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STATE OF THE TECH WORKFORCE UK

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State of the Tech Workforce can be accessed online at Cyberstates.org.

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ABOUT COMPTIA

The Computing Technology Industry Association (CompTIA) is a leading voice and advocate for the \$5 trillion global information technology ecosystem; and the estimated 75 million industry and tech professionals who design, implement, manage, and safeguard the technology that powers the world's economy. Through education, training, certifications, advocacy, philanthropy, and market research, CompTIA is the hub for unlocking the potential of the tech industry and its workforce.

CompTIA is the world's leading vendor-neutral IT-certifying body with more than 3.0 million certifications awarded based on the passage of rigorous, performance-based exams. CompTIA sets the standard for preparing entry-level candidates through expert-level professionals to succeed at all stages of their career in technology. Through CompTIA's philanthropic arm, CompTIA develops innovative on-ramps and career pathways to expand opportunities to populations that traditionally have been under-represented in the information technology workforce.

CompTIA <u>Technology Career Pathway Roadmap</u>

CompTIA Certifications Job Match

CompTIA Training and Learning

CompTIA <u>Tech Career Academy</u>

CompTIA IT Salary Calculator

CompTIA Member Communities and Councils

CompTIA Academy and Delivery Partner Program

ABOUT THE STATE OF THE TECH WORKFORCE UK

CompTIA's State of the Tech Workforce UK provides an in-depth look at employment, economic impact, technology trends, salaries, hiring activity, and more across the regions and metropolitan areas of the United Kingdom. The report draws upon many data sources, including EMSI Burning Glass, UK Office for National Statistics (ONS), Eurostat, OECD, CompTIA and more.

National reporting	Metropolitan Area reporting		
England	Birmingham	Newcastle	Belfast
Northern Ireland	Bristol	Nottingham	Edinburgh
Scotland	Leeds	Manchester	Glasgow
Wales	London	Sheffield	Cardiff
	Liverpool		

As with any sector-level report, there are varying interpretations of what constitutes the tech sector and the tech workforce. Some of this variance may be attributed to the objectives of the author. Is the goal to depict the broadest possible representation of STEM and digital economy fields, or a more narrowly defined technology subset? Is the goal to capture all possible knowledge workers, or a more narrowly defined technology subset? CompTIA weighs a number of factors in making these decisions. See the methodology section for details of the specific NAICS codes and SOC codes CompTIA uses in its definitions.

CompTIA's base of IT certification holders spans 232 countries





DEFINING NET TECH EMPLOYMENT

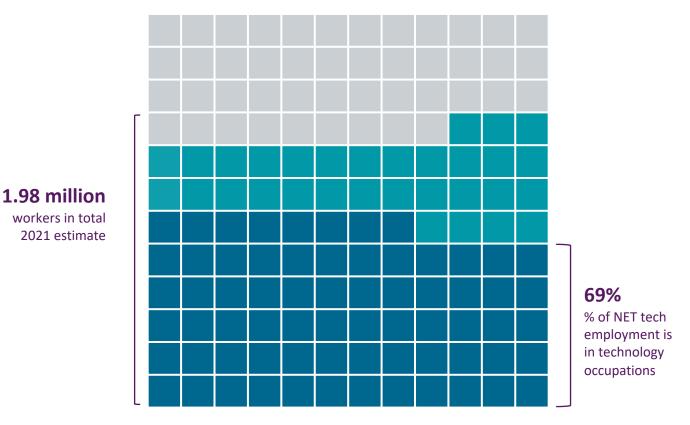
The tech workforce consists of two primary components, represented as a single figure by the 'net tech-employment' designation. The foundation is the set of technology professionals working in technical positions, such as IT support, network engineering, software development, data science, and related roles. Many of these professionals work for technology companies (51.6%), but many others are employed by organisations across every industry sector in the U.K. economy (48.4%).

The second component consists of the business professionals employed by technology companies. These professionals – encompassing sales, marketing, finance, HR, operations and management, play an important role in supporting the development and delivery of the technology products and services used throughout the economy. Almost 31% of the net tech-employment total consists of tech-industry business professionals.

One final segment involves workers classified as self-employed. For the purposes of this report, only dedicated, full-time self-employed technology workers are counted towards net-tech employment. Workers that are characterised as "gig" workers, which may entail working on the side for supplementary income, are excluded from this analysis due to several uncertainties with the data and to minimize the possibility of double counting.

N = Technology professionals employed across the economy, including in the tech sector (e.g. software developers, network architects, database admins, etc.)

N = Tech sector employment, less technology professionals (e.g. sales, marketing, finance, HR, etc.)





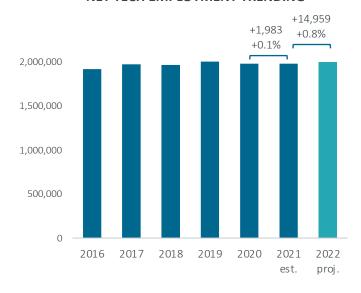
Source: EMSI Burning Glass | CompTIA Some numeric changes affected by rounding

KEY FINDINGS

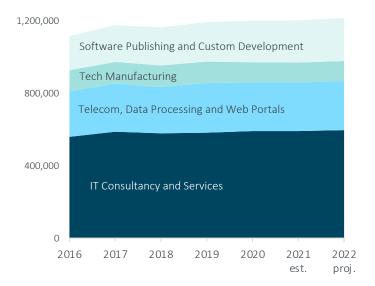
KEY POINTS

- → Net tech employment in the United Kingdom as described on the previous page, reached an estimated 1,978,041 workers in 2021, essentially flat with the previous year (0.1% increase). Net tech employment is projected to increase by almost 1% in 2022.
- →I Since 2016, net tech employment increased by an estimated 62,140 net-new jobs. Net tech employment growth has been steady during this span, averaging approximately 10,356 new jobs per year.
- → Net tech employment accounted for approximately 6.3% of the overall U.K. workforce in 2021. Because of the blurring of lines across industries, there is likely a degree of undercounting in tech sector employment as a percentage of U.K. employment.
- → Among the components of net tech employment, the tech sector side of the equation stayed practically the same, while the occupation side across all industry sectors experienced a gain of 0.3% year over year. Looking ahead, tech sector and tech occupation gains are projected to be 0.9% and 0.7% respectively.
- → All sectors of the tech industry except tech manufacturing have seen job gains over this five-year period. Largest tech industry contributors to job gains, 2016-2021:
 - → Software and Custom Development: +43,204
 - → IT Consultancy and Services: +31,964
- → Largest tech occupation contributors to job gains, 2016-2021:
 - → Programmers and Software Development: +16,816
 - → IT and Telecommunications Professionals: +6,292
 - → IT Specialist Managers: +6,026
 - → IT Technology and Telecommunications Directors: +3,607
- →I On a percent change basis, the occupation category covering programmers and software development professionals grew by +5.8%, the largest increase among tech occupations during 2016-2021. IT Analysts and Cybersecurity and systems increased by 3.0% and IT Project Managers increased by 3.1%.

NET TECH EMPLOYMENT TRENDING



TECH INDUSTRY EMPLOYMENT TRENDING



ECONOMIC IMPACT OF TECH INDUSTRY



5.5%

Estimated direct contribution of the UK tech industry to the UK economy: £82.6 billion

Source: EMSI Burning Glass | UK ONS | CompTIA



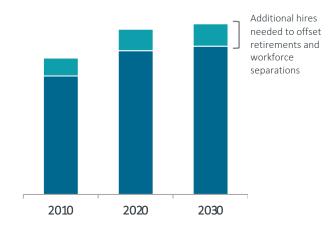
KEY FINDINGS

KEY POINTS

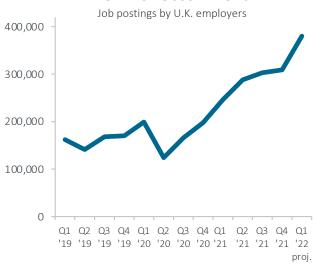
- → By 2030, projections from EMSI Burning Glass put the base of tech occupation employment at approximately 1.41 million (note: this covers occupations only and represents a subset of the net tech employment figure presented previously).
- → Calculating future workforce needs over the next decade is a function of several variables. First, there is a growth component, which may entail organisations adding headcount due to expansion or possibly to support new emerging technologies. Secondly, there is a retirement factor, with a portion of the workforce transitioning away from the workforce permanently. And lastly, there is a segment leaving the workforce for some other reason, also referred to as separations. These may stem from a career change, a return to school, family pursuits, or other. Changes to any of these variables can boost or shrink future workforce projections.
- →I Job posting data provides another layer of insight into the tech job market outlook. Because government labour taxonomies Standard Occupation Codes (SOCs), lag the speed with which the market changes, job posting data provides a more up-to-date look at the skills and experiences employers seek.
- → Overall quarterly tech job postings among U.K. employers dipped during 2020 due to the pandemic slowdown. Postings rebounded in Q1 2021 and have kept the upward trend with employers playing catch-up with pent-up demand. Note: job postings should not be interpreted as unfilled jobs and there is not a 1:1 relationship between postings and actual hires made.
- →I Employer demand for tech talent as measured by online job postings follows a similar pattern to tech employment. Manchester had approximately 45,543 postings in 2021. In second place is London with approximately 32,111 postings. Bristol and Birmingham are third and fourth respectively in terms of tech job postings.
- → Nationally, women represent approximately 49% of the U.K. workforce and 17% of tech occupations. This gap signals underrepresentation in the tech workforce. In the United States, women represent 26% of tech occupations.

TECH OCCUPATION EMPLOYMENT OUTLOOK

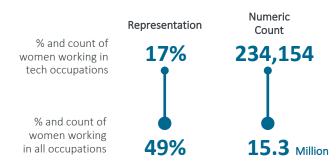
Workforce need = annual replacement rate + growth rate



AGGREGATE QUARTERLY JOB POSTINGS FOR TECH OCCUPATIONS



TECH WORKFORCE CHARACTERISTICS



Source: EMSI Burning Glass | UK ONS | CompTIA



METRO AREA NET TECH EMPLOYMENT

- → The top four metropolitan areas employ a little more than 572,500 tech industry and tech occupation workers, or about 1 in 3 tech workers in the nation.
- → London is the largest metropolitan area in the country by a wide margin. It follows that it also has the largest base of tech employment.
- → The Birmingham area saw the highest increase in net tech employment year over year.

METRO AREA EMPLOYMENT CONCENTRATION

- →I Employment concentration provides a measure of tech employment relative to employment across all the other industry sectors in a local economy. Along with economic impact as a percentage of a local economy, these metrics help to put tech into context.
- → At more than 8%, London and Edinburgh have the highest concentration of net tech employment as a percentage of their overall employment bases.
- → Compared to the national tech employment concentration benchmark of 6.3%, six metro areas had a higher rate, confirming the importance of technology to a far-reaching set of cities across the U.K.

METRO AREA TECH BUSINESS ESTABLISHMENTS

- → A large, dynamic base of business establishments, also referred to as company locations, is another measure of a healthy tech sector. Tech business establishments tend to be concentrated in population centers and in locations that are close to the customers they serve.
 - → London 44,831
 - → Manchester 6,408
 - →I Bristol 3,847
 - → Birmingham 3,129

METRO AREA MEDIAN TECH INDUSTRY WAGES

- → On average, tech industry wages are highest in London, followed by Edinburgh, Bristol, Glasgow, and Leeds.
 - → London £49,684
 - → Edinburgh £40,106
 - →I Bristol £39,864
 - → Glasgow £39,650
 - → Leeds £39.365
 - → Sheffield £38,977
 - → Manchester £38,684
 - →ı Liverpool £38,661
 - → Birmingham £37,273
 - → Nottingham £36,505

TOP METROS BY NET TECH EMPLOYMENT

1.	London	405,034
2.	Manchester	79,958
3.	Bristol	47,720
4.	Glasgow	39,818
5.	Birmingham	39,395
6.	Edinburgh	36,557
7.	Leeds	34,511
8.	Nottingham	32,410
9.	Sheffield	29,176
10.	Newcastle	28,509

TOP METROS BY NET TECH EMPLOYMENT JOB GAINS

1.	Birmingham	+1,436
2.	Bristol	+1,302
3.	Manchester	+976
4.	Nottingham	+326
5.	Glasgow	+274
6.	Cardiff	+168
7.	Liverpool	+63
8.	Belfast	+58
9.	Edinburgh	+53
10.	Newcastle	-274

TOP METROS BY NET TECH EMPLOYMENT AS A PERCENT OF LOCAL EMPLOYMENT

1.	Edinburgh	8.8%
2.	London	8.5%
3.	Bristol	7.6%
4.	Leeds	7.5%
5.	Glasgow	7.0%
6.	Nottingham	6.5%
7.	Belfast	6.2%
8.	Manchester	5.9%
9.	Birmingham	5.8%
10.	Newcastle	5.7%

Source: EMSI Burning Glass | UK ONS | CompTIA



UNITED KINGDOM SNAPSHOT

United Kingdom

STATE OF TECHNOLOGY SUMMARY

1,978,041 NET TECH EMPLOYMENT¹

6.3% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

188,812 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

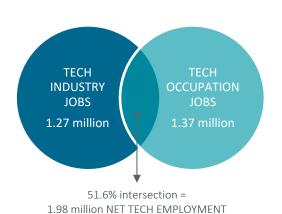
£82.6b ECONOMIC IMPACT

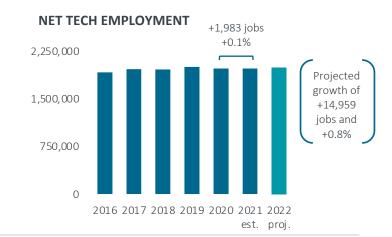
1,146,758 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

19% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



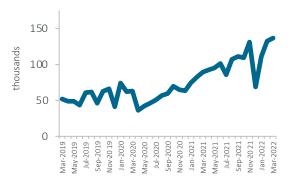
¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



LEADING TECH OCCUPATIONS

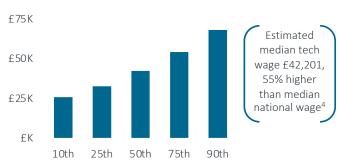
	2021	2022 % Change ³
Software Development and Web Design	352,103	+0.9%
IT Analysts, Cybersecurity ² and Systems	300,165	+0.7%
IT Support and Operations Technicians	220,748	+0.6%
Network and Telecommunications Engineers	101,627	+0.6%
IT Project Managers	84,984	+0.7%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	591,335	+0.9%
Telecom, Data Processing, Web Portals	269,336	+0.7%
Software and Custom Development	232,965	+2.0%
Tech Manufacturing	109,868	+0.5%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years







England

STATE OF TECHNOLOGY SUMMARY

1,742,536 NET TECH EMPLOYMENT¹

6.6% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

173,553 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

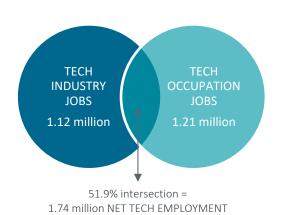
743,923 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

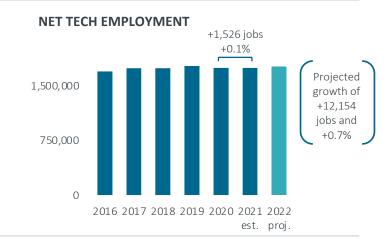
143,011 EMERGING TECH JOB POSTINGS [job roles + skills]

19% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

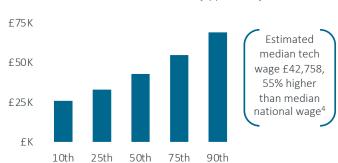
	2021	2022 % Change ³
Software Development and Web Design	310,729	+0.9%
IT Analysts, Cybersecurity ² and Systems	265,029	+0.7%
IT Support and Operations Technicians	190,529	+0.6%
Network and Telecommunications Engineers	89,186	+0.7%
IT Project Managers	74,518	+0.7%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	534,756	+0.9%
Telecom, Data Processing, Web Portals	228,812	+0.6%
Software and Custom Development	206,751	+1.9%
Tech Manufacturing	87,423	+0.4%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Wales

STATE OF TECHNOLOGY SUMMARY

54,270 NET TECH EMPLOYMENT¹

4.1% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

4,014 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

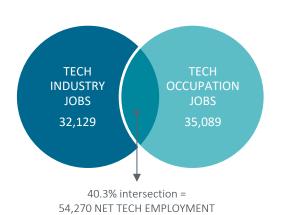
13,752 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

2,033 EMERGING TECH JOB POSTINGS [job roles + skills]

15% EMERGING TECH JOB POSTINGS AS A % OF TOTAL

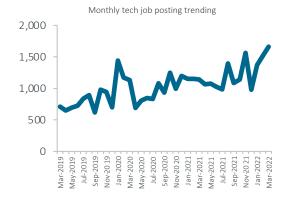


¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details



est. proj.

EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

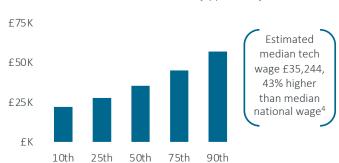
	2021	2022 % Change ³
Software Development and Web Design	8,583	+0.1%
IT Analysts, Cybersecurity and Systems	7,693	+0.0%
IT Support or Operations Technicians	6,640	+0.0%
Network or Telecommunications Engineers	3,237	-0.8%
IT Project Managers	2,313	+0.2%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	8,956	-6.3%
Telecom, Data Processing, Web Portals	9,247	+2.0%
Software and Custom Development	3,556	-2.9%
Tech Manufacturing	8,145	+2.8%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Scotland

STATE OF TECHNOLOGY SUMMARY

141,501 NET TECH EMPLOYMENT¹

5.7% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

9,170 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

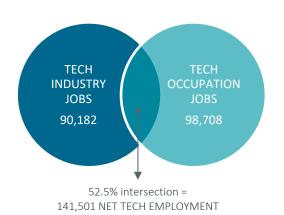
49,606 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

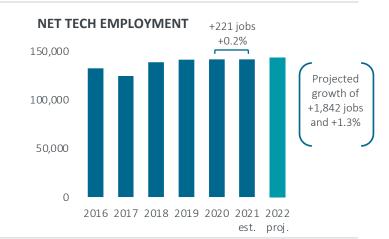
8,242 EMERGING TECH JOB POSTINGS [job roles + skills]

17% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

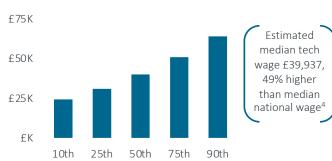
	2021	2022 % Change ³
Software Development and Web Design	24,702	+1.5%
IT Analysts, Cybersecurity ² and Systems	21,884	+1.2%
IT Support and Operations Technicians	19,831	+0.8%
Network and Telecommunications Engineers	7,539	+0.4%
IT Project Managers	5,612	+0.6%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	40,856	+2.7%
Telecom, Data Processing, Web Portals	24,854	+1.3%
Software and Custom Development	13,745	+4.8%
Tech Manufacturing	10,011	+0.1%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Northern Ireland

STATE OF TECHNOLOGY SUMMARY

39,765 NET TECH EMPLOYMENT¹

4.2% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

2,075 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

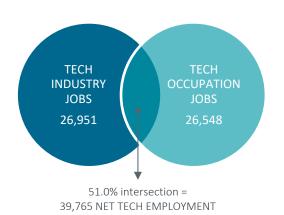
16,791 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

3,711 EMERGING TECH JOB POSTINGS [job roles + skills]

22% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details



NET TECH EMPLOYMENT +161 jobs +0.4% Projected growth of +698 jobs and +1.8% 15,000 2016 2017 2018 2019 2020 2021 2022 est. proj.

EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

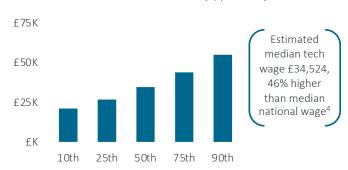
2021	2022 % Change ³
8,089	+1.6%
5,560	+1.4%
3,747	+1.2%
2,541	+2.0%
1,666	+1.4%
	8,089 5,560 3,747 2,541

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	6,766	+1.9%
Telecom, Data Processing, Web Portals	6,422	+3.5%
Software and Custom Development	8,913	+2.0%
Tech Manufacturing	4,286	+1.1%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





METRO AREA SNAPSHOTS

Belfast

STATE OF TECHNOLOGY SUMMARY

26,334 NET TECH EMPLOYMENT¹

6.2% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

1,295 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

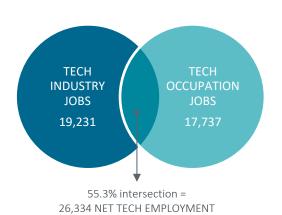
14,618 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

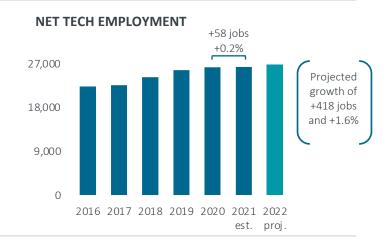
3,407 EMERGING TECH JOB POSTINGS [job roles + skills]

23% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

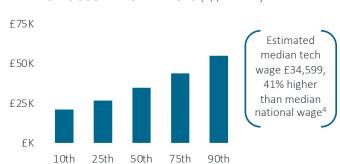
	2021	2022 % Change ³
Software Development and Web Design	5,991	+1.7%
IT Analysts, Cybersecurity ² and Systems	3,638	+1.1%
IT Support and Operations Technicians	2,235	+1.0%
IT Project Managers	1,740	+1.9%
Network and Telecommunications Engineers	903	+0.8%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	4,890	+1.3%
Telecom, Data Processing, Web Portals	3,450	+2.0%
Software and Custom Development	7,884	+2.6%
Tech Manufacturing	2,655	+1.9%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Birmingham

STATE OF TECHNOLOGY SUMMARY

39,395 NET TECH EMPLOYMENT¹

5.8% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

3,129 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

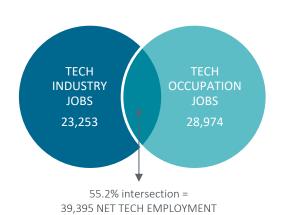
25,174 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

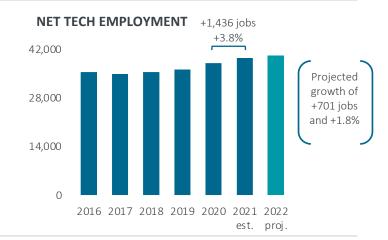
3,697 EMERGING TECH JOB POSTINGS [job roles + skills]

15% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

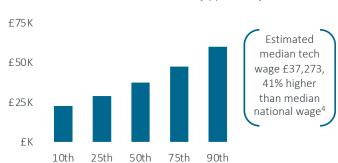
	2021	2022 % Change ³
Software Development and Web Design	6,633	+1.3%
IT Analysts, Cybersecurity ² and Systems	6,386	+0.7%
IT Support and Operations Technicians	5,739	+2.5%
Network and Telecommunications Engineers	2,543	+2.2%
IT Project Managers	1,377	+1.1%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	10,344	+1.6%
Telecom, Data Processing, Web Portals	5,778	+4.5%
Software and Custom Development	4,666	+2.0%
Tech Manufacturing	589	+4.7%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Bristol

STATE OF TECHNOLOGY SUMMARY

47,720 NET TECH EMPLOYMENT¹

7.6% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

3,847 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

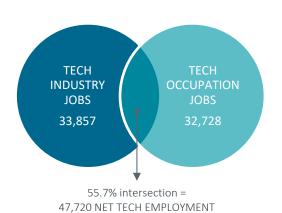
29,013 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

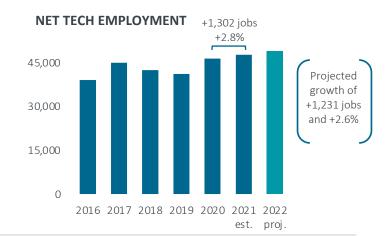
4,905 EMERGING TECH JOB POSTINGS [job roles + skills]

17% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending

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LEADING TECH OCCUPATIONS

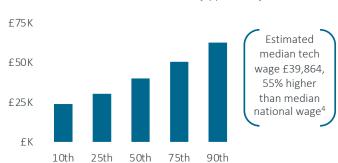
	2021	2022 % Change ³
Software Development and Web Design	9,042	+2.4%
IT Analysts, Cybersecurity ² and Systems	6,457	+2.2%
IT Support and Operations Technicians	4,937	+1.3%
Network and Telecommunications Engineers	2,793	+1.6%
IT Project Managers	1,980	+1.7%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	17,149	+5.0%
Telecom, Data Processing, Web Portals	6,893	+2.0%
Software and Custom Development	7,599	+5.3%
Tech Manufacturing	1,833	-0.6%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Cardiff

STATE OF TECHNOLOGY SUMMARY

23,835 NET TECH EMPLOYMENT¹

5.1% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

1,563 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

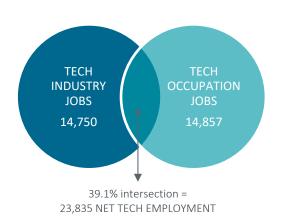
5,996 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

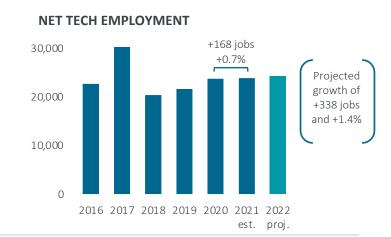
1,062 EMERGING TECH JOB POSTINGS [job roles + skills]

18% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



LEADING TECH OCCUPATIONS

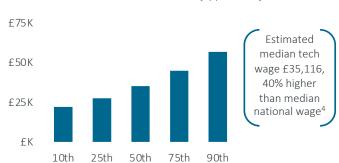
2021	2022 % Change ³
3,747	+0.5%
3,259	+0.7%
2,863	+0.4%
1,386	-0.2%
1,031	+0.8%
	3,747 3,259 2,863 1,386

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	3,638	-5.7%
Telecom, Data Processing, Web Portals	4,650	+4.2%
Software and Custom Development	1,758	-3.1%
Tech Manufacturing	3,779	+4.0%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Edinburgh

STATE OF TECHNOLOGY SUMMARY

36,557 NET TECH EMPLOYMENT¹

8.8% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

2,410 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

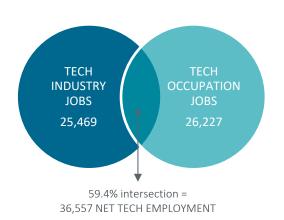
20,667 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

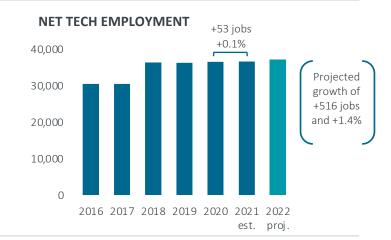
4,575 EMERGING TECH JOB POSTINGS [job roles + skills]

22% EMERGING TECH JOB POSTINGS AS A % OF TOTAL

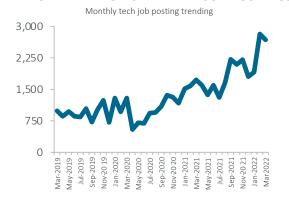


¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

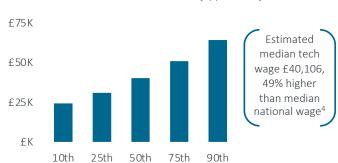
	2021	2022 % Change ³
Software Development and Web Design	7,689	+1.6%
IT Analysts, Cybersecurity ² and Systems	5,998	+1.2%
IT Support and Operations Technicians	5,016	+1.1%
IT Project Managers	1,695	+0.7%
Network and Telecommunications Engineers	1,276	+0.4%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	13,230	+2.3%
Telecom, Data Processing, Web Portals	3,671	+0.3%
Software and Custom Development	5,661	+4.3%
Tech Manufacturing	2,758	-0.3%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Glasgow

STATE OF TECHNOLOGY SUMMARY

39,818 NET TECH EMPLOYMENT¹

7.0% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

2,149 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

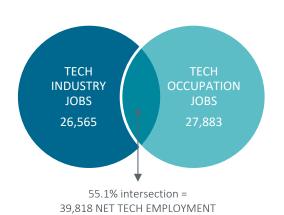
16,301 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

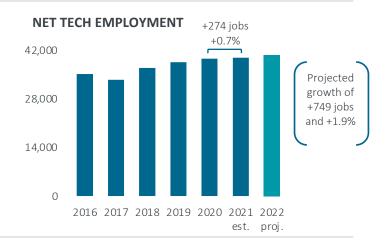
2,329 EMERGING TECH JOB POSTINGS [job roles + skills]

14% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

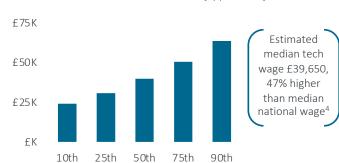
	2021	2022 % Change ³
Software Development and Web Design	7,153	2.5%
IT Analysts, Cybersecurity ² and Systems	6,225	1.9%
IT Support and Operations Technicians	5,722	1.0%
Network and Telecommunications Engineers	2,128	0.5%
IT Project Managers	1,417	1.5%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	13,854	+3.1%
Telecom, Data Processing, Web Portals	6,689	+1.3%
Software and Custom Development	3,877	+7.1%
Tech Manufacturing	1,979	-0.2%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Leeds

STATE OF TECHNOLOGY SUMMARY

34,511 NET TECH EMPLOYMENT¹

7.5% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

2,352 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

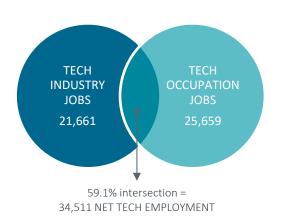
22,087 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

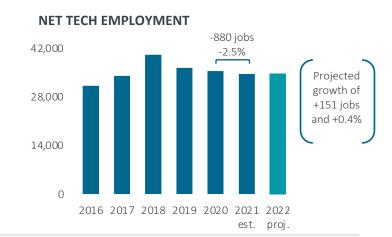
3,045 EMERGING TECH JOB POSTINGS [job roles + skills]

14% EMERGING TECH JOB POSTINGS AS A % OF TOTAL

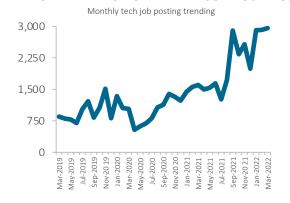


¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

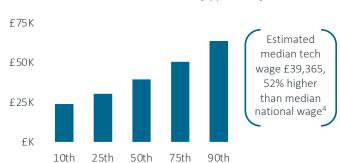
	2021	2022 % Change ³
Software Development and Web Design	7,155	+1.1%
IT Analysts, Cybersecurity ² and Systems	5,900	+0.9%
IT Support and Operations Technicians	3,736	+0.2%
Network and Telecommunications Engineers	1,754	-0.1%
IT Project Managers	1,463	+1.1%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	10,642	+0.5%
Telecom, Data Processing, Web Portals	4,925	-1.1%
Software and Custom Development	4,899	+2.2%
Tech Manufacturing	597	+1.0%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Liverpool

STATE OF TECHNOLOGY SUMMARY

18,065 NET TECH EMPLOYMENT¹

4.0% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

1,594 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

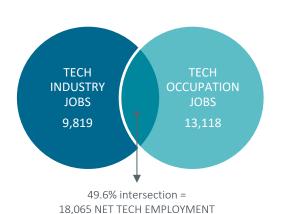
9,054 EMPLOYER JOB POSTINGS [2020 total for tech occupations]

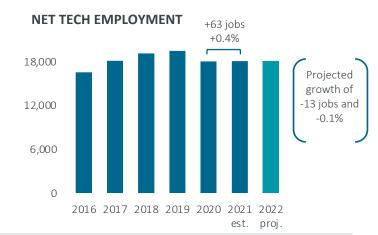
933 EMERGING TECH JOB POSTINGS [job roles + skills]

10% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

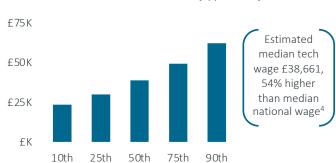
	2021	2022 % Change ³
Software Development and Web Design	3,329	+0.3%
IT Analysts, Cybersecurity ² and Systems	2,747	+0.5%
IT Support and Operations Technicians	2,364	+0.5%
Network and Telecommunications Engineers	942	-0.9%
IT Project Managers	838	+0.1%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	4,489	+2.6%
Telecom, Data Processing, Web Portals	2,849	-4.8%
Software and Custom Development	3,818	-2.9%
Tech Manufacturing	273	-2.6%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





London

STATE OF TECHNOLOGY SUMMARY

405,034 NET TECH EMPLOYMENT¹

8.5% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

44,831 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

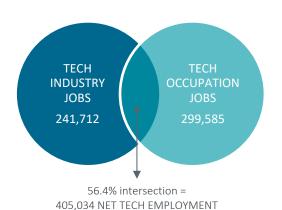
32,111 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

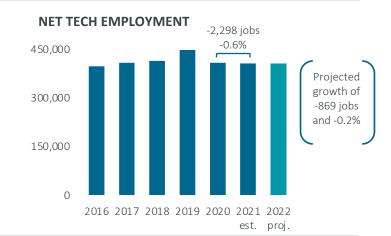
4,464 EMERGING TECH JOB POSTINGS [job roles + skills]

14% EMERGING TECH JOB POSTINGS AS A % OF TOTAL

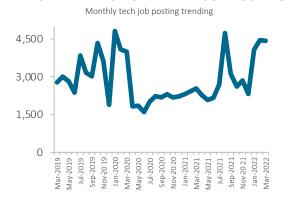


¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

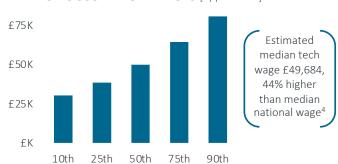
	2021	2022 % Change ³
Software Development and Web Design	81,621	+0.2%
IT Analysts, Cybersecurity ² and Systems	72,234	+0.1%
IT Support and Operations Technicians	40,381	+0.3%
IT Project Managers	20,108	+0.2%
Network and Telecommunications Engineers	15,637	+0.4%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	130,092	-1.4%
Telecom, Data Processing, Web Portals	51,958	-0.9%
Software and Custom Development	51,935	-0.2%
Tech Manufacturing	3,054	-1.5%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Newcastle

STATE OF TECHNOLOGY SUMMARY

28,509 NET TECH EMPLOYMENT¹

5.7% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

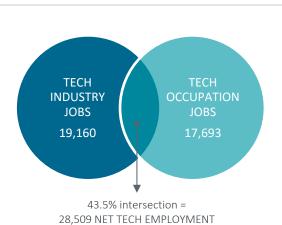
1,773 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

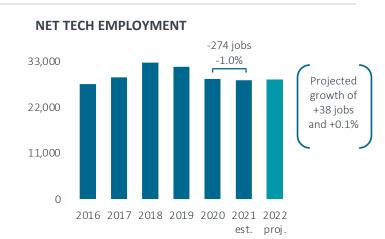
1,016 EMPLOYER JOB POSTINGS [2020 total for tech occupations]

92 EMERGING TECH JOB POSTINGS [job roles + skills]

EMERGING TECH JOB POSTINGS AS A % OF TOTAL

¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

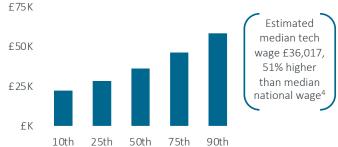
	2021	2022 % Change ³
Software Development and Web Design	4,469	-0.2%
IT Analysts, Cybersecurity ² and Systems	3,758	0.2%
IT Support and Operations Technicians	3,574	-0.2%
Network and Telecommunications Engineers	1,138	-0.3%
IT Project Managers	1,054	-0.2%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	6,501	-2.0%
Telecom, Data Processing, Web Portals	8,808	+1.6%
Software and Custom Development	2,087	-2.0%
Tech Manufacturing	1,651	+2.4%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Manchester

STATE OF TECHNOLOGY SUMMARY

79,958 NET TECH EMPLOYMENT¹

5.9% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

6,408 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

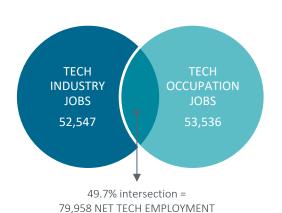
45,543 EMPLOYER JOB POSTINGS [2020 total for tech occupations]

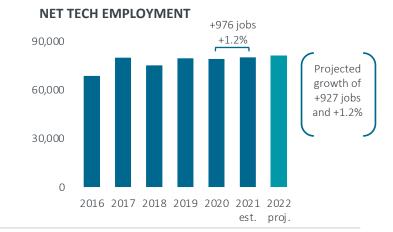
7,230 EMERGING TECH JOB POSTINGS [job roles + skills]

16% EMERGING TECH JOB POSTINGS AS A % OF TOTAL

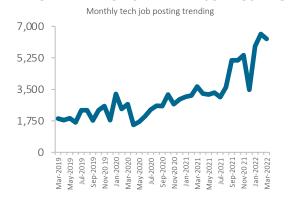


¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

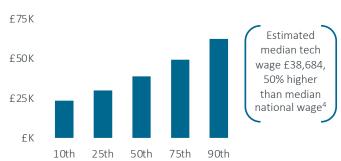
	2021	2022 % Change ³
Software Development and Web Design	13,547	+1.3%
IT Analysts, Cybersecurity ² and Systems	11,286	+1.0%
IT Support and Operations Technicians	9,070	+0.9%
Network and Telecommunications Engineers	4,212	+0.7%
IT Project Managers	3,392	+1.2%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	23,056	+2.9%
Telecom, Data Processing, Web Portals	12,273	-0.2%
Software and Custom Development	9,613	+3.8%
Tech Manufacturing	2,714	-4.7%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Nottingham

STATE OF TECHNOLOGY SUMMARY

32,410 NET TECH EMPLOYMENT¹

6.5% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

2,149 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

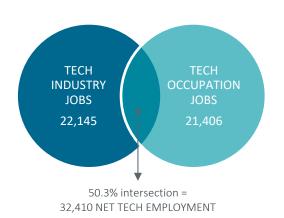
16,047 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

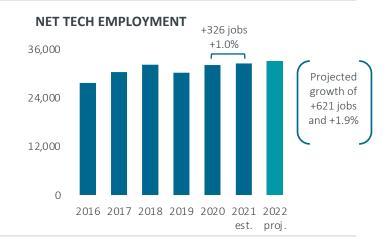
2,062 EMERGING TECH JOB POSTINGS [job roles + skills]

13% EMERGING TECH JOB POSTINGS AS A % OF TOTAL

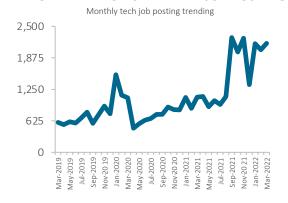


¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



LEADING TECH OCCUPATIONS

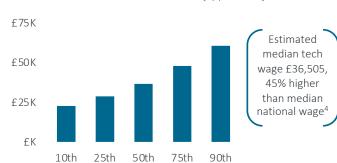
	2021	2022 % Change ³
Software Development and Web Design	5,242	+2.5%
IT Analysts, Cybersecurity ² and Systems	4,318	+1.1%
IT Support and Operations Technicians	4,098	+2.2%
Network and Telecommunications Engineers	1,633	+1.2%
IT Project Managers	1,390	+1.6%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	9,540	+4.4%
Telecom, Data Processing, Web Portals	5,820	-0.9%
Software and Custom Development	4,682	+5.3%
Tech Manufacturing	1,199	+4.5%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years





Sheffield

STATE OF TECHNOLOGY SUMMARY

29,176 NET TECH EMPLOYMENT¹

5.1% NET EMPLOYMENT AS A % OF OVERALL WORKFORCE

1,954 TECH BUSINESS ESTABLISHMENTS [firms with payroll]

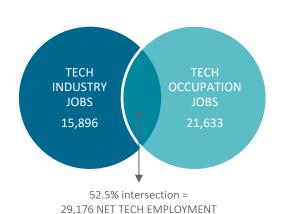
9,475 EMPLOYER JOB POSTINGS [2021 total for tech occupations]

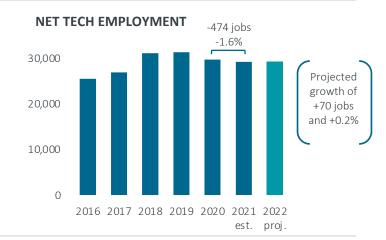
1,342 EMERGING TECH JOB POSTINGS [job roles + skills]

14% EMERGING TECH JOB POSTINGS AS A % OF TOTAL



¹Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass, UK Office of National Statistics and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details





EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



LEADING TECH OCCUPATIONS

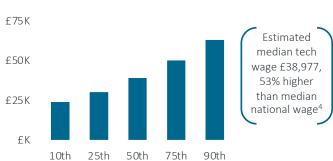
	2021	2022 % Change ³
Software Development and Web Design	4,949	+0.9%
IT Analysts, Cybersecurity ² and Systems	4,849	+1.2%
IT Support and Operations Technicians	3,819	+0.4%
Network and Telecommunications Engineers	1,639	-0.5%
IT Project Managers	1,117	+0.8%

²The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with IT and Systems Analysts.

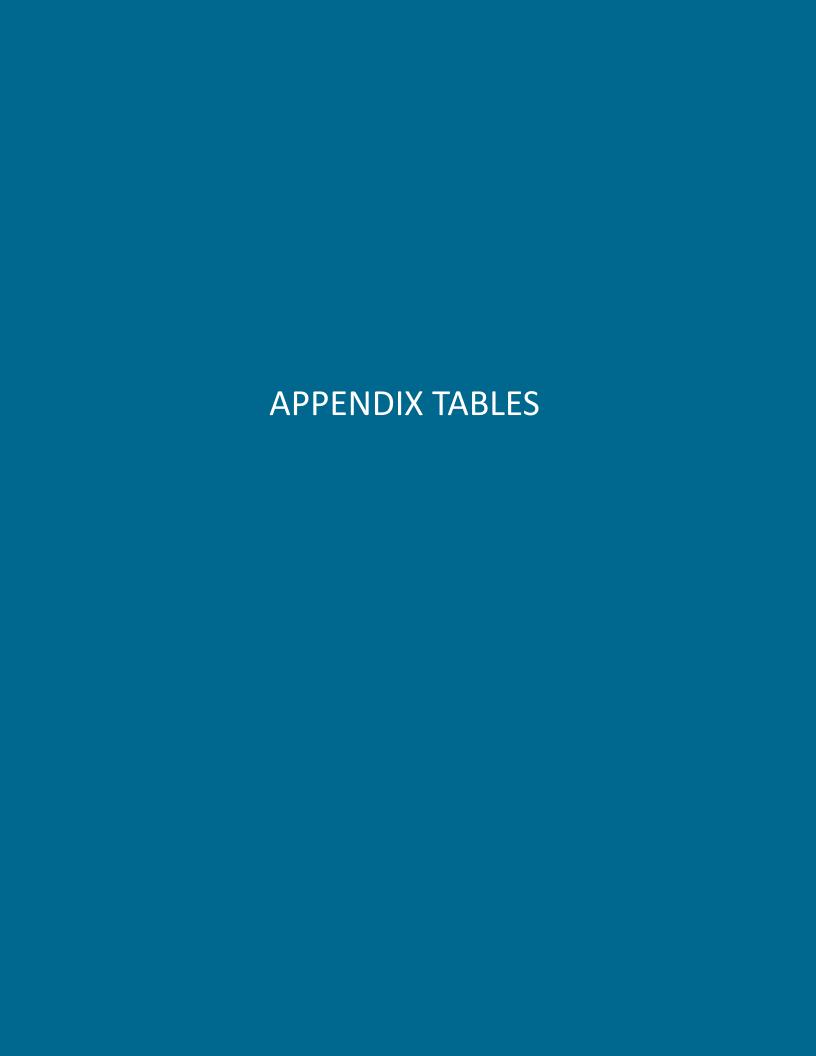
LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change ³
IT Consultancy and Services	6,733	+0.9%
Telecom, Data Processing, Web Portals	5,709	-1.1%
Software and Custom Development	2,048	-0.9%
Tech Manufacturing	1,060	-0.5%

³2022 projection | ⁴Wage data subject to revisions and may not be directly comparable to prior years







		<u>2021 Jobs</u>	<u>2022 Jobs Proj.</u>	Numeric Change 2021-2022	% Change 2021-2022
Information Technology and Telecommunications Directors		91,883	92,713	829	1%
IT Specialist Managers		214,353	215,734	1,380	1%
IT Project and Programme Managers		84,984	85,601	617	1%
IT Business Analysts, Architects and Systems Designers		120,860	121,638	778	1%
Programmers and Software Development Professionals		301,199	303,925	2,727	1%
Web Design and Development Professionals		50,904	51,343	439	1%
Information Technology and Telecommunications Professionals n.e.c.		179,306	180,653	1,348	1%
IT Operations Technicians		109,392	110,007	615	1%
IT User Support Technicians		111,355	112,107	751	1%
Telecommunications Engineers		54,323	54,612	289	1%
IT Engineers		47,304	47,627	323	1%
	Total	1,365,865	1,375,960	10,095	1%



METHODOLOGY

CLASSIFICATION SYSTEM

CompTIA's State of the Tech Workforce UK utilises the UK Standard Industrial Classification System (SIC) to define the tech industry. The UK SIC is a five-digit classification assigned to most specific industries. Economic units with similar production processes are classified in the same industry. Because State of the Tech Workforce UK analyses the tech industry by using industry classifications, the report in general focuses on companies and sectors, not individual occupations.

For occupation analysis, CompTIA's State of the Tech Workforce UK utilises Standard Occupational Classification (SOC) System, which is a standard used by government agencies to classify workers into occupational categories.

NET TECH EMPLOYMENT

The tech workforce consists of two primary components. The foundation is the set of technology occupation professionals working in technical positions, such as IT support, network engineering, software development and every related role. Many of these professionals work for technology companies (51.6%), but many others are employed by organisations across every industry sector in the UK economy (48.4%).

The second component of the discussion consists of the business professionals employed by technology companies. These professionals play an important role in supporting the development and delivery of the technology products and services used throughout the economy. 30.95% of the net tech employment total consists of tech industry business professionals.

See page 4 of this report for more details on the concept of Net Tech Employment.

TECH INDUSTRY DEFINITION

There are a number of considerations when developing a definition of the technology industry. In some cases, SIC codes do not perfectly reflect industry dynamics. This can be especially challenging in times of rapid innovation, when new tech sectors emerge in a short period of time. More recently, the degree to which technology has become core to so many industry sectors poses new questions. For example, a technology platform designed to facilitate the online sale of goods may have traditionally been viewed as a retailer, although given the intense use of technology, an argument could be made to classify it as a technology firm.

Conceptually, CompTIA's State of the Tech Workforce UK focuses on the sectors involved in making, creating, enabling, integrating, or supporting technology, whether as a product or service. At this time, the report does not include industry sectors categorised primarily as users of technology.

CompTIA's State of the Tech Workforce UK includes 25 SIC codes in its definition of the tech industry. Broadly these can be thought of in two broad categories: tech manufacturing and tech services. These industries sufficiently represent the technology industry within the framework provided under the UK Office for National Statistics industry taxonomies. For more specific details regarding the UK managed services sector, see CompTIA's UK MSP sizing research brief.

TECH OCCUPATION DEFINITION

The occupations covered in this report are broadly categorised into core information technology (IT) positions and then engineering, repair, and technician positions. In total, 11 distinct SOCs are used to define the tech occupations found across every industry sector of the UK economy.

LOCATION CONSIDERATIONS

The UK Office for National Statistics uses several different location classifications, which may include a hierarchy of administrative geographies, electoral regions, census regions, Eurostat NUTS-3 and LAU-2 mapping, postal geographies and more. See <u>UK ONS site</u> for more details. The data sources used in this report may also have unique interpretations of locations to facilitate data aggregation or to allow for more consistency across regions or metro areas.





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