TECH PARTNERSHIP
skills for the digital economy

Introduction

This data sheet provides an overview of current and future employment patterns for tech specialists (also known as IT/Telecoms professionals) in the UK using the latest workforce estimates from the ONS Labour Force Survey together with internal forecasts developed in association with Experian.

Key findings

- There were 1.75m people working in the tech sector in 2015, of which 1.3m were working as tech specialists.

- Just under one half (49%) of UK tech specialists were working in tech businesses – primarily in the service sector.

- More than four in ten tech specialists (44%) were working in London/the South East of England in 2015 compared with less than one in three workers as a whole (29%).

- Just under three quarters (72%) of tech specialists were working in 'Professional' positions – more than three times level amongst workers more generally (20%).

- Just 16% of UK tech specialists in 2015 were women compared with a figure of 47% for workers as a whole.

- Like other workers, the majority of tech specialists in 2015 were aged between 24 and 54 but at 7% the proportion aged 16-24 was around half that of the workforce as a whole (13%).

- Tech specialists tend to be much more highly educated than other workers and in 2015 just over two thirds (68%) were found to hold some form of HE level qualification.

- Tech specialists are more highly paid than other workers and amongst those in full-time work the average (gross weekly) wage was 41% higher than the UK norm.

- Between 2015 and 2025 the number of people working as tech specialists is forecast to increase by approximately 28% to 1.65m people.

- By comparison the UK workforce is expected to grow only by around 7% between 2015 and 2025.

- In total, there will be 1.71m gross job opportunities for tech specialists over the 2015-25 period of which 79% (1.36m) will be replacement positions (to cover tech specialists changing job/leaving the workforce).

About the Tech Partnership

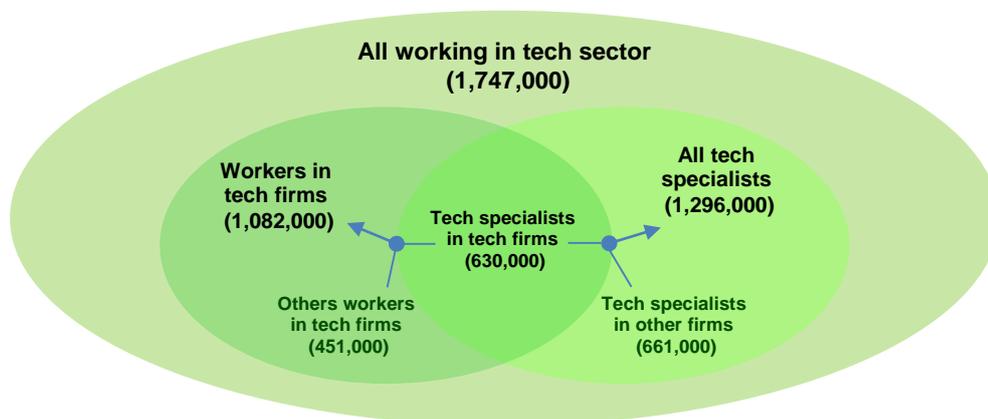The Tech Partnership is a growing network of employers, collaborating to create the skills for the digital economy. It acts for the good of the sector by inspiring young people about technology, accelerating the flow of talented people of all backgrounds into technology careers, and helping companies to develop the technology skills they need for the future.

For further information please visit www.thetechpartnership.com

1. Tech specialists and the tech sector

There were approximately 31m people working in the UK in 2015[1] of which 1.8m (6%) were working in the tech sector – 1.3m (74%) as tech specialists and a further 0.5m (26%) as support/ancillary staff within tech businesses.

As would be expected, tech specialists were most likely to be working for tech businesses and in total nearly one half (49%) of all those working in tech specialist roles in 2015 (i.e. 0.6m people) were working for tech firms at that time.

Figure 1: The tech sector workforce, 2015

**All working in tech sector
(1,747,000)**

**Workers in
tech firms
(1,082,000)**

**Tech specialists
in tech firms
(630,000)**

**All tech
specialists
(1,296,000)**

**Others workers
in tech firms
(451,000)**

**Tech specialists
in other firms
(661,000)**

Source: Analysis of data from the ONS Labour Force Survey undertaken by The Tech Partnership

2. Tech specialists by industry

Tech services companies in particular were seen as the main source of employment for tech specialist in 2015 and in total 602,000 tech specialists were found to be working for providers of IT or telecoms services[2] at that time (i.e. 515,000 and 88,000 in IT/telecoms respectively). By comparison there were just 27,000 working in tech manufacturing companies

After tech businesses, the next largest employer of tech specialists in 2015 was the 'Professional/scientific/technical' industries (SIC section M) – a broad group encompassing legal/accounting services, head offices/management consultancy, architecture/engineering, scientific research & development, advertising & market research, veterinarians and other professional/scientific & technical activities. Firms in this grouping accounted for 9% of all tech specialist employment (115,000 workers) only slightly more than the number working in finance/insurance companies – the third largest employer of tech specialists at that time (again accounting for 9% of all tech specialists or, in this case 110,000 people).

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1   All annual figures in this publication are based on a three quarter average of Labour Force Survey data spanning the January-September period of 2015.

2   Including dales/distribution/games

Table 1: Tech specialists by industry, 2015

Industry description	Industry (section)	Tech specialists (n)	Tech specialists (% of total)
Tech industries	-	630,000	49%
Professional/scientific/technical	M	115,000	9%
Finance/insurance	K	110,000	9%
Manufacturing	C	82,000	6%
Public administration/defence	O,U	67,000	5%
Education	P	61,000	5%
Construction	F	39,000	3%
Wholesale/retail/vehicle repair	G	38,000	3%
Health/social work	Q	33,000	3%
Admin/support services	N	25,000	2%
Transport/storage	H	21,000	2%
Primary industries	A,B,D,E	20,000	2%
Information/communication(excluding tech)	J	19,000	1%
Other Services	I,L,S,T	17,000	1%
Arts/entertainment/recreation	R	15,000	1%

Source: Analysis of data from the ONS Labour Force Survey undertaken by The Tech Partnership

3. Tech specialists by contractual status

Like others in the workforce, the majority of tech specialists in 2015 were working as employees (88%) though self-employment was slightly less common for tech specialists than for the workforce as a whole (i.e. with comparison figures of 12% and 15% respectively).

Similarly, whilst both groups were much more likely to be working full as opposed to part-time, the proportion of tech specialists working part-time hours was much smaller (7% versus 27% - primarily due to the relatively low number of women in tech specialist positions (i.e. women are much more likely than men to be undertaking work on a part-time basis and, as shown in the later section, just 16% of tech specialists in 2015 were women compared with 47% of all workers).

A comparison of the typical number of hours worked by tech specialists/other workers shows full-time tech specialists were working around 1 hour less than the average full-time worker (with total usual hours of 42 and 43 respectively) whilst part-timers were putting in two hours more (21 hours for part-time tech specialists against 19 hours for all part-time workers).

4. Tech specialists by size of employer

Amongst those tech specialists that were not working on a self-employed basis, just over six in ten (61%) were employed by an SME (a firm with under 250 staff) – a figure well below the average for all workers (employees) at that time (73%). In particular, tech specialists were notably less likely to be working for micro or small firms (in this case firms with 1 to 10 or 11 to 49 staff respectively) whilst the proportion accounted for by medium sized businesses was much the same as for employees more generally.

Figure 2: Distribution of tech specialist employees by size of employer, 2015
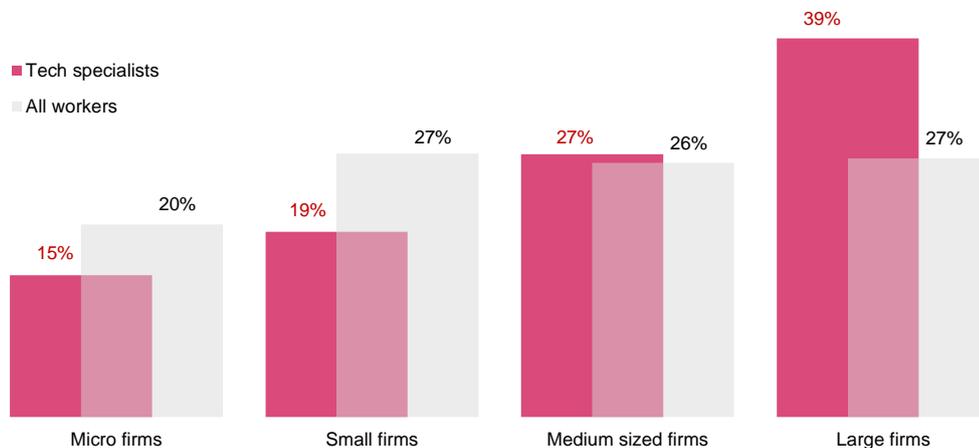
Source: Analysis of data from the ONS Labour Force Survey undertaken by The Tech Partnership
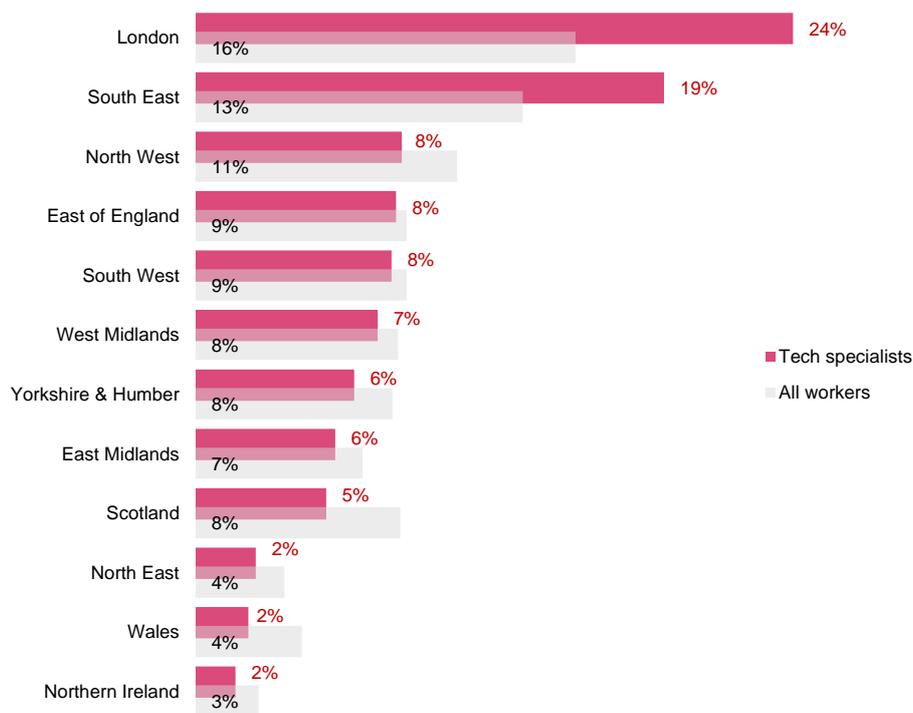
5. Tech specialists by region/nation of work

London and the South East of England are home to just over one quarter (27%) of the UK population and are the place of work for a similar, though slightly higher proportion (29%). These two regions account for an even greater share of tech specialist employment however, with more than four in ten (44%) tech specialists working there in 2015.

By comparison, all other UK nations/regions were under-represented with regards tech specialists (i.e. the proportion of tech specialists was less than their share of employment as a whole) – the largest shortfall occurring in Scotland which accounted for 8% of the workforce but only 5% of tech specialists.

A full analysis by occupation is not possible due to limitations of the data source employed however, it is also apparent that London and the South East of England account for an even larger proportion of tech specialists working in higher level positions with almost one half (47%) of those working as Directors/Professionals working within this area of the UK.

Figure 3: Distribution of tech specialists/all workers by nation/region of work, 2015

Region	Tech specialists	All workers
London	24%	16%
South East	19%	13%
North West	8%	11%
East of England	8%	9%
South West	8%	9%
West Midlands	7%	8%
Yorkshire & Humber	6%	8%
East Midlands	6%	7%
Scotland	5%	8%
North East	2%	4%
Wales	2%	4%
Northern Ireland	2%	3%

Source: Analysis of data from the ONS Labour Force Survey undertaken by The Tech Partnership
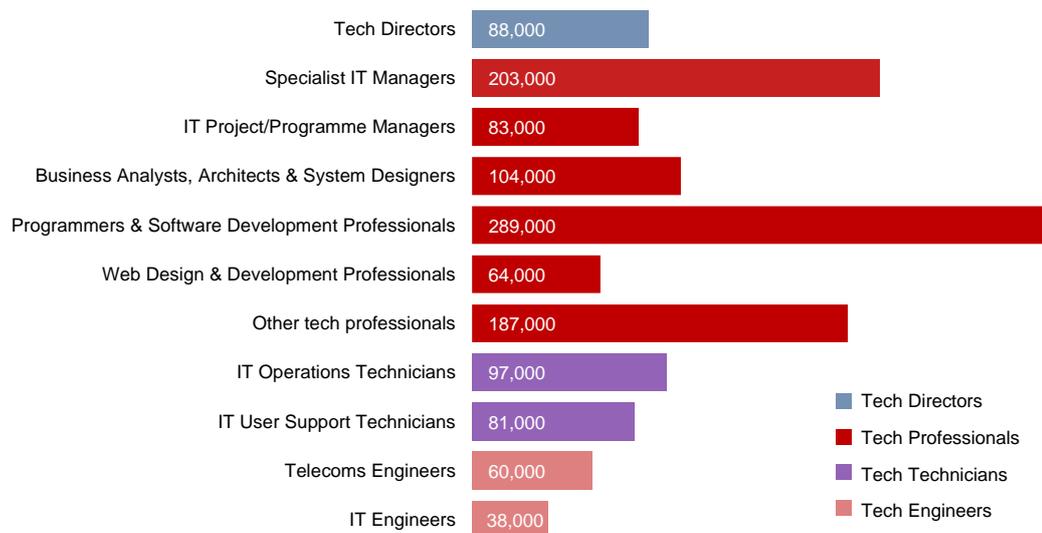
6. Tech specialists by occupation

Just under one in ten (7%) tech specialists were working at the most senior level in 2015 (i.e. as tech Directors) – a slightly lower proportion than that observed amongst the workforce as a whole (10% of which were working as 'Managers, Directors and Senior Officials').

The proportion of tech specialists working in 'professional' level jobs (the next highest level of occupation) was however, much greater than average, with almost three quarters (72%) of tech specialists working in positions of this nature compared with just 20% of those from all occupational groups.

Looking at this group in more detail the 'professional' role most commonly held by tech specialists was 'programmer/software professional' (this group accounting for 289,000 people or 22% of all tech specialists) followed by 'specialist IT manager' (203,000 people of 16% of tech specialists) and then 'other' tech professional (187,000 people or 14% of tech specialists) - together these groups accounted for just over one half (52%) of the tech specialist workforce during 2015.

Aside from 'senior' and 'professional' level positions a further 14% of tech specialists were working as technicians and 8% as tech engineers - similar proportions to that recorded amongst the workforce as a whole (14% and 11% respectively).

Figure 4: Tech specialists by occupation/grade, 2015

Occupation/grade	Number
Tech Directors	88,000
Specialist IT Managers	203,000
IT Project/Programme Managers	83,000
Business Analysts, Architects & System Designers	104,000
Programmers & Software Development Professionals	289,000
Web Design & Development Professionals	64,000
Other tech professionals	187,000
IT Operations Technicians	97,000
IT User Support Technicians	81,000
Telecoms Engineers	60,000
IT Engineers	38,000

Legend: Tech Directors, Tech Professionals, Tech Technicians, Tech Engineers

Source: Analysis of data from the ONS Labour Force Survey undertaken by The Tech Partnership

7. Tech specialists by gender

As noted earlier, just 16% of UK tech specialists in 2015 were women compared with a figure of 47% for workers as a whole. Moreover, for certain types of tech specialist roles the degree of gender imbalance was even more pronounced – most notably amongst Tech Directors and, Programmers & Software Development professionals where females accounted for just one in ten tech specialists (i.e. 9% and 11% respectively).

Conversely, the highest levels of female representation were recorded amongst IT Project/Programme managers, of which just under one third (32%) were women in 2015.

8. Tech specialists by ethnicity

Just over eight in ten (84%) tech specialists in 2015 were classed as 'white' – a slightly lower proportion than that for workers as a whole (89%). For other ethnic groups, the representation amongst tech specialists was much the same as for all workers with the exception of those categorised as Indian/Pakistani/Bangldeshi for which representation amongst tech specialists was more than double that associated with the UK workforce as a whole (9% versus 4%).

9. Tech specialists by disabled status

On in ten tech specialists (10%) in 2015 were classed as being DDA disabled and/or work-limiting disabled – a slightly lower proportion than that recorded for the wider workforce at that time (13%).

10. Tech specialists by age

The average age for a tech specialist in 2015 was 40 years old – a year younger than the average for all workers at that time. As perhaps might be expected, Tech Directors were generally older than other specialist tech workers (averaging 46 years) whilst Web Developers tended to be the youngest (averaging 35 years).

More generally, as with the workforce as a whole, the majority of tech specialists were seen to be aged between 24-54 though this pattern was much more pronounced amongst those in tech roles - 82% falling within this age range compared with 69% of all workers.

Figure 5: Distribution of tech specialists by age, 2015
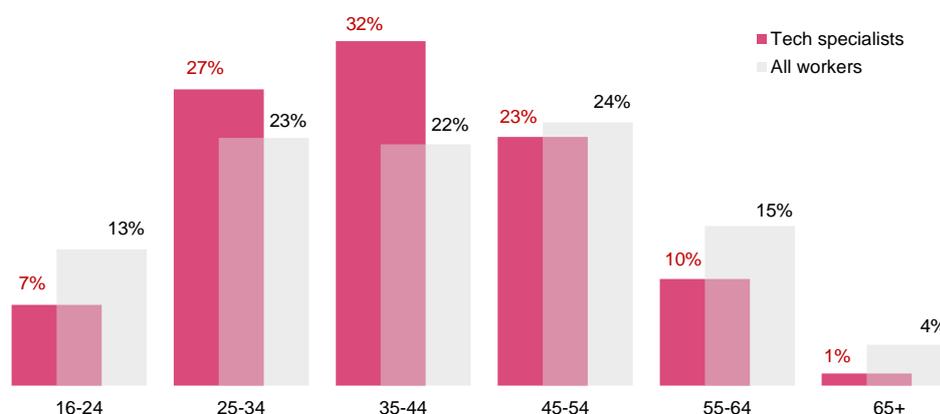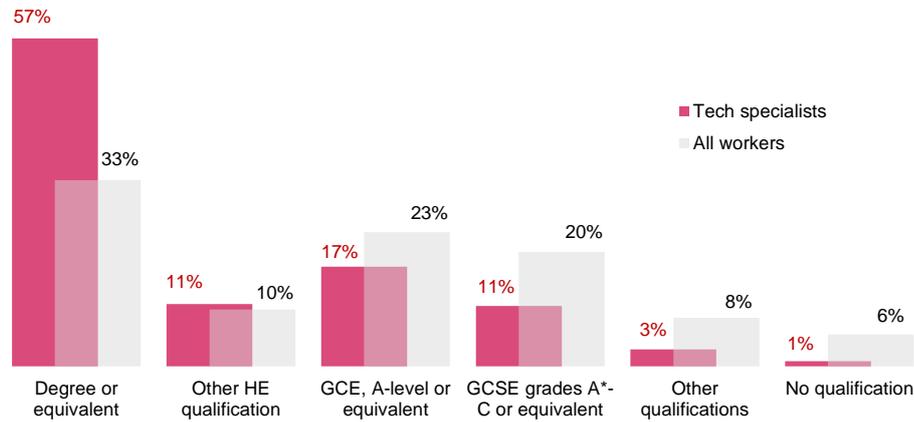

Source: Analysis of data from the ONS Labour Force Survey undertaken by The Tech Partnership

The comparatively low proportion of tech specialists aged 55+ is likely to be influenced by the fact that tech occupations are relatively new, however the chart above also shows the proportion of tech specialists aged 16-24 to have been around half that observed for the workforce as a whole (i.e. 7% of tech specialists versus 13% of all workers).

11. Tech specialists by educational attainment

Compared with other workers, tech specialists tend to be much more highly educated and in 2015 just over two thirds (68%) were found to hold some form of HE level award compared with just 42% of the workforce as a whole.

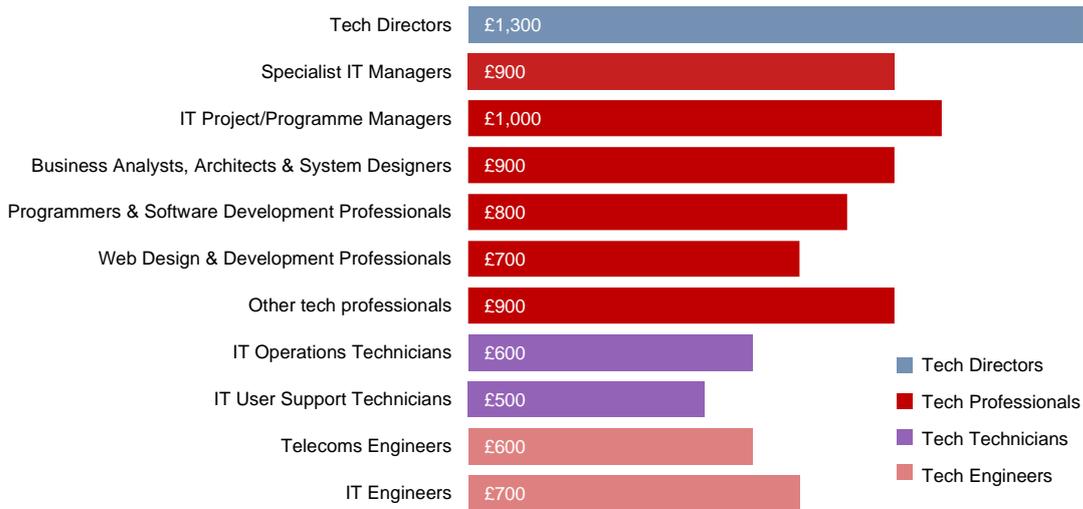**Figure 6: Distribution of tech specialists by highest qualification held, 2015**

Source: Analysis of data from the ONS Labour Force Survey undertaken by The Tech Partnership

12. Remuneration of tech specialists

Perhaps unsurprisingly given the higher level of educational attainment, tech specialists are also likely to report higher levels of remuneration than others members of the workforce and in 2015, at £850pw the average weekly wage for those working in tech positions (as full-time employees) was 41% higher than the UK average at that time (£600pw).

**Figure 7: Mean (gross) weekly earnings for full-time tech specialists, 2015**

Source: Analysis of data from the ONS Labour Force Survey undertaken by The Tech Partnership

13. Employment trends, past and future

Over the past decade (2005-15), the number of people working as tech specialists increased by approximately 28.0% or 2.8% per annum compared with an increase of just 7.9% for the workforce as a whole (0.8% pa). As illustrated below, growth was still more pronounced for tech specialists working as Directors/Professionals– the number of individuals holding such positions increasing by 39% during the past decade.

Figure 8: Workforce trends (indexed), 2005-25
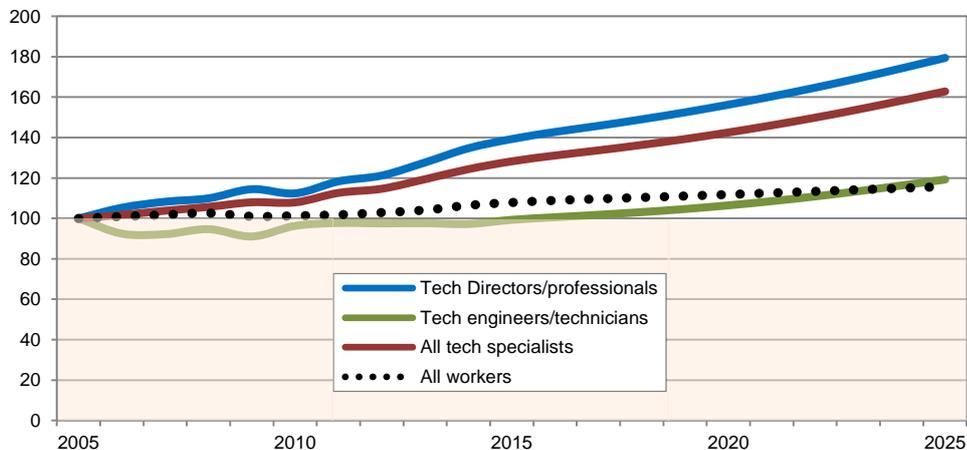
Source: Experian/the Tech Partnership

Over the coming ten years, tech specialist employment will continue to grow, and by 2025 it is anticipated that there will be around 1.65m people working in positions of this nature i.e. an increase of 27.5% over the 2015-25 period (2.8% pa). Though it is predicted that the growth rate for tech specialists will slow marginally compared with the past ten years, it will continue to outstrip the growth rate for the workforce as a whole which will increase in size by approximately 7.3% by 2025.

14. Future growth in tech specialist employment by occupation

In general, as in previous years, future growth in tech specialist employment is anticipated to be greatest amongst tech Directors/Professionals and this group are forecast to increase in number by 28.8% over the coming ten years compared with growth of 20.1% for those working as Technicians/Engineers. For three specific occupational groups however even higher rates of growth are predicted i.e. Web Design & Development Professionals (anticipated growth of 55.4%), Programmers & Software Development Professionals (47.3%) and tech Directors (37.5%).

Only in one case is a fall in employment predicted to occur – 'Other' tech professionals which will decline in number by around 5.2% over the ten year period.

Table 2: Tech specialists in 2025 - growth and employment estimates by occupation

	Employment	Change 2015-25	
	2025	**n**	**%**
Tech Directors	122,000	33,000	37.5%
Specialist IT Managers	258,000	55,000	27.2%
IT Project/Programme Managers	102,000	19,000	22.8%
Business Analysts, Architects & System Designers	128,000	24,000	22.5%
Programmers & Software Development Professionals	426,000	137,000	47.3%
Web Design & Development Professionals	100,000	36,000	55.4%
Other tech professionals	178,000	-10,000	-5.2%
IT Operations Technicians	108,000	11,000	11.0%
IT User Support Technicians	106,000	24,000	29.7%
Telecoms Engineers	72,000	12,000	20.7%
IT Engineers	46,000	8,000	21.7%
All tech specialists	**1,653,000**	**357,000**	**27.6%**

Source: Experian/the Tech Partnership

Over the next ten years the growth rate for tech specialist employment is forecast to occur at a similar level throughout the UK though in volume terms, by far the largest increases are anticipated to arise within London and the South East of England (89,000 and 64,000 respectively) – these two regions combined accounting for 34% of the forecast growth in tech specialist employment.

Table 3: Tech specialists in 2025 - growth and employment estimates by nation/region

|	Employment	Change 2015-25	
	2025	**n**	**%**
North East	41,000	9,000	27.2%
North West	140,000	31,000	28.3%
Yorkshire and The Humber	110,000	25,000	30.3%
East Midlands	96,000	22,000	29.6%
West Midlands	122,000	26,000	26.5%
East of England	137,000	31,000	28.9%
Greater London	406,000	89,000	27.9%
South East	313,000	64,000	25.8%
South West	132,000	29,000	27.5%
Wales	35,000	7,000	26.3%
Scotland	87,000	18,000	25.9%
Northern Ireland	27,000	6,000	27.7%
All tech specialists	**1,653,000**	**357,000**	**27.6%**

Source: Experian/the Tech Partnership

15. Gross job opportunities for tech specialists, 2015-25

Though the total number of tech specialists in the UK is forecast to grow by 357,000 over the next ten years, it should be remembered that this figure represents *net* growth only and the *total* demand for tech specialists (*gross* jobs) will actually be much greater. This is because employers will not only be looking to increase the number of tech specialists working for them (i.e. **growth** occurring when new jobs are created), but they will also be sourcing new people to fill tech specialist positions left vacant when staff leave their employ or change job (**replacement**).

When combined, these two demand elements (i.e. growth + replacement) are referred to as 'gross job opportunities' which, by definition, tend to be much larger than those created by workforce expansion alone. In fact, between 2015 and 2025 it is estimated that there will be approximately 1.71m gross job opportunities for tech specialists, of which the majority (79% or 1.36m) will arise due to replacement demand.

Figure 9: Gross jobs and annual in/out flows for tech specialist positions, 2015-25[3]

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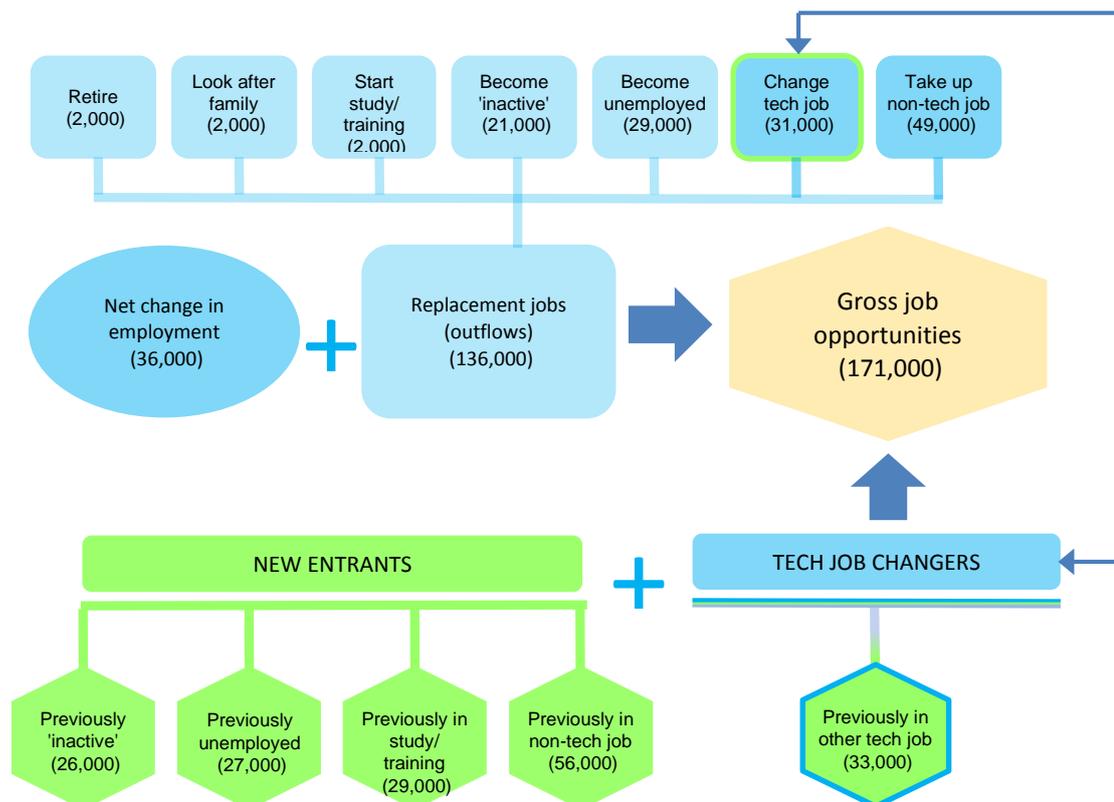
[3] Inactive in this case refers to any form of economic inactivity not already listed. Figures may not total due to rounding.

As illustrated in the previous figure, this demand for tech specialists will only be part met by 'churn' within the profession and instead it is anticipated that the vast majority (81%) of gross job opportunities for tech specialists each year will actually need to be filled by new entrants to the field - be they job changers (from non-tech positions), those leaving education, the unemployed or otherwise.

Notes on data presentation

1. All figures presented in this datasheet have been rounded to the nearest 1,000 unless otherwise stated.

2. With the exception of 2015 figures the annual workforce estimates presented in this release are averages produced by combining the outputs from the four relevant quarterly Labour Force Survey datasets. For 2015 data a three quarter average has been used as Q4.15 data was unavailable at the time of publishing.

3. The terms businesses/firms/companies have been used interchangeably throughout the report.

4. 'Tech specialists' is the collective term given to occupations listed under the following ONS Standard Occupational Classification (SOC2010) codes:

   Tech Directors

   1136 - Information Technology and Telecommunications Directors

   Tech Professionals

   2133 - IT Specialist Managers

   2134 - IT Project & Programme Managers

   2135 - IT Business Analysts, Architects and Systems Designers

   2136 - Programmers & Software Development professionals

   2137 - Web Design & Development professionals

   2139 - Information Technology & Telecommunications professionals n.e.c.

   Tech Technicians

   3131 - IT Operations Technicians

   3132 - IT User Support Technicians

   Tech Engineers

   5242 - Telecommunications Engineers

   5245 - IT Engineers.

5. 'Tech industries'/businesses/firms is the collective term given to industries listed under the following ONS Standard Industrial Classification (SIC2007) codes:

   Tech manufacturing

IT	18.203	-	Reproduction of computer media
	26.2	-	Manufacture of computers & peripheral equipment
Telecoms	26.3	-	Manufacture of communication equipment
	27.31	-	Manufacture of fibre optic cables

Tech sales/distribution

IT	46.51	-	Wholesale of computers, computer peripheral equipment & software
	47.41	-	Retail sale of computers, peripheral units & software in specialised stores
	58.2	-	Software publishing
Telecoms	46.52	-	Wholesale of electronic & telecommunications equipment and parts
	47.42	-	Retail sale of telecommunications equipment in specialised stores

Tech services

IT	62.0	-	Computer programming, consultancy and related activities
	63.1	-	Data processing, hosting and related activities; web portals
	95.11	-	Repair of computers and peripheral equipment
Telecoms	61	-	Telecommunications activities
	95.12	-	Repair of communication equipment

6. Slight discrepancies in the data totals may occur as a result of the rounding/forecasting/estimation process.

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