Cheshire and Warrington
Local Enterprise Partnership

Digital Skills in Cheshire and Warrington

Report - October 2022
Brennan Wilson Ltd

Please Note: This report has been commissioned for the Cheshire and Warrington Local Enterprise Partnership by the Cheshire and Warrington Data and Labour Market Steering Group on behalf of the Employers' Skills and Education Board with support from the Department for Education.

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1. Introduction

Digital skills are now a skill for life. Day to day tasks that require basic digital skills – dealing with emails, managing entertainment streaming services, banking, shopping, communication (eg messaging) – are ubiquitous. People that lack these skills face exclusion from important parts of society. This explains the increasing importance of action to deliver digital inclusion.

Digital skills are also increasingly important in the world of work. Many jobs across the economy now require the ability to use common productivity software – word processing, spreadsheets, presentation, and database software. In this report, these types of digital skill are referred to as *baseline digital skills*, using the Burning Glass taxonomy[1].

Also required across the economy are *specific digital skills* (also after Burning Glass). These skills are required to undertake specific digital occupations such as programmers, digital marketeers or network engineers. These roles focus on a specific set of digital tasks to be undertaken in different contexts. Demand exists for them in a range of sectors such as health, engineering, logistics, and construction. People with these skills can often be found in what the government describe as Digital Occupations but will also be found in other occupations where these skills are required.

Another way of thinking about digital is to consider the Digital Sector. This is the industrial sector that delivers the digital services and products that consumers and other sectors require.

Demand for digital skills is driven by the skill requirements that underpin digital inclusion; the requirement for digital skills across the economy; the specific skill requirements of digital occupations; and the skill requirements of the digital sector. The first four substantive chapters of this report address the demand for digital skills from each of these perspectives.

For many over the age of 16 who need digital skills they will acquire those skills through further education or through apprenticeships. The final two chapters of the report examine the contribution that each of these learning routes make in supplying the skills to meet demand in society and the economy.

It is hoped that this report will be useful for providers of digital skills to better meet the needs of local employers and their communities; for those that deliver information, advice, guidance and careers services to young people and adults; and for providers that support people into work. It should also inform activity across a range of local initiatives including Connecting Cheshire; the Digital Connectivity Board; a number of Local Growth Fund Skills projects; the Digital Skills Partnership; and the Pledge.

1 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/807830/No_Longer_Optional_Employer_Demand_for_Digital_Skills.pdf

2. Executive Summary

Digital skills are becoming increasingly important. In wider society they underpin engagement with a very broad range of services and products. In work, the demand from employers for digital skills is accelerating for both baseline and specialist digital skills. The skills system in Cheshire and Warrington has an important role in equipping people with these skills. This report pulls together what we know about employer demand for digital skills; digital inclusion; and how the skills system is supporting young people and adults to secure the digital skills they need. Key findings are summarised below.

2.1 The national and international evidence

2.1.1 Demand for digital skills is accelerating

Covid-19 has accelerated the use of digital and the acquisition of the skills needed to support that. For the digital capability of individuals in the UK, over five years' worth of pre-pandemic progress was made in a single year during the pandemic, and for UK organisations, 87% of them reported accelerating their pace of digital adoption during the pandemic.

This trend to greater digitalisation, now accelerated by the pandemic, is global. The World Economic Forum estimate that by 2025, 97 million new roles may emerge by a shift in the division of labour between humans and machines, while 85 million jobs may be displaced. In the UK more than six million people are currently employed in occupations that are likely to change radically or disappear entirely by 2030.

This transformation of the world of work is driving new demand for digital skills. Nationally, over nine in ten businesses say that having a basic level of digital skills is important for employees at their organisation. Alongside the near-universal demand for basic digital skills, many employers require advanced digital skills, with over one in four employers saying that the majority of their workers require skills at this level. Three in five employers expect their reliance on advanced digital skills to increase in the next five years.

This demand for digital skills is often not being met, with one in four employers nationally saying that their current workforce lacks the basic digital skills that they need, rising to over one in three saying this for advanced digital skills.

2.1.2 Digital inclusion remains a key issue

The percentage of people that use the internet on a daily basis in the UK has increased every year since 2006, going from 35% to 89% in 2020. However, access to the internet at home is linked to age and social class. 98% in social classes AB report as having access to the internet at home, compared to 82% in social classes DE. Over half of those offline earn under £20,000. A third of unemployed people have Low or Very Low digital capability versus one in five who are in the workforce. 20% of households with a single pensioner have no connection to the internet.

There is overwhelming research evidence indicating a large disparity in the remote learning experiences of the most and least disadvantaged school students. Deprivation and disadvantage seem to be most associated with poorer learning experiences and learning losses during the pandemic, with students in the poorest families worse affected compared with their counterparts.

Nationally, 14% of people with children aged 4-18 from social classes DE say that children in their household never have access at home to appropriate devices based on their schooling requirement. This is double the 7% from social classes AB responding in this way. Applying national proportions to the Cheshire and Warrington population of school-age children gives an estimate of c14,000 children

in Cheshire and Warrington that never have access at home to appropriate devices for their schooling.

Many young people are interested in pursuing a career that requires advanced digital skills, but there is a significant gender gap. Nationally, three in five young males are interested in a digital career, compared to just two in five young females, and there is a similar gender gap in young peoples' confidence in their digital skills. This translates into a stark gender disparity in entries for A-level Computing (females accounting for 15% of English entries) and Computing GCSE (females accounting for 21% of English entries). Employment in digital occupations is dominated by males. Nationally 83% of people employed in digital occupations are male. This ranges from a third of those employed as IT project and Programme Managers being female, to only one in 25 Telecommunications Engineers being female.

2.2 Employer demand in Cheshire and Warrington: digital skills, digital occupations and digital industries

There are three ways of considering employer demand. The first is to consider the demand for digital skills across all occupations and industrial sectors; the second is to consider the demand for specialist digital occupations; and the third is to consider the demand that comes from digital industries (the 'digital sector'). This report considers all three.

2.2.1 Employer demand for digital skills in Cheshire and Warrington.

Demand for digital skills across the Cheshire and Warrington economy can, to some extent, be gauged from job postings data; although as demand for these skills becomes more prevalent, the requirement for them may become less explicitly stated in some job postings. Key facts from the current data are summarised in the table below.

Profile of demand for types of digital skill in Cheshire and Warrington					
Digital skills type	% of job postings seeking these skills	% of employers recruiting for these skills	Vacancies are easier to fill/average/ hard to fill	Demand has increased/ decreased/ stable	Pay is lower/ higher compared to the C&W average
Baseline	10%	28%	Average	Increased	Lower
Software and programming	6%	16%	Easier	Stable	Higher
Computing networking and support	3%	11%	Average	Increased	Higher
Data analysis	4%	13%	Average	Decreased	Higher
Digital design	4%	12%	Average	Decreased	Higher
CRM	3%	15%	Easier	Increased	Lower
Digital Marketing	2%	8%	Easier	Stable	Higher
Machining and manufacturing technology	2%	6%	Average	Increased	Higher
Source: Lightcast analyst job postings data					

2.2.2 Digital occupations in Cheshire and Warrington

There were 21,552 jobs in 2020 in digital occupations in Cheshire and Warrington which was 2% below what would be expected if Cheshire and Warrington mirrored the national average. However, the numbers employed in these occupations has recently grown faster in Cheshire and Warrington than nationally (2.4% compared to 1% 2020-2022), with the fastest growth being in Warrington (5%). The highest level of average annual openings in digital occupations in Cheshire and Warrington is for Programmers and Software Development Professionals at just over 350 openings per annum.

Forecasts commissioned by the Local Government Association from Sagacity suggest that overall employment in digital occupations is expected to increase by c3k in Cheshire East, c2k in Cheshire West and Chester and c1.5k in Warrington by 2030.

There is a wage premium associated with digital occupations with every occupation type in this group having higher median wages than the Cheshire and Warrington median for all occupations, with half of the occupation types that make up digital occupations have an annual wage premium of more than £17,000.

Job postings data suggests that post-pandemic, employers have been putting less effort than average toward recruiting for these types of positions, and that levels of demand have been broadly stable at between 2,000 and 3,000 job postings per month over the last year. The highest employer demand has been for Programmers and Software Development Professionals; IT Business Analysts, Architects and Systems Designers; and IT User Support Technicians. The volume of vacancies for these three occupations is higher than would be expected from the number of jobs in the local economy. This suggests that there are higher levels of churn for these digital occupations than for others.

2.2.3 Digital Industries in Cheshire and Warrington

Employment in the digital sector in Cheshire and Warrington is concentrated in a handful of locations. These locations include parts of Chester City Centre; Chester Business Park; various business parks in Warrington adjacent to (south of) the M62 between junctions 8 and 11; Wilmslow; and Crewe Industrial Estate.

In 2021, the digital sector employed 21,717 people in Cheshire and Warrington, which was 11% below the level of employment that might be expected from national employment levels for the sector. This is because employment volumes in digital industries is only two thirds of what might be expected in Cheshire West and Chester. The number of employees in the digital sector is about what would be expected from national employment shares in both Cheshire East (slightly below) and Warrington (slightly above). However, with an employment growth of 2.6% between 2020 and 2022, the sector grew more rapidly in Cheshire and Warrington than was the case nationally where growth in this period was 1%. The highest growth in Cheshire and Warrington was in Warrington (3.9%).

Computer Consultancy Activities is a major source of employment in the digital sector in all three local authorities. Cheshire East also has high volumes in Computer Programming Activities, with Warrington having relatively high volumes in Other Telecommunications Activities.

The digital sector in Cheshire and Warrington is dominated by companies with between 1 and 4 employees, accounting for 78% of all businesses in the sector. However, this size band constitutes 87% of the digital sector in England.

About half of the jobs in the Digital Sector are in what are classified by ONS as digital occupations and 30% of all jobs in the digital sector in Cheshire and Warrington are in three digital occupations:

Programmers and Software Development Professionals; Information Technology and Telecommunications Professionals n.e.c.; and IT Specialist Managers.

The average wage in digital industries in Cheshire and Warrington is £40,366, which is £13k higher than the average wage for all roles in the subregion, but almost £5k lower than the national average wage for the digital sector.

2.3 The supply of digital skills to young people and adults in Cheshire and Warrington

2.3.1 Young people in Further Education

Young people's learning at entry and Level 1 reduced by two thirds between 2018/19 and 2020/21. This seems to be primarily because providers repositioned digital Level 1 as being mostly for learners declaring as LLDD. Young people's digital skills learning at Level 2 saw a reduction of 22% in the number of enrolments in this time. There was stark gender disparity in Level 2 enrolments, with 86% being by males. There was also a 7% decline in enrolments on young people's Level 3 digital learning aims (which were usually A-levels or Diplomas). This is in sharp contrast to a growth of 8% for all learning aim enrolments at Level 3 in the same period. 28% of digital L3 enrolments were by females.

2.3.2 Young People on digital apprenticeships

Over the three years 2018/19- 2020/21, the number of young people resident in Cheshire and Warrington starting on a digital apprenticeship dropped from 95 to 75, a decline of 21%. The number of employers starting 16-18 year olds residents of Cheshire and Warrington as digital apprentices also declined from 64 in 2018/19 to 45 in 2020/21. Only six employers started two or more 16–18-year-olds as digital apprentices in 2020/21.

In practice, digital apprenticeships are not an option for school leavers at 16. In 2020/21 only 5 young people aged 16 started a digital apprenticeship, 59 (79%) were aged 18. In line with this, about half of all starts on digital apprenticeships were at the Higher Level (Level 4+). There were no starts on digital apprenticeships at Intermediate Level (Level 2). About 3 in 5 starters had a prior attainment at Level 3 or above.

Whilst there is a gender disparity in apprenticeships for 16–18-year-olds resident in Cheshire and Warrington with starts by females accounting for 38% of the total between 2018/19 and 2020/21, there has been a slight improvement in the position with females accounting for 41% of starts in 2020/21.

There were 32 providers with digital apprenticeship starts by 16–18-year-olds resident in Cheshire and Warrington in 2020/21. 87% of these starts were with providers located outside of Cheshire and Warrington. Manchester Metropolitan University accounted for 40% of all digital apprenticeship starts by young people.

2.3.3 Adults in Further Education

Enrolments on digital learning aims at Entry Level and Level 1 by adults resident in Cheshire and Warrington halved between 2018/19 and 2020/21. Whilst the pandemic is known to have had a major impact on the volume of enrolments in this period, this decrease in digital enrolments was significantly more than the decrease of a third in all Entry and Level 1 enrolments. The places with the highest levels of enrolment by adults on Entry and Level 1 digital learning aims were in parts of Warrington, parts of Ellesmere Port, parts of Macclesfield, Winsford, a couple of wards in Chester, a couple of wards in Crewe, and to the east of Congleton. There is some alignment between these places and the areas with the highest levels of adult skills deprivation. 77% of adult learners on Entry

and Level 1 digital learning aims were not in paid employment, were looking for work and were available to start work.

The volume of adult enrolments on digital Level 2 learning aims remained stable between 22018/19 and 2020/21. Given the volume of claimant unemployed searching for work in these places, there appears to be relatively low levels of enrolments on digital Level 2 aims in Colshaw Farm, the south of Macclesfield and much of Crewe, particularly east of the main rail line. It is notable that almost two thirds of Level 2 enrolments were by learners whose prior attainment was already at Level 2 or above.

The volume of digital Level 3 learning aims enrolled on by adults in FE in Cheshire and Warrington is very low and getting lower. Between 2018/19 and 2020/21, digital level 3 enrolments by adults halved from an already very low 142 to 71. Females accounted for only a quarter of adult digital learning enrolments at Level 3. Spatial analysis reveals deserts of L3 digital provision for adults including places with relatively high concentrations of adults in low paid work like Crewe, east Congleton, Winsford, and Colshaw Farm. Any significant growth in this type of digital adult Level 3 delivery will require changes to the mode of delivery (eg the introduction of 'night school' provision or 'boot camp' provision) rather than just organic growth of current delivery.

There were only 54 enrolments on Level 4+ digital learning aims in FE by residents of Cheshire and Warrington in 2020/21. This was a decline of 21% (14) on 2018/19.

2.3.4 Adults on digital apprenticeships

The number of starts by adults (aged 19+) resident in Cheshire and Warrington on digital apprenticeships has seen a significant increase of 81% between 2018/19 and 2020/21. This is in contrast to the number of apprenticeship starts by adults resident in Cheshire and Warrington across all occupational areas which saw a decline of 9%. There was also a 60% growth in employers starting adult digital apprenticeships. Between 2018/19 and 2020/21, a third of all adult starts on digital apprenticeships were by females.

Participation in digital adult apprenticeships covered a much wider geography than the areas where employment in digital industries is concentrated, or places where travel to work in digital industries is straight forward. For example, there were reasonable volumes of starts on digital apprenticeships by adults in Ellesmere Port, even though there are low levels of employment in digital industries in and around Ellesmere Port. This will be because the opportunity to undertake a digital apprenticeship is not confined to the digital sector.

Whilst over half (56%) of all adults that started on a digital apprenticeship in 2020/21 had a prior attainment at Level 3 or below, almost a third (32%) were already qualified to degree level or above. This suggests that a significant proportion of adult digital apprentices are using the apprenticeship to reskill from other disciplines.

Similar to the picture for young people, the large majority of starts on digital apprenticeships by adults resident in Cheshire and Warrington were with providers headquartered out of area. In 2020/21, BT started the highest number of adult apprentices resident in Cheshire and Warrington, with Manchester Metropolitan University and two national providers – Corndel Ltd and QA Ltd – also starting over 30.

3. Why Digital? Policy context and the national and international evidence

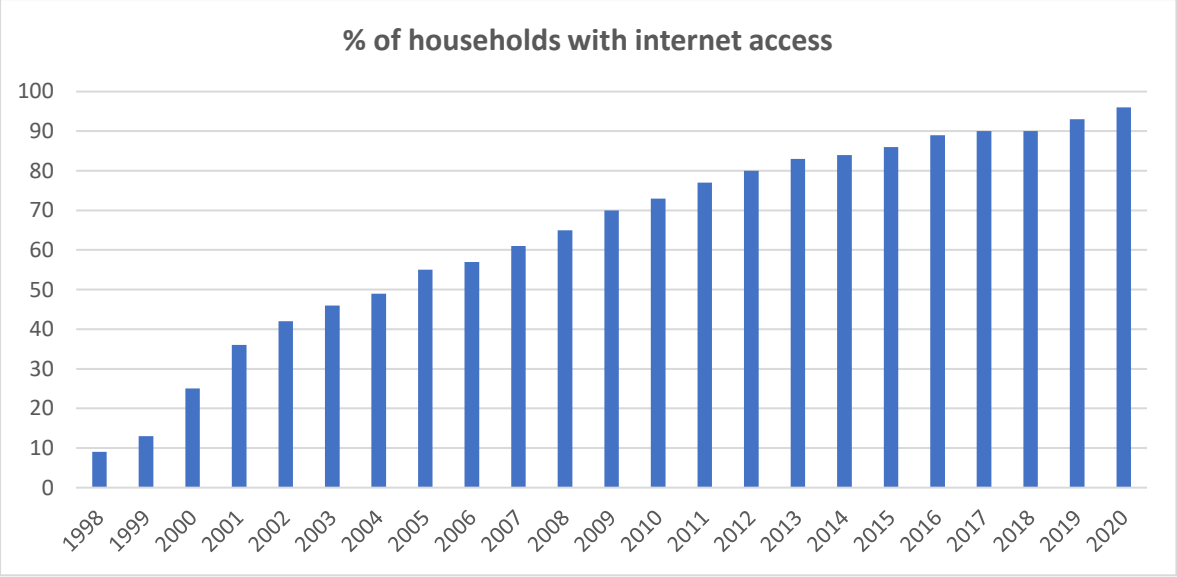
3.1 Introduction

Digitalisation is transforming the world and transforming the world of work. This transformation was happening at pace prior to the onset of the pandemic, but it is now clear that it has been further accelerated by Covid-19.

Accelerating digitalisation is evident in our everyday lives:

- Increasing numbers of us use the internet to shop, bank and book holidays;
- Delivery of many services is being transformed by digital. For example, on-line consultation with health professionals, rare three years ago, is now widespread;
- Streaming is now a major delivery pillar for audio-visual entertainment;
- Data about individual characteristics and behaviour is now a significant commodity;
- Automation is ending some occupations and transforming others;
- Remote working, often introduced as a response to the pandemic, is becoming the new normal for many jobs

There has been a steady increase in household access to the internet in the UK with less than 10% of households having access in 1998 growing to 96% having access in 2020.

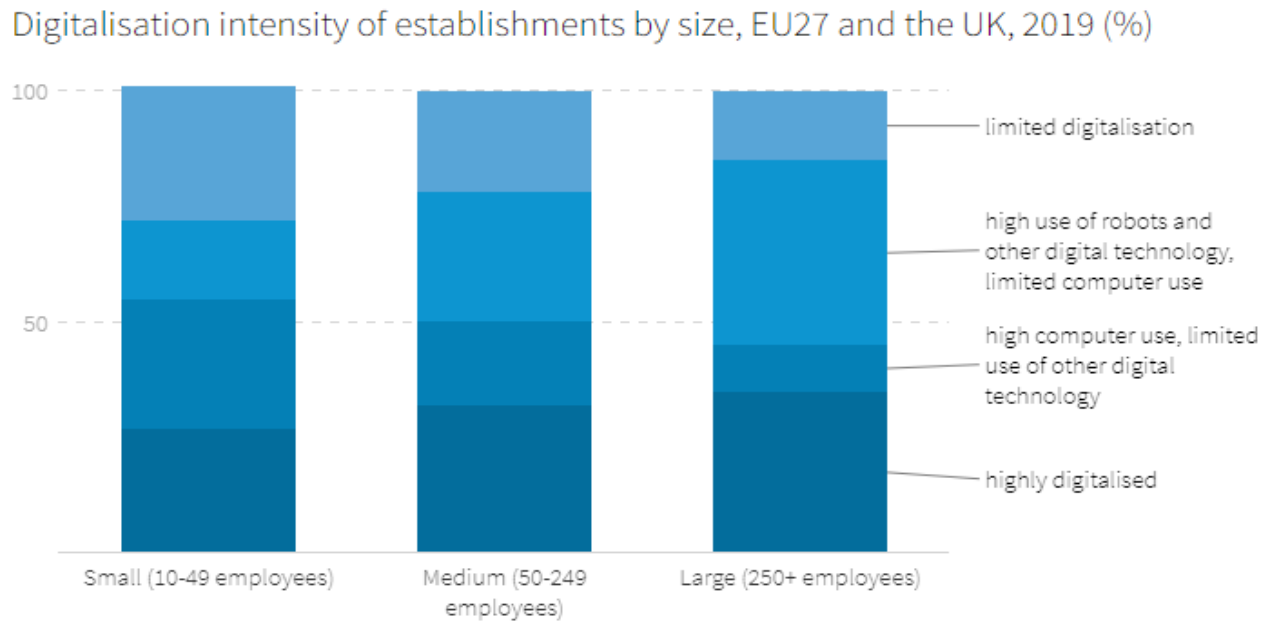


Source: ONS, Internet access - households and individuals

This increase in household access has been accompanied by an increase in individual use of the internet, particularly during the pandemic. More than half (55%) of the online population have increased their Internet usage throughout the pandemic – on average people are spending an extra 13 hours online a week. In the last 12 months, 1.5 million more people have started using the Internet, resulting in 95% of people now being online. In 2020, predictive modelling indicated that it would take to 2025 for 58% of the UK to have high digital capability. In 2021, 60% of the UK now have this level of digital capability; five years' worth of progress has been made in a single year.

These changed behaviours seem set to stick, with almost all people who have engaged online more (or in new ways) through the pandemic, intending to continue these new habits going forward[2].

Digitalisation by employers is also prevalent, with pre-pandemic data for the UK and EU showing that approximately only a third of small (10-49 employees) employers having limited digitalisation with this decreasing to fewer than one in five of large (250+ employees) employers.



Establishments with 10 or more employees active in NACE Rev. 2 sectors B to N and R to S.

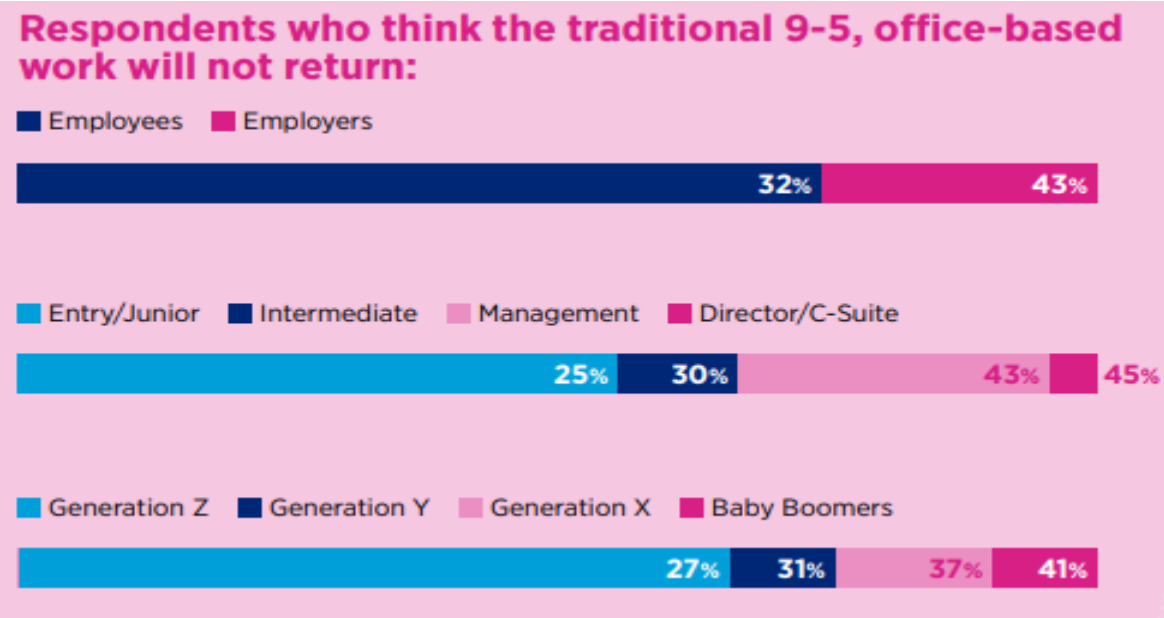
Source: ECS 2019 management questionnaire

These pre-pandemic percentages of employers are likely to have further decreased post-Covid, since 87% of organisations accelerated their pace of digital adoption during the pandemic (Building Skills for the Changing Workforce, Amazon Web Services, November 2021[3]).

The Covid-19 pandemic has also transformed the way that employees and their employers approach office working. A third of employees and over two fifths of employers believe that traditional office-based working will not return.

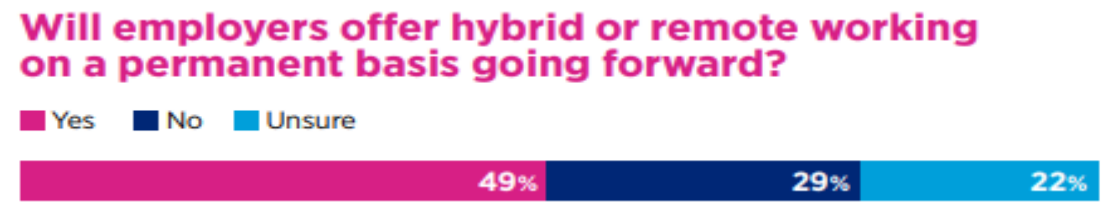
[2] All data in this paragraph reported in Lloyds UK Consumer Digital Index 2021 https://www.lloydsbank.com/banking-with-us/whats-happening/consumer-digital-index.html

[3] https://assets.aboutamazon.com/45/39/5ab8d17149a1bab0011202552bb6/aws-en-fa-onscn.pdf



Source: The end of the 9-5? What Workers Want Report 2021, Hays[4]

With almost a half of employers offering, or intending to offer, hybrid or remote working on a permanent basis in the future.



Source: The end of the 9-5? What Workers Want Report 2021, Hays

The remainder of this chapter discusses below the wider context and drivers for digital skills in Cheshire and Warrington:

- The policy context
- The economic drivers for digital skills
- Digital inclusion

3.2 Policy Context

The UK Digital Strategy was published in June 2022. The Digital Strategy sets out a vision that the UK will be the best place in the world to start and grow a technology business; and the actions the Government believes are required to deliver that. The Government believes that their approach to supporting and strengthening the digital economy could grow the UK tech sector's annual gross value added (GVA) by an additional £41.5 billion by 2025, and create a further 678,000 jobs.

[4] https://www.hays.co.uk/what-workers-want

The strategy has six strands:

- Digital foundations
- Ideas and intellectual property
- Skills and talent
- Financing digital growth
- The whole UK: spreading prosperity and levelling up
- Enhancing the UK's place in the world

Each of these is discussed briefly below.

3.2.1 Digital foundations

This strand focuses on strengthening the foundations of the digital economy. It encompasses: the roll out of digital infrastructure across the UK; harnessing the power of data; and the implementation of a 'light-touch' regulatory regime. It is intended that this will lead to regulatory competitive advantages in areas such as AI, data, and digital competition. There are also commitments that the UK's tech and digital security is defended from hostile state threats, and that highly sensitive tech intellectual property is appropriately protected.

3.2.2 Ideas and intellectual property

The Government believes that existing and future government investment in research and development (R&D) (up from £15 billion to £20 billion a year between 2020/21 and 2024/25), combined with enhanced R&D tax incentives to stimulate private investment, will deliver the innovation which feeds digital businesses. There is a commitment that ideas will more readily be commercialised from the academic environment. There is also a commitment to actively seek to grow the UK's existing expertise in the foundational deep technologies of the future, such as artificial intelligence, next generation semiconductors, digital twins, autonomous systems and quantum computing.

The NHS is globally unique as the largest integrated health system in the world. The Government believes that this provides substantial opportunities to undertake research and development, based on rich data that reflects a large population cared for in one system, which may lead to innovative new healthcare products.

3.2.3 Skills and talent

The Government has committed to ensuring that UK technology businesses have access to the skills and funding they need to innovate, develop and grow. As part of this, there is a commitment to work with schools, universities, further education providers, and businesses to deliver the digital skills that the real economy needs.

In its strategy, the Government identifies six areas for action across the skills and talent agenda:

- Strengthening the digital education pipeline
- Increasing awareness of pathways into digital occupations
- Developing advanced digital skills
- Lifelong digital skills
- Collaborating with the private and third sector on digital skills
- Attracting the brightest and best globally

3.2.4 Financing digital growth

The Government is committed to ensuring that market failures inhibiting growth of the digital business base are addressed. It believes that more that can be done to facilitate the investment of UK capital into the UK's digital economy by enabling UK financial institutions, such as pension funds, to allocate more capital to pre-Initial Public Offering (IPO) technology. The Government believes that this will stimulate more productive innovation and offer the potential of greater returns for pension savers.

The Government intends to encourage UK investors to increasingly take a long-term view and understand that growth investing does not often generate short-term dividend flow. To this end, there are plans to remove well-designed performance-based fees from the list of charges which are subject to the regulatory charge cap.

The Government has also committed to continue to directly support innovation and growth financing through InnovateUK and the British Business Bank's initiatives, including British Patient Capital, British Business Investments and Enterprise Capital Funds, and will seek to use these to maximise investment by third-party financial institutions in the UK and internationally.

The Government intends to promote the London Stock Exchange (LSE) as the best place for digital technology firms to list, through changes to the rules to allow dual class shares; a reduction in the minimum free float to 10%; special purpose acquisition company (SPAC) rules changes; combined with planned prospectus rules changes to allow more forward-looking statements.

3.2.5 The whole UK: spreading prosperity and levelling up

The Government intends to promote better access to the benefits of digital technologies across the whole of the UK by funding the adoption of cutting-edge technologies by businesses in every region to accelerate productivity growth. This is supported by the Northern Powerhouse Investment Fund, which plans to invest over £500 million to boost small and medium businesses across the north of England.

3.2.6 Enhancing the UK's place in the world

The Government intends to promote digital exports, and seek to ensure that new free trade agreements have a digital chapter (including zero-tariff digital trade, cross-border data flows with trust, and IP and source code protection).There will also be a cross-Government effort to promote inward investment into UK tech and UK VC funds by focusing on key target geographies, such as the Middle East, the Asia-Pacific region and North America. The Government will also seek to develop partnerships around the world on issues that benefit from supranational cooperation, such as highly complex R&D projects and semiconductor supply-chain resilience.

3.3 The Economic Drivers for Digital Skills

3.3.1 The Economic context

Increasing Demand
1. Data Analysts & Scientists
2. AI & Machine Learning Specialists
3. Big Data Specialists
4. Digital Marketing & Strategy Specialists
5. Process Automation Specialists
6. Business Development Professionals
7. Digital Transformation Specialists
8. Information Security Analysts
9. Software & Applications Developers
10. Internet of Things Specialists
11. Project Managers
12. Business Services & Administration Managers
13. Database and Network Professionals
14. Robotics Engineers
15. Strategic Advisors
16. Management & Organization Analysts
17. FinTech Engineers
18. Mechanics & Machinery Repairers
19. Organizational Development Specialists
20. Risk Management Specialists

Source: Future of Jobs Survey 2020, World Economic Forum

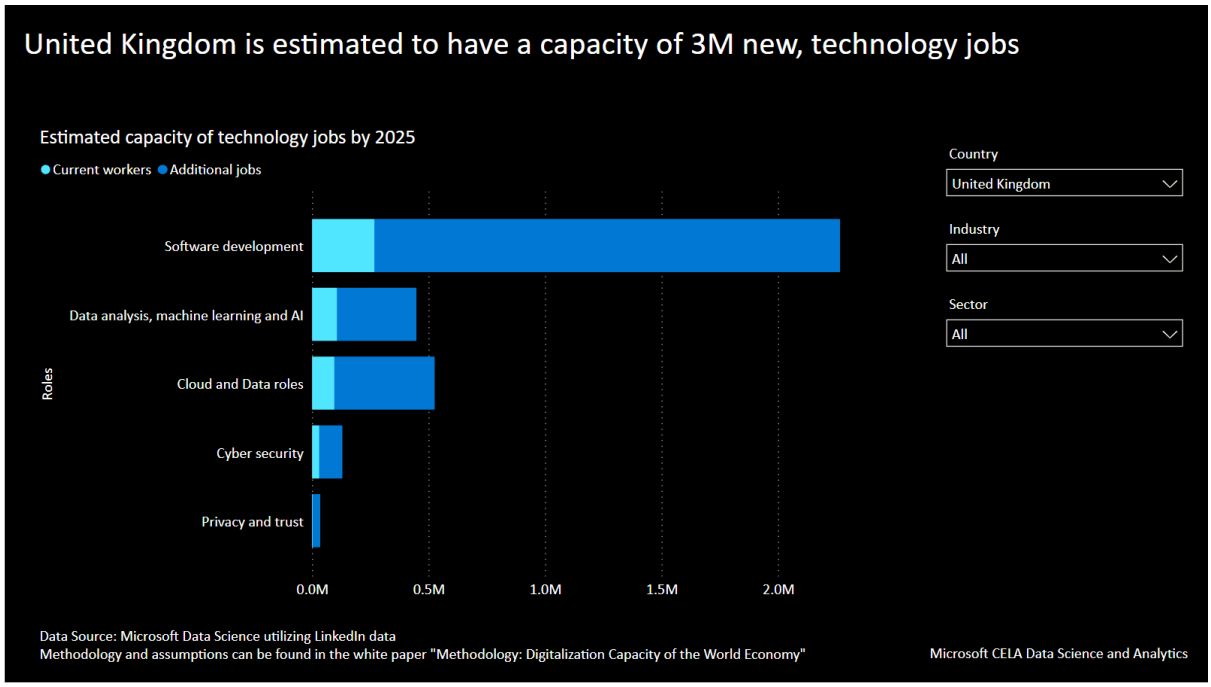
According to the World Economic Forum's 2020 Future of Jobs report[5], half of businesses plan to accelerate the automation of jobs. Some 43% indicated that they plan to reduce their workforce over the next few years due to technology integration, only a third plan to expand their workforce for the same reason. So even as overall labour demand is collapsing, demand for digital workers is expanding. Workers with advanced digital skills are in high demand and command wages significantly above the average for their economy. Employers expect that by 2025, increasingly redundant roles will decline from being 15.4% of the workforce to 9% (6.4% decline), and that emerging professions will grow from 7.8% to 13.5% (5.7% growth) of the total employee base of company respondents. Based on these figures, the World Economic Forum estimates that by 2025, 85 million jobs may be displaced by a shift in the division of labour between humans and machines, while 97 million new roles may emerge that are more adapted to the new division of labour between humans, machines and algorithms.

Similarly, Wiley report[6] that over the next five years, based on research released by Microsoft Data Science (utilising LinkedIn data), the global workforce is poised to add 149 million new technology-oriented jobs, with emerging fields such as data analytics, software development, and cybersecurity projected to have significant growth. Only 4.2% of the respondents in this international survey were completely satisfied with the level and availability of digital skills.

In the UK, the digital technology sector accounts for 7.7% of UK GVA. The sector alone employs 2.98 million people with a further 1.87 million people employed in tech roles right across the economy. 10% of all jobs in the UK are tech jobs, and projections suggest the UK has the potential to create a

[5] https://www.weforum.org/reports/the-future-of-jobs-report-2020/
[6] https://www.wiley.com/network/latest-content/digital-skills-gap-index

further three million new technology jobs by 2025. These jobs are generally highly skilled and pay substantially more than the average UK salary, with an average annual income of £62,500[7].



Tech Nation has published very similar estimates of the scale of the digital sector to the techUK estimates quoted in the paragraph above[8]:

- There were over 2mn vacancies for tech roles between May 2021 and 2022, from a total 14.85mn vacancies across the economy as a whole, which includes part time and contract work
- Nearly 5mn people now work in the digital tech economy, up from 2.18mn in 2011
- On average, tech salaries are nearly 80% higher than salaries for non tech jobs in the UK, at £62,000 compared to £35,000 as of Q1 2022
- Almost 80% of advertised tech roles are at the senior level potentially obstructing those at an earlier stage in their career from getting relevant experience in tech
- The demand for a Product Manager in tech has grown by over 8x in the last year, showing the burgeoning significance of non-technical roles in the sector
- When surveyed by YouGov and Tech Nation, 64% of tech employees believe their tech skills are essential to job security.

The tech industry has the second highest number of job vacancies in the UK (after healthcare) and is thought to have had 100,000 unfilled vacancies per month by the end of the second quarter in 2021.

[7]Data quoted in this para from "Fast Forward for Digital Jobs" techUK https://www.techuk.org/asset/5A115863-8EFB-4F8C-9B52486240BB100A/

[8] People and skills report 2022, Tech Nation https://technation.io/people-and-skills-report-2022/#key-statistics

This skills mismatch is already costing the UK economy £6.3bn in lost GDP each year and is predicted to worsen significantly[9].

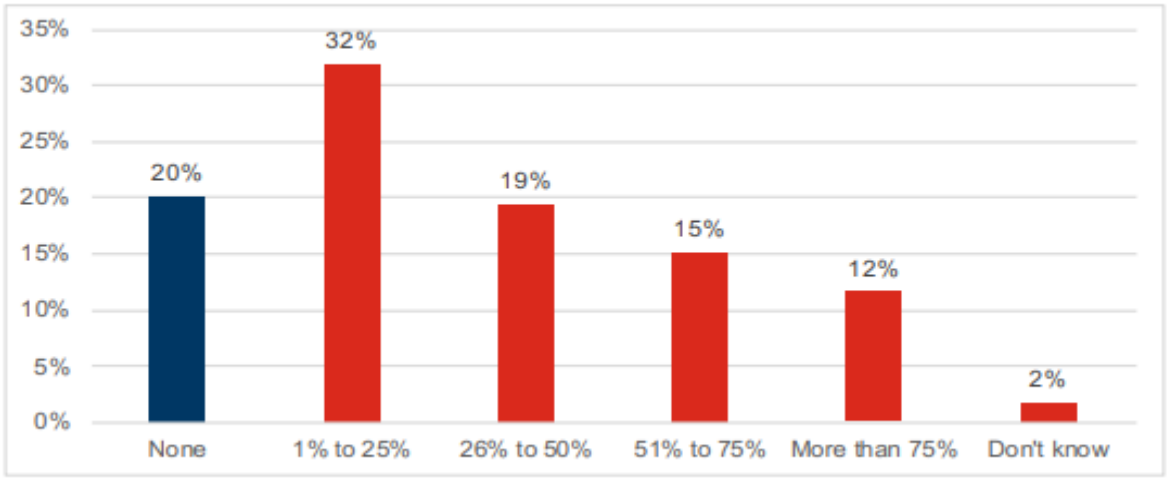
Research from Nesta[10] indicates that as a result of technological progress and changing demographics, more than six million people in the UK are currently employed in occupations that are likely to change radically or disappear entirely by 2030, spelling a much larger need for transition on the horizon.

3.3.2 Employer Demand for Digital skills

Microsoft report[11] that digital skills have a clear and valuable impact on bottom line performance, with digital skills accounting for 2.4% minimum of a company's bottom line. 80% of UK business leaders believe investment in digital skills capabilities will be important to the country's economic recovery following COVID-19. Similarly, 78% see having a large digital skills talent pool as essential to driving UK competitiveness on the global stage.

In a survey undertaken for the Learning and Work Institute[12], over nine in ten (92%) businesses said that having a basic level of digital skills is important for employees at their organisation. Alongside the near-universal demand for basic digital skills, many employers require advanced digital skills, with one in four employers (27%) saying that the majority of their workers require skills at this level.

Proportion of workforce who require advanced digital skills, all employers

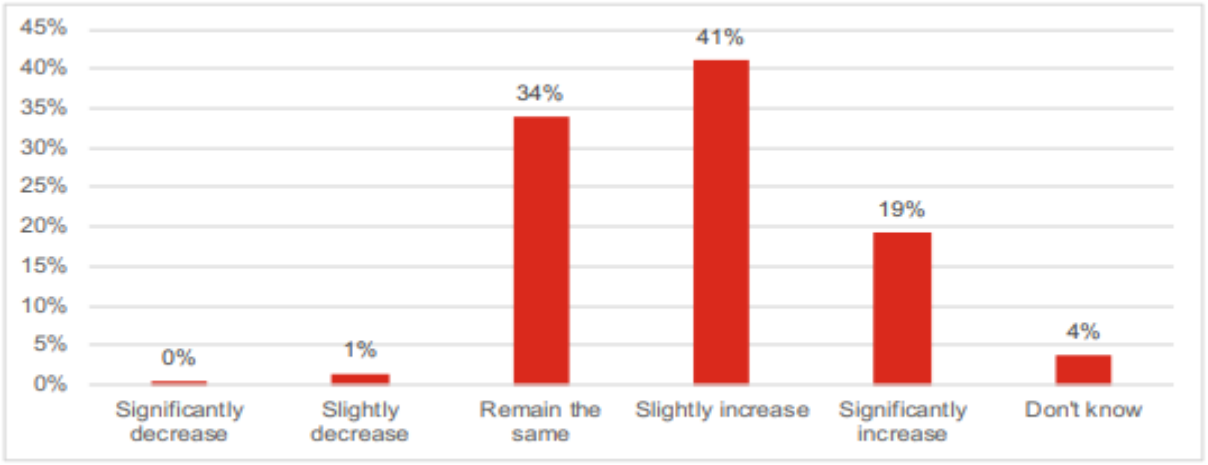


Source: YougGov employer survey, 2021

Demand for advanced digital skills has increased in recent years, and it is set to go on rising; three in five employers (60%) expect their reliance on advanced digital skills to increase in the next five years - two in five (41%) employers say that they expect their reliance on advanced digital skills will increase slightly in the next five years, with one in five (19%) saying that they expect demand to increase significantly over that period.

[9] ibid
[10] https://www.nesta.org.uk/report/the-future-of-skills-employment-in-2030/
[11] Microsoft and Goldsmiths, University of London, https://info.microsoft.com/rs/157-GQE-382/images/Unlocking-the-UKs-potential-with-digital-skills_131120__v3.pdf
[12] Disconnected? Exploring the Digital Skills Gap, Learning and Work Institute https://learningandwork.org.uk/resources/research-and-reports/disconnected-exploring-the-digital-skills-gap/

How reliance on digital skills will change in next five years, all employers



Source: YougGov employer survey, 2021

3.3.3 Digital skills gaps in the current workforce

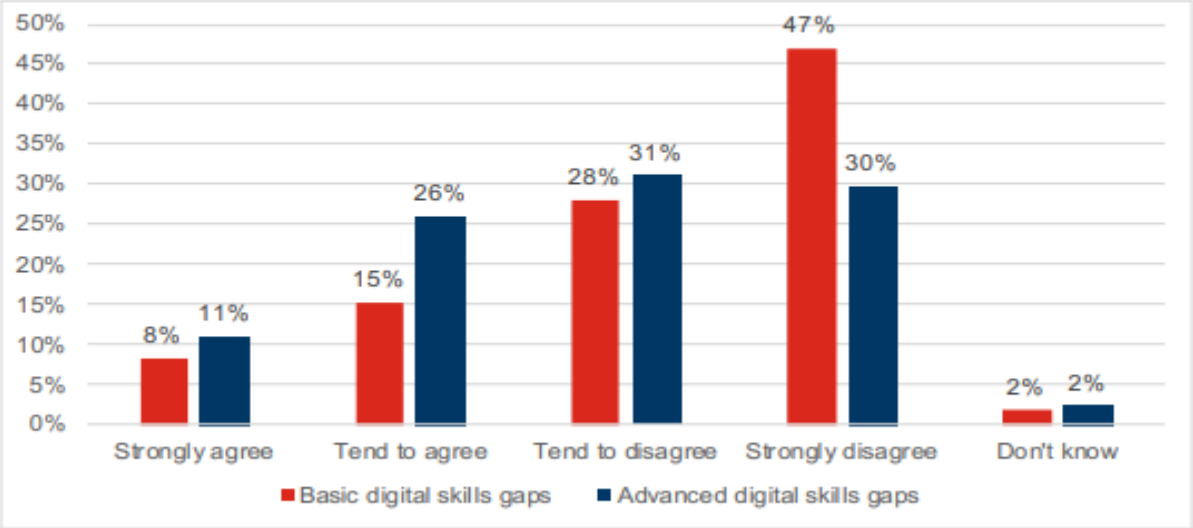
The study Unlocking the UK's Potential with Digital Skills[13] reports that 69% of UK leaders surveyed believe that their organisation currently has a digital skills gap, 70% expect to experience one over the next year, and more than two in five UK leaders (44%) fear the current lack of digital skills within their organisation will have a fairly negative impact on their success in the next year.

However, this study also reports that business leaders recognise the urgency with 32% of C-level executives from large UK firms saying that upskilling employees is a top priority in the next six months. In addition, employees are eager to learn with 59% of employees say developing their digital skills will be important to their employability. Cost (37%) and lack of skills strategy (28%) are identified as the main barriers to digital skills investment by the leaders surveyed. These business leaders lack faith in both the education system and government to resolve the UK digital skills gap, with just 28% of UK leaders believing that the education system offers adequate digital training for pupils; and only 24% being confident that the UK government is doing enough to tackle the UK's digital skills gap.

The Learning and Work Institute also report[14] that employers already face significant digital skills gaps, particularly relating to advanced digital skills. One in four (23%) employers say that their current workforce lacks the basic digital skills that they need, rising to over one in three (37%) in relation to advanced digital skills. Such skills gaps can have a significant impact on businesses; three in four (76%) businesses say that a lack of digital skills would affect the profitability of their business.

[13] Microsoft and Goldsmiths, University of London, https://info.microsoft.com/rs/157-GQE-382/images/Unlocking-the-UKs-potential-with-digital-skills_131120__v3.pdf
[14] Disconnected? Exploring the Digital Skills Gap, Learning and Work Institute https://learningandwork.org.uk/resources/research-and-reports/disconnected-exploring-the-digital-skills-gap/

Organisation's workforce doesn't possess the basic/advanced digital skills the business needs, all employers



Source: YougGov employer survey, 2021

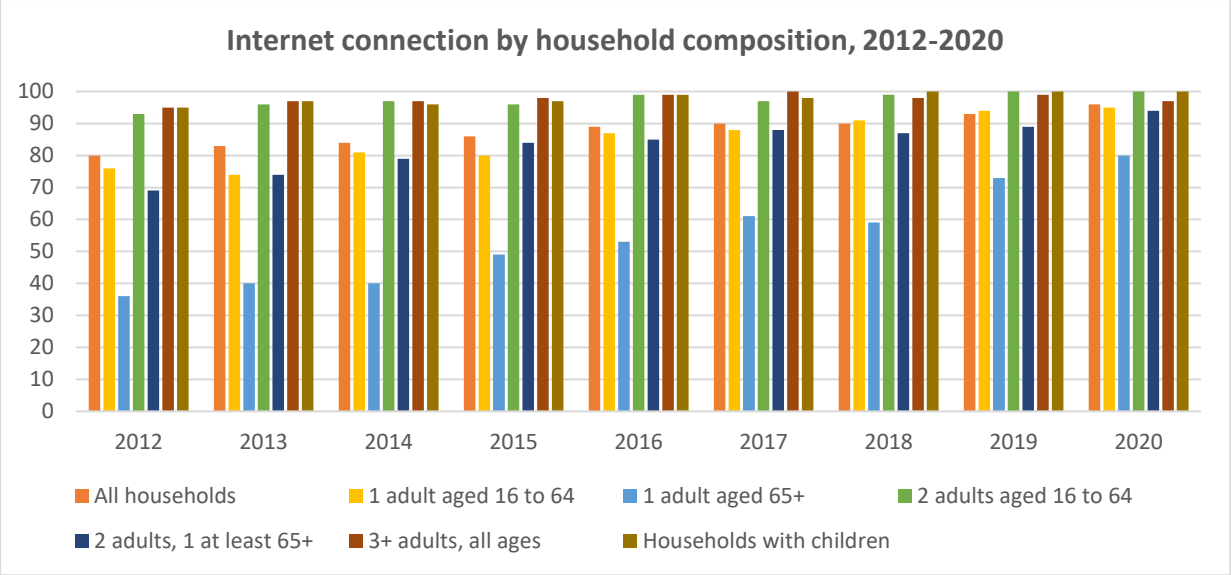
One of the accelerated trends engendered by the pandemic was the use of online resources to support learning. The 2021 UK Consumer Digital Index reports that 93% of office workers are now confident Internet users versus 85% of manual workers, and they are 11 percentage points more likely (73% vs. 62%) to use the Internet to develop professionally and improve future work prospects. At least one-quarter (28%) of people say they have upskilled themselves for work related reasons; 11% wanted to improve their job performance and productivity and 10% wanted to learn new skills to boost employment prospects. When asked what the easiest way would be to receive digital skills support, over half (57%) said through their employer.

3.4 Digital Inclusion

3.4.1 Internet Access and Use

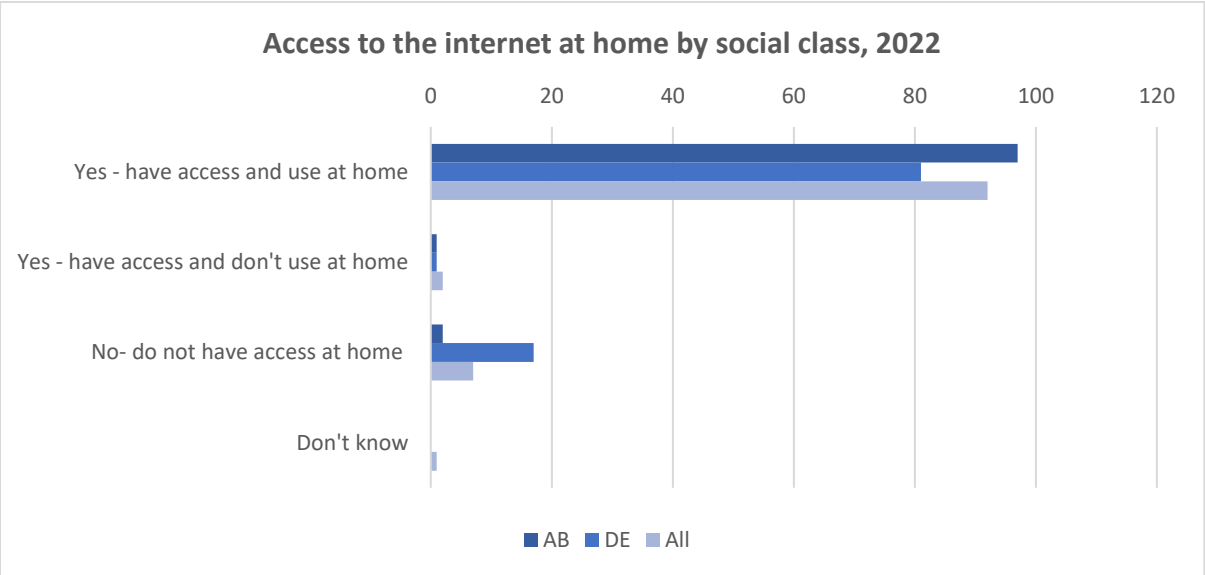
The Office for National Statistics collects and publishes survey data on the internet access of households and individuals[15]. As noted above in the introduction to this section, there has been a steady increase in household access to the internet in the UK with less than 10% of households having access in 1998 growing to 96% having access in 2020. The chart below shows internet connection by household composition between 2012 and 2020. Only 80% of households with a single pensioner had a connection to the internet in 2020. Whilst this is significantly lower than other categories of household, this percentage has more than doubled from 2012 when it stood at 36%.

15 https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2020



Source: ONS, Internet access - households and individuals

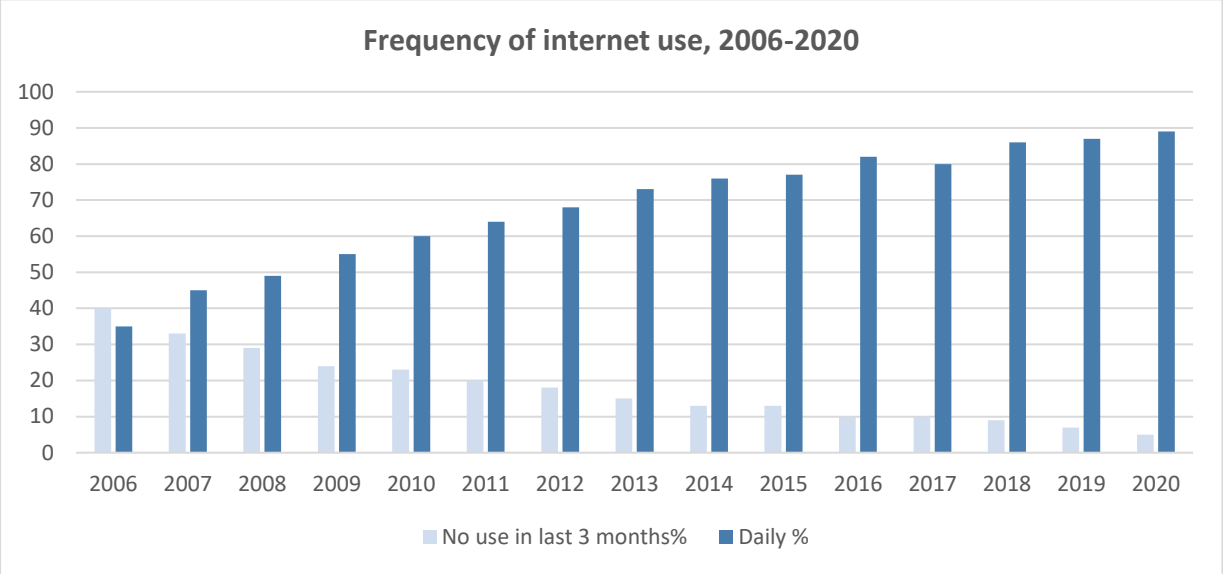
The ONS survey data on household access to the internet above is broadly aligned with the Ofcom Technology Tracker 2022 findings on access to the internet at home illustrated in the chart below. Respondents were asked "Do you or does anyone in your household have access to the internet at home (via any device, e.g. PC, mobile phone etc), and if so, do you personally use the internet at home?". Overall 94% report as having access at home, ranging from 98% in social classes AB to 82% in social classes DE.



Source: Ofcom, Technology Tracker 2022[16]

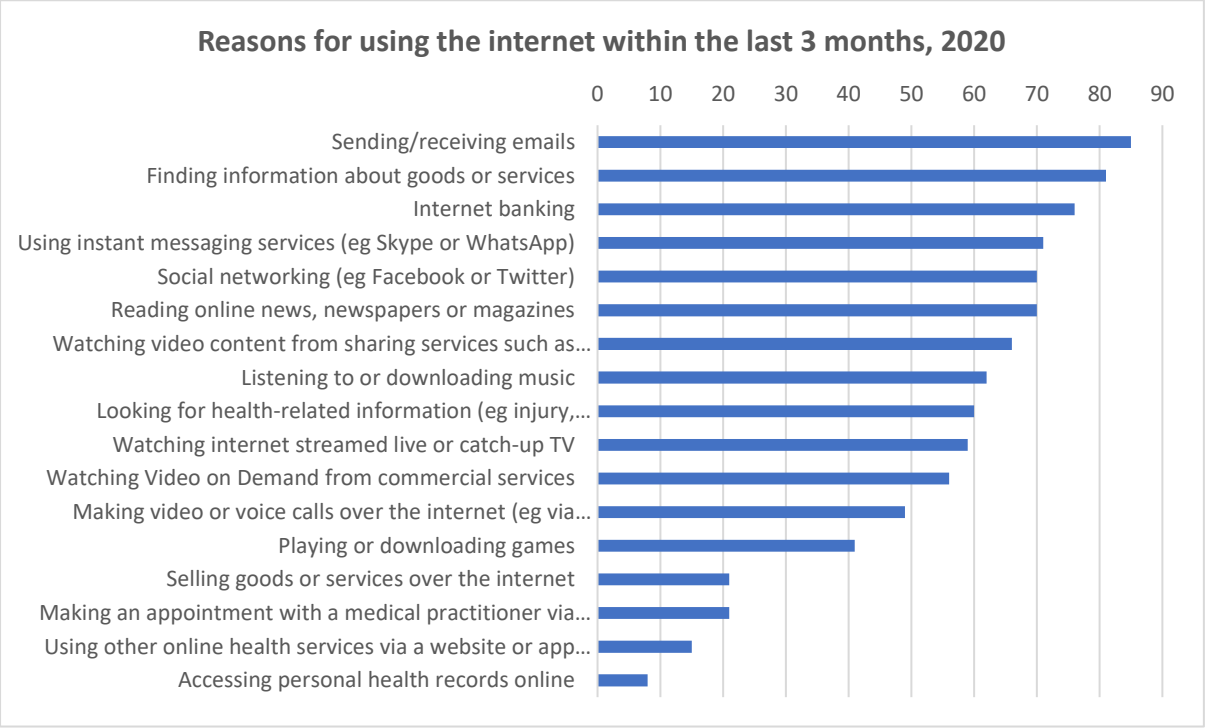
[16] https://www.ofcom.org.uk/research-and-data/data/statistics/stats22

The above data describes household access to the internet. The chart below presents information on how frequently individuals use online services. The percentage of people that use the internet on a daily basis has increased every year since 2006, going from 35% then to 89% in 2020.



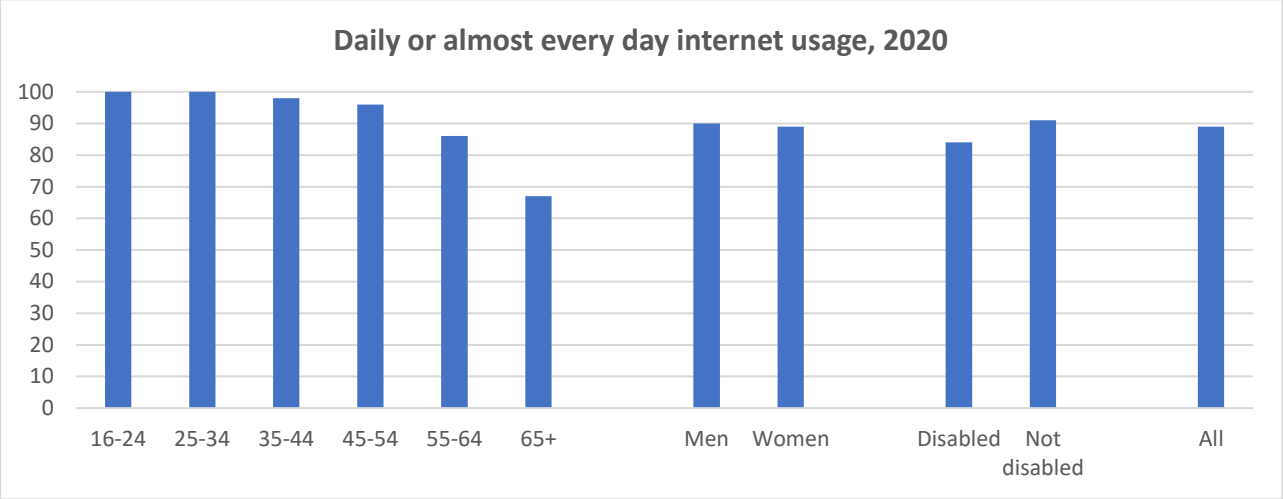
Source: ONS, Internet access - households and individuals

As might be expected, people access the internet for a wide range of reasons. More than three quarters of people will have used the internet for sending or receiving emails; for finding information about goods and services; or for internet banking.



Source: ONS, Internet access - households and individuals

As noted above, in 2020 89% of people used the internet daily. However, there was significant variation in usage by age and by disability. Only 67% of those aged 65 or above, and only 84% of the disabled accessed the internet on a daily basis.



Source: ONS, Internet access - households and individuals

It is possible to get a finer grained understanding of the characteristics of people that don't use the internet from the 2021 UK Consumer Digital Index published by Lloyds[17]. The graph below shows the proportion of people that have/haven't used the internet in the last 3 months, split by annual income. 55% of those offline (ie the sum of the red bars) earn under £20,000.

Have you used the Internet in the last three months? Split by annual income, 2021

Source: 2021 UK Consumer Digital Index

[17] https://www.lloydsbank.com/banking-with-us/whats-happening/consumer-digital-index.html

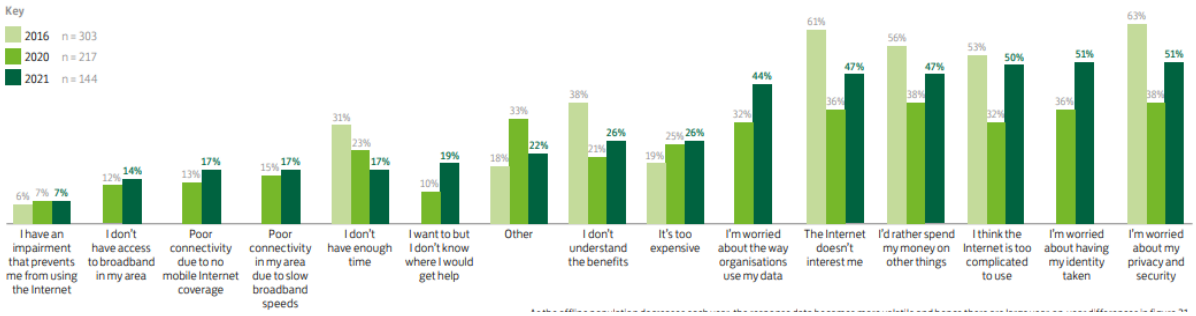
The chart below shows the reasons people give for not using the internet. Half of the top six reasons people don't use the internet are linked to privacy and security concerns, and the proportion of non-users with these concerns has increased on the previous year:

- I'm worried about my privacy and security (52% in 2021)
- I'm worried about having my identity taken (52% in 2021)
- I'm worried about how organisations use my data (44% in 2021)

Other reasons given in the top six were:

- I think the internet is too complicated to use (50% in 2021)
- I'd rather spend my money on other things (47% in 2021)
- The internet doesn't interest me (47% in 2021)

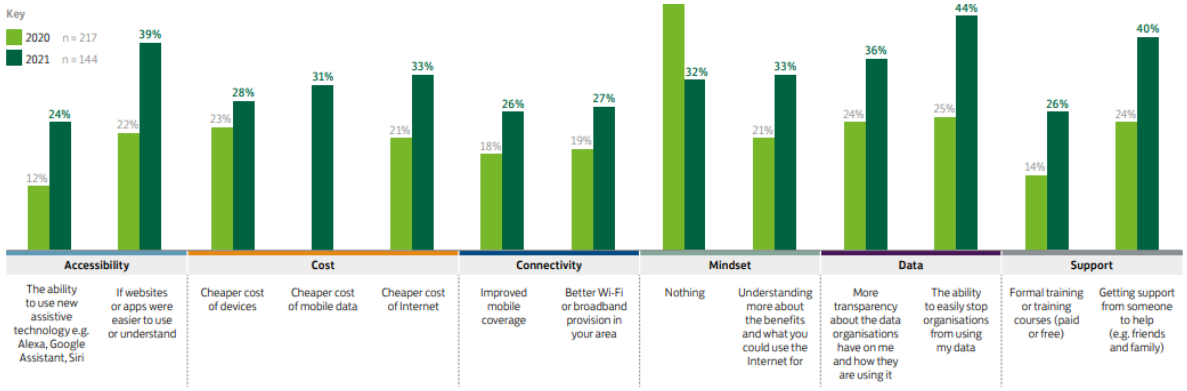
You have said that you have not used the Internet in the last three months. Please choose from the following options to say why you have not, 2021, 2020 and 2016



Source: 2021 UK Consumer Digital Index

In light of this, it is not surprising that when asked about what support would help non-users become users, they identified 'the ability to easily stop organisations from using my data' as being the most important thing. A third of non-users were clear that nothing would induce them to use the internet.

Could any of the following encourage you to use the Internet?

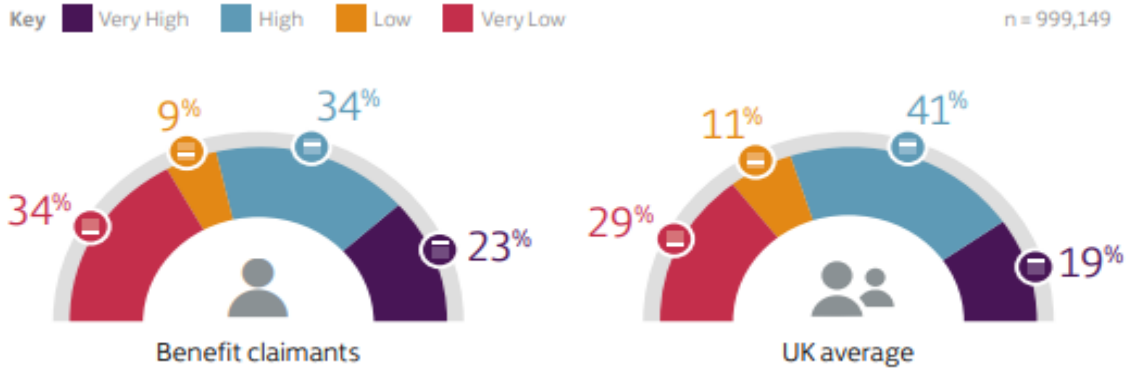


Source: 2021 UK Consumer Digital Index

The 2021 UK Consumer Digital Index categorises individuals' digital capability and confidence as being either 'Very Low', 'Low', 'High', or 'Very High'. 31% of unemployed people have Low or Very Low digital capability versus 19% who are in the workforce. There is an opportunity to prioritise the unemployed who will need digital access, proficiency and engagement to find work in an increasingly online career marketplace.

Notably, a higher proportion of benefit claimants, than the UK average, have the highest levels of digital engagement. However, benefit claimants are also more likely to have less digital engagement compared to the rest of the population, showing a greater digital disparity within this group.

Digital engagement by benefit claimants and the wider population



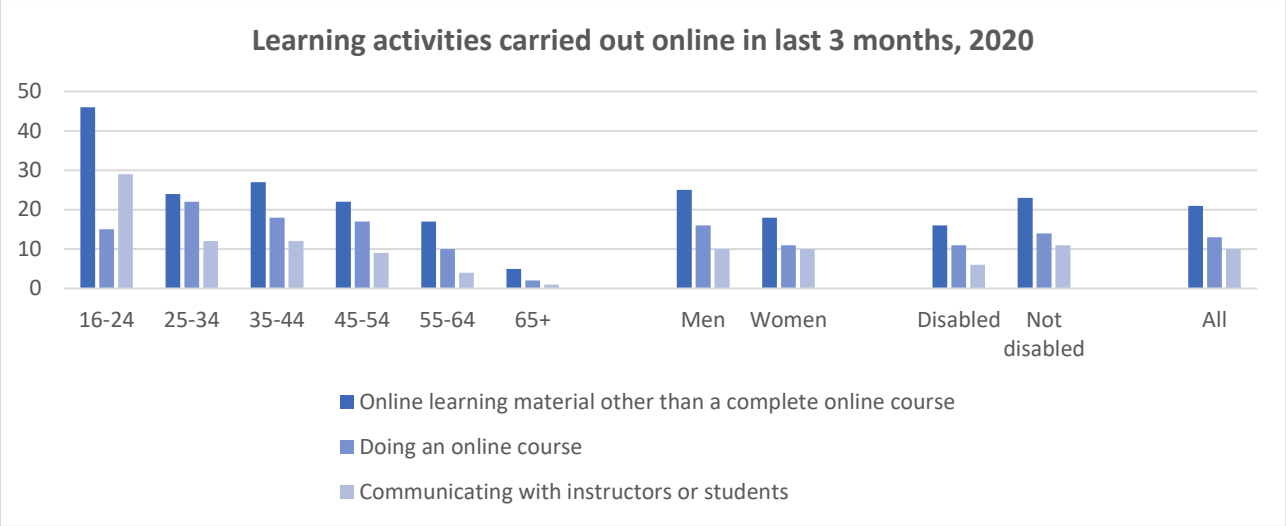
Source: 2021 Source: 2021 UK Consumer Digital Index

3.4.2 Online learning

The Lloyds survey indicates clear motives to incentivise people in the future too – 77% would improve their digital skills if they thought it would directly help them with a day-to-day task or piece of work. 64% would prioritise digital skills if they knew it would help them progress in their job or secure a better role. 67% of people have said they would improve their digital skills if they knew there was support available when needed.[18]

In 2020 about a fifth of all adults had used online resources to support learning although this was the case for a smaller proportion of women than men and a smaller proportion of disabled than non-disabled. Unsurprisingly, the age group with the highest proportion had used online resources to support learning was the 16-24 year olds where about half had done so.

[18] ibid



Source: ONS, Internet access - households and individuals

The pandemic has highlighted the importance of children accessing the internet to support their learning. In the summer of 2021 the Department for Education published 'Learning during the pandemic: review of research from England'[19]. This review aimed to be comprehensive of the literature related to learning during the pandemic in England. The review focussed on three elements relating to how the pandemic had impacted learning:

- Teaching and learning experiences across the course of the pandemic
- The scale and nature of any learning losses
- The differential experiences of learning and how this may be reflected in terms of any learning losses.

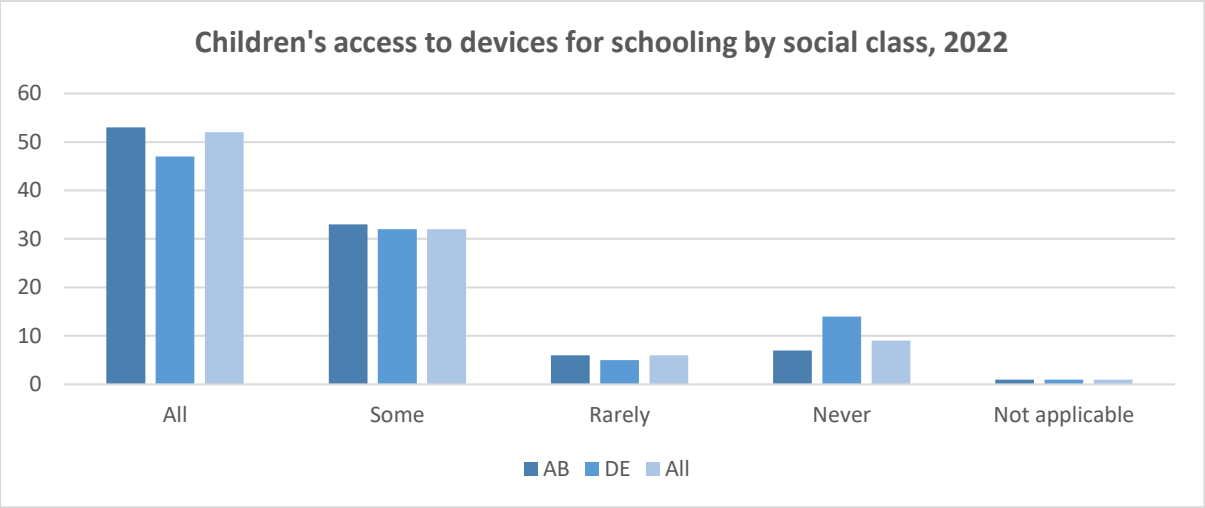
A key finding of the review was:

> *"Overall, there is overwhelming research indicating a large disparity in the remote learning experiences of the most and least disadvantaged students. Deprivation and disadvantage seem to be most associated with poorer learning experiences and learning losses during the pandemic, with students in the poorest families, whose parents have lower levels of education, those who are eligible for FSM, and pupil premium students, being worse affected compared with their counterparts."*

This finding is consistent with data published in the Ofcom Technology Tracker 2022. Participants were asked "To what extent do(es) the child(ren) in your household have access at home to appropriate devices based on their schooling requirement?". Responses are summarised in the chart below. 14% of respondents with children aged 4-18 from social classes DE responded 'Never' to this question, double the 7% from social classes AB and 5 percentage points higher than all respondents.

Applying national proportions to the Cheshire and Warrington population of school-age children gives an estimate of c14k children in Cheshire and Warrington that never have access at home to appropriate devices based on their schooling requirement.

[19] https://www.gov.uk/government/publications/learning-during-the-pandemic/learning-during-the-pandemic-review-of-research-from-england



Source: Ofcom, Technology Tracker 2022[20]

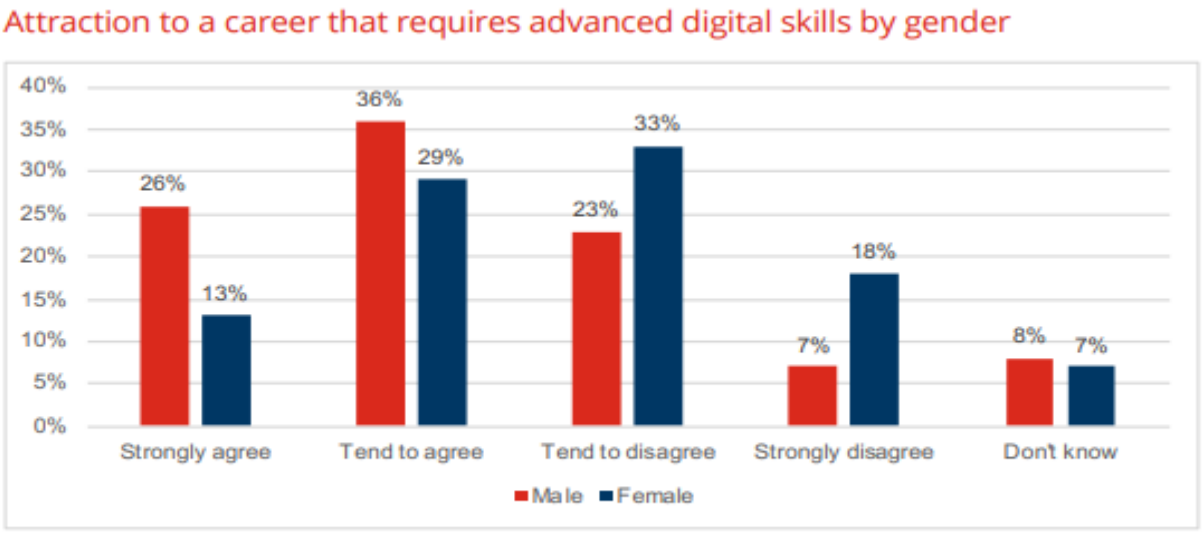
3.4.3 Diversity in Learning and Learner Choice

In a nationwide poll of 1,000 16 – 18-year-olds by the Institute of Coding, more than half believe the digital workforce lacks diversity. 70% of youth surveyed think the sector is run entirely by those of white, British ethnicity, and over a third (34%) think there are unequal opportunities for women. One in ten admitted they are actively discouraged from pursuing digital education and jobs due to the lack of people that represent them[21].

There are significant gender disparities in employment in digital occupations and in employment in digital occupations. These are also to found in learning paths adopted by males and females (see xxx below). A report by the Learning and Work Institute[22] reports that:

> *"Many young people are interested in pursuing a career that requires advanced digital skills, but there is a significant gender gap. Three in five (62%) young males are interested in a digital career, compared to just two in five (42%) young females, and there is a similar gender gap in young peoples' confidence in their digital skills."*

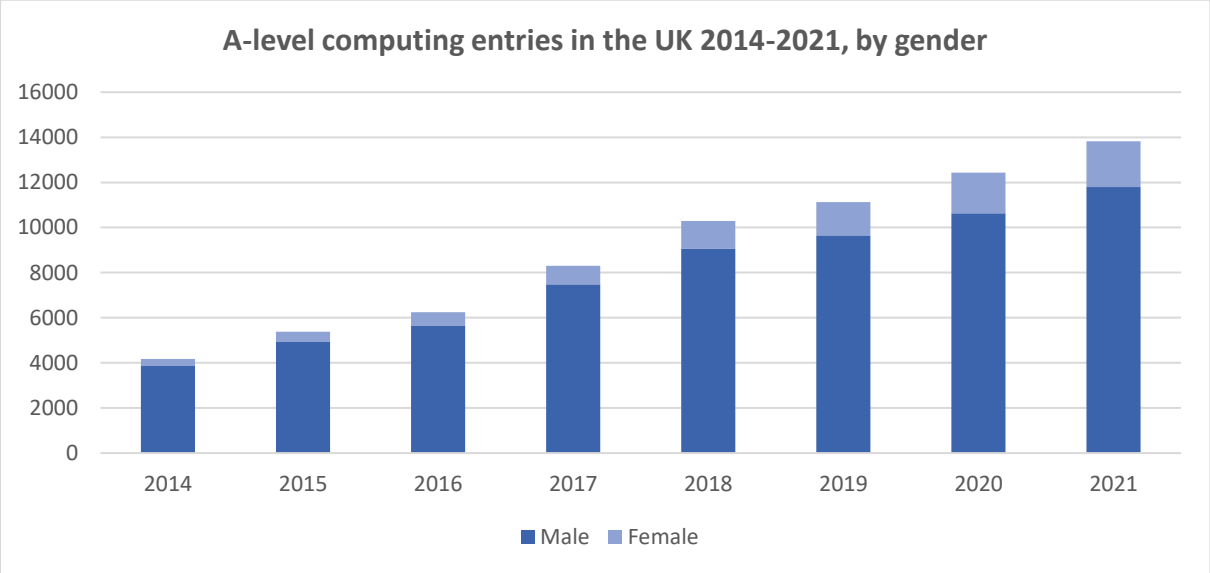
[20] https://www.ofcom.org.uk/research-and-data/data/statistics/stats22
[21] Reported in "Fast Forward for Digital Jobs, techUK" https://www.techuk.org/shaping-policy/fast-forward-for-digital-jobs-report.html#:~:text=techUK's%20Fast%20Forward%20for%20Digital,and%20deliver%20change%20at%20scale
[22] https://learningandwork.org.uk/resources/research-and-reports/disconnected-exploring-the-digital-skills-gap/



Source: Youthsight young people survey, 2021

Entries in computing have increased sharply across the UK over the last six years[23]. The +121.5% change compared to a change of -1.4% in all A-Level entries over the last six years. Over the same period, the 18-year-old population has changed by approximately -5.9%.

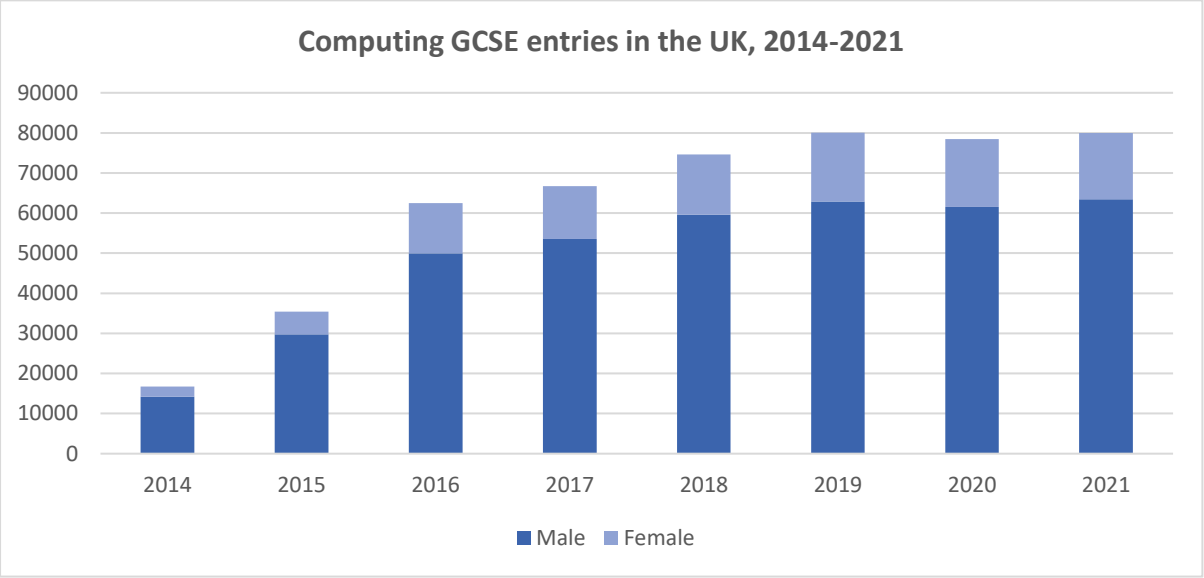
Across the UK, a broadly similar proportion of students achieved the top grades in computing in 2021 as did so across all A-Level subjects. A total of 44.5% of pupils achieved A*-A grades in computing compared to 44.8% for all subjects. However, there is a stark gender disparity in entries for A-level computing, as can be seen below (females account for only 15% of entries in 2021).



Source: Education data lab, Nuffield foundation

[23] https://results.ffteducationdatalab.org.uk/a-level/computing.php?v=20210812

Entries in GCSE computing have increased sharply across the UK over the last six years. The +28.0% change compared to a change of +9.6% in all GCSE entries over the last six years. Over the same period, the 16-year-old population has changed by approximately 3.0%. Across the UK, a greater proportion of students achieved good passes in computing in 2021 compared to all GCSE subjects. A total of 82.5% of pupils achieved grade 4/C or higher in computing compared to 77.1% for all subjects, but again, the gender disparity in entries is evident (21% of entries by females in 2021).



Source: Education data lab, Nuffield foundation

4. Employer Demand for 'Digital Skills' in Cheshire and Warrington

The report by Burning Glass 'No Longer Optional' which was published by Government in 2019[24] introduced a typology for Digital Skills:

Baseline Digital Skills –These are the skills needed to use productivity software tools such as spreadsheets and word processing programs. In addition, they often serve as the foundation for more advanced digital positions and so are requested for jobs at all skill levels. The most common productivity software skills requested by UK employers are the Microsoft Office suite including Word, Excel, and PowerPoint.

Specific Digital Skills – These are other digital skills not found in the baseline category. They are not required across the majority of jobs but define or even dominate specific roles or sectors. Examples are software programs such as Adobe Photoshop for designers; AutoCAD for engineers and manufacturing workers; Salesforce for sales and marketing professionals; and computer programming and networking for IT professionals. In the Burning Glass report, this category is then broken down into seven clusters of related digital skills.

EMSI provides data and analysis of online job postings in Cheshire and Warrington. This includes classification of the skills sought by employers in these job postings. It is possible to use the EMSI 'Analyst' tool to analyse the job postings that are seeking specific types of skills. In the remainder of this section the level of employer demand for digital skills as measured through EMSI Job Postings data published between April 2017 and April 2020 is considered for each of the skills types identified by Burning Glass:

- Baseline Skills
  - Productivity Software
- Specific Skills
  - Software & Programming
  - Computer & Networking Support
  - Data Analysis
  - Digital Design
  - CRM
  - Digital Marketing
  - Machining & Manufacturing Technology

4.1 Employer Demand for Baseline Digital Skills

Baseline Digital Skills encompass the ability to use productivity software such as Word and Excel, Enterprise Resource Planning (ERP), Project Management Software, and SAP. Typically, these skills will be required in administrative occupations and customer service. The ubiquity of these skills in this type of occupation means that they will not always be explicitly sought in a job posting as employers will often regard the requirement for these type of skills in these occupations as a given. This means that the EMSI job postings data is likely to understate the scale of employer demand for these skills.

24 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/807830/No_Longer_Optional_Employer_Demand_for_Digital_Skills.pdf

The EMSI skill types used in this report to define Baseline Digital skills can be found at Annex 1.

There were 15,124 unique job postings in Cheshire and Warrington for these types of skills from May 2021 to May 2022. This equates to 9.6% of all unique job posting in this period (157k total unique postings for all job types in Cheshire and Warrington). This is a slight increase in the proportion of all job postings seeking Baseline digital skills compared to before the pandemic (Feb 2017-Feb 2020) which was 8%.

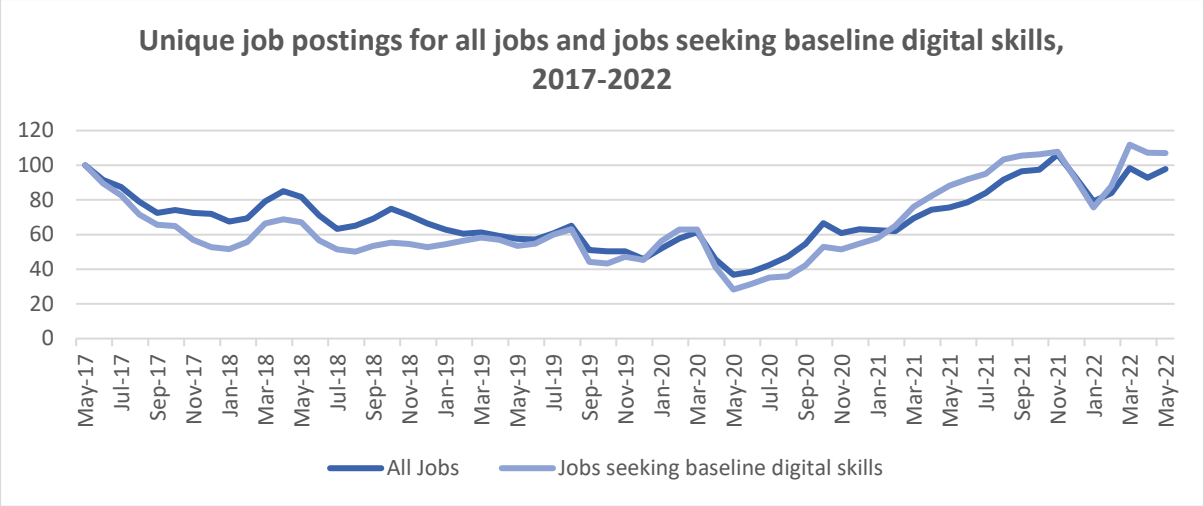
The 'Posting Intensity' for these type of jobs between May 2021 and May 2022 was 3:1. This is the same as the Posting Intensity for all job postings in Cheshire and Warrington, indicating that employers are putting average effort toward hiring for positions with this skill set.

The median advertised salary for roles explicitly requiring 'Baseline Digital Skills' between May 2021 and May 2022 was £25,024. This was slightly below the median advertised salary for all roles in Cheshire and Warrington which stood at £27,456.

The Table below compares the local authority data for job postings of jobs seeking Baseline Digital Skills with the overall share of Cheshire and Warrington working age population by Local Authority. Compared with Cheshire and Warrington as a whole, employer demand for roles with these skills was higher in Warrington and lower in Cheshire East and Cheshire West and Chester.

Local Authority postings for jobs with 'Baseline Digital Skills' compared to Cheshire and Warrington working age population share, May 2021-May 2022			
Local Authority	Unique Postings	% of C&W Total Postings	% of C&W 16-64 Population
Cheshire West and Chester	5,208	34%	40%
Cheshire East	4,643	31%	37%
Warrington	5,322	35%	23%
Cheshire and Warrington	15,124	100%	100%
Sources: EMSI Analyst and NOMIS			

The graph below shows the trend for unique postings for all jobs and jobs requiring Baseline Digital Skills over the last 5 years. In both cases, the May 2017 volume is indexed at 100. The demand for jobs seeking baseline digital skills has broadly mirrored the demand for all jobs in the Cheshire and Warrington economy. Following a slump in demand driven by the pandemic, the most recent data shows that demand is now slightly higher than it was five years ago.



Source: EMSI Analyst

As can be seen from the table below, baseline digital skills are being sought in a wide range of occupations which feature across all industrial sectors. In total, 28% of employers seeking to recruit posted vacancies seeking these type of skills in May 2021-May 2022 (1,956 of 7,080 employers).

Top 10 occupations seeking baseline digital skill in Cheshire and Warrington, May 21- May 22			
Occupation	Unique Postings	Median Annual Wages	Number of Employers Competing
Total Across All Occupations	15124	25908	1956
Other Administrative Occupations n.e.c.	1373	18220	437
Book-keepers, Payroll Managers and Wages Clerks	892	22408	219
Customer Service Occupations n.e.c.	678	19122	189
Sales Related Occupations n.e.c.	651	22004	177
IT User Support Technicians	590	27032	217
Chartered and Certified Accountants	559	39558	114
Human Resources and Industrial Relations Officers	463	27529	151
Elementary Administration Occupations n.e.c.	414	11473	131
Marketing Associate Professionals	343	25780	123
Management Consultants and Business Analysts	321	36349	114
Source: EMSI Analyst			

4.2 Employer Demand for Specific Digital Skills: Software and Programming

Burning Glass has identified the area of Software and Programming as being a discrete set of Specific Digital skills that some employers require. This encompasses programming languages such as Java, SQL, and Python and typically these skills are required by occupations such as Programmers,

Software Developers and Database Administrators. The EMSI skill types used to define 'Specific Digital Skills: Software and Programming' can be found at Annex 1.

There were 9,565 unique job postings in Cheshire and Warrington for these types of skills from May 2021 to May 2022. This equates to 6% of all unique job posting in this period (157k total unique postings for all job types in Cheshire and Warrington). This is a slight decrease in the proportion of all job postings seeking Baseline digital skills compared to before the pandemic (Feb 2017-Feb 2020) which was 7.7%.

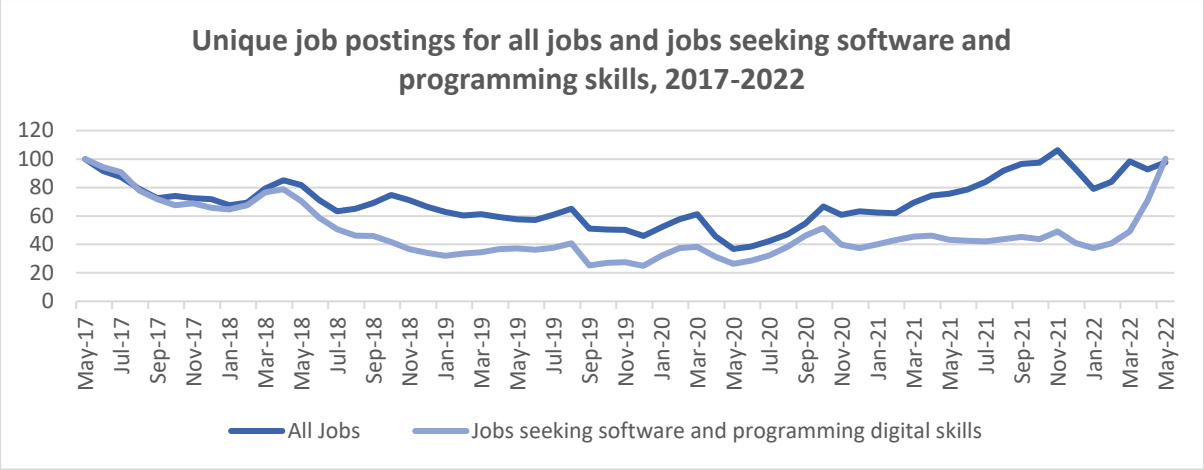
The 'Posting Intensity' for these type of jobs between May 2021 and May 2022 was 2:1. This is slightly lower than the Posting Intensity for all job postings in Cheshire and Warrington (3:1), indicating that employers are putting below average effort toward hiring for positions with this skill set.

The median advertised salary for roles explicitly requiring software and programming skills between May 2021 and May 2022 was £40,128. This is higher than the median advertised salary for all roles in Cheshire and Warrington which stood at £27,456.

The Table below compares the local authority data for job postings of jobs seeking software and programming skills with the overall share of Cheshire and Warrington working age population by Local Authority. Compared with Cheshire and Warrington as a whole, employer demand for roles with these skills was higher in Warrington and lower in Cheshire East and Cheshire West and Chester.

Local Authority postings for jobs with software and programming skills compared to Cheshire and Warrington working age population share, May 2021-May 2022			
Local Authority	Unique Postings	% of C&W Total Postings	% of C&W 16-64 Population
Cheshire West and Chester	3,018	32%	40%
Cheshire East	3,342	35%	37%
Warrington	3,229	34%	23%
Cheshire and Warrington	9,565	100%	100%
Sources: EMSI Analyst and NOMIS			

The graph below shows the trend for unique postings for all jobs and jobs requiring programming and software skills over the last 5 years. In both cases, the May 2017 volume is indexed at 100. The demand for jobs seeking programming and software skills has generally been lower compared with May 2017 and with the demand for all jobs in the Cheshire and Warrington economy. Following a slump in demand driven by the pandemic with this slump continuing post-pandemic, the most recent data shows that demand is now almost exactly the same as it was five years ago.



Source: EMSI Analyst

As can be seen from the table below, programming and software skills are being sought mainly in specific digital occupations. In total, 16% of employers seeking to recruit posted vacancies seeking these type of skills in May 2021-May 2022 (1,162 of 7,080 employers).

Top 10 occupations seeking programming and software skills in Cheshire and Warrington, May 21-May 22			
Occupation	Unique Postings	Median Annual Wages	Number of Employers Competing
Total Across All Occupations	9565	£25,816	1162
Programmers and Software Development Professionals	2922	£42,865	423
IT Business Analysts, Architects and Systems Designers	649	£44,513	169
Web Design and Development Professionals	588	£34,254	157
Management Consultants and Business Analysts	480	£36,349	137
Information Technology and Telecommunications Professionals n.e.c.	385	£33,349	115
IT Operations Technicians	348	£29,426	114
IT User Support Technicians	250	£27,032	96
Sales Related Occupations n.e.c.	177	£22,004	72
IT Project and Programme Managers	176	£46,988	57
Managers and Proprietors in Other Services n.e.c.	172	£20,686	57
Source: EMSI Analyst			

4.3 Employer Demand for Specific Digital Skills: Computer and Networking Support

'Computing Networking and Support' is another discrete set of specific digital skills that have been identified by Burning Glass as being required by employers. These are the skills required to set up, support and manage computer systems and networks. The job roles that would typically require these sort of skills would include Network Administrators, Software Developers , and IT User Support Technicians The EMSI skill types used to define 'Specific Digital Skills: Computer and Networking Support' can be found at Annex 1.

There were 4,530 unique job postings in Cheshire and Warrington for these types of skills from May 2021 to May 2022. This equates to 3% of all unique job posting in this period (157k total unique postings for all job types in Cheshire and Warrington). This is the same as the proportion of all job postings seeking computer and networking support skills compared to before the pandemic (Feb 2017-Feb 2020).

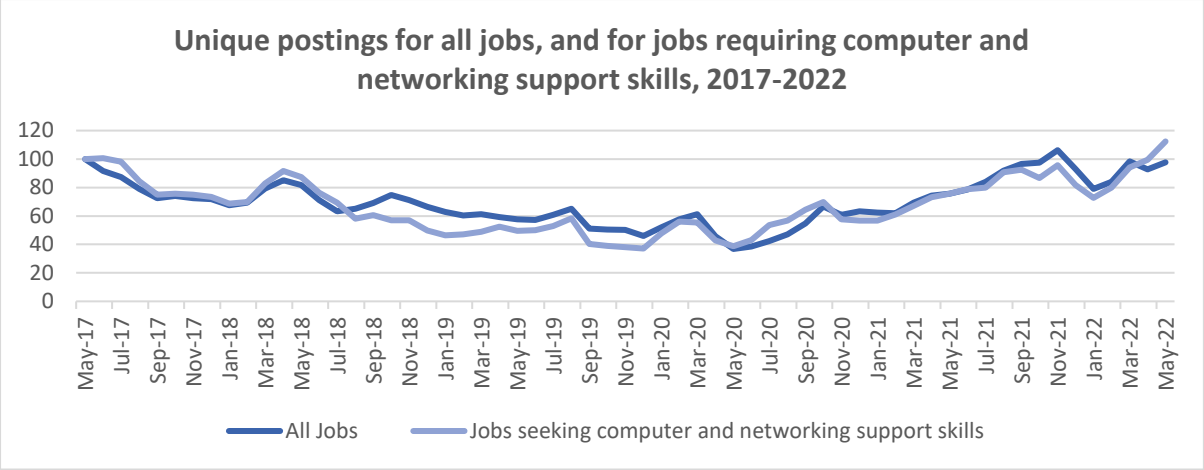
The 'Posting Intensity' for these type of jobs between May 2021 and May 2022 was 3:1. This is the same as the Posting Intensity for all job postings in Cheshire and Warrington (3:1), indicating that employers are putting average effort toward hiring for positions with this skill set.

The median advertised salary for roles explicitly requiring computer and networking support skills between May 2021 and May 2022 was £ 35,008. This is higher than the median advertised salary for all roles in Cheshire and Warrington which stood at £27,456.

The Table below compares the local authority data for job postings of jobs seeking computer and networking support skills with the overall share of Cheshire and Warrington working age population by Local Authority. Compared with Cheshire and Warrington as a whole, employer demand for roles with these skills was higher in Warrington and in Cheshire East, and lower in Cheshire West and Chester.

Local Authority postings for jobs with computer and networking support skills compared to Cheshire and Warrington working age population share, May 2021-May 2022			
Local Authority	Unique Postings	% of C&W Total Postings	% of C&W 16-64 Population
Cheshire West and Chester	1,203	27%	40%
Cheshire East	1,766	39%	37%
Warrington	1,562	34%	23%
Cheshire and Warrington	4,530	100%	100%
Sources: EMSI Analyst and NOMIS			

The graph below shows the trend for unique postings for all jobs and jobs requiring computer and networking support skills over the last 5 years. In both cases, the May 2017 volume is indexed at 100. The pattern of demand for jobs seeking computer and networking support skills has generally been very similar to the demand for all jobs in the Cheshire and Warrington economy. Following a slump in demand driven by the pandemic, the most recent data shows that demand is now slightly higher than it was five years ago.



Source: EMSI Analyst

As can be seen from the table below, computer and networking support skills are being sought mainly, but not exclusively, in specific digital occupations. In total, 11% of employers seeking to recruit posted vacancies seeking these type of skills in May 2021-May 2022 (753 of 7,080 employers).

Top 10 occupations seeking computer and networking support skills in Cheshire and Warrington, May 21- May 22			
Occupation	Unique Postings	Median Annual Wages	Number of Employers Competing
Total Across All Occupations	4530	35008	753
IT User Support Technicians	848	25024	230
IT Business Analysts, Architects and Systems Designers	613	44928	201
Programmers and Software Development Professionals	478	47488	134
Information Technology and Telecommunications Professionals n.e.c.	272	44928	72
IT Operations Technicians	190	32448	72
Management Consultants and Business Analysts	118	38272	42
Information Technology and Telecommunications Directors	109	54912	40
Civil Engineers	109	47488	42
Business, Research and Administrative Professionals n.e.c.	89	40064	28
Engineering Professionals n.e.c.	85	56448	37
Source: EMSI Analyst			

4.4 Employer Demand for Specific Digital Skills: Data Analysis

Skills associated with 'Data Analysis' is another discrete set of specific digital skills that have been identified by Burning Glass as being required by employers. These skills include the ability to use data analysis tools like R or Stata, the ability to use and analyse Big Data, and data science. These skills are typically required in occupations like Management Consultants, Economists, Statisticians, and Business Analysts. The EMSI skill types used to define 'Specific Digital Skills: Data Analysis' can be found at Annex 1.

There were 6,948 unique job postings in Cheshire and Warrington for these types of skills from May 2021 to May 2022. This equates to 4% of all unique job posting in this period (157k total unique postings for all job types in Cheshire and Warrington). This is slightly lower as the proportion of all job postings seeking computer and networking support skills compared to before the pandemic (Feb 2017-Feb 2020) which was 5%.

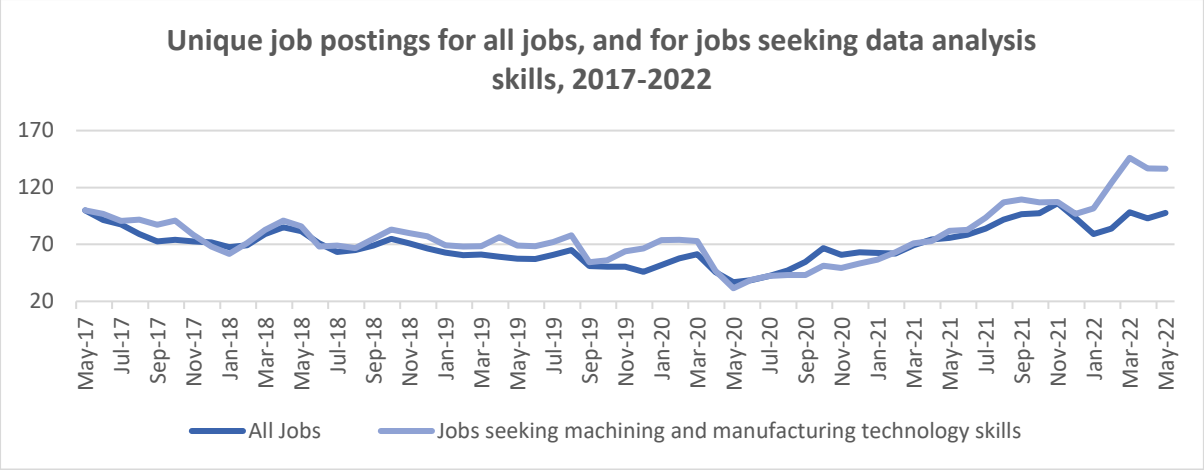
The 'Posting Intensity' for these type of jobs between May 2021 and May 2022 was 3:1. This is the same as the Posting Intensity for all job postings in Cheshire and Warrington, indicating that employers were putting average effort toward hiring for positions with this skill set.

The median advertised salary for roles explicitly requiring computer and networking support skills between May 2021 and May 2022 was £ 40,128. This is higher than the median advertised salary for all roles in Cheshire and Warrington which stood at £27,456.

The Table below compares the local authority data for job postings of jobs seeking digital design with the overall share of Cheshire and Warrington working age population by Local Authority. Compared with Cheshire and Warrington as a whole, employer demand for roles with these skills was higher in Warrington and in Cheshire East, and lower in Cheshire West and Chester.

Local Authority postings for jobs with data analysis skills compared to Cheshire and Warrington working age population share, May 2021-May 2022			
Local Authority	Unique Postings	% of C&W Total Postings	% of C&W 16-64 Population
Cheshire West and Chester	2,106	30%	40%
Cheshire East	2,680	39%	37%
Warrington	2,169	31%	23%
Cheshire and Warrington	6,948	100%	100%
Sources: EMSI Analyst and NOMIS			

The graph below shows the trend for unique postings for all jobs, and for jobs requiring data analysis skills over the last 5 years. In both cases, the May 2017 volume is indexed at 100. The pattern of demand for jobs seeking data analysis skills has generally been lower than that for all jobs in the Cheshire and Warrington economy. The most recent data shows that demand for data analysis skills is two thirds of what it was five years ago.



Source: EMSI Analyst

As can be seen from the table below, data analysis skills are being sought mainly, but not exclusively, in specific digital occupations. In total, 13% of employers seeking to recruit posted vacancies seeking these type of skills in May 2021-May 2022 (937 of 7,080 employers).

Top 10 occupations seeking data analysis skills in Cheshire and Warrington, May 21- May 22			
Occupation	Unique Postings	Median Annual Wages	Number of Employers Competing
Total Across All Occupations	6948	40128	937
Programmers and Software Development Professionals	1465	44928	269
IT Business Analysts, Architects and Systems Designers	718	37504	166
Management Consultants and Business Analysts	514	40064	159
IT Operations Technicians	307	42688	102
Information Technology and Telecommunications Professionals n.e.c.	260	40064	88
IT User Support Technicians	221	28480	92
Web Design and Development Professionals	164	44928	57
Finance and Investment Analysts and Advisers	143	34944	44
Marketing Associate Professionals	143	26496	55
Managers and Proprietors in Other Services n.e.c.	129	36032	62
Source: EMSI Analyst			

4.5 Employer Demand for Specific Digital Skills: Digital Design

Skills associated with 'Digital Design' are another discrete set of specific digital skills that have been identified by Burning Glass as being required by employers. These skills are those associated with digital production, graphic design, and online advertising. Job roles requiring these skills would

typically include Marketing Associate Professionals and Graphic Designers. The EMSI skill descriptors used to define 'Specific Digital Skills: Digital Design' can be found at Annex 1.

There were 5,542 unique job postings in Cheshire and Warrington for these types of skills from May 2021 to May 2022. This equates to 4% of all unique job posting in this period (157k total unique postings for all job types in Cheshire and Warrington). This is slightly lower as the proportion of all job postings seeking digital design skills compared to before the pandemic (Feb 2017-Feb 2020) which was 5%.

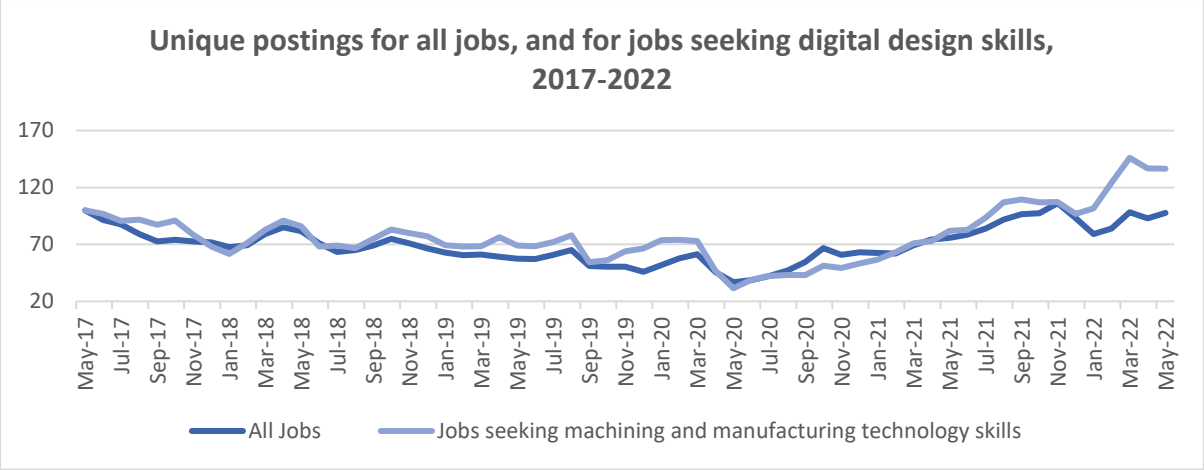
The 'Posting Intensity' for these type of jobs between May 2021 and May 2022 was 3:1. This is the same as the Posting Intensity for all job postings in Cheshire and Warrington, indicating that employers were putting average effort toward hiring for positions with this skill set.

The median advertised salary for roles explicitly requiring digital design skills between May 2021 and May 2022 was £ 40,128. This is higher than the median advertised salary for all roles in Cheshire and Warrington which stood at £27,456.

The table below compares the local authority data for job postings of jobs seeking digital design skills with the overall share of Cheshire and Warrington working age population by Local Authority. Compared with Cheshire and Warrington as a whole, employer demand for roles with these skills was higher in Warrington, and lower in Cheshire West and Chester and in Cheshire East.

Local Authority postings for jobs with digital design skills compared to Cheshire and Warrington working age population share, May 2021-May 2022			
Local Authority	Unique Postings	% of C&W Total Postings	% of C&W 16-64 Population
Cheshire West and Chester	1,507	27%	40%
Cheshire East	1,837	33%	37%
Warrington	2,206	40%	23%
Cheshire and Warrington	5,542	100%	100%
Sources: EMSI Analyst and NOMIS			

The graph below shows the trend for unique postings for all jobs, and for jobs requiring digital design skills over the last 5 years. In both cases, the May 2017 volume is indexed at 100. The pattern of demand for jobs seeking digital design skills has generally been lower than that for all jobs in the Cheshire and Warrington economy. The most recent data shows that demand for digital design skills is three quarters of what it was five years ago.



Source: EMSI Analyst

As can be seen from the table below, digital design skills are being sought in both in specific digital occupations and in other occupations across the economy. In total, 12% of employers seeking to recruit posted vacancies seeking these type of skills in May 2021-May 2022 (815 of 7,080 employers).

Top 10 occupations seeking digital design skills in Cheshire and Warrington, May 21- May 22			
Occupation	Unique Postings	Median Annual Wages	Number of Employers Competing
Total Across All Occupations	5542	40128	815
Programmers and Software Development Professionals	1282	44928	285
Web Design and Development Professionals	622	44992	162
Draughtspersons	323	29952	81
Graphic Designers	277	26944	102
Marketing Associate Professionals	275	26560	81
Marketing and Sales Directors	216	37568	95
Mechanical Engineers	208	38784	60
Electrical Engineers	192	47488	45
Civil Engineers	180	40064	68
Engineering Professionals n.e.c.	118	50048	45
Source: EMSI Analyst			

4.6 Employer Demand for Specific Digital Skills: Customer Relationship Management (CRM)

Skills associated with CRM is another discrete set of specific digital skills that have been identified by Burning Glass as being required by employers. These skills encompass the ability to use CRM software, such as Salesforce or Microsoft Dynamics. The job roles where the skills might be required would typically include Sales Professionals, Marketing Associate Professionals, and Customer

Services Managers. The EMSI skill types used to define 'Specific Digital Skills: CRM' can be found at Annex 1.

There were 4,469 unique job postings in Cheshire and Warrington for these types of skills from May 2021 to May 2022. This equates to 3% of all unique job posting in this period (157k total unique postings for all job types in Cheshire and Warrington). This is slightly higher as the proportion of all job postings seeking CRM skills compared to before the pandemic (Feb 2017-Feb 2020) which was 2%.

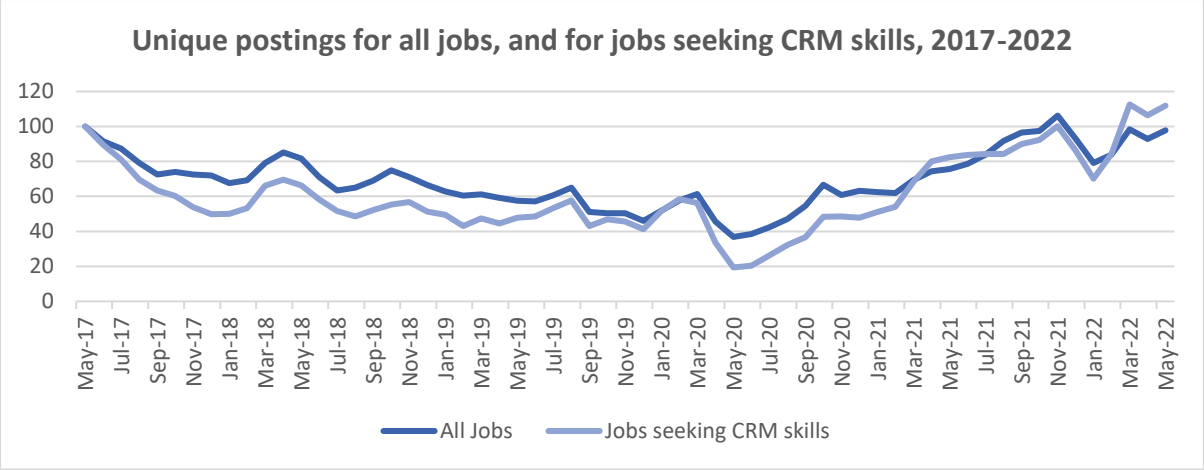
The 'Posting Intensity' for these type of jobs between May 2021 and May 2022 was 2:1. This is lower than the Posting Intensity for all job postings in Cheshire and Warrington (3:1), indicating that employers were putting less than average effort toward hiring for positions with this skill set.

The median advertised salary for roles explicitly requiring CRM skills between May 2021 and May 2022 was £26,048. This is lower than the median advertised salary for all roles in Cheshire and Warrington which stood at £27,456.

The table below compares the local authority data for job postings of jobs seeking CRM skills with the overall share of Cheshire and Warrington working age population by Local Authority. Compared with Cheshire and Warrington as a whole, employer demand for roles with these skills was higher in Warrington, and lower in Cheshire West and Chester and in Cheshire East.

Local Authority postings for jobs with CRM skills compared to Cheshire and Warrington working age population share, May 2021-May 2022			
Local Authority	Unique Postings	% of C&W Total Postings	% of C&W 16-64 Population
Cheshire West and Chester	1,565	35%	40%
Cheshire East	1,389	31%	37%
Warrington	1,525	34%	23%
Cheshire and Warrington	4,479	100%	100%
Sources: EMSI Analyst and NOMIS			

The graph below shows the trend for unique postings for all jobs, and for jobs requiring CRM skills over the last 5 years. In both cases, the May 2017 volume is indexed at 100. Pre-pandemic, the pattern of demand for jobs seeking CRM skills was slightly lower than that for all jobs in the Cheshire and Warrington economy. The most recent data shows that demand for CRM skills is slightly higher than it was five years ago.



Source: EMSI Analyst

As can be seen from the table below, CRM skills are generally being sought in occupations across the economy. In total, 15% of employers seeking to recruit posted vacancies seeking these type of skills in May 2021-May 2022 (1057 of 7,080 employers).

Top 10 occupations seeking CRM skills in Cheshire and Warrington, May 21- May 22			
Occupation	Unique Postings	Median Annual Wages	Number of Employers Competing
Total Across All Occupations	4469	26048	1057
Sales Related Occupations n.e.c.	642	25024	191
Marketing and Sales Directors	427	37568	180
Customer Service Occupations n.e.c.	398	20288	137
Marketing Associate Professionals	283	25024	120
Other Administrative Occupations n.e.c.	234	21952	82
Human Resources and Industrial Relations Officers	141	22464	33
Programmers and Software Development Professionals	129	40064	52
Management Consultants and Business Analysts	120	32384	54
IT User Support Technicians	120	23936	49
Business Sales Executives	117	24448	41
Source: EMSI Analyst			

4.7 Employer Demand for Specific Digital Skills: Digital Marketing

Skills associated with Digital Marketing are a discrete set of specific digital skills that have been identified by Burning Glass as being required by employers. These skills encompass digital marketing technologies, such as social media platforms and analytics tools, such as Google Analytics. They are typically required in occupational areas such as 'Sales and Marketing Professionals' and 'Marketing Associate Professionals'. The EMSI skill types used to define 'Specific Digital Skills: Digital Marketing' can be found at Annex 1.

There were 2,579 unique job postings in Cheshire and Warrington for these types of skills from May 2021 to May 2022. This equates to 2% of all unique job posting in this period (157k total unique postings for all job types in Cheshire and Warrington). This is slightly higher as the proportion of all job postings seeking digital marketing skills compared to before the pandemic (Feb 2017-Feb 2020) which was 1%.

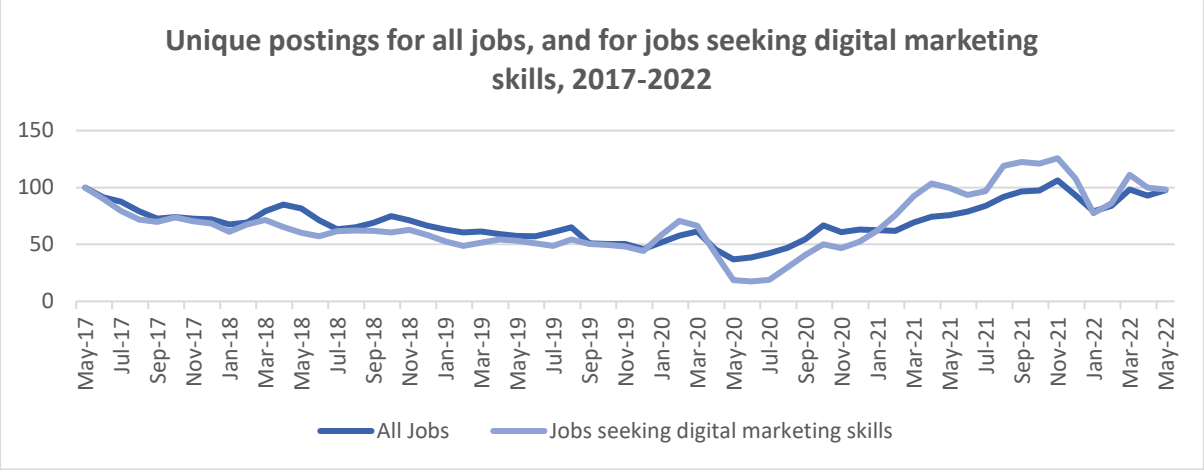
The 'Posting Intensity' for these type of jobs between May 2021 and May 2022 was 2:1. This is lower than the Posting Intensity for all job postings in Cheshire and Warrington (3:1), indicating that employers were putting less than average effort toward hiring for positions with this skill set.

The median advertised salary for roles explicitly requiring digital marketing skills between May 2021 and May 2022 was £ 28,480. This is slightly higher than the median advertised salary for all roles in Cheshire and Warrington which stood at £27,456.

The table below compares the local authority data for job postings of jobs seeking digital marketing skills with the overall share of Cheshire and Warrington working age population by Local Authority. Compared with Cheshire and Warrington as a whole, employer demand for roles with these skills in each local authority was similar to the share of the resident population.

Local Authority postings for jobs with digital marketing skills compared to Cheshire and Warrington working age population share, May 2021-May 2022			
Local Authority	Unique Postings	% of C&W Total Postings	% of C&W 16-64 Population
Cheshire West and Chester	950	37%	40%
Cheshire East	919	36%	37%
Warrington	711	28%	23%
Cheshire and Warrington	2,579	100%	100%
Sources: EMSI Analyst and NOMIS			

The graph below shows the trend for unique postings for all jobs, and for jobs requiring digital marketing skills over the last 5 years. In both cases, the May 2017 volume is indexed at 100. The pattern of demand for jobs seeking digital marketing skills has been similar to that for all jobs in the Cheshire and Warrington economy. The most recent data shows that demand for digital marketing skills is similar to what it was five years ago.



Source: EMSI Analyst

As can be seen from the table below, digital marketing skills are being sought in both occupations across the economy and in specific digital occupations. In total, 8% of employers seeking to recruit posted vacancies seeking these type of skills in May 2021-May 2022 (567 of 7,080 employers).

Top 10 occupations seeking digital marketing skills in Cheshire and Warrington, May 21- May 22			
Occupation	Unique Postings	Median Annual Wages	Number of Employers Competing
Total Across All Occupations	2579	28480	567
Marketing Associate Professionals	749	26560	206
Marketing and Sales Directors	574	37568	210
Sales Related Occupations n.e.c.	148	28416	49
Web Design and Development Professionals	128	32448	49
Graphic Designers	116	24960	52
Authors, Writers and Translators	75	23232	32
IT Business Analysts, Architects and Systems Designers	69	26496	21
Programmers and Software Development Professionals	60	30976	32
IT Operations Technicians	54	34944	21
Other Administrative Occupations n.e.c.	46	21056	21
Source: EMSI Analyst			

4.8 Employer Demand for Specific Digital Skills: Machining and Manufacturing Technology

Skills associated with Machining & Manufacturing Technology are a discrete set of specific digital skills that have been identified by Burning Glass as being required by employers. These skills encompass machining and engineering software and tools such as CNC machining and computer-aided design. These skills are typically required by occupations such as Machine Operators, Civil

Engineers, Quality Control and Planning Engineers. The EMSI skill types used to define 'Specific Digital Skills: Machining and Manufacturing Technology' can be found at Annex 1.

There were 2, 622 unique job postings in Cheshire and Warrington for these types of skills from May 2021 to May 2022. This equates to 2% of all unique job posting in this period (157k total unique postings for all job types in Cheshire and Warrington). This is the same as the proportion of all job postings seeking digital marketing skills before the pandemic (Feb 2017-Feb 2020).

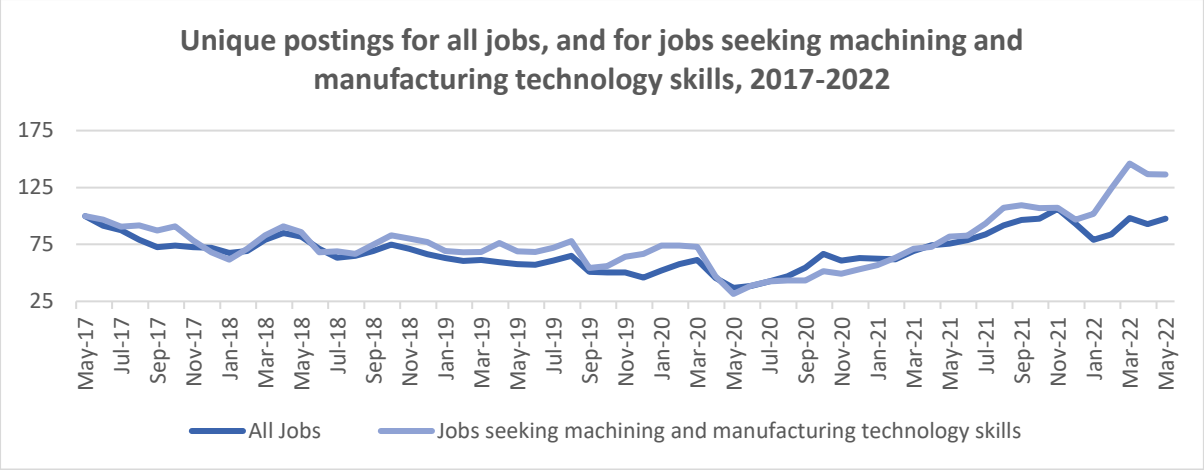
The 'Posting Intensity' for these type of jobs between May 2021 and May 2022 was 3:1. This is the same as the Posting Intensity for all job postings in Cheshire and Warrington, indicating that employers were putting average effort toward hiring for positions with this skill set.

The median advertised salary for roles explicitly requiring machining and manufacturing technology skills between May 2021 and May 2022 was £33,984. This is higher than the median advertised salary for all roles in Cheshire and Warrington which stood at £27,456.

The table below compares the local authority data for job postings of jobs seeking machining and manufacturing technology skills with the overall share of Cheshire and Warrington working age population by Local Authority. Compared with Cheshire and Warrington as a whole, employer demand for roles with these skills was higher in Warrington and lower in Cheshire East and Cheshire West and Chester.

Local Authority postings for jobs with machining and manufacturing technology skills compared to Cheshire and Warrington working age population share, May 2021-May 2022			
Local Authority	Unique Postings	% of C&W Total Postings	% of C&W 16-64 Population
Cheshire West and Chester	671	26%	40%
Cheshire East	819	31%	37%
Warrington	1,137	43%	23%
Cheshire and Warrington	2,622	100%	100%
Sources: EMSI Analyst and NOMIS			

The graph below shows the trend for unique postings for all jobs, and for jobs requiring machining and manufacturing technology skills over the last 5 years. In both cases, the May 2017 volume is indexed at 100. The pattern of demand for jobs seeking machining and manufacturing technology skills has been similar to that for all jobs in the Cheshire and Warrington economy until recently. The most recent data shows that demand for digital design skills is over a third higher than what it was five years ago.



Source: EMSI Analyst

As can be seen from the table below, machining and manufacturing technology skills are being sought mostly in occupations in the manufacturing and engineering sectors. In total, 6% of employers seeking to recruit posted vacancies seeking these type of skills in May 2021-May 2022 (393 of 7,080 employers).

Top 10 occupations seeking digital marketing skills in Cheshire and Warrington, May 21- May 22			
Occupation	Unique Postings	Median Annual Wages	Number of Employers Competing
Total Across All Occupations	2622	33984	393
Mechanical Engineers	721	37504	157
Engineering Technicians	287	34944	67
Metal Working Machine Operatives	115	27392	32
Engineering Professionals n.e.c.	98	37504	42
Electrical Engineers	94	40064	30
Electrical and Electronic Trades n.e.c.	76	29952	27
Draughtspersons	74	28928	17
Metal Machining Setters and Setter-operators	72	29056	24
Programmers and Software Development Professionals	66	38528	22
Construction Project Managers and Related Professionals	63	53760	22
Source: EMSI Analyst			

5. Digital Occupations

5.1 Introduction

The definition of 'Digital Occupations' that is used in this chapter of the report is that used by DCMS[25]. DCMS have derived their definitions of Digital Occupations from work undertaken by NESTA and techUK[26]. The occupations used are set out in the table below.

'Digital Occupations' as defined by Government	
SOC	Description
1136	IT and telecommunications directors
2133	IT specialist managers
2134	IT project and programme managers
2135	IT business analysts, architects & systems designers
2136	Programmers and software development professionals
2137	Web design & development professionals
2139	IT & telecommunications professionals not elsewhere classified
3131	IT operations technicians
3132	IT user support technicians
5242	Telecommunications engineers
5245	IT Engineers
Source: DCMS, Digital Sector Economic Estimates	

5.2 Employment in Digital Occupations

Overall, there were 21,552 jobs in 2020 in Digital Occupations in Cheshire and Warrington which was 2% below what would be expected if Cheshire and Warrington mirrored the national average. It is estimated that the number employed in these occupations grew by 2.4% in Cheshire and Warrington compared to a 1% growth nationally between 2020 and 2022[27]. The table below sets out the employment in digital occupations by local authority between 2020 and 2022. At 5%, the fastest growth in these occupations was in Warrington.

Employment in 'Digital Occupations' by local authority, 2020-2022				
	2020 Jobs	2022 Jobs	Change	% Change
Cheshire West and Chester	6,070	6,135	65	1%
Cheshire East	8,890	9,044	155	2%
Warrington	6,593	6,899	306	5%
Source: Lightcast Analyst				

[25] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/503666/Digital_Sector_Economic_Estimates_-_January_2016_Revised.pdf P17

[26] https://media.nesta.org.uk/documents/dynamic_mapping_of_the_information_economy_industries.pdf

[27] Data from Lightcast Analyst

The prevalence of occupational types within the 'Digital Occupations' group is similar in all three local authorities in Cheshire and Warrington, with Programmers and Software Development Professionals; IT Specialist Managers; and Information Technology and Telecommunications Professionals n.e.c. having the highest volume of jobs in all three of the local authorities.

Employment in 'Digital Occupations' in Cheshire and Warrington, by local authority and occupation, 2022			
Occupation	Cheshire West and Chester	Cheshire East	Warrington
Programmers and Software Development Professionals	1,225	2,221	1,357
IT Specialist Managers	882	1,290	1,088
Information Technology and Telecommunications Professionals n.e.c.	759	1,137	951
IT Operations Technicians	611	743	572
IT Business Analysts, Architects and Systems Designers	572	882	619
IT User Support Technicians	500	641	513
IT Project and Programme Managers	407	544	478
Information Technology and Telecommunications Directors	406	639	483
Web Design and Development Professionals	302	462	234
IT Engineers	270	228	246
Telecommunications Engineers	201	257	357
Total	6,135	9,044	6,899
Source: Lightcast Analyst			

The overall 2% growth in the numbers employed in Digital Occupations has seen a growth in employment in all bar two occupation types (Telecommunications Engineers and IT Engineers), with the highest growth (4%) being in Web Design and Development Professionals in this time.

Change in employment in Digital Occupations in Cheshire and Warrington, 2020-2022				
Occupation	2020	2022	Change	% Change
Information Technology and Telecommunications Directors	1,488	1,527	39	3%
IT Specialist Managers	3,202	3,260	58	2%
IT Project and Programme Managers	1,391	1,430	39	3%
IT Business Analysts, Architects and Systems Designers	2,015	2,072	57	3%
Programmers and Software Development Professionals	4,653	4,802	148	3%
Web Design and Development Professionals	958	999	40	4%
Information Technology and Telecommunications Professionals n.e.c.	2,761	2,847	86	3%
IT Operations Technicians	1,876	1,927	51	3%
IT User Support Technicians	1,630	1,655	25	2%
Telecommunications Engineers	833	815	(18)	(2%)
IT Engineers	743	744	1	0%
Total	21,552	22,079	526	2%
Source: Lightcast Analyst				

As noted above, employment in Digital Occupations has grown in all three of Cheshire and Warrington's local authorities between 2020 and 2022, with the highest rate of growth being in Warrington at 5%. The employment of Programmers and Software Development Professionals has grown particularly rapidly in Warrington in these three years with a growth of 8%.

Change in employment in Digital Occupations in Cheshire and Warrington by occupation type and local authority, 2020-2022			
Occupation	Cheshire West and Chester	Cheshire East	Warrington
IT Engineers	3%	(2%)	(1%)
Web Design and Development Professionals	2%	4%	6%
IT Project and Programme Managers	2%	2%	5%
IT Operations Technicians	2%	3%	4%
Information Technology and Telecommunications Professionals n.e.c.	2%	2%	6%
Information Technology and Telecommunications Directors	1%	2%	5%
IT Business Analysts, Architects and Systems Designers	1%	2%	5%
IT User Support Technicians	0%	1%	3%
Programmers and Software Development Professionals	0%	2%	8%
IT Specialist Managers	0%	1%	4%
Telecommunications Engineers	0%	(5%)	(1%)
Total	1%	2%	5%
Source: Lightcast Analyst			

As might be expected from the overall levels of employment in Digital Occupations in Cheshire and Warrington, the location quotient (LQ) of most digital occupation types is generally close to 1, with the highest LQ being for Web Design and Development Professionals at 1.21. Employment in Digital Occupations tends to be slightly under-represented in Cheshire West and Chester and slightly over-represented in Warrington.

Location quotient of Digital Occupations in Cheshire and Warrington by occupation type and local authority, 2022				
Occupation	Cheshire West and Chester	Cheshire East	Warrington	C&W
Information Technology and Telecommunications Directors	0.83	1.1	1.12	1.02
Information Technology and Telecommunications Professionals n.e.c.	0.79	1	1.12	0.97
IT Business Analysts, Architects and Systems Designers	0.88	1.14	1.07	1.04
IT Engineers	1.06	0.76	1.1	0.95
IT Operations Technicians	1.03	1.06	1.1	1.06
IT Project and Programme Managers	0.89	1	1.18	1.02
IT Specialist Managers	0.76	0.94	1.06	0.92
IT User Support Technicians	0.83	0.9	0.96	0.89
Programmers and Software Development Professionals	0.75	1.15	0.94	0.96
Telecommunications Engineers	0.69	0.74	1.38	0.91
Web Design and Development Professionals	1.12	1.45	0.99	1.21
Source: Lightcast Analyst				

5.3 Average Annual Openings in Digital Occupations

Every year, some people employed in these occupations will retire or will leave the industry or area. This generates openings that can be filled by new entrants to the occupation. In general, the level of annual average openings mirrors the size of overall employment in each occupational type. The highest level of average annual openings in the Digital Occupations in Cheshire and Warrington is for Programmers and Software Development Professionals at just over 350 openings per annum.

Annual openings in Digital occupations in Cheshire and Warrington		
Occupation	2022 Jobs	Avg. Annual Openings
Information Technology and Telecommunications Directors	1,527	87
IT Specialist Managers	3,260	143
IT Project and Programme Managers	1,430	82
IT Business Analysts, Architects and Systems Designers	2,072	115
Programmers and Software Development Professionals	4,802	351
Web Design and Development Professionals	999	80
Information Technology and Telecommunications Professionals n.e.c.	2,847	199
IT Operations Technicians	1,927	97
IT User Support Technicians	1,655	63
Telecommunications Engineers	815	17
IT Engineers	744	30
	22,079	1,263
Source: Lightcast Analyst		

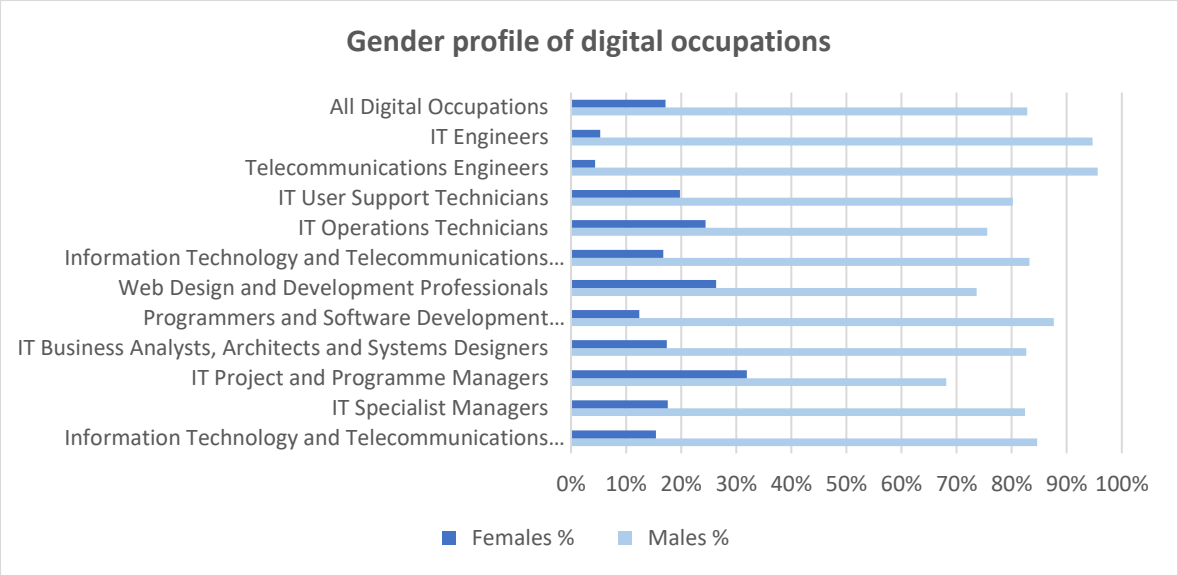
5.4 Digital Occupations wages

There is a wage premium associated with Digital Occupations with every occupation type in this group having higher median wages than the Cheshire and Warrington median for all occupations which stands at £25,800. At just less than £47,000, the highest median wages are for IT Project and Programme Managers. Half of the occupation types that make up Digital Occupations have an annual wage premium in excess of £17,000 when compared to the Cheshire and Warrington median wage for all occupations. The educational level for all digital occupations is at or above Level 3, and normally at degree level.

Median wages and educational level associated with Digital Occupations in Cheshire and Warrington, 2022		
Occupation	Education Level	Median Wages
Information Technology and Telecommunications Directors	Honours degree	£45,678
IT Specialist Managers	Honours degree	£43,063
IT Project and Programme Managers	Honours degree	£46,988
IT Business Analysts, Architects and Systems Designers	Honours degree	£44,513
Programmers and Software Development Professionals	Honours degree	£42,865
Web Design and Development Professionals	Honours degree	£34,254
Information Technology and Telecommunications Professionals n.e.c.	Honours degree	£33,349
IT Operations Technicians	Level 3	£29,426
IT User Support Technicians	Level 3	£27,032
Telecommunications Engineers	Level 3	£31,665
IT Engineers	Honours degree	£33,667
Source: Lightcast Analyst		

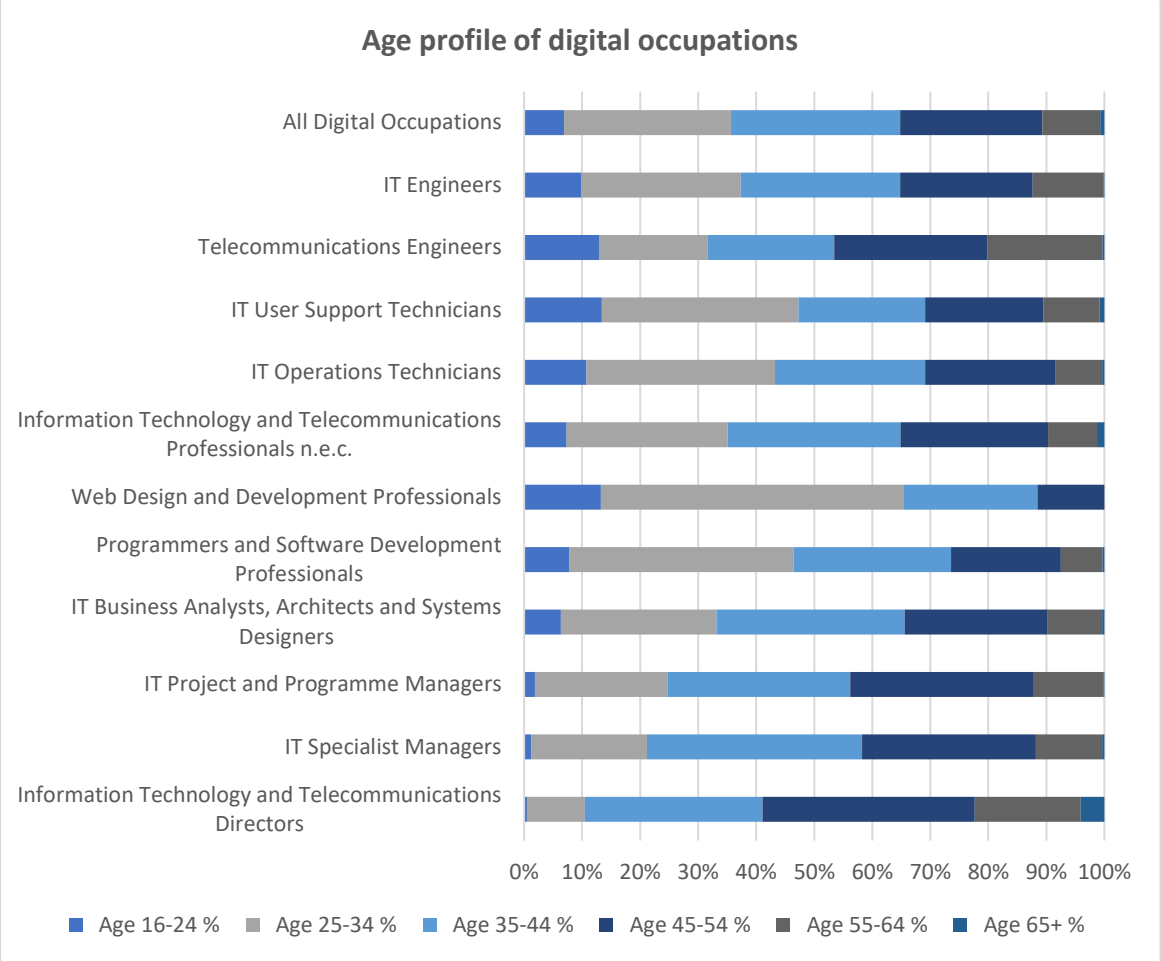
5.5 Gender and age profile of Digital Occupations

Employment in Digital Occupations is dominated by males. Nationally 83% of people employed in Digital Occupations are male. This ranges from a third of those employed as IT project and Programme Managers being female, to only one in 25 Telecommunications Engineers being female.



Source: Lightcast Analyst

The age profile of this group of occupations is quite young. Nationally, two thirds (67.1%) are aged 44 or below. This compares to less than 60% being aged under 44 in all occupations. The occupations with the youngest age profiles are Web Design and Development Professionals; Programmers and Software Development Professionals; and IT User Support technicians.



Source: Lightcast Analyst

5.6 Industries that employ Digital Occupations

The three industrial sectors that employed the most people in Digital Occupations were the digital industries of:

- Computer Consultancy Activities
- Computer Programming Activities
- Other Information Technology and Computer Service Activities

Two thirds of the jobs in each of these sectors were in Digital Occupations and together they accounted for over 40% of all employment in Digital Occupations in Cheshire and Warrington. These three sectors saw a faster rate of growth in employment that the average growth in Digital Occupations across the economy between 2020 and 2022, with rates of 5/6%.

Most of the other industries that employed significant volumes of Digital occupations were not in what can be described as 'digital industries' but in other sectors of the economy including finance, engineering and health. The fastest rate of growth in employment in Digital Occupations in these types of sectors was in 'Accounting, Bookkeeping and Auditing Activities; Tax Consultancy' which saw a growth of 20% between 2020 and 2022.

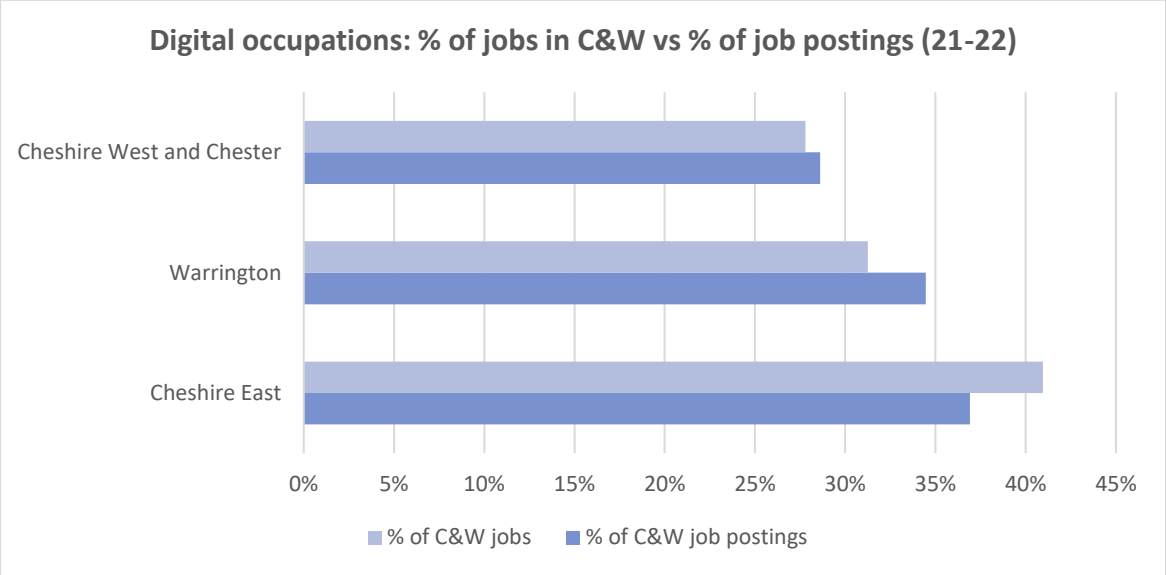
Industrial sectors that employ Digital Occupations in Cheshire and Warrington						
Industry Sector	Digital occupations (2020)	Digital occupations (2022)	Change (2020 - 22)	% Change (2020 - 22)	% of all Digital Occupations	% of Total Jobs
Computer Consultancy Activities	4754	4983	229	5%	22%	66%
Computer Programming Activities	3022	3193	171	6%	14%	68%
Other Information Technology and Computer Service Activities	1452	1525	73	5%	7%	67%
Business and Other Management Consultancy Activities	1174	1261	87	7%	6%	11%
Other Monetary Intermediation	1071	1118	47	4%	5%	9%
Engineering Activities and Related Technical Consultancy	660	656	-4	-1%	3%	7%
Repair of Computers and Peripheral Equipment	547	518	-29	-5%	2%	62%
Accounting, Bookkeeping and Auditing Activities; Tax Consultancy	416	499	84	20%	2%	2%
Other Telecommunications Activities	439	402	-36	-8%	2%	20%
Hospital Activities	316	335	18	6%	1%	1%
Source: Lightcast Analyst						

5.7 Recent employer demand for Digital Occupations

Following the pandemic lockdowns and the depressed activity in the labour market that these brought, the labour market opened up from April 2021. In the period April 2021-June 2022, there were 32,369 total job postings for Digital Occupations, of which 14,574 were unique. These numbers give us a Posting Intensity of 2-to-1, meaning that for every 2 postings there was 1 unique job posting. This is below the Posting Intensity for all other occupations and companies in Cheshire and Warrington (3-to-1), indicating that employers were putting less effort toward hiring for this type of position. The local authority location of these job postings is set out below.

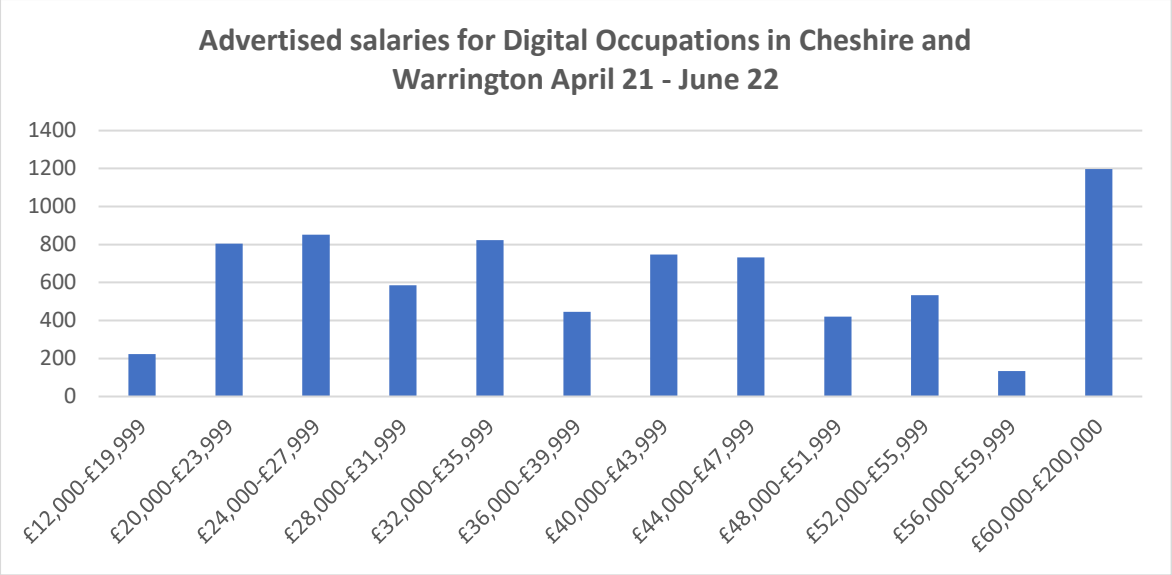
Unique job postings for Digital Occupations in Cheshire and Warrington, April 2021-June 2022	
Local authority	Unique Postings
Cheshire East	5,380
Warrington	5,023
Cheshire West and Chester	4,171
Source: Lightcast Analyst	

This volume of posting activity by local authority is broadly what might be expected from the distribution of Digital Occupations employment across Cheshire and Warrington, with slightly fewer postings than might be expected in Cheshire East, and slightly more in both Cheshire West and Chester and Warrington.



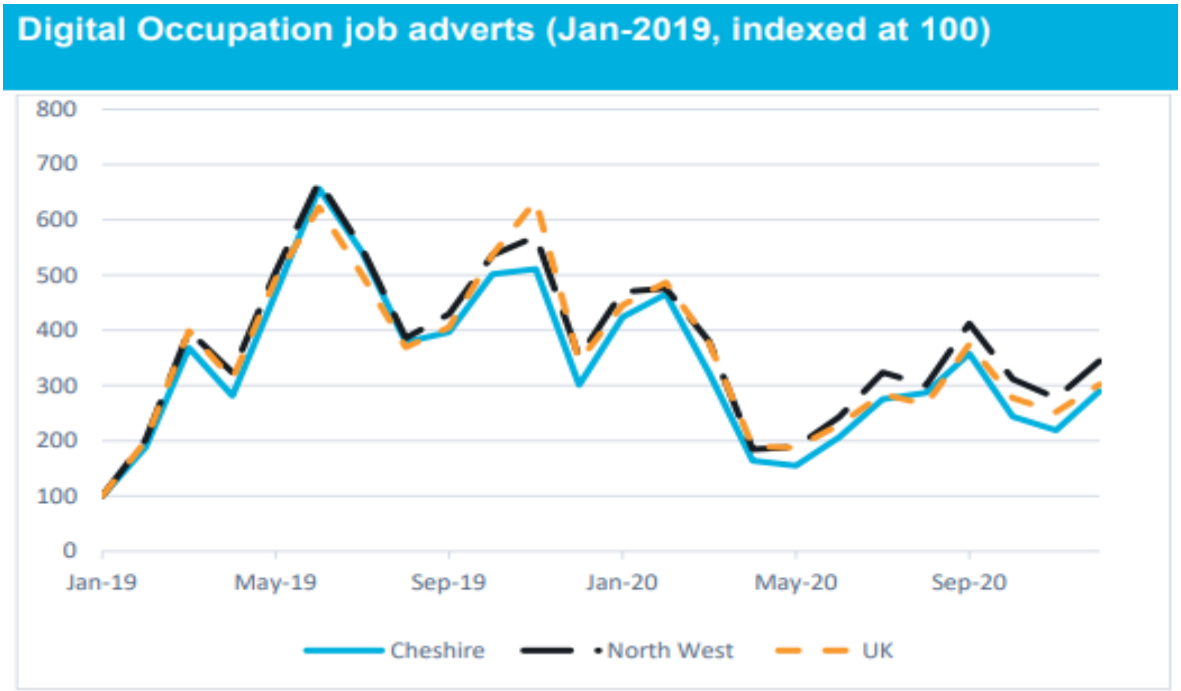
Source: Brennan Wilson Ltd analysis of Lightcast Analyst data

Between April 2021 and June 2022, there were 7,500 advertised salary observations for Digital Occupations (51% of the 14,574 matching postings). The median advertised salary for these roles was £40,128, which is broadly consistent with official data for median wages for Digital Occupations in Cheshire and Warrington (reported above). Roles were advertised across a broad range of salaries in reasonable volumes, with 1 in 7 (14%) being advertised at entry level (up to £24k).



Source: Lightcast Analyst

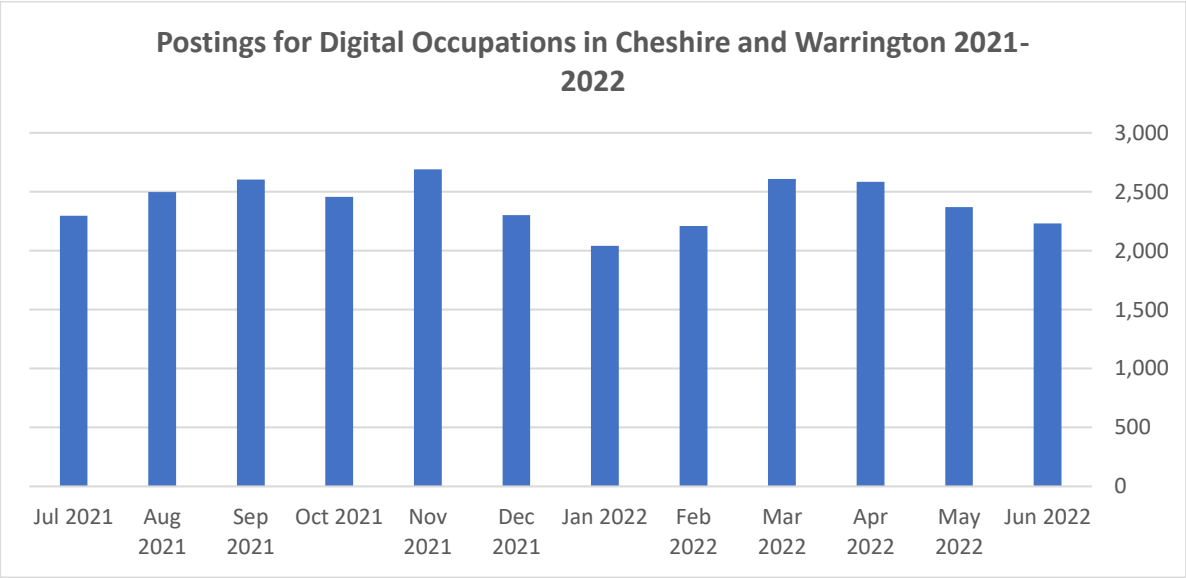
Employer recruitment activity for these types of occupations in Cheshire and Warrington over the period of the pandemic has broadly mirrored the pattern of recruitment in the Northwest and the UK[28].



Source: DCMS NUTS 2 Dashboards

[28] Department for Digital, Culture, Media & Sport: Assessing the UK's Regional Digital Ecosystems: Appendix C – NUTS2 Dashboards https://www.gov.uk/government/publications/assessing-the-uks-regional-digital-ecosystems

Employer demand for Digital Occupations has remained broadly stable over the last year, with monthly unique job postings in Cheshire and Warrington never falling below 2,000 and never going over 3,000.

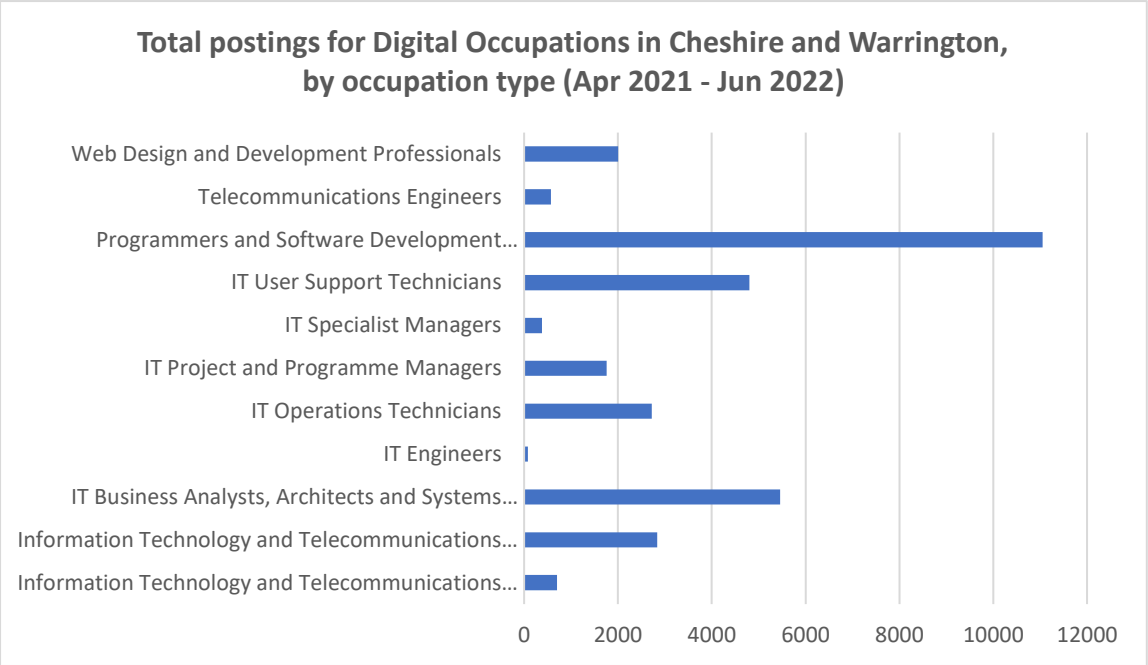


Source: Lightcast Analyst

The top companies posting for Digital occupations in Cheshire and Warrington (more than 100 unique postings 2021-2022) are set out in the table below. It is notable that three quarters of these are recruitment agencies (marked with an *).

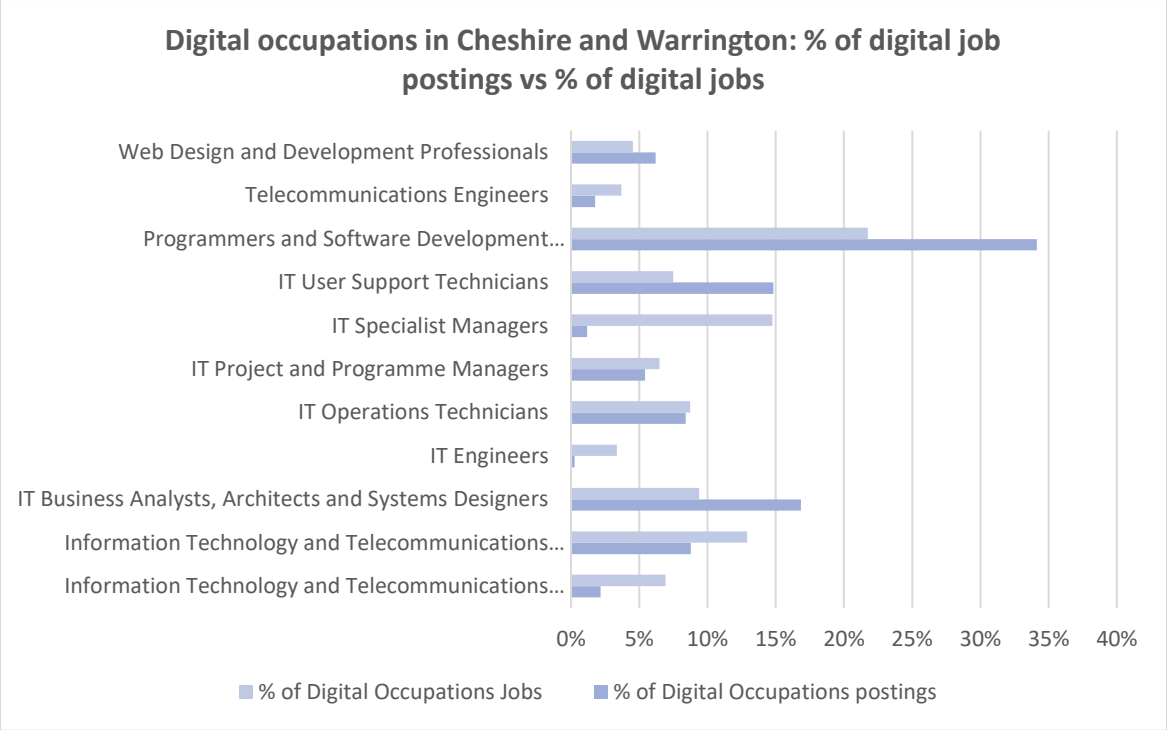
Top companies posting for Digital Occupations in Cheshire and Warrington, 2021-2022		
Company	Total Postings	Unique Postings
Barclays	1,525	544
NHS	1,667	222
Michael Page*	468	214
Hays*	479	211
Nigel Frank*	337	190
Adria Solutions Limited*	331	190
AstraZeneca	437	187
Radius Payment Solutions Limited	255	157
Rise Technical Recruitment Ltd*	279	129
Exposed Solutions*	172	108
Senitor Associates*	322	105
Applause IT*	273	104
Source: Lightcast Analyst		

The highest employer demand for Digital Occupations in Cheshire and Warrington in the last year has been for Programmers and Software Development Professionals; IT Business Analysts, Architects and Systems Designers; and IT User Support Technicians.



Source: Lightcast Analyst

These levels of demand for different types of digital occupations do not always mirror the number of jobs in these occupations. The chart below compares the different digital occupations employment levels as a percentage of all employment in Digital Occupations against job postings for all digital occupations as a percentage of all postings for Digital Occupations (2021-2022). It can be seen from this that employer demand for the three occupation types identified above - Programmers and Software Development Professionals; IT Business Analysts, Architects and Systems Designers; and IT User Support Technicians - are higher than would be expected from the number of jobs in the local economy. This suggests that there are higher levels of churn for these digital occupations than for others.



Source: Lightcast Analyst

The table below sets out the most used job titles for job postings in Digital Occupations in Cheshire and Warrington in 2021-2022. Roles in software development occupy the top five places.

Job titles featuring in job postings for Digital occupations in Cheshire and Warrington, 2021-2022		
Job Title	Total Postings	Unique Postings
Software Developers	670	331
.NET Developers	741	303
Software Engineers	498	256
C# .NET Developers	784	205
Java Developers	357	163
IT Support Engineers	305	162
Data Analysts	320	160
Service Desk Analysts	397	143
IT Support Technicians	273	140
Full Stack Developers	380	138
DevOps Engineers	284	137
IT Support Analysts	307	133
PHP Developers	214	122
Developers	253	105
Front End Developers	197	101
Source: Lightcast Analyst		

The table below sets out the top specialised skills sought by employers seeking to fill roles in Digital Occupations in Cheshire and Warrington in 2021-22. The following specialised skills all featured in more than 1 in 10 job postings:

- SQL (Programming Language)
- Agile Methodology
- JavaScript (Programming Language)
- C# (Programming Language)
- Microsoft Azure

Specialised skills sought by employers in job postings for Digital Occupations in Cheshire and Warrington, 2021-22	
Skill	Frequency
SQL (Programming Language)	16%
Agile Methodology	16%
JavaScript (Programming Language)	14%
C# (Programming Language)	12%
Microsoft Azure	12%
Amazon Web Services	9%
Software Development	9%
Application Programming Interface (API)	8%
Cascading Style Sheets (CSS)	8%
Technical Support	8%
Source: Lightcast Analyst	

Almost a third of job postings for Digital Occupations in Cheshire and Warrington in 2021-22 sought communication skills from applicant. More than 1 in ten job postings also sought skills in Management, Customer Service, and Problem Solving.

Common skills sought by employers in job postings for Digital Occupations in Cheshire and Warrington, 2021-22	
Skill	Frequency
Communications	32%
Management	19%
Customer Service	13%
Problem Solving	12%
Planning	9%
Troubleshooting (Problem Solving)	9%
Operations	8%
Leadership	8%
Detail Oriented	7%
Innovation	7%
Source: Lightcast Analyst	

5.8 Forecast demand for digital occupations

The Local Government Association commissioned Sagacity Research to forecast demand for what they describe as 'tech specialist' occupations to 2050. These are the same occupations as DCMS'

Digital occupations. Forecasting occupational demand for the next 30 years to 2050 is obviously problematic. This is clear if you consider that 30 years ago the occupation of 'Web design and development professionals' didn't exist. Notwithstanding this, the headline of the forecasts are reported below without further comment.

"Employment growth for tech specialist occupations will outstrip that for the workforce as a whole

- *Over the next thirty years (2020-50) we estimate the number of tech specialists in England will almost double (an increase of approximately 84 per cent) from around 1.4 million in 2020 to 2.5 million in 2050 as digital transformation continues apace and associated demand for associated labour and skills increases. Over the same time period, we anticipate much more modest growth in the size of the wider workforce which will grow by around 11 per cent over the period.*
- *As a result, we see the share of employment accounted for by tech specialists increasing from just over 5 per cent of the workforce in 2020 to around 9 per cent by the middle of the century.*

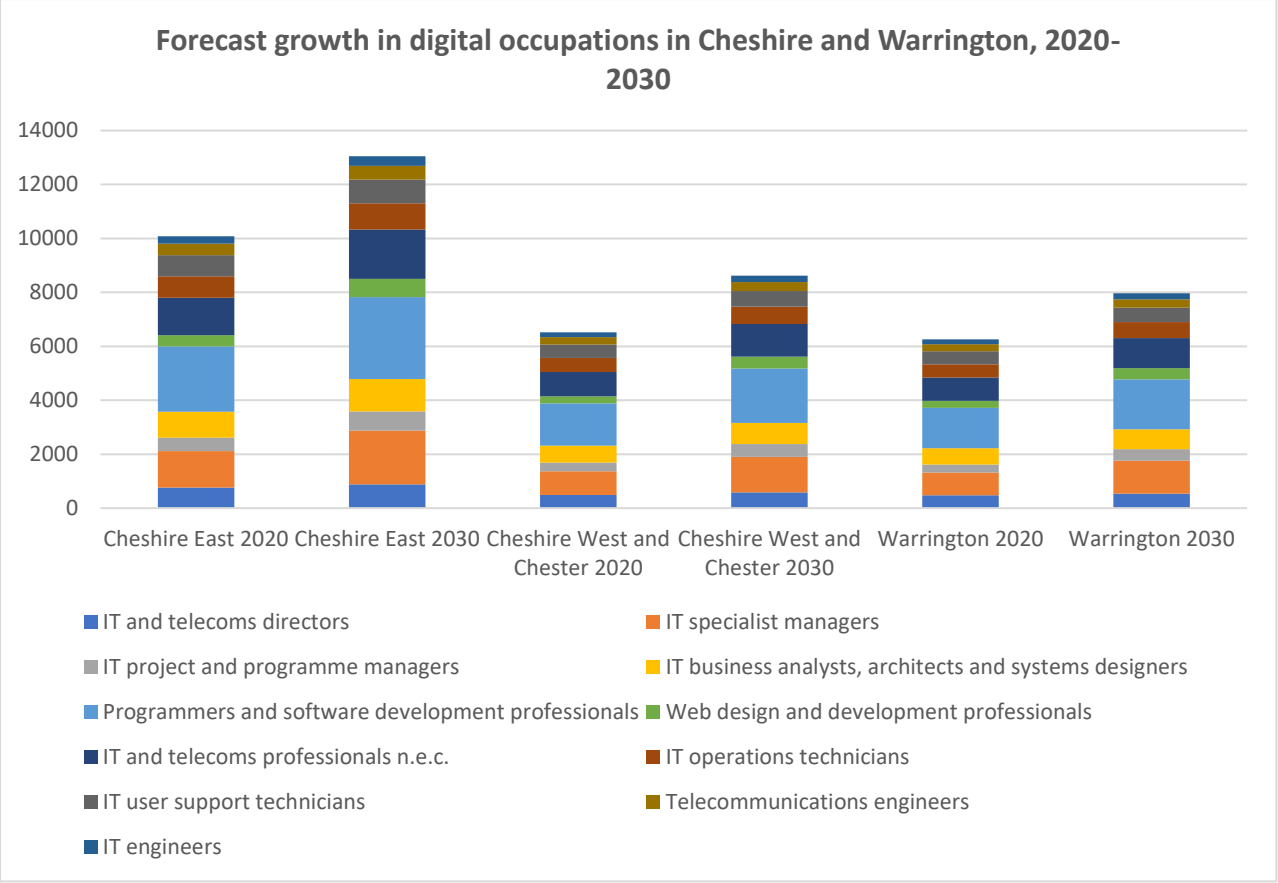
Tech employment growth will be strongest outside of the traditional hotspots of London and the south east

- *Under what might be considered a 'levelling up scenario', growth in tech employment will be greatest in the East Midlands (111 per cent) and the South West (108 per cent) whilst the established centres of London and the South East will see lower rates of growth (60 per cent and 67 per cent respectively) as, over the long-term future, other regions gradually close the gaps with regards digital connectivity, adoption and employment.*

Growth will be highest for management and development positions whilst tech support will see more modest increases

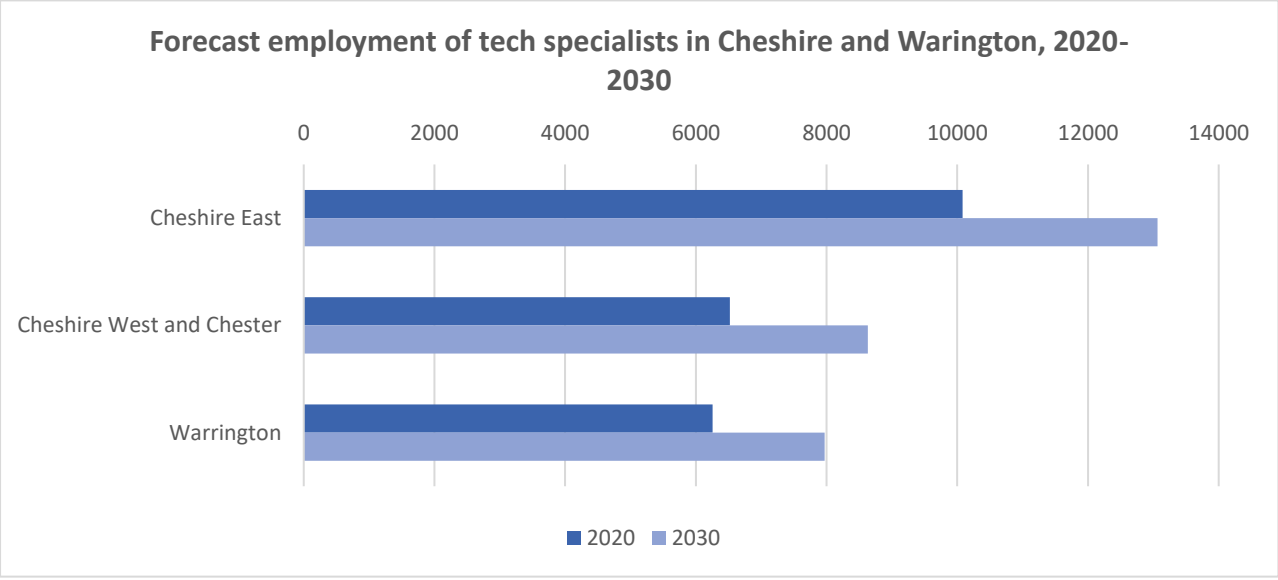
- *By occupation the highest growth of tech jobs is from web developers (up 157 per cent), followed by tech specialist managers (112 per cent), project/programme managers (100 per cent) and programmers/ developers (89 per cent) whilst the number working in tech maintenance/support will increase at a much slower rate (59 per cent for these groups combined)."*

More usefully, the work from Sagacity also forecasts at local authority level to 2030. These forecasts envisage that the highest jobs growth will be for Programmers and Software Development Professionals in all three local authorities.



Source: LGA/Sagacity

Overall employment in digital occupations is expected to increase by c3k in Cheshire East, c2k in Cheshire West and Chester and c1.5k in Warrington.



Source: LGA/Sagacity

6. Digital Industries

6.1 Introduction

The Organisation for Economic Co-operation and Development (OECD) defines the ICT sector as "a combination of manufacturing and service industries that capture, transmit and display data and information electronically". The UK government, in an effort to better define the Digital Sector, has expanded on the OECD definition to also include:

- Motion picture, video and television programme production, sound recording and music publishing activities
- Radio broadcasting
- Television programming and broadcasting activities

This Office for National Statistics definition of the Digital Sector takes the form of a list of 4-digit Standard Industrial Classification (SIC) Codes[29]. The full list is set out at Annex 2. This is the definition of the Digital Sector that will be used for the remainder of this section.

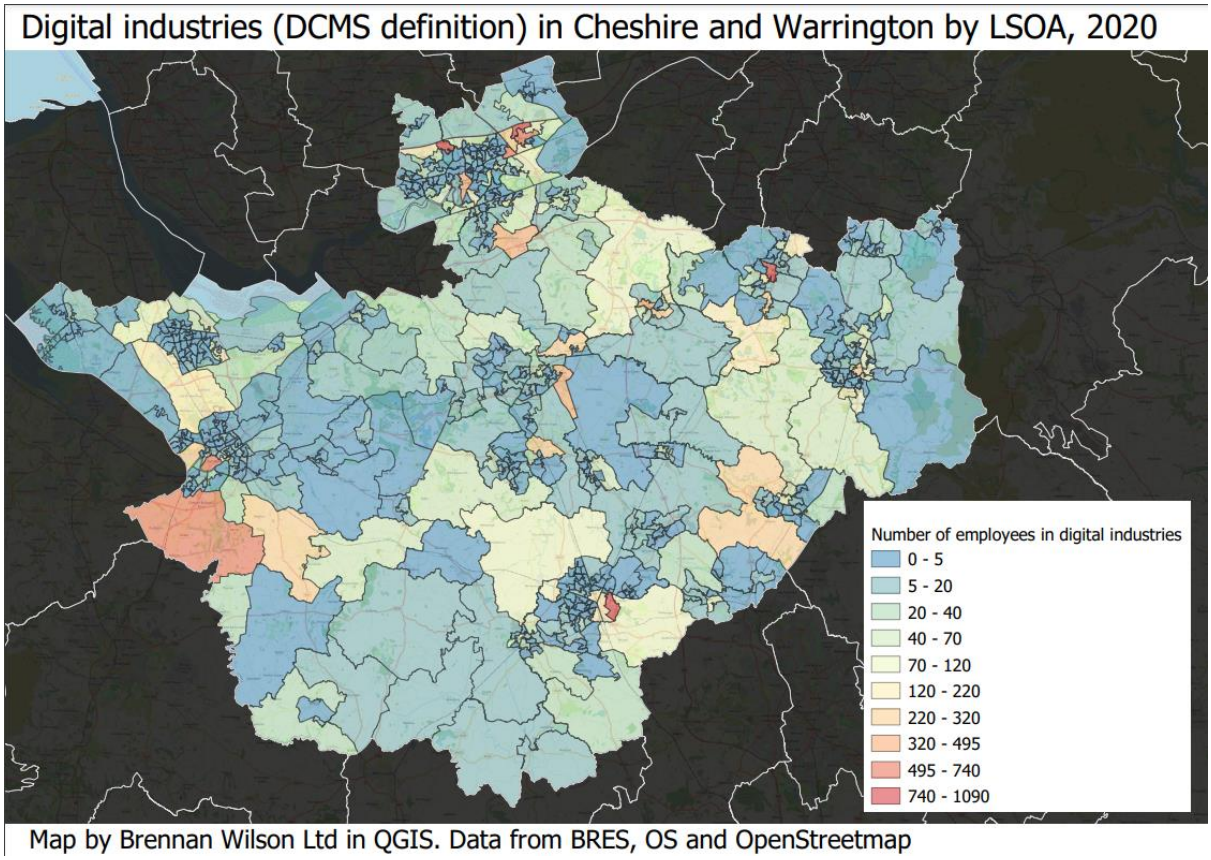
6.2 Digital Sector Employment

In 2021, the Digital Sector (as defined above) employed 21,717 people in Cheshire and Warrington, which was 11% below the level of employment that might be expected from national employment levels for the sector. However, with an employment growth of 2.6% between 2020 and 2022, the sector grew more rapidly than was the case nationally where growth in this period was 1%.

As can be seen from the map below, employment in the sector in Cheshire and Warrington is concentrated in a handful of locations. These locations include:

- Parts of Chester City Centre
- Chester Business Park
- Various business parks in Warrington adjacent to (south of) the M62 between junctions 8 and 11.
- Wilmslow
- Crewe Industrial Estate

[29] https://backup.ons.gov.uk/wp-content/uploads/sites/3/2015/10/What-defines-the-Digital-Sector.pdf p10



The table below disaggregates the employment data across the three local authorities. The employment growth rate between 2020 and 2022 exceeded the national growth rate for this period in all three local authorities, with the highest growth (3.9%) being in Warrington.

Employment in the Digital sector in Cheshire and Warrington, by Local Authority 2020-2022				
	2020 Jobs	**2022 Jobs**	**Change**	**% Change**
Cheshire and Warrington	21,646	22,199	553	2.6%
Cheshire East	8,954	9,097	143	1.6%
Warrington	7,368	7,658	290	3.9%
Cheshire West and Chester	5,324	5,444	120	2.3%
Source: Lightcast Analyst				

The number of employees in digital industries is about what would be expected from national employment shares in both Cheshire East (slightly below) and Warrington (slightly above). Employment volume in digital industries is only two thirds of what might be expected in Cheshire West and Chester.

LQ and employer volumes of the digital industries in Cheshire and Warrington by local authority 2022		
County/Unitary Authority Name	2022 Location Quotient	2021 Establishments
Cheshire East	0.95	1,526
Warrington	1.07	765
Cheshire West and Chester	0.67	997
Source: Lightcast Analyst		

6.3 Digital Sector subsectors

The following digital industry sectors all employed more than 1,000 people in Cheshire and Warrington in 2022:

- Computer Consultancy Activities
- Computer Programming Activities
- Other Information Technology and Computer Service Activities
- Other Telecommunications Activities
- Wholesale of Electronic and Telecommunications Equipment and Parts

The subsectors of Wholesale of Electronic and Telecommunications Equipment and Parts; Repair of Computers and Peripheral Equipment; and Wholesale of Computers, Computer Peripheral Equipment and Software all employed significantly more people than might be expected from national employment shares. Conversely, Other Telecommunications Activities and Publishing of Journals and Periodicals employed fewer than might be expected.

Employment and LQ of main digital industry subsectors (employing >200) in Cheshire and Warrington, 2022			
SIC	Description	Jobs	Location Quotient
6202	Computer Consultancy Activities	7535	1.10
6201	Computer Programming Activities	4731	1.28
6209	Other Information Technology and Computer Service Activities	2268	0.95
6190	Other Telecommunications Activities	1981	0.79
4652	Wholesale of Electronic and Telecommunications Equipment and Parts	1360	2.78
9511	Repair of Computers and Peripheral Equipment	837	1.86
4651	Wholesale of Computers, Computer Peripheral Equipment and Software	813	1.57
6311	Data Processing, Hosting and Related Activities	796	1.16
5814	Publishing of Journals and Periodicals	299	0.61
Source: Lightcast Analyst			

Computer Consultancy Activities was a major source of employment in the digital sector in all three local authorities. Cheshire East also has high volumes in Computer Programming Activities, with Warrington having relatively high volumes in Other Telecommunications Activities.

Employment by main digital industry subsectors in Cheshire and Warrington by local authority, 2022			
	Cheshire West and Chester	Cheshire East	Warrington
Computer Consultancy Activities	1,884	2,751	2,900
Computer Programming Activities	807	2,950	974
Repair of Computers and Peripheral Equipment	567	46	223
Data Processing, Hosting and Related Activities	538	122	136
Other Telecommunications Activities	444	390	1,147
Other Information Technology and Computer Service Activities	416	1,170	683
Wholesale of Electronic and Telecommunications Equipment and Parts	127	737	497
Publishing of Journals and Periodicals	123	176	<10
Motion Picture Projection Activities	94	27	48
Source: Lightcast Analyst			

The overall growth of 2.6% by digital industries in Cheshire and Warrington between 2020 and 2022 was not evenly distributed across the main subsectors. The Data Processing, Hosting and Related Activities subsector saw the highest growth in this time (17%), with Computer Consultancy Activities; Computer Programming Activities; and Other Information Technology and Computer Service Activities all growing by 5/6%. Conversely, Other Telecommunications Activities and Repair of Computers and Peripheral Equipment saw declines in excess of 5% in this time.

Employment change of main digital industry subsectors (employing >200) in Cheshire and Warrington, 2020-2022				
Description	2020	2022	Change	% Change
All digital industries	21646	22199	553	3%
Computer Consultancy Activities	7165	7535	371	5%
Computer Programming Activities	4462	4731	268	6%
Other Information Technology and Computer Service Activities	2147	2268	121	6%
Other Telecommunications Activities	2149	1981	-169	-8%
Wholesale of Electronic and Telecommunications Equipment and Parts	1369	1360	-8	-1%
Repair of Computers and Peripheral Equipment	877	837	-41	-5%
Wholesale of Computers, Computer Peripheral Equipment and Software	832	813	-19	-2%
Data Processing, Hosting and Related Activities	680	796	116	17%
Publishing of Journals and Periodicals	296	299	3	1%
Source: Lightcast Analyst				

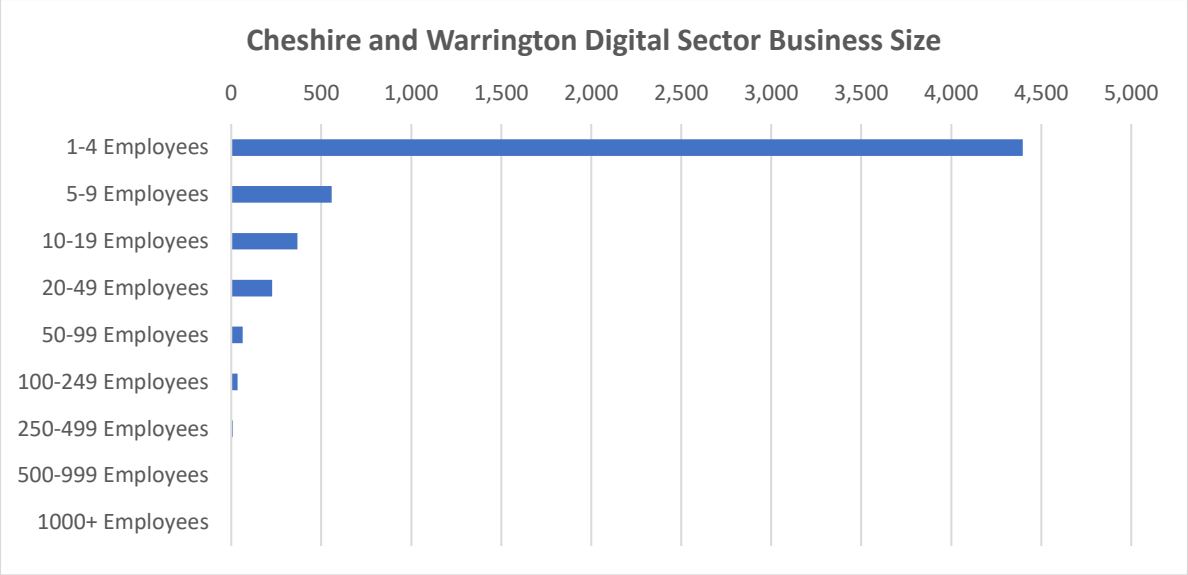
In total there were over 3,200 employers operating in digital industries in 2022 in Cheshire and Warrington. Almost half of these were in the Computer Consultancy Activities subsector. This was the subsector with the highest number of businesses in each local authority.

Number of employers in digital industry subsectors in Cheshire and Warrington local authorities, 2022				
Description	Cheshire West and Chester	Cheshire East	Warrington	C&W
Computer Consultancy Activities	495	711	366	1573
Computer Programming Activities	151	234	106	492
Other Information Technology and Computer Service Activities	107	153	74	334
Motion Picture, Video and Television Programme Production Activities	37	81	24	142
Other Telecommunications Activities	34	50	40	125
Repair of Computers and Peripheral Equipment	20	32	20	72
Other Publishing Activities	26	28	6	60
Data Processing, Hosting and Related Activities	20	20	15	56
Other Information Service Activities n.e.c.	20	25	10	55
Wholesale of Electronic and Telecommunications Equipment and Parts	12	33	10	54
Wholesale of Computers, Computer Peripheral Equipment and Software	8	16	20	45
Publishing of Journals and Periodicals	8	23	0	31
Source: Lightcast Analyst				

6.4 Digital Sector size structure

The Digital Sector in Cheshire and Warrington is dominated by companies with between 1 and 4 employees, accounting for 78% of all businesses in the sector. However, this size band constitutes 87% of the Digital Sector in England[30]. There are 4,398 companies employing 1-4, compared to 558 with 5-9 employees; 368 with 10-19 employees; 227 with 20-49 employees; 63 with 50-99 employees; 35 with 100-249 employees; 8 with 250-499 employees; 2 with 500-999 employees and 2 with over 1,000 employees.

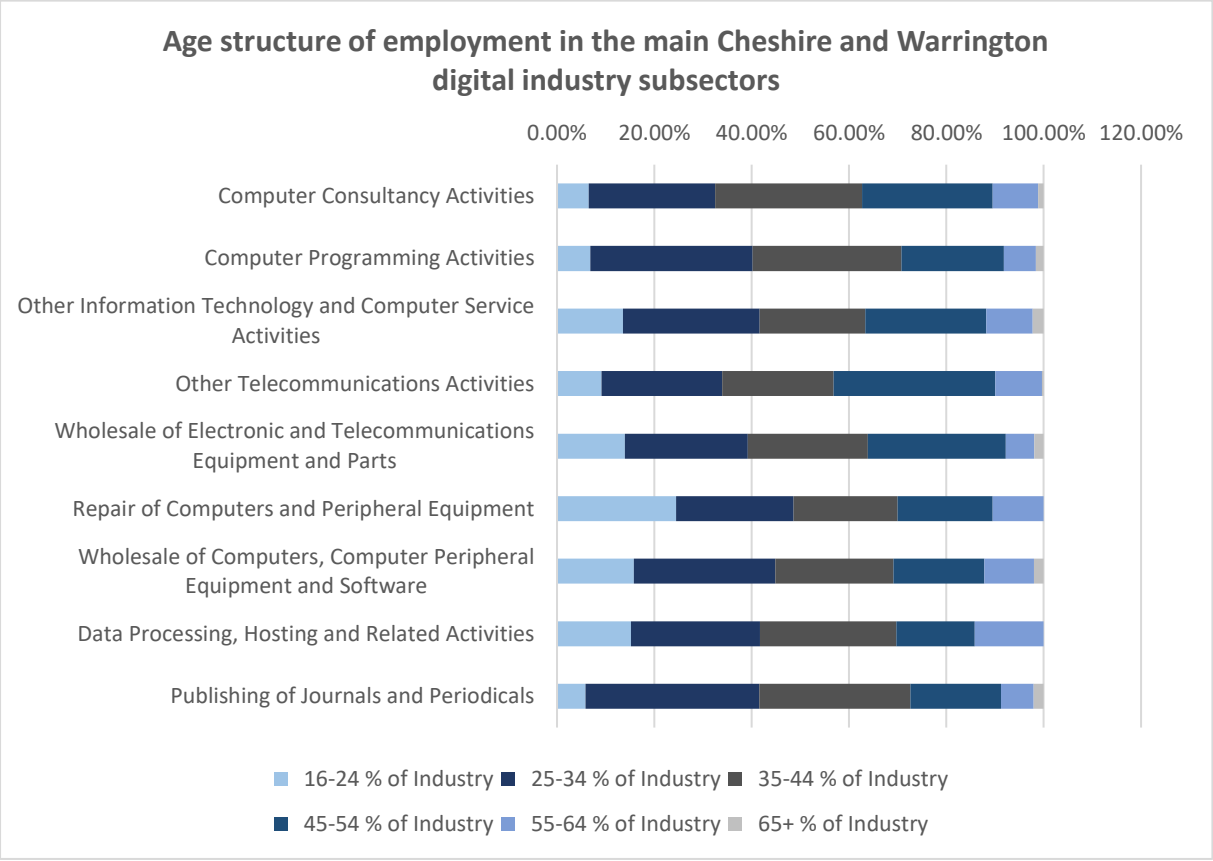
[30] Lightcast Analyst data



Source: Lightcast Analyst

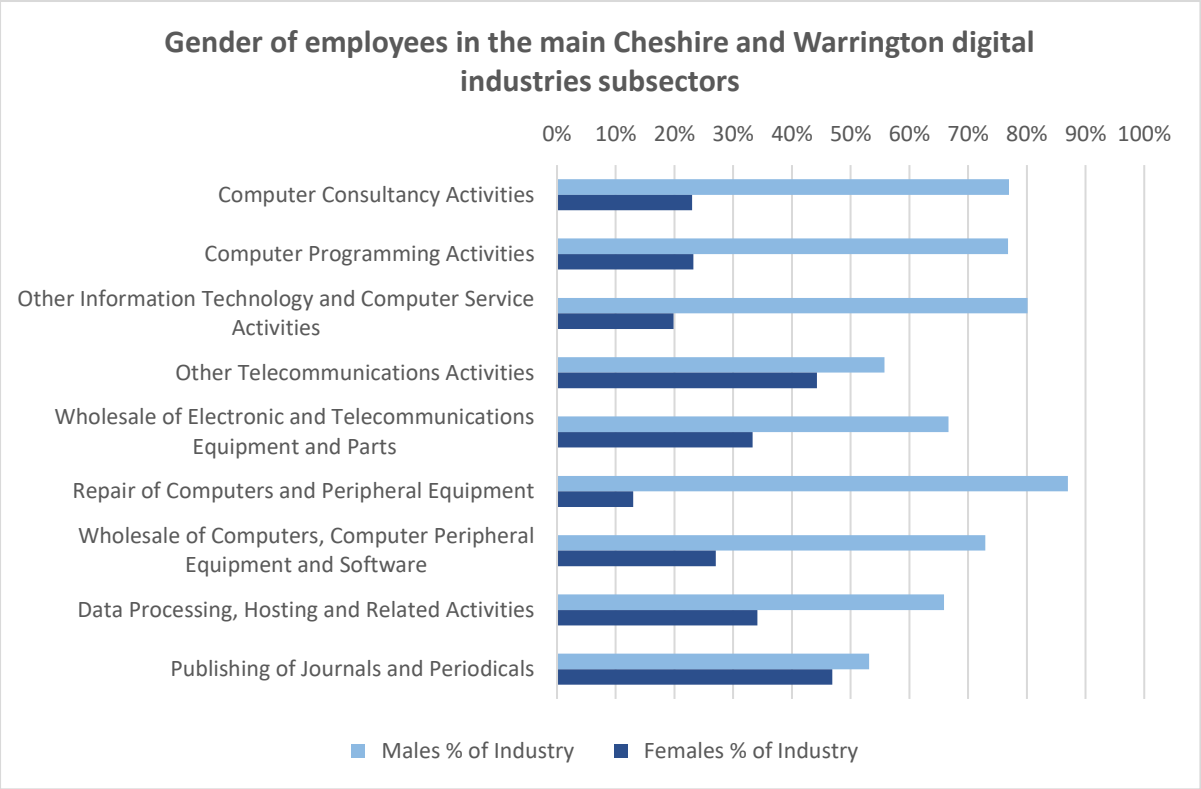
6.5 Age and gender of employees in the Digital Sector

The age structure of employment in digital industries is quite young. Nationally, all bar one of the above subsectors (the exception is Other Telecommunications Activities) have more than 60% of their employees aged below 44.



Source: Lightcast Analyst

Nationally, the proportion of males employed in digital industries is 70% with 30% female. As might be expected from this, employment in the main subsectors of digital industries in Cheshire and Warrington is skewed to males, with national data indicating that only two subsectors (Other Telecommunications Activities and Publishing of Journals and Periodicals) employ more than 40% females. The three subsectors of the digital industries that employ the most people in Cheshire and Warrington (Computer Consultancy Activities; Computer Programming Activities; and Other Information Technology and Computer Service Activities) all employ over three quarters males.



Source: Lightcast Analyst

6.6 Occupations in the Digital Sector

About half of the jobs in the Digital Sector are in what are classified by ONS as Digital occupations and 30% of all jobs in the digital sector in Cheshire and Warrington are in three digital occupations:

- Programmers and Software Development Professionals
- Information Technology and Telecommunications Professionals n.e.c.
- IT Specialist Managers

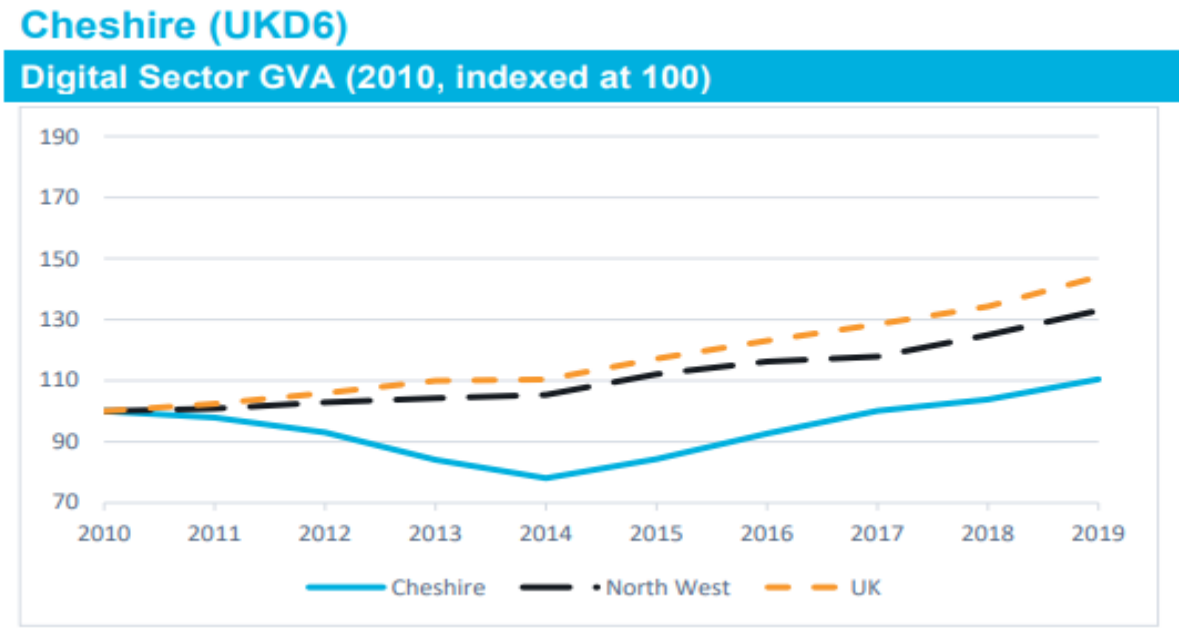
Main occupations employed by Digital industries in Cheshire and Warrington					
Description	Employed in 2020	Employed in 2022	Change 2020-2022	% Change 2020 - 2022	% of Total Jobs in Digital Industry
Programmers and Software Development Professionals	2905	3049	145	5%	14%
Information Technology and Telecommunications Professionals n.e.c.	1843	1908	65	4%	9%
IT Specialist Managers	1457	1501	43	3%	7%
Sales Accounts and Business Development Managers	1319	1340	21	2%	6%
IT Business Analysts, Architects and Systems Designers	925	962	37	4%	4%
Information Technology and Telecommunications Directors	749	777	27	4%	3%
IT Project and Programme Managers	701	732	31	4%	3%
IT Operations Technicians	683	699	16	2%	3%
IT User Support Technicians	649	669	20	3%	3%
Web Design and Development Professionals	561	593	32	6%	3%
Source: Lightcast Analyst					

Reflecting the fact that average wages in the digital sector in the subregion are significantly higher than for all jobs in Cheshire and Warrington, wage rates for the main occupations in the sector are also generally higher. Eight of the top ten occupations require degrees or higher levels of qualification and the remaining two are at Level 3.

Wages and education level of the main occupations employed by Digital industries in C&W		
	Median Hourly	Education Level
Programmers and Software Development Professionals	£23.19	Honours, Bachelor's degree
Information Technology and Telecommunications Professionals n.e.c.	£20.41	Honours, Bachelor's degree
IT Specialist Managers	£20.70	Honours, Bachelor's degree
Sales Accounts and Business Development Managers	£21.42	Honours, Bachelor's degree
IT Business Analysts, Architects and Systems Designers	£23.45	Honours, Bachelor's degree
Information Technology and Telecommunications Directors	£27.96	Honours, Bachelor's degree
IT Project and Programme Managers	£27.06	Honours, Bachelor's degree
IT Operations Technicians	£15.62	Level 3 NVQ; A Levels
IT User Support Technicians	£12.97	Level 3 NVQ; A Levels
Web Design and Development Professionals	£16.71	Honours, Bachelor's degree
Source: Lightcast Analyst		

6.7 Digital Sector GVA, Supply Chain and Exports

In the publication from the Department for Digital, Culture, Media & Sport "Assessing the UK's Regional Digital Ecosystems", GVA data for the Digital Sector for the NUTS2 area of "Cheshire" is published[31]. From this it is clear that compared with the Northwest and UK, Digital GVA in Cheshire fell back in the first half of the last decade and saw a partial recovery in the second half (2014-2019).



Source: DCMS NUTS2 Dashboards

In 2019, the total GVA of digital industries in Cheshire and Warrington was c£1.4bn. In 2019, digital industries purchased approximately £1bn of goods and services, its is estimated that approximately 70% of these purchases were made within the sub-region. The pattern of in-region and imported purchases by sectors supplying >£10m of goods and services to digital industries in Cheshire and Warrington is shown in the table below. The main sectors providing goods and services to digital industries in Cheshire and Warrington were:

- Computer Consultancy Activities
- Accounting, Bookkeeping and Auditing Activities; Tax Consultancy
- Computer Programming Activities

[31] https://www.gov.uk/government/publications/assessing-the-uks-regional-digital-ecosystems

Sectors supplying > £10m of goods and services to digital industries in Cheshire and Warrington, 2019					
Purchases from:	In-region Purchases	%	Imported Purchases	%	Total Purchases
Computer Consultancy Activities	£100,860,182	74.3%	£34,910,294	25.7%	£135,770,476
Accounting, Bookkeeping and Auditing Activities; Tax Consultancy	£85,604,828	95.6%	£3,927,165	4.4%	£89,531,993
Computer Programming Activities	£67,052,877	92.7%	£5,300,717	7.3%	£72,353,594
Other Information Technology and Computer Service Activities	£32,452,594	66.5%	£16,384,869	33.5%	£48,837,463
Other Business Support Service Activities n.e.c.	£33,243,913	93.2%	£2,418,234	6.8%	£35,662,147
Business and Other Management Consultancy Activities	£29,063,440	87.5%	£4,139,568	12.5%	£33,203,008
Legal Activities	£12,986,501	42.7%	£17,427,484	57.3%	£30,413,985
Other Telecommunications Activities	£9,799,429	39.2%	£15,226,227	60.8%	£25,025,656
Activities of Head Offices	£11,134,996	47.4%	£12,341,352	52.6%	£23,476,348
Warehousing and Storage	£21,502,396	92.4%	£1,764,331	7.6%	£23,266,727
Renting and Operating of Own or Leased Real Estate	£14,070,093	65.1%	£7,532,341	34.9%	£21,602,435
Advertising Agencies	£16,702,797	78.7%	£4,520,564	21.3%	£21,223,360
Temporary Employment Agency Activities	£13,841,259	67.2%	£6,766,861	32.8%	£20,608,120
Other Monetary Intermediation	£13,698,594	89.5%	£1,608,454	10.5%	£15,307,048
Motion Picture, Video and Television Programme Production Activities	£5,393,239	43.0%	£7,158,225	57.0%	£12,551,464
Data Processing, Hosting and Related Activities	£4,093,836	33.9%	£7,967,403	66.1%	£12,061,239
Source: Lightcast Analyst					

It is estimated that, in 2016, Digital Industries in Cheshire and Warrington accounted for £1.2bn of exports. The table below sets out estimates for the digital subsectors. Almost 50% of the estimated exports for Digital Industries in Cheshire and Warrington came from the two subsectors of Computer Consultancy Activities and Computer Programming Activities.

Estimated value of exports (>£10m) generated by digital industries in Cheshire and Warrington, 2016		
SIC	Industry	Exports
6202	Computer Consultancy Activities	£356,331,036
6201	Computer Programming Activities	£223,222,387
9511	Repair of Computers and Peripheral Equipment	£127,381,559
6209	Other Information Technology and Computer Service Activities	£114,925,256
6190	Other Telecommunications Activities	£106,932,858
4652	Wholesale of Electronic and Telecommunications Equipment and Parts	£52,710,307
6110	Wired Telecommunications Activities	£41,303,870
4651	Wholesale of Computers, Computer Peripheral Equipment and Software	£36,008,285
5911	Motion Picture, Video and Television Programme Production Activities	£24,974,615
6311	Data Processing, Hosting and Related Activities	£13,587,230
5814	Publishing of Journals and Periodicals	£12,618,554
Source: Lightcast Analyst		

6.8 Wages in the Digital Sector in Cheshire and Warrington

The average wage in digital industries in Cheshire and Warrington is £40,366, which is £13k higher than the average wage for all roles in the subregion, but almost £5k lower than the national average wage for the Digital Sector. The subsectors with the highest wages are Computer Programming Activities; Other Information Technology and Computer Service Activities; and Wholesale of Computers, Computer Peripheral Equipment and Software which all have average wages in excess of £43k.

Average wages in digital industry subsectors in Cheshire and Warrington, 2021	
	Avg. Wages Per Job
Computer Consultancy Activities	£41,749
Computer Programming Activities	£44,320
Other Information Technology and Computer Service Activities	£44,406
Other Telecommunications Activities	£41,895
Wholesale of Electronic and Telecommunications Equipment and Parts	£35,662
Repair of Computers and Peripheral Equipment	£35,982
Wholesale of Computers, Computer Peripheral Equipment and Software	£43,433
Data Processing, Hosting and Related Activities	£27,795
Publishing of Journals and Periodicals	£24,438
Source: Lightcast Analyst	

Average wages in the digital industry are very similar in Cheshire East and Warrington but are £2k lower in Cheshire West and Chester.

Average wages in the digital industry in Cheshire and Warrington by local authority, 2021	
	2021 Average Wages
Cheshire West and Chester	£38,625
Cheshire East	£40,950
Warrington	£40,914
Source: Lightcast Analyst	

7. The Delivery of Digital Skills in Further Education

7.1 Introduction

This chapter of the report focusses on the scope and scale of digital skills delivery by Further Education providers to adults and young people in Cheshire and Warrington. The next chapter looks at apprenticeships. The scope of digital skills delivery used in this chapter and the next has been drawn quite widely, encompassing what Burning Glass describe as specific and baseline skills (see Chapter 4 above for a full explanation of this classification), what the Lloyds Digital Consumer Index describes as Essential Digital Skills, and also encompassing skills specifically needed for employment in the media sub-sectors that are included in the Government's definition of the Digital Sector.

In order to support this analysis, a full review of learning aims delivered in FE over the last three years (2018/19-2020/21) has been undertaken and individual learning aims have been classed as delivering digital skills (or not). The learning aims classed as delivering digital skills are itemised at Annex 3 together with quantification of the volume of enrolments on each over the three academic years in scope.

The structure of this chapter is to review delivery of digital skills to young people (aged 16-18) and adults (aged 19+) by level of learning aim. Generally speaking, delivery of learning aims at Entry level and Level 1 will support the acquisition of what are described as 'Essential Digital Skills' in the Lloyds Consumer Digital Skills Index, Level 2 learning aims tend to support what Burning Glass describes as Baseline Digital Skills, and Level 3 and above tends to provide, or provide a pathway to, Specific Digital Skills.

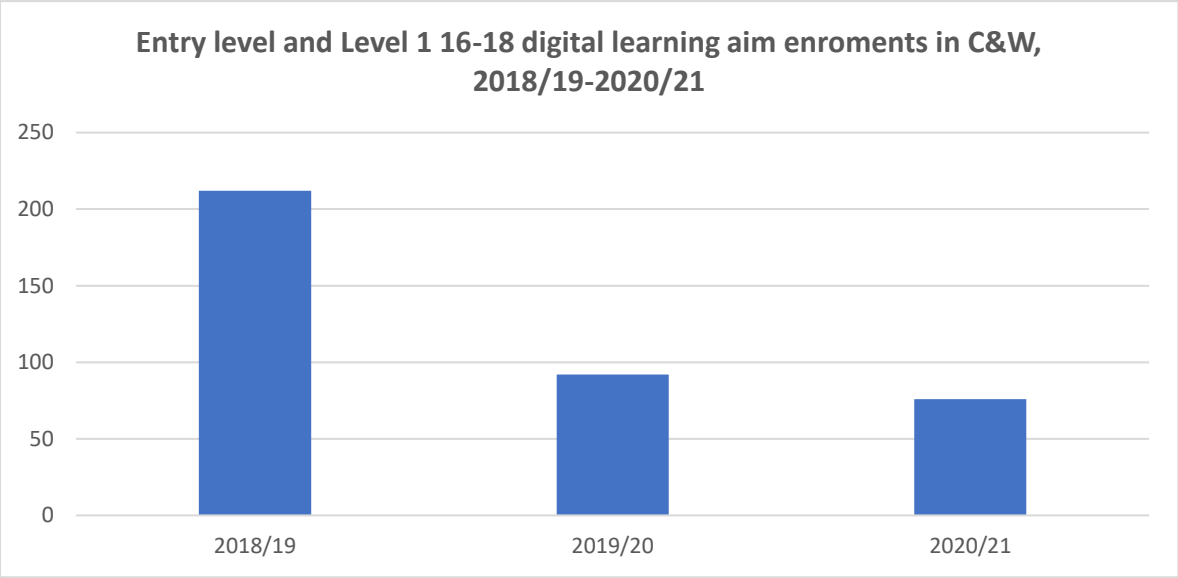
The data used in this chapter is mainly drawn from the Education and Skills Funding Agency's (ESFA) localities datacube which aggregates data from the individualised learner record (ILR). This is information provided on each enrolment undertaken at providers that are mainly funded by the ESFA (colleges, local authorities, private providers). This provides a reasonably comprehensive picture of delivery at Levels 1 to 3 for adults and, to a lesser extent, for young people (although it does not cover delivery through school sixth forms), but a very limited picture at Levels 4 and above. For these higher levels, learner residency date is available for delivery through FE colleges, but is not available for delivery through Higher Education Institutions (HEIs).

7.2 The Delivery of Digital Skills to Young People

This section of the chapter focusses on the delivery of digital skills to young people (aged 16-18 on August 31st) by way of ESFA-funded learning aims typically taught in a classroom setting. This covers learning delivered through Further Education colleges and Sixth Form Colleges but excludes delivery through school sixth forms. This means that, for example, the delivery of Computer Studies A level in school sixth forms is not considered in the Level 3 section below. Data on schools' delivery is collected through the schools census but this is mostly not made available by the Department for Education for analysis by third parties.

7.2.1 Entry and Level 1 Learning

In the period 2018/19 to 2020/21, there were quite low volumes of enrolments by young people on Entry Level and Level 1 learning aims – only 380 over the three academic years. There was also a reduction in these enrolments of almost two thirds between 2018/19 and 2020/21 (212 to 76). This compares with a change in the size of the overall number of enrolments at Level 1 and Entry Level of 18% during time.



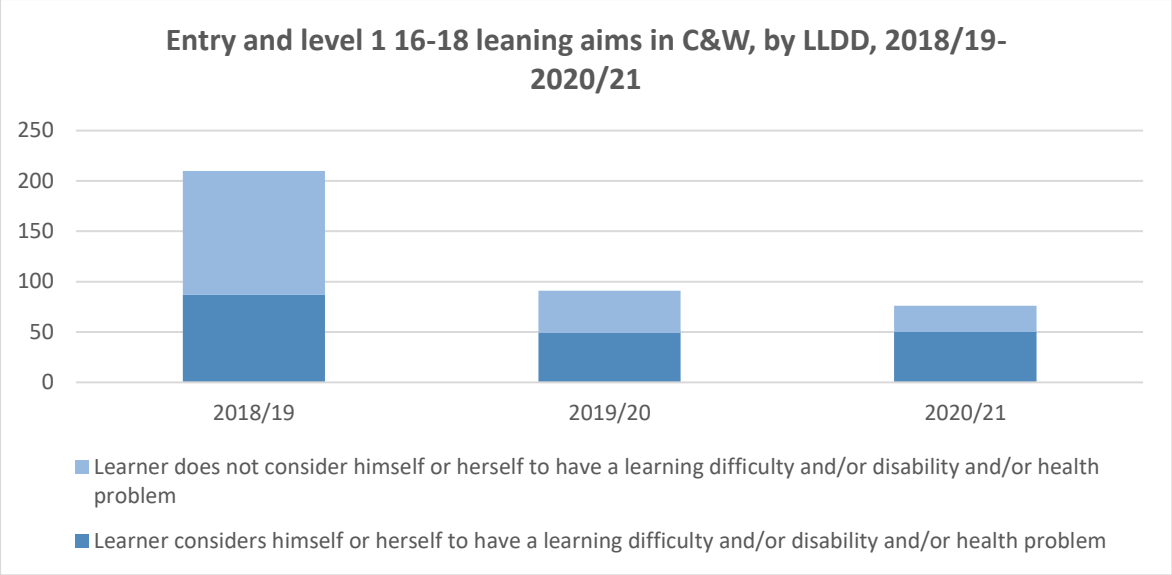
Source: ESFA localities datacube (residency)

Much of the reduction in enrolments for Entry Level and Level 1 digital learning aims between 2018/19 and 2020/21 can be accounted for by the reduction in the delivery of Awards. Further inspection of the data underpinning the table below shows that the Level 1 Award in Internet Safety for IT users which was run by Cheshire College South and West in 2018/19 with 106 enrolments was withdrawn in the subsequent academic years.

Entry level and Level 1 digital learning aims in C&W 2018/19-2020/21, qualification types				
	2018/19	2019/20	2020/21	Total
Award	115	10	3	128
Certificate	12	16	26	54
Diploma	59	50	38	147
Other Regulated	14	12	4	30
QCF Unit	12	4	5	21
Total	212	92	76	380
Source: ESFA localities datacube (residency)				

It seems that the reduction in volumes can also be accounted for by a repositioning of this type of provision as being primarily to support learners that consider themselves to have a learning difficulty and/or disability and/or health problem. The volume of enrolments by learners without these characteristics decreased from 123 in 2018/19 to 26 in 2020/21 – a reduction of almost 80%. In 2020/21, learners without these characteristics accounted for about a third (34%) of digital learning aim enrolments which compares with 42% of enrolments across all subject types at Entry and Level 1[32].

[32] Analysis of ESFA localities datacube.



Source: ESFA localities datacube (residency)

In 2020/21, there were only two learning aims with more than 20 enrolments. They were the Certificate in Digital Skills and the BTEC Introductory Diploma in Information Technology.

Entry level and Level 1 digital learning aims in C&W 2018/19-2020/21, >5 enrolments 2020/21			
	2018/19	2019/20	2020/21
Certificate in Digital Skills	3	15	22
BTEC Introductory Diploma in Information Technology	40	39	20
BTEC Introductory Diploma in Digital Media	10	8	9
Source: ESFA localities datacube (residency)			

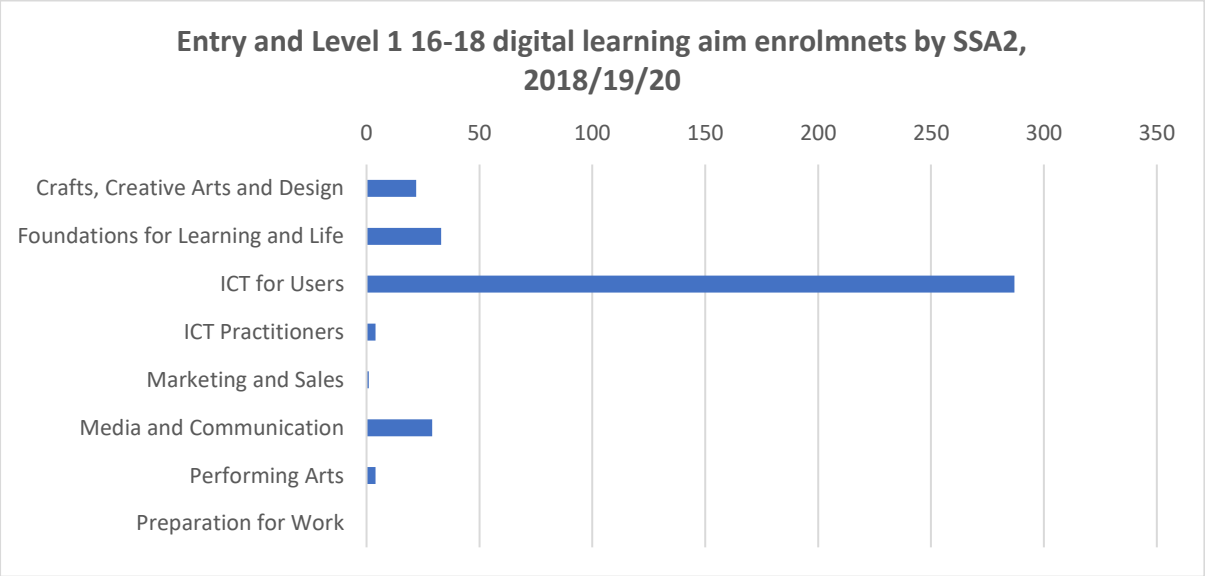
The repositioning of this type of delivery to primarily support LLDD learners has also resulted in a significant change in the gender balance of learner enrolments, with the number of female enrolments staying stable (in the mid-twenties in each of the three academic years), but the number of male enrolments decreasing by 133 from 186 in 2018/19 to 53 in 2020/21. In 2020/21, the percentage of enrolments at Entry and Level 1 by females across all subjects was 34% which is similar to the percentage of female enrolments on Entry and L1 digital learning aims (30%).

Entry Level and Level 1 16-18 enrolments on digital learning aims, by gender, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Female	26	27	23	76
Male	186	65	53	304
All	212	92	76	380
Source: ESFA localities datacube (residency)				

The percentage of BAME learner enrolments has stayed stable between 2018/19 and 2020/21 at around 7/8%. This compares with 8% of all 16-18 enrolments at Entry and Level 1 being by BAME learners.

Entry and Level 1 enrolments on digital learning aims in C&W, by BAME status, 20189/19-2020/21				
	2018/19	2019/20	2020/21	Total
This learner is classified as BAME	16	16	6	38
This learner is not classified as BAME	196	76	70	342
Total	212	92	76	380
Source: ESFA localities datacube (residency)				

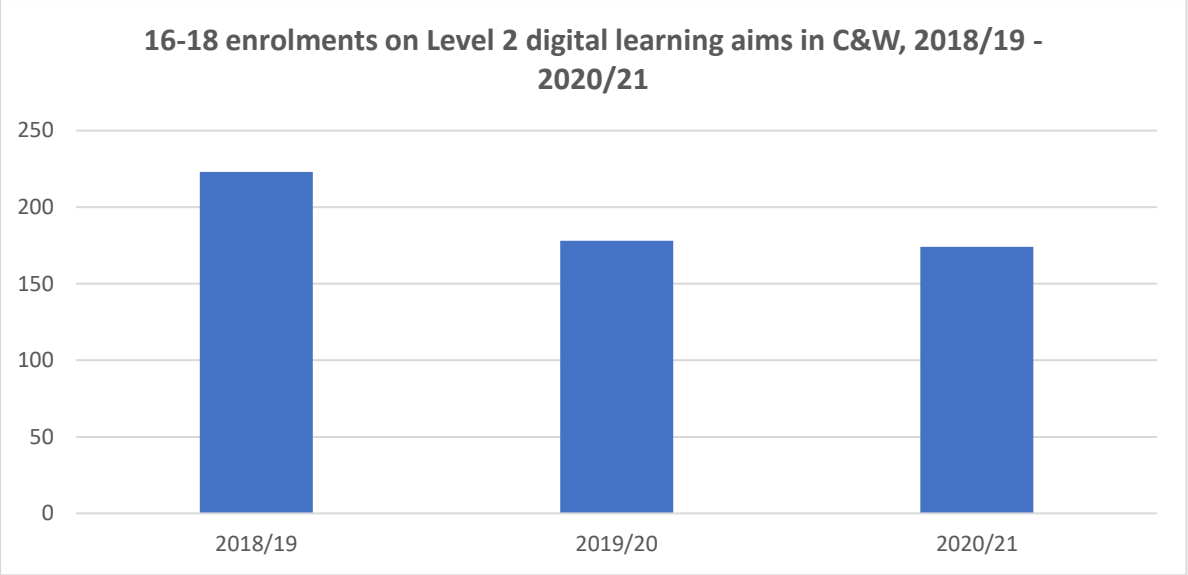
Unsurprisingly, the large majority of enrolments by young people at these levels were on learning aims classified as being to delivery of 'ICT for Users' skills.



Source: ESFA localities datacube (residency)

7.2.2 Level 2 Learning

In the three academic years starting in 2018/19, there were 575 enrolments on Level 2 digital skills learning aims by 16-18 year olds resident in Cheshire and Warrington. 223 enrolments in 2018/19 declined by 22% to 174 enrolments in 2020/21; with most of this decline occurring between 2018/19 and 2019/20. This compares with a 6% decline in the volume of Level 2 enrolments across all subjects in the same time period.



Source: ESFA localities datacube (residency)

The sharpest decline by qualification type was in diplomas which declined by 31 enrolments between 2018/19 and 2020/21.

Level 2 16-18 enrolments on digital learning aims in C&W, 2018/19-2020/21, qualification types				
	2018/19	2019/20	2020/21	Total
Award	4	7	2	13
Certificate	140	99	131	370
Diploma	68	64	37	169
GCSE Other	0	0	4	4
Other Regulated	11	8	0	19
Total	223	178	174	575
Source: ESFA localities datacube (residency)				

In 2020/21 there were three learning aims with enrolments in excess of 12:

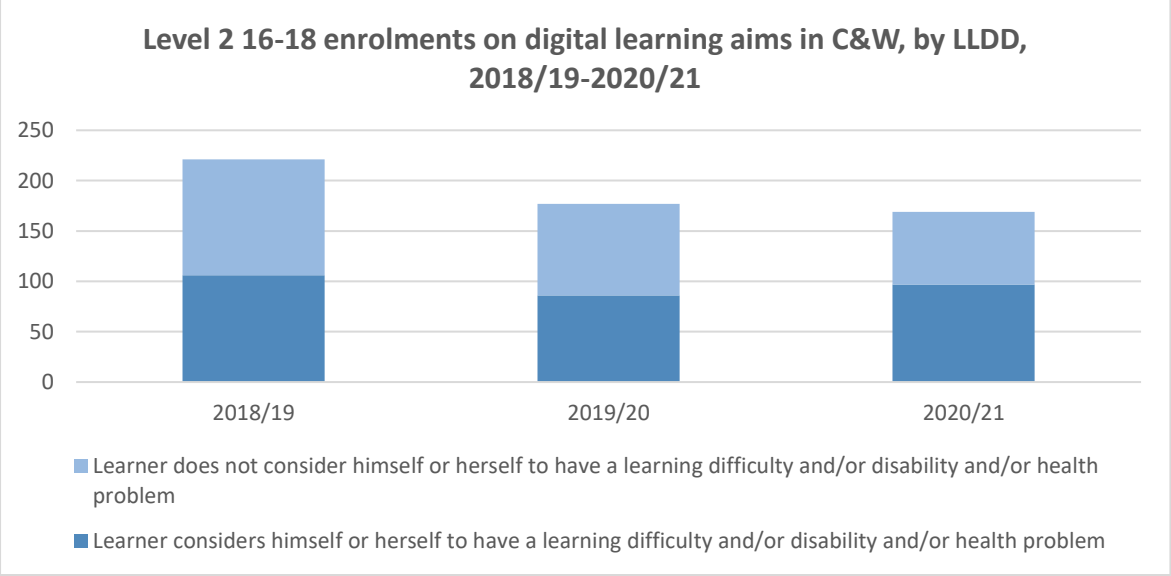
- BTEC First Extended Certificate in Information and Creative Technology
- BTEC First Extended Certificate in Creative Digital Media Production
- Diploma in IT
- BTEC Diploma in Creative Media Skills

Level 2 16-18 digital learning aim enrolments in C&W 2018/19-2020/21, enrolments>10 in 2020/21			
	2018/19	2019/20	2020/21
BTEC First Extended Certificate in Information and Creative Technology	78	36	61
BTEC First Extended Certificate in Creative Digital Media Production	50	48	40
Diploma in IT	15	13	16
BTEC Diploma in Creative Media Skills	0	0	12
Cambridge Technical Extended Certificate in Media	0	0	11
Source: ESFA localities datacube (residency)			

In the three years reviewed, there was a fairly stark gender disparity in enrolments, with 86% of enrolments being by males. There was a very slight improvement in the position between 2018/19 and 2020/21 with female enrolments increasing from 14% of the total to 15%. This compares with 46% of all Level 2 16-18 enrolments being by females.

Level 2 16-18 enrolments on digital learning aims, by gender, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Female	31	22	26	79
Male	192	156	148	496
Total	223	178	174	575
Source: ESFA localities datacube (residency)				

In 2020/21, 43% of all enrolments on Level 2 digital learning aims were by learners that considered themselves to have a learning difficulty and/or disability and/or health problem which was very close to the 46% that reported this on all learning aims at Level 2.



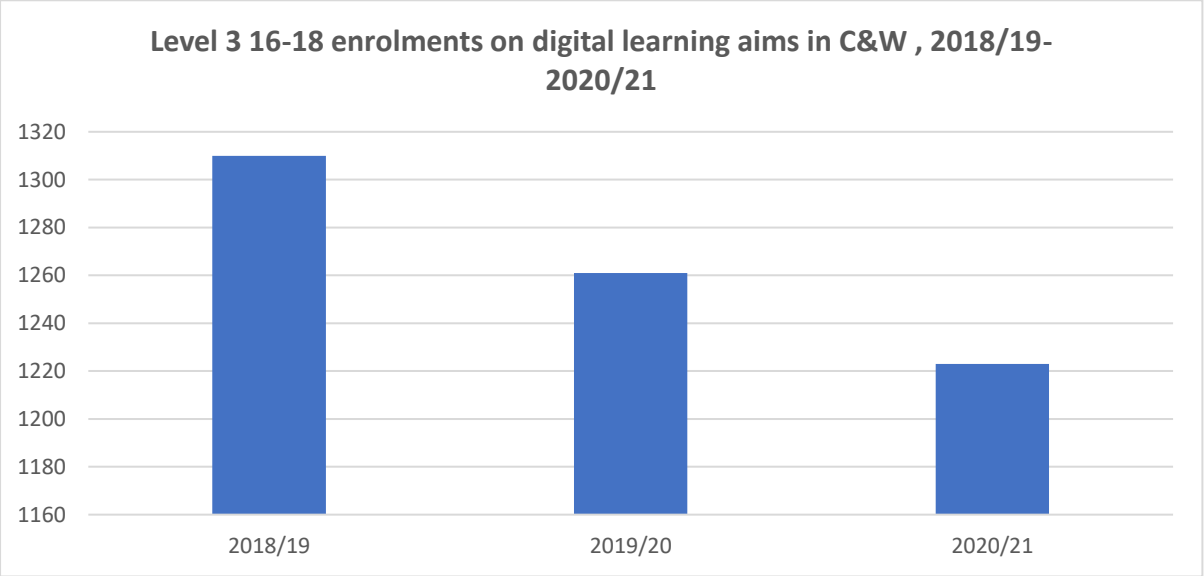
Source: ESFA localities datacube (residency)

Over the three years reviewed, 8% of Level 2 digital learning aims enrolments in Cheshire and Warrington were by BAME learners. This was a slightly higher proportion than the percentage of BAME learners enrolled on all Level 2 learning aims, which was 5%.

Level 2 16-18 enrolments on digital learning aims in C&W, by BAME status, 20189/19-2020/21				
	2018/19	2019/20	2020/21	Total
This learner is classified as BAME	10	18	18	46
This learner is not classified as BAME	213	160	156	529
Grand Total	223	178	174	575
Source: ESFA localities datacube (residency)				

7.2.3 Level 3 Learning

Between 2018/19 and 2020/21, there was a 7% decline in enrolments on Level 3 digital learning aims in Cheshire and Warrington. This is in sharp contrast to a growth of 8% for all learning aim enrolments at Level 3 in the same period.



Source: ESFA localities datacube (residency)

As might be expected, the most common enrolments at Level 3 were for A Levels and Diplomas.

Level 3 16-18 enrolments on digital learning aims in C&W, 2018/19-2020/21, qualification types				
	2018/19	2019/20	2020/21	Total
A Level	527	476	499	1502
AS Level	76	73	89	238
Certificate	88	51	46	185
Diploma	583	661	586	1830
Other Non-Regulated	3		2	5
Other Regulated	33		1	34
Total	1310	1261	1223	3794
Source: ESFA localities datacube (residency)				

Specifically, A levels in Computer Science and Media Studies and Diplomas in IT and Media/Media Production.

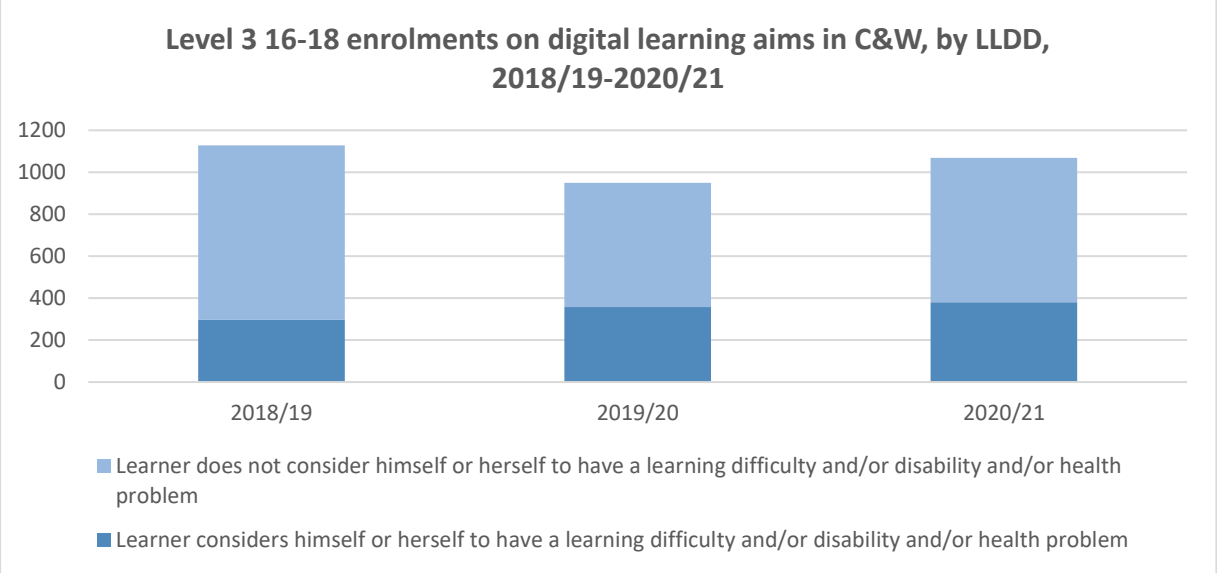
Level 3 16-18 digital learning aim enrolments in C&W 2018/19-2020/21, enrolments>10 in 2020/21			
	2018/19	2019/20	2020/21
GCE A Level in Media Studies	225	216	211
GCE A Level in Computer Science	187	171	184
BTEC National Diploma in Creative Media Practice	0	0	107
Extended Diploma in Creative Media Production (QCF)	94	97	97
BTEC National Foundation Diploma in Information Technology	1	36	71
Extended Diploma in IT (QCF)	93	147	58
Diploma in Creative Media Production & Technology	22	31	57
GCE A Level in Film Studies	49	33	57
GCE AS Level in Media Studies	29	34	57
Subsidiary Diploma in IT (QCF)	104	116	42
GCE A Level in Music Technology	62	53	41
GCE AS Level in Computer Science	32	39	32
BTEC National Extended Diploma in Creative Media Practice			22
BTEC National Certificate in Information Technology		18	21
BTEC National Extended Certificate in Digital Music Production	2	3	18
Cambridge Technical Foundation Diploma in IT			17
Extended Diploma in Creative Media Production & Technology	15	18	17
Subsidiary Diploma in Creative Media Production (QCF)	20	18	17
BTEC Foundation Diploma in Art, Design and Media Practice			14
BTEC National Foundation Diploma in Computing	1	1	14
Foundation Diploma in Art, Design and Media	16	5	10
Source: ESFA localities datacube (residency)			

Between 2018/19 and 2020/21 28% of enrolments were by females. This compared with females accounting for 57% of all L3 enrolments. The level of female enrolments varied across Sector Subject

Areas, with 12% female enrolment in 'ICT Practitioner' learning aims and 40% female enrolment in 'Media and Communications' learning aims.

Level 3 16-18 enrolments on digital learning aims, by gender, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Female	355	348	367	1070
Male	955	913	856	2724
Total	1310	1261	1223	3794
Source: ESFA localities datacube (residency)				

In 2020/21 36% of all enrolments on Level 3 digital learning aims were by learners that considered themselves to have a learning difficulty and/or disability and/or health problem. This represented an 10% point increase in this percentage from 2018/19 (26%). The percentage of enrolments across all learning aims at Level 3 where the learner considered themselves to have a learning difficulty and/or disability in the same period was 32%.

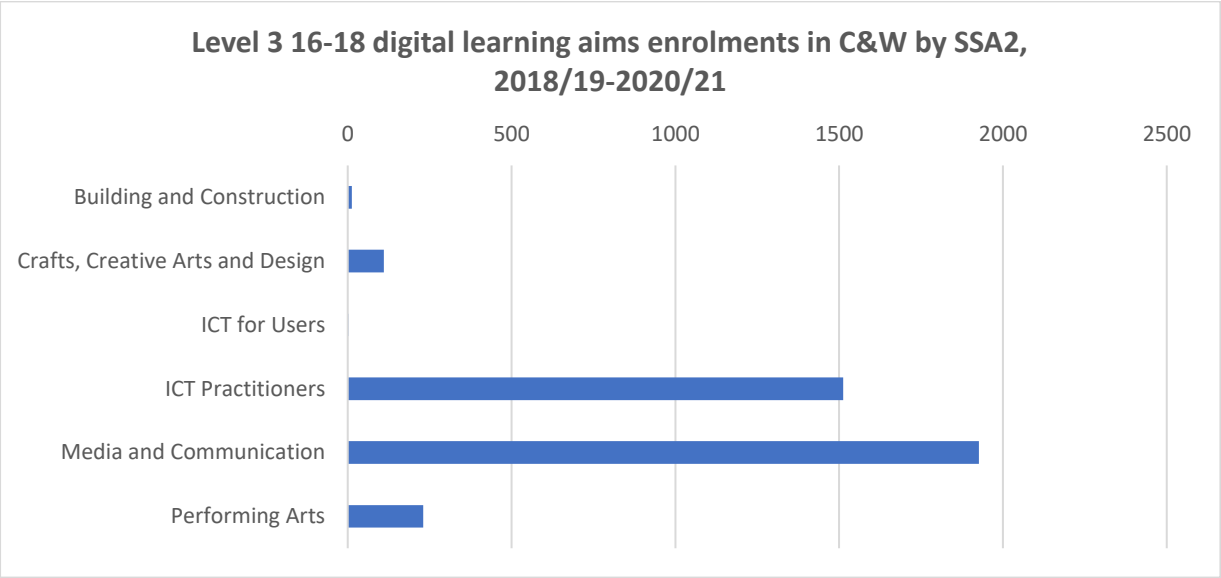


Source: ESFA localities datacube (residency)

At 6%, the percentage of Level 3 digital learning aims enrolled on by BAME learners was slightly lower than that for all learning aims at Level 3, which stood at 7%.

Level 3 16-18 enrolments on digital learning aims in C&W, by BAME status, 20189/19-2020/21				
	2018/19	2019/20	2020/21	Grand
This learner is classified as BAME	71	65	76	212
This learner is not classified as BAME	1239	1196	1147	3582
Total	1310	1261	1223	3794
Source: ESFA localities datacube (residency)				

The distribution of digital learning aims across second tier Sector Subject Areas (SSA2) is shown in the chart below. Over 90% of enrolments were in the two SSAs of ICT Practitioners, and Media and Communication.



Source: ESFA localities datacube (residency)

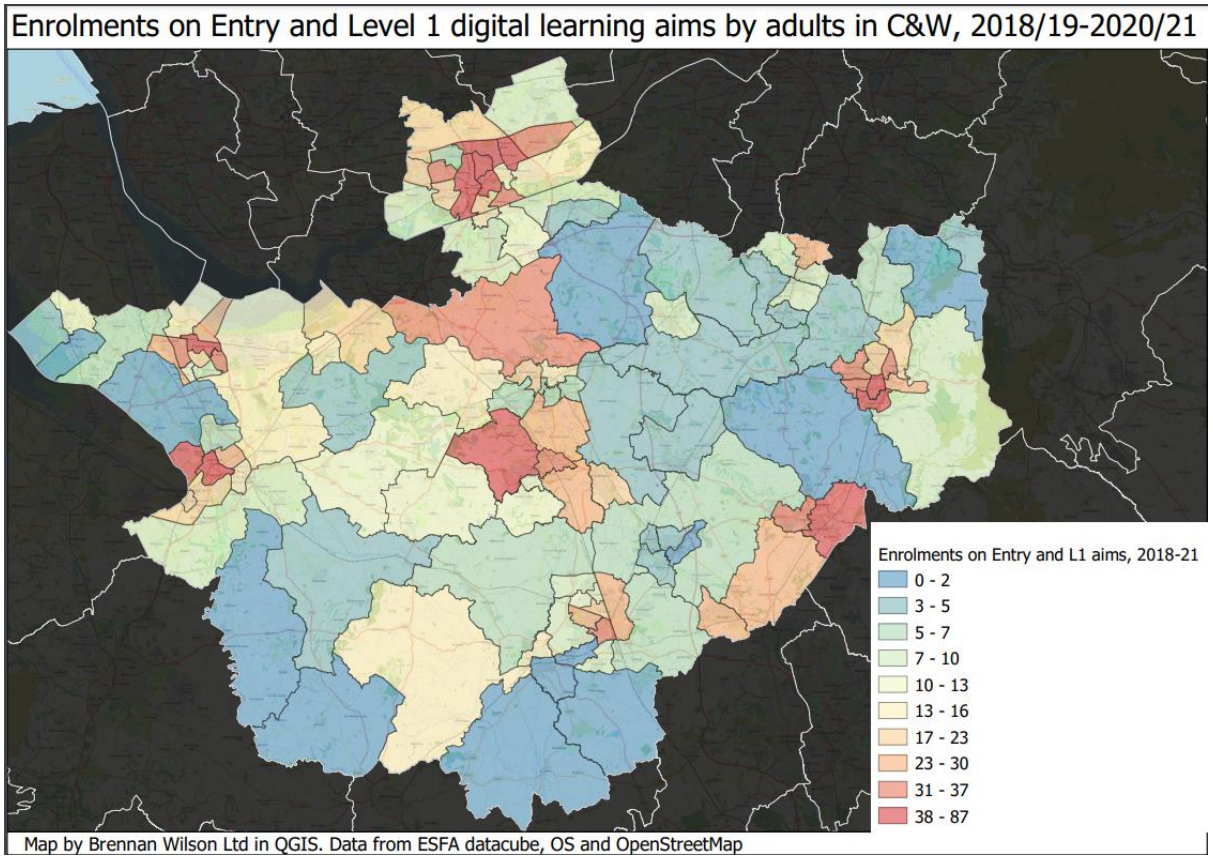
7.3 The Delivery of Digital Skills to Adults

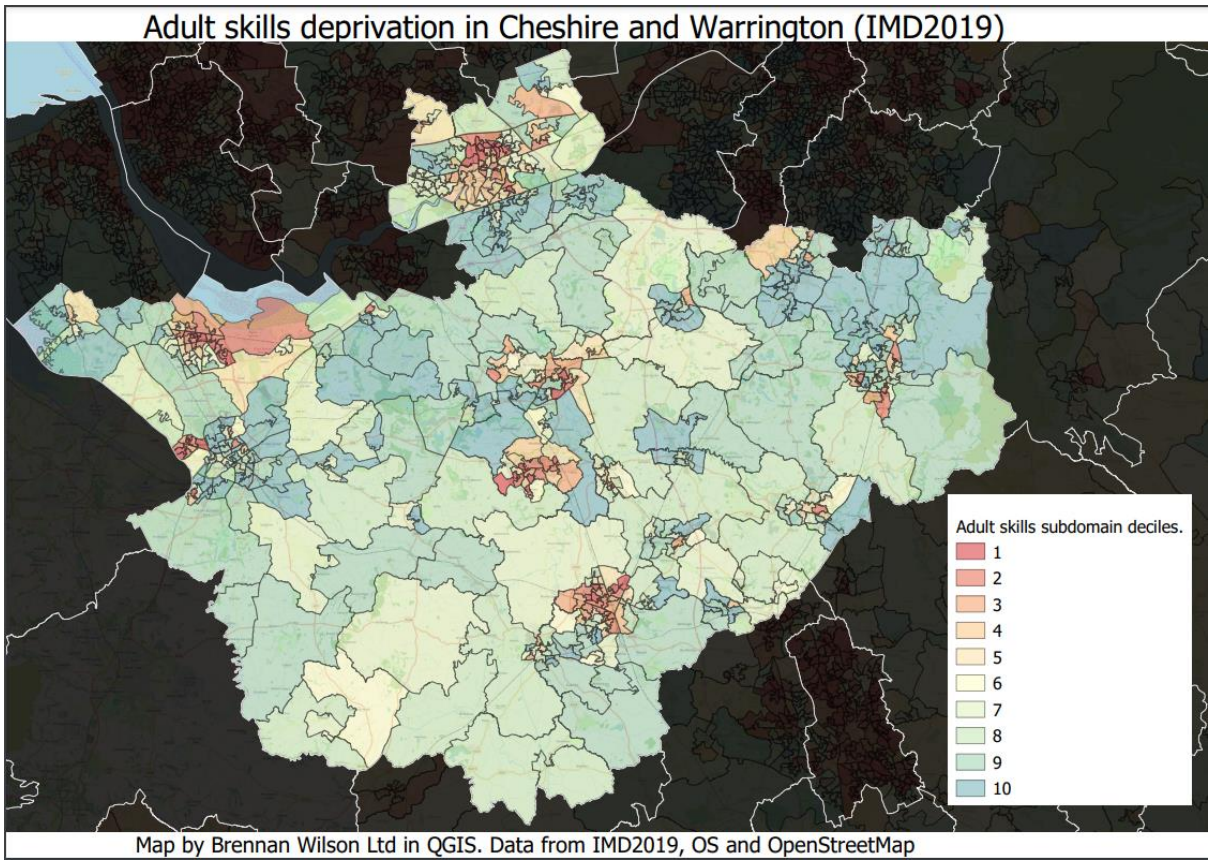
This section of the chapter focusses on the delivery of digital skills to adults (aged 19+ on August 31st) by way of ESFA-funded learning aims typically taught in a classroom setting. This covers learning delivered through Further Education and Local Authorities but excludes delivery through HEIs. This means that the majority of delivery at Level 4+ is not in scope for this analysis. Data on HEI delivery is collected but this is mostly not made available by the Department for Education on a residency basis (below the level of region) for analysis by third parties.

The period under review in this section are the three academic years 2018/19 to 2020/21. It is important to note that lockdowns occurred in both 2019/20 and 2020/21 and that this had an adverse impact on adult enrolments in learning. This was particularly the case in 2020/21, where it has been reported that enrolments across all subjects on Community Learning activity (typically delivered by Local Authorities) reduced by almost half nationally.

7.3.1 Entry and Level 1 Learning

The map below illustrates the number of enrolments, by ward, by adults on digital learning aims at Entry level and Level 1 between 2018/19 and 2020/21. It can be seen from this that the highest levels of enrolment were in parts of Warrington, parts of Ellesmere Port, parts of Macclesfield, Winsford, a couple of wards in Chester, a couple of wards in Crewe, and to the east of Congleton. There is some alignment between these places and the areas with the highest levels of adult skills deprivation (second map).





The table below shows the five wards with the highest volumes of enrolments on digital learning aims at Entry and Level 1 in Cheshire East 2018-2021. It is notable that there are no Crewe wards in this list.

Wards with the highest volume of Level 1 and Entry level Digital Skills in Cheshire East, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Macclesfield Central	19	22	22	63
Congleton East	33	8	10	51
Macclesfield South	12	18	10	40
Macclesfield West & Ivy	13	12	12	37
Broken Cross & Upton	13	12	10	35
Source: ESFA localities datacube (residency)				

The table below shows the five wards with the highest volumes of enrolments on digital learning aims at Entry and Level 1 in Cheshire West and Chester 2018-2021. There is one Ellesmere Port ward in this list.

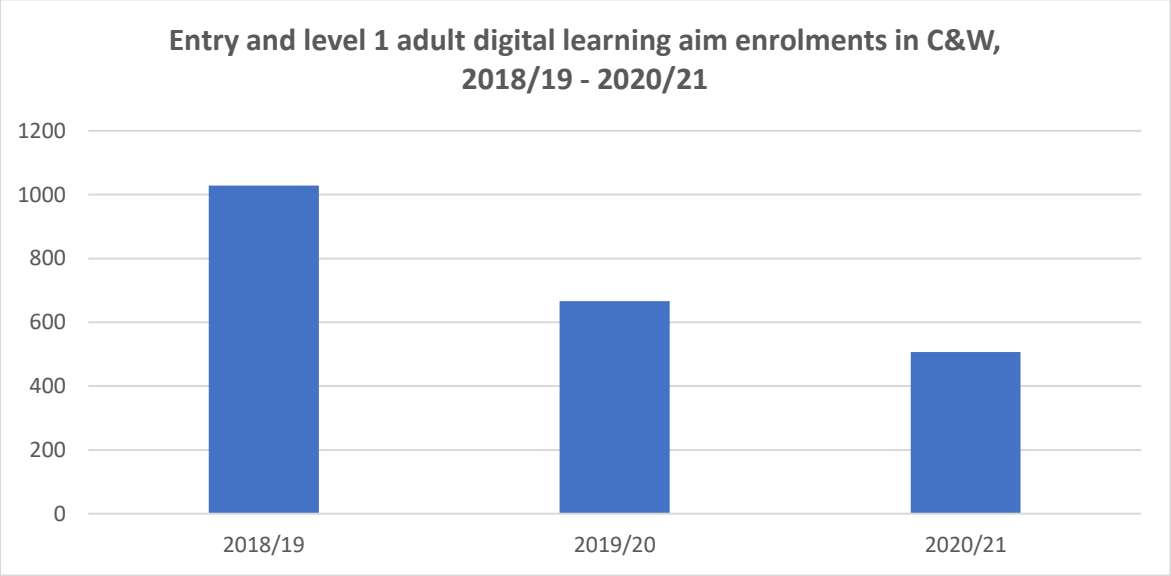
Wards with the highest volume of Level 1 and Entry level Digital Skills in Cheshire West and Chester, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Central & Grange	51	27	9	87
Winsford Over & Verdin	20	17	29	66
Blacon	21	16	15	52
Chester City & the Garden Quarter	17	19	2	38
Sutton Villages	19	14	2	35
Source: ESFA localities datacube (residency)				

Delivery in Warrington seems reasonably aligned with the areas of highest adult skills deprivation.

Wards with the highest volume of Level 1 and Entry level Digital Skills in Warrington, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Fairfield & Howley	32	39	8	79
Bewsey & Whitecross	33	30	15	78
Poplars & Hulme	18	28	9	55
Orford	23	16	11	50
Poulton North	32	9	3	44
Source: ESFA localities datacube (residency)				

Enrolments on digital learning aims at Entry Level and Level 1 by adults resident in Cheshire and Warrington halved between 2018/19 and 2020/21 from 1029 to 507. As noted above, the pandemic

is known to have had a major impact on the volume of enrolments in this period. Even so this 51% decrease in enrolments was significantly more than the 34% decrease in all Entry and Level 1 enrolments by adults resident in Cheshire and Warrington over the same period.



Source: ESFA localities datacube (residency)

As would be expected this sharp decline was reflected in a decline in most types of qualifications delivered.

Entry and Level 1 adult enrolments on digital learning aims 2018/19-201-20/21, qualification types				
Row Labels	2018/19	2019/20	2020/21	Total
Award	199	156	83	438
Basic Skills Maths and English	1	6	4	11
Certificate	137	104	87	328
Diploma	4	10	15	29
Other Non-Regulated	138	76	36	250
Other Regulated	49	28	40	117
QCF Unit	501	286	242	1029
Total	1029	666	507	2202
Source: ESFA localities datacube (residency)				

Also as expected, the learning aims delivered were very largely focussed on helping learners to secure what are described as essential digital skills in the Llyod's Digital Skills Consumer Index. With provision focussing on helping people to use emails and the internet featuring, as well as learning aims providing a basic introduction to common productivity software.

Entry and Level 1 adult enrolments on digital learning aims 2018/19-201-20/21, learning aims >10 in 2020/21				
	2018/19	2019/20	2020/21	Grand
Using Email	72	27	60	159
Using the Internet	71	27	53	151
Spreadsheet Software	58	30	44	132
Certificate of Introduction to Digital Skills	0	8	41	49
Word Processing Software	88	65	36	189
Certificate in IT User Skills (ITQ)	14	19	21	54
Award in Digital Skills for Life (Entry 3)	0	0	20	20
Non regulated SFA formula funded provision, Level 1, ICT Practitioners, 21 to 44 hrs, PW B	0	0	18	18
Internet Safety for IT Users	123	28	17	168
Presentation software	19	10	16	45
Award in Computerised Accounting for Business (RQF)	0	16	15	31
Award in IT User Skills (ICDL Essentials) (ITQ)	0	0	14	14
Essential Digital Skills	0	0	11	11
ICDL Certificate in IT User Skills	0	0	11	11
Diploma of Introduction to Digital Technologies	0	6	10	16
Source: ESFA localities datacube (residency)				

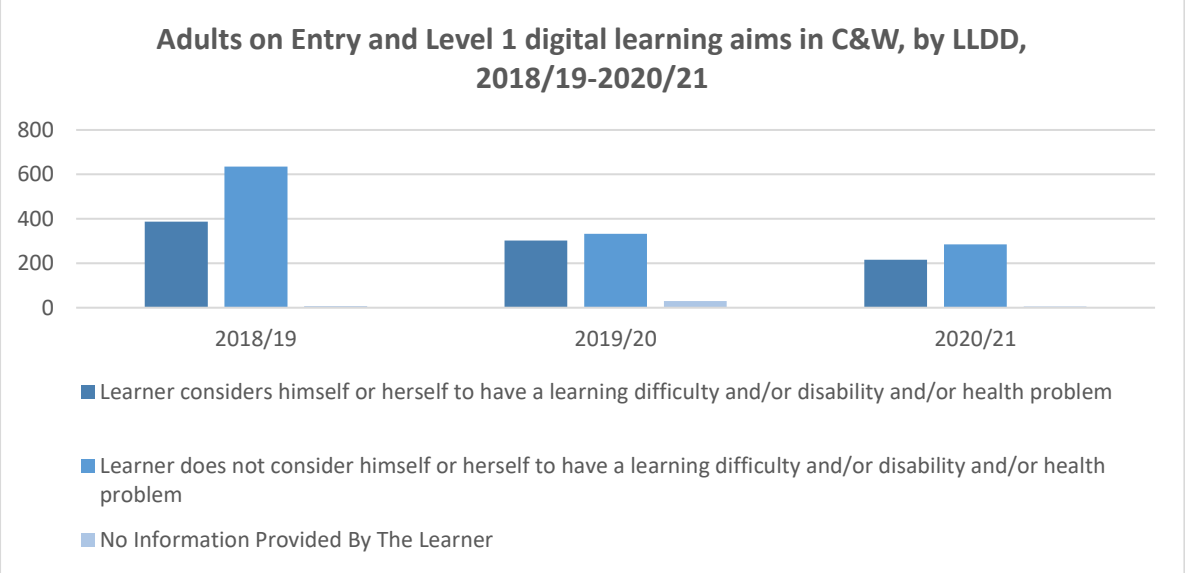
Enrolments by females were slightly higher than those by males standing at 52% across the three years under consideration, rising to 58% in 2020/21. This compares with enrolment by females to all Entry and Level 1 provision standing at a lower 44% in 2020/21.

Entry and level 1 adult (19+) enrolments on digital learning aims in C&W, by gender, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Female	485	363	295	1143
Male	544	303	212	1059
Total	1029	666	507	2202
Source: ESFA localities datacube (residency)				

BAME learners accounted for 10% of digital enrolments compared with 17% for all subjects at L1 and Entry.

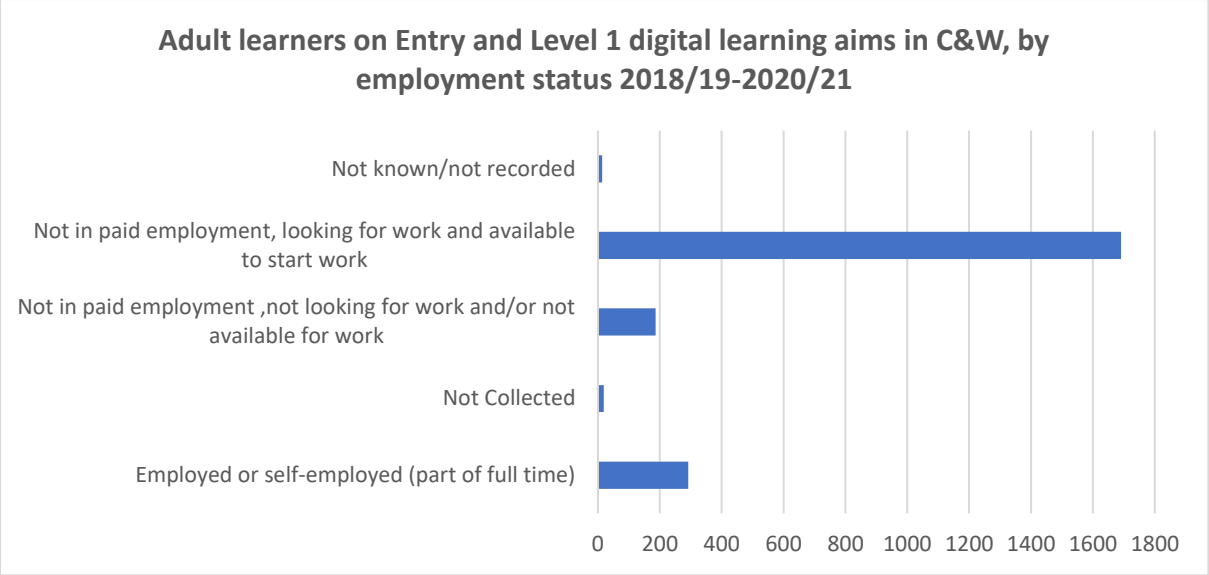
Entry and Level 1 adult enrolments on digital learning aims in C&W, by BAME status, 20189/19-2020/21				
	2018/19	2019/20	2020/21	Total
This learner is classified as BAME	69	65	49	183
This learner is not classified as BAME	960	601	458	2019
Total	1029	666	507	2202
Source: ESFA localities datacube (residency)				

43% of enrolments on L1 and Entry Level digital learning aims were by learners that considered themselves to have a learning difficulty and/or disability and/or a health problem. This was somewhat higher than the 29% of enrolments for all subject areas at these levels.



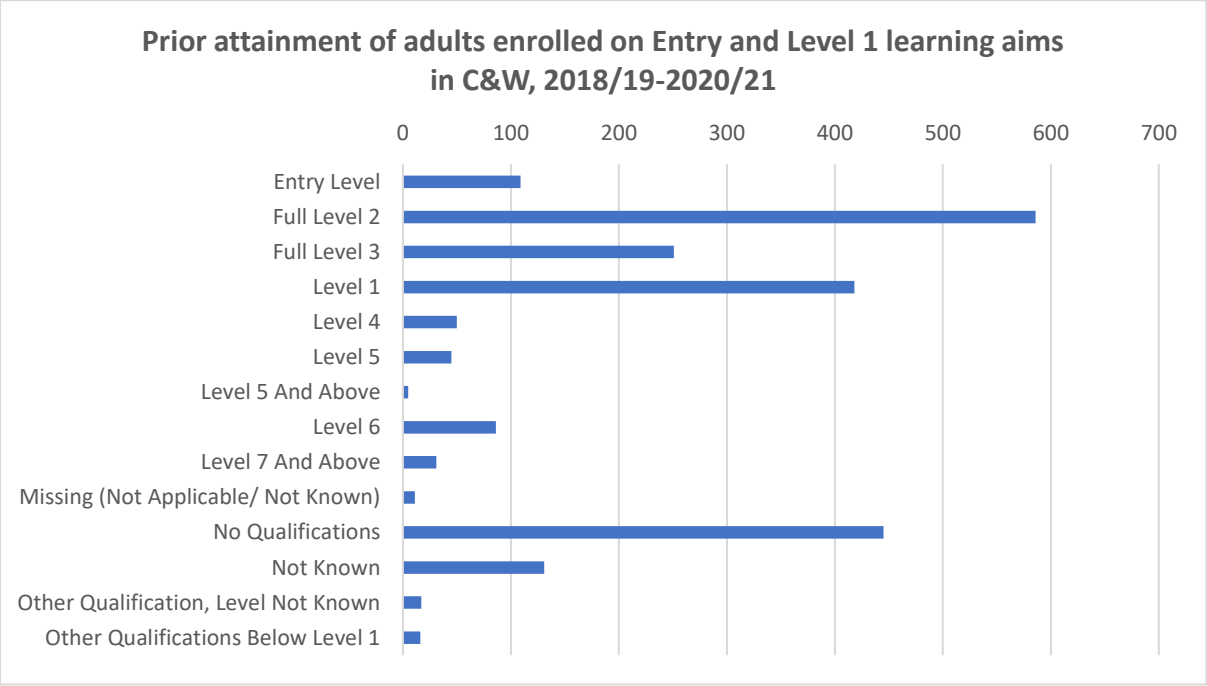
Source: ESFA localities datacube (residency)

Between 2018/19 and 2020/21, 77% of learners on Entry and Level 1 digital learning aims were not in paid employment, were looking for work and were available to start work. This is higher than the 59% of Level 1 and Entry learners across all subjects.



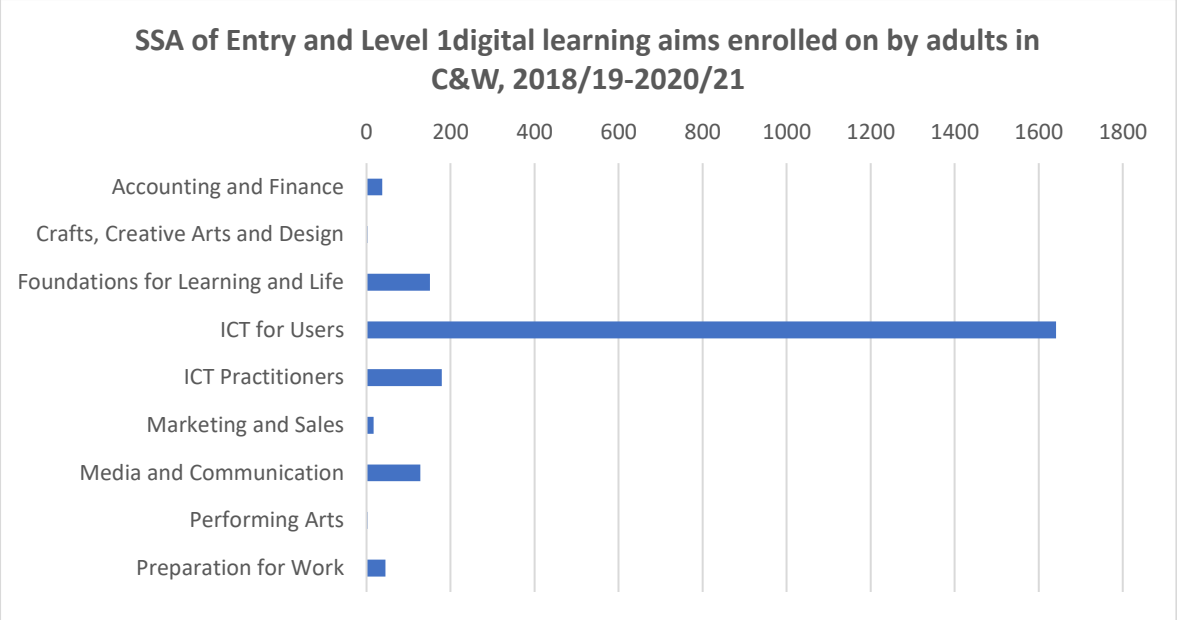
Source: ESFA localities datacube (residency)

It is notable that almost half of the learners (48%) on digital Level 1 and Entry level learning aims between 2018/19 and 2020/21 had a prior attainment at Level 2 or above.



Source: ESFA localities datacube (residency)

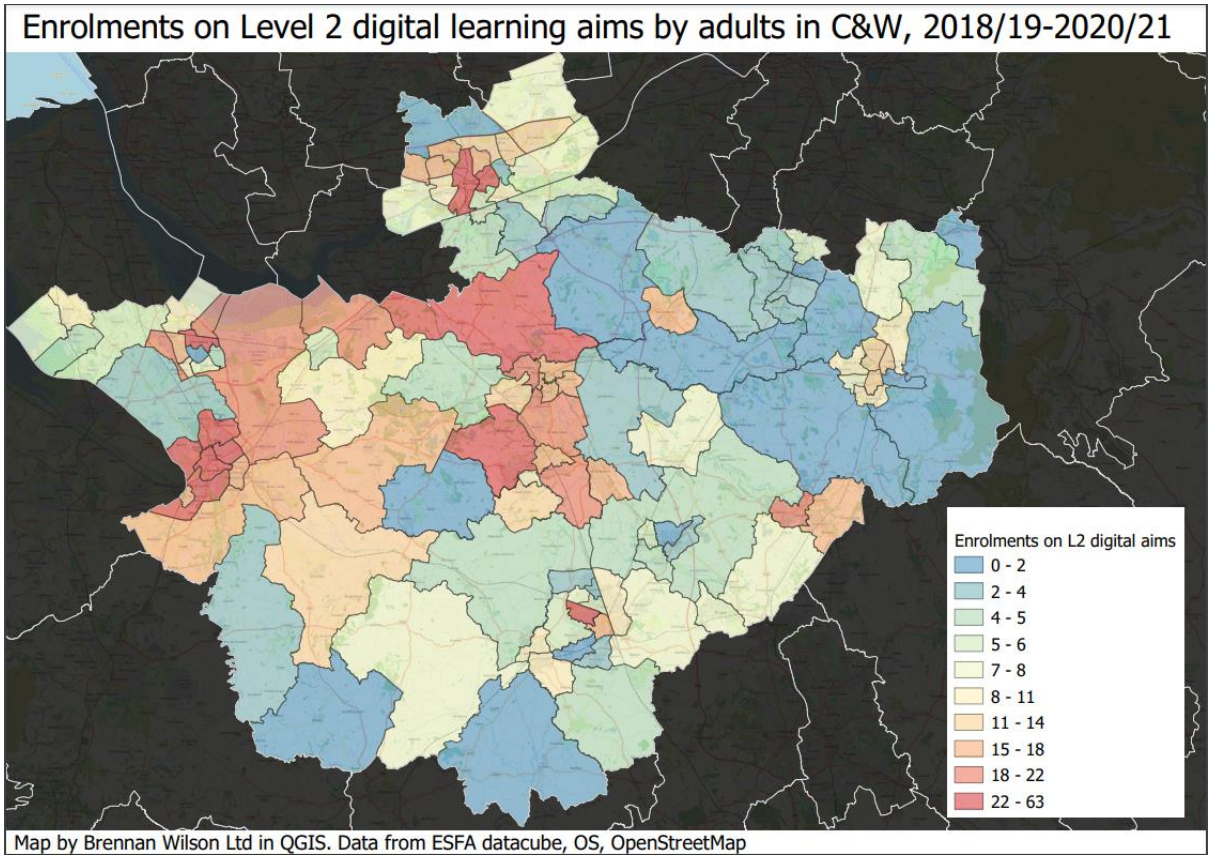
Unsurprisingly, the large majority of digital learning aims at these levels were in the 'ICT for Users' Sector Subject Area.

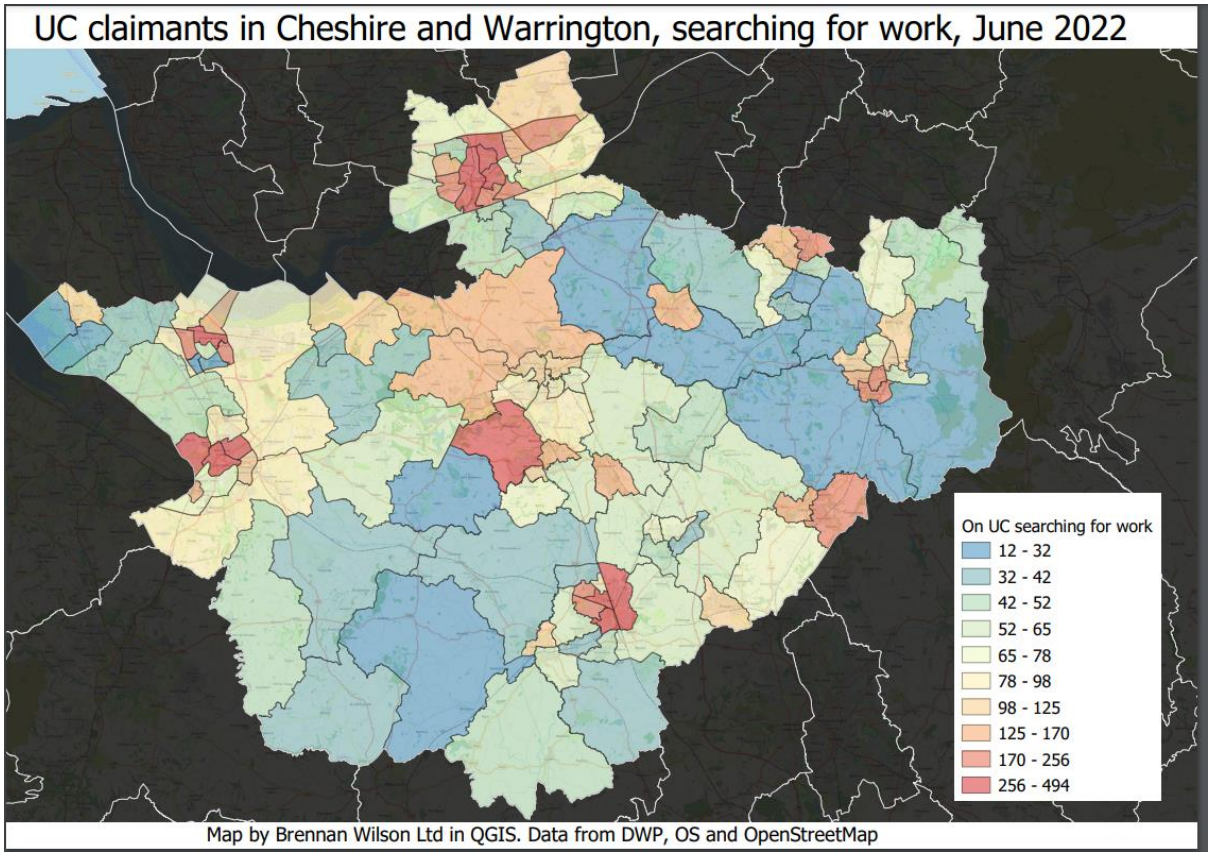


Source: ESFA localities datacube (residency)

7.3.2 Level 2 Learning

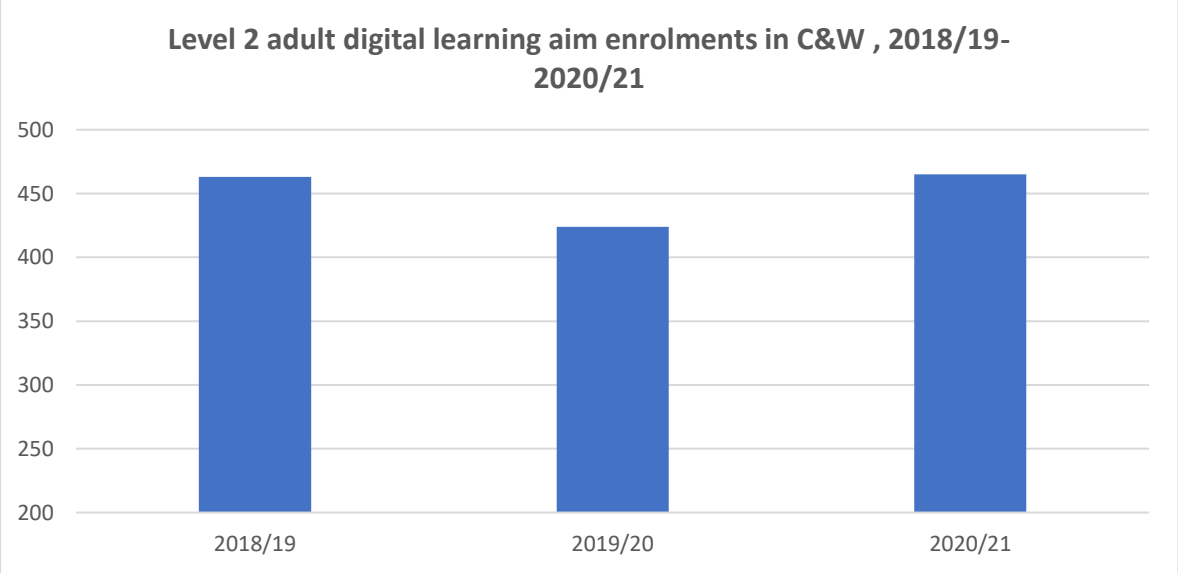
Attainment at Level 2 is widely regarded as providing the floor for people to secure sustained employment. The maps below provide information on the residency of adults enrolling on Level 2 digital learning aims and the residency of UC claimants searching for work, by ward. It is reasonable to expect these places to be fairly well aligned.





Given the volume of claimant unemployed searching for work in these places, there appears to be relatively low levels of enrolments on digital Level 2 in Colshaw Farm, the south of Macclesfield and much of Crewe, particularly east of the main rail line.

The volume of enrolments on digital level 2 learning aims has remained stable between 22018/19 and 2020/21 compared with an overall decline of 11% in this time period for Level 2 aims in all subject areas.



Source: ESFA localities datacube (residency)

The profile of qualification types delivered has also remained relatively stable.

Level 2 adult enrolments on digital learning aims 2018/19-201-20/21, qualification types				
	2018/19	2019/20	2020/21	Total
Award	67	57	20	144
Certificate	171	200	254	625
Diploma	23	1	35	59
GCSE Other		1		1
Other Non-Regulated	13	11	7	31
Other Regulated	15	12	6	33
QCF Unit	174	141	143	458
Total	463	424	465	1352
Source: ESFA localities datacube (residency)				

The learning aims with over 40 enrolments in 2020/21 all deliver IT user skills, what Burning Glass would classify as baseline digital skills:

- Certificate in IT User Skills (ITQ)
- Certificate in IT User Skills in Open Systems and Enterprise (ITQ)
- Word Processing Software
- Spreadsheet Software

Level 2 digital learning aims enrolled on by adults in C&W 2018/19/20, >10 in 2020/21			
Learning aim	2018/19	2019/20	2020/21
Certificate in IT User Skills (ITQ)	45	48	59
Certificate in IT User Skills in Open Systems and Enterprise (ITQ)	6	19	54
Word Processing Software	72	63	53
Spreadsheet Software	54	36	48
Certificate in IT User Skills (ICDL Extra) (ITQ)	0	0	28
Certificate in Photography	25	35	22
Diploma in Professional Competence for IT and Telecoms Professionals	18		21
Presentation software	20	16	21
ICDL Certificate in IT User Skills	0	0	20
Certificate in IT User Skills (RQF)	0	7	17
Certificate in Understanding Data Protection and Data Security	26	17	16
Database software	11	16	14
Award in 2D Computer Aided Design	31	15	11
Diploma in IT User Skills (ITQ)	0	0	10
Source: ESFA localities datacube (residency)			

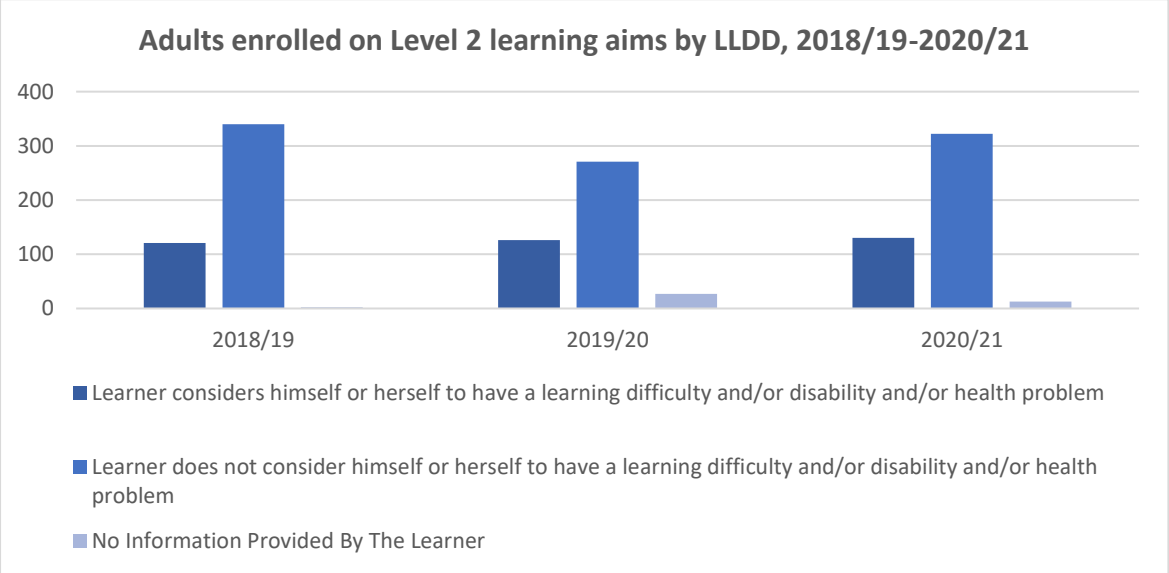
Between 2018/19 and 2019/20, 56% of all enrolments on level 2 digital learning aims were by females. In 2020/21, this rose to 59%. This is slightly lower than for learning aims at Level 2 in all subjects where females accounted for 61% of all enrolments.

Level 2 adult (19+) enrolments on digital learning aims in C&W, by gender, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Female	240	247	276	763
Male	223	177	189	589
Grand Total	463	424	465	1352
Source: ESFA localities datacube (residency)				

BAME learners accounted for 6% of all enrolments on Level 2 digital learning aims, slightly lower than the figure for Level 2 learning aims in all subjects which was 7%.

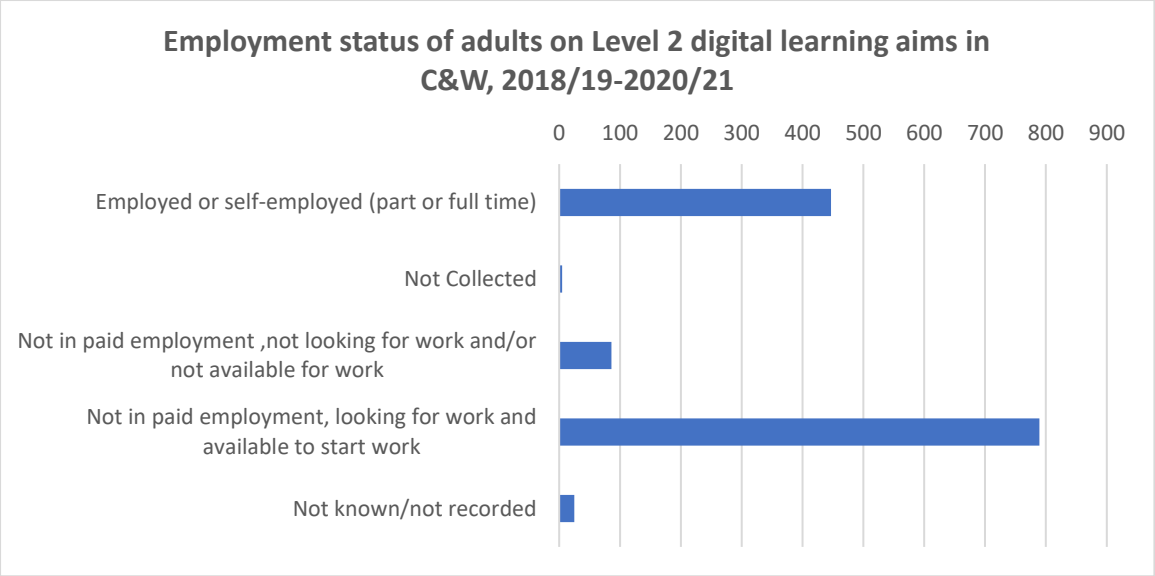
Level 2 adult enrolments on digital learning aims in C&W, by BAME status, 20189/19-2020/21				
	2018/19	2019/20	2020/21	Total
This learner is classified as BAME	22	34	30	86
This learner is not classified as BAME	441	390	435	1266
Total	463	424	465	1352
Source: ESFA localities datacube (residency)				

In 2020/21, 28% of all enrolments on Level 2 digital learning aims came from learners that considered themselves to have a learning difficulty and/or disability and/or health problem. This was slightly higher than the percentage for Level 2 in all subjects which stood at 22% in 2020/21.



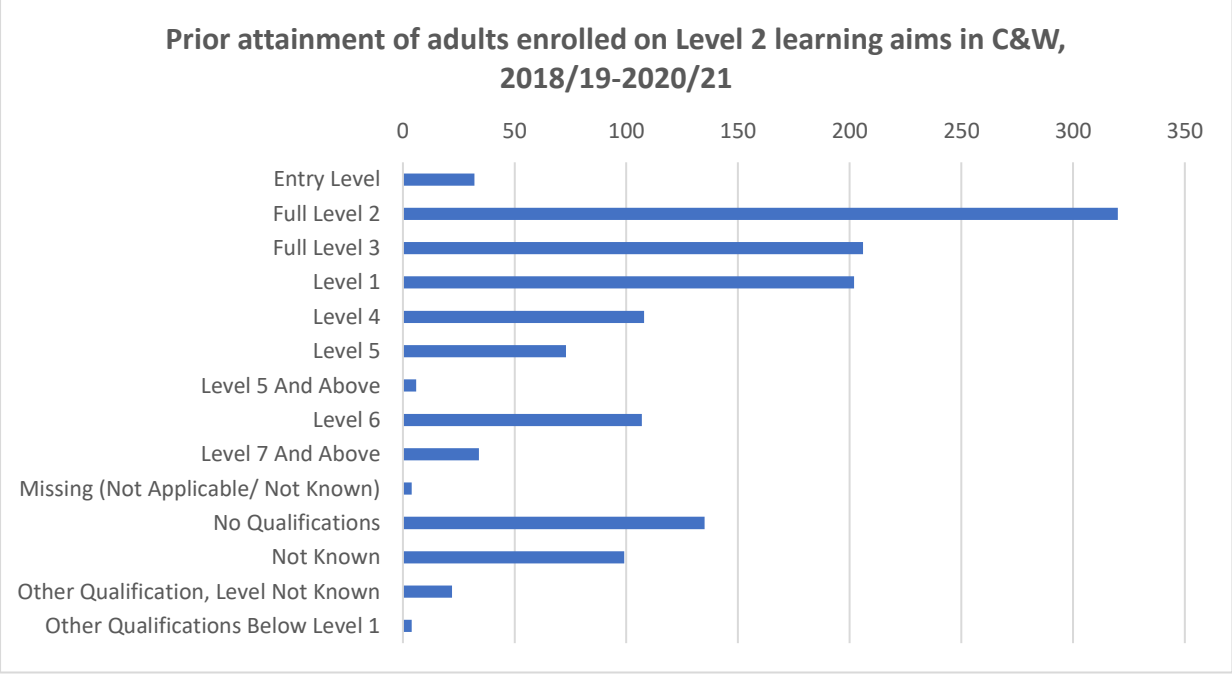
Source: ESFA localities datacube (residency)

The employment status on the first day of learning is markedly different for digital Level 2 learners when compared with all Level 2 learners. 53% of all Level 2 learners are employed and 37% are not in paid employment, looking for work and available to start work. The percentages for Level 2 digital learners are 33% and 58% respectively.



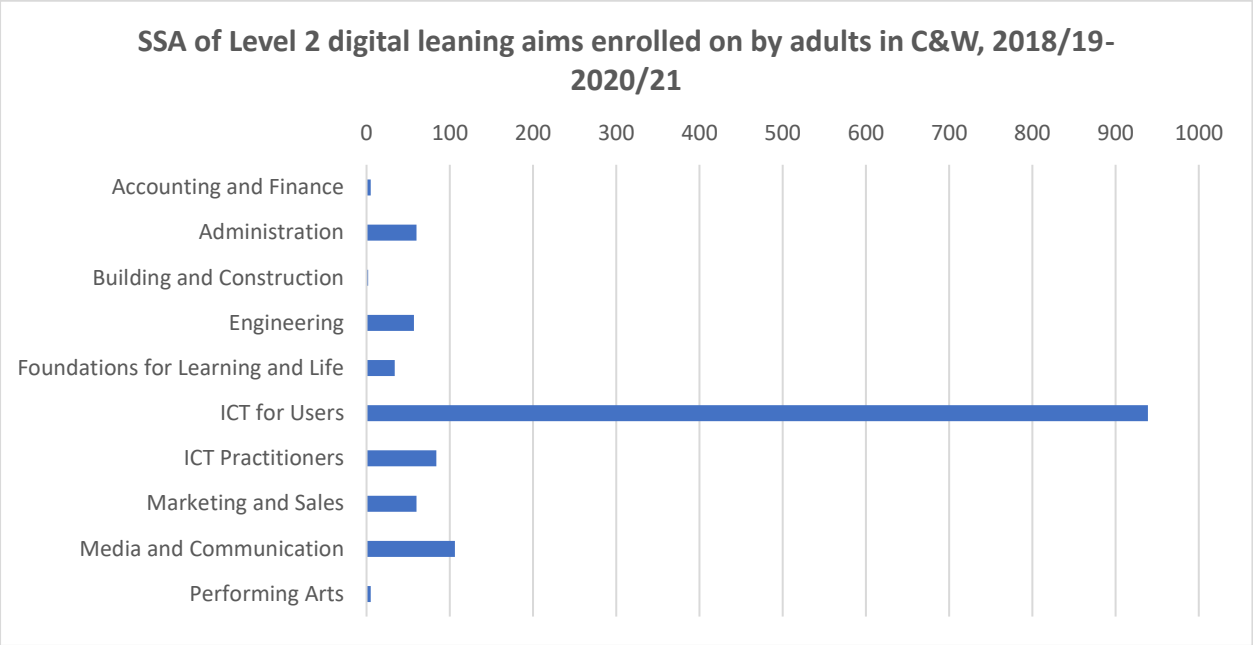
Source: ESFA localities datacube (residency)

Almost two thirds (63%) of enrolments on Level 2 digital learning aims were by learners whose prior attainment was at Level 2 or above.



Source: ESFA localities datacube (residency)

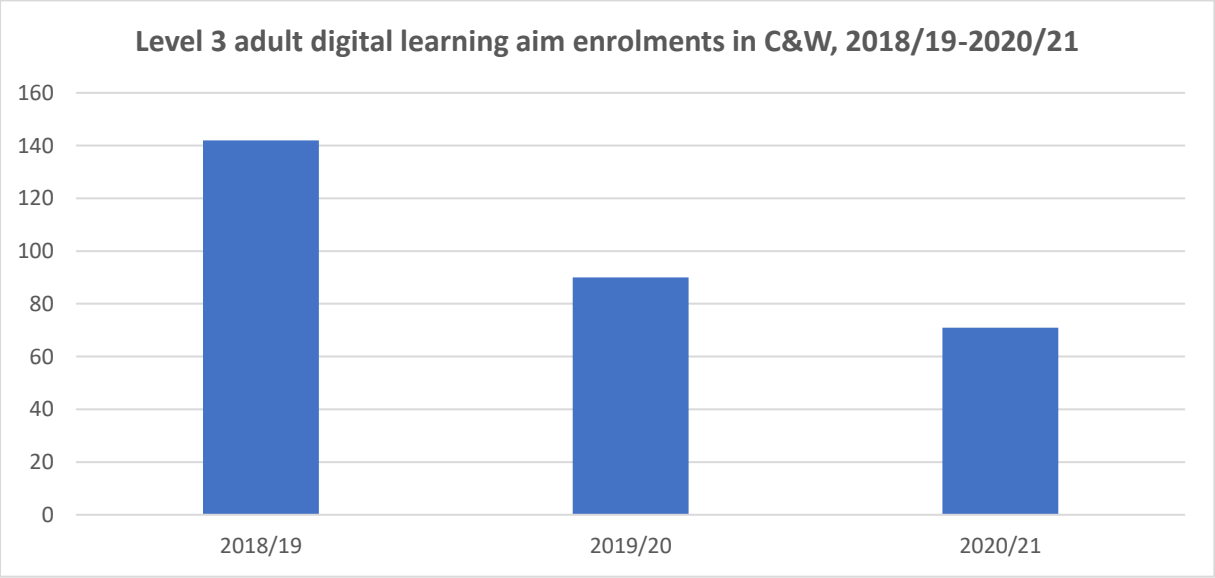
Unsurprisingly, the large majority of digital learning aims at these levels were in the 'ICT for Users' Sector Subject Area.



Source: ESFA localities datacube (residency)

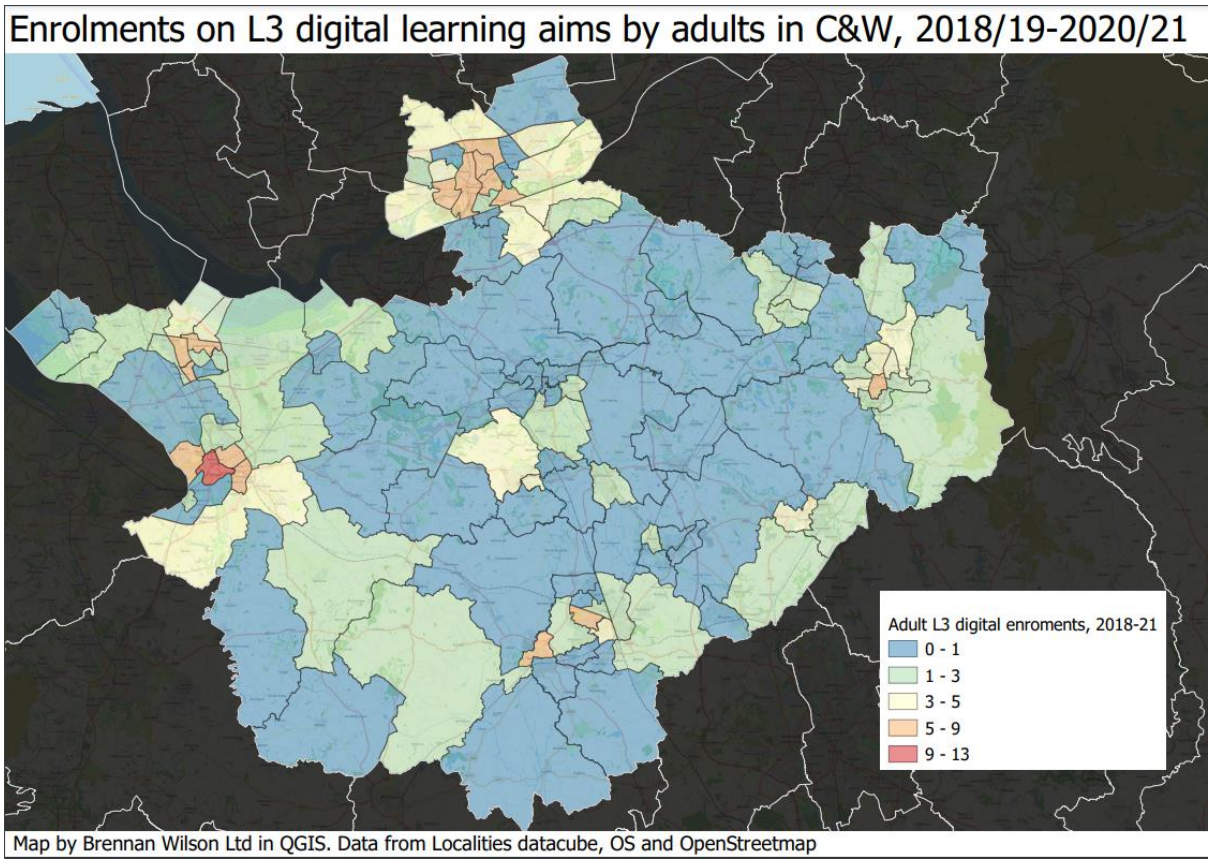
7.3.3 Level 3 Learning

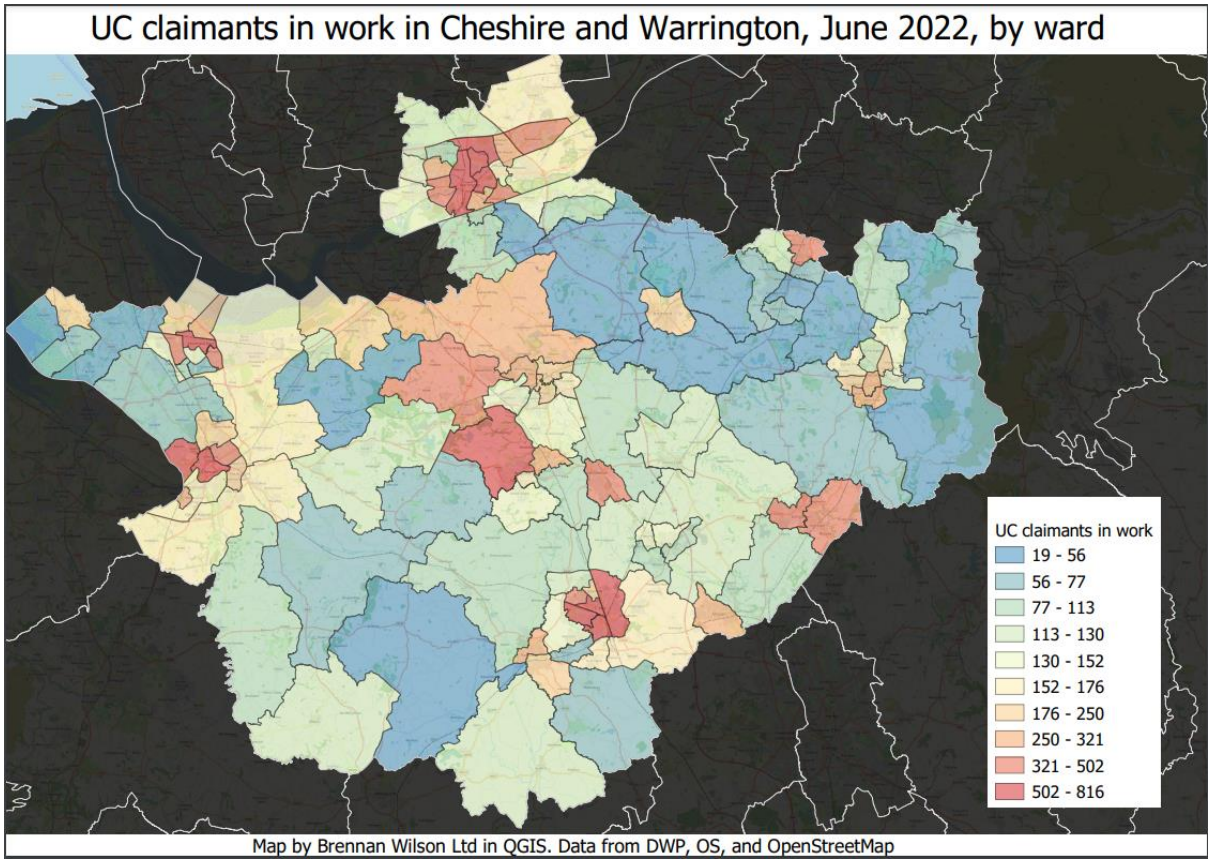
The volume of digital Level 3 learning aims enrolled on by adults in FE in Cheshire and Warrington is very low and getting lower. Between 2018/19 and 2020/21, digital level 3 enrolments by adults halved from an already very low 142 to 71. This 50% decrease compares to a 16% decrease for Level 3 enrolments in all subjects.



Source: ESFA localities datacube (residency)

Attainment of a full digital Level 3 might be reasonably expected to provide the foundation for a career path in digital and a good option for the low paid seeking to retrain. The maps below illustrate the residency of L3 enrolments and the residency of those in low paid work.





The swathes of blue and green in the top map indicate the overall very low volumes of enrolments. The fact that these deserts of L3 digital provision for adults include places with relatively high concentrations of adults in low paid work like Crewe, east Congleton, Winsford, and Colshaw Farm is particularly concerning.

Two thirds of the digital learning aims at Level 3 enrolled on by adults are Diplomas, which indicates that much of this learning is substantial vocational learning.

Level 3 adult enrolments on digital learning aims in C&W 2018/19-201-20/21, qualification types				
	2018/19	2019/20	2020/21	Total
A Level	3	4	3	10
Access to HE	1	1	2	4
Award	1	3	0	4
Certificate	14	0	3	17
Diploma	73	77	63	213
Other Non-Regulated	49	4	0	53
QCF Unit	1	1	0	2
Total	142	90	71	303
Source: ESFA localities datacube (residency)				

However, the majority (if not all) of the adults undertaking such learning are doing so as infill on 16-18 programmes as the volumes of enrolments for individual learning aims in the table below

indicates. In 2020/21, there were only two learning aims with enrolments greater than 15 (a viable group is normally a minimum of 12, if not more).

This suggests that any significant growth in this type of digital adult level 3 delivery will require changes to the mode of delivery (eg the introduction of 'night school' provision or 'boot camp' provision) rather than just 'organic' growth of current delivery.

Level 3 digital learning aims enrolled on by adults resident in C&W, 2018/19-2020/21, >3 in 2020,21			
	2018/19	2019/20	2020/21
Extended Diploma in Creative Media Production (QCF)	20	37	17
Extended Diploma in IT (QCF)	22	23	15
BTEC National Diploma in Creative Media Practice			5
Cambridge Technical Foundation Diploma in IT			5
BTEC National Foundation Diploma in Information Technology	1	1	4
BTEC National Extended Diploma in Creative Media Practice			3
Extended Diploma in Creative Media Production & Technology	1		3
Source: ESFA localities datacube (residency)			

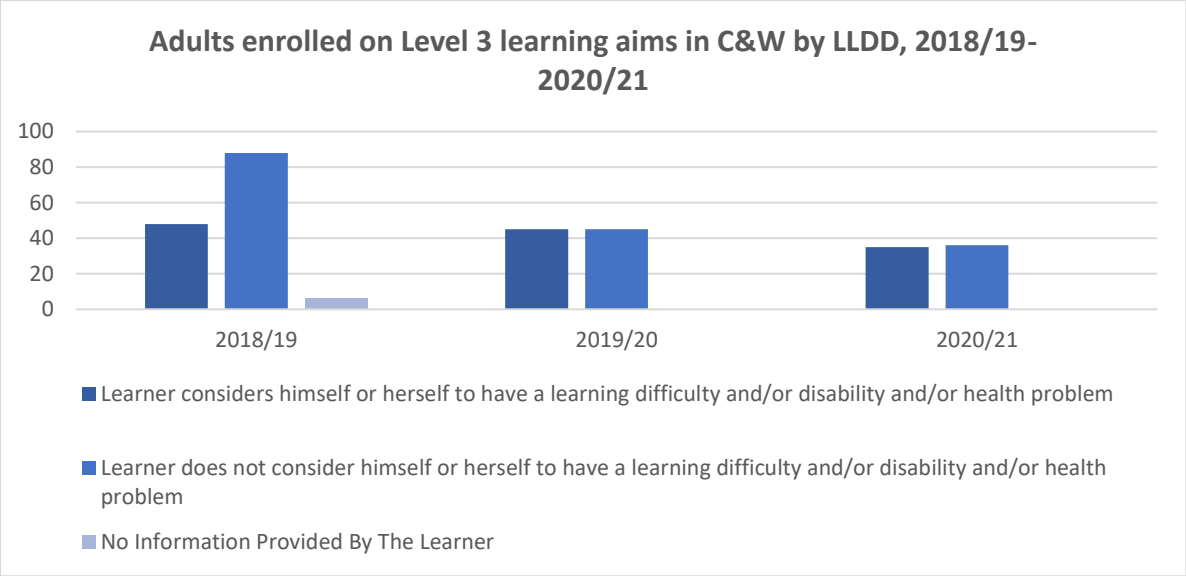
Whilst 56% of adult Level 3 enrolments in all subject areas were from females, females accounted for only a quarter (27%) of adult digital learning at Level 3.

Level 3 adult (19+) enrolments on digital learning aims in C&W, by gender, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Female	50	15	17	82
Male	92	75	54	221
Total	142	90	71	303
Source: ESFA localities datacube (residency)				

Between 2018/19 and 2020/21, BAME learners accounted for 7% of all digital Level 3 enrolments. This was similar to BAME enrolment across all subject areas at Level 3 which stood at 5%.

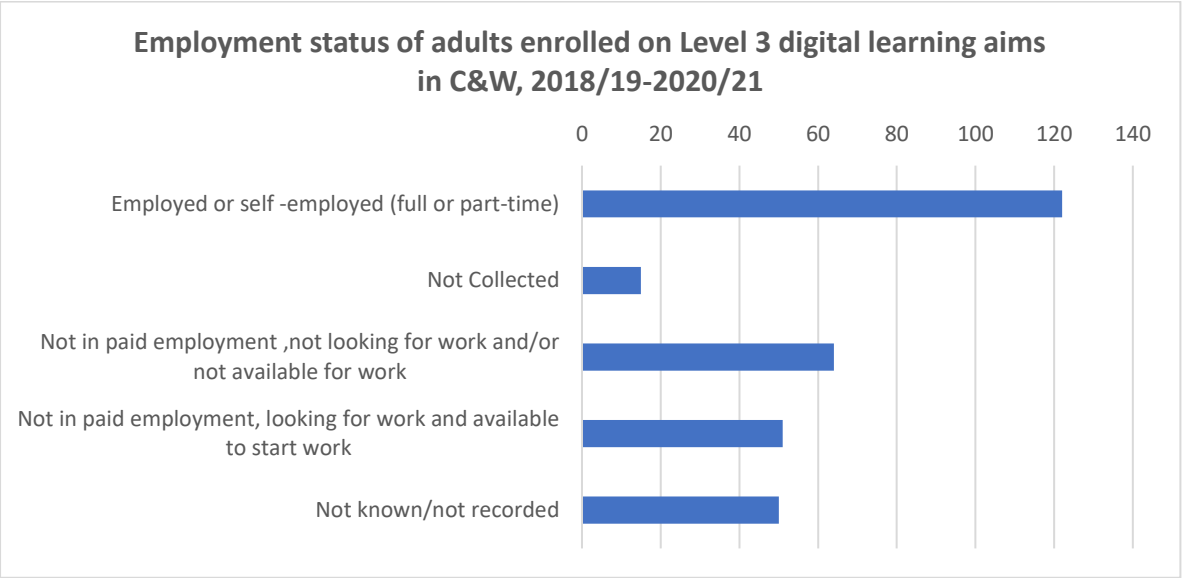
Level 3 adult enrolments on digital learning aims in C&W, by BAME status, 20189/19-2020/21				
	2018/19	2019/20	2020/21	Total
This learner is classified as BAME	3	7	11	21
This learner is not classified as BAME	139	83	60	282
Total	142	90	71	303
Source: ESFA localities datacube (residency)				

In 2018/19, half of the enrolments on digital Level 3 learning aims were from learners that considered themselves to have a learning difficulty and/or disability and/or health problem. This is more than double the 22% declaring this for enrolments across all Level 3 subject areas. It is not clear why there is this disparity.



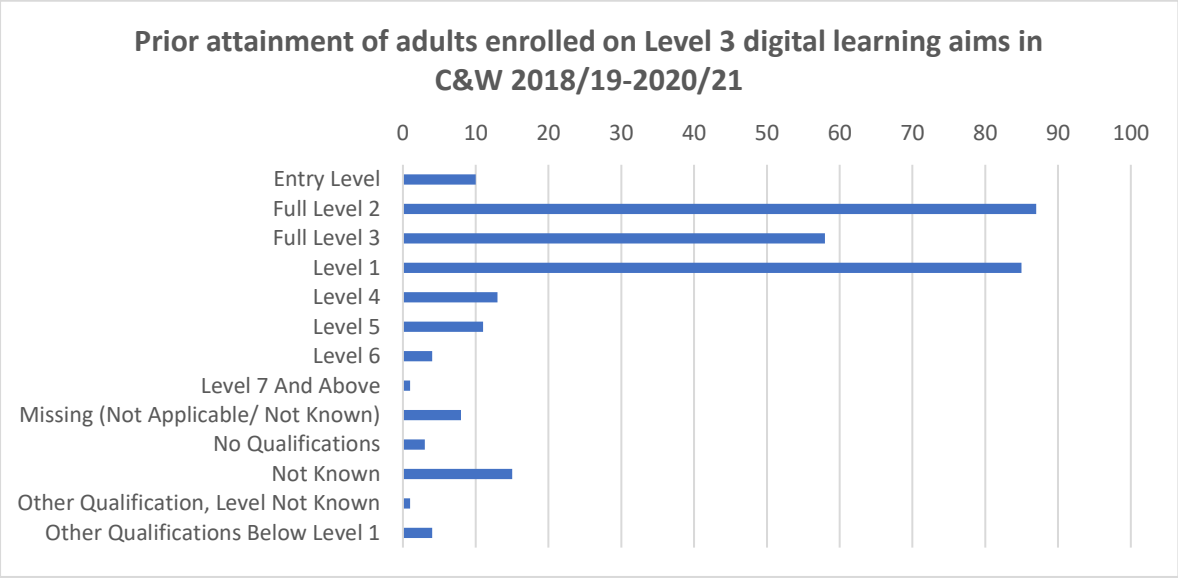
Source: ESFA localities datacube (residency)

Between 2018/19 and 2020/21, 40% of all Level 3 digital learners were employed compared with 60% across all subject areas at this level. This difference may be accounted for by the lack of discrete digital skills provision for adults. Discrete provision for adults is probably more likely to be timetabled to accommodate the working hours of learners.



Source: ESFA localities datacube (residency)

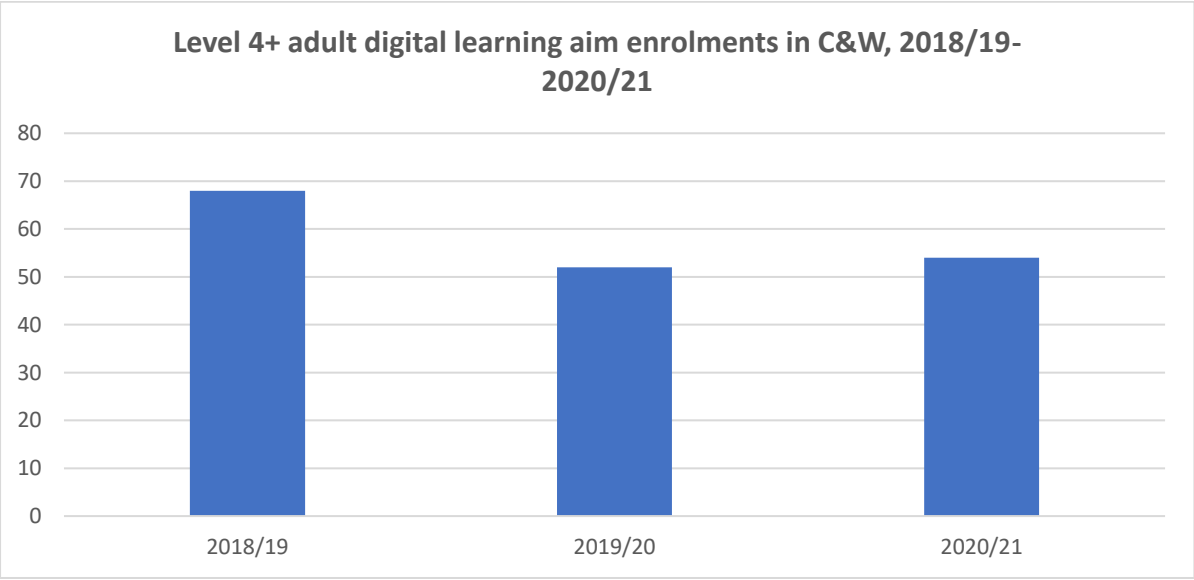
Between 2018/19 and 2020/21, 29% of learners on digital Level 3 learning aims had prior attainment of Level 3 or above.



Source: ESFA localities datacube (residency)

7.3.4 Level 4+ Learning

There were only 54 enrolments on Level 4+ learning aims in FE by residents of Cheshire and Warrington in 2020/21. This was a decline of 21% (14) on 2018/19. This compares to a decline of 4% for all Level 4+ programmes in this time period.



Source: ESFA localities datacube (residency)

The learning aims enrolled on tended to be Certificates (eg HNCs), Diplomas (HNDs) and degrees/foundation degrees (other non-regulated).

Level 4+ adult enrolments on digital learning aims in C&W 2018/19-201-20/21, qualification types				
	2018/19	2019/20	2020/21	Total
Award			3	3
Certificate	28	27	19	74
Diploma	32	17	21	70
Other Non-Regulated	8	8	11	27
Grand Total	68	52	54	174
Source: ESFA localities datacube (residency)				

This is evident when the learning aims with the highest enrolment volumes are considered.

Level 4+ adult enrolments on digital learning aims in C&W, Learning aims >10 enrolments 2018/19-2020-21				
	2018/19	2019/20	2020/21	Total
BTEC Higher National Certificate in Computing	13	14	13	40
BTEC Higher National Certificate in Creative Media Production	15	13	6	34
BTEC Higher National Diploma in Creative Media Production		9	14	23
BTEC Higher National Diploma in Computing	6	8	7	21
BTEC HND Diploma in Creative Media Production	16			16
BTEC HND Diploma in Computing and Systems Development (QCF)	10			10
Source: ESFA localities datacube (residency)				

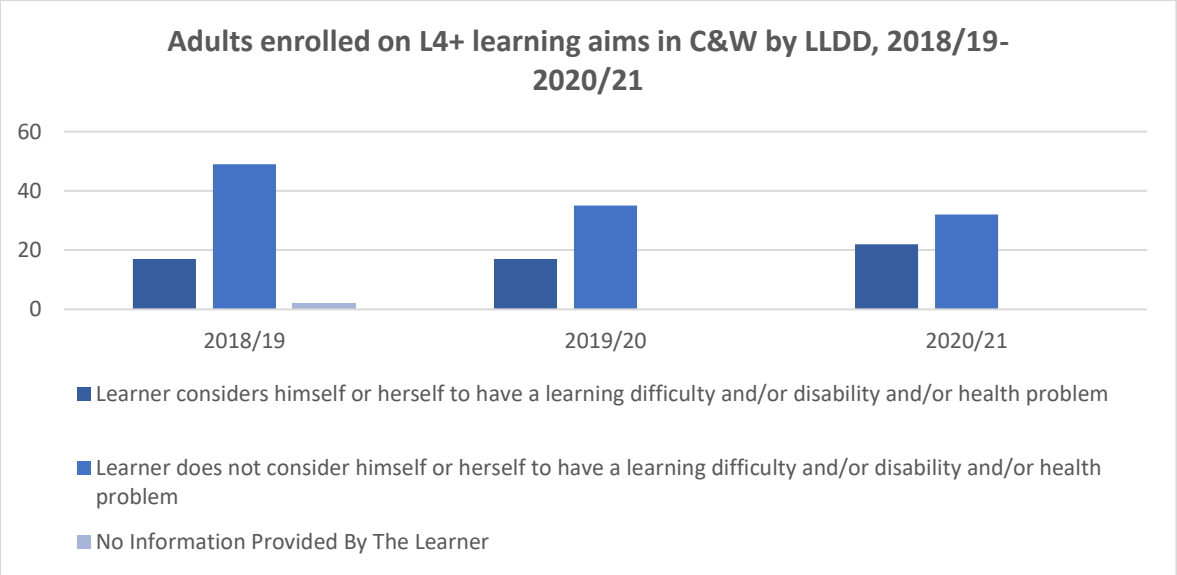
There is a stark gender disparity in the enrolments to Level 4+ learning aims. Only 14% of enrolments were by females between 2018/19 and 2020/21. This compares with 63% of enrolments across all subject areas being by females in 2020/21.

Level 4+ adult enrolments on digital learning aims in C&W by gender, 2018/19-2020-21				
	2018/19	2019/20	2020/21	Total
Female	8	8	9	25
Male	60	44	45	149
Total	68	52	54	174
Source: ESFA localities datacube (residency)				

Between 2018/19 and 2020/21, 9% of all Level 4+ enrolments were accounted for by BAME learners although this figure had dropped to 4% by 2020/21. This compares with BAME learners accounting for 4% of Level 4+ enrolments across all subject areas.

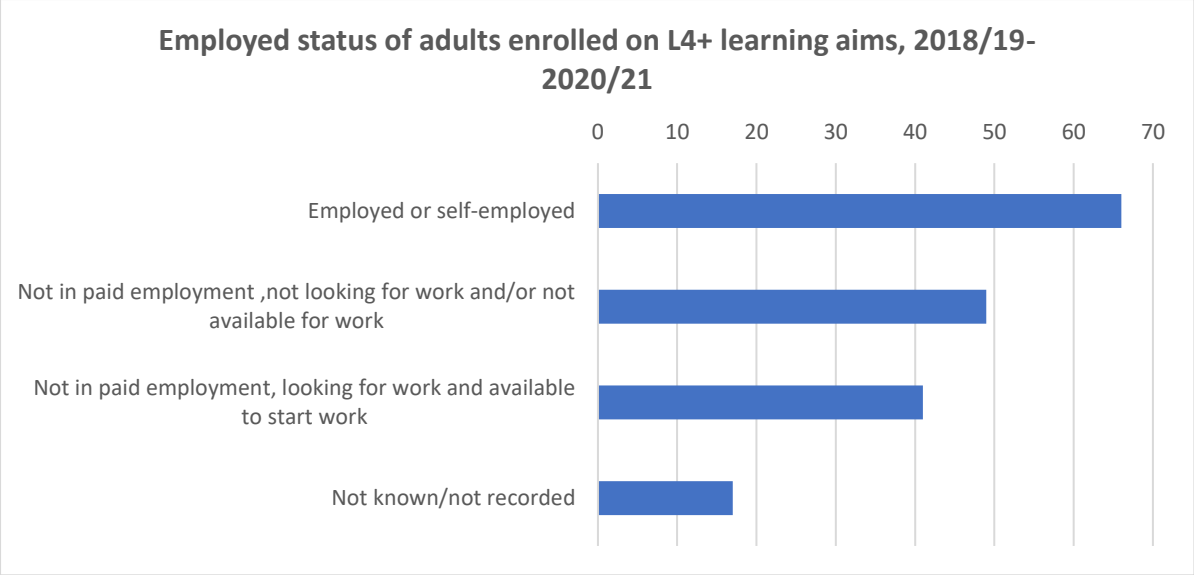
Level 4+ adult enrolments on digital learning aims in C&W by BAME status, 2018/19-2020-21				
	2018/19	2019/20	2020/21	Grand Total
This learner is classified as BAME	8	4	2	14
This learner is not classified as BAME	60	48	52	160
Total	68	52	54	174
Source: ESFA localities datacube (residency)				

Similar to Level 3 learning aims, the proportion of learners on Level 4+ digital learning aims reporting as having a learning difficulty and/or disability and/or health problem (41%) was about double the proportion for all Level 4+ learning aims (22%).



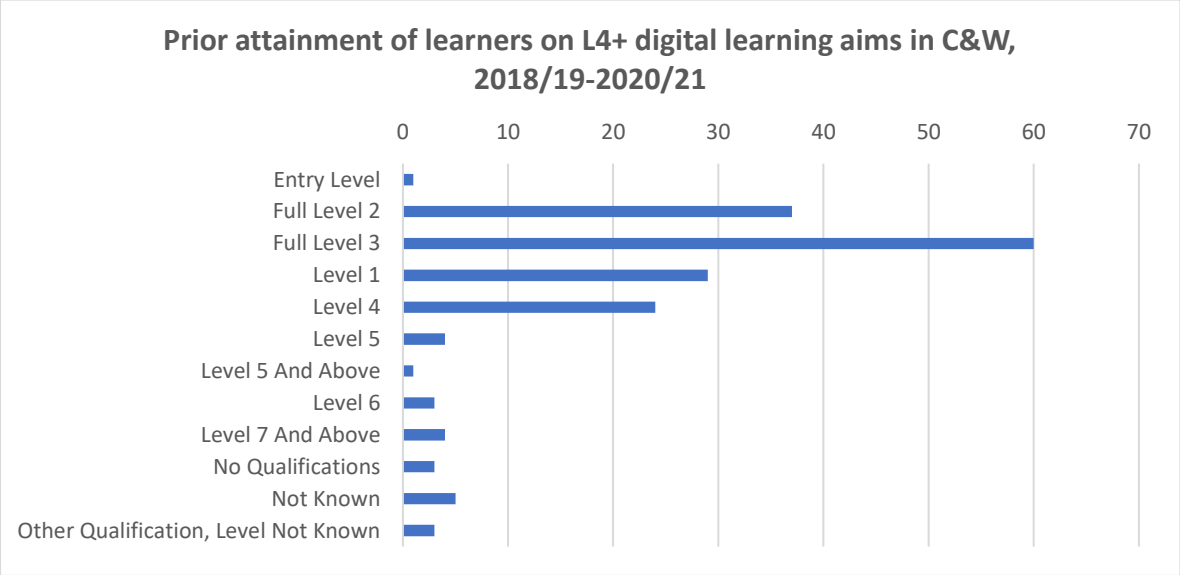
Source: ESFA localities datacube (residency)

The percentage employed on their first day of learning was 38% for L4+ learning aims compared with 68% across all subjects at L4+.



Source: ESFA localities datacube (residency)

21% of learners on L4+ digital learning aims had a prior attainment at Level 4 or higher.



Source: ESFA localities datacube (residency)

8. The Delivery of Digital Skills through Apprenticeships

8.1 Introduction

This chapter of the report focusses on the scope and scale of digital skills delivery through apprenticeships to adults and young people in Cheshire and Warrington. The scope of digital skills delivery used in this chapter encompasses what Burning Glass describe as specific and baseline skills (see Chapter xx above for a full explanation of this classification).

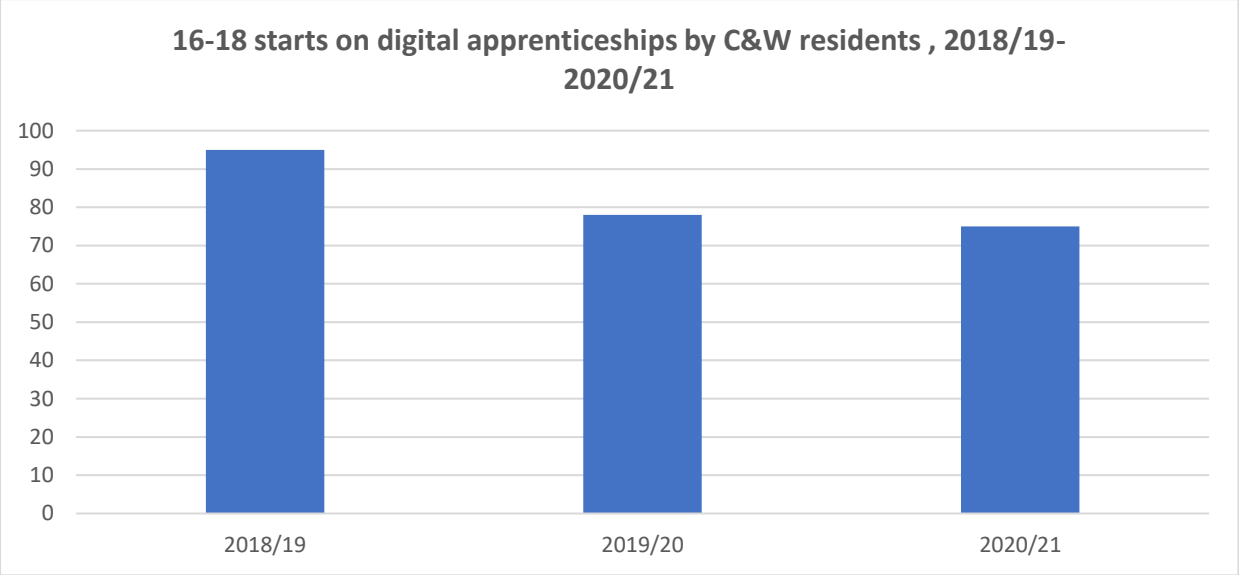
An apprenticeship is a paid job where the employee learns and gains valuable experiences. Alongside on-the-job training, apprentices spend at least 20% of their working hours completing classroom-based learning with a college, university or training provider which leads to a nationally recognised qualification.

In order to support the analysis in this chapter, a full review of apprenticeship standards delivered to residents of Cheshire and Warrington over the last three years (2018/19-2020/21) has been undertaken and individual apprenticeship standards have been classed as primarily delivering digital skills (or not). The standards classed as primarily delivering digital skills are itemised at Annex 4 together with a quantification of the volume of enrolments on each over the three academic years in scope.

The structure of this chapter is to review delivery of digital skills to young people (aged 16-18) and adults (aged 19+) by level of apprenticeship. The data used in this chapter is drawn from the Education and Skills Funding Agency's (ESFA) localities datacube which aggregates data from the individualised learner record (ILR). This is information provided by the apprenticeship provider to the ESFA on enrolment on an apprenticeship by a learner.

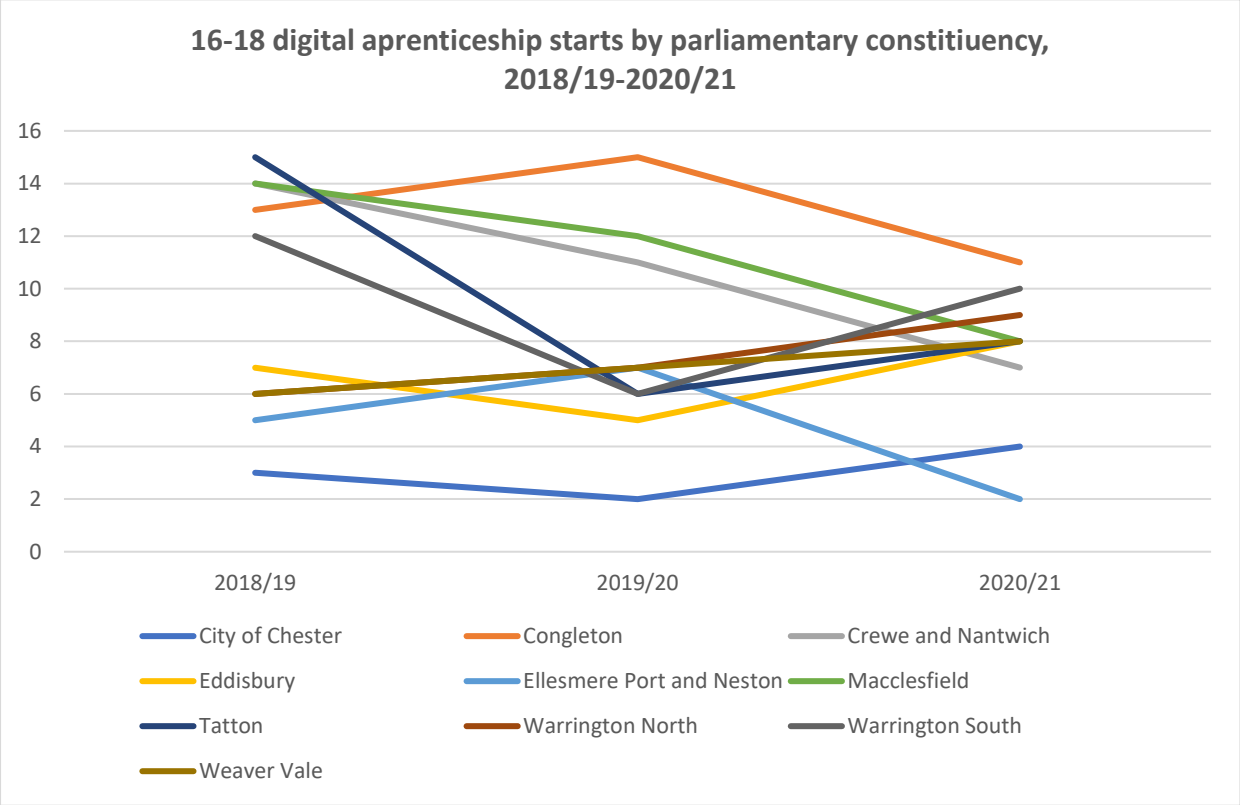
8.2 Digital apprenticeship delivery to young people

Over the three years 2018/19- 2020/21, the number of young people resident in Cheshire and Warrington starting on a digital apprenticeship dropped from 95 to 75, a decline of 21%. This compares with a decline of 29% in starts across all apprenticeship standards by residents aged 16-18.



Source: ESFA Localities datacube (residency)

This is reflected in the annual starts in apprenticeships by 16-18 year olds in the ten parliamentary constituencies which, generally speaking, have either remained broadly stable or seen a slight decline over the three years under review.



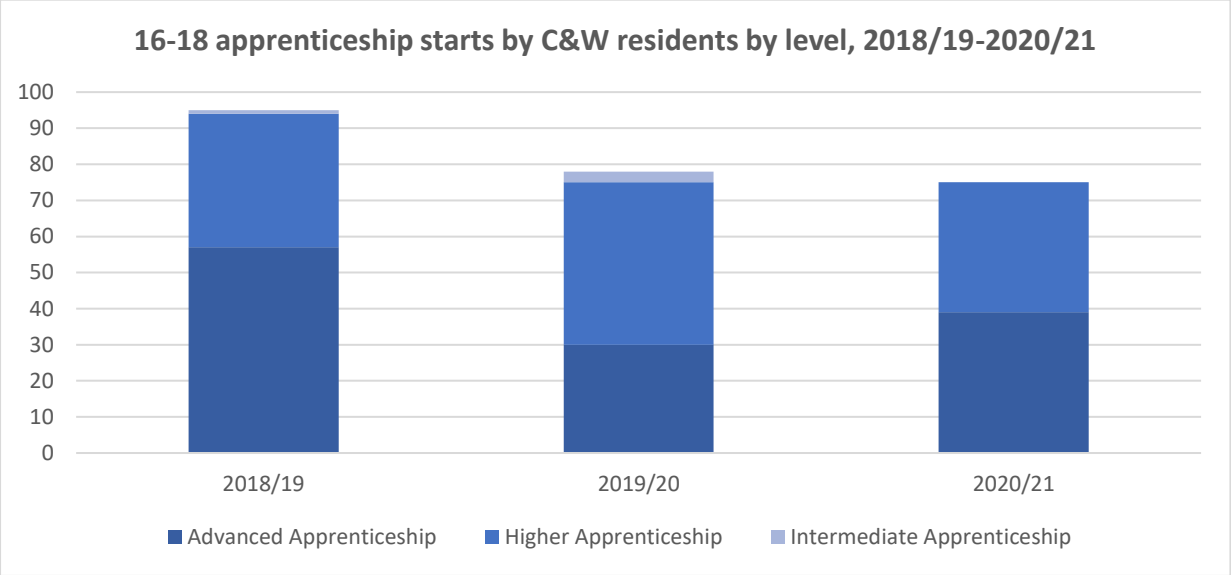
Source: ESFA Localities datacube (residency)

The number of employers starting 16-18 year olds residents of Cheshire and Warrington as digital apprentices has also declined from 64 in 2018/19 to 45 in 2020/21. Only six employers started two or more 16–18-year-olds as apprentices in 2020/21.

In 2020/21, there were only two apprenticeship standards that saw more than 20 starts by 16-18 year olds resident in Cheshire and Warrington. They were Digital and Technology Solutions Professional (integrated degree) (29 starts) and Digital Marketer (23 starts).

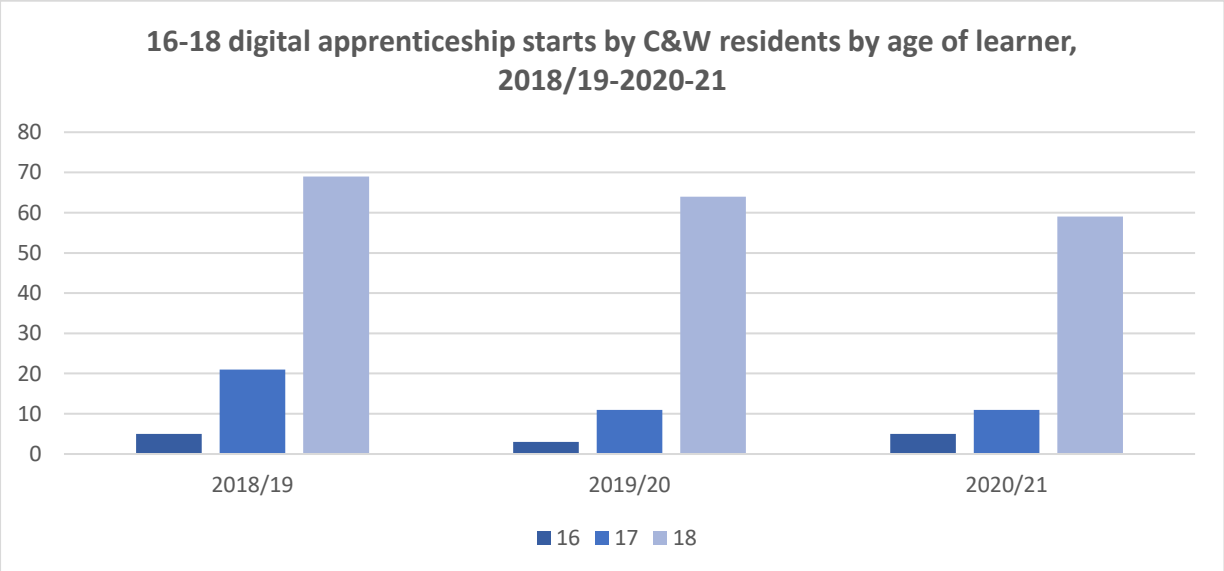
16-18 starts on digital apprenticeships by C&W residents 2018/19-2020/21, standards with >5 starts in 2020/21			
	2018/19	2019/20	2020/21
Digital and Technology Solutions Professional (integrated degree)	28	30	29
Digital Marketer	30	18	23
Junior Content Producer	8	3	7
Software Development Technician	5	4	5
Source: ESFA Localities datacube (residency)			

In 2020/21, about half of all starts on digital apprenticeships were at the Higher Level (Level 4+) - 36 starts at the Higher level from a total of 75 starts. The were no starts on digital apprenticeships at the Intermediate Level (Level 2). This contrasts sharply with the profile of delivery of apprenticeship starts by 16–18-year-old residents of Cheshire and Warrington across all apprenticeship standards in 2020/21 which was 45% intermediate 46% advanced and 9% Higher.



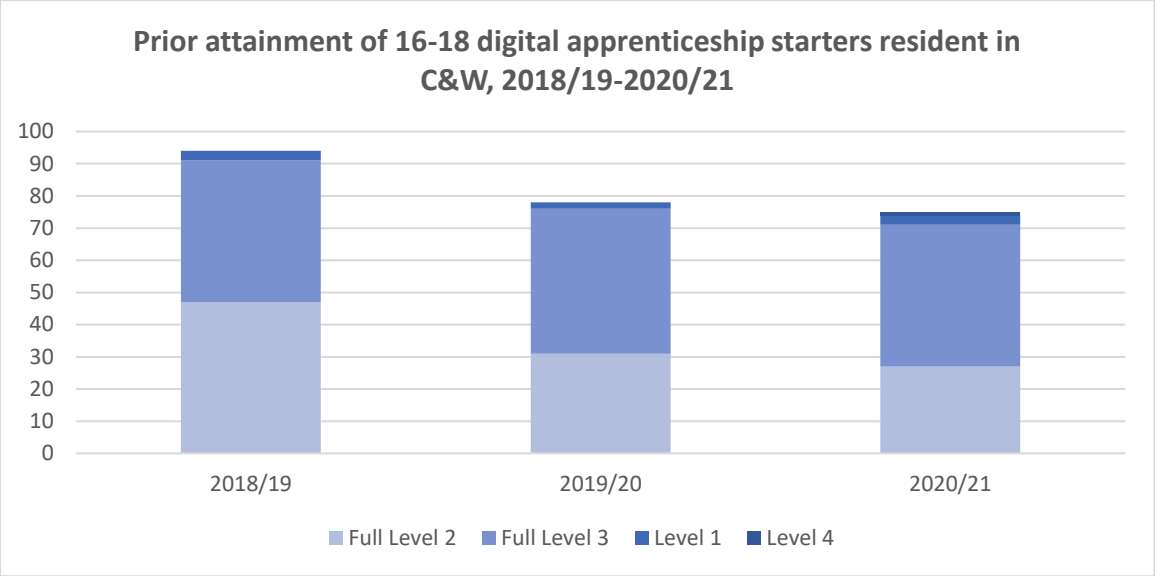
Source: ESFA Localities datacube (residency)

Digital apprenticeships for young people in Cheshire and Warrington seem positioned as a follow-on from the 16-18 phase rather than an immediate option for young people leaving school. In 2020/21 only 5 young people aged 16 started a digital apprenticeship. 59 (79%) were aged 18. This compares with 27% of starts across all occupations being by 16 year olds and 46% being aged 18.



Source: ESFA Localities datacube (residency)

This positioning of digital apprenticeships for young people as being the next step from Key Stage 5 (ie age 18) rather than Key Stage 4 (age 16) explains why 59% of starts had a prior attainment at Level 3. This compares with only 20% of starts across all occupational areas as having a prior attainment at Level 3.



Source: ESFA Localities datacube (residency)

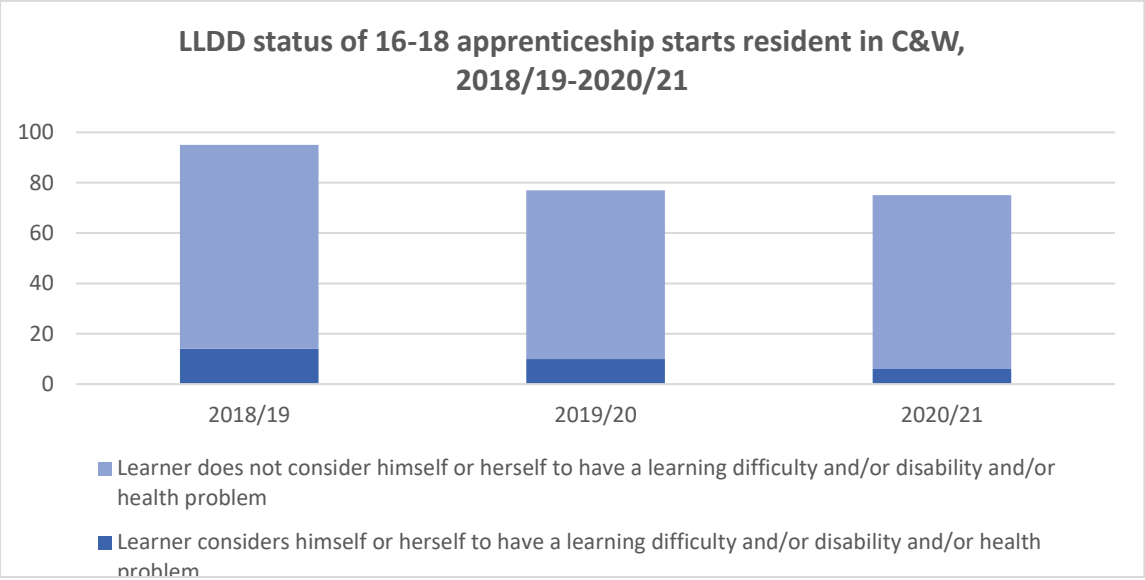
Whilst there is a gender disparity in apprenticeships for 16-18 year olds resident in Cheshire and Warrington with starts by females accounting for 38% of the total between 2018/19 and 2020/21, there has been a slight improvement in the position with females accounting for 41% of starts by 2020/21. This compares with females accounting for 44% of apprenticeship starts by young people resident in Cheshire and Warrington across all occupational areas in this year.

Gender of 16-18 digital apprenticeship starters resident in C&W, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Female	33	30	31	94
Male	62	48	44	154
Total	95	78	75	248
Source: ESFA Localities datacube (residency)				

Between 2018/19 and 2020/21, 4% of starts on digital apprenticeships by young people resident in Cheshire and Warrington were by learners classified as BAME. By comparison, 2% of apprenticeship starts across all occupational areas by young people resident in Cheshire and Warrington were by BAME learners in 2020/21.

BAME status of 16-18 digital apprenticeship starters resident in C&W, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
This learner is classified as BAME	3	3	3	9
This learner is not classified as BAME	92	75	72	239
Total	95	78	75	248
Source: ESFA Localities datacube (residency)				

The percentage of young people starting a digital apprenticeship declaring themselves to have a learning difficulty or disability fell from 15% in 2018/19 to 8% in 2020/21. This compares with an overall percentage of 16% for both of these years for starts across all occupational areas.



Source: ESFA Localities datacube (residency)

There were 32 providers with starts by 16-18 year olds resident in Cheshire and Warrington in 2020/21. None of these providers were HQ'ed in Warrington or Cheshire West and Chester and 87% of all starts in 2020/21 (ie 65 starts) were with providers located outside of Cheshire and Warrington.

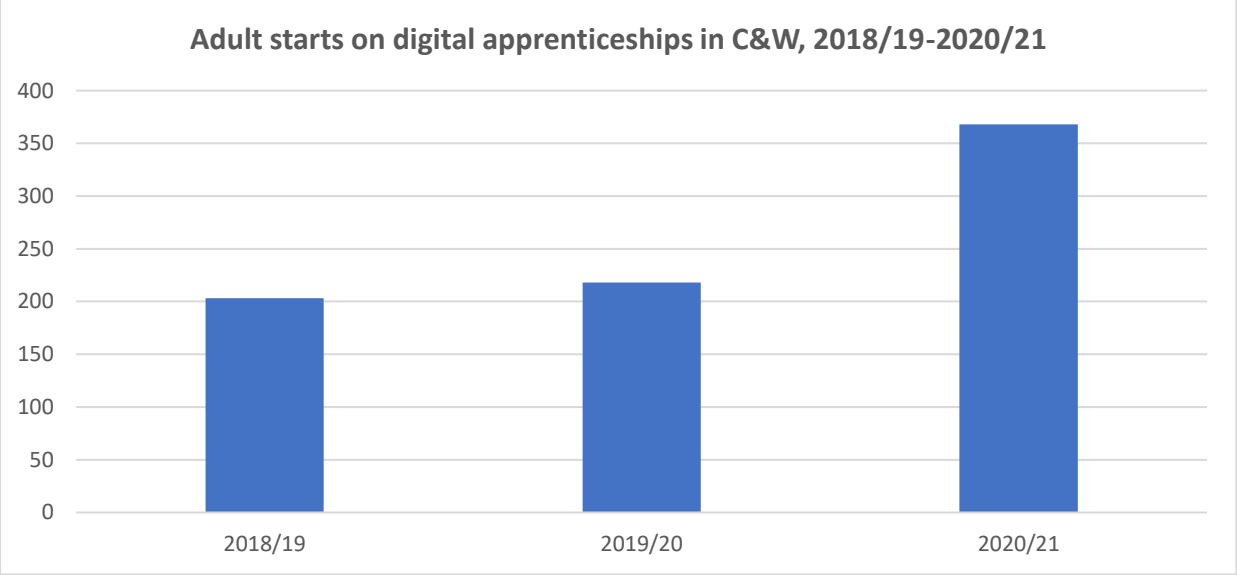
16-18 digital apprenticeship starts by C&W residents by provider location, starts>3 in 2020/21			
	2018/19	2019/20	2020/21
Manchester	24	25	31
Cheshire East	15	12	10
Tower Hamlets	0	1	7
County Durham	2	2	5
Hackney	10	4	3
Leeds	6	5	3
Birmingham	0	5	3
Source: ESFA Localities datacube (residency)			

In 2020/21, Manchester Metropolitan University accounted for 40% of all starts on digital apprenticeships by young people resident in Cheshire and Warrington.

16-18 digital apprenticeship starts by C&W residents 2018/19-2020/21, all providers >3 starts in 2020/21			
	2018/19	2019/20	2020/21
Manchester Metropolitan University	22	25	30
Apprentify Limited	0	2	7
QA Limited	12	9	7
Learning Curve Group Limited	0	0	5
Escalla TS Ltd	10	4	3
The IT Skills Management Company Limited	1	1	3
Source: ESFA Localities datacube (residency)			

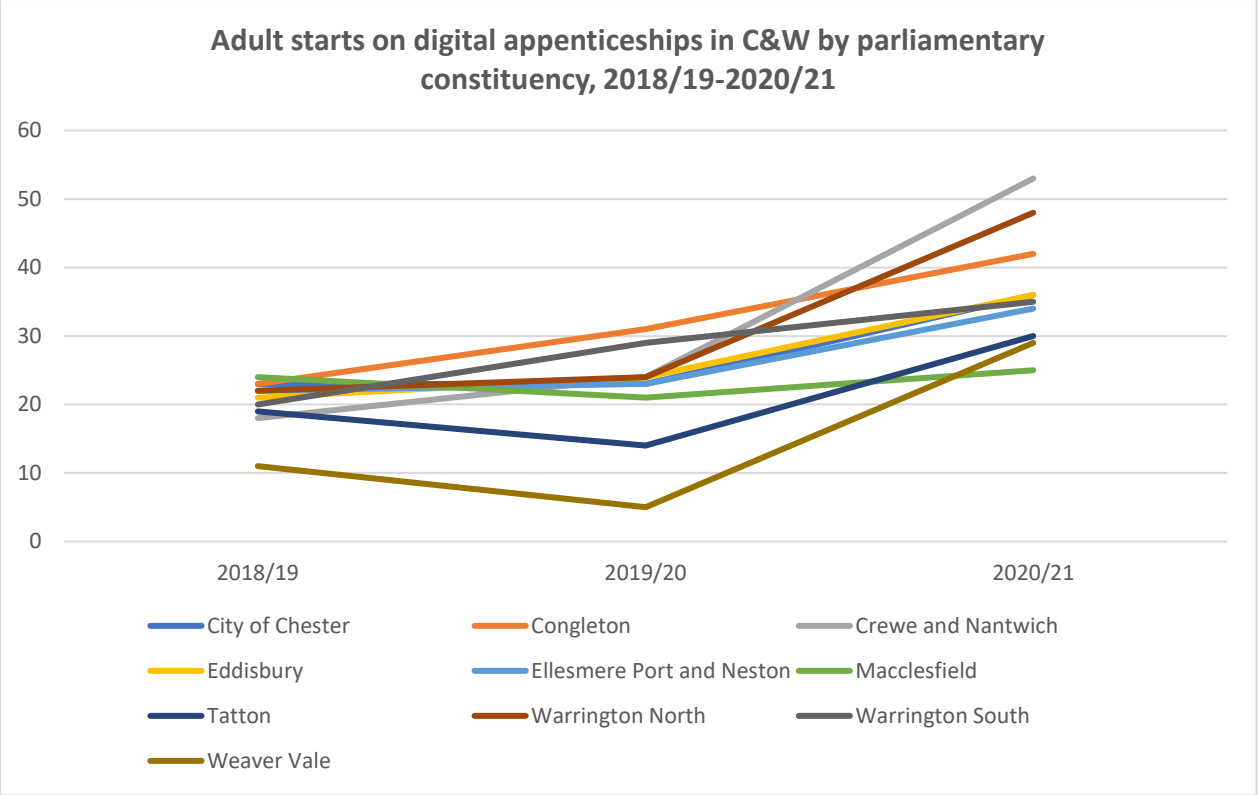
8.3 Digital apprenticeship delivery to adults

The number of starts by adults (aged 19+) resident in Cheshire and Warrington on digital apprenticeships has seen a significant increase of 81% between 2018/19 and 2020/21. This is in stark contrast to the number of apprenticeship starts by adults resident in Cheshire and Warrington across all occupational atreas which saw a decline of 9% in the same period.



Source: ESFA Localities datacube (residency)

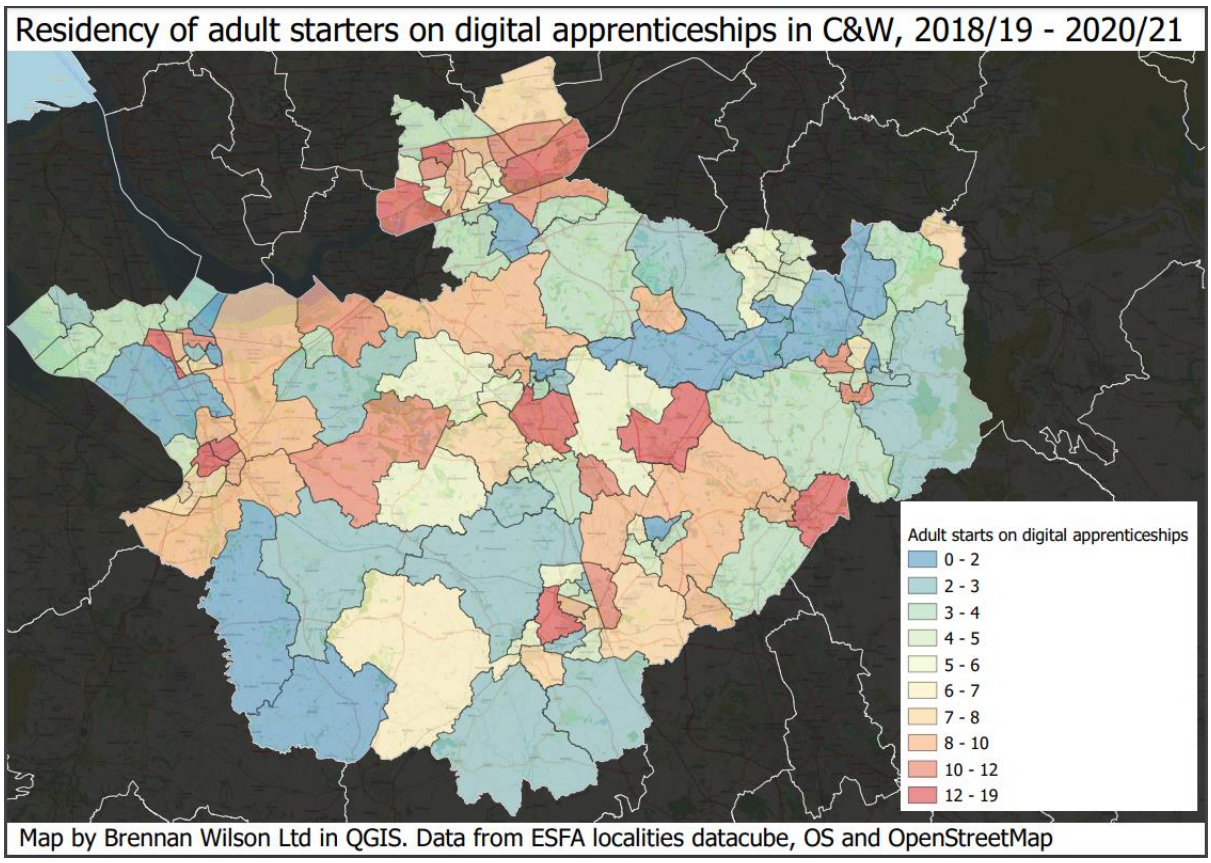
This growth in digital apprenticeship starts for adults resident in Cheshire and Warrington was seen across the whole of the area. For example, there was a growth in digital apprenticeship starts by residents of all parliamentary constituencies across these three years.



Source: ESFA Localities datacube (residency)

The ward of residence of adults starting on a digital apprenticeship between 2018/19 and 2020/21 is shown in the map below. It can be seen from this that participation in this type of apprenticeship covers a much wider geography than the areas where employment in Digital Industries is concentrated (see map at section 6.2 above), or places where travel to work in Digital Industries is straight forward.

For example, there were reasonable volumes of starts on digital apprenticeships by adults in Ellesmere Port, despite the fact that there are low levels of employment in Digital Industries in and around Ellesmere Port. This will be because the opportunity to undertake a Digital apprenticeship is not confined to the Digital sector. These occupations span a range of industrial sectors.



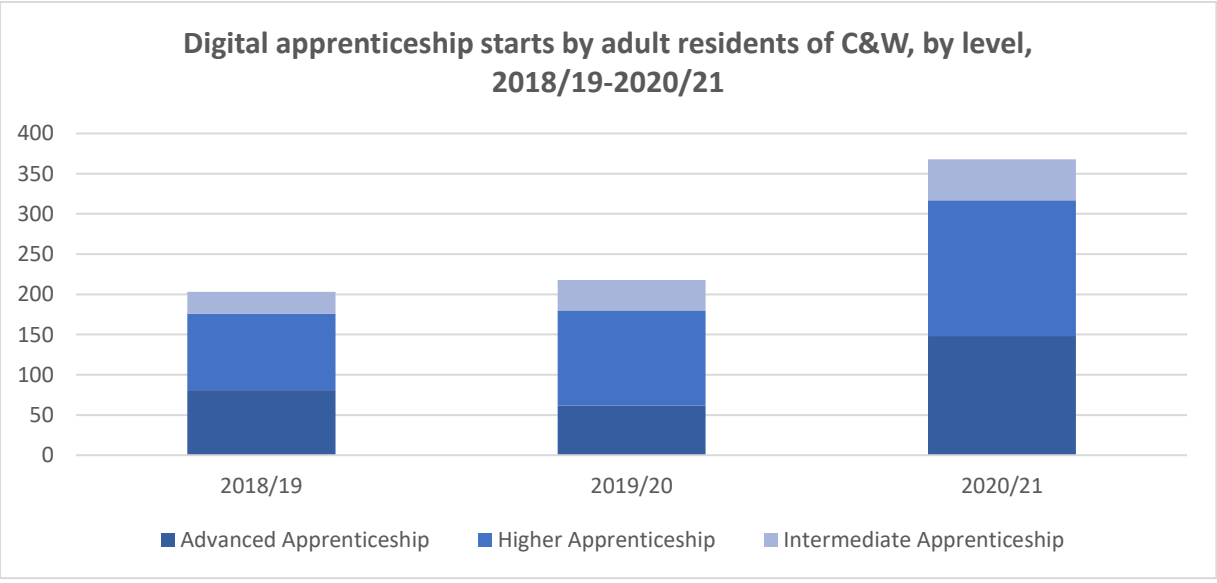
The growth of employers starting digital apprenticeships with adult residents of Cheshire and Warrington was over 60% (increasing from 127 employers in 2018/19 to 207 employers in 2020/21). In 2020/21, 37 of these employers started more than one adult resident in Cheshire and Warrington as an apprentice.

As can be seen form the table below, adults resident in Cheshire and Warrington started on a wide range of digital apprenticeships between 2018/19 and 2020/21, with there being more than 20 starts in 2020/21 in:

- Data Analyst
- Digital Marketer
- Telecoms Field Operative
- Junior Content Producer
- Digital and Technology Solutions Professional (integrated degree)
- Software Developer
- IT Technical Salesperson

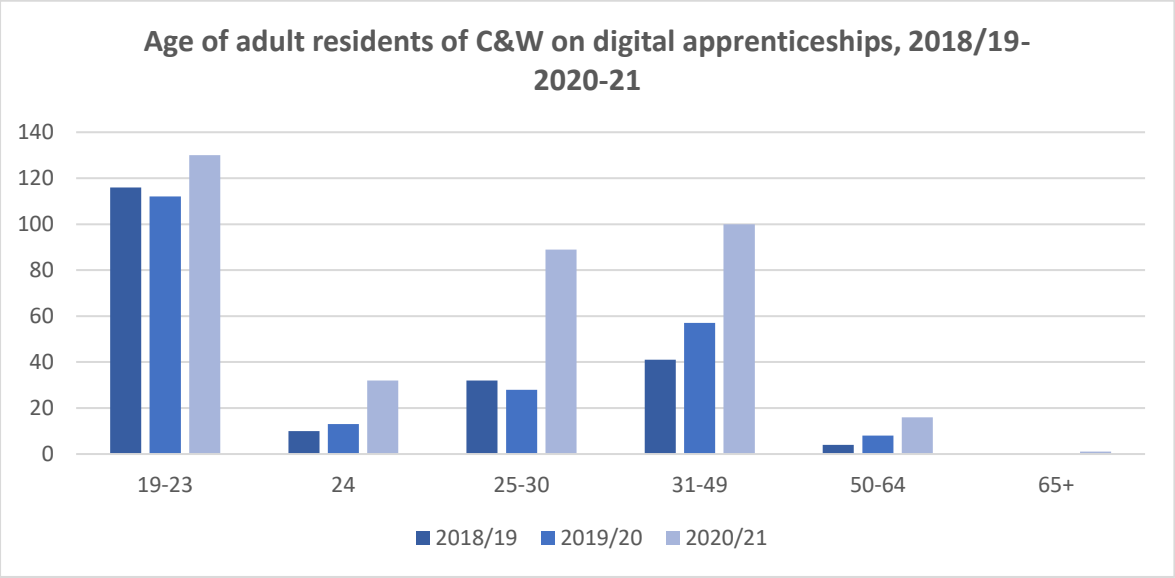
Starts of digital apprenticeships by adult residents of C&W 2018/19-2020-21, standards with >5 starts in 2020/21			
	2018/19	2019/20	2020/21
Grand Total	203	218	368
Data Analyst	28	20	66
Digital Marketer	45	38	59
Telecoms Field Operative	0	0	51
Junior Content Producer	5	7	37
Digital and Technology Solutions Professional (integrated degree)	31	40	32
Software Developer	25	15	24
IT Technical Salesperson	9	3	20
Data Technician	0	0	15
Digital and Technology Solutions Specialist (integrated degree)	1	13	12
Network Engineer	1	7	7
Software Development Technician	10	6	7
Digital Marketer (integrated degree)	)	7	6
Cyber Security Technologist	9	9	5
IT Solutions Technician	0	2	5
Source: ESFA Localities datacube (residency)			

In 2020/21, 46% of starts on digital apprenticeships by adults resident in Cheshire and Warrington were at the Higher Level (L4+), 40% were Advanced (L3), and 14% were Intermediate (L2). This was skewed slightly towards higher level skills when compared with starts across all occupational areas which were 38% Higher, 43% Advanced and 19% Intermediate.



Source: ESFA Localities datacube (residency)

44% of starts on digital apprenticeships by adults resident in Cheshire and Warrington were by young adults (aged 19-24) and more than half were by people aged 25-49.



Source: ESFA Localities datacube (residency)

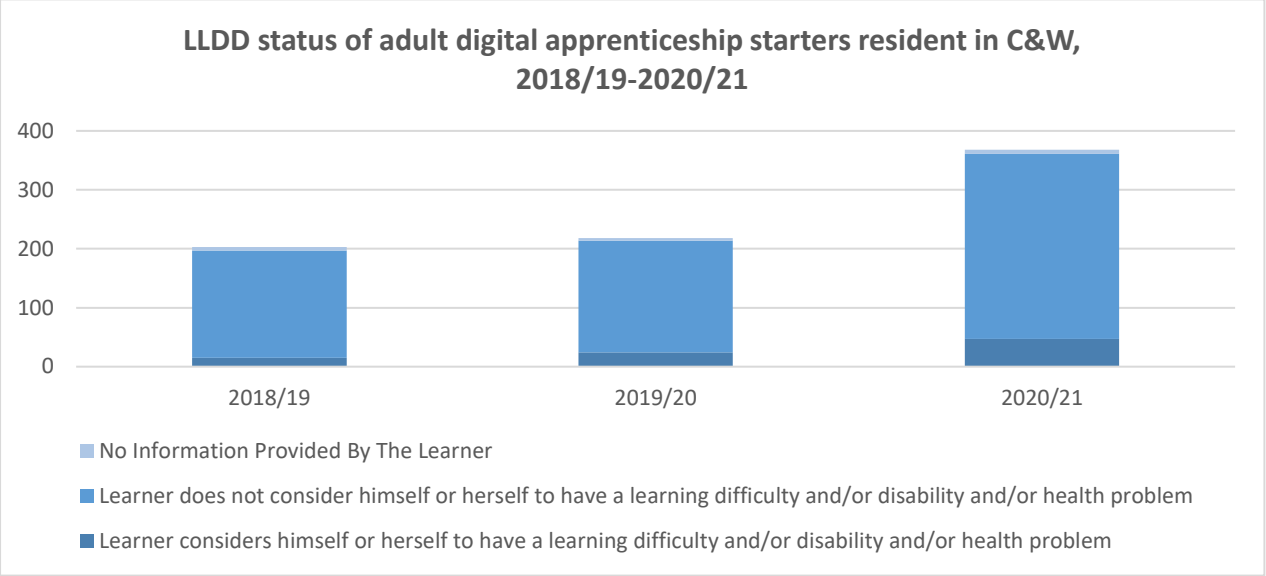
Between 2018/19 and 2020/21, a third (34%) of all adult starts on digital apprenticeships were by females, rising slightly to 37% in 2020/21. Across all occupational areas, 58% of apprenticeship starts by adults resident in Cheshire and Warrington were by females.

Gender of adult digital apprenticeship starters resident in C&W, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
Female	55	74	136	265
Male	148	144	232	524
Total	203	218	368	789
Source: ESFA Localities datacube (residency)				

5% of digital apprenticeship starts by adults resident in Cheshire ad Warrington in 2018/19-2020/21 were by BAME learners. Theis compares to 5% of starts across all occupational areas being by BAME learners.

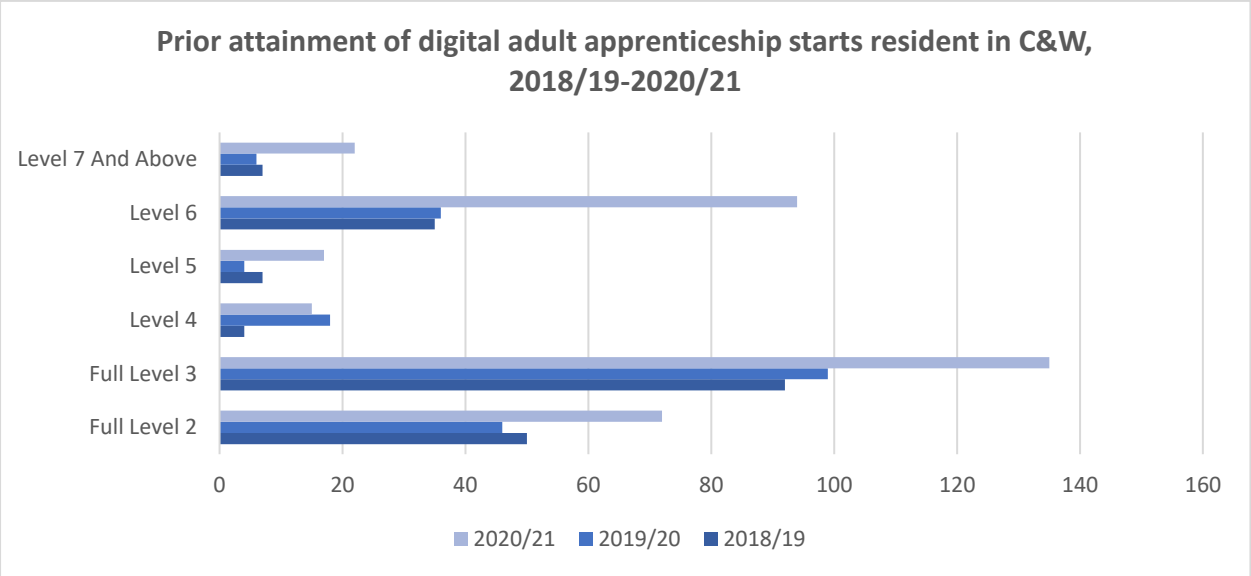
BAME status of adult digital apprenticeship starters resident in C&W, 2018/19-2020/21				
	2018/19	2019/20	2020/21	Total
This learner is classified as BAME	4	9	25	38
This learner is not classified as BAME	199	209	343	751
Total	203	218	368	789
Source: ESFA Localities datacube (residency)				

13% of adults resident in Cheshire and Warrington on digital apprenticeships in 2020/21 considered themselves to have a learning difficulty and/or disability and/or health problem similar to the 11% of adult apprenticeship starts across all standards.



Source: ESFA Localities datacube (residency)

Whilst over half (56%) of all adults that started on a digital apprenticeship in 2020/21 had a prior attainment at Level 3 or below, almost a third (32%) were already qualified to degree level or above. This suggests that a significant proportion of adult apprentices are using the apprenticeship to reskill from other disciplines.



Source: ESFA Localities datacube (residency)

Similar to the picture for young people, the large majority of starts on digital apprenticeships by adults resident in Cheshire and Warrington were with providers headquartered out of area.

Adult digital apprenticeship starts by C&W residents by provider location, starts>3 in 2020/21			
	2018/19	2019/20	2020/21
Grand Total	203	218	368
City of London	24	39	50
Cheshire East	26	16	44
Tower Hamlets	2	7	39
Hillingdon	17	1	37
Manchester	30	46	33
Westminster	5	7	19
County Durham	5	2	18
Leeds	5	10	18
Chorley	0	0	15
Camden	0	0	12
Not Applicable/ Not Known	3	6	9
Derby	0	2	5
Hammersmith and Fulham	6	15	5
Source: ESFA Localities datacube (residency)			

The table below provides information about all providers with >3 starts on digital apprenticeships by adults resident in Cheshire and Warrington in 2020/21 with information also provided on starts in the prior 2 years. In this year, BT started the highest number of adult apprentices, with Manchester Metropolitian University and two national providers – Corndel Ltd and QA Ltd – also starting over 30.

Adult digital apprenticeship starts by C&W residents 2018/19-2020/21, all providers >3 starts in 2020/21				
	2018/19	2019/20	2020/21	Total
British Telecommunications Public Limited Company	23	38	50	111
Corndel Limited	17	1	37	55
Manchester Metropolitan University	26	44	31	101
QA Limited	22	30	31	83
Apprentify Limited	1	4	24	29
Pareto Law Limited	5	2	18	25
Multiverse Group Limited	0	2	15	17
Professional Training & Development Solutions Ltd.	0	0	15	15
Estio Training Limited	5	10	14	29
Firebrand Training Limited	3	7	11	21
Baltic Training Services Limited	5	2	9	16
Code Nation Limited	3	3	9	15
Learning Curve Group Limited	0	0	9	9
Decoded Limited	1	7	6	14
Babington Business College Limited	0	1	5	6
Escalla TS Ltd	7	8	4	19
Nowskills Limited	2	2	4	8
Remit Group Limited	2	0	4	6
School Of Marketing London Ltd	0	0	4	4
Guard Business Solutions Limited	0	0	3	3
Northcoders Teched Limited	0	0	3	3
The Opportunity Group Ltd	0	0	3	3
University Of Keele	0	0	3	3
Source: ESFA Localities datacube (residency)				

Annex 1: Skills descriptors used for Burning Glass digital skills categories

Baseline digital skills - Productivity software

Enterprise Resource Planning
Google Sheets
Microsoft Excel
Microsoft Office
Microsoft PowerPoint
Microsoft Software
Microsoft Windows
Microsoft Windows 7
Microsoft Windows 8
Microsoft Windows 10
Microsoft Windows CE
Microsoft Windows ME
Microsoft Windows NT
Microsoft Windows Vista
Microsoft Windows XP
Microsoft Word
Productivity Software
Project Management Software
SAP Project Management
Spreadsheets

Specific Digital Skills - Software and programming

ActivePython
Ada (Programming Language)
Advanced Business Application Programming (ABAP)
Adversarial Machine Learning
Agile Software Development
Android Software Development
Angular CLI
APL (Programming Language)
ASIC Programming Language
Aspect-Oriented Software Development
Assembly Language
AWK (Programming Language)
AWS CLI (Command Line Interface)
Azure Command-Line Interface (Azure CLI)
Azure DevOps
B (Programming Language)
Boost (C++ Libraries)
Borland C++ (Borland Software)
Borland Turbo C
C# (Programming Language)
C (Programming Language)

C++ (Programming Language)
C++/CLI
C++/CX
C++14
C++builder
C++ Concepts
C++ Fundamentals
C++ Modules
C-Based Programming Languages
C/C++ Standard Libraries
Cascading Style Sheets (CSS)
CBASIC
C Compilers
C Data Types (C Programming Language)
Certified Software Development Professional
C Graphics
Client/Server Application Language (C/AL)
COBOL (Programming Language)
Coding Theory
Component-Based Software Engineering
Computer-Aided Software Engineering
Computer Programming
Dataflow Architecture
Dev-C++
Distributed Software Development Network (DSDN)
DIVA Software
Dlib (C++ Library)
ECMAScript (C Programming Language Family)
Educational Software
Eigen (C++ Library)
Eltron Programming Language
Embedded C++
Ember CLI
Event Programming Language
Experimental Software Engineering
Extended Reality
Fifth-Generation Programming Languages
First-Generation Programming Languages
Forth (Programming Language)
Fortran (Programming Language)
FourGen Computer-Aided Software Engineering (CASE) Tools
Fourth-Generation Programming Language
Fundamental Theorem Of Software Engineering (Software Engineering)
Game Programming
GNU Cflow (C Programming Language)
GNU C Libraries
GNU Compiler Collection
Go (Programming Language)
G Programming Language
Haskell (Programming Language)

HP Command Line Interface (CLI)
IBM RPG (Programming Language)
IBM XL C++
Interactive C
J2C - Java To C++ Converter
Java (Programming Language)
Javac - Java Programming Language Compiler
JavaScript (Programming Language)
JUCE C++ Library
KM Programming Language
Lisp (Programming Language)
Low-Level Programming Language
Luigi (Python Package)
M (Programming Language)
Machine Learning
Machine Learning Algorithms
Machine Learning Methods
Managed Extensions For C++
Microsoft Visual C Sharp
Microsoft Visual Programming Language
MicroStrategy Software Development Kit
MISRA C (C Programming Language)
mlpack (C++ Library)
Mobile Application Development
Modular Programming In C
Natural Language Programming
NumPy
Object-Oriented Software Development
Object-Oriented Software Engineering (Object-Oriented Programming)
Objective-C (Programming Language)
Object Oriented Programming Language
Open-Source Programming Languages
Open Programming Language
Operators In C And C++
Pandas (Python Package)
Pascal (Programming Language)
Perl (Programming Language)
PL/I (Procedural Programming Language)
Procedural Programming
Programming Concepts
Programming Language Design
Programming Language Theory
Programming Tools
Python (Programming Language)
Python Imaging Libraries
Python Server Pages
Python Tools For Visual Studio
R (Programming Language)
Rexx (Programming Language)
RPL (Programming Language)

Ruby (Programming Language)
Rust (Programming Language)
S/SL Programming Language
Scala (Programming Language)
Scheme (Programming Language)
ScientificPython
Scrum (Software Development)
Software Architecture
Software Coding
Software Construction
Software Design
Software Development
Software Development Life Cycle
Software Development Methodologies
Software Engineering
Software Engineering 2004
Software Engineering Process
Software Factory
Software Manufacturing
Software Modernization
Software Project Management
Software Validation
SQL (Programming Language)
SQL And Java (SQLJ)
SQL Azure
SQL Common Language Runtime (SQL CLR)
SQL Injection
Structured Programming
Swift (Programming Language)
System Programming
System Programming Language
Tcl (Programming Language)
The BitC Programming Language
Turbo C++ (C++ Compilers)
Twisted (Software)
Unisys MCP Programming Languages
Unix
Virtual Reality
Virtual Reality Modeling Language
Visual Basic (Programming Language)
Visual C++ (Programming Language)
Visual Programming Language (VPL)
VPython
Watcom C/C++ Compilers
Window CLI
Windows Software Development
XML-Based Programming Languages

Specific Digital Skill - Computer and Networking Support

Advanced Diploma In Computer Hardware And Networking (ADCHN)
Business Computer Systems
Certified Computer Network Investigator
Certified Cyber Forensics Professional
Certified Network Computer Technician
Cloud-To-Cloud
Cloud Access Security Broker Tools (CASBs)
Cloud Administration
Cloud Application Development
Cloud Applications
Cloud Automation
Cloud Computing
Cloud Computing Architecture
Cloud Development
Cloud Engineering
Cloud Hosting
Cloud Operations
Cloud Security Architecture
Cloud Security Infrastructure
Cloud Services
Cloud Storage
Cloud Strategy
Cloud Technologies
CompTIA Cloud+
CompTIA Network+
Computer And Network Surveillance
Computer Architecture
Computer Engineering
Computer Hardware
Computer Maintenance
Computer Network Defense
Computer Network Operations
Computer Networks
Computer Network Technologies
Computer Performance
Computer Repair
Computer Systems
Computer Terminals
Configurable Network Computing
Control Networks
Cyber Defense
Cyber Engineering
Cyber Governance
Cyber Hygiene
Cyber Investigations
Cyber Laws
Cyber Operations
Cyber Resilience

Cyber Risk
Cyber Safety
Cyber Security
Cyber Security Assessment
Cybersecurity Compliance
Cyber Security Management
Cyber Security Policies
Cyber Security Policy Development
Cyber Security Standards
Cyber Security Strategy
Cyber Security Systems
Cyber Threat Intelligence
Cyber Warfare
Digital Network Control System
GIAC Cyber Threat Intelligence
Hardware Adapters
Hardware Architecture
Hardware Troubleshooting
IBM Network Control Programs
IT Infrastructure
LAN Administration
Network-To-Network Interface
Network Access Control
Network Access Servers
Network Adapters
Network Administration
Network Admission Control
Network Booting
Network Communications
Network Computer
Network Computer Reference Profiles
Network Computing
Network Configuration And Change Management
Network Connections
Network Control
Network Data Management Protocol
Network Diagnostics
Network Engineering
Network Enumeration
Network Forensics
Network Functions Virtualization
Network Infrastructure
Network Interface
Network Interface Controllers
Network Management
Network Management Information System
Network Management Station
Network Management System
Network Model
Network Monitoring

Network Processor
Network Protocols
Network Provisioning
Network Resource Management
Network Security
Network Security Administrator
Network Security Policy
Network Security Services
Network Security Toolkits
Network Simulation
Network Testing
Network Time Protocols
Network Traffic Management
Network Traffic Simulation
Network Troubleshooting
Network Utilities
Network Virtualization
Personal Computer Network File Systems
Private Network-To-Network Interface
Remote Network MONitoring (RMON)
Secure Network Communications
Simple Network Management Protocols
Supply Chain Cyber Security
Technical Support

Specific Digital Skill - Data Analysis

Aggregation Analysis
ArcGIS (GIS Software)
ArcView (Software)
AWS Certified Big Data Specialty
Big Data
Big Data Analytics
Business Intelligence Data Modeling
Climate Analysis
Climate Data Analysis Tool (CDAT)
Clinical Data Analysis
Cluster Analysis
Conceptual Data Modeling
Content Analysis
Data-Flow Analysis
Data Analysis
Data Analysis And Display (DADiSP)
Data Flow Diagram
Data Modeling
Data Science
Data Vault Modeling
Data Visualization
Distributed GIS
Environmental Data Analysis

Exploratory Data Analysis
Factor Analysis
Flight Data Analysis
Geographic Information Systems
Geographic Resources Analysis Support System (GRASS GIS)
Geospatial Datasets
GIS Applications
GIS Mapping
Guerrilla Data Analysis Techniques
Investment Analysis
MapR (Big Data)
MapWindow GIS
Mathematical Analysis
Multivariate Analysis
Multivariate Analysis Of Covariance (MANCOVA)
Multivariate Analysis Of Variance
Multivariate Linear Regression
Multivariate Statistics
Multivariate Testing
Oracle Big Data
Power BI
Price Analysis
Python (Programming Language)
Qualitative Data Analysis
Qualitative Data Analysis Software
Quantitative Analysis
Quantitative Data Analysis
Quantitative Marketing Research
Quantitative Modeling
Quantitative Research
Quantum GIS (QGIS)
R (Programming Language)
Ratios Analysis
R Base
Spend Analysis
SQL (Programming Language)
Stata
Survey Data Analysis

Specialised digital skill - digital design

2D Computer-Aided Drafting And Design
Adobe Creative Suite
Adobe Photoshop
Adobe Photoshop Album
Adobe Photoshop Elements
Adobe Photoshop Lightroom
Animation-Master (3D Graphics Software)
Arc Digitized Raster Graphic
Asynchronous Javascript

AutoCAD
AutoCAD Architecture
AutoCAD Civil 3D
AutoCAD DXF
AutoCAD Plant 3D
Autodesk AutoCAD Certification
Autodesk AutoCAD Certified User
Autodesk Certified Professional In AutoCAD For Design And Drafting
Computer-Aided Architectural Design
Computer-Aided Design
Computer Animation
Design Methods
Digital Arts
Digital Design
Digital Photography
Digital Productions
Digital Sculpting
Digital Video
Digital Video Effect
Digital Video Production
Environmental Graphic Design
ESPRIT AutoCAD
Graphic Animation
Graphic Arts
Graphic Communication
Graphic Design
Interactive Web Design
JavaScript (Programming Language)
JavaScript 1.5 Fundamentals
JavaScript Build
JavaScript Development Certified Professional
JavaScript Engine
JavaScript Frameworks
JavaScript Libraries
JavaScript OS
JavaScript Style Sheets
Online Advertising
Prototype JavaScript Framework
Raster Graphics
Raster Graphics Editor
Responsive Web Design
Unobtrusive JavaScript
User Experience
User Experience Design (UX)
User Interface Design
Video Post-Production
Web Design
Web Design Programs
Web UI Design
Xara Photo And Graphic Designer

Specific Digital Skill - Customer Relationship Management (CRM)

Act! CRM
Blackbaud CRM
CRM WebClient UI
Customer Relationship Management
Customer Relationship Management (CRM) Software
Electronic Customer Relationship Management (ECRM)
Epiphany CRM
GoldMine CRM
HubSpot CRM
Microsoft Dynamics CRM
Oracle CRM
Pardot (CRM Software)
PeopleSoft Customer Relationship Management (CRM)
Pivotal CRM
Salesforce
Salesforce Certification
Salesforce Communities
Salesforce Marketing Cloud
Salesforce Object Query Language (SOQL)
SAP CRM
Siebel CRM
Social CRM
Tableau CRM
Vtiger CRM
Workbooks CRM

Specific Digital Skill - Digital Marketing

Adobe Creative Suite
Advanced Search Engine Optimization
Consumer Analytics
Customer Analytics
Digital Marketing
Facebook Ads
Facebook Advertising
Facebook Analytics
Facebook Marketing
Google Ads
Google Adwords Certification
Google Analytics
Google Analytics Certification
Marketing Analytics
Mobile Marketing
Moz (SEO Software)
Search Engine Optimization
SEO Copywriting
Social Media Advertising

Social Media Analytics
Social Media Campaigns
Social Media Marketing
Social Network Analysis
Social Networks
Web Analytics

Specific Digital Skill - Machining and Manufacturing Technology

3D Scanning
Additive Manufacturing (3D Printing)
CircuitCAM (Computer Aided Manufacturing)
CNC Machining
CNC Milling
CNC Router
Computer-Aided Manufacturing
Computer-Augmented Design And Manufacturing (CADAM)
Computer Aided Engineering (CAE)
Computer Numerical Control (CNC)
Cutting Tool (Machining)
Electrical Discharge Machining
Electrochemical Machining
Engine Machining
Horizontal Machining Center
Horizontal Milling
Laser Beam Machining
Machining
Machining Technology
Manufacturing Automation
Mechanical Engineering
Mechanical Engineering Technology
Mechatronics
Metallurgy
Numerical Controls
Robotics
Smart Manufacturing
Swiss Style Lathes
Vertical Machining Center
Vertical Milling
Visualization

Annex 2: Digital Sector SIC Codes

Standard Industrial Classification (Revised 2007)	Description
26.11	Manufacture of electronic components
26.12	Manufacture of loaded electronic boards
26.2	Manufacture of computers and peripheral equipment
26.3	Manufacture of communication equipment
26.4	Manufacture of consumer electronics
26.8	Manufacture of magnetic and optical media
46.51	Wholesale of computers, computer peripheral equipment and software
46.52	Wholesale of electronic and telecommunications equipment and parts
58.11	Book Publishing
58.12	Publishing of directories and mailing lists
58.13	Publishing of newspapers
58.14	Publishing of journals and periodicals
58.19	Other publishing activities
58.21	Publishing of computer games
58.29	Other software publishing
59.11	Motion picture production activities
59.12	Video production activities
59.13	Television programme production activities
59.14	Motion picture projection activities
59.2	Sound recording and music publishing activities
60.1	Radio broadcasting
60.2	Television programming and broadcasting activities
61.1	Wired telecommunications activities
61.2	Wireless telecommunications activities
61.3	Satellite telecommunications activities
61.9	Other telecommunications activities
62.01	Software development
62.02	Information technology consultancy activities
62.03	Computer facilities management activities
62.09	Other information technology service activities
63.11	Data processing, hosting and related activities
63.12	Web portals
63.91	News agency activities
63.99	Other information service activities n.e.c.
95.11	Repair of computers and peripheral equipment
95.12	Repair of communication equipment

Annex 3: Digital Learning Aims in FE

Learning Aim	Enrolments 2018/19 – 2020/21
ENTRY LEVEL	
Award for IT Users (Start IT - iTQ) (Entry 3)	23
Award in Computer and Online Basics (ITQ) (Entry 3)	30
Award in Digital Skills (ITQ) (Entry 3)	88
Award in Digital Skills (RQF) (Entry 3)	2
Award in Digital Skills for Life (Entry 1)	3
Award in Digital Skills for Life (Entry 2)	5
Award in Digital Skills for Life (Entry 3)	20
Award in Digital Skills for Work (Entry 1)	2
Award in Digital Skills for Work (Entry 2)	1
Award in Digital Skills for Work (Entry 3)	2
Award in Functional Skills Information and Communication Technology (ICT) (Entry 3)	15
Award in Handling Data - Extract and Sort Data (Entry 2)	2
Award in Handling Data - Extract and Sort Data (Entry 3)	4
Award in IT User Skills (ITQ) (Entry 2)	4
Award in Mathematics Skills - Handling Data (Entry 1)	2
Award in Mathematics Skills - Handling Data (Entry 3)	1
Award in Online Basics (Start IT - iTQ) (Entry 3)	26
BTEC Certificate for IT Users (ITQ) (Entry 3)	14
Certificate for IT Users (Start IT - iTQ) (Entry 3)	12
Certificate in Digital Skills (RQF) (Entry 3)	5
Certificate in ICT Open Systems and Enterprise (ITQ) (Entry 3)	2
Data Handling: Extracting and Interpreting	1
Data Handling: Extracting and Sorting Data	1
Design and imaging software	2
Essential Digital Skills (Entry 3)	9
Functional Skills qualification in Information and Communication Technology (ICT) at Entry 1	13
Functional Skills qualification in Information and Communication Technology (ICT) at Entry 2	10
Functional Skills qualification in Information and Communication Technology (ICT) at Entry 3	14
IT User Fundamentals	1
Non regulated Adult skills formula funded provision, Entry Level, ICT for Users, 5 to 6 hrs, PW A	2
Non regulated Adult skills formula funded provision, Entry Level, ICT for Users, 7 to 12 hrs, PW A	5
Non regulated Adult skills formula funded provision, Entry Level, ICT Practitioners, 5 to 6 hrs, PW B	1

Non regulated Adult skills formula funded provision, Entry Level, ICT Practitioners, 7 to 12 hrs, PW B	8
Non regulated provision, Entry Level, ICT for Users	3
Non regulated provision, Entry Level, ICT Practitioners	5
Non regulated provision, Entry Level, Media and Communication	1
Non regulated SFA formula funded provision, Entry Level, ICT for Users, 13 to 20 hrs, PW A	3
Non regulated SFA formula funded provision, Entry Level, ICT for Users, 21 to 44 hrs, PW A	22
Non regulated SFA formula funded provision, Entry Level, ICT for Users, 45 to 68 hrs, PW A	1
Non regulated SFA formula funded provision, Entry Level, ICT Practitioners, 13 to 20 hrs, PW B	14
Non regulated SFA formula funded provision, Entry Level, ICT Practitioners, 21 to 44 hrs, PW B	10
Personal Information Management Software	2
Presentation software	2
Using Email	10
Using the Internet	9
Word Processing	7
Word Processing Software	8
Word Processing Software Skills	37
LEVEL 1	
Access Award in Accounting Software	4
Award for IT Users (ITQ)	10
Award in Art, Design and Media	5
Award in Awareness of Social Media and Online Safety	7
Award in Computerised Accounting for Business (RQF)	31
Award in Computerised Payroll for Business (RQF)	2
Award in Creating an Online Profile using Social Media (RQF)	6
Award in Creative Media Production	1
Award in Digital Skills for Work	2
Award in Internet Safety	4
Award in Internet Safety for IT Users	135
Award in IT User Skills (ECDL Essentials) (ITQ)	73
Award in IT User Skills (ICDL Essentials) (ITQ)	14
Award in IT User Skills (ITQ)	3
Award in Mathematical Skills - Handling Data	1
Award in Mathematics Skills - Handling Data	1
Award in Music Technology	5
Award in Social Media for Business Use	2
Award in Social Media for Job Prospecting	1
BTEC Award for IT Users (ITQ)	7
BTEC Award in Social Media	12
BTEC Introductory Certificate in Digital Media	2
BTEC Introductory Certificate in Information Technology	3

BTEC Introductory Diploma in Digital Media	29
BTEC Introductory Diploma in Information Technology	107
Certificate for IT Users (ITQ)	1
Certificate in Creative Media Production	1
Certificate in Digital Skills	97
Certificate in Digital Skills (RQF)	4
Certificate in IT User Skills	99
Certificate in IT User Skills (ITQ)	61
Certificate in IT User Skills (RQF)	1
Certificate in IT User Skills in Open Systems and Enterprise (ITQ)	4
Certificate of Introduction to Digital Skills	49
Database software	26
Diploma in Art, Design and Media	19
Diploma in Skills for Music and Music Technology	1
Diploma of Introduction to Digital Skills	1
Diploma of Introduction to Digital Technologies	19
ECDL Award in IT User Skills	34
ECDL Certificate in IT User Skills	16
Essential Digital Skills	11
Essential Digital Skills for Work	1
Functional Skills qualification in Information and Communication Technology (ICT)	74
Handling data - extract and interpret data	4
ICDL Award in IT User Skills	2
ICDL Certificate in IT User Skills	11
ICT basics	19
ICT for employment	4
Improving Productivity Using IT	1
Internet Safety for IT Users	183
IT Security for Users	8
IT User Fundamentals	30
Non regulated Adult skills formula funded provision, Level 1, ICT for Users, 3 to 4 hrs, PW A	1
Non regulated Adult skills formula funded provision, Level 1, ICT for Users, 7 to 12 hrs, PW A	3
Non regulated provision, Level 1, ICT for Users	4
Non regulated provision, Level 1, ICT Practitioners	3
Non regulated SFA formula funded provision, Level 1, ICT for Users, 13 to 20 hrs, PW A	12
Non regulated SFA formula funded provision, Level 1, ICT for Users, 21 to 44 hrs, PW A	3
Non regulated SFA formula funded provision, Level 1, ICT for Users, 45 to 68 hrs, PW A	4
Non regulated SFA formula funded provision, Level 1, ICT Practitioners, 13 to 20 hrs, PW B	4
Non regulated SFA formula funded provision, Level 1, ICT Practitioners, 21 to 44 hrs, PW B	18

Non regulated SFA formula funded provision, Level 1, Media and Communication, 13 to 20 hrs, PW B	123
Presentation software	43
Spreadsheet Software	132
Using a computer keyboard	23
Using Email	151
Using social media to gain employment	20
Using the Internet	144
Word Processing Software	182
LEVEL 2	
Award for IT Users (ITQ)	3
Award in 2D Computer Aided Design	61
Award in Creative Media Production & Technology	7
Award in Digital Promotion for Business (OG)	1
Award in Digital Skills for Work	2
Award in IT User Skills (ITQ)	2
Award in IT User Skills in Open Systems and Enterprise (ITQ)	6
Award in Mathematical Skills - Handling Data	1
Award in the Promotion of Products and Services Through Social Media	60
BTEC Diploma in Creative Media Skills	12
BTEC First Award in Creative Digital Media Production	1
BTEC First Award in Information and Creative Technology	3
BTEC First Certificate in Creative Digital Media Production	7
BTEC First Certificate in Information and Creative Technology	14
BTEC First Diploma in Information and Creative Technology	1
BTEC First Extended Certificate in Creative Digital Media Production	148
BTEC First Extended Certificate in Information and Creative Technology	197
BTEC Technical Certificate in IT Support	1
Cambridge National Certificate in Creative iMedia	2
Cambridge Technical Certificate in Media	2
Cambridge Technical Diploma in Media	88
Cambridge Technical Extended Certificate in Media	11
Certificate for IT Users (ITQ)	1
Certificate in Computerised Accounting for Business (RQF)	3
Certificate in Computerised Payroll for Business (RQF)	1
Certificate in Cyber Security and Digital Forensics	8
Certificate in Digital Applications	1
Certificate in Digital Skills for the Workplace (RQF)	6
Certificate in Digital Skills for Work	10
Certificate in IT	2
Certificate in IT User Skills	8
Certificate in IT User Skills (ECDL Extra) (ITQ)	62
Certificate in IT User Skills (ICDL Extra) (ITQ)	28
Certificate in IT User Skills (ITQ)	157
Certificate in IT User Skills (RQF)	24

Certificate in IT User Skills in Open Systems and Enterprise (ITQ)	80
Certificate in Music Technology	7
Certificate in Photography	85
Certificate in Principles for Digital Skills in Employment (RQF)	2
Certificate in Radio	8
Certificate in the Principles of Cyber Security	3
Certificate in Understanding Data Protection and Data Security	59
Database software	41
Diploma for IT Users (ITQ)	2
Diploma in Creative Digital Media	4
Diploma in Creative Media Production & Technology	25
Diploma in Hair and Media Make-Up	144
Diploma in Hair and Media Make-Up Studies	18
Diploma in IT	45
Diploma in IT User Skills (ITQ)	10
Diploma in Professional Competence for IT and Telecoms Professionals	39
Diploma in Skills for Music and Music Technology	2
ECDL Award in IT User Skills	6
ECDL Certificate in IT User Skills	37
Extended Certificate in Music Technology	1
Foundation Award In Accounting Software - Level 2	1
Functional Skills qualification in Information and Communication Technology (ICT)	52
GCSE (9-1) in Computer Science	1
GCSE (9-1) in Media Studies	4
ICDL Award in IT User Skills	4
ICDL Certificate in IT User Skills	20
Improving Productivity Using IT	31
Non regulated Adult skills formula funded provision, Level 2, ICT for Users, 3 to 4 hrs, PW A	9
Non regulated Adult skills formula funded provision, Level 2, ICT for Users, 5 to 6 hrs, PW A	1
Non regulated Adult skills formula funded provision, Level 2, ICT for Users, 7 to 12 hrs, PW A	2
Non regulated Adult skills formula funded provision, Level 2, Media and Communication, 7 to 12 hrs, PW B	1
Non regulated provision, Level 2, ICT for Users	7
Non regulated provision, Level 2, ICT Practitioners	6
Non regulated SFA formula funded provision, Level 2, ICT for Users, 13 to 20 hrs, PW B	1
Non regulated SFA formula funded provision, Level 2, ICT for Users, 21 to 44 hrs, PW B	2
Non regulated SFA formula funded provision, Level 2, ICT for Users, 69 to 92 hrs, PW B	1
Non regulated SFA formula funded provision, Level 2, Media and Communication, 13 to 20 hrs, PW B	1
Presentation software	57

Process information about customers	1
Produce wood and wood based products using computer numerically controlled CNC machinery	2
Spreadsheet Software	138
Word Processing Software	188
LEVEL 3	
Access to HE Diploma (Professions in English, Writing and Media)	3
Access to Higher Education Diploma: Computing and ICT	1
Advanced GCE in Media Studies	14
Award in 2D Computer Aided Design	3
Award in 3D Computer Aided Design	1
BTEC 90-credit Diploma in Creative Media Production (QCF)	255
BTEC 90-credit Diploma in Music Technology (QCF)	22
BTEC Extended Diploma in Music Technology (QCF)	24
BTEC Foundation Diploma in Art, Design and Media Practice	15
BTEC National Certificate in Information Technology	39
BTEC National Certificate in Music Technology	18
BTEC National Diploma in Creative Media Practice	112
BTEC National Diploma in Digital Games Design and Development	1
BTEC National Diploma in Film and Television Production	4
BTEC National Diploma in Music Technology	11
BTEC National Extended Certificate in Creative Digital Media Production	8
BTEC National Extended Certificate in Digital Games Production	2
BTEC National Extended Certificate in Digital Music Production	24
BTEC National Extended Diploma in Creative Digital Media Production	6
BTEC National Extended Diploma in Creative Media Practice	25
BTEC National Extended Diploma in Music Technology	2
BTEC National Foundation Diploma in Computing	16
BTEC National Foundation Diploma in Creative Digital Media Production	5
BTEC National Foundation Diploma in Information Technology	114
Cambridge Technical Diploma in Media	10
Cambridge Technical Extended Diploma in Media	38
Cambridge Technical Foundation Diploma in IT	22
Cambridge Technical Introductory Diploma in Media	17
Cambridge Technical Subsidiary Diploma in Media	7
Certificate in Creative Media Production (QCF)	2
Certificate in Design Engineer Construct! The Digital Built Environment (RQF)	8
Certificate in IT	5
Certificate in IT (QCF)	75
Certificate in Music Technology (QCF)	7
Certificate in Photography	9
Certificate in Web Design and Development (RQF)	4
Computer Aided Drafting in Engineering	2
Diploma in Creative Media Production & Technology	116
Diploma in Creative Media Production (QCF)	13

Diploma in Design, Engineer, Construct! The Digital Built Environment (RQF)	5
Diploma in Digital Marketing	2
Diploma in Games, Animation and VFX Skills	1
Diploma in ICT Systems and Principles	1
Diploma in ICT Systems and Principles for IT Professionals	2
Diploma in IT	1
Diploma in IT (QCF)	29
Diploma in Music Technology (QCF)	5
Extended Diploma in Creative Media Production & Technology	54
Extended Diploma in Creative Media Production (QCF)	362
Extended Diploma in IT	19
Extended Diploma in IT (QCF)	358
Foundation Certificate in Professional Digital Marketing (VRQ)	1
Foundation Diploma in Art, Design and Media	39
GCE A Level in Computer Science	546
GCE A Level in Film Studies	140
GCE A Level in Media Studies	655
GCE A Level in Music Technology	157
GCE AS Level in Computer Science	103
GCE AS Level in Media Studies	120
GCE AS Level in Music Technology	15
Introductory Diploma in IT	2
Non regulated provision, Level 3, ICT for Users	9
Non regulated provision, Level 3, ICT Practitioners	9
Non regulated provision, Level 3, Media and Communication	3
Non regulated SFA formula funded provision, Level 3, ICT for Users, 7 to 12 hrs, PW A	37
Subsidiary Diploma in Creative Media Production (QCF)	56
Subsidiary Diploma in IT	3
Subsidiary Diploma in IT (QCF)	262
Subsidiary Diploma in Music Technology (QCF)	7
T Level Technical Qualification in Digital Production, Design and Development	1
Technical Level Entertainment Technology: Video Games Art and Animation	19
Technical Level Entertainment Technology: Video Games Art and Design Production	14
Level 4 (original)	
Award in the Essentials of Digital Marketing	3
BA (Hons) in Creative Media and Visual Communication (Top up) - (The Manchester College)	1
BA (Hons) in Digital Imaging and Photography	1
BA (Hons) in Games Design and Concept Art - The City of Liverpool College	6
BSc (Hons) in Computer Science (Top-Up) - Riverside College	1
BSc (Hons) in Computer Software Development (Top-Up) - Chesterfield College	1
BSc (Hons) in Software Development (Top up) - (The Manchester College)	2
BTEC Higher National Certificate in Computing	60

BTEC Higher National Certificate in Creative Media Production	50
BTEC Higher National Diploma in Computing	23
BTEC Higher National Diploma in Creative Media Production	23
BTEC HND Diploma in Computing and Systems Development (QCF)	10
BTEC HND Diploma in Creative Media Production	16
FdSc in Media Production - University of Central Lancashire	1
Foundation Degree in 3D Modelling and Animation for Games and Media - (The Manchester College)	2
Foundation Degree in Digital Imaging and Photography	1
Foundation Degree in Software Development - (The Manchester College)	3
HNC in Mechanical and Computer Aided Engineering	1
Non regulated provision, Level 4, ICT for Users	2
Non regulated provision, Level 4, ICT Practitioners	2
Non regulated provision, Level 5, ICT Practitioners	4
LEVEL NOT APPLICABLE/ NOT KNOWN	
Non regulated Community Learning provision, ICT for Beginners / Basic Online Skills	684
Non regulated Community Learning provision, ICT for Practitioners	8
Non regulated Community Learning provision, Media and Communication	189
Non regulated Community Learning provision, Other ICT Skills	374

Annex 4: Digital Apprenticeship Standards

Standard	Starts 2018/19-2020/21
Creative and Digital Media	2
Cyber Intrusion Analyst	1
Cyber Security Technical Professional (integrated degree)	3
Cyber Security Technician	1
Cyber Security Technologist	23
Data Analyst	114
Data Scientist (integrated degree)	4
Data Technician	15
DevOps Engineer	4
Digital and Technology Solutions Professional (integrated degree)	103
Digital and Technology Solutions Specialist (integrated degree)	26
Digital Community Manager	3
Digital Engineering Technician	1
Digital Marketer	142
Digital Marketer (integrated degree)	13
Digital Support Technician	3
Digital User Experience (UX) Professional (Integrated Degree)	2
Information Communications Technician	2
IT and Telecoms Professionals	70
IT Solutions Technician	7
IT Technical Salesperson	32
IT User	10
Junior Content Producer	49
Network Engineer	15
Software Developer	64
Software Development Technician	23
Software Tester	6
Telecoms Field Operative	51
Grand Total	789