University of Exeter | South-West Social Mobility Commission

FUNDED BY The Hg Foundation

THE TECH FRONTIER

Shaping the Future of the South-West Peninsula

April 2024

Henry Jones, Anne-Marie Sim and Lee Elliot-Major
University of Exeter

Acknowledgements

This work would not have been possible without a generous donation from The Hg Foundation, for which we are very grateful.

We would also like to express our gratitude to the more than 25 individuals who participated in interviews during this process, providing invaluable insights into the tech industry in the South-West peninsula and the challenges young people encounter in entering and thriving within the industry.

About the Authors

Henry Jones, the principal author of this report, is a strategy consultant at the Boston Consulting Group (BCG), where he has been involved in numerous strategy and technology projects. Before embarking on this career, he earned a first-class master's degree in mathematics from the University of Warwick.

Anne-Marie Sim is co-founder and lead of the South-West Social Mobility Commission. Her PhD in social anthropology looked at how children talk about the future in their everyday lives, and involved 18 months' immersive fieldwork with children in and out of school environments. Anne-Marie has also worked as a strategy consultant for the Boston Consulting Group, and has a first-class undergraduate degree in Economics & Management from the University of Oxford.

Lee Elliot Major OBE is the country's first Professor of Social Mobility based at the University of Exeter. As one of the world's leading social mobility experts, his work is dedicated to improving the prospects of young people from under-resourced backgrounds. Lee was formerly Chief Executive of the Sutton Trust and a trustee of the Education Endowment Foundation. He is focused on the impact of research, working closely with Government advisers and policy makers as well as schools, universities and employers.

About the South-West Social Mobility Commission

The South-West Social Mobility Commission was set up to bring about transformational change in education and employment outcomes for children and young people from under-resourced backgrounds. Chaired by Sir Michael Barber, it brings together a dedicated and passionate group of civic leaders from across the South-West peninsula to drive cross-sectoral work to break down the barriers facing young people in the region.

We are extremely grateful to receive funding from a core group of key supporters for this work, without which none of this would be possible. These include:

- Cobalt Trust
- Cornwall Council
- Devon County Council
- Great South West
- Somerset Council
- University of Exeter

Foreword

Addressing a shortage of tech talent represents a significant opportunity to boost both the UK economy and social mobility, and nowhere more so than in the South West. Tech jobs represent a significant and growing proportion of employment in the region, yet employers are grappling with a significant skills gap. This gap doesn't just represent an industry challenge; it's a missed opportunity for countless young people, especially those from financially disadvantaged backgrounds whose life chances could be transformed by the decently paid and rewarding careers that tech offers.

This report isn't merely a collection of insights. The team have set out a clear call for action, a blueprint designed to empower educators, industry leaders, and policymakers to collaborate on building pathways for inclusion and success in tech careers. The initiatives they propose here, derived from detailed research and drawing on proven strategies, aim to transform the tech careers landscape in the South-West.

We hope this research will be useful to the Commission's wider work on social mobility in the region. We look forward to seeing the impact this report has on bringing together educational institutions, businesses, and community organisations to create a system where every young person in the South-West can access the education, training and opportunities they need to thrive in tech careers. This transformation will help develop a more equitable and dynamic tech workforce for the future.

With the collective effort and commitment of all stakeholders, the aspirations of this report can become tangible outcomes. We believe this report can be the catalyst that inspires action and investment in the potential of our young people to ensure that the future of tech is as diverse, vibrant and inclusive as the world it aims to serve.

James Turner
CEO, The Hg Foundation

Contents

1 Executive Summary **4**

2 Introduction **6**

3 Problem & Opportunity **8**

3.1 The UK Tech Industry 8

3.2 Tech in the South-West Peninsula 9

3.3 The Demand-Supply Gap 9

3.4 The Social Mobility Opportunity 10

4 Demand for Tech Talent in The South-West Peninsula **11**

4.1 Tech Roles in High Demand 11

4.2 Understanding the In-Demand Tech Roles 12

4.3 Geographic Distribution of Tech Jobs 14

4.4 Key Skills Employers Are Looking For 14

5 Tech Skills Supply Barriers **15**

5.1 Awareness and Interest 16

5.2 Tech Skills & Qualifications 17

5.3 Access to Tech Employment 19

6 Paving the Way Forward (Recommendations) **21**

6.1 Best Bet Initiatives 22

6.2 Other Initiative Deep-Dives 26

7 Conclusion **30**

8 Appendix **31**

1. Executive Summary

The UK's tech industry is booming, yet it faces a critical shortage of skilled talent – and nowhere more so than in the South-West peninsula. If we could support more young people – especially those from under-resourced backgrounds – into tech careers, we could simultaneously secure the continued growth of this vital industry and address the region's stark social mobility issues. This report investigates how we might do this. It outlines the current landscape and challenges and charts a course for collective action. It urges strategic collaboration between industry professionals, educators and others to invest in building accessible pathways to tech jobs in the region that will benefit young people, the industry and the wider South-West economy.

Why This Matters Now:

- **Tech's Pivotal Role in the South-West:** The economic impact of just two tech employers in the South-West surpasses the entire output of the region's fishing industry, underscoring the sector's critical importance to the local economy.
- **Rapid Growth in Tech:** The South-West peninsula's tech sector is on a trajectory to expand its workforce by 26% from 2022 to 2027, significantly outpacing the growth rate of any other sector in the South-West.
- **The Talent Challenge:** The region's tech companies cite finding skilled talent as their primary growth obstacle, highlighted by the South-West having the lowest uptake in level 3 IT qualifications.
- **Bridging the Digital Divide:** The disparity in access to tech education and work experience hits under-resourced communities hardest, highlighting a pressing need for equitable digital inclusion.

What The Issues Are:

In the South-West peninsula, three key barriers are hindering development of a skilled tech workforce:

- **Awareness & Interest:** Lack of awareness and interest in tech careers amongst young people is a significant issue. Efforts highlighting the sector's exciting and rewarding opportunities need intensification to attract the next generation.
- **Tech Skills & Qualifications:** There is a disconnect between the tech qualifications young people earn and the skills employers seek. Prioritising level 4 and 5 employer-driven qualifications, supporting young people to develop personal tech portfolios, and focusing on the development of vital soft skills are essential to align education with industry needs.
- **Tech Employment:** The traditional pathways to tech employment are evolving yet approaches to supporting access have not evolved. Strengthening education-employer links and capitalising on social media for recruitment are critical for modernising tech employment strategies.

What Should We Do:

We have **identified eight key initiatives** across the three issues identified above. We have prioritised initiatives 1, 2, 4 & 6 as "best bets" because they present the optimal balance between estimated impact and ease of implementation.

Awareness & Interest

1. **Year 10 Tech Work Experience Programmes:** Scalable hands-on work experience opportunities for Year-10 students across the Peninsula
2. **Year 7-11 Employer-led Workshops:** Interactive tech workshops in secondary schools, led by industry professionals and designed by workshop specialists
3. **Secondary School 'Tech Days':** Dedicated day where lessons link each subject to technology, supported by learning materials provided by a governing body

Tech Skills & Qualifications

4. **Sixth Form Provision of Level 4 & 5 Tech Foundation Courses:** Sixth forms in 'coldspot' areas to partner with local colleges and universities with existing level 4 and 5 tech courses to offer these programmes across a wider geography
5. **Universally Offered Level 4 & 5 Employer-Led Tech Courses:** Pledge by all colleges to provide level 4 or 5 tech foundation courses in the most in-demand tech areas (software development, network engineering and network support)
6. **Tech Mentorship Scheme:** A mentorship programme pairing tech professionals with sixth form and college students to guide their career development and skills enhancement

Tech Employment

7. **Tech Talent Marketplace:** A process to create quarterly databases of the roles for which tech employers are recruiting and the profiles of students on tech courses in order to improve recruitment pathways
8. **LinkedIn Coaching in Schools:** Programmes to teach students how to use LinkedIn effectively for professional networking and job searching

This report serves as a blueprint for unlocking the full potential of the region's tech sector. We are working with key partners to take our priority recommendations forward – supporting social mobility and tech in the South-West peninsula and presenting a model for action for other industries in the region and across the UK.

2. Introduction

How do we get more young people – especially those from under-resourced backgrounds – into tech jobs?

This report answers that question through an analysis of the landscape for tech jobs and tech skills in the South-West peninsula and presentation of a strategic roadmap for harnessing the potential of young tech talent in the region. The report is split into four key sections: **Problem & Opportunity, Demand for Tech Talent in the South-West Peninsula, Tech Skills Supply Barriers,** and **Paving the Way Forward.**

1. **Problem & Opportunity:** This section outlines the dual nature of the current tech landscape in the South-West peninsula. While the UK and South-West are celebrated as tech leaders, the region faces a significant skills gaps that presents a real risk to the sector's growth. This imbalance between high demand for tech-skilled workers against insufficient supply of talent represents a risk but also an opportunity: if we can effectively support more young people – and especially those from under-resourced backgrounds – into tech careers, we can secure the sector's growth whilst addressing the region's deep-seated social mobility challenges.

2. **Demand for Tech Talent in the South-West Peninsula:** In this section, we explore trends within the region's tech industry and the needs of employers. With nearly 18,000 tech companies and a workforce of 170,000, the South-West is a burgeoning tech hub. Importantly, our analysis shows that tech jobs in the region are concentrated within three main job types: software development, network and systems engineering, and network and systems support. This has significant implications for how we should be directing our efforts to get more young people into tech. This section also identifies the geographic distribution of tech jobs within the peninsula and what employers are looking for when recruiting to tech jobs.

3. **Tech Skills Supply Barriers:** This section delves into the challenges that hinder the supply of skilled tech professionals in the South-West peninsula. In particular, it explores a lack of awareness and interest in tech careers among young people, the uneven distribution of educational opportunities and the specific difficulties faced by young people from under-resourced backgrounds in the region.

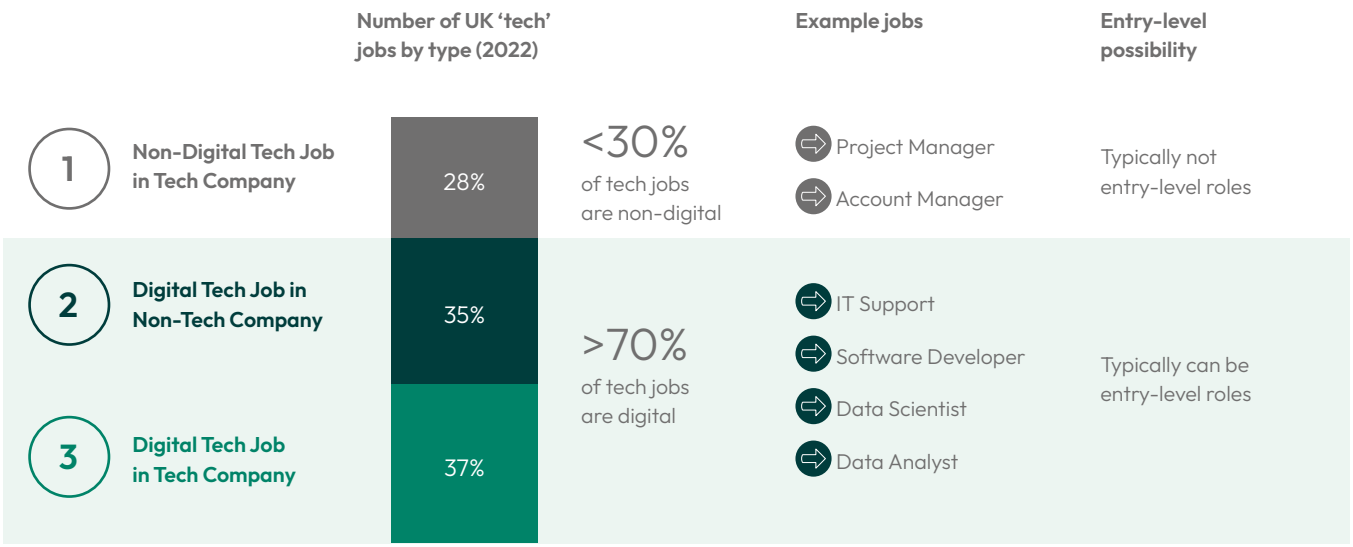
4. **Paving the Way Forward:** This final section offers a series of actionable recommendations designed to address the identified challenges. It proposes strategic initiatives aimed at enhancing tech education, improving access to tech careers for young people, and fostering a closer collaboration between educational institutions and the tech industry. By focusing on building a robust pipeline of tech talent through education, awareness and support, the South-West peninsula can transform its tech landscape into an inclusive, thriving ecosystem.

This report aims to serve as a catalyst for change, providing stakeholders with the insights and strategies needed to get more young people – and especially those from under-resourced backgrounds – into tech jobs. Beyond this report we are working with key stakeholders to make our recommendations a reality.

This project focuses primarily on the digital roles within both tech and non-tech companies (2 & 3 below)

Tech jobs can be categorised into three distinct types:

1. **Non-digital roles in tech companies** (e.g. Project Managers): comprise about 28% of total UK tech jobs and are usually not entry-level positions
2. **Digital roles in tech companies** (e.g. Software Developers): make up approximately 37% of the tech job market and often offer entry-level opportunities
3. **Digital roles in non-tech companies** (e.g. IT Support positions): represent around 35% of tech jobs in the UK and are typically accessible as entry-level roles



Source: Glassdoor Economic Analysis, Tech Nation people and skills report 2022

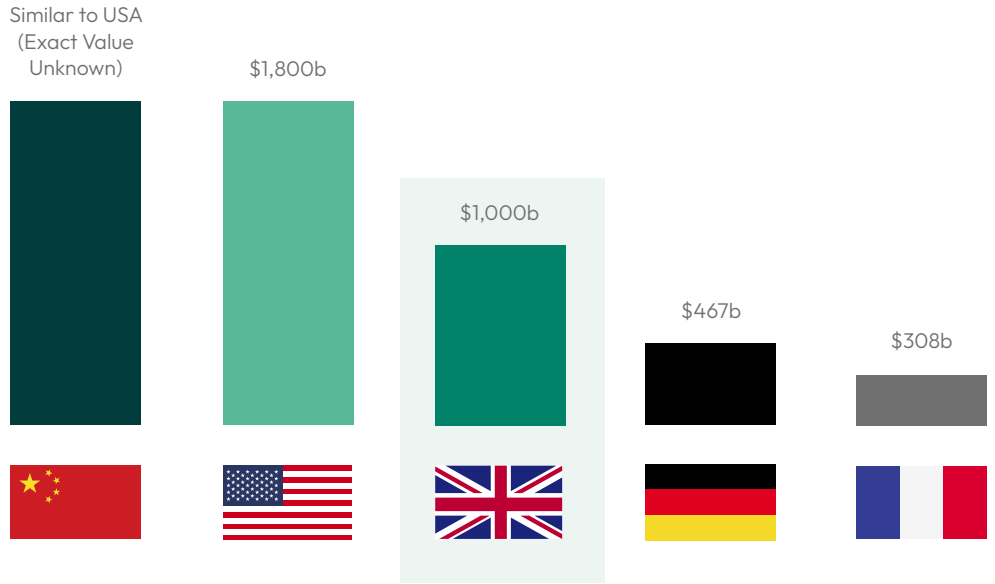
3. Problem & Opportunity

There is currently a massive gap between the demand for tech-skilled workers and the pipeline of young people with the skills employers need. This gap represents a threat to the industry's growth, yet it also represents an opportunity. Tech careers typically offer highly skilled, well-paid work. By supporting more young people into tech careers we can address the region's poor social mobility – but only with a concerted focus on how to do this well for the region's most under-resourced individuals.

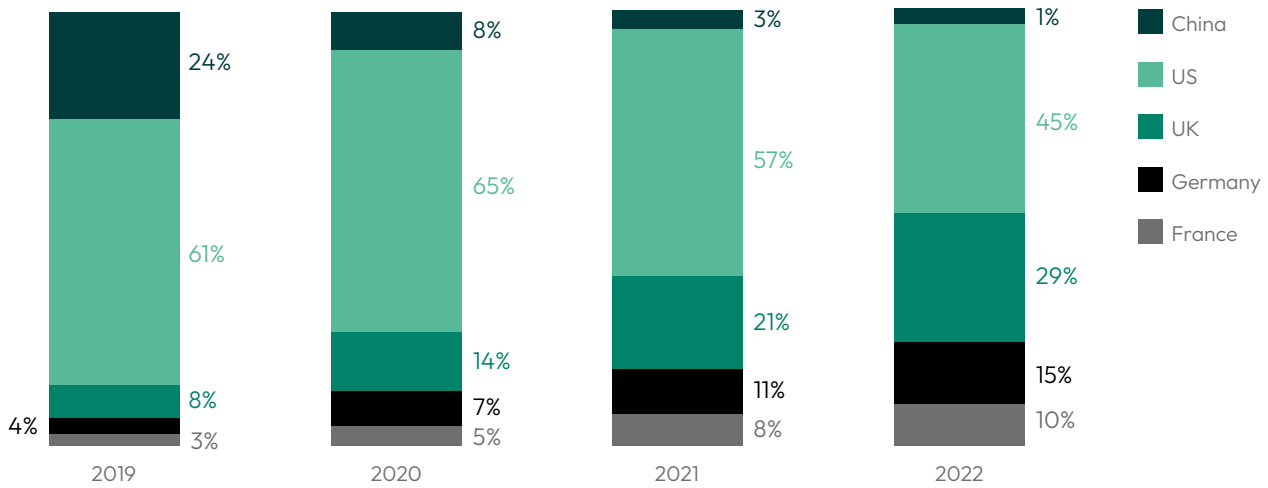
3.1 The UK Tech Industry

The UK is a leading player in the global tech industry, ranking third worldwide by valuation in 2023, with an industry worth around a trillion dollars. Furthermore, there are indications of a strong upwards growth trajectory: in 2022, UK tech venture capital funding constituted almost a third of funding to the top five highest-valued tech markets, a significant leap from just 8% in 2019. This growth trajectory suggests a robust and expanding influence in the global tech landscape.

2023 Tech industry valuation by country (top 5 shown here)



Share of tech VC funding into the top 5 valued tech markets (2019 to 2022)



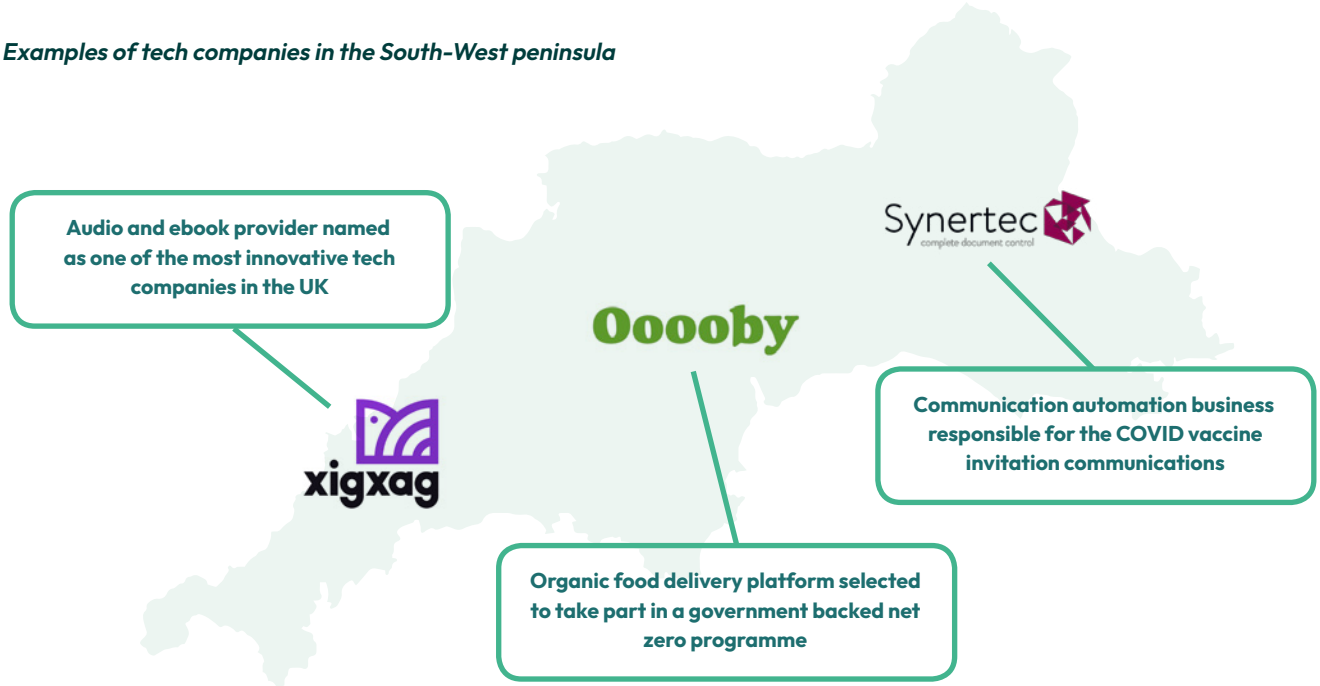
Source: Statista

3.2 Tech in the South-West Peninsula

The South-West peninsula plays an important part in the UK's tech economy. Being the fifth largest tech region of the 12 major regions in the UK, the region is particularly renowned for innovative start-ups that are pioneers in their respective fields. Over two-thirds of tech firms in the South-West have only 2-4 employees (more than any other sector), reflecting this landscape of small-scale, innovative businesses.

For the South-West's economy, tech is also playing an increasingly important role: the region's two largest tech employers generate more economic value than its entire fishing industry. The sector is also playing an increasingly important role in the employment landscape. Currently supporting 170,000 employees, it is the sector with the fastest growth in headcount, with predictions indicating a 26% increase between 2022 and 2027 – more than double that of the next fastest-growing sector.

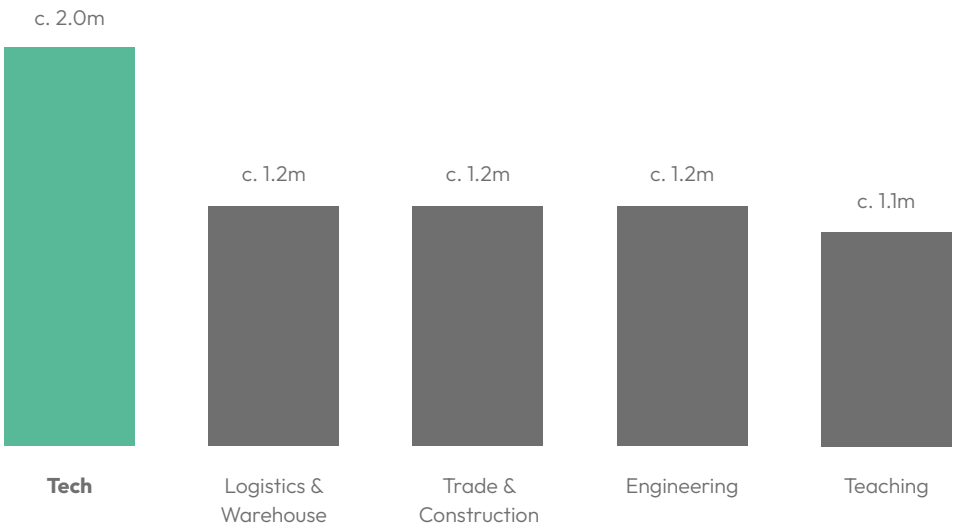
Examples of tech companies in the South-West peninsula



3.3 The Demand-Supply Gap

The UK tech market faces a significant challenge: a shortage of skilled professionals. With tech jobs having the highest number of vacancies compared to any other sector – nearly double that of the next largest sector – companies are grappling to find the right talent. In 2022, 66% of IT decision-makers reported a skills gap[1], highlighting the urgent need for skilled tech professionals.

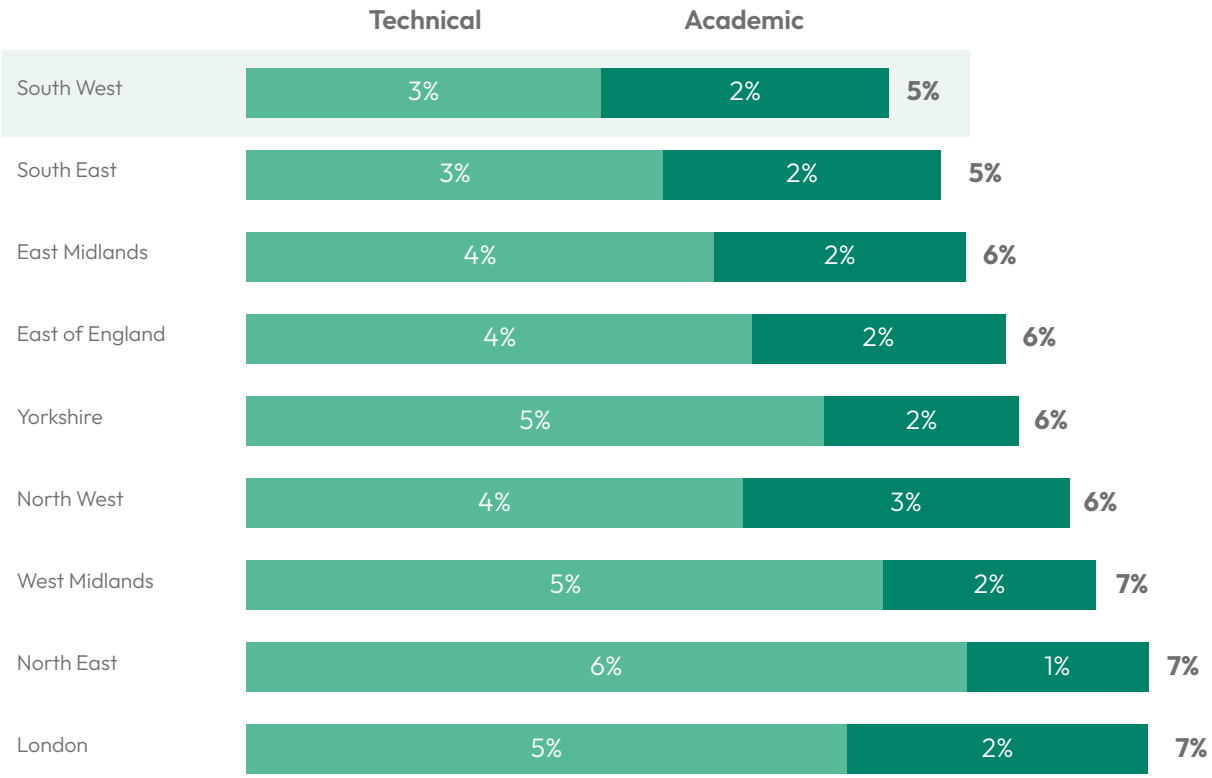
Number of jobs advertised within the UK, *by sector (between May 21-22) only the top 5 job sectors included*[2]



[1] Dynamic Search Solutions survey [2] Tech Nation people and skills report 2022

The South-West, in particular, faces a pressing tech skills supply-demand problem. A survey by Tech SW identified lack of available talent as the foremost barrier for tech companies in the South-West. And indications are that there is not a strong pipeline of young people interested in going into tech: the region records the lowest uptake of level 3 IT qualifications in England as of 2019. This represents a critical challenge.

Proportion of students awarded level 3 IT qualification in 2019 *(note: bars may not be the same size due to rounding)*



3.4 The Social Mobility Opportunity

Tech careers have the potential to offer young people pathways to skilled, well-paid work. The South-West peninsula's urgent demand for skilled tech workers represents a fantastic opportunity to support social mobility for children and young people growing up and wishing to remain in the region. Yet this won't happen by itself: in fact, young people from under-resourced backgrounds are least likely to be the beneficiaries of the region's tech boom unless we take concerted actions to ensure equitable access.

Currently, there is a wide disparity in tech accessibility across multiple areas:

- **Access to tech equipment:** young people from low-income backgrounds are likely to have higher levels of 'digital poverty'
- **Access to 'tech savvy'** family and friends: young people from under-resourced backgrounds are less likely to have access to people who can provide advice and guidance about the tech industry, or mentorship to support them into tech pathways
- **Access to tech events and hubs:** finding out about and taking part in tech-focused events and activities can be more difficult for young people from under-resourced backgrounds due to lack of exposure to these opportunities, and travel and cost issues

Our recommendations take these factors into consideration. In particular, we recommend universally provided, school-based, repeated activities to ensure awareness and support reaches all young people who might thrive in the tech world.

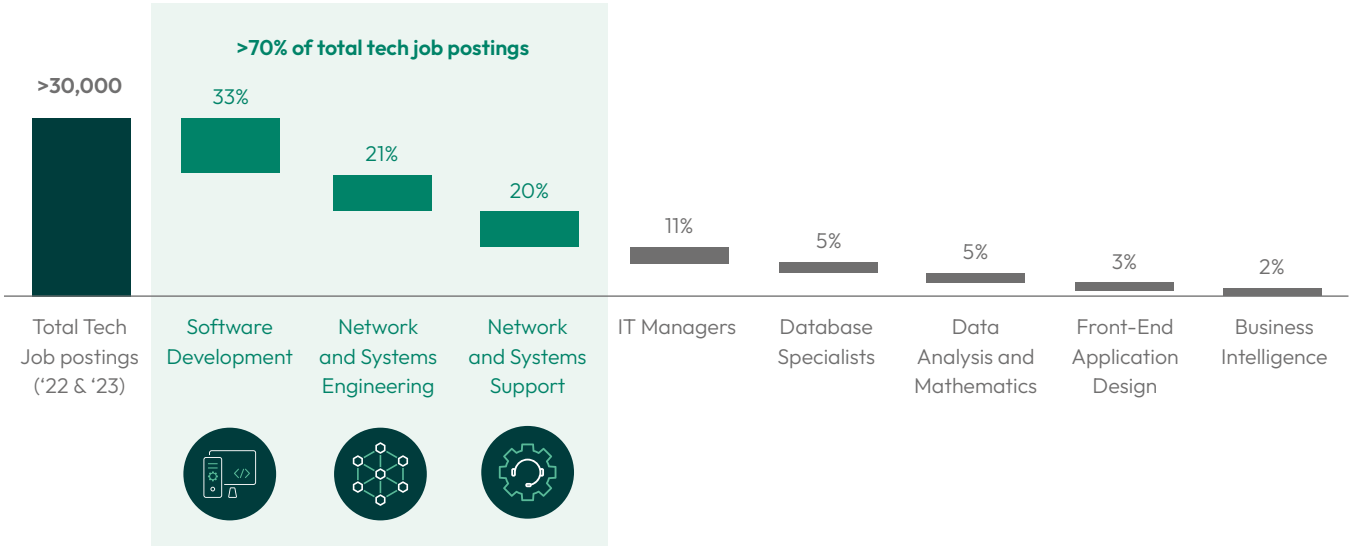
4. Demand for Tech Talent in The South-West Peninsula

The South-West tech sector is experiencing a period of remarkable vitality and growth. Supporting 170,000 employees, this dynamic sector is poised for further expansion, with predictions indicating a 26% increase in headcount from 2022 to 2027. This growth rate is double that of the next largest growing sector, underscoring the increasing importance of the tech industry to the region's economy.

4.1 Tech Roles in High Demand

Within the South-West peninsula, three key tech roles are in particularly high demand. Software development, network and systems engineering, and network and systems support roles constitute over 70% of the tech job demand in this area. This has significant implications for where efforts should be concentrated in order to boost young people's job prospects in the tech sector.

Breakdown of tech demand in the South West peninsula - number of tech job postings in the South West peninsula in 2022 & 2023 by tech job type



4.2 Understanding the In-Demand Tech Roles

1: Software Development

Definition

Software Developers are responsible for **designing and coding software** using programs like Java & C++

For example, they could be tasked with **developing a new mobile app** combining puzzle solving with GCSE maths revision

Wage Potential

UK Average Base Salary

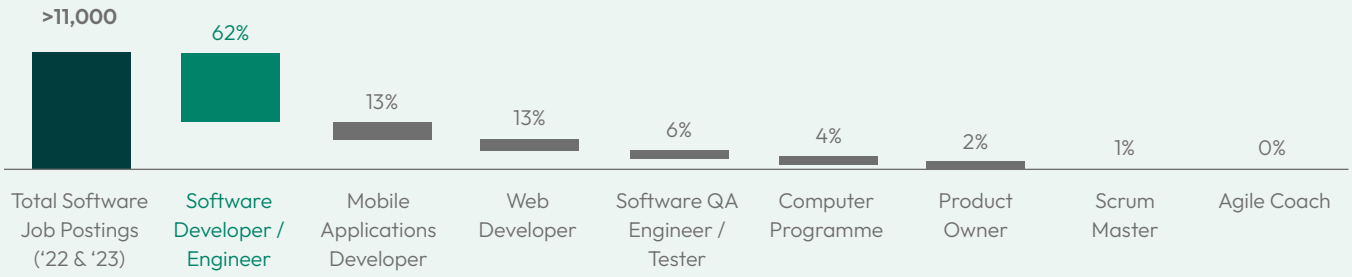
£47,000

Google UK Average[1]

£97,000

Demand Breakdown

Breakdown of Software Development Demand in South West peninsula - number of tech job postings in South West peninsula in 2022 & 2023 by tech job type



2: Network and Systems Engineering

Definition

Networking and Systems Engineers are responsible for designing, implementing, and **maintaining computer networks**

For example, they could be tasked with **setting up a high-speed secure WI-FI network** for a large music festival

Wage Potential

UK Average Base Salary

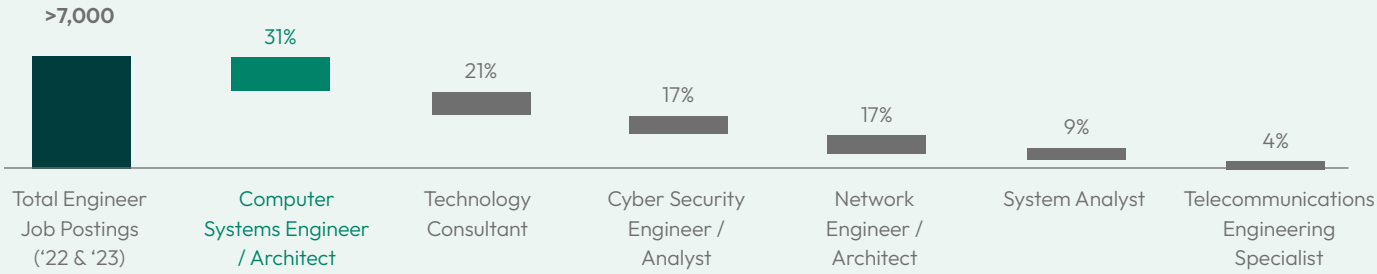
£39,000

Meta UK Average

£83,000

Demand Breakdown

Breakdown of Network and Systems Engineering Demand in South West peninsula - number of tech job postings in South West peninsula in 2022 & 2023 by tech job type



[1] Senior Software Developer
Source Indeed, Lightcast Data; SWSMC Analysis

3: Network and Systems Support

Definition

Networking and Systems Support Specialists are responsible for analysing, troubleshooting and **evaluating technology issues**

For example, they could be tasked with **applying necessary security patches** to protect a company's network from viruses

Wage Potential

UK Average Base Salary

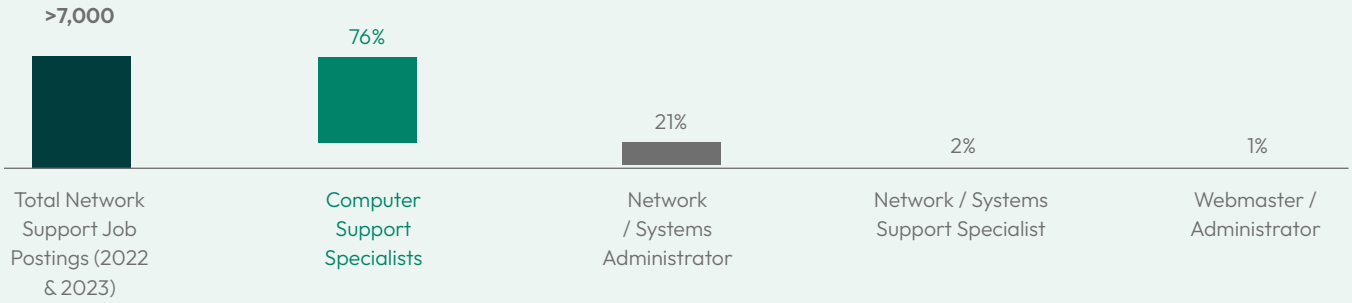
£28,000

amazon UK Average

£35,000

Demand Breakdown

Breakdown of Network and Systems Support Demand in South West peninsula - number of tech job postings in South West peninsula in 2022 & 2023 by tech job type

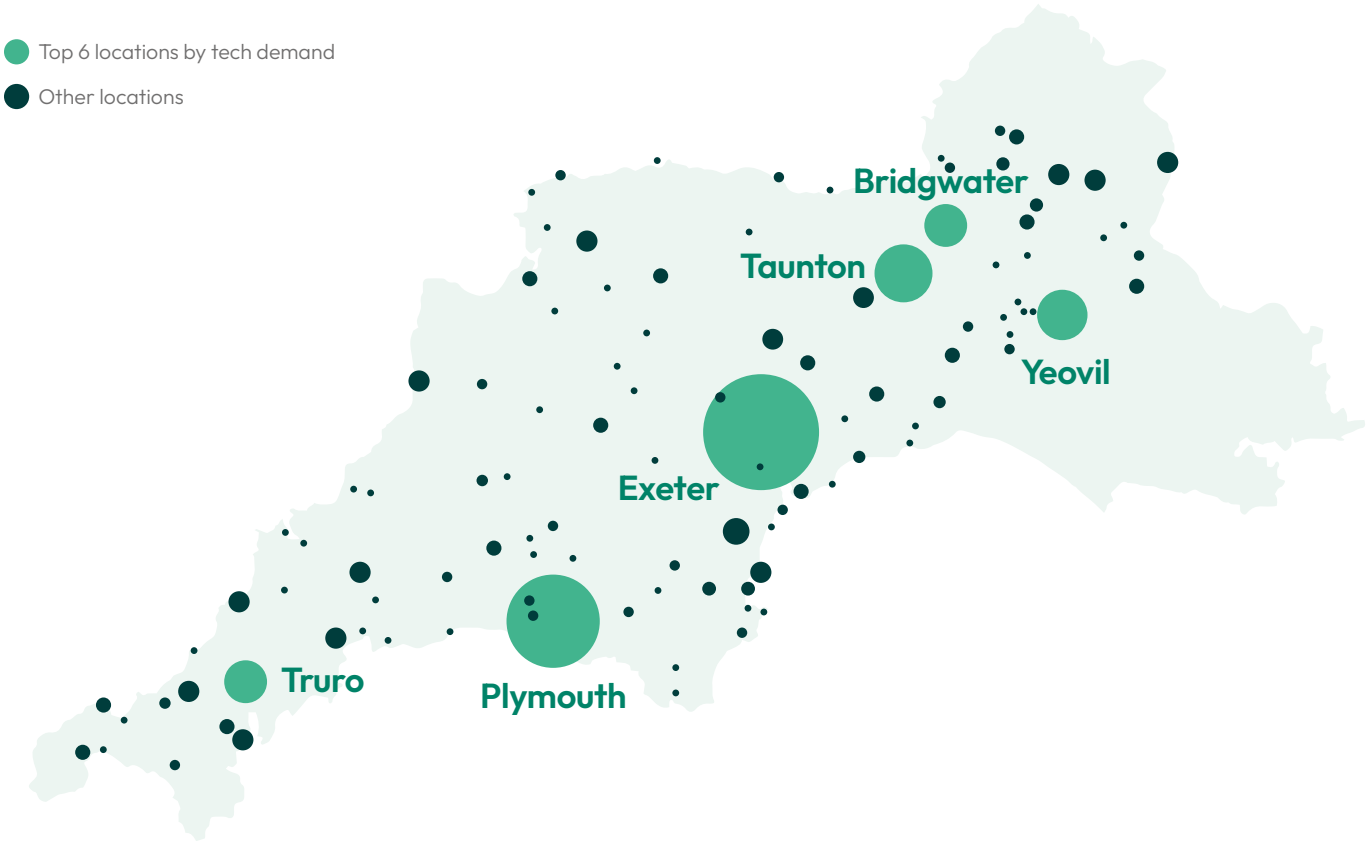


Source Indeed, Lightcast Data

4.3 Geographic Distribution of Tech Jobs

The distribution of tech jobs across the South-West peninsula is quite broad, yet there are distinct 'hubs' where demand is concentrated. Exeter and Plymouth stand out as key centres, representing almost half of the tech job demand in the region.

Breakdown of Tech Demand in South-West peninsula by location
(bubble size represents the number of tech job postings in 2022 & 2023)



4.4 Key skills employers are looking for

Digital employers in the South-West peninsula are looking for young people who have three key attributes:

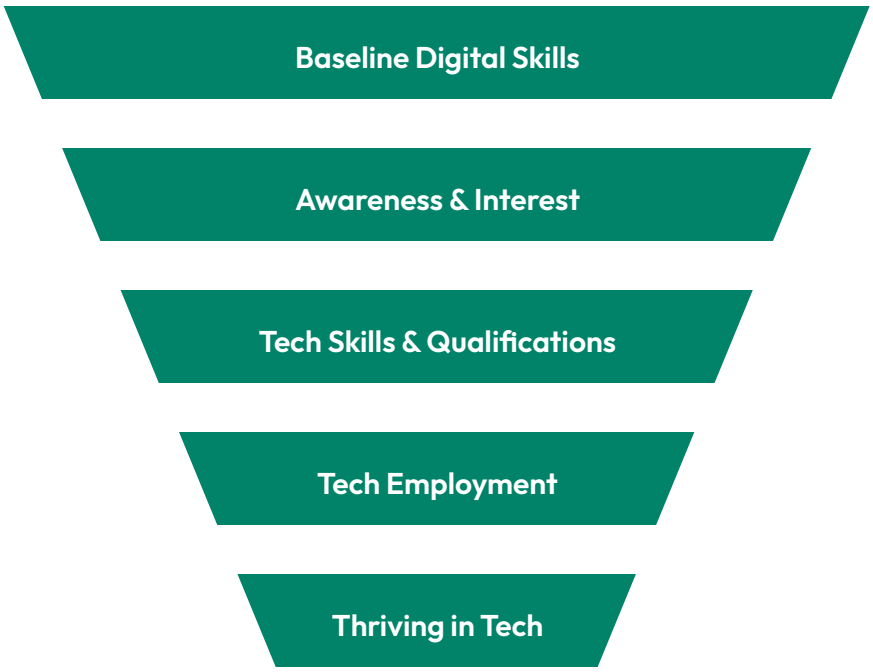
- **Good tech qualifications:** Specific tech qualifications where the curriculum has been made alongside local employers (e.g., SWIoT digital courses)
- **Personal tech portfolios:** Portfolio of IT-work that the prospective employee has created outside of school (e.g., GitHub Portfolio)
- **Strong soft skills:** Range of non-technical skills that you need to thrive in the technical world (e.g., Communication)

This combination of technical know-how, practical experience, and interpersonal abilities is key to thriving in the current tech job market.

Source Indeed, Lightcast Data

5. Tech Skills Supply Barriers

The journey to a successful tech career can be envisioned as a progression through the stages of a funnel. Each phase is crucial for young people aspiring to enter and thrive in the tech industry. This funnel outlines a sequential path from the acquisition of basic skills to long-term career sustainability.



Acquiring baseline digital skills at a young age is essential to developing any initial interest in a career in tech

Awareness of potential (local) tech careers and development of this interest is vital to progress down the funnel

Gaining the right tech skills and qualifications is a necessary step in getting employed in a technical role

Access to Tech Employment: Navigating the industry and the recruitment process is key to accessing a tech career

For retention, it is crucial that young people are supported to thrive in the industry

From interviews with over 20 experts from education, business and careers services, we have identified stages 2, 3 and 4 – Awareness & Interest, Tech Skills & Qualifications, and Access to Tech Employment – as the primary barriers within the funnel. These are the critical stages during which young people face challenges and the areas in which we need to focus our actions to get more young people working and thriving in tech.

5.1 Awareness and Interest

As noted earlier, the South-West has fewer young people pursuing level 3 IT-related qualifications than any English region. This is not caused by a lack of availability of courses: more than 85% of students in the South-West peninsula have access to level 2 and level 3 IT-related qualifications. This high level of provision indicates that the educational infrastructure to support IT learning at level 2 and 3 is largely in place.

The core of the problem lies in a lack of awareness amongst young people about the tech careers that are available locally, and the wide-ranging opportunities offered by the tech industry. One reason for this may be the small-scale nature of tech operations in the South-West peninsula, where despite the significant demand for tech-skilled workers there are no highly visible, 'anchor' tech employers.

Currently, not enough is being done to bridge this gap in enthusiasm and understanding about the tech sector, meaning that even though the opportunities for learning and qualifications are available, they are not being fully utilised. Sparking awareness and interest in the range of locally available tech careers available is therefore a crucial step in encouraging more young people to move to the next stage in the funnel: pursuing IT-related qualifications.

All our interviewees noted issues in awareness about tech careers

Education Sector

There is a widespread lack of experience, knowledge and information about what tech is within the student population in the South-West

Professor of Education, Plymouth Marion University

Tech careers are incredibly interesting and lucrative, but students just don't know enough about them so how can we expect them to end up working in the tech sector?

Senior Skills Consultant, Jisc

Tech Experts

Not enough is being done to engage young people in tech careers at school level which is where most of the impactful career advice can be given to really change students' career paths

Co-Founder, Tech South West

Young people in the South West know more about fishing than tech even though tech contributes far more to the South West economy and has better job prospects

Educational Outreach Officer, Software Cornwall

Career Services Sector

Secondary schools do not do enough to engage young people in careers and tech careers, specifically, which leads to a low level of awareness

Strategic Lead, Devon, Plymouth & Torbay Careers Hub

Tech is still thought of as a geeky, boring career amongst young people and we need to change this perception as this is simply not true anymore

Co-Founder, Socially Responsible Recruiting

Careers guidance for young people predominantly comes from two sources: parents/carers and schools. Parents and other adults within a young person's social network are by far the primary source of careers advice for young people, but for those from low-income backgrounds this represents a source of disadvantage as they are far less likely to know adults already working in the industry. This means that schools play a pivotal role in levelling the playing field.

Given this context, efforts need to focus on tech careers awareness and interest in schools. A realistic phase at which to target tech careers interventions is secondary school. Secondary schools offers the best balance between impact and ease of implementation, targeting a critical stage in young people's educational journey where career aspirations begin to take shape. 84% of 1,000 students aged 14 to 19 who were surveyed said they wanted more input from schools on careers advice.

However, there are significant barriers to providing effective tech career guidance in schools.

1. **Lack of employer engagement:** Tech firms in the South-West are not engaging enough in schools. This is not helped by the small-scale nature of South-West tech firms
2. **Limited knowledge about tech careers amongst teachers:** Secondary schools teachers typically don't know a lot about the tech industry which makes it hard for them to provide good advice and guidance to their students
3. **Rurality of the South-West:** The rural nature of the South-West makes school trips to tech employers or in-school visits by tech experts and employers more difficult to arrange

To combat these issues, we recommend three specific initiatives aimed at improving tech awareness and interest among the young population in the South-West peninsula. These initiatives, detailed further in the "Paving the Way Forward" section, include:

1. **Year 10 Tech Work Experience Programmes:** We propose running nine tech work experience programmes a year across Cornwall, Devon and Somerset, focusing on the three most in-demand tech roles
2. **Year 7-11 Employer-led Workshops via Secondary School Clusters:** We recommend arranging secondary schools into clusters by geography, pairing clusters with tech employers to conduct a sequenced series of workshops (five per year – one for each year group)
3. **Secondary School 'Tech Days':** We suggest creating an annual 'tech day' where teachers in schools across the region tie their lessons in to how their subject relates to tech. For this to work effectively, we propose the set-up of a governing body that provides learning materials across all subjects

We believe implementing these initiatives could significantly enhance tech awareness and interest, paving the way for more young people in the South-West peninsula to pursue and succeed in tech-related careers.

5.2 Tech Skills & Qualifications

As noted earlier, digital employers in the South-West peninsula are looking for young people who have three key attributes:

- **Good tech qualifications:** Specific tech qualifications where the curriculum has been ideally made alongside local employers (e.g., SWIoT digital courses)
- **Personal tech portfolios:** Portfolio of IT-work that the prospective employee has created outside of school (e.g., GitHub Portfolio)
- **Strong soft skills:** Range of non-technical skills that you need to thrive in the technical world (e.g., Communication skills)

5.2.1 Good Tech Qualifications

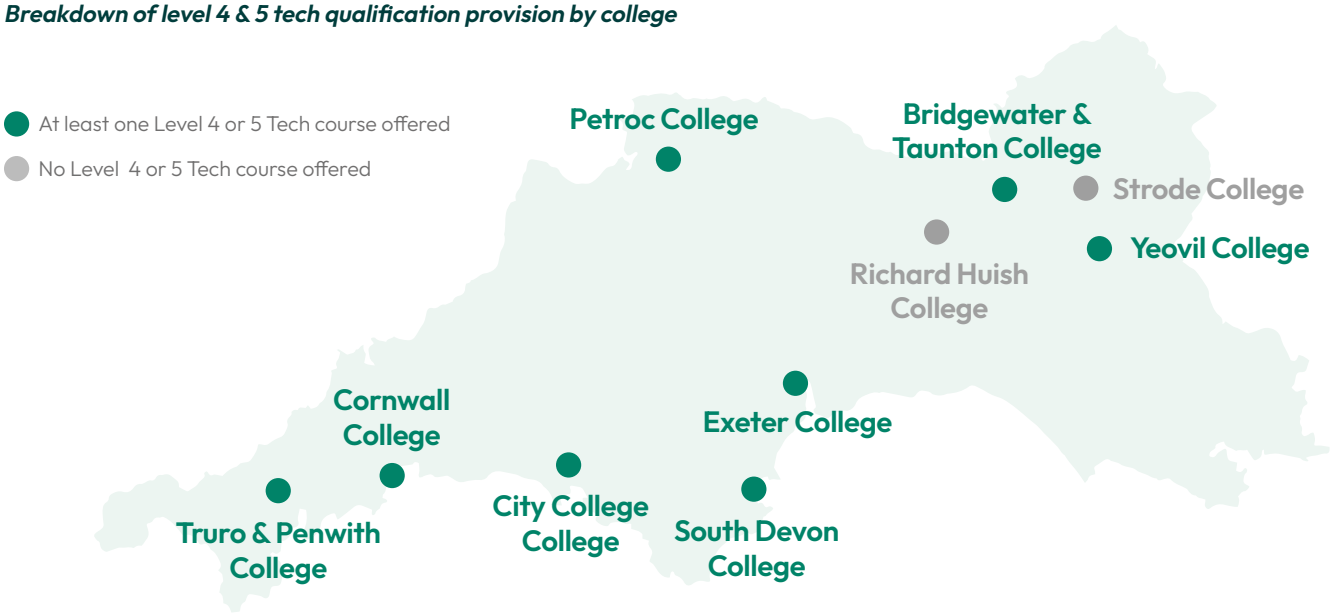
The key qualifications employers seek are level 4 and 5 qualifications.

Employers are looking for 'mouldable' employees who possess a solid tech skillset but are still adaptable to company-specific needs and cultures. Level 4 and 5 qualifications strike a balance between foundational knowledge and the flexibility for further skill development.

While most FE colleges in the South-West peninsula offer level 4 or 5 tech qualifications, there are two key issues that need addressing: geographic distribution and course specialism.

In terms of geography, the distribution of FE colleges in the region means the existence of 'coldspots' in the availability of tech education. This has particularly detrimental effects on young people from under-resourced backgrounds who are less likely to be able to access more distant options due to transport access and cost implications.

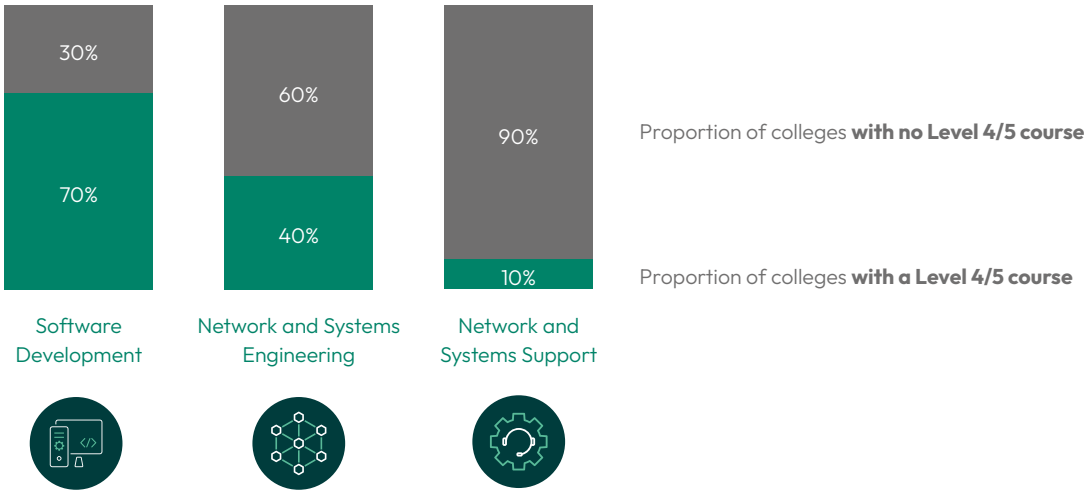
Breakdown of level 4 & 5 tech qualification provision by college



Source: Desktop research; SWSMC Analysis

The other key issue is that not every college offers level 4 or 5 tech qualifications in the three most in-demand tech specialisms, which collectively represent over 70% of the region's tech vacancies. This mismatch between the course specialisms being offered and the specialisms in demand among employers means that even when young people are pursuing tech pathways, they aren't necessarily pursuing those that will be optimal for their future employment.

Proportion of Colleges in the South West peninsula that offer level 4/5 courses in the below areas



To address these challenges and improve access to good tech qualifications, we recommend the following two initiatives:

4. **Sixth Form Provision of Level 4 & 5 Tech Foundation Courses:** We propose that sixth forms in 'coldspot' areas partner with local colleges and universities with existing level 4 and 5 tech courses to offer these programmes across a wider geography
5. **Universally Offered Level 4 & 5 Demand-Focused Tech Courses:** We advocate for a pledge by colleges that don't currently offer level 4 and 5 tech courses in the three most in-demand tech fields to do so

5.2.2 Personal Tech Portfolios & Strong Soft Skills

Many tech employers place a high value on potential candidates presenting a personal portfolio of work. This portfolio helps to demonstrate a candidate's passion for tech and test for practical skills that are much more difficult to ascertain through CVs or standard job interviews. Portfolios can also help demonstrate a candidate's innovation and creativity. However, development of such a portfolio represents a particular challenge for young people from under-resourced backgrounds. As portfolios aren't necessarily something a young person would have created in school or college, nor even be aware of or exposed to, they represent a barrier to entry. Not having access to the technology required to make such a portfolio, or to advice and guidance in demonstrating what employers are looking for, can represent significant hurdles.

Employers in the tech industry also place high value on 'soft skills' such as team collaboration, client interaction and reliability. Many employers note that whilst they would be happy developing employees' technical skills, they expect job applicants to have the requisite soft skills before joining their organisation. Yet these skills can often be difficult for young people to obtain for a variety of reasons including an educational focus on technical skills and limited exposure to workplace environments. These challenges particularly affect those from under-resourced backgrounds.

Addressing these challenges is essential to supporting all young people into the tech industry. We propose the following initiative:

6. **Tech Mentorship Scheme:** We recommend recruiting skilled volunteers within tech and connecting them with young people interested in tech to support them in creating a personal tech portfolio and developing their soft skills

5.3 Access to Tech Employment

Whilst employers use a variety of methods to recruit tech talent, the key channels affecting young people in the South-West peninsula are employer-education links and social media recruiting. These are the main routes through which smaller tech companies typically recruit for entry-level positions. As such, these channels are the focus of our analysis.

FOCUS AREAS

	Online Application	Tech Recruiters	Employer Educational Links	Social Media Recruitment
Description	Digital platforms where job seekers can directly apply for teach roles	Specialists who match tech professionals with suitable job openings	Partnerships between tech companies and educational institutions so faster talent	Utilising platforms like LinkedIn to post job openings and scout talent
Typical Employer Size	Small	Small	Small	Small
	Medium	Medium	Medium	Medium
	Large	Large	Large	Large
Used for Entry-level?	✓	✗	✓	✓
Why Focus / Not Focus Area	**Not typically used for smaller companies** and the South-West tech sector is primarily small businesses **Tech recruiters don't often work with entry-level talent** Limited ways to improve - **low potential impact**		**Used for small companies** as well as larger ones - important for the South-West given the number of small tech firms **Both methods are used for entry-level talent** Numerous ways to improve - **high potential impact**	

xxx Not used by employers of xxx size

xxx Used by employers that of xxx size

Source: Stakeholders interviews; SWSMC Analysis

5.3.1 Employer-Education Links

Both tech educators and tech employers in the region report a disconnect in their communication. This gap hinders the seamless transition of students from tech education to tech employment.

To address this challenge, we propose:

7. **Tech Talent Marketplace:** We propose creating a process whereby every quarter tech employers in the South-West peninsula share with tech educators all the tech roles for which they are recruiting, and tech educators share the profiles of all their tech students to facilitate peninsula-wide recruitment

Tech Educators

Better communication between schools and tech companies can really help make the most of what young people have to offer

Employer Engagement Principle, South Glos & Stroud College

Tech Employers

Tech companies need people, and they're already in schools. Let's connect them better and this would solve a lot of the issue

Co-Founder, Tech South West

5.3.2 Social Media Recruitment

Social media recruiting is becoming an increasingly important recruitment channel, with 98% of companies reporting that they are using social media for recruitment and employer branding purposes. Smaller companies, in particular, find social media platforms invaluable for hiring. As the most popular social media recruitment platform, LinkedIn plays a critical role in connecting job seekers with potential employers.

However, for many young people, building an online professional presence, a crucial aspect of social media recruitment, is not a straightforward task. This is especially the case for those who are unaware of its importance or who don't have access to the resources and guidance to effectively present themselves and network in the online professional world. Young people from under-resourced backgrounds are likely to be disproportionately disadvantaged in this regard.

Breakdown of the key activities to build a strong LinkedIn presence and the key questions young people may have

Key questions by young people

Build a strong profile
- What makes a 'strong' profile
- What do I do if I have no work experience?
- How can I take a professional photo of myself?

Make connections
- What does connect even mean?
- Who am I allowed to connect with?
- What are the best ways of connecting with people?

Create engaging content
- What content should I create... I'm only at school?
- How often should I post content?
- How you best create and post engaging content

Source: Stakeholder interviews; SWSMC Analysis

To address this challenge, we propose:

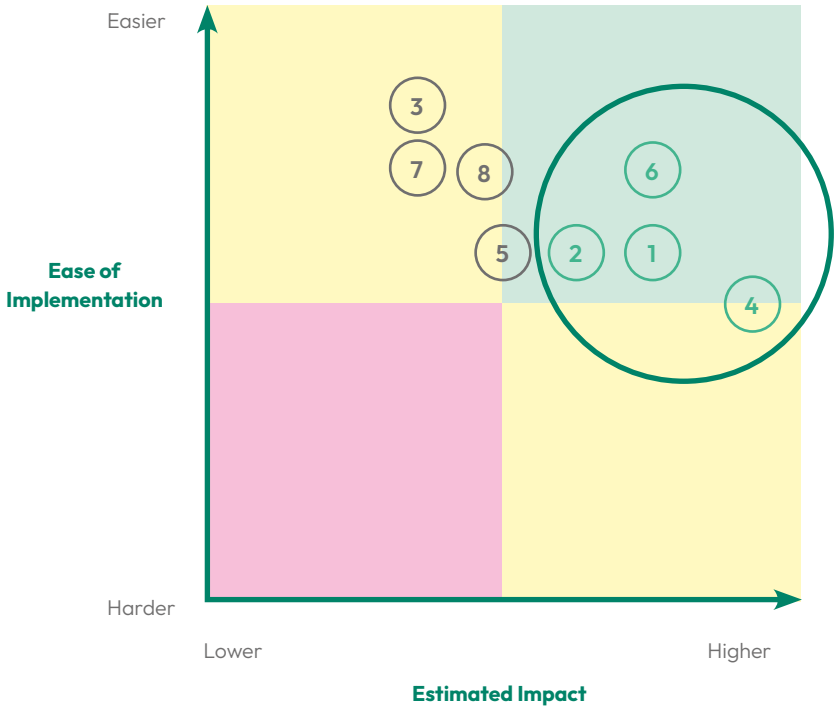
8. **LinkedIn Coaching in Schools & Colleges:** We recommend the creation of learning content around how to develop and actively use an effective LinkedIn profile,distributed to all secondary schools and made into a mandatory part of careers activities

Through these recommendations, we aim to enhance the pathways for young people into tech careers, ensuring they are equipped with the necessary tools and connections needed to enter this growing industry.

6. Paving the Way Forward

We are recommending eight initiatives to address the key barriers within the three most important parts of the funnel into tech jobs. We have identified four of these as our "best bet" initiatives based on estimated impact and ease of implementation:

Estimated Impact vs Ease of Implementation Matrix



1. Year 10 Tech Work Experience Programmes
2. Year 7-11 Employer-led Workshops via Secondary School Clusters
3. Secondary School 'Tech Days'
4. Sixth Form Level 4 & 5 Tech Courses
5. Universally offered Level 4 & 5 Demand- Focused Tech Courses
6. Tech Mentorship Scheme
7. Tech Talent Marketplace
8. LinkedIn Coaching in Schools

Source: SWSMC Analysis

6.1 Best Bet Initiatives

1 Year 10 Tech Work Experience Programmes

Objective: Ensure all Year 10 students in Cornwall, Devon and Somerset can access high-quality work experience in software development, network engineering and network support – the three most in-demand tech roles in the region

Overview: Run nine work experience programmes a year with good geographic coverage across Cornwall, Devon and Somerset

Rationale: There is low awareness of, and interest in, tech careers amongst young people in the South-West peninsula. A well-designed, fun and exciting work experience programme could foster interest in a tech career and awareness of locally available opportunities at a crucial stage in young people's development

Proposed Year-10 Work Experience Schemes

Cornwall | Devon | Somerset

Software Engineering

Mission to Mars[1]

Navigate a Martian landscape by coding a Mars rover, employing teamwork and tech skills to command rovers in a dynamic simulation

Network Engineering

Disaster Network

Create a resilient and rapidly deployable network system for disaster-stricken areas to ensure continuous communication to save the most amount of people

Network Support

Tech Detective

Solve a series of network-related mysteries in a simulated company scenario to find the criminal, using clues to troubleshoot and fix hidden issues within the network

These three tech job groups represent >70% of the tech demand in the South West Peninsula

[1] Already run by Software Cornwall (very successful scheme)

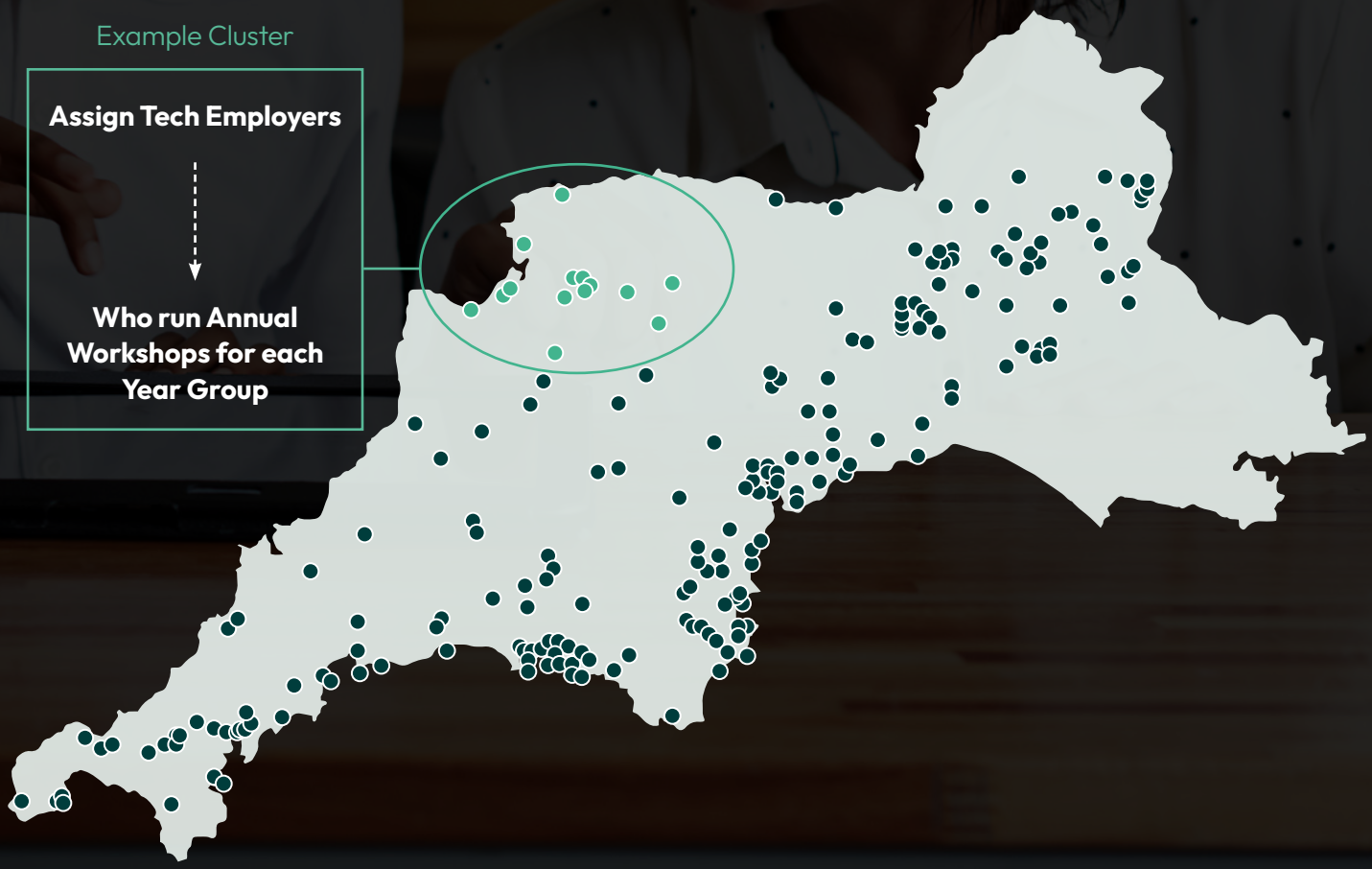
2 Year 7-11 Employer-led Workshops via Secondary School Clusters

Objective: Ennsure all Year 7-11 students in the South-West peninsula have a meaningful interaction with a tech employer every year throughout their secondary school journey

Overview: Group secondary schools into clusters, pairing each cluster with five local tech employers. Employers conduct five workshops a year with each cluster, one for each year group. Workshop content and delivery is supported by a body specialising in delivering in-school workshops

Rationale: Students do not currently get enough exposure to or meaningful interactions with tech employers. Rurality is a significant barrier to employers reaching more isolated schools in the South-West peninsula. Grouping schools into a manageable number of clusters has the potential to ensure that every student in the region receives this crucial exposure and interaction

Map of secondary schools in South West peninsula



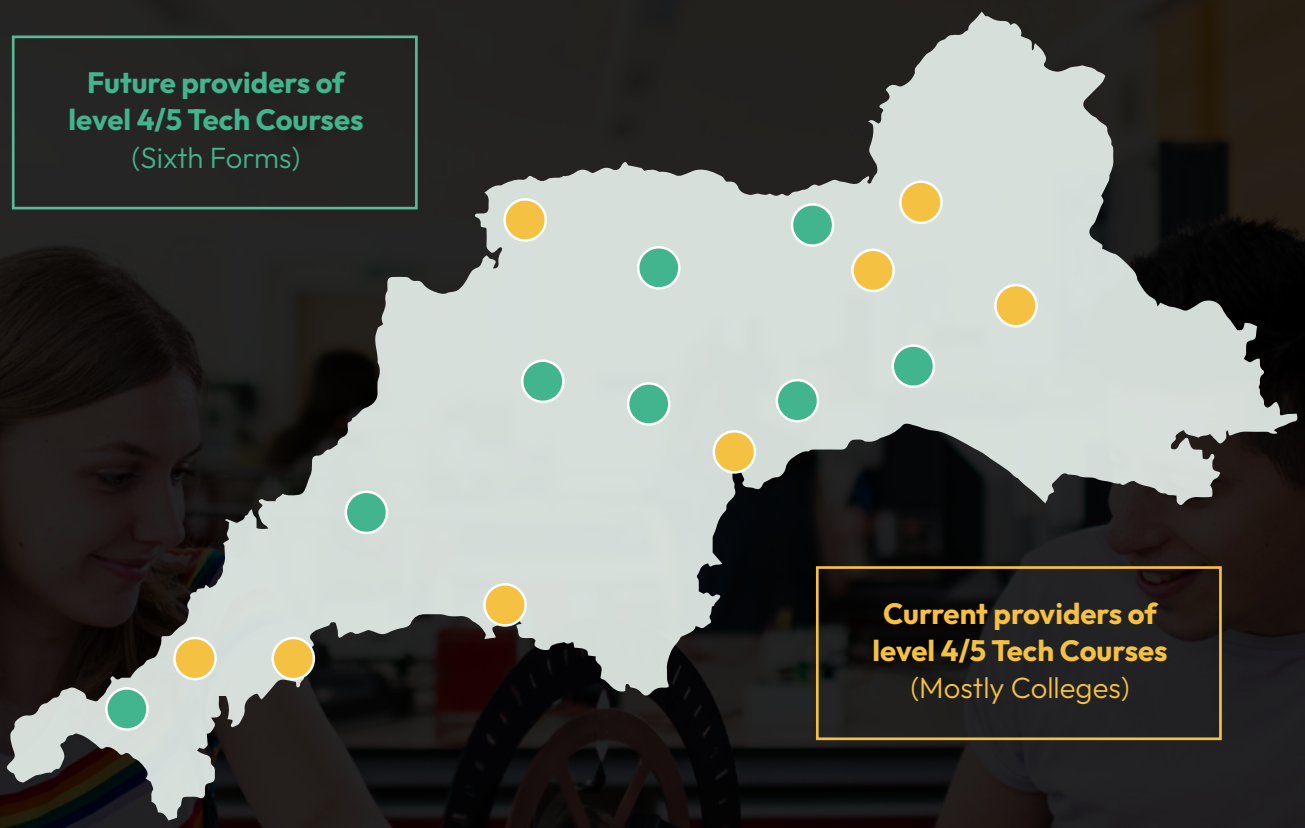
4 Sixth Form Provision of Level 4 & 5 Tech Courses

Objective: Ensure all students can access a level 4 or 5 tech course without the need to travel an excessively long distance

Overview: Get sixth forms in 'coldspot' areas to partner with local colleges and universities with existing level 4 and 5 tech courses to offer these programmes across a wider geography. Students access some of their learning via sixth form teachers/tutors and some of their learning online with the support of the college/ university programme

Rationale: The distribution of level 4 and 5 tech courses is currently too sparse across the peninsula. Supporting existing sixth forms to provide these courses could help address this geographic issue

Breakdown of current and future level 4 & 5 tech qualifications in the South West peninsula



6 Tech Mentorship Scheme

Objective: Ensure students who are interested in a tech career are given the support to create a personal tech portfolio and gain the soft skills needed to enter the industry

Overview: Skilled technical volunteers assign projects to tech-interested young people and provide weekly mentorship throughout each project, enabling young people to create a personal portfolio and develop soft skills in the process

Rationale: Personal tech portfolios and good soft skills are highly sought after by tech employers, yet can be challenging for young people and especially those from under-resourced backgrounds to acquire. To level the playing field, dedicated support needs to be provided

6.2 Other Initiative Deep-Dives

3 Secondary School 'Tech Days'

Objective: Ensure every secondary school teacher is equipped with the tools to link their subject to key tech careers

Overview: Create an annual 'tech day' where teachers in schools across the region tie their lessons in to how their subject relates to tech. A governing body provides learning materials across all subjects in order to support teachers with this

Rationale: Showing young people how the curriculum relates to different tech careers is important in improving awareness and understanding about tech jobs. Teachers are an important source of knowledge and advice for young people, especially those from under-resourced backgrounds, however they are often ill-equipped to talk about tech. This initiative addresses that gap

For one day a year, teachers pitch lessons in relation to how their subject relates to tech or how tech is used in that field (illustrative examples shown below)

Geography
Introduce students to the work of Geographic Informations Systems (GIS) and Digital Mapping

Maths
Dive into how mathematics underpins the algorithms that drive our digital world

Art
Explore how tech has expanded the boundaries of artistic expression using AI and software

To be replicated for all subjects

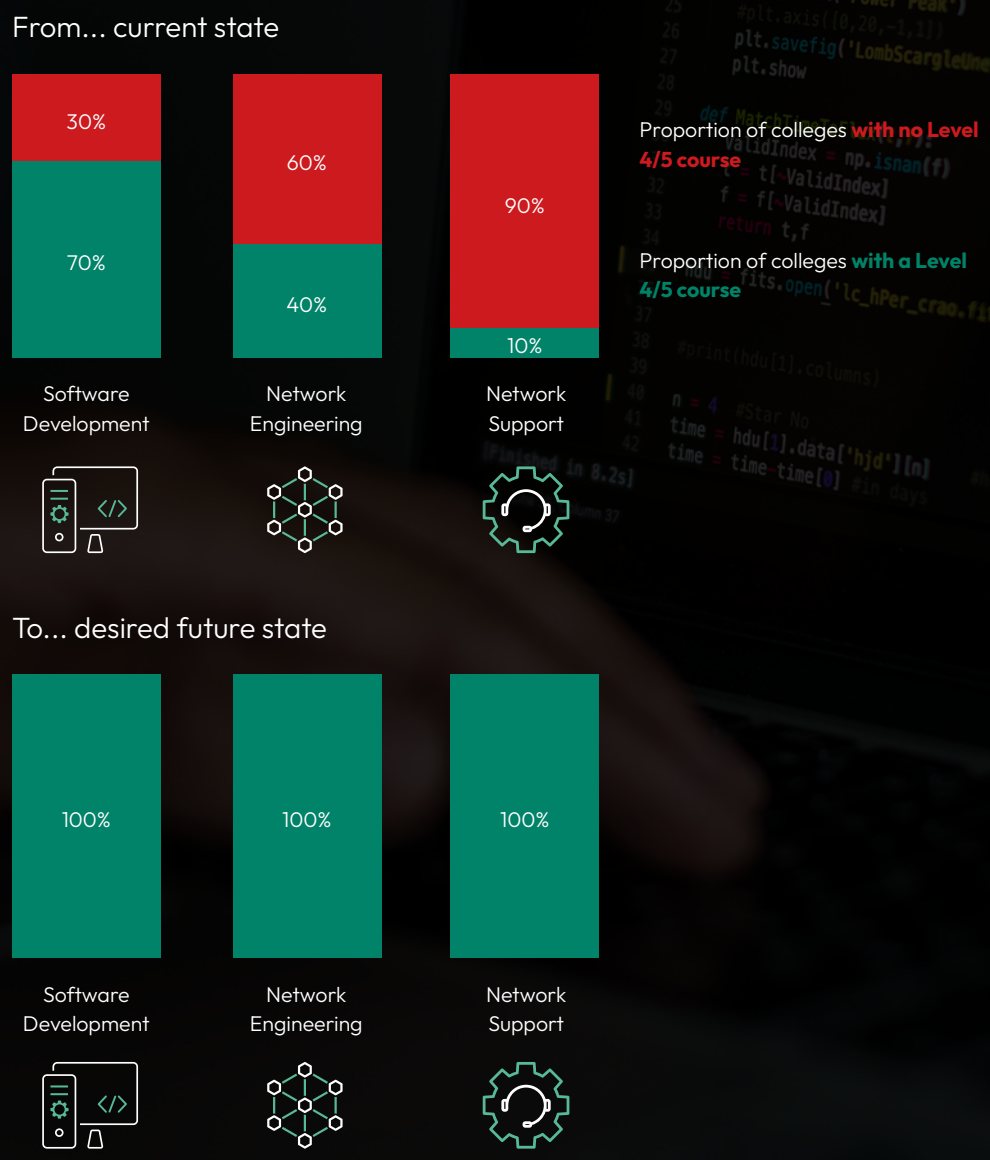
5 Universally Offered Level 4 & 5 Demand-Focused Tech Courses

Objective: Ensure students at all FE colleges and HE institutions in the region have access to a level 4 and 5 tech course in Software Development, Network Engineering and Network Support

Overview: Persuade FECs and HEIs that currently don't offer level 4 and 5 tech courses in these high-demand tech fields to do so

Rationale: Level 4 and 5 tech courses in these high-demand tech fields are not universally offered by all providers in the South-West peninsula despite the widespread provision of tech courses more generally. Ensuring provision of these courses would enhance students' employability prospects, based on our analysis of skills demand

Proportion of Colleges in the South West peninsula that offer level 4/5 courses in different tech areas
(from the current state to the desired future state)



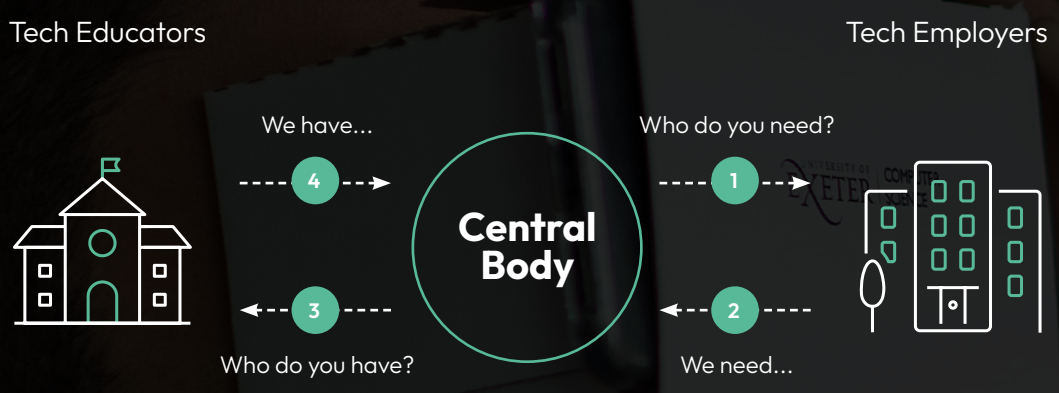
7 Tech Talent Marketplace

Objective: Ensure there is a simple yet sustainable process to allow tech educators and tech employers to more effectively funnel students studying technical courses into employment opportunities

Overview: Create a process whereby every quarter tech employers in the South-West peninsula share with tech educators all the tech roles for which they are recruiting, and tech educators share the profiles of all their tech students to facilitate peninsula-wide recruitment

Rationale: It is generally accepted that there is a lack of connection between educators and employers in the South-West. Improving educator-employer links could have a big impact on entry-level employment opportunities for young people, especially those from under-resourced backgrounds

Pictorial explanation of an example quarterly process to better connect tech employers and educators regarding talent



Creating a quarterly database of who tech employers need and who tech educators have to connect the dots

8 LinkedIn Coaching in Schools

Objective: Ensure all young people are given the support to learn how to use LinkedIn as a key employer recruitment tool

Overview: Create learning content around how to develop and actively use an effective LinkedIn profile, distribute this to all secondary schools and make it into a mandatory part of Year 10 careers guidance

Rationale: Social media recruiting is taking off, especially for smaller companies in tech. However, building an online professional presence is not easy to do for young people, particularly those from under-resourced backgrounds. This initiative seeks to bridge that gap

98%

Of companies use Social Media for recruiting / employer branding

LinkedIn

With LinkedIn being the most popular platform for social media recruiting

Student in Year 10 to be taught the key components to use LinkedIn successfully

- Build a strong profile
- Make Connections
- Create Engaging Content

Source: 2023 Survey by Content Stadium

7. Conclusion

This report provides a blueprint for getting more young people in the South West, especially those from under-resourced backgrounds, into tech jobs.

The urgency of addressing the identified skills gap, enhancing access to tech experiences and qualifications, and fostering industry-education collaborations cannot be overstated. As the importance of the tech industry to the UK and the South-West peninsula continues to grow, ensuring equitable access to tech careers is a moral and business imperative.

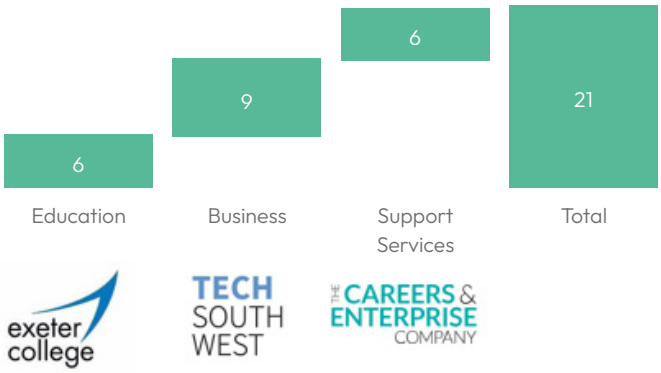
Our recommendations - from enhancing tech awareness in schools to establishing a tech mentorship scheme - are designed to bridge the divide between the current education system and the evolving needs of the tech industry. Successful realisation of this vision requires a concerted effort by stakeholders across the board—from government bodies to educational institutions, private sector companies to community organisations.

The aim of our work is not only to spark action through this report but also to lay the groundwork for an immediate, sustained, collaborative effort across the region to initiate change. We have already started working with a variety of organisations to kickstart action on our recommendations. Providing strategic coordination, we are pushing these recommendations to pilot stage. In doing so, we hope to ensure that the South-West peninsula not only keeps pace with the global tech industry but emerges as a leader in innovation and equitable tech talent development.

8. Appendix

8.1 Primary Research

Primary research overview (>20 interviews completed across education, business and support services)



Examples

8.2 Bibliography

- Robinson, D. & Coleman, C. (2022). Technical provision for 16 to 19 year olds. Education Policy Institute & The Hg Foundation
- Tech South West (2023). Tech from the edge. Tech South West. Available at: https://www.techsouthwest.co.uk/reports/
- Pearson (2023). Pearson Skills Map England: Economies in transition. Pearson. Available at: https://plc.pearson.com/en-GB/news-and-insights/skills-outlook-skills-map-england
- Windsor G. (2022). People and skills report. Tech Nation. Available at: https://technation.io/research/
- Beukelaer O. (2023). Social recruiting: 2023 statistics and trends. Content Stadium. Available at: https://www.contentstadium.com/blog/

8.3 Other Data Sources

- ONS workforce jobs by industry 2023. Available at: https://www.gov.uk/government/statistics/business-population-estimates-2023
- Department for Education School Comparison Data. Available at: https://www.gov.uk/school-performance-tables
- Glassdoor Economic Analysis. Available at: https://www.glassdoor.com/research
- Lightcast Labour Data. Provided by: Lightcast
- Statista: Available at https://www.statista.com/

8.4 South-West Social Mobility Commission Know-how

Professor Lee Elliot Major, OBE

- UK's first Professor of Mobility
- Former Chief Executive of the SuttonTrust

Dr Anne-Marie Sim

- Social anthropology PhD from Oxford
- Former Strategy Consultant @ BCG

University of Exeter | South-West Social Mobility Commission

FUNDED BY The Hg Foundation

2024EEG056