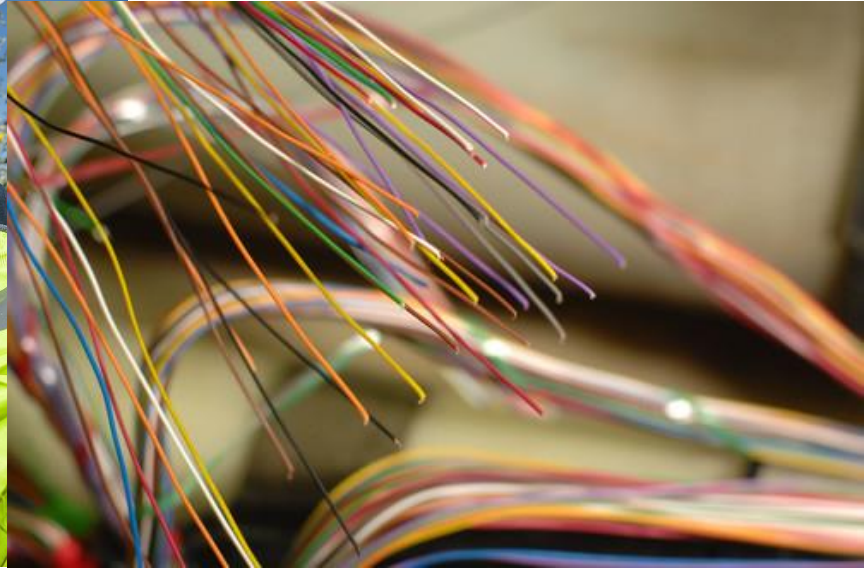


Black Country Digital Skills Report

January 2022

Black Country Consortium

Economic Intelligence Unit

Contents

Executive Summary

People and digital skills are key to growth, with the mismatch between business skill needs and resident skill levels in the Black Country a big productivity challenge. The lack of basic digital skills amongst Black Country residents also inhibits their employment opportunities. Unemployed people who get online could increase their chances of getting employment and people with good digital skills earn between 3 per cent and 10 per cent more than people without such skills.

There is now a consensus emerging that Covid-19 will not only accelerate several previously observed societal and technological trends such as increased on-line shopping and the use of contactless technologies, but will also accelerate digitisation and automation across the economy, and across sectors as diverse as logistics, insurance and agriculture. These changes will have significant implications for the need for workers to upskill and reskill and will place new demands on employers and the skills system to respond to this.

In the UK, the Confederation of British Industry (CBI) has reported that: two thirds of businesses already have unfilled digital skills vacancies; 95% of business expect their digital skills needs to grow; and, almost half of businesses are fishing in the same pool for talent. The CBI believes that 'The UK is at a tipping point on digital skills. Demand already outstrips supply and is set to skyrocket'.

Headline challenges

Digital exclusion

There is a digital divide between those who have access to information and communications technology and those who do not, giving rise to inequalities in access to opportunities, knowledge, services, and goods. The number of adults that have not used the internet in the last three months is estimated by the Lloyds Consumer Digital Index to be 8%. This study also estimates that there are approximately 3.6 million people that are completely offline.

Nationally, 58% of internet non-users are women, a proportion that has remained broadly consistent over time. So far as young people are concerned, national research suggests that 12% of those aged between 11 and 18 years have no internet access from a computer or tablet. In the Black Country this increases to 13.4%, confirmed by Black Country LEP research. This is a particular concern when children are expected to learn online as a consequence of the Covid-19 crisis.

Among those of working age, the economically inactive are the most likely to be internet non-users, particularly those adults on long-term sick leave or disabled. Action to tackle digital exclusion should target the neighbourhoods with the highest levels of employment deprivation. In the Black Country 46% of LSOA's are deemed in the 20% most deprived in England and nearly half of them (20%) within the worst 10% most deprived nationally.

The Lloyds Consumer Digital Index 2020 reports that motivation is one of the key barriers to doing more online – over one-third of those offline say the Internet 'doesn't interest me' and 48% of the digitally excluded state that 'nothing' could motivate them to get online. The ONS report that 20% of those that do not access the internet don't do so because they lack the skills.

Employer demand

Demand for digital skills continues to increase across the Black country, up 42% in the last year. Allied to this a recent survey of employers across the Black Country which found that 31% find it difficult to obtain digital skills from applicants; 25% find it difficult attracting applicants with computer literacy and basic IT skills; 21% find it difficult to obtain applicants with advanced or specialist IT skills and 40% of employers stated that workforce digital skills need improving.

The digital skills identified most frequently by employers were basic Microsoft Office skills, specialist software or hardware skills, foundation digital skills and data analysis.

Sector specific skills

The digital skills and competencies in most demand by sector:

Advanced manufacturing: CAD (computer-aided-design) and associated software along with Microsoft office
Build technologies: programming language skills, CAD and Microsoft office
Business and professional services: in terms of volume, general Microsoft office but there was particularly high demand for specific skills around SQL, JavaScript and C#
Environmental technologies: Microsoft office and programming language skills particularly Scheme and Go
Health and social care: Microsoft office and programming languages such as Scheme, Go and C
Public sector: demand was high for Microsoft office particularly Microsoft Teams and Go
Retail: demand was high for Microsoft office and sector specific skills for Counters and Express.js
Sports: experience of social media tools and demand for skills around Scheme and Boost (C++)
Transport technologies: programming languages particularly C and GO
Visitor economy: social media skills, graphic designer software (particularly the Adobe suite of tools), animation and digital marketing skills were all in high demand

Recommendations

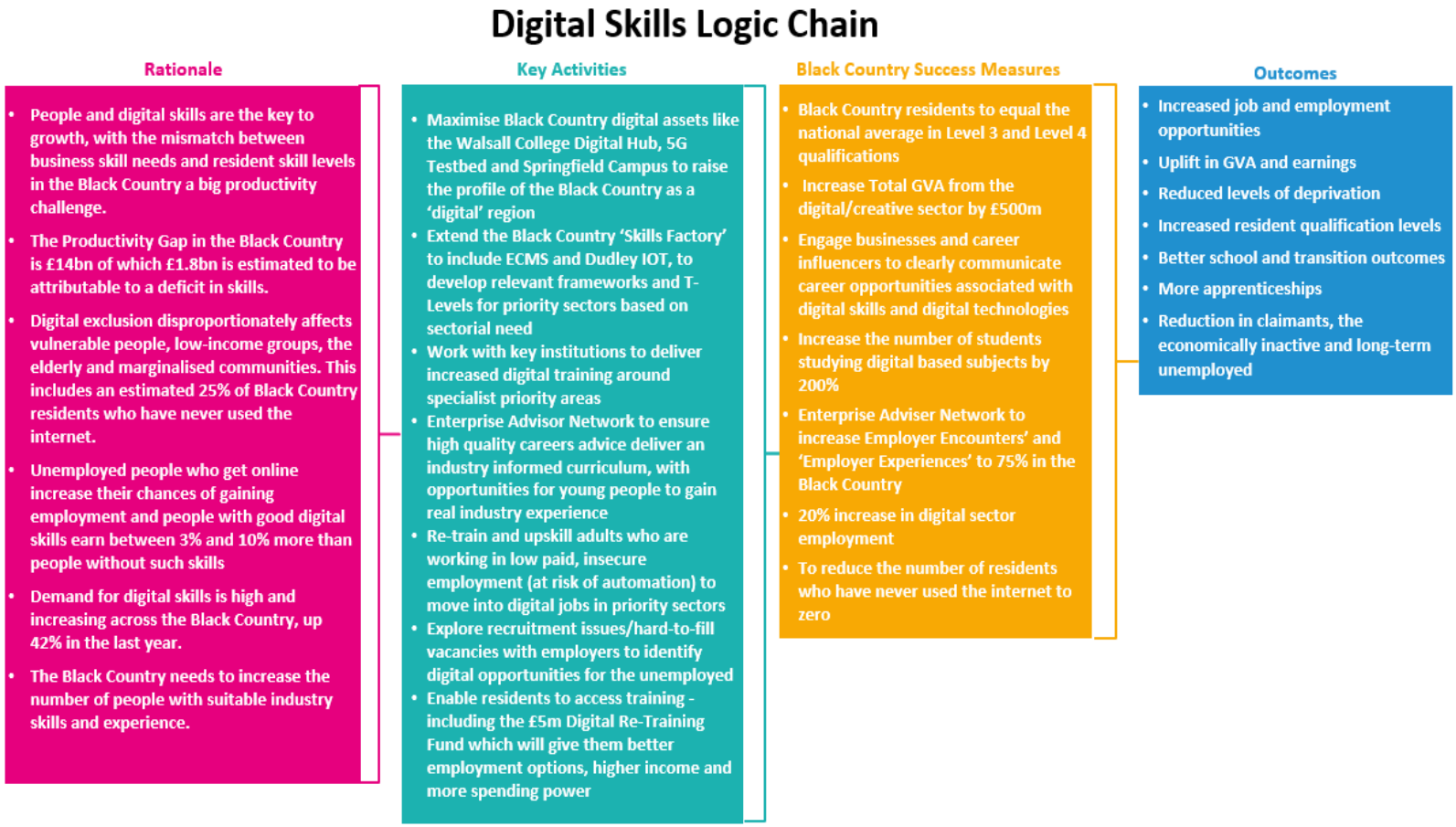
Demand for skills from employers and individuals is the primary driver of activity in the skills system. This is particularly true when training is free and when providers are not constrained by their capacity or capability.

The immediate priority for the LEP is to raise the profile of digital skills across the Black Country and ensure that stakeholders understand the contribution to the economy. Therefore, our approach focuses heavily on stimulating demand:

1. ensuring that we continue to tackle the root causes of digital exclusion and that everyone can increase their digital capability to make the most of the digital world
2. developing the full range of digital skills that individuals and companies across the Black Country need in an increasingly digital economy, and supporting people to up-skill and re-skill throughout their working lives
3. a strong collaboration between the public, private and third sector to tackle the digital skills gap in a co-ordinated and coherent way, so the sum is greater than the parts and everyone everywhere has better access to the training they want
4. embedding digital skills into education to ensure that the next generation have the digital skills they need for work

Measure of success

Achieving an economy of together is a critical endeavor for the LEP, requiring strong collaborative working with partners and key local stakeholders. Embedded appropriately, opportunities around digitalisation and digital skills offer a means to reduce inequalities that exist *within* the Black Country. The is reflected in the logic chain below:



1. Introduction

Digital literacy is a language; the more digital skills you have, the better you can speak it.

In the modern workplace, digital skills are highly valued but, in the future, digital skills will be vital. In the Black Country it is not simply the development of old jobs in manufacturing and construction that make digital skills so important, but the creation of entirely new jobs through the rollout of digital infrastructure.

People and digital skills are key to growth, with the mismatch between business skill needs and resident skill levels in the Black Country a big productivity challenge. The lack of basic digital skills amongst Black Country residents also inhibits their employment opportunities. Unemployed people who get online could increase their chances of getting employment and people with good digital skills earn between 3 per cent and 10 per cent more than people without such skills.

A recent government report found:

- more than 11 million of the adult population in England lack basic digital skills, which equates to approximately 203,000 people in the Black Country.

- as many as 35 per cent of people in lower socio-economic groups lack basic digital skills, compared with 13 per cent of those in higher socio-economic groups.

There is a genuine fear of a digital skills gap created by the boom in the digital economy versus the amount of people who are trained to work in it. The Black Country has long been associated with being a low skill area and the advent of new highly skilled jobs is likely to intensify this.

Additionally, the Government has an ambition for the UK to be one of the most digitally-skilled nations in the world meaning there is a significant need for industry digital skills. These are the kinds of skills and qualifications you would require to go into jobs in the digital technology sector – not just in tech companies developing games, apps and websites, but for IT departments in all sorts of organisations, from the NHS to high finance to big manufacturers.

Consequently, a key challenge for the skills system in the Black Country is to align the delivery of a high-quality, industry informed curriculum, with opportunities for young people to gain real industry experience.

This report looks to identify the specific sector demand in the Black Country, together with any barriers to upskilling and retraining alongside a review of the potential solutions identified in the Black Country Digital Action Plan (2019).

2. What are digital skills?

Digital skills are becoming ever more important in today's economy, and employers indicate that about one-third of vacancies they find difficult to fill are attributable to a lack of appropriate digital skills amongst applicants. But the term 'digital skills' covers a wide array of competencies, knowledge, and skills, making it difficult to design interventions to address digital skills needs.

2.1 Baseline skills vs sector specific skills

UNSECO describe digital skills as those needed to ***"use digital devices, communication applications, and networks to access and manage information"***.

Our analysis of the digital occupations focuses on two main aspects of jobs – the type of digital skill requirements and the educational requirements of a position. For skill requirements, we have broken digital skills required by employers into two broad categories: baseline digital skills that open doors to digitally intensive jobs, and specific digital skills that allow people to advance along a digital career pathway.

Given the wide spread of digital skills across all roles in the labour market, we found the distinction between baseline digital and specific digital skills useful to show that not all digital skills are the same. This helps to clarify which digital skills are commonly requested and therefore easily transferrable from one role to another and which digital skills are role- or sector-distinguishing, therefore functioning as a ticket to enter and progress on a particular career path.

2.1.1 Baseline digital skills

Employers ask for a group of digital literacy skills in the vast majority of jobs across all sectors in the labour market. These are 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 Black Country employers are the Microsoft Office suite including Word, Excel, and PowerPoint. Because of their ubiquity, we have defined these as 'baseline digital skills'.

2.1.2 Specific digital skills

Specific digital skills are other digital skills not found in the baseline category that 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.

Burning Glass have further broken down the specific digital skill category into seven clusters of related digital skills that are commonly required together to help job seekers qualify for jobs in a specific domain. The table on the next page shows baseline skills and the seven clusters of specific digital skills along with sample skills and occupations related to each. All digital skills have been assigned to one of the clusters listed below:

Digital Skills Categories:

Digital Skills Type	Digital Skills Cluster	Description	Common Occupations
Baseline	Productivity	Productivity software such as Word and Excel, Enterprise Resource Planning (ERP), Project Management Software, SAP	• Administrative Occupations • Customer Service
Specific	Software and Programming	Programming languages such as Java, SQL and Python	• Programmers • Software Developers • Database Administrators
	Computer and Networking Support	Set up, support and manage computer systems and networks	• Network Administrators • Software Developers • IT User Support Technicians
	Data Analysis	Data analysis tools like 'R' or Stata, Big Data or Data Science	• Management Consultants • Economists • Statisticians • Business Analysts
	Digital Design	Digital production, graphic design, online advertising skills	• Marketing associate Professional • Graphic Designers
	CRM	CRM software such as Salesforce or Microsoft Dynamics	• Sales Professionals • Market Associate Professionals • Customer Service Managers
	Digital Marketing	Digital marketing technologies, such as social media platforms and analytical tools like Google Analytics	• Sales and Marketing Professionals • Marketing associate Professionals • HR Officers
	Machining and Manufacturing Technology	Machining and engineering software and tools such as CNC machining and computer-aided design	• Machine Operators • Civil Engineers • Quality Control and Planning Engineers

These were the digital skills Burning Glass considered were needed for work.

In 2018, the Government published what it calls the 'Essential Digital Skills Framework'. The essential digital skills framework defines the digital skills adults need to safely benefit from, participate in and contribute to the digital world.

The Essential Digital Skills Framework is illustrated in the graphic below:

The framework describes 'Digital Foundation Skills' as being able to:

• turn on a device
• use the available controls on a device
• make use of accessibility tools on a device to make it easier to use
• interact with the home screen on a device
• understand that the internet allows access to information and content and that it can be connected through Wi-Fi
• connect a device to a safe and secure Wi-Fi network
• connect to the internet and open a browser to find and use websites
• understand that passwords and personal information need to be kept safely as they have value to others
• update and change a password when prompted to do so

These Foundation Skills underpin 'Essential Digital Skills' which encompass:

• Communicating - the skills required to communicate, collaborate, and share information
• Handling Information and Content - the skills required to find, manage and store digital information and content securely.
• Transacting - the skills required to register and apply for services, buy and sell goods and services, and administer and manage transactions online.
• Problem solving - the skills required to find solutions to problems using digital tools and online services.
• Being safe and legal online - the skills required to stay safe, legal and confident online.

2.2 National context

Despite accelerated digitalisation in response to COVID-19, a clear digital skills gap persists in UK organisations. When harnessed correctly, technology has the potential to improve people's lives, create jobs, address social inequalities and unlock growth. It can also play a critical role in our ongoing economic recovery. Yet, while the speed with which many organisations have moved to adapt their operating models to a 'remote everything' approach during COVID-19 has been commendable, the real work is just beginning.

To continue the digital journey, organisations must equip their people with the digital skills they need to navigate life, succeed in their career and achieve their potential in a technology-led future. Skills described as the nuts and bolts of how you interact with digital tools.

UK Leaders on their organisation's digital skills gap:

Source: Microsoft – Unlocking the UK's potential with digital skills

In 2019, The Open University's Bridging the Digital Divide report found that 88% of UK organisations reported a shortage of digital skills and that this was harming their ability to compete internationally. In the same year, a study by global professional services firm, Deloitte, showed that only 25% of the country's executives felt their talent pool had the capabilities required to deliver their digital strategies.

Fast forward to today and the world may be a very different place – but the same challenges remain. In early 2021 Microsoft UK research found that:

• 69% of UK leaders surveyed believe their organisation currently has a digital skills gap, 70% expect to experience one over the next year.
• 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, business leaders recognise the urgency:
• 32% of C-level executives from large UK firms say that upskilling employees is a top priority in the next six months according to data from LinkedIn.

And employees are eager to learn:

• 59% of employees say developing their digital skills will be important to their employability after COVID-19.

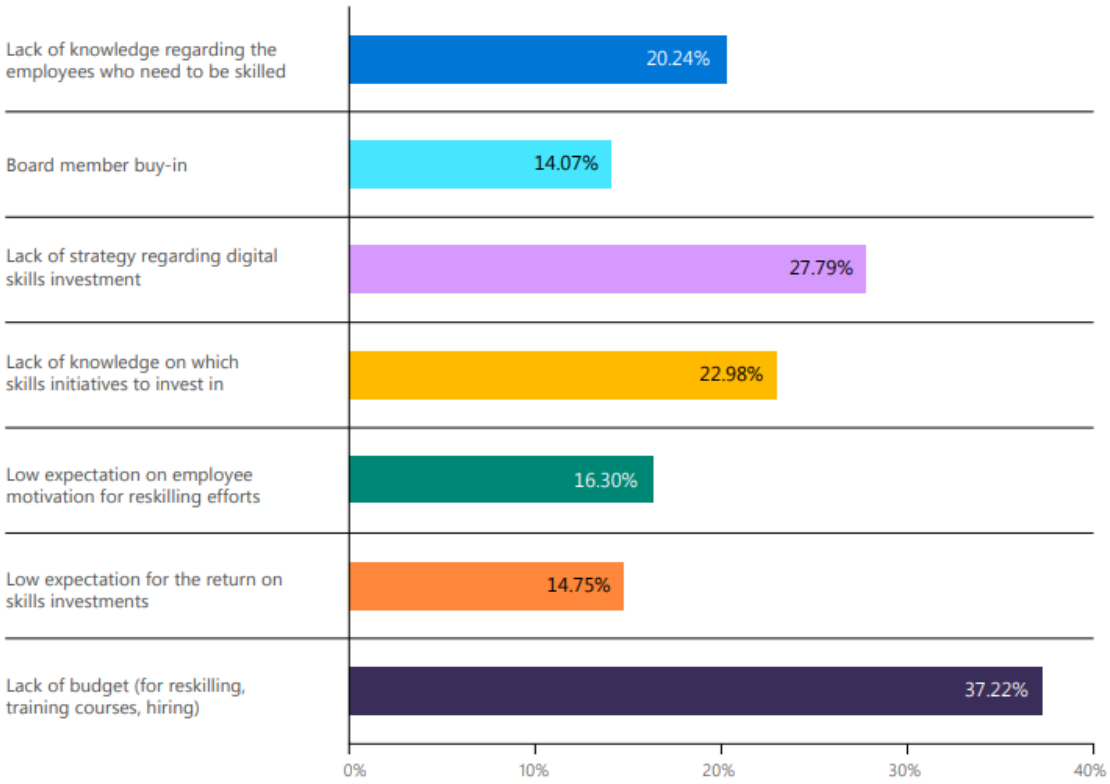
These challenges are further compounded by the findings from the Lloyds UK Consumer Digital Index 2021:

- An estimated 9 million people (16%) are unable to use the Internet and their device by themselves
- 7% of the UK (3.6 million people) are almost completely offline
- 8% have not used the Internet in the past three months
- 22% (11.7 million people) in the UK are without the skills needed for everyday life
- 7% of over 70s are likely to have the capability to shop and manage their money online
- 52% of those offline are between 60 and 70 years old, and 44% of those offline are under the age of 60
- Over one-third of those offline say the Internet 'doesn't interest me' and 48% of the digitally excluded state that 'nothing' could motivate them to get online.
- Between 75% and 90% of jobs require at least some computer use
- Offline households are missing out on estimated savings of £560 per year from shopping and paying bills online

2.3 So what's stopping people becoming digitally engaged?

For businesses, cost (37%) and lack of skills strategy (28%) are identified as the main barriers to digital skills investment. by leaders surveyed.

UK businesses' top barriers to investing in digital skills:



Source: Microsoft – Unlocking the UK's potential with digital skills

Business leaders also lack faith in both the education system and government to resolve the UK digital skills gap. Just 28% believe the education system offers adequate digital training for pupils, while even fewer (24%) are confident that the UK government is doing enough to tackle the UK skills gap. Two-thirds (67%) feel there should be greater UK government investment in digital skills training and education.

2.4 Digital intensity by sector

Digital skills are in demand across sectors with particularly intensive requirements. For example, firms in the Business Services sector almost exclusively hire for digital jobs. Business Services is a large contributor to the economy in terms of GVA, which further highlights the importance of digital skills. Conversely, Health Care has the second largest share of demand but a relatively low proportion of digital demand with fewer than one-third of jobs being in digital occupations.

Priority Sectors	Total Job Postings (Black Country)	Baseline Digital Skills	Specific Digital Skills	All Digital (%)
Business Services	**30,469**	26%	69%	95%
Environmental Services	**600**	25%	69%	94%
Advanced Manufacturing	**13,209**	26%	66%	92%
Transport Technologies	**9,148**	36%	50%	86%
Public Sector	**16,743**	31%	51%	82%
Building Technologies	**6,909**	31%	49%	80%
Retail	**5,277**	32%	47%	79%
Sport	**712**	26%	48%	74%
Visitor Economy	**1,501**	21%	34%	55%
Health Care	**20,596**	13%	16%	29%

2.5 Lloyds Consumer Digital Index

The review uses the behavioural and transactional data of one million consumers to build a view of digital engagement in Britain.

It has been well evidenced that the people using digital tools and services have a real advantage. They are more likely to build their saving reserves, find new ways to save money and can more easily find and access new information, plus manage their wellbeing, keeping connected to loved ones.

In the last year this moved from an advantage to a necessity. Shielding in our homes, without the lifeline of the Internet, 5% of the population remain digitally excluded; locked out during lockdown. For some, fears of the unknown or the threat of Internet scammers prevail, but for others a lack of interest is a key barrier. In the West Midlands digital exclusion stands at 3%.

How internet usage has changed since the Coronavirus pandemic

	Increased a little	Increased a lot	No real change/stayed the same	Decreased a little	Decreased a lot	Don't know/ Prefer not to say
East England	23%	28%	46%	0%	1%	3%
East Midlands	32%	22%	41%	3%	1%	2%
London	30%	38%	28%	1%	0%	3%
North East	20%	26%	49%	2%	1%	2%
North West	27%	31%	38%	1%	1%	2%
Scotland	31%	31%	33%	3%	1%	0%
South East	28%	29%	39%	2%	1%	1%
South West	28%	24%	45%	1%	0%	1%
Wales	21%	31%	44%	1%	3%	0%
West Midlands	21%	31%	44%	2%	1%	2%
Yorkshire and the Humber	26%	24%	46%	1%	1%	2%

There has been an increase in the number of people using the internet since last year. The West Midlands increased from 89% to 97%, and the UK average increased from 92% to 95%. In fact, the West Midlands is now the joint leader alongside London in terms of its proportion of connected citizens.

Digital engagement among benefit claimants is polarised as they have greater levels of 'very high' digital engagement and greater levels of 'very low' digital engagement compared to the UK average. In the West Midlands, 34% of benefit claimants have 'very low' digital engagement, matching the UK average.

Both the East and West Midlands have the 3rd highest levels of people with very low digital engagement, at 30%, compared to the UK average of 29%.

3. Black Country Digital Strategy

COVID-19 has been a major disruptor. It has challenged and transformed so many business models, such as the healthcare providers that moved rapidly into telehealth, insurers into self-service claims assessment, and retailers into contactless shopping and delivery.

It is clear, that the outcome of the pandemic is likely to accelerate the pace of digital transformations in society. If the pace of the pre-coronavirus world was already fast, it is certainly operating at ultra-fast speeds now. We want to seize the moment, harness our experience and learning, and implement our digital vision with greater pace. Playing it safe now, understandable as it might feel to do so, will be worst outcome.

The Black Country Digital Strategy sets out the 'Digital Strengths' of the Black Country, and the many opportunities that exist across the region to further develop activity taking place. The aim is that by developing digital ambitions and activity, it will lead to a step change of development across the region using digital technology. The document is a response to the massive pace of change that advances in digital technology is creating, and the impact that this will have on residents, businesses and the public sector.

The aim is to position the Black Country as a digitally connected region, over the next five years till 2026, and continue to grow the competitive advantage this will bring to residents and businesses to promote economic growth.

Advances in digital technology matters to the Black Country because digital change creates both opportunities for innovation, growth and better life chances, but also the potential to create greater uncertainty and alienation for those left behind. This strategy puts active inclusion at the centre of all things digital.

It is important to recognise that digital is not a separate activity in its own right, but a transformational enabler of everything we do. It is essential we do this well, to stay competitive as a region, and to fulfil our duty to residents, communities and businesses by helping them survive and thrive as the world changes rapidly around them.

3.1 Black Country digital workstreams

The Black Country's ambition to become a leading digital region by 2025 has been inspired by the desire to grow the competitive advantage that this will bring residents and businesses to promote economic growth and improved productivity. As a result, we have conducted a mapping exercise to identify key Digital activities taking place across the region. This Strategy is a result of that mapping.

The Black Country has already taken some steps towards creating world class infrastructure for its residents, however, of greater importance for the region is ensuring that Black Country residents and businesses have the skills required to create and access the opportunities that "Digital" has to offer.

We have identified a number of digital work streams:

- **Place (Infrastructure)**: Ensure we have world class infrastructure by pushing for further investment in our full fibre networks.
- **People (Skills):** Support productivity growth through high-quality skills and training. Place steps of change today, so that we are ready for the skills needs for tomorrow.
- **Business (Innovation)**: Support and incentivise the development of the creative ideas and technologies that will shape the UK's future high-growth, sustainable and secure economy.
- **Inclusion (Levelling Up)**: Identify and target 'Not spots' across the Black Country – areas that have slow or no internet connectivity, and those that are suffering from Digital Poverty.
- **Future Proofing and Net Zero**: Analysis core Industrial sectors across the Black Country – the digital challenges that they face, and opportunities that they present, keeping future proofed low carbon solutions in mind.
- **Collaboration (Promoting our strengths)**: Collaborating with partners to inspire and shape local action to achieve our regional digital priorities.

3.2 Why digital?

1. At least 128,000 Black Country households do not have broadband at home

2. If we can unlock world class levels of participation we can secure £026bn of GVA for the region

3. …..and create 812 new jobs

4. Business that engage customers online expect to grow 40% faster than those that don't

5. Businesses that use digital as part of their processes, have 22% higher revenue

6. The Black Country has 91.3% of premises that can access superfast broadband – which is the highest in the UK

7. ….this is set to rise to 97.8% by 2017

8. Government Policy is moving towards customer contact & transactions with government increasingly being online 'digital by default'

9. People with good ICT skills earn 3-10% more than those without

10. Households offline are missing out on savings of £560 per year from shopping and paying bills online

11. Digital Technology can have health benefits, such as: increasing independence, and mental health support

12…10.5 million adults, and 31% of SMEs in the UK lack Basic Digital Skills

1. Mosaic data from Black Country Local Broadband Demand Stimulation Plan , (Heather Clark, 2014), and data from DCLG.
2. In the UK, by optimising digital technology, firms could unlock £18.8 billion in additional revenue (Booz and Co, November 2012)
There are 1,942,105 SME's in the UK, of which there is 27,625 in the Black Country, this equates to 1.42% SME's.
1.42% of £18.8 billion = £266, 960, 000
3. Due Diligence Assessment, Thomas Lister, 2014
4. (Booz and Co, November 2012)
5. (The Internet Economy in the G-20, Boston Consulting Group 2012).
6. Black Country BDUK Broadband Plan – Analysis Mason Report 2014
7. BDUK Broadband Plan
8. Government Digital Strategy, Dec 2013.
9. PWC, Champion for Digital Inclusion, Oct 2009
10. PWC, Champion for Digital Inclusion, Oct 2009
11. NHS - http://www.nhs.uk/Conditions/online-mental-health-services/Pages/big-white-wall.aspx
12. Government's Information Economy Strategy (2013)

3.3 Black Country digital benchmarking

Benchmarking in a digital environment is complex, as data is not always freely available. Up until recently there has been no set measurement of digital progression, however, with the advent of the EU Digital Single Market strategy which prescribes set criteria to assess the level of digital growth it is an important step towards measuring progress, and identifying gaps.

As a result, for the Black Country, we have adopted a mix of digital benchmarking criteria to assess the digital growth of our region over the coming years:

Indicator	Dudley	Sandwell	Walsall	W'hampton	Black Country LEP	WMCA (7 Met.)	UK
Connectivity							
Average download speed (Mbit/s)	60.2	52.1	52.1	60.5	56.2	56.9	46.7
Average download speed (Mbit/s) for lines < 10Mbit/s	6.1	6.2	6	6.3	6.2	6.1	5.6
Average download speed (Mbit/s) for lines 10<30Mbit/s	16.8	16.5	16.9	16.9	16.8	16.8	17.6
Average download speed (Mbit/s) for SFBB lines	87.6	81.5	79.3	87.7	84	85.3	71.6
Average download speed (Mbit/s) for UFBB lines	300.1	300.4	300	300	300.1	300.1	298.5
Average upload speed (Mbit/s) for SFBB lines	8.3	9.1	9.4	8.4	8.8	8.9	11.2
SFBB availability (% premises)	11.4	35.7	21	18.9	21.8	20.4	49.0
UFBB availability (% premises)	88	63.8	77.4	80.2	77.4	77.6	44.0
Full Fibre availability (% premises)	0.1	0.5	7.1	0.6	2.1	4.5	5.3
Digital Indicators							
Overall Digital Exclusion	Medium	Medium	High	Medium	Medium	Medium	Medium
% Households do not receive broadband speeds of at least 10 megabits per second (Mbps)	0%	0%	2%	0%	0.5%	1.4%	2.4%
% Households do not receive 4G mobile data from all providers	1.6%	0.5%	1.3%	0.3%	0.9%	1.4%	2.1%
% Adults not been online within the last 3 months	14.2%	11.8%	13.5%	13.9%	13.4%	14.2%	13.5%
% Adults who DO NOT have all 5 Basic Digital Skills	23%	24%	24%	23%	24%	26%	23%
Social Indicators							
% Adults over 65	23.3%	15.1%	17.7%	16.7%	18.2%	19.8%	18.0%
% Adults with no qualifications and/or no Level 1 qualifications	44.3%	49.6%	48.3%	45.3%	46.9%	49.9%	23.0%
Average Income per Taxpayer	£21,100	£19,900	£20,100	£20,400	£20,375	£24,125	£26,884
% Adults with long-term illness or disability	20.3%	20.9%	20.8%	20.5%	20.6%	22.4%	17.4%

3.4 Measure of success: Economy of Together

Despite progress in recent years, stark challenges still remain in the Black Country, exacerbated over the last year by the COVID-19 pandemic. This has caused significant disruption to the education system, transitions into employment, workplace training, skills development and skills deployment.

Achieving an economy of together is a critical endeavor for the LEP, requiring strong collaborative working with partners and key local stakeholders. The key ambition is to create a level-playing field in the Black Country's education system, providing the same opportunities for all whatever stage in one's career and regardless of their characteristics.

Embedded appropriately, opportunities around digitalisation and digital skills offer a means to reduce inequalities that exist *within* the Black Country.

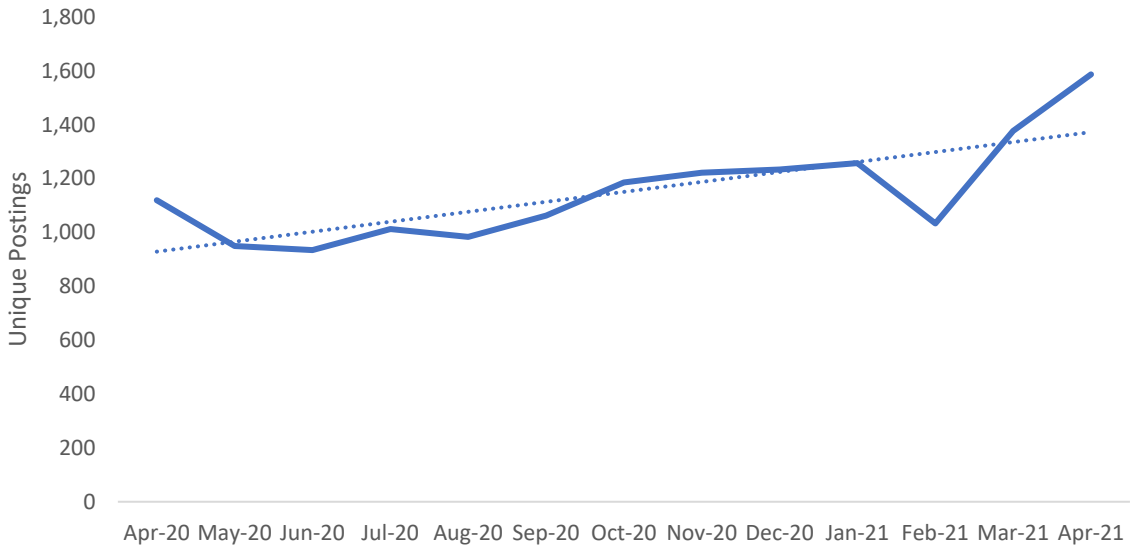
Our measures of success:

- *Increased job and employment opportunities*
- *Increased earnings*
- *Reduction in deprivation*
- *Increased qualification levels*
- *Increased school performance and outcomes for all*
- *Increase in apprenticeships to meet the 2030 target of 23,000 apprentices pa*
- *Reduction in claimants, economically inactive and long-term unemployed*

4. Digital demand

EMSI analysis of the top 100 digital skills shows a positive upward trend in the number of postings with digital skills being requested by employers in the Black Country. In April 2020 there were 1,119 unique vacancies with digital skills requested by employers, despite a dip in February 2021 due to the coronavirus pandemic, this has since increased to 1,586 unique postings in April 2021, an increase of 42%. There are variations in demand over this time by local authority, as Dudley saw an increase of 41%, Sandwell 83%, Walsall 29% and Wolverhampton 17%.

Digital skills requested by employers, April 2020 - April 2021



Source: EMSI Analytics, 2021

Certain skills have seen a growth in demand over the past year (April 2020 – April 2021), such as research (+169%), data analysis (+164%) and cyber security (+159%). As well as these, programme or company specific skills were also in high demand such as Microsoft Azure (+149%), Amazon Web Services (+130%) and React.js (+109%).

The top 100 digital skills most requested by employers across the Black Country are listed below, sorted by the number of unique postings over the past year.

Top 100 digital skills requested by employers

Skill or Qualification	% Change (Apr 2020 - Apr 2021)	Skill or Qualification	% Change (Apr 2020 - Apr 2021)
Communications	22%	Research	169%
Management	49%	Microsoft Office	26%
SQL (Programming Language)	-6%	Information Technology Infrastructure Library	0%
JavaScript (Programming Language)	15%	Customer Relationship Management	-5%
Customer Service	12%	Auditing	93%
Problem Solving	37%	Microsoft Excel	67%
Infrastructure	37%	Windows Servers	18%
C# (Programming Language)	-4%	jQuery	-22%

Skill or Qualification	% Change (Apr 2020 - Apr 2021)	Skill or Qualification	% Change (Apr 2020 - Apr 2021)
Cascading Style Sheets (CSS)	-11%	ASP.NET	-19%
Agile Methodology	52%	Firewall	27%
Troubleshooting (Problem Solving)	72%	Business Intelligence	-40%
Hypertext Markup Language (HTML)	3%	C++ (Programming Language)	78%
Innovation	47%	Time Management	0%
.NET Framework	4%	Influencing Skills	13%
Software Development	28%	Presentations	24%
Operations	59%	Interpersonal Communications	40%
Microsoft Azure	149%	Version Control	19%
Enthusiasm	27%	Mentorship	35%
Self-Motivation	17%	Key Performance Indicators (KPIs)	35%
Detail Oriented	41%	Web Development	13%
Leadership	38%	Data Warehousing	-30%
Electrical Engineering	21%	Willingness To Learn	100%
Python (Programming Language)	31%	Scripting	33%
Cyber Security	159%	Microsoft Windows	4%
PHP (Scripting Language)	58%	Scrum (Software Development)	44%
Technical Support	25%	Software Development Life Cycle	-14%
Application Programming Interface (API)	19%	Business Requirements	-6%
Software Engineering	104%	Model View Controller	22%
Planning	27%	Project Management	-6%
Amazon Web Services	130%	Data Analysis	164%
React.js	109%	IT Service Management	36%
Front End (Software Engineering)	19%	Three-Phase	-32%
Java (Programming Language)	42%	Service Delivery	32%
Automation	90%	SQL Server Reporting Services	-45%
Sales	8%	General Certificate Of Secondary Education	63%
Integration	45%	Programmable Logic Controllers	-40%
Help Desk Support	71%	Business Process	16%
Service Desk	34%	Professionalism	-11%
Electrical Wiring	55%	Enterprise Resource Planning	73%
Active Directory	54%	Teamwork	23%
Microsoft SQL Servers	-47%	Transact-SQL	-40%
HTML5	-19%	Network Switches	21%
Basic Math	66%	Web Design	80%
Git (Version Control System)	62%	Stakeholder Management	-9%
Angular (Web Framework)	18%	Computer Literacy	-13%
Linux	96%	Written Communication	-28%
Operating Systems	52%	Verbal Communication Skills	88%
MySQL	21%	Financial Services	21%
Full Stack Software Engineering	73%	Data/Record Logging	-4%
Microsoft Office 365	96%	Web Services	-14%
		Total Across All Skills	**42%**

Source: EMSI Analytics, 2021

Communication skills were the most requested digital skill across all four local authorities, appearing in the greatest number of unique vacancies. The digital skills which saw the biggest growth over the past year varied significantly by local authority. For example, in Dudley, verbal communication skills increased by 550% since the previous year. In Sandwell, React.js saw the largest growth at +550%. In Walsall, Hyper-V skills were requested 300% more often in April 2021 compared to April 2020. In Wolverhampton IT service management saw growth of 500% over the course of the year.

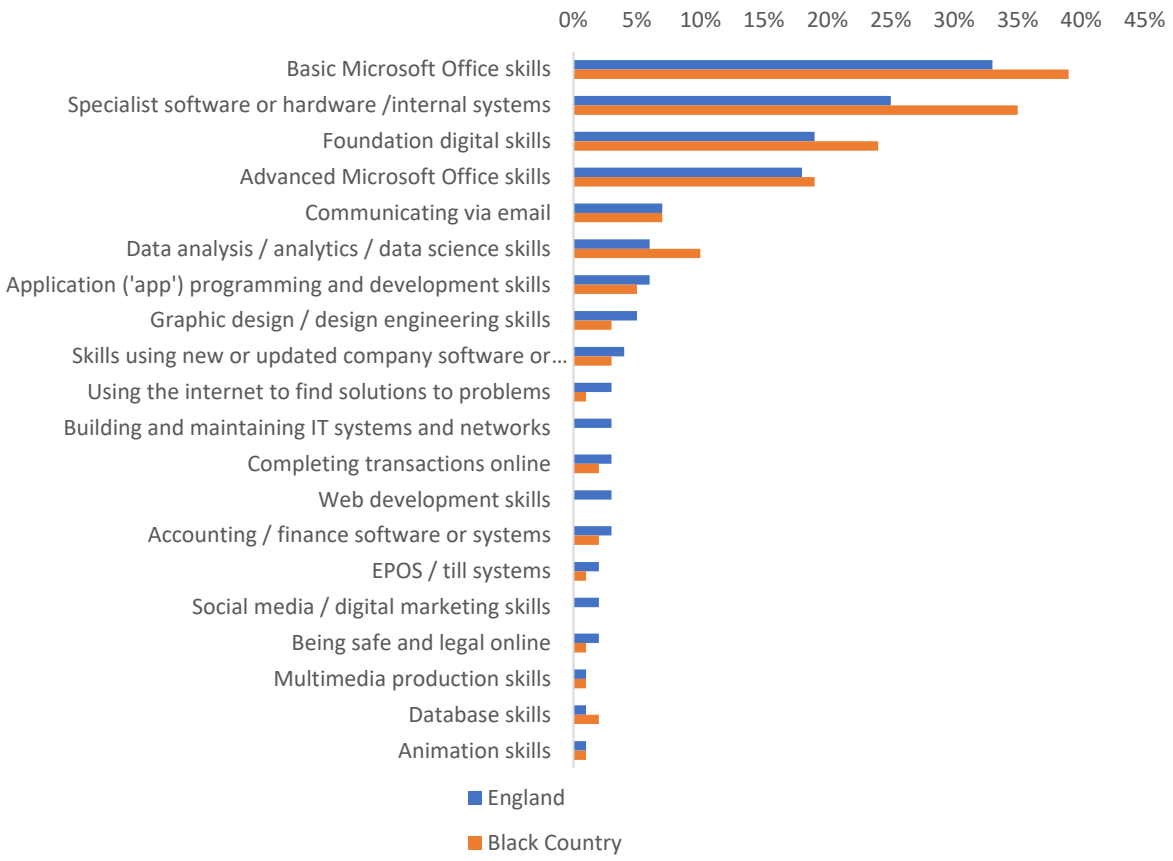
Salaries associated with digital skills are on the higher end when they align to specific skillsets in specialised programming software. For example, median advertised salaries for roles requesting Microsoft Azure were observed at £47,448, Python at £44,928, .NET Framework at £42,624, compared to more generic and less specialised digital skills such as Microsoft Office 365 at £28,928 and Microsoft Excel at £24,000.

Overall posting intensity for digital skills was 8-to-1, which is higher than the regional average of 6-to-1, suggesting that employers are putting in extra effort to hire for these skills.

A recent survey of employers across the Black Country found that 31% find it difficult to obtain digital skills from applicants, this is in comparison to 32% across England. More specifically, 25% of employers found difficulty obtaining applicants with computer literacy and basic IT skills, a higher rate than the national average of 21%. 21% found it difficult to obtain applicants with advanced or specialist IT skills matching the national average rates. 40% of employers stated that digital skills need improving, compared to 38% across England.

In regards to specific digital skills, the Black Country needs to upskill its workforce in basic Microsoft Office skills, specialist software or hardware skills, foundation digital skills and data analysis as these are the largest skills gaps that-employers are finding which causes skills shortage vacancies.

IT skills that need improving according to employers in the Black Country



Source: Employer Skills Survey, 2019

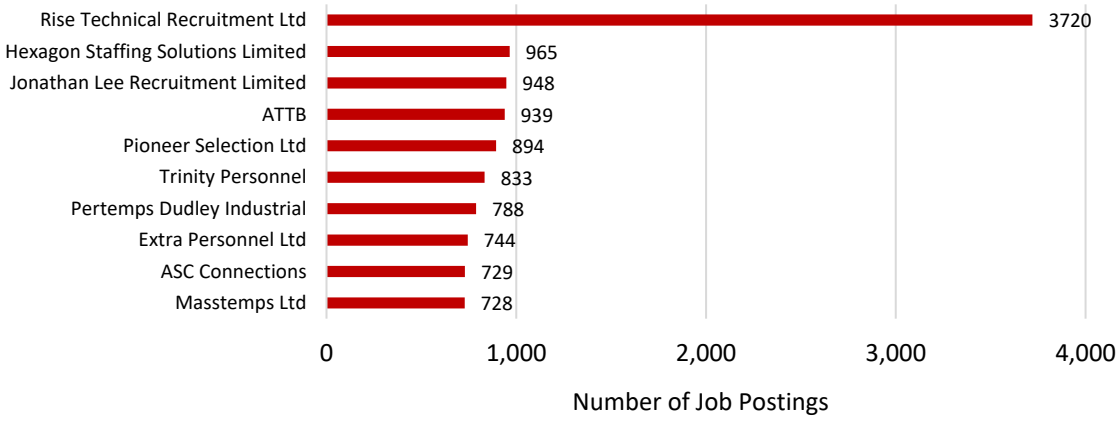
4.1 Advanced manufacturing

Digital skills requested by employers in advanced manufacturing sector, April 2020 – April 2021:

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
Microsoft Teams	782	86%	8: 1
Scheme (Programming Language)	485	159%	8: 1
Programmable Logic Controllers	407	47%	11: 1
Technical Support	405	46%	9: 1
Computer-Aided Design	403	21%	11: 1
Microsoft Access	333	66%	6: 1
Go (Programming Language)	319	134%	6: 1
C (Programming Language)	305	53%	6: 1
AutoCAD	294	22%	10: 1
Microsoft Excel	281	63%	7: 1
SolidWorks (CAD)	236	20%	12: 1
Computer Numerical Control (CNC)	221	11%	8: 1
Microsoft Office	190	13%	8: 1

Within the advanced manufacturing sector, the above digital skills were in the top 100 most requested skills by employers. Over the course of the year all of these skills have been requested more often than they were the year before. Average posting intensity was highest for SolidWorks (CAD) at 12-to-1, which is higher than the sector average for all skills at 8-to-1.

Top companies posting



Top posted digital occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Engineering technicians	234 / 39	6 : 1	33 days
Production managers and directors in manufacturing	97 / 26	4 : 1	29 days
Metal working production and maintenance fitters	204 / 25	8 : 1	43 days
Vehicle technicians, mechanics and electricians	49 / 23	2 : 1	20 days
Design and development engineers	245 / 18	14 : 1	42 days
Civil engineers	62 / 15	4 : 1	24 days
Telecommunications engineers	28 / 8	4 : 1	34 days
Production and process engineers	17 / 7	2 : 1	41 days
Electrical engineers	3 / 3	1 : 1	12 days
Engineering professionals n.e.c.	16 / 3	5 : 1	3 days

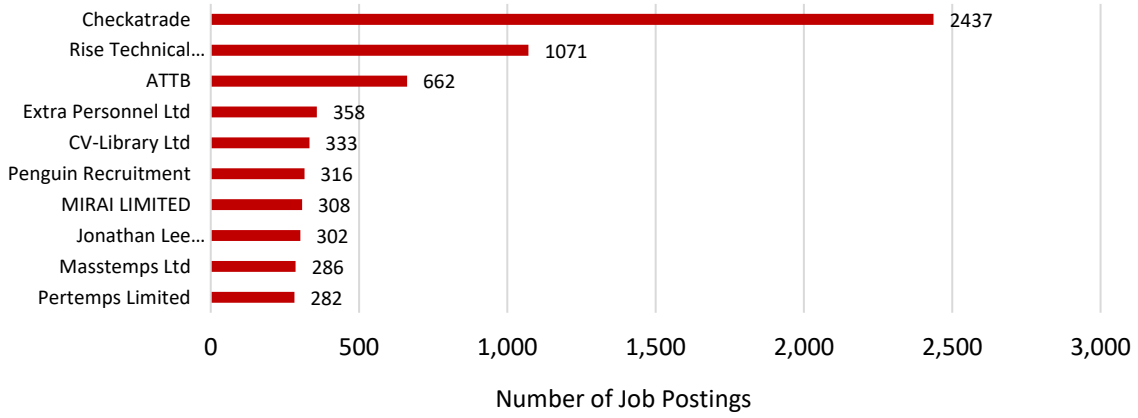
4.2 Building technologies

Digital skills requested by employers in the building technologies sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
Microsoft Teams	385	93%	6: 1
Scheme (Programming Language)	291	162%	8: 1
Computer-Aided Design	215	-25%	8: 1
Microsoft Access	212	116%	7: 1
AutoCAD	178	-22%	7: 1
Programmable Logic Controllers	171	8%	8: 1
C (Programming Language)	151	55%	8: 1
Microsoft Excel	139	0%	6: 1
Go (Programming Language)	120	206%	4: 1
Computer Literacy	103	111%	8: 1
Microsoft Office	62	110%	6: 1

The above digital skills were requested by building technologies employers. Computer-Aided-Design and AutoCAD skills have declined over the past year, however other digital skills such as Go and Scheme increased in demand by 206% and 162% respectively. Average posting intensity was 7-to-1 for all skills in the sector, with some digital skills more in demand than others.

Top companies posting



Top posted digital occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Electricians and electrical fitters	26 / 12	2 : 1	20 days
Property, housing and estate managers	41 / 10	4 : 1	29 days
Chartered surveyors	28 / 6	5 : 1	13 days
Draughtspersons	18 / 4	5 : 1	60 days
Production managers and directors in construction	3 / 3	1 : 1	3 days
Architects	3 / 3	1 : 1	3 days
Quantity surveyors	19 / 3	6 : 1	18 days
Construction project managers and related professionals	3 / 3	1 : 1	15 days
Construction and building trades supervisors	5 / 3	2 : 1	47 days
Building and civil engineering technicians	2 / 1	2 : 1	n/a

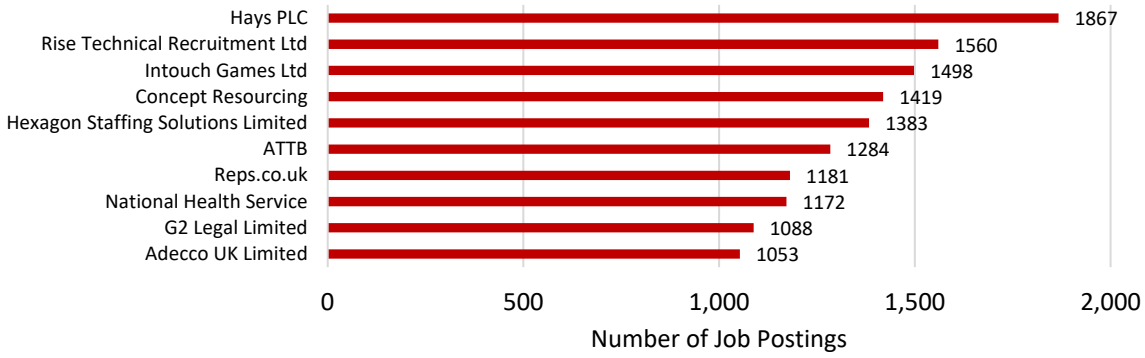
4.3 Business and professional services

Digital skills requested by employers in the business services sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
Microsoft Excel	3,478	38%	7: 1
Microsoft Teams	3,230	75%	6: 1
Microsoft Access	1,890	97%	8: 1
Microsoft Office	1,787	58%	6: 1
Scheme (Programming Language)	1,414	78%	6: 1
Computer Literacy	1,229	39%	5: 1
C (Programming Language)	1,131	66%	5: 1
Social Media	1,130	81%	5: 1
Go (Programming Language)	1,072	87%	8: 1
Microsoft Outlook	895	91%	6: 1
SQL (Programming Language)	721	10%	9: 1
JavaScript (Programming Language)	632	25%	9: 1
Digital Marketing	522	80%	7: 1
Microsoft PowerPoint	488	59%	7: 1
C# (Programming Language)	445	6%	9: 1

Digital skills in the business services sector are highly sought after, especially Microsoft Office skills as these were the skills sought after in the most jobs postings over the past year. SQL, JavaScript and C# are also highly requested, given the average posting intensity for these skills was 9-to-1 vs the average for the sector of 7-to-1.

Top companies posting



Top posted digital occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Marketing associate professionals	2,165 / 323	7 : 1	34 days
Sales accounts and business development managers	1,155 / 292	4 : 1	29 days
Web design and development professionals	1,109 / 172	6 : 1	32 days
Programmers and software development professionals	504 / 119	4 : 1	30 days
Business and financial project management professionals	499 / 111	4 : 1	32 days
IT specialist managers	379 / 95	4 : 1	27 days
Sales administrators	415 / 83	5 : 1	31 days
Business sales executives	335 / 70	5 : 1	33 days
Business and related associate professionals n.e.c.	277 / 64	4 : 1	19 days
Human resources and industrial relations officers	567 / 60	9 : 1	31 days

4.4 Environmental technologies

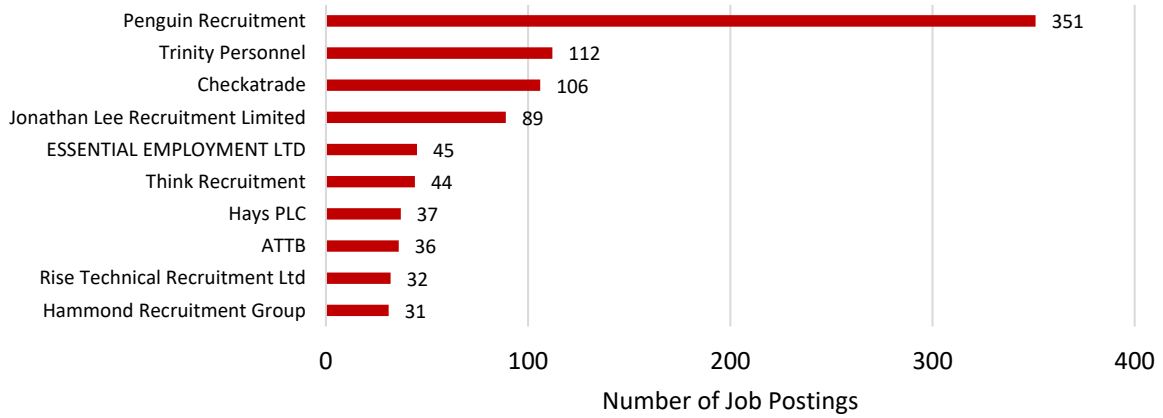
Digital skills requested by employers in environmental technologies sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
AutoCAD	36	-6%	5: 1
Microsoft Teams	34	-20%	4: 1
Microsoft Office	23	40%	8: 1
Computer-Aided Design	22	-29%	4: 1
Scheme (Programming Language)	20	400%	8: 1
Microsoft Excel	18	25%	7: 1
Microsoft Access	16	67%	12: 1
Go (Programming Language)	9	200%	3: 1

The environmental technologies sector requests fewer digital skills compared to other sectors analysed in this report. Over the past year, AutoCAD was the digital skill most commonly requested; however, it was also the skill which was requested less in April 2021 compared to April 2020.

Microsoft Access had the highest posting intensity at 12-to-1 compared to the sector average for all skills at 4-to-1.

Top companies posting



Top posted digital occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Environment professionals	7 / 4	2 : 1	20 days
Conservation professionals	1 / 1	1 : 1	2 days
Architectural and town planning technicians	9 / 1	9 : 1	n/a

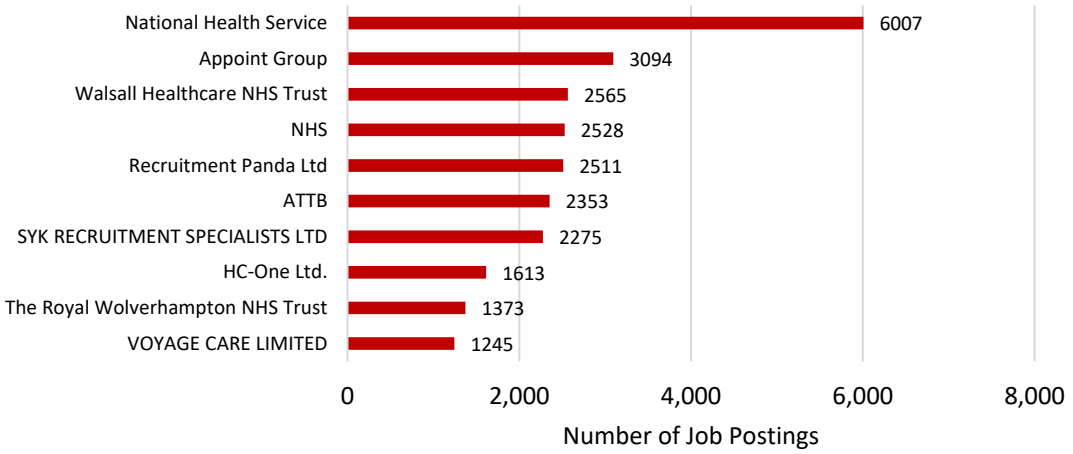
4.5 Health and social care

Digital skills requested by employers in the health and social care sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
Microsoft Access	2,442	31%	8: 1
Microsoft Teams	1,768	121%	6: 1
Scheme (Programming Language)	1,384	28%	9: 1
Go (Programming Language)	601	104%	7: 1
Microsoft Deployment Toolkit	436	197%	7: 1
C (Programming Language)	257	150%	4: 1

Digital skills requested in the health sector are mostly Microsoft skills and specific programming languages such as Scheme, Go or C. Over the past year all of these digital skills have been more in demand by employers, with some having a higher posting intensity than the sector average across all skills at 7-to-1.

Top companies posting



Top posted digital occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Veterinarians	73 / 47	2 : 1	31 days
Nurses	124 / 31	4 : 1	32 days
Dental practitioners	118 / 28	4 : 1	34 days
Medical secretaries	128 / 25	5 : 1	33 days
Nursing auxiliaries and assistants	61 / 25	2 : 1	31 days
Care workers and home carers	90 / 23	4 : 1	843 days
Dental nurses	64 / 17	4 : 1	6 days
Medical practitioners	21 / 13	2 : 1	12 days
Veterinary nurses	17 / 13	1 : 1	9 days
Pharmacists	45 / 10	5 : 1	32 days

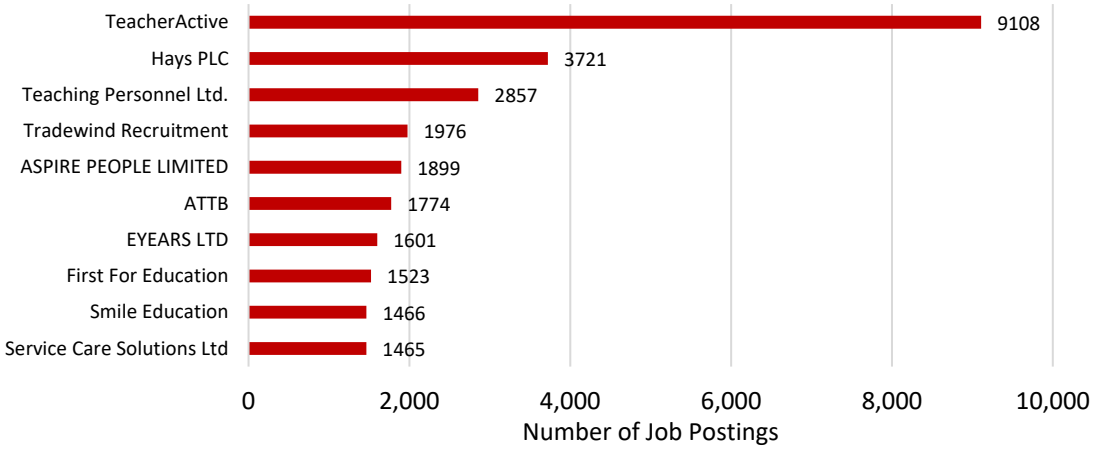
4.6 Public sector

Digital skills requested by employers in the public sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
Microsoft Access	1,555	41%	7: 1
Scheme (Programming Language)	1,122	7%	8: 1
Go (Programming Language)	557	73%	9: 1
Microsoft Teams	557	92%	7: 1
C (Programming Language)	426	125%	6: 1
Microsoft Excel	137	42%	8: 1
Numbers (Spreadsheet)	112	17%	5: 1
Microsoft Outlook	104	79%	4: 1

Within the public sector, the above digital skills were in the top 100 most requested skills by employers. Over the course of the year all of these skills have been requested more often than they were the year before. Average posting intensity was highest for GO (programming language) at 9-to-1, which is higher than the sector average for all skills at 7-to-1.

Top companies posting



Top posted digital occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Social workers	140 / 28	5 : 1	33 days
Further education teaching professionals	61 / 19	3 : 1	20 days
Youth and community workers	73 / 18	4 : 1	24 days
Teaching and other educational professionals n.e.c.	22 / 6	4 : 1	57 days
Educational support assistants	13 / 6	2 : 1	33 days
Housing officers	21 / 5	4 : 1	56 days
Nursery nurses and assistants	4 / 4	1 : 1	17 days
Secondary education teaching professionals	7 / 3	2 : 1	29 days
Child and early years officers	4 / 3	1 : 1	14 days
Library clerks and assistants	4 / 3	1 : 1	13 days

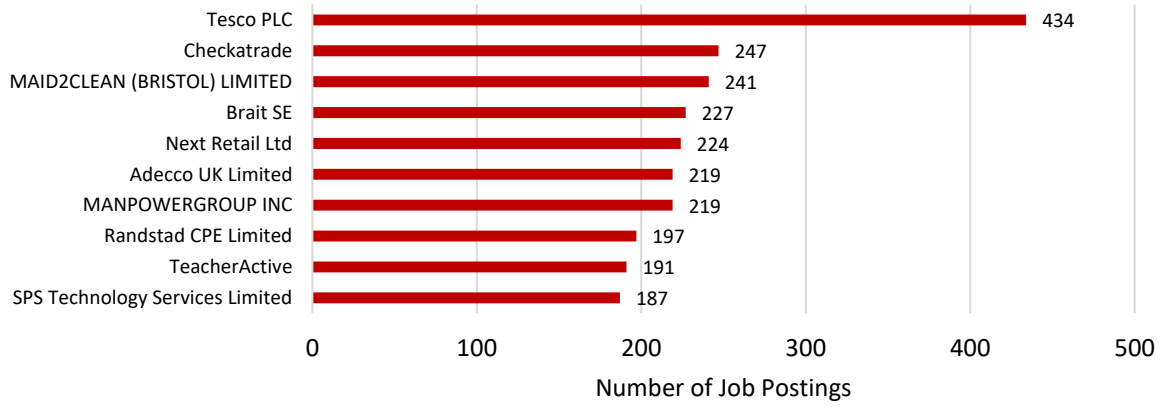
4.7 Retail

Digital skills requested by employers in the retail sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
Microsoft Teams	260	46%	6: 1
Microsoft Access	213	150%	4: 1
Go (Programming Language)	194	92%	5: 1
Microsoft Excel	179	10%	7: 1
Scheme (Programming Language)	176	71%	5: 1
C (Programming Language)	110	100%	4: 1
Social Media	87	75%	5: 1
Microsoft Office	84	33%	7: 1
Counters (Digital)	45	33%	8: 1
Microsoft Outlook	44	0%	6: 1
Express.js	41	200%	7: 1
Numbers (Spreadsheet)	41	60%	3: 1

The above digital skills were requested by retail employers. Digital skills such as Express.js and Microsoft Access increased in demand by 200% and 150% respectively. Average posting intensity was 5-to-1 for all skills in the sector, with some digital skills more in demand than others.

Top companies posting



Top posted occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Cleaners and domestics	5,694 / 1,586	4 : 1	23 days
Sales and retail assistants	4,215 / 1,083	4 : 1	20 days
Stock control clerks and assistants	2,217 / 465	5 : 1	32 days
Managers and directors in retail and wholesale	1,707 / 348	5 : 1	30 days
Telephone salespersons	1,343 / 259	5 : 1	33 days
Pharmacy and other dispensing assistants	458 / 199	2 : 1	29 days
Merchandisers and window dressers	448 / 144	3 : 1	29 days
Cleaning and housekeeping managers and supervisors	603 / 123	5 : 1	27 days
Product, clothing and related designers	475 / 117	4 : 1	23 days
Hairdressers and barbers	170 / 94	2 : 1	33 days

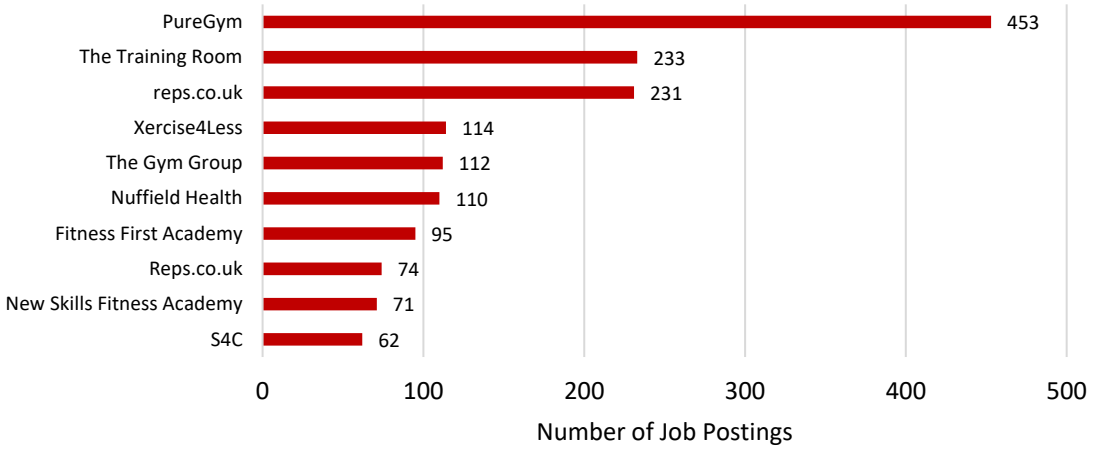
4.8 Sports

Digital skills requested by employers in the sports sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
Microsoft Access	184	-42%	8: 1
Social Media	80	-83%	9: 1
Scheme (Programming Language)	50	-43%	14: 1
Microsoft Teams	37	183%	5: 1
Session (Computer Science)	31	60%	4: 1
Go (Programming Language)	15	0%	5: 1
Boost (C++ Libraries)	12	50%	9: 1
Shiny (R Package)	9	Insf. Data	5: 1
Numbers (Spreadsheet)	6	0%	4: 1

Digital skills in the sports sector are highly sought after, especially Scheme skills as these were the skills sought after via a high posting intensity at 14-to-1 compared to the sector average of 5-to-1. Microsoft Access was the digital skill most in demand in regards to total job postings.

Top companies posting



Top posted digital occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Fitness instructors	16 / 8	2 : 1	28 days

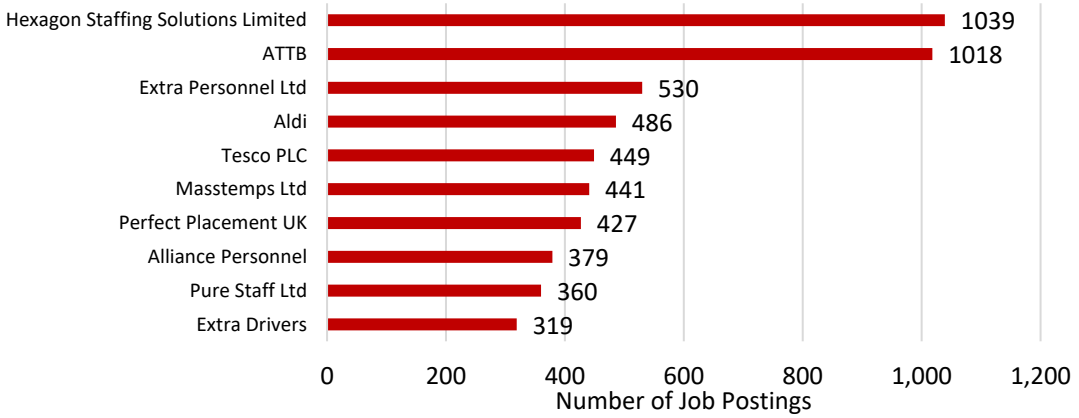
4.9 Transport Technologies

Digital skills requested by employers in the transport technologies sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
C (Programming Language)	595	98%	5: 1
Scheme (Programming Language)	297	74%	6: 1
Go (Programming Language)	263	138%	6: 1
Microsoft Teams	221	76%	5: 1
Microsoft Access	176	86%	7: 1
Microsoft Excel	84	47%	6: 1
Express.js	69	91%	5: 1
Numbers (Spreadsheet)	45	111%	11: 1
R (Programming Language)	44	-8%	5: 1

The transport technologies sector requests fewer digital skills compared to other sectors analysed in this report. Over the past year, C was the digital skill most commonly requested; however, GO was the skill that has seen the largest growth over the previous year at +138% increase in demand. Most digital skills above had a higher posting intensity compared to the sectoral average of all skills at 6-to-1.

Top companies posting



Top posted digital occupations

Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Van drivers	2,403 / 418	6 : 1	36 days
Large goods vehicle drivers	858 / 240	4 : 1	33 days
Vehicle technicians, mechanics and electricians	49 / 23	2 : 1	20 days
Transport and distribution clerks and assistants	87 / 21	4 : 1	18 days
Managers and directors in storage and warehousing	26 / 13	2 : 1	19 days
Managers and directors in transport and distribution	19 / 7	3 : 1	18 days
Stock control clerks and assistants	27 / 5	5 : 1	18 days
Mobile machine drivers and operatives n.e.c.	13 / 3	4 : 1	31 days
Vehicle and parts salespersons and advisers	1 / 1	1 : 1	2 days
Bus and coach drivers	1 / 1	1 : 1	5 days

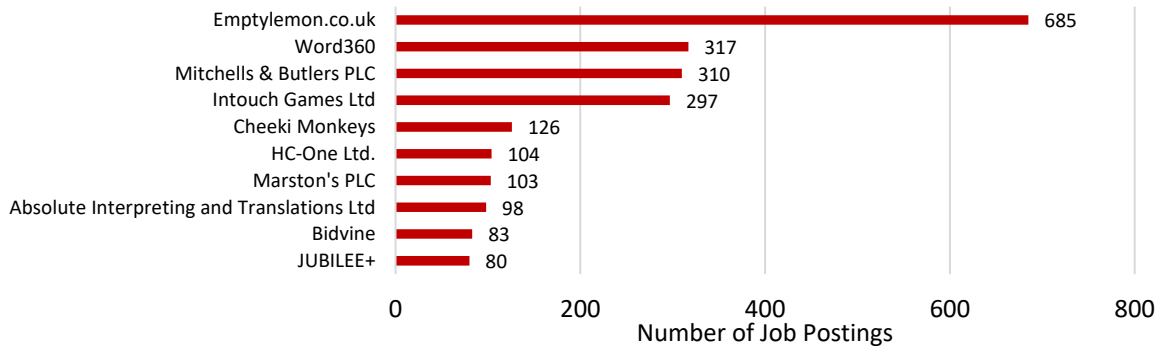
4.10 Visitor economy

Digital skills requested by employers in the visitor economy sector, April 2020 – April 2021

Skill or Qualification	Unique Postings from Apr 2020 - Apr 2021	% Change (Apr 2020 - Apr 2021)	Avg. Posting Intensity (Apr 2020 - Apr 2021)
Microsoft Access	227	370%	17: 1
Social Media	133	825%	14: 1
Microsoft Teams	123	140%	7: 1
Computer Literacy	88	229%	4: 1
Scheme (Programming Language)	67	15%	7: 1
Go (Programming Language)	62	58%	4: 1
Adobe Photoshop	59	86%	8: 1
Microsoft Excel	52	171%	3: 1
Adobe Illustrator	50	100%	8: 1
Microsoft Office	49	325%	3: 1
Graphic Design	45	75%	7: 1
Computer-Aided Design	37	-31%	4: 1
Microsoft Word	34	150%	2: 1
Adobe Creative Suite	31	275%	11: 1
Adobe InDesign	24	33%	6: 1
Typography	18	400%	14: 1
Animations	18	Insf. Data	11: 1
Digital Marketing	18	700%	13: 1

The visitor economy sector has a large range of digital skills in demand from employers. Microsoft Access and social media skills were the top requested in terms of overall numbers. Digital marketing had the highest posting intensity at 13-to-1, compared to the overall sector intensity for all skills at 8-to-1.

Top companies posting



Top posted digital occupations

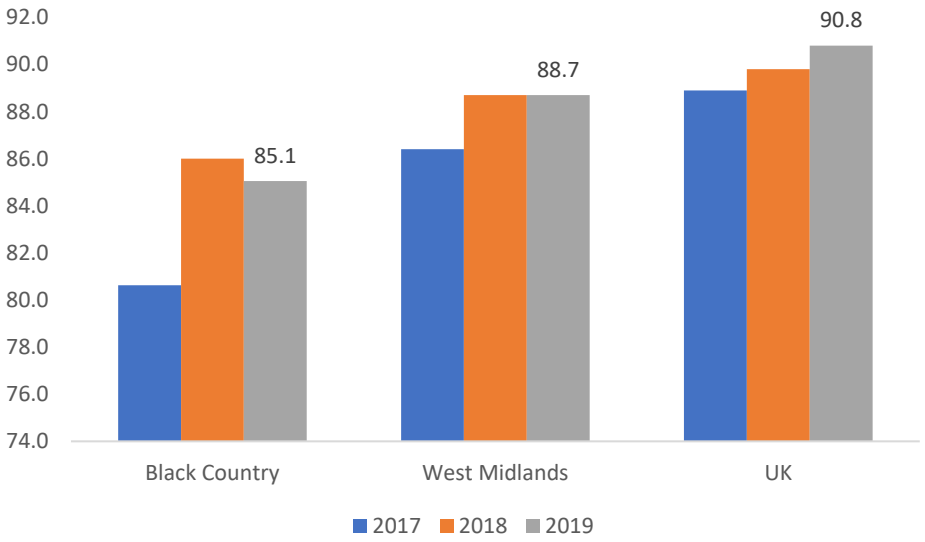
Occupation (SOC)	Total/Unique (Apr 2020 - Apr 2021)	Posting Intensity	Median Posting Duration
Graphic designers	253 / 43	6 : 1	14 days
Photographers, audio-visual and broadcasting equipment operators	63 / 25	3 : 1	8 days
Authors, writers and translators	169 / 22	8 : 1	41 days
Arts officers, producers and directors	13 / 6	2 : 1	15 days
Product, clothing and related designers	22 / 6	4 : 1	7 days
Conference and exhibition managers and organisers	17 / 4	4 : 1	10 days
Chefs	4 / 3	1 : 1	863 days
Travel agents	5 / 2	3 : 1	146 days
Artists	2 / 1	2 : 1	n/a
Cooks	1 / 1	1 : 1	840 days

5. Digital exclusion

In an increasingly digital age, those who are not engaging effectively with the digital world are at risk of being left behind. Technological change means that digital skills are increasingly important for connecting with others, accessing information and services and meeting the changing demands of the workplace and economy. This is leading to a digital divide between those who have access to information and communications technology and those who do not, giving rise to inequalities in access to opportunities, knowledge, services and goods.

The importance of internet usage is reflected in the Sustainable Development Goals (SDGs). The SDGs include an indicator for the proportion of individuals who have used the internet in the last three months (Indicator 17.8.1). However, it is important to recognise that digital skills are as important as internet usage. Users of the internet can still be digitally excluded because they lack the skills to be able to confidently and safely navigate the digital world.

Percentage of adults who have used in the internet in the last 3 months:



Since the onset of social distancing in the UK, some semblance of normality – or at least of productivity – has been possible to maintain only because of the networks of digital technologies and platforms already in place. Lockdown has certainly served to highlight our reliance on virtual means of staying in touch. Critically, it has also thrown into sharp definition the issue of digital exclusion, which has been a reality for the 22% of the UK's population who lack basic digital skills since long before the Covid-19 outbreak.

As an aspect of deprivation in the UK, digital exclusion cannot be overlooked. The likelihood of having access to the internet from home increases along with income, such that only 51% of households earning between £6000-10,000 had home internet access compared with 99% of households with an income of over £40,001. The link between poverty and digital exclusion is clear: if you are poor, you have less chance of being online.

Children living in poverty are already significantly disadvantaged compared to their wealthier peers. Of those who have been eligible for free school meals, or who have been in care or adopted from

care, only 25% achieved grades 9-5 in GCSE English and Maths in 2019, compared with 50% of all other pupils.

Indicator	Dudley	Sandwell	Walsall	W'hampton
Likelihood of digital exclusion	Medium	Medium	High	High
Not online in the last 3 months	14.2%	11.8%	13.5%	13.9%
All 5 basic digital skills	77%	76%	76%	77%
Used all 5 basic skills in the last 3 months	42%	37%	38%	40%
Long term condition disability	20.3%	20.9%	20.8%	20.5%

The Centre for Economics and Business Research (CEBR) has identified five areas in which individuals who use basic digital skills are able to benefit:

1. **Earnings benefits:** these relate to increased earnings of between 3% and 10% through acquiring digital skills.
2. **Employability benefits:** this reflects the improved chances of finding work for someone who is unemployed and an increased likelihood that someone who is inactive will look for work.
3. **Retail transaction benefits:** shopping online has been found to be 13% cheaper on average than shopping in-store.
4. **Communication benefits:** basic digital skills can enable people to connect and communicate with family, friends and the community 14% more frequently.
5. **Time savings:** these relate to the time saved by accessing government services and banking online rather than in person, estimated to be about 30 minutes per transaction.

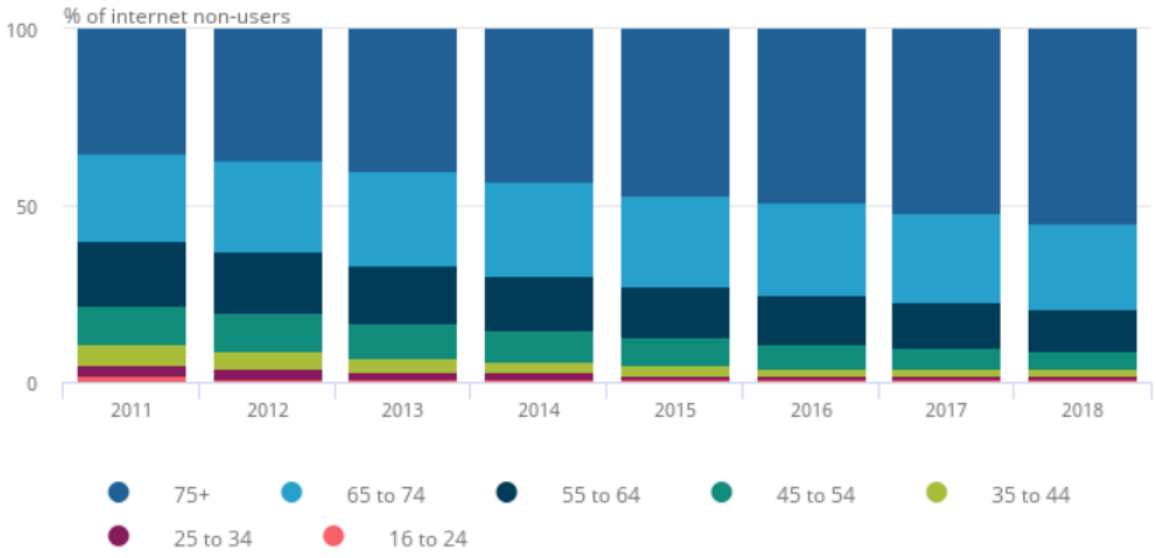
In the Lloyds Consumer Digital Index 2018, it is reported that 12% of those aged between 11 and 18 years have no internet access from a computer or tablet. Of those in this age group, 68% who did have home internet access reported that they would find it difficult to complete schoolwork without it, suggesting that there are educational implications for those without internet access.

This national finding is supported by the results of a more recent survey that was sent to secondary school heads in Black Country. The survey identified 13.4% of children without to the internet. It is not known how many of these students are eligible for free school meals, but it will be a significant proportion.

Whilst the numbers of school age children without access to the internet is a concern, the age profile of those not using the internet is heavily skewed to the older age groups. The Lloyds Consumer Digital Index 2020 reports that those aged over 70, in particular, are a group at risk, as 77% have “Very Low” engagement. This is supported by data from the Office of National Statistics (see graph below) which shows that since 2011, adults over the age of 65 years have consistently made up the largest proportion of the adult internet non-users, and over half of all adult internet non-users were over the age of 75 years in 2018. This reflects the pattern of the younger generations becoming more likely to be frequent internet users.

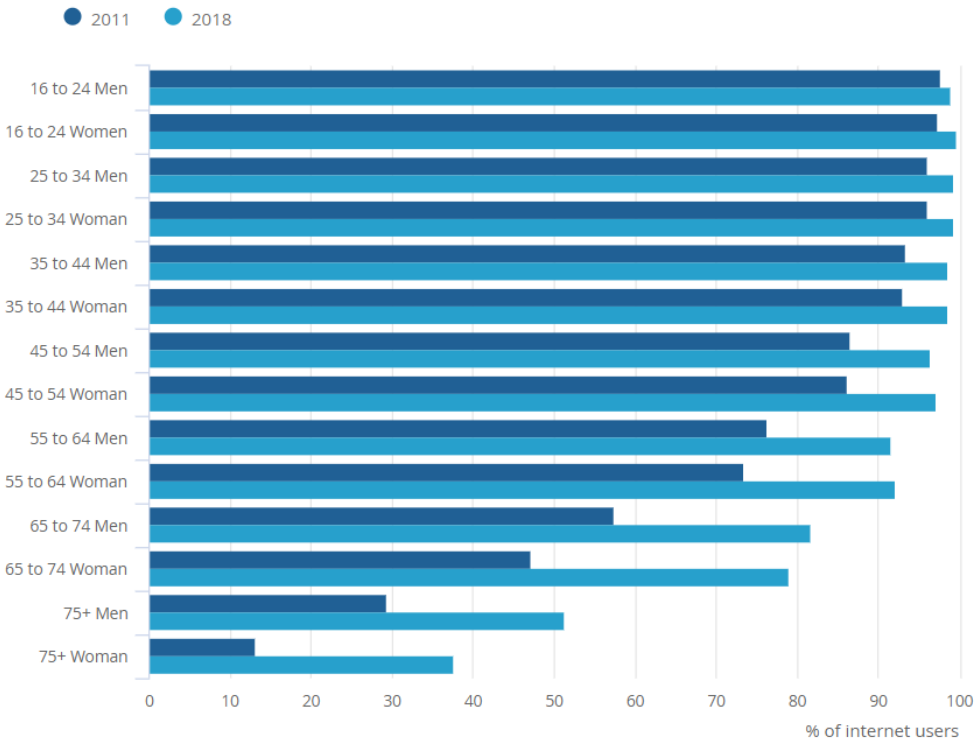
An increasing proportion of internet non-users are over the age of 65 years

Age composition of internet non-users, UK, 2011 to 2018



Source: Office for National Statistics - Internet Users, Labour Force Survey (LFS)

However, as can be seen below, the generational divide in those using the internet regularly is narrowing, although women in the older age groups continue to lag men.

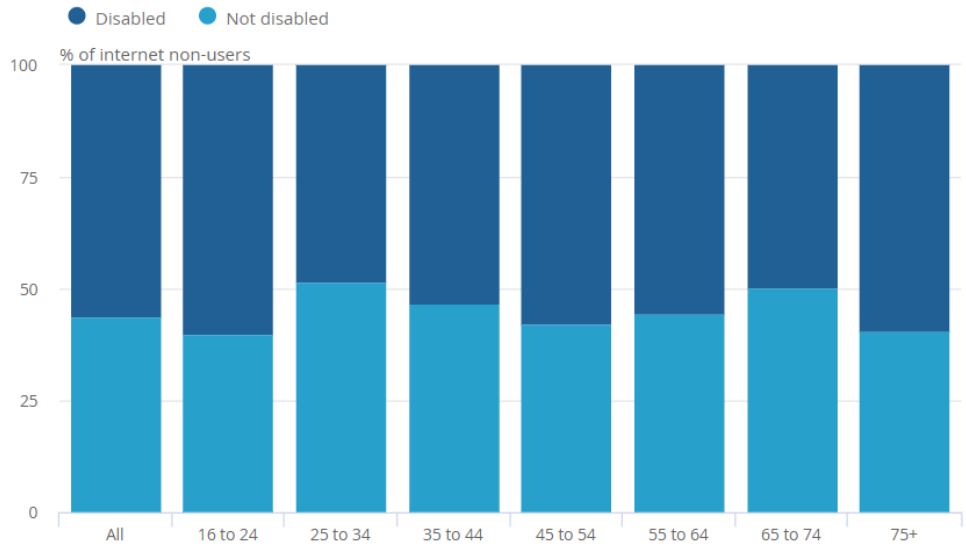


Source: Office for National Statistics - Internet Users, Labour Force Survey (LFS)

Across all age groups, disabled adults make up a large proportion of adult internet non-users. In 2017, 56% of adult internet non-users were disabled, much higher than the proportion of disabled adults in the UK population, which in 2016 to 2017 was estimated to be 22%20. For internet nonusers aged between 16 and 24 years, 60% were disabled in 2017, a proportion that is the same as for those aged 75 years and older.

Across all age groups, a large proportion of adult internet non-users are disabled

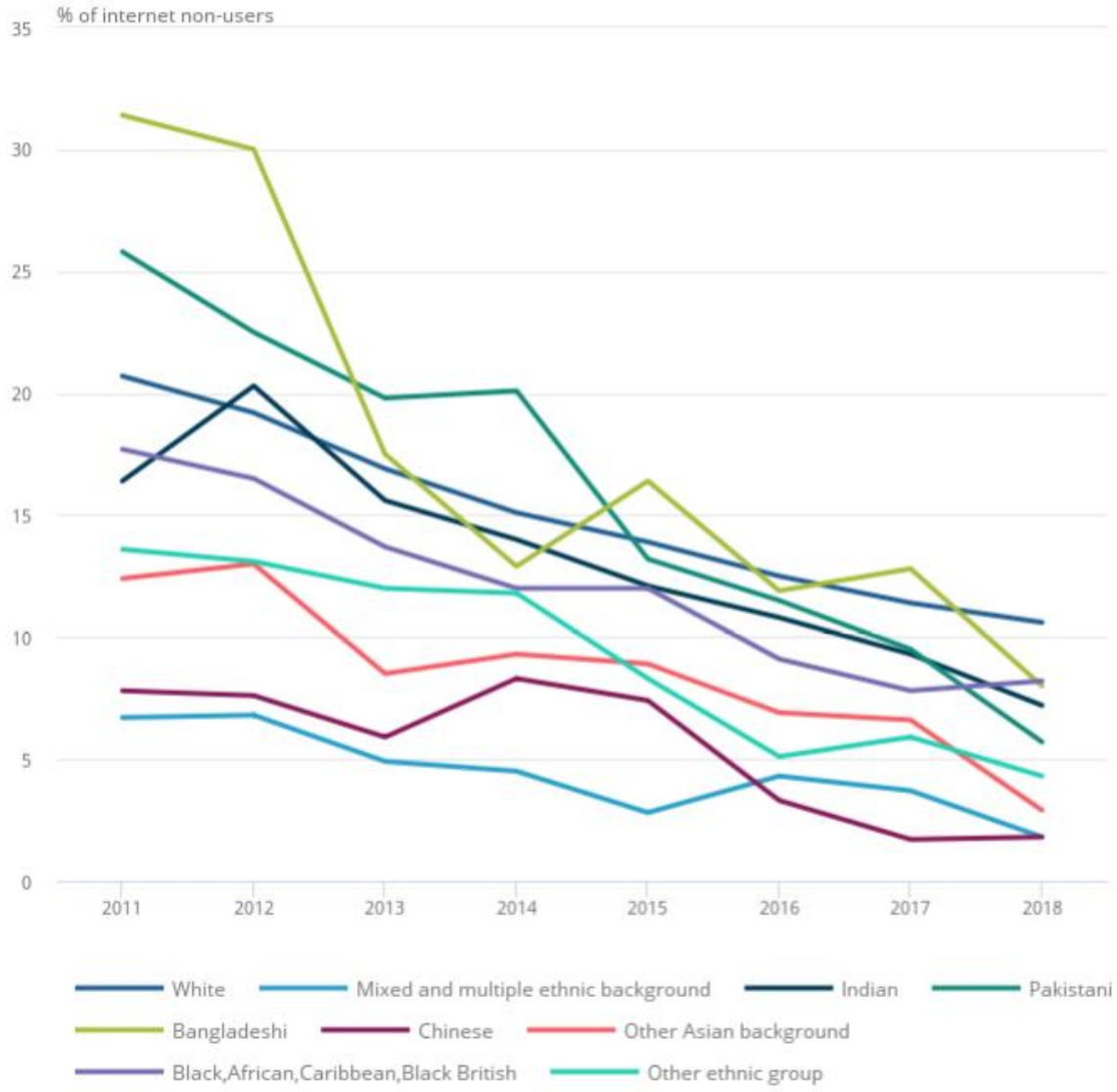
Composition of adult internet non-users by disability and age group, UK, 2017



Source: Office for National Statistics - Internet Users, Labour Force Survey (LFS)

There are wide disparities among different ethnic groups

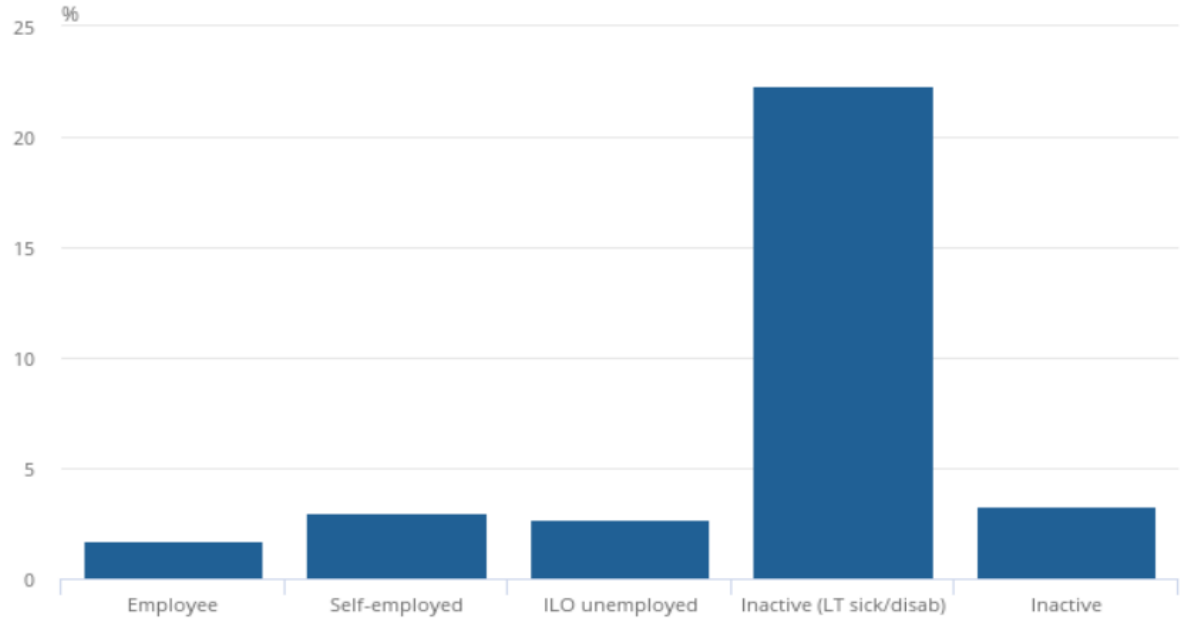
Percentage of internet non-users by ethnic group, UK, 2011 to 2018



Source: Office for National Statistics - Internet Users, Labour Force Survey (LFS)

Among those of working age, the economically inactive are the most likely to be internet non-users, particularly those adults on long-term sick leave or disabled (the second bar from the right in the bar chart below), as might be expected given the patterns among disabled people.

Percentage of working age adults who are internet non-users by economic activity status, UK 2018



Source: Office for National Statistics - Internet Users, Labour Force Survey (LFS)

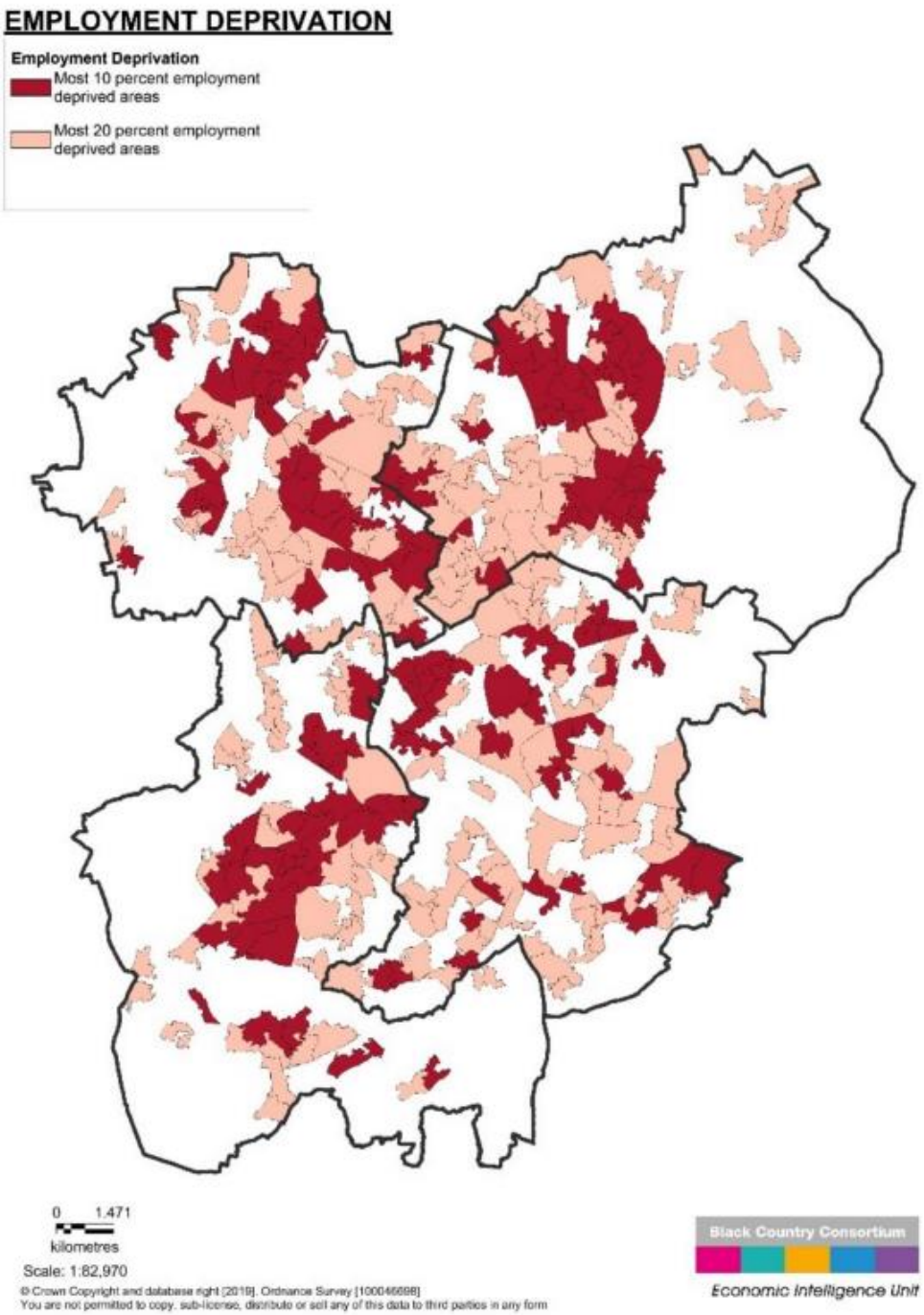
For those lacking basic digital capability, the reasons for this exclusion are often complex. Research suggests that there are four key barriers, and more than one may affect individuals at any one time:

- **access:** the ability to connect to the internet and go online
- **skills:** the ability to use the internet and online services
- **confidence:** a fear of crime, lack of trust or not knowing where to start online
- **motivation:** understanding why using the internet is relevant and helpful

Periodically the Government publishes an Index of Multiple Deprivation. The most recent of these was published in 2019 (IMD 2019). The IMD 2019 provides data on the overall level of deprivation in Lower Super Output Areas (LSOAs). This is built up from analysis of a number of 'Domains' that focus on a particular characteristic of deprivation. One of these domains is the 'Employment Deprivation Domain'.

The Employment Deprivation Domain of IMD 2019 measures the proportion of the working-age population in an area involuntarily excluded from the labour market. This includes people who would like to work but are unable to do so due to unemployment, sickness or disability, or caring responsibilities. It therefore provides a good indication of where digitally excluded economically inactive people are most likely to live.

Data for the Black Country from the Employment Deprivation Domain of the 2019 Index of Deprivation is illustrated in the map below:

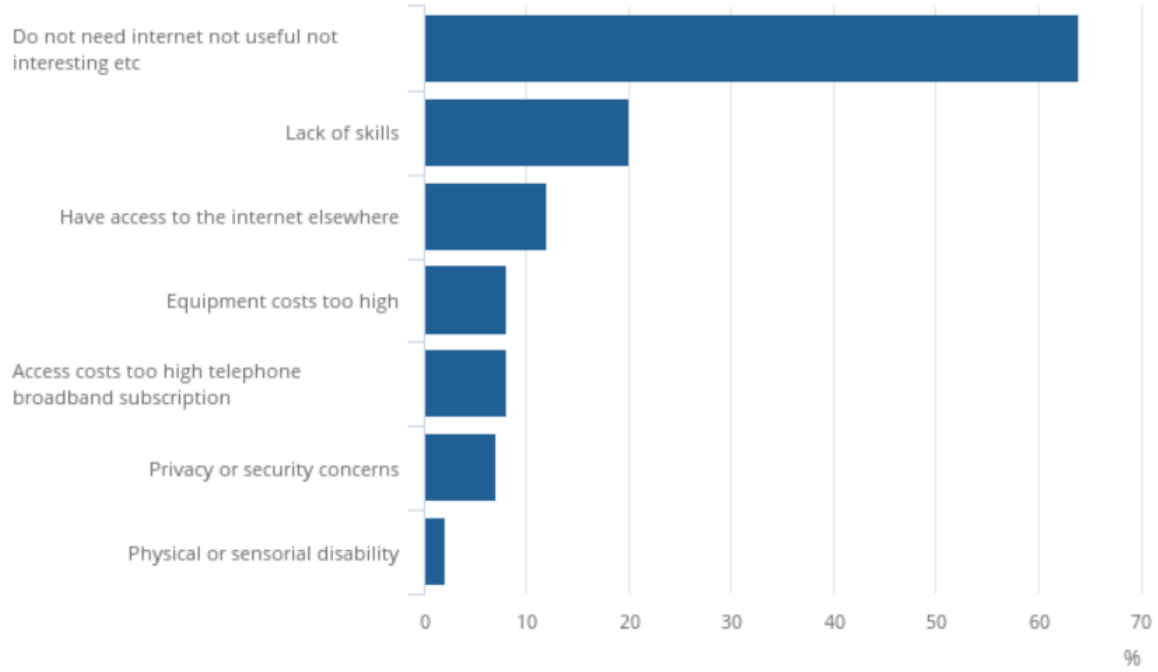


Employment deprivation is high in the region with 46% of LSOA's in the 20% most deprived in England and nearly half of them (20%) within the worst 10% most deprived nationally. Wolverhampton has the highest proportion within the Black Country although whilst Dudley got worse in the proportion of areas in the 10% and 20% most deprived areas since 2015 (3pp and 2pp respectively) they still have lowest proportions within the Black Country.

The graph below shows the reasons given for not having internet access in the household in 2017. The most common reason given was that they didn't need it (64%), followed by a lack of skills (20%), 2% also identified a physical or sensorial disability as a reason.

The most common reason for not having internet access in the household is a perceived lack of need, followed by a lack of skills

Percentage of households by reason for not having household internet access, Great Britain, 2017



Source: Office for National Statistics - Internet Users, Labour Force Survey (LFS

Furthermore, the Lloyds Consumer Digital Index 2021 found that motivation is one of the key barriers to doing more online – over one-third of those offline say the Internet 'doesn't interest me' and 48% of the digitally excluded state that 'nothing' could motivate them to get online. The report finds that the least digitally engaged are at a real disadvantage. They are more likely to be paying higher household bills irrespective of income, household, or age; for utilities alone, they are spending an average of over £348 more per year. They are also less likely to earn as much – the Index transactional and job role data indicates that, for example, digitally enabled manual workers are earning an average of £2,160 extra per annum.

6. Black Country digital skills learning

This section of the report will use data about the delivery of Digital Skills learning to provide insights into the demand for digital skills from individuals and employers. It will focus on data for Further Education (FE) and for apprenticeships. The volume of FE learning delivery is clearly linked to the demand for such learning from individuals.

Simply put, if there are insufficient numbers of people wanting to pursue a course of study in FE, the course will not happen. This is particularly true for young people and for adults qualified below Level 2 where learning is, generally, free to the learner. Sometimes the demand for learning by individuals can be constrained by external factors. Information failure can also be a feature of the market for learning. This is where individual demand is fed by imperfect information about the value/labour market relevance of different courses of study. Sometimes there are constraints on the capacity or capability of skills providers to deliver certain types of learning.

The volumes of apprenticeship delivery also provide some insight into the demand for skills from employers and individuals. For apprenticeships to happen, employers need to employ an apprentice, and individuals need to work as apprentices. An apprenticeship start also requires a skills provider with the capacity, capability and resources to deliver the learning.

6.1 Provision Review

This overview of 'Supply vs Demand' we will concentrate on the most significant areas of misalignment and gaps across the sector. Identifying which courses are currently over-supplying the labour market, which areas of labour market demand is currently being met and where there might be areas of opportunity for the development of new skill provision.

Course Area	Completions	Annual Openings	Gap Between Demand and Provision	% Jobs Growth (2018-2022)
Publishing and Information Services	10	230	220	0%
ICT Practitioners	1,647	541	-1,106	1%
IT User Skills	2,165	75	-2,090	1%
Media and Communication	854	170	-684	1%

Source: EMSI Analytics, 2021

Green: Areas where the provider base already offers courses, but the data indicates that there may be room to grow these to meet employment demand.

Blue: Courses the provider base does not currently offer, indicating that there is potential for creating new courses to meet these skills needs.

Yellow: Areas where the data suggests that the provider base is currently oversupplying the labour market to a significant level.

Skills provision that is aligned to local jobs and industry demand not only helps providers with their Ofsted inspection but also helps to ensure learners are best placed to get employment using the skills they have learned, supply employers with the skills they need and support growth in the local and wider economy.

This provision review identifies areas of misalignment in the Black Country for the digital sector:

Strengths (course areas that are well met compared to industry demand)

Course areas which have a gap between supply and demand, where that there is less provision than supply is possibly where there is still potential to increase provision locally. This includes Publishing and Information Services.

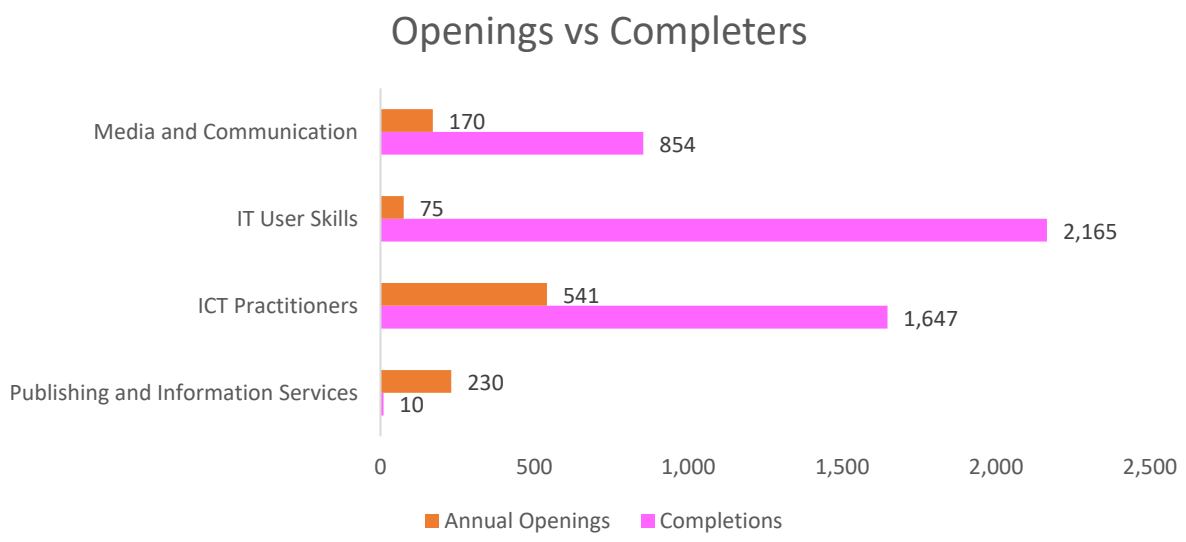
Opportunities (course areas that are currently under supplied compared to demand)

Opportunity areas include courses with a small gap between provision and openings, as these are the disciplines which are sought after but have no provision locally. This includes Publishing and Information Services

Threats (course areas that are well met or oversupplied compared to industry demand)

Disciplines with too much provision and not enough employer demand will lead to an oversaturated supply of labour in certain disciplines. Graduates from these courses will find it difficult to find employment locally, and may have to move out of the area to find work in their field. People skilled in this discipline might have to upskill or retain in other disciplines to find work elsewhere. Courses in this group include those highlighted in yellow with large gaps e.g., ICT Practitioners, IT User Skills, Media and Communication.

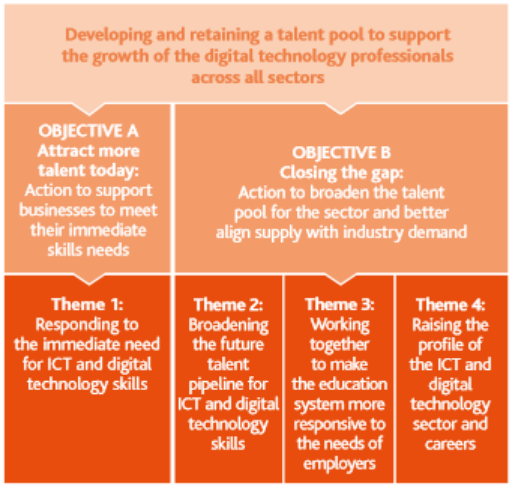
The best way to implement change is to prioritise interventions based on biggest misalignments and gaps. Disciplines with a low uptake e.g., those in blue, need extra resources to highlight the opportunities in these occupations. These strengths, opportunities and threats can be clearly identified in the graph below:



Source: EMSI Analytics Tool, 2021

7. Digital skills action plan

The vision for the Black Country LEP is for the Black Country to be viewed as a prime location for digital orientated businesses to be able to develop, invest and grow by having access to a talent pool with exceptional digital skills.



In order to achieve this ambition, the Black Country LEP needs to ensure a fit for purpose skills eco-system that meets the needs of employers now and in the future.

The immediate priority for the LEP is to raise the profile of digital skills across the Black Country and ensure that stakeholders understand the contribution to the economy.

Objective:

1. To ensure individuals and careers influencers (parents, teachers and careers advisers) are aware of the opportunities created by digital skills in all sectors.

The Black Country Strategic Economic Plan (SEP) is built upon the three pillars of 'People', 'Place' and 'Business'. The 'People' pillar is concerned with raising employability, education and skills all of which clearly resonate with the issues identified within this report. Listed below are the objectives needed in each of the four strategic programmes to realise the Black Country vision:

P1 Skills for the Supply Chain: Responding to the immediate need for digital skills

1. Support the up-skilling of the digital technology workforce.
2. Increase the pipeline of talent to meet current and new digital technology skills needs.

P2 Skills Capital: Broadening the future talent pipeline for digital skills

1. Stimulate demand for digital skills from individuals by:

- Promoting the benefits of digital skills to adults, particularly in those areas of high deprivation
- Participation by women is low at every level of digital skills training. Guidance and information promoting the value of digital skills should be delivered, targeting women

P3: Raising Skills for the Future: Working together to make the education system more responsive to the needs of employers

1. Ensure the education system is aligned with the needs of businesses for digital skills.
2. Increase the number and relevance of graduates available to enter digital industries.
3. Improve the collaborations between industry and education.

P4: Skills for the Unemployed/Upskilling: To increase Black Country resident's employability by improving basic digital skills

1. In the working age population, those who are economically inactive are most likely to be digitally excluded. These people are mostly concentrated in the neighbourhoods deemed most deprived using the Employment Domain of the Index of Multiple Deprivation (2019).
2. Ensure a greater emphasis on digital skills and training through AEB provision.

8. Impact of covid

While it may be difficult to find a benefit of the covid-pandemic, it appears one maybe that the rapid shift to online services has helped to narrow the digital divide.

A surge in demand for internet services over the last year means the UK's digital divide has narrowed, with more and people getting connected than ever before.

The proportion of homes without internet access has fallen from 11% when the first lockdown hit in 2020 to just 6% — or 1.5m — in March 2021, according to new data from media regulator Ofcom.

Repeated lockdowns mean adults with previously limited digital skills have embraced online shopping, digital banking and video calling, while younger people have increasingly acted as IT support to older friends and relatives.

But while the figures are a fillip for efforts to reduce digital inequality across the UK, they showed a lack of digital capabilities continues to shut out the most vulnerable in society.

People over 65 were the most likely to have no internet access, while lower income households and the most financially vulnerable were also frequently cut off.

The research showed that the majority of people with no internet access at home had asked someone to do something for them online over the last year, with online shopping the most common request.

Ofcom's report also showed online activities provided much-needed escapism during lockdown, with online gaming proving popular among both children and adults.

Additional data showed the amount of time children spent watching streaming services such as Netflix and YouTube increased sharply, overtaking traditional broadcast viewing for the first time.

But the findings were not all positive. Many parents admitted finding it hard to control their children's screen time during the pandemic, with half of parents of five- to 15-year-olds saying they relaxed their approach to internet use as a result of lockdown.

There was also an increase in the number of children who reported some sort of negative experience online over the last year.

New analysis showed that children with a physical or mental condition that impacts or limits their daily lives were more likely to have had a negative interaction online, such as being contacted by a stranger or feeling pressured to send photos or other personal information to someone.

8.1 Looking to the future

Digital remains one of the most important enabling tools for us in the Black Country. It affects every sector, and has the potential to change the region for the better. Digital as a way of working is not just about the technology; it is always first and foremost about people. The recent COVID-19 pandemic has highlighted the value that digital can bring to our lives and the impact that this can have if not properly addressed.

The Covid-19 pandemic also exposed the high levels of digital inequalities that exist in our region. Many communities still struggle to pay for a broadband package, lacking access to a digital device at home, or ultimately, lacking the skills required to access online resources.

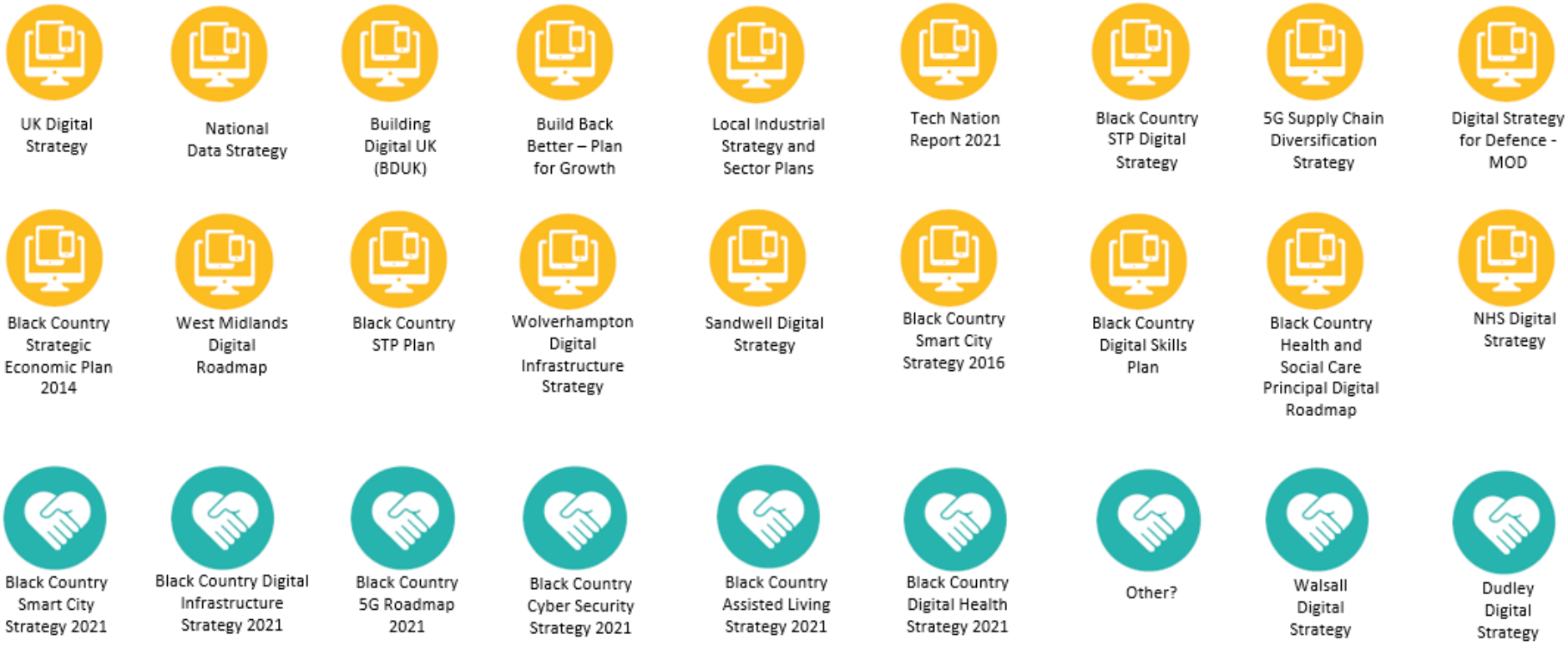
Therefore, one of our goals is to develop digital inclusion across the region, and to provide access to relevant digital training and education so that Black Country residents are educated about the changing nature of industry in the region, which will help empower them so that they are able to access future opportunities.

The surge of creativity we are witnessing emerge out of the pandemic, shows that we now live in a time where the pace of change is faster than ever before, and the need to identify opportunities is more crucial than ever. Thus, to ensure we remain competitive and an attractive place to invest, work and live, we will focus on the following 6 priorities:

- **Infrastructure**: Ensure we have world class infrastructure by pushing for further investment in our full fibre networks.
- **Skills:** Support productivity growth through high-quality skills and training. Place steps of change today, so that we are ready for the skills needs for tomorrow.
- **Innovation**: Support and incentivise the development of the creative ideas and technologies that will shape the UK's future high-growth, sustainable and secure economy.
- **Levelling Up**: Identify and target 'Not spots' across the Black Country – areas that have slow or no internet connectivity, and those that are suffering from Digital Poverty.
- **Future Proofing and Net Zero**: Analysis core Industrial sectors across the Black Country – the digital challenges that they face, and opportunities that they present. Suggesting selected projects that should be of focus for our region – keeping future proofed low carbon solutions in mind.
- **Promoting our strengths**: Collaborating with partners to inspire and shape local action to achieve our regional digital priorities.

The strategies and programmes detailed on the next page will help to enable the Black Country achieve our goals:

Linked Strategies and Programmes



9. Recommendations

For the Black Country to be a leading digital economy that works for everyone, it is crucial that everyone has the digital skills they need to fully participate in society. This means taking full advantage of the transformational benefits of the digital revolution.

Our approach involves:

1. ensuring that we continue to tackle the root causes of digital exclusion and that everyone can increase their digital capability to make the most of the digital world
2. developing the full range of digital skills that individuals and companies across the Black Country need in an increasingly digital economy, and supporting people to up-skill and re-skill throughout their working lives
3. a strong collaboration between the public, private and third sector to tackle the digital skills gap in a co-ordinated and coherent way, so the sum is greater than the parts and everyone everywhere has better access to the training they want
4. embedding digital skills into education to ensure that the next generation have the digital skills they need for work