occupations

The skills mismatch in the digital and technology sector is predicted to worsen substantially. There is a significant opportunity to address demand for digitally skilled workers by increasing the number of workers from under-represented groups in the Digital sector in London. This paper focuses on advanced digital skills or the tech subsector; in particular, roles and skills linked to the creation and/or strategic exploitation of new digital technologies, and new products and services. This includes more advanced programming and coding involved in the creation of new software, and also covers the strategic business skills needed to convert ideas into successful commercial projects and ventures. Since 2019, the tech roles in highest demand have been software engineers, data analysts, data scientist, data engineer, analyst and full stack engineer. In London, the demand for full stack developer and 'devops' engineer has grown the most, followed by data scientist. Other key tech occupations include cyber security and risk management, hardware engineering and systems/network management.

### Key diversity intersections

Key intersections are between gender and ethnicity, although it is increasingly recognised that socio economic group is also an intersecting factor. Women are underrepresented in the digital and tech sector as a whole, as well as in managerial and leadership positions. Ethnic minorities are better represented in the IT and tech sector than they are in the workforce as a whole, but this statistic hides overrepresentation of some groups and underrepresentation of others. In London, ethnic minorities are underrepresented in the sector, compared to London's working population. There is also a clear underrepresentation of ethnic minorities in leadership positions, most notably of ethnic minority women.

## UK context for this industry

---

The digital technology sector accounts for 7.7 per cent of UK GVA. It employs 2.98 million people with a further 1.87 million people employed in tech roles right across the economy. 10 per cent of all jobs in the UK are tech jobs, and projections suggest the UK has the potential to create a further three million new technology jobs by 2025 (techUK, 2021).

These jobs are generally highly skilled and pay substantially more than the average UK salary, with an average annual income of £62,500. They are also well spread out – available in every economic sector and across the nations and regions, with growing hubs in towns and cities right across the country raising prosperity and boosting local economies (techUK, 2021).

### Defining the sector

Analysis conducted by the GLA deploys the DCMS definition<sup>1</sup> for the Digital sector. The categories of digital skills referenced in DCMS Digital Skills for the UK Economy, 2016 (cited in GLA, 2021a) are:

- **Basic or essential digital literacy skills:** the skills needed by citizens to become ‘digitally literate’. These are the skills needed to carry out basic functions such as using digital applications to communicate and carry out basic internet searches.
- **Intermediate-level digital skills:** all basic digital skills, plus skills needed in a workplace, such as, the use and management of applications developed by those with advanced digital skills, but they may also provide contributions to the development of digital content, provision of system support and maintenance, etc.
- **Advanced digital skills:** all intermediate-level digital skills, plus skills linked to the creation and/or strategic exploitation of new digital technologies, and new products and services.

### Subsector focus for this paper: the tech sector

This paper focuses on advanced digital skills; in particular, roles and skills linked to the new digital technologies, new products and services. This includes more advanced programming and coding involved in the creation of new software, and also covers the strategic business skills needed to convert ideas into successful commercial projects and ventures.

The Digital Bootcamps have provided some insights into the skills needed to gain entry level roles in the digital sector, and a range of Higher Technical Qualifications have been

---

<sup>1</sup> <https://www.gov.uk/government/publications/dcms-sectors-economic-estimates-methodology>

approved for delivery in the digital sector. These may indicate the means to ‘get on’ in the sector although narrowing down to some select occupations will be important. Specialisms are however quite diverse from cyber to network engineer, software development and data analyst.

### Key tech roles

In a pre-Covid study, CBI<sup>2</sup> cited that nationally, 55 per cent of firms reported difficulty recruiting software engineers and 61 per cent struggled to hire data analysts, compared to 43 per cent and 37 per cent respectively across the whole business community.

According to Tech Nation’s 2020 report<sup>3</sup>, across the UK, data scientist, data engineer, analyst and full stack engineer have been in higher demand over the last year, in comparison to 2015-2017. Employer demand for software developers has risen by more than one per cent in the past four years. As of 2018, software developer role accounts for almost six per cent of all digital and tech roles. In London, the demand for full stack developer and ‘devops’ engineer has grown the most, followed by data scientist.

Key IT and Tech careers include<sup>4</sup>:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>■ applications development</li> <li>■ computer forensics</li> <li>■ content management</li> <li>■ cyber security and risk management</li> <li>■ data analysis and analytics</li> <li>■ game development</li> <li>■ geographical information systems (GIS)</li> <li>■ hardware engineering</li> <li>■ information management</li> </ul> | <ul style="list-style-type: none"> <li>■ IT consultancy (business and technical)</li> <li>■ IT sales</li> <li>■ multimedia programming</li> <li>■ software engineering (designing, building, developing and testing)</li> <li>■ systems/network management</li> <li>■ technical support</li> <li>■ telecommunications</li> <li>■ web design/development.</li> </ul> |
|---|---|

## Opportunities for growth in the tech industry

The tech industry has the second highest number of job vacancies in the UK (after healthcare) and will have 100,000 unfilled vacancies per month by the end of the second quarter in 2021. This skills mismatch is already costing the UK economy £6.3bn in lost GDP each year and is predicted to worsen significantly (techUK, 20210).

Tech Nation’s Jobs and Skills report (cited in TTC, 2020) highlights a significant increase in nationwide employer demand for digital tech roles — which account for nine per cent of

<sup>2</sup> CBI: Delivering Skills for the New Economy (June 2019), [https://www.cbi.org.uk/media/2836/final\\_digital-skills\\_june.pdf](https://www.cbi.org.uk/media/2836/final_digital-skills_june.pdf)

<sup>3</sup> Tech Nation: 2020 Report <https://technation.io/report2020/>

<sup>4</sup> <https://www.prospects.ac.uk/jobs-and-work-experience/job-sectors/information-technology/overview-of-the-uks-it-industry>

the UK workforce. In some areas, nearly one in five advertised roles are in digital or tech. Emerging technologies, such as AI and machine learning, are creating requirements for specialist skills that are hard to come by in the labour market. This is intensifying competition for diverse talent, while supporting jobs, growth, and productivity in communities.

The demand for data science roles increased by 46 per cent from 2018-2019, and is projected to grow even more. The most frequently required skills for data science roles are those associated with scripting languages, big data, SQL databases and machine learning (TTC, 2020). Research for the UK's Industrial Skills Council found that by 2030, seven million additional workers could be under-skilled for their job requirements. This represents 20 per cent of the jobs market (techUK, 2021).

## Impact of Covid-19 in the tech industry

Over the last 20 years, the global economy has been digitising at pace, making digital skills an increasingly vital requirement for employers. The pandemic has accelerated this change at a speed hitherto imagined. Almost overnight businesses of all sizes and in all sectors were required to rapidly adopt new digital technology in order to continue to operate (techUK, 2021).

Data suggests that, in just a few months, COVID-19 accelerated digital transformation by an average of seven years, and that these shifts are here to stay. For businesses to truly see the benefits of digital innovation, they need their teams to be ready to utilise it. This means skilling the employees they already have and creating pathways for a new pipeline of talent (techUK, 2021).

## Workforce trends in the tech industry

A survey of 412 organisations by the Tech Talent Charter (TTC, 2020) revealed that more than four-fifths (82 per cent) thought that **gender equality** was one of the top priorities, and more than half (58 per cent) said that **ethnicity** was a priority.

In a nationwide poll of 1,000 16–18-year-olds by the Institute of Coding, **more than half thought the digital workforce lacks diversity**. Seven in ten (70 per cent) of the young people surveyed believed the sector is run entirely by those of white, British ethnicity, and over a third said that they were actively discouraged from pursuing digital education and jobs due to the lack of people that represent them (techUK, 2021).

## Obstacles to getting in

The APPG on Diversity and Inclusion in STEM found that in the tech sector, diversity of gender, disability and age were all lower than in the rest of the workforce (APPG, 2020).

### *Gender*

- Women accounted for 50 per cent of the working age population in 2020 (those aged 16-64), but only 19 per cent of IT specialists (BCS, 2021).

- 50 per cent of the UK working population is female but only 16 per cent of IT professionals are women (BCS, 2021).

### *Ethnicity*

- At 18 per cent, ethnic minority representation was higher amongst IT specialists than within the workforce as a whole (12 per cent) in 2020 (BCS, 2021b)
- However, ethnic minority IT specialists were twice as likely to be working in non-permanent positions as their 'white' counterparts (6 per cent versus 3 per cent respectively) (BCS, 2021b).
- Ethnic minority IT specialists were also more likely to be self-employed than other IT staff during 2020 (13 per cent compared with 9 per cent of those from white ethnic groups) (BCS, 2021b).

### *Gender & ethnicity intersection*

People from ethnic minorities make up a larger share of the technology workforce than they do the wider UK workforce (16 per cent versus 12 per cent) — a positive outcome for diversity in tech. This is driven by an over-representation of workers of Indian ethnicity in the sector (seven per cent versus a two per cent baseline in the rest of the workforce) (APPG, 2020). The stronger representation of one ethnic minority group disguises underrepresentation of other groups. Similarly, regional differences in ethnic diversity disguise the problem further. According to census data, London has the highest representation of ethnic minority tech workers, but the figure is proportionally lower than the demographics for the region (TTC, 2020).

Office for National Statistics (ONS) data shows that Black women are still under-represented in IT, making up just under one per cent of all IT workers. As a whole, Black people working in IT made up only 1.9 per cent of the total IT UK specialist workforce<sup>5</sup>.

In the past, TTC and many other organisations primarily focused energies on gender diversity. However, it is now clear that there is more work to be done to support other groups and intersections between them, and as a result, social mobility is becoming a key focus (TTC, 2020).

### *Age, disability*

- People aged 50 and above (50+) accounted for 31 per cent of the working age population in 2020, but 22 per cent of IT specialists were aged 50 or above (BCS, 2021c).
- Across the UK, representation of older people in IT positions was lowest in London, where just 16 per cent were aged 50 and above during 2020 (BCS, 2021c).
- 19 per cent of the UK working population have a disability, but only 9 per cent of IT professionals have a disability (TTC, 2020).

---

<sup>5</sup> <https://www.bcs.org/articles-opinion-and-research/black-history-month-2021-proud-to-be/>

Research has shown that as more flexible methods of learning become available, there is a positive change in demographics. To take gender as an example, today women taking Computer Science related degrees in the UK make up just 13 per cent of students. This rises to 35 per cent for degree apprentices on digital pathways at Manchester Metropolitan University and to a 50-50 split for QA's first digital bootcamp. Positive outcomes have also been recorded for ethnic minority participation and those from low socio-economic backgrounds (techUK, 2021).

### *Neurodiversity in the tech industry*

Neurodiversity is an umbrella referring to the diversity in thinking styles and neurological profiles that exist between all humans. The term covers invisible disabilities such as dyslexia and dyscalculia, dyspraxia, attention deficit disorder and the autistic spectrum. It is believed to affect around 15 per cent of the population, with dyslexia accounting for the largest proportion, at around 10 per cent of the population. There is some debate about the exact figure as many people have several of co-occurring conditions and there is a non-disclosure issue, often because of stigma (Penketh, 2018; Doyle, 2019).

Neurotypical people's skills and capacities tend to be pitched at the same level; verbal skills are around the same level as memory skills, processing skills, and visual skills. In contrast, people with neurodiverse conditions tend to have areas of thinking in which they excel and areas of thinking in which they struggle. This is termed a spiky profile (which would be seen if their abilities were plotted on a graph). Neurotypical people are largely generalist thinkers and neurodiverse people are specialist thinkers. Historically the focus has been on the deficits rather than the strengths of these conditions but a paradigm shift has begun so that the strengths of neurodiversity are becoming the focus alongside the struggles (Penketh, 2018; Doyle, 2019). Neurodiversity in organisations can bring special skills, special interests, detail focused thinking, creativity, entrepreneurial flare, and innovation, and this has been recognised in some sectors and careers, including IT and tech (BCS, 2018).

Neurodivergent individuals face different challenges when it comes to recruitment and career progression. It is important that selection criteria and assessments embrace non-neurotypical traits. Many organisations design job roles assuming there will be neurotypical candidates and accept that adjustments will be needed under the Equality Act to help the neurodiverse fit those roles. However, given the notable differentiation this community can bring to business, a better model might be to fully exploit the power of 'different thinking' by designing some roles specifically to harness the key strengths of neurodivergent candidates (Levell, 2021).

- Recruitment was one of the main themes discussed in depth at a Neurodiversity event<sup>6</sup> - because the straightforward criteria used for, and by, non-divergent people often doesn't work with those who have a different brain.

---

<sup>6</sup> <https://www.bcs.org/articles-opinion-and-research/the-rise-of-neurodiversity-networks-and-why-it-s-a-good-thing/>

- Leading corporations like Barclays, KPMG, EY, HSF, Lloyds, Oracle, HP are increasingly championing this cause. For instance, GCHQ is actively hiring neurodivergent people, and Microsoft has focussed its entire Office products strategy around digital inclusion (Levell, 2021).
- Many organisations have also taken very positive steps to change their employee experience - far beyond the minimum action needed to meet their legal obligations, because they understand the value that neurodiversity brings (Levell, 2021).

### *London focus*

At a London level, GLA analysis of the digital and tech sector<sup>12</sup> indicates that Black, Asian and other ethnic minority groups, women and disabled Londoners are some of the groups underrepresented in the digital sector.

It is estimated that by 2030, 90 per cent of all jobs will include some level of digitisation, and digital skills will only become more and more important at every level. The growing demand for digital skills and competencies brought about by COVID-19 risks exacerbating the gap between those who are digitally-skilled and those who are not (GLA, 2021).

Although London is less vulnerable to automation than many other cities, its risks ‘are concentrated on specific sectors and vulnerable groups, in particular low-skilled and low-paid workers. Moreover, young people (15-24 year olds) and immigrants face the highest automation risk... Alongside COVID-19, this represents a double-whammy that could further entrench disadvantage and inequality in London’s labour market.’<sup>7</sup> (GLA 2021a). The prospect of automation also puts women and part-time workers and lower-skilled workers at the highest risk as they are most likely to work in roles more prone to automation. In addition, the pandemic has exacerbated the division between those who are digitally-skilled, and those who are not (GLA, 2020d).

**Table 1: Digital sector compared to London as a whole**

<b>Getting in – under-represented groups</b>	<b>Getting on - groups underrepresented at managerial level</b>
Ethnicity: Black	Ethnicity: Black
Gender: Women	Gender: Women
Disabled people	Age: 50-64
Age: 16-24	Religion: Christian
Religion: Christian, Muslim	NS-SEC: Low social classes
NS-SEC: Lower social classes	Qualification level: below degree level
Qualification level: below degree level	
Nationality: Foreign born	

*Source: GLA (2021b & c)*

<sup>7</sup> (OECD (2021 forthcoming), *OECD Reviews on Local Job Creation: Future- Proofing Adult Learning in London*, United Kingdom, OECD Publishing, Paris)

## Obstacles to getting on

The boardrooms of Britain's leading companies currently do not reflect the ethnic diversity of either the UK or their key stakeholders that are critical to success of their businesses, and women are also underrepresented compared to men.

### Ethnicity

- Four per cent of the UK population are from an ethnic minority background. But just nine per cent of senior leaders in the tech industry have an ethnic minority background (TTC, 2020).
- 75 per cent of Boards in the tech sector have no Black, Asian and minority ethnic members (TechUK, 2021b).
- In 2020, ethnic minority IT specialists (full-time employees) were earning the same as white / all IT specialists as a whole, with median hourly rates in each case of £21phr (BCS, 2021b).
- However, ethnic minority IT specialists are less likely to be in 'positions of responsibility' than those of white ethnicity with 37 per cent and 41 per cent respectively stating that they were a manager or team leader in 2020 (BCS, 2021b).

### Gender

- At £19 per hour, the median hourly earnings for female IT specialists in 2020 was 13 per cent less than that recorded for males working in IT positions (BCS, 2021).
- In 2020, female IT specialists (who were employees) appeared notably less likely than males to be in 'positions with responsibility' (comparison figures of 34 per cent and 42 per cent respectively) (BCS, 2021).

### Age

- The median hourly earnings for older IT specialists in 2019 was £24 per hour - 15 per cent more than that for IT specialists as a whole (BCS, 2021c).
- Older IT specialists are notably more likely to hold 'responsible positions' - with almost half (47 per cent) having managerial/supervisory status in their job (compared with 38 per cent of younger IT specialists) (BCS, 2021c).

### *London focus*

As shown in Table 1 above, the following are under-represented among managers in the IT and software subsector, compared with London workers overall: 50-64, Black, Christian, Low social class, Education below degree level, Female, British national (GLA, 2021B & c).

## Underlying causes

Diversity in Tech is a website dedicated to helping close the diversity gap in the technology sector.<sup>8</sup> The site includes career advice, case studies, jobs and employers looking to increase diversity within their companies. One of its articles explores some of the possible barriers to workplace inclusion and diversity, and discusses the following contributing factors:<sup>9</sup>

- **Unconscious bias** – refers to any associations made between different qualities such as gender, race and culture without conscious awareness. Most commonly, it means that there is an automatic preference or affinity to those who are similar to us. These biases are very difficult to address as they are, by nature, very unconscious happenings but educating employees on the different types of unconscious bias and carefully considering decisions such as hiring and promotions, companies can help to eliminate this barrier to diversity.
- **Lack of role models** – One of the big barriers to employees feeling included in a workplace is a lack of relatable role models in senior positions. If a leadership team is entirely from one gender or race for example, people are less likely to feel at home in the company if they do not come from the same backgrounds. Seeing someone of similar background, especially if a minority, is likely to empower and inspire employees to create a more productive and innovative culture.<sup>10</sup>
- **Communication barriers** – Whilst a more diverse workforce promotes a huge range of benefits, there also may be issues to iron out in the process. Businesses that hire a culturally diverse range of employees may find that there are communication problems amongst teams. Perhaps language barriers might appear, or cultural differences in timekeeping and personal life schedules. This can leave employees feeling frustrated, excluded and unheard. To ensure cultural diversity does not result in communication breakdown, it's imperative for organisations to keep a constant flow of communication with employees and their managers, to understand what their individual needs and schedules may require.
- **Lack of training** – All of the barriers above are common when trying to become more inclusive and diverse in a workplace. By offering training specifically designed for inclusion and diversity, businesses can ensure everyone is proactive in keeping a balanced and inclusive workplace.

## IT and tech industry workforce trends in London

National statistics published before Covid-19 indicated that there are 2.1 million jobs in the digital tech economy. The tech industry was expanding 2.6 times faster than the rest

---

<sup>8</sup> <https://www.diversityintech.co.uk>

<sup>9</sup> <https://www.diversityintech.co.uk/barriers-to-workplace-inclusion-and-diversity>

<sup>10</sup> Diversity in tech has a range of case studies at <https://www.diversityintech.co.uk/category/case-studies>

of the UK economy<sup>11</sup>. Tech firms in London and the South East accounted for more than half (55 per cent) of the UK's tech economy<sup>12</sup> (GLA, 2020d).

Digital skills are increasingly in demand at all levels (basic, intermediate and advanced) across London's economy. The impact of COVID-19 has accelerated the move to online for businesses and changed patterns of work and learning. Hybrid models of home/office working and online/face-to-face interaction are likely to become the long-term norm. Automation is affecting the nature of some job roles. London is a leading international city for digital innovation and in order to benefit from the opportunities this brings, Londoners will need a range of digital and other skills. This is also important for addressing digital exclusion and making sure the digital workforce is more representative of London's diverse population (GLA, 2021a).

Digital skills are relevant across the whole economy with a growing proportion of occupations requiring intermediate or advanced digital skills. Londoners may need to gain new digital skills to continue to work in sectors which are more exposed to automation (eg lower-level skill roles in the service industries) and the effects of the pandemic (eg accommodation and hospitality) or to retrain and transfer to a different sector where digital roles are in higher demand. It is estimated that by 2030, 90 per cent of all jobs will include some level of digitisation, and digital skills will only become more and more important at every level (GLA, 2021a)

## Opportunities for growth in London

Although opportunities in the digital sector are lucrative, they are not equitable. A key factor contributing to the digital skills gaps is the lack of investment in digital upskilling of the UK labour force - employer investment in training, as well as public funding for adult education has declined over the years. (GLA, 2020d). It is acknowledged that 'there is no single silver bullet that can close the UK's digital skills gap. Rather, it will take a new era of investment, collaboration and commitment from employers, employees and government alike' (Microsoft 2020). There is a significant opportunity to address demand for digitally skilled workers by increasing the number of workers from under-represented groups in the Digital sector in London.

---

<sup>11</sup> Tech Nation: 2020 Report <https://technation.io/report2020/> & <https://technation.io/bright-tech-future/#uk-tech-jobs>

<sup>12</sup> Analysis from accountancy and business advisory firm BDO LLP (Nov 2019), <https://www.bdo.co.uk/en-gb/news/2019/london-south-east-tech-economy-worth-47-billion#:~:text=The%20technology%20industry%20in%20London,produces%20in%20a%20particular%20industry>

## Initiatives to tackle under-representation

### Best practice recommendations

Tech UK (2021) recommends some best practice actions to skill, reskill and retrain people. These broadly fall under three headings: supporting learners, supporting employers and delivering at scale. These are not a diversity-specific but they do include and prioritise actions which reach out to underrepresented groups.

#### Supporting learners

- **Showcase the life changing opportunities of digital skills and jobs** – techUK should work with the sector to run an inspiring campaign telling the story of how people from all walks of life have successfully reskilled in digital technology and benefited from life-changing career opportunities through diverse pathways, from T Levels and apprenticeships and onto degree level qualifications. It should highlight the diversity and effectiveness of pathways and jobs available to all, regardless of background. This campaign should reach out to those people who have traditionally been less confident or aware of their ability to access the opportunities available.
- **Champion bite-sized flexible learning** – Government should look beyond traditional routes to consider new approaches to learning that are fit for purpose for the 21st Century. Government and industry should work together to champion and expand the development and take up of short modular online courses, including bootcamps, that have been proven to be a flexible, affordable and effective route for learners to acquire productive digital skills that are valued by employers.
- **Help learners meet the cost of retraining** – The Lifelong Loan Entitlement and Lifetime Skills Guarantee lay the foundations for a culture and system of lifelong learning. Government should extend this financial assistance to cover industry certifications from a wider range of providers.

#### Supporting employers

- **Help SMEs to invest in digital reskilling through a Digital Skills Tax Credit** – The Help to Grow scheme should be matched with a skills tax credit to incentivise SMEs to invest in training their workforce. This could be modelled on other tax credits for SMEs such as the existing relief for R&D investment.
- **Enable more SMEs to benefit from the Apprenticeship Levy** – Employers should be further encouraged to invest in skills to maximise the number of apprenticeships and the effectiveness of the levy. This should include increasing the percentage of unspent funds from levy-payers that can be transferred to smaller companies in their ecosystem and supply chain.
- **Ensure education providers focus on job readiness** – Education and learning providers should work more closely with employers to understand and deliver programmes that develop the skill sets that employers need. Industry-led

accreditation focused on job-readiness would act as a positive signpost to build employer and learner confidence in a market with more diverse provision

### Delivering change at scale

- **Develop an online ‘Digital Skills Toolkit 2.0’ to help people navigate to digital skills and careers** – Building on the success of the Skills Toolkit, an end-to-end ‘Digital Skills Toolkit 2.0’ should be developed to make digital opportunities and pathways more transparent and accessible to more people. It would enable people across all areas of society to understand the digital job opportunities available to them and the skills pathways to access those jobs.

### Diversity standards and commitments

**TechUK has a Skills Talent and Diversity programme**<sup>13</sup> and a **Diversity and Inclusion** website area, with news, insights and relevant research and reports.<sup>14</sup>

**TechUK launched its Skills and Diversity Council**<sup>15</sup> at the beginning of 2018 following the merge of both the Women in Tech Council and the Skills, Talent and Migration Group. The Council aims to support the wider diversity and inclusion agenda in the tech sector and take concrete steps on helping the UK develop skills for the modern economy. The Council brings together influential networks and people working across the industry to champion diversity in tech, relating to: ethnicity, LGBTQ+, disability, neurodiversity, social mobility and gender. In addition, the Council discusses new approaches which help to address the skills gap including successful multi stakeholder partnerships, innovative recruitment strategies and lifelong learning.

Current companies on the council include: Accenture, Atos, BAE Systems, Cisco, Costain, EY, Experis, FUJITSU, Huawei Technologies, Lewis Silkin LLP, Leyton UK, MeVita, Micro Focus, Oracle, Sanderson, Thales, VISA, Valtech.

The **Tech Talent Charter (TTC)**<sup>16</sup> is a commitment by organisations to a set of undertakings that aim to deliver greater diversity in the UK’s tech workforce. Signatories of the charter make a number of pledges in relation to their approach to the recruitment, promotion and retention of a diverse workforce. Although it is very much an employer-led initiative, the TTC is supported by the UK Government’s Digital Strategy. Importantly, the Charter states that all signatories must provide data on their own workforce each year so that we can measure success and make more impactful, measurable changes as an industry for the future. The TTC was launched in 2017 and now has over 460 members. techUK is a strategic partner of the TTC and a founding signatory. TTC gathers and analyses their Signatories’ data annually to produce the **TTC Diversity in Tech Report**, enabling participating organisations to benchmark their progress.

<sup>13</sup> <https://www.techuk.org/skills-talent-and-diversity-programme.html>

<sup>14</sup> <https://www.techuk.org/shaping-policy/diversity-and-inclusion.html>

<sup>15</sup> <https://www.techuk.org/resource/join-techuk-s-skills-diversity-council.html>

<sup>16</sup> <https://www.techtalentcharter.co.uk/home>

## Measurement and reporting

Whilst transparency can aid understanding, it must be rooted in robust data that can paint an accurate picture. TechUK (2021b) highlights the importance of collecting data on the ethnicity pay gap as well as the gender pay gap and using the resulting reports to create a narrative. For example, TechUK recommends that organisations should explain what has contributed to pay disparities and other extenuating factors which may impact the final numbers, for example the demographic of the pipeline of talent into the sector and what is being done to remedy this. In doing so organisations can gain a better understanding of what their workforce looks like and whether they are reaching out to and benefiting from the diverse talent pool in their local communities.

### Case study: Deloitte's commitment to measurement and reporting

Deloitte responded to the Black Lives Matter movement by hosting a series of listening sessions for its people across all parts of the firm. These sessions included hearing from and understanding the experiences of Black colleagues. A firmwide working group was formed to work closely with the leadership and develop a [Black Action Plan](#) which includes five key commitments aligned to the firm's global shared values of fostering inclusion and taking care of each other.

From this, the company committed to measuring and reporting on targets and outcomes: Deloitte is committing to 12 per cent of ethnic minority and 3 per cent of Black partners by 2025 and has voluntarily been measuring and reporting on ethnicity pay gap since 2017 (techUK, 2021b)

### Case study: CGI's commitment to report on the gender and ethnicity pay gaps

CGI had a series of listening sessions with their staff over the summer of 2020 and agreed to produce a Black, Asian and minority ethnic pay gap report in the same format as for the gender pay gap. This has driven updates to HR systems and a campaign to voluntarily gather the necessary data against the government definitions and CGI will produce their first report this month. This will drive action plans in the same way that they found the gender pay gap report has driven action. The intention is to publish externally both pay gaps together from next year (techUK, 2021b).

## Getting in

### General programmes and initiatives of relevance to the tech industry

The UK Government has already stepped into this space with the creation of the **Department for Education's Skills Toolkit** - launched at the height of the COVID-19 lockdown in April 2020. This resource helped signpost individuals to quality resources available online in core areas. The Government was implicitly nudging individuals to specific core skills that it had identified as valuable. As a trusted resource, this message

was heard and translated into action. The Skills Toolkit has been a huge success, with large number of people using it. For example, Cisco's Programming Essentials in Python Networking Academy had 17,811 registrations and 13,870 people following through to participate in the course (techUK, 2021).

Government has committed to a **Lifelong Loan Entitlement** (LLE) in its Skills for Jobs White Paper. Early indications suggest that this will open up new financing options for lifelong learning and adult education. However, techUK believes that if this is restricted to courses delivered by FE and HE institutions, it risks unintentionally freezing out swathes of learners for whom learning at traditional institutions is either unworkable or unappealing. Using the evidence available from promising initiatives across the globe, the Government and tech industry should work together to explore how the LLE can be used (techUK, 2021)

The **DWP Sector-Based Work Academy Programme** (SWAP), an effective, flexible tool for supporting employers to fill their vacancies and supporting DWP customers by improving their prospects of securing employment (BEIS, 2021). An example of a **Digital Sector-Based Work Academy** is In Digital at Fareham College, which offers qualifications of NCFE Level 1 Award in Employability Skills, NCFE Level 2 Award in Digital Promotion for Business and Maths and English where required. Upon successful completion of the four-week programme, each learner is offered an interview.<sup>17</sup>

**The Skills Bootcamps** (employer-led training initiatives) were announced in September 2020 and aimed to test approaches for roll-out to other industries and skillsets. The aim of bootcamps was to help individuals adjust to the changing economy through training to upskill or reskill so to enable transition from work in declining sectors and occupations into new career directions. Digital provision operated in all six areas, and covered topics ranging from digital marketing, women in software engineering, cloud services engineer, computer aided design (CAD), coding, cybersecurity, IT, social media and digital leadership. HotSW introduced some technical skills courses including energy and marine design, welding, and electrical and mechanical skills.

It was notable that women participants saw high rates of success in courses, and despite the impacts of the pandemic on carers (including those looking after dependent children) this did not appear to have a substantial effect on outcomes. This evaluation suggests that critical success factors in delivering the bootcamps included flexible and responsive provision which supported learners to train around their existing employment and personal commitments. Second, highly skilled training courses and the close alignment of provision to employers needs were highlighted. Finally, employer involvement in bootcamp training delivery – through learner talks, project briefs and wider networking meant that learners (Williams et al, 2021). Wave 2 Bootcamps have been implemented since September 2021 and further Wave 3 bootcamps are planned.

---

<sup>17</sup> <https://www.fareham.ac.uk/digital-swap/>

As part of its **Digital Blueprint, the Greater Manchester Combined Authority (GMCA)** has set a priority to strengthen the digital talent pipeline. Planned actions to achieve this include:

- Inspiring young people to think about a career in digital and give them the skills to do it
- Future-proof the tech talent pipeline; connecting education and industry through harnessing real role models and industry mentors
- Ensure that the system of post-16 technical education in Greater Manchester provides young people with a clear pathway defined by employers into all priority digital/tech occupations
- Address the immediate skills shortage and support employers to diversity their workforce through developing a new model of reskilling and retraining.

(GMCA, 2021)

One example of the GMCA projects in place is **Go Digital**, an industry-led skills programme with 50 schools in Greater Manchester over two years to address the gaps in the digital talent pipeline. This includes building the confidence of girls to enter STEM, building opportunities for SEND students and inspiring young people into the digital and creative careers through digital making opportunities (GMCA, 2021)

## Programmes to attract diverse talent

### *For young people*

**Girls in ICT Day** celebrated its 10th anniversary on 22nd April 2021.<sup>18</sup> It encourages:

- Creation of events designed specifically to inspire girls to pursue ICT professional careers.
- Girls should be exposed and involved in a fusion of classroom learning where they can get hands-on experiences, interact with other women and girls in the ICT sector to assure them of the opportunities available.
- Teachers must play an important role, taking girls on a journey through the digital world for them to understand all the aspects of the sector. This enables girls to replicate these experiences in real life such as creating vlogs, films, and games.
- School clubs designed to engage girls actively in IT and these will allow them to develop tech skills by partaking in challenges specifically tailored to their interests such as dance, sports, and music.

In 2019 **IBM UK partnered with two schools and one college in Leeds** to launch the country's first **Pathways in Technology (P-TECH) programme**, an inclusive approach to secondary school education established by IBM to prepare future workers with the skillsets needed to be successful. This seeks to address, amongst other issues, low Black

---

<sup>18</sup> <https://www.ada.ac.uk/latest-news/girls-in-ict-day> and <https://www.itu.int/women-and-girls/girls-in-ict/>

representation in the technology industry. In the UK, Black, Asian and minority ethnic mentors and guest speakers support the initiative. This programme has globally trained 100,000 students across 18 countries.

Specifically designed for students ages 14-20, initiatives like the P-TECH model show businesses are stepping up and equipping young people with the necessary skills to prepare them for the modern world. Many of these entry-level careers, such as those in areas like cloud computing, cybersecurity and digital design, do not necessarily require a full degree. Apprenticeships and innovative school models like P-TECH, that combine second and tertiary education with applied workplace skills, are proving to be an alternative progression route either into such careers or into university. These routes are often more inclusive, expanding both education and economic opportunity.

The P-TECH programme very deliberately seeks to promote social inclusion by focusing on students from minority backgrounds. Creating opportunity at the educational level and creating experiences for students from underrepresented communities provides a bridge to employment. IBM is trying to create more open and equitable pathways for all, regardless of background, to acquire the skills and training that leads to good jobs (UKTech, 2021b).

### *Post-16 programmes*

An **£18 million investment in digital skills bootcamps in nine areas across England** has been announced. The qualifying criteria for those looking to bid for the tender to deliver these bootcamps includes requirements on: Designing training solutions that meet employer requirements; Flexible delivery that suits individual needs and; A demonstration of employer engagement (techUK, 2021).

The introduction of **Institutes of Technology and T Levels** are targeted at both young and adult learners and created through partnerships between institutions and employers. They provide a strong focus on vocational education (techUK, 2021).

**The Institute of Coding (IoC), a Government-supported initiative** designed to respond to the UK's digital skills gap, has already enrolled more than 800,000 people as it marks three years of supporting learners on their journey into the sector. Its online courses are specifically designed to be accessible to a large variety of people from diverse backgrounds and the courses have been created with input from major employers to help meet the demands of the national skills crisis.

In a recent survey of its learners, 25 per cent said their work situation had been improved by taking a course – either by gaining a promotion, taking on more responsibilities or taking on a new more technical job. Respondents also reported themselves to be better prepared for future careers (63 per cent), more confident working in tech (61 per cent) and more confident to apply for tech roles (54 per cent).

The **Microsoft Digital Skills Hub** brings together a collection of resources and training routes and opportunities including the Microsoft Apprenticeship Network. It aims to develop diverse digital talent across the UK.<sup>19</sup>

The **Microsoft Get On commitment** will help 1.5 million people build tech careers and connect 300,000 to tech job opportunities. It is supported by KPMG, Unilever and the Department of Work and Pensions. **Get On 2021** builds on Microsoft's one-year global skills initiative and will train people who are in education, those new to tech and those who have had their jobs impacted by the crisis. It will advance the skills of tech professionals and help leaders who need to embrace new business models and deploy technology to drive organisations forward. Microsoft is also working with its 25,000-strong partner community and customers to create, expand and accelerate pathways into tech careers, widening access and building a more diverse tech specialist workforce.<sup>20</sup>

Microsoft launched its online apprenticeship platform, **Microsoft Apprenticeship Connector** to connect more jobseekers with companies who need apprentices.<sup>21</sup> **A partnership between GetMyFirstJob and Microsoft**, it aims to simplify the apprenticeship process by listing vacancies across Microsoft's network of partners and customers. The Connector also helps Microsoft's partners and customers promote their apprentice vacancies to a larger and more diverse range of candidates (techUK, 2021). The apprenticeships include training resources from Microsoft to help apprentices work towards Microsoft certifications, as well as the apprenticeship qualification.

All the programmes are delivered by Microsoft Learning Partners. They offer a range of opportunities to start and progress a tech career, from IT Support and Software Developer to Data Analyst and Network Engineer.

### Case Study: Apprenticeship with UKFast

When Sally left sixth form college, she felt she had got everything she could from the mainstream education system and was ready to start a new chapter and her career. She wanted to go into the technology industry and felt that experience in a tech role would be much more valuable than a degree. Being able to earn while she learned was also one of the main reasons she chose the apprenticeship route. Sally started an apprenticeship with UKFast. The strength-based approach to developing talent at UKFast has really suited her, and it has also given her the freedom to follow some of her biggest passions, which is encouraging more women into tech careers.

*'I feel strongly about increasing the number of women in STEM careers, particularly women in tech, and I have been given the opportunity to ignite the passion for tech in young girls and women with projects such as the UKFast Digital Challenge Badge that we created in conjunction with Girlguiding.'*

<sup>19</sup> <https://www.microsoft.com/en-gb/home/digital-skills/>

<sup>20</sup> <https://news.microsoft.com/en-gb/2020/10/13/microsofts-get-on-2021-campaign-to-help-1-5-million-people-in-the-uk-build-careers-in-technology-by-2025/>

<sup>21</sup> <https://news.microsoft.com/en-gb/2021/03/05/microsoft-connects-jobseekers-to-employers-with-opportunities-in-digital/> and <https://microsoft-connector.getmyfirstjob.co.uk>

(TechUK, 2021)

**The Tech Industry Gold industry accreditation** is the result of a unique collaboration between universities and industry, successfully addressing the low employment rates of computer science graduates. Employers and HEIs work together to co-create curricula that develop the capabilities most sought after in the workplace, covering technical, business, project and professional skills. Employers also remain engaged with students through the delivery of the programmes. The results from this collaboration have been exceptional, reducing unemployment rates from 8 per cent to 3 per cent when compared to traditional computer science degrees, whilst also encouraging greater diversity, doubling the proportion of females on programmes with 37 per cent of graduates identifying as ethnic minorities (techUK, 2021).

The same employer and university collaboration sits behind **Tech Industry Gold accredited digital degree apprenticeship programmes**, including the highly successful programme at Manchester Metropolitan University. This programme boasts degree apprentice graduates earning £18,000 more than the average computing graduate salary just one year after graduation, benefiting students from hugely diverse backgrounds and greatly enhancing social mobility (tech UK, 2021)

### Case Study: Tech Industry Gold Digital Degree Apprenticeship

After completing her A levels, Cinderella looked at various routes to continue her higher education including full-time degrees and degree apprenticeships. However, she faced resistance from her family to consider the apprenticeship route as they felt that a full-time degree was the only option. Cinderella embarked on an electronics and engineering degree but felt that the degree wasn't right for her. Over time, Cinderella decided to review her study options and resonated with the degree apprenticeship route. She needed to earn a salary, and this seemed like a viable option. The Tech Industry Gold degree apprenticeship opportunity at Fujitsu and studying at Manchester Metropolitan University has provided Cinderella with an abundance of work prospects and offers excellence in academia.

Cinderella is now a Software Engineer studying for a Tech Industry Gold Digital Degree Apprenticeship at Manchester Metropolitan University (TechUK, 2021).

### Case study: CISCO & Young Black Professionals partnership

As part of their strategy to provide more opportunities to Black talent, Cisco's EMEAR University Recruitment have partnered with Black Young Professionals to focus on engaging further with those early in their career. Cisco have joined the Black Young Professional Network to advertise roles to broader, more diverse candidate lists. The Network job board focuses exclusively on Black talent because specialist organisations and services are needed to improve diversity across the board.

This year the recruitment for their Degree Apprenticeship Scheme is targeting schools with a high representation of Black students. Cisco makes contact with the careers service at the school, building a calendar of 'virtual' visits to explain the programme, and offering mentoring by an existing Cisco apprentice on things like CV writing and interviewing skills so they have

the best chance of succeeding in the recruitment process. The company's current cohort of Black apprentices said how impactful it was to have the involvement of Black Cisco employees, so this year they are supported by Connected Black Professional members during the recruitment process and events (TechUK, 2021).

**Google has launched the UK-wide Google Career Certificates in partnership with the Department for Work and Pensions (DWP)**, available on Coursera.org. 9,500 Google Career Certificate scholarships will be distributed in the UK through Government partnerships with DWP (9,000) and Camden Council (500). In addition, Google.org is providing **grant funding to The Prince's Trust and INCO Academy** to ensure that an additional **1,500 young people from underrepresented and disadvantaged communities** across the UK can take advantage of the upskilling opportunity (techUK, 2021).

Claimants of Universal Credit will be able to access the scholarships via a referral from their work coach, meaning that the offer is available across the UK through the Government's network of jobcentres. Work coaches will decide if this is an appropriate fit for the claimants they support and will be able to combine these scholarships with other tailored support within the Universal Credit system. Those who sign up to Google Career Certificates can select any number of the four courses available to help grow the necessary skills to support a career in technology and IT. The courses which are now live to applicants include IT Support, Data Analyst, Project Manager and UX Designer. They can be completed in three to five weeks if done full time, although typically learners take up to six months to complete. Recognised by industry experts and employers, including Google, they do not require relevant experience or a degree – offering a diverse range of participants the skills they need to access fulfilling careers in technology.

**Amazon Web Services (AWS) first launched AWS re/Start in the UK in January 2017**, and works with local collaborating organisations to deliver the programme in the UK and around the world. AWS re/Start is a skills development and job training programme that aims to build an inclusive and diverse global pipeline of new cloud talent. The programme prepares learners from unemployed and underemployed populations for entry-level careers in the cloud – at no cost to the learner. The full time, skills-based training programme covers fundamental and transferable AWS Cloud skills alongside practical career skills, and helps to prepare participants for entry-level cloud roles such as cloud operations, site reliability, infrastructure support, and technical-adjacent business support functions. On completion of the programme, graduates are connected with potential employers.

To date, numerous organisations have hired AWS re/Start graduates such as: Sage, Direct Line, The Funding Circle, Zopa, Equal Experts, Cloudreach, Splunk, Rackspace, Rebura, KPMG, Centrica Hive, Scape, Onfido, Daemon Solutions, Bytes, Financial Times, Cancer Research UK, Infinity Works, Dunelm, Sony PlayStation, PA Consulting, SteamHaus, ECS, TransACT, Accenture, and Sainsbury's (techUK, 20210).

**AWS re/Start expands to 'level up' cloud skills across UK** – AWS is expanding its cloud computing skills development and job training programme, AWS re/Start, across the UK. Supported by professional mentors and AWS accredited instructors, learners will

build Linux, Python, networking, security, and relational database skills through real-world-scenario-based learning, labs, and coursework. The programme also prepares and covers the cost for participants to take the AWS Certified Cloud Practitioner exam, validating their cloud skills with an industry-recognised credential. This training helps to prepare participants for entry-level cloud roles such as cloud operations, site reliability, infrastructure support, and technical-adjacent business support functions (techUK, 2021).

The **TTC Open Playbook**<sup>22</sup> is an open-source catalogue of resources and case studies to support companies to increase inclusion and diversity in their tech teams. For example, there is a section on **What Works? Evidence Based Actions**<sup>23</sup>, to signpost to research on the evidence base for specific D&I interventions. The section on **Increasing Black Representation** includes four new resources produced during the TTC's July 2020 Hackathon: Making Organisations Inclusive for Black Employees; Education and Allyship; Recruiting Black Employees, Promoting, Developing and Retaining Black Employees, and; Black Employee Networks (TTC, 2020).

**EY will be offering at least 30 per cent of the work experience places on their Smart Futures and Our Futures programmes to Black young people for the next five years, starting in 2021.** They will also continue to support and fund the EY Foundation, an independent charity in the UK, to conduct a survey of Black young people (18-24 years old) to better understand access to employment opportunities and the challenges they face. This will be published and used to help guide further action the company could take together.

**The EY Foundation has been looking at the impact of COVID-19 on the future of young people from low income backgrounds.** This crisis will have a disproportionate impact on young people and their prospects in the future. The EY Foundation worked with its Youth Advisory Board to create a digital space to replace its usual face to face support - with mental health, exams and job prospects top of the list of concerns. Online content including employer webinars, career advice, interview skills and life at university were made available to help. This initiative is important to help young people who otherwise might be feeling isolated and anxious and give them a platform to share their concerns and access information and advice about their future work and career options.

**Vetforce** is a Salesforce programme supported by FDM Group, which **prepares current service members, veterans and military spouses for civilian careers in IT, consulting or sales**, through career specific training (techUK, 2021)

---

<sup>22</sup> <https://www.techtalentcharter.co.uk/open-playbook?hsLang=en-gb>

<sup>23</sup> <https://www.notion.so/What-works-Evidence-based-actions-ce6bce22b1ab49e2885dd7f8bca6c972>

## Programmes to attract women into the tech industry

### Case Study: Capgemini's Returner programme

Returner programmes such as Capgemini's are opening doors to talented women who may have taken time-out but have a valuable role to play in the future of the tech industry.

Having taken a career break to raise her three children, Sara Matthewman knew she was ready for a new challenge but with commitments at home, she needed to find a role that had flexibility and she wasn't too sure where to start. She came across the Return@Capgemini programme. Following an interview, she was accepted and immediately started working towards getting her Java SE 8 Oracle Certified Associate (OCA) certification.

*'I knew I had value to give, I just wasn't sure how or where to apply it,' she explains. "I had graduated with a BSc in Computing and my career had been very techie but technology had moved at such a pace, I was out of date skills-wise... Every day I'm learning new technologies and ways of working. I'm growing in confidence and my technical knowledge has grown immeasurably.'*

(Sara Matthewman, on the Capgemini Returner programme, cited in TechUk, 201)

**British technology firm UKFast, in partnership with Girlguiding, has created a Digital Challenge Badge<sup>24</sup>**, to help engage and educate girls in different areas of digital technology. The badge is designed with an emphasis on STEM learning and hands-on activities relevant for a digital world. It is available to Guide units globally and offers an introduction to the hardware and processes underpinning computing and the internet, basic coding skills, app development and knowledge about staying safe online and spotting fake news.

UKFast engineers have overseen the creation of the badge content and the company is supporting the launch of the digital challenge badge by hosting and facilitating a number of 'digital parties' at the purpose-built training labs within its Manchester HQ. Guide units are invited to the digital parties to be inspired by UKFast's engineers and trainers and take part in coding workshops. Activities required for completion of the challenge badge can be done anywhere, with few technical resources, ensuring it is accessible to all.

## Getting on

### *Supporting diverse workforce talent*

The **Tech Talent Charter's Open Playbook** includes a section on Promoting, Developing and Retaining<sup>25</sup> including initiatives and case studies including sponsorship, proportional promotions, targeted development interventions, mentoring and reverse mentoring.

<sup>24</sup> <https://www.ukfast.co.uk/press-releases/girl-guides-take-on-ukfast-digital-challenge.html>

<sup>25</sup> <https://www.notion.so/Promoting-Developing-and-Retaining-2b9165f3ce7743048542e2bae04d1394>

Below are a range of case studies showing the ways that organisations are working to support diverse talent.

### Case Study: Oracle's Cultural Harmony Network

Oracle's Cultural Harmony Network launched in Oracle UK in October 2019 and already has 290 members passionate about wider representation who all want to play a part in creating a workplace reflective of a diverse society. This Network is committed to bringing people together by promoting the benefits of cultural diversity, reducing discrimination, and addressing cultural misconceptions in the pursuit of all things equality; to celebrate the differences that makes us all the same.

Oracle are also currently piloting their Reverse Mentoring program where members from their ethnic minority demographic of employees will mentor senior managers to share and highlight their professional and personal experiences. The mentee (managers) will benefit from having greater cultural understanding of differences, the impact this has on their employees and a greater sense of awareness of sensitive aspects when it comes to developing the organisation's culture of inclusivity (TechUK, 2021b).

### Case study: Atos Future Leaders Program

Atos' multi-cultural diversity The Together Network, has launched their first sponsorship program, 'Pathway: A Future Leaders Program'. The network strives to ensure that every single employee, regardless of their cultural background or beliefs, can thrive and reach their full potential. The program will identify Atos employees from ethnic minority backgrounds with high potential and pair them with senior leaders, creating a sponsorship relationship. The sponsor will act as a mentor, providing direction and support to promote the employees' skills within Atos.

The pilot program will run for six months, with an ambition of leading to a wider reaching programme in the future, across all networks. The mentoring programme for ethnic minority employees pairs employees from multi-cultural backgrounds with senior employees in the business with the aim to support and champion their careers. Employees get the opportunity to network whilst also learning from the experience of people in more senior positions. This allows them to build confidence to apply for new roles and progress within the business. In the past Atos have also run a successful reverse mentoring programme, where their executive team are paired with a junior ethnic minority employee so they can learn about the lived experiences of people from ethnic minority backgrounds. This in turn has supported Atos executives understanding and commitment to ensuring equity at all levels in the business (techUK, 2021b)

### Case study: Supporting diversity at FDM Group

At FDM Group, the pandemic occasioned a transition to virtual learning that provided the opportunity to widen participation and have greater outreach. As a result, FDM's online training is more diverse. FDM sees diversity as a key driver of innovation and business success:

*'Currently we have 90+ nationalities working together and 32 per cent of our workforce are female – far exceeding the UK sector's average. We see this diversity as one of our core*

*strengths at FDM. The disruption caused by COVID-19 has only reinforced our commitment to ensure everyone, regardless of their background, is empowered and enabled to build an exciting career in technology.’ (Chief Operating Officer, FDM.)*

(techUK, 2021)

The **Women in Tech**<sup>26</sup> website provides a range of resources, news, articles and guides to help women who would like to get started in a career in technology or to progress in the sector. It also provides case studies<sup>27</sup> and actions for employers.<sup>28</sup>

**UKBlackTech**<sup>29</sup> is an innovation group that is on a mission to make the UK the most ethnically diverse tech ecosystem in the world. To make this happen we need to see equity, transparency and representation at decision making level in tech. Their 100 year plan aims to showcase tech professionals & digital businesses in mainstream media and events, help individuals and digital businesses to become self-sustainable through long term growth & consistency, build a community that collaborates, partners and shares resources, and to increase the numbers of Black, Asian and minority ethnic people at all levels in tech.

**Mentoring** is the second most common skills initiative (after training) for tech companies to run, and these programmes are proven to help increase the number of women from ethnically diverse backgrounds in management roles (TTC, 2020). The case studies below illustrate how organisations are putting mentoring, and reverse mentoring into practice in their organisations to help diverse, talented employees to progress.

### Case study: Reverse mentoring at Deloitte<sup>30</sup>

Deloitte has introduced a reverse mentoring programme which 'paired around 30 junior ethnic minority and female employees (the mentors) with senior leaders (the mentees). The nine-month programme gives the mentors an opportunity to share insights about their 'on the ground' experiences and provides a fresh perspective to our senior leaders when it comes to our business, our strategy, and also perspectives on culture. The pilot has proved to be one of our most powerful initiatives and as a result the 2019 programme was doubled in size. Over 87 per cent of mentors felt they built a strong and meaningful relationship; they felt empowered to build connections that they otherwise would not have been. 67 per cent of mentors felt their opinions and voices were heard. 100 per cent of mentors committed to keeping in touch with their mentee; 47 per cent of mentors have been promoted since the commencement of the programme.

<sup>26</sup> <https://www.womenintech.co.uk>

<sup>27</sup> <https://www.womenintech.co.uk/category/case-studies>

<sup>28</sup> <https://www.womenintech.co.uk/5-actions-tech-employers-can-take-to-retain-women>

<sup>29</sup> <https://ukblacktech.com>

<sup>30</sup> <https://www.notion.so/d9a97a75d1db489796ac6568f5418f4e?v=7028221d04104f41b4e2621154dee11f>

### Case study: Fast-stream, mentoring, and race awareness training at BT Group

BT Group has ten diversity networks across the organisation. The organisation now plans to create a new fast-stream for high potential people from ethnic minority backgrounds, all of whom will be personally mentored by one of their Senior Leadership Team. They will also have diverse shortlists for every senior management role and will introduce a new programme of mandatory race awareness training for everyone in the company. It will be immersive, offer guidance, champion diversity and it will support managers to tackle these critical issues (TechUK, 2021b).

### Case study: Mentoring, coaching and sponsorship at Accenture

Accenture are actively mentoring, coaching and sponsoring the career progression of their African and Caribbean colleagues across all career levels through the introduction of a Sponsorship programme to provide additional support to their African & Caribbean community to enable career growth and build a progression pipeline. This will have regular touchpoints through career counsellor networks and sponsors to ensure individuals have the right role, right project and right client to align with their career aspirations. Accenture also plan to complete reviews on a 6 monthly basis of all employees to consider suitability for promotion and to ensure additional performance support can be introduced if required, and have launched Thrive Guide events through their Graduate African & Caribbean Network to provide guidance on how to navigate difficult situations or conversations individuals may encounter in the workplace (techUK, 2021b).

### Initiatives to support employers

The Government's **Fast Track Digital Workforce Fund (FTF)** is a £3 million pilot programme the Department for Digital, Culture, Media & Sport (DCMS) is delivering in partnership with the Manchester Combined Authority and Lancashire LEP. The FTF sought consortia, with an employer-led focus, to work together to co-design and co-deliver creative, responsive approaches to address digital skills gaps faced by local employers. The pilot is co-funded with employers through match funding.<sup>31</sup> Round One Winners were:

- Tech Returners 'Your Journey into Tech' - A 15-week programme aimed at getting returners to tech and career changers into software development
- Generation - A 12-week programme aimed at helping disadvantaged 18 to 29 year olds into Cloud Engineering
- QA - A 12-week DevOps training programme aimed at Underemployed graduates, career changers and returners to tech
- Tech Manchester Tech Equity - A 12-week programme aimed at training local women (primarily from Hulme, Whalley Range, Fallowfield and Moss Side) to become Linux Engineers

<sup>31</sup> <https://www.gov.uk/guidance/the-fast-track-digital-workforce-fund>

- We Are Digital Digital Boost - A 12-week intensive programme helping unemployed learners into Digital Marketing

The **Government's Help to Grow** scheme recognises the importance of both skills development and digital as a driver of growth and productivity. These two programmes, which together make up Help to Grow, will help businesses invest. However, they remain time-limited and only available to a small proportion of SMEs (techUK, 2021).

**The Lloyds Bank Academy, West Yorkshire Digital Skills Partnership and Clockwork City are training fifteen businesses led by under-represented groups across Yorkshire.** The training is delivered via a set of four workshops, with follow-up 121 mentoring sessions, post training workshops and demonstrations. With a focus on practical advice and support on using digital tools to increase profitability and exposure. These workshops offer businesses an introduction into the value of Essential Digital Business Skills and provide detailed Digital Skills Implementation support to help put theory into practice. Through the sessions, business owners are taught how to combat the effects of COVID 19 and to prepare for re-launching their business as and when restrictions ease (TTC, 2020).

## References

### Background paper references

- Access Generation (2020) How to attract candidates in 2020. Access Generation online article, 29 January 2020. Available at: <https://accessgeneration.co.uk/2020/01/29/attract-candidates-2020/> (Accessed 28 Nov 2020).
- CIOB (2016b) Social mobility and construction. Building routes to opportunity. Chartered Institute of Building. Available at: <https://policy.ciob.org/wp-content/uploads/2016/12/CIOB-Social-Mobility-in-Construction-19.12.16.pdf> (Accessed 23 Nov 2020).
- CIPD (2020c) People Profession 2030. A collective view of future trends. Report by Mel Green, Rebecca Peters and Jake Young at the CIPD. Available at: [https://www.cipd.co.uk/Images/people-profession-2030-future-trends-executive-summary\\_tcm18-86486.pdf](https://www.cipd.co.uk/Images/people-profession-2030-future-trends-executive-summary_tcm18-86486.pdf) (Accessed 22 Nov 2020).
- CITB (2019a) Understanding young people's career aspirations. Debrief from Revealing Reality. *Provided by CITB.*
- GLA (2018) Skills for Londoners. A skills and adult education strategy for London. June 2018. Available at: <https://www.london.gov.uk/business-and-economy-publications/skills-strategy-londoners-evidence-base> (Accessed 7 October 2021)
- GLA (2020a) Creative and Cultural Industries: sector skills literature review. Unpublished paper.
- GLA (2020b) Green skills: sector report, December 2020. Unpublished paper.
- GLA (2020c) Briefing on Hospitality Next Steps. Unpublished paper.
- GLA (2020d) Digital Sector Skills Report (16.12.2020). Unpublished paper.
- GLA (2021a) The Mayor's Academies Programme. Hub Funding Prospectus 2021. Available at: [https://www.london.gov.uk/sites/default/files/mayors\\_academies\\_programme\\_-\\_hub\\_funding\\_prospectus\\_2021.pdf](https://www.london.gov.uk/sites/default/files/mayors_academies_programme_-_hub_funding_prospectus_2021.pdf) (Accessed 7 October 2021)
- GLA (2021b) City Intelligence Diversity of Sectors. 22 July 2021. Unpublished paper.
- GLA (2021c) City Intelligence Summary. Powerpoint slide.
- GLA (2021d) Socio-economic impact of Covid-19. City Intelligence Unit, GLA. July 2021. Available at: <https://data.london.gov.uk/dataset/socio-economic-impact-of-covid-19> (Accessed 8 October 2021)
- GLA (2021e) London's Economy Today. GLA Economics. Issue 229. September 2021. Available at: <https://data.london.gov.uk/dataset/london-economy-today> (Accessed 8 October 2021)

IFF (2017) Recruitment Benchmarking for the Construction Industry. Final Findings debrief, August 2017. *Provided by CITB.*

London Green Spaces Commission (2020) London Green Spaces Commission report. Available at: <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/london-green-spaces-commission-report> (Accessed 7 October 2021)

## Digital sector references

TechUK (2021) Fast Forward for Digital Jobs. A taskforce to drive positive change. Available at: <https://www.techuk.org/shaping-policy/fast-forward-for-digital-jobs-report.html> (Accessed 9 November 2021)

GMCA (2021) Greater Manchester Digital Blueprint. Available at: [https://www.greatermanchester-ca.gov.uk/media/4640/gmca\\_blueprint\\_jun-21.pdf](https://www.greatermanchester-ca.gov.uk/media/4640/gmca_blueprint_jun-21.pdf) (Accessed 9 November 2021)

Tech Talent Charter (2020) Diversity in Tech. An annual report tracking diversity in technology across the UK.

APPG (2020) The State of the Sector: Diversity and representation in STEM industries in the UK. APPG on Diversity and Inclusion in STEM. Data Analysis Brief. Available at: <https://www.britishecienceassociation.org/Handlers/Download.ashx?IDMF=d7899dce-22d5-4880-bbcf-669c0c35bda6> (Accessed 9 November 2020)

Williams, J. Newton, B. Allen, A. Lanceley, L. Garner, O. Cook, J. Clarke, V. Suarez, S. Neary, S. Blake, H and Clark, L (2021) Skills Bootcamps process evaluation Research report. October 2021. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1027163/Bootcamps\\_wave\\_1\\_final\\_evaluation\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027163/Bootcamps_wave_1_final_evaluation_report.pdf) (Accessed 9 November 2021).

TechUK (2021b) Delivering Diversity. Available at: <https://spark.adobe.com/page/xyXasyHNfQAxE/> (Accessed 9 November 2021)

BCS (2021) BCS diversity report 2021: Women in IT. Available at: <https://www.bcs.org/policy-and-influence/diversity-and-inclusion/bcs-diversity-report-2021-women-in-it/> (Accessed 10 November 2021)

BCS (2021b) BCS diversity report 2021: Ethnicity. Available at: <https://www.bcs.org/policy-and-influence/diversity-and-inclusion/bcs-diversity-report-2021-ethnicity/> (Accessed 10 November 2021).

BCS (2021c) BCS diversity report 2021: Age. Available at: <https://www.bcs.org/policy-and-influence/diversity-and-inclusion/bcs-diversity-report-2021-age/> (Accessed 10 November 2021)

Penketh, C (2018) The rise of Neurodiversity networks - and why it's a good thing. BCS opinion article. 29 November 2018. Available at: <https://www.bcs.org/articles-opinion-and->

[research/the-rise-of-neurodiversity-networks-and-why-it-s-a-good-thing/](#) (Accessed 10 November 2021)

Doyle, N (2019) How neurodiversity is changing work. 2018) BCS opinion article. Available at: <https://www.bcs.org/articles-opinion-and-research/how-neurodiversity-is-changing-work/> (Accessed 10 November 2021)

Levell, J (2021) Unlocking the talents of people who 'think differently' can give your business the X factor. BCS online article, 1 October 2021. Available at: <https://www.bcs.org/articles-opinion-and-research/unlocking-the-talents-of-people-who-think-differently-can-give-your-business-the-x-factor/> (Accessed 10 November 2021).

BEIS (2021) Hospitality Strategy: Reopening, Recovery, Resilience. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1003059/1200-APS-CCS0621819592-002-BEIS-Accessible2.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1003059/1200-APS-CCS0621819592-002-BEIS-Accessible2.pdf) (Accessed 23 October 2021)