



THE SCOTTISH TECH TALENT CONUNDRUM

How apprenticeships can help
employers meet the ever-growing
demand for tech and digital skills



INTRODUCTION

It will come as no surprise to anyone reading this that the need for talent in tech roles in Scotland is exploding. More than one in ten of the country's jobs are now in the tech sector. But while the tech sector in Scotland grew 2.1% from January 2020 to January 2022 (in line with the UK average), vacancies in tech-related fields increased by a massive 77%*.

“WE MUST DIVERSIFY OUR APPROACH TO TALENT ACQUISITION”

One thing is abundantly clear – employment growth in the Scottish tech sector is being hampered by a lack of ready-skilled talent. When coupled with the fact that tech jobs are no longer just for tech companies and the impact of the COVID induced ‘great resignation’, it’s clear we need to find alternatives to bring the necessary skills into businesses to achieve our goals.

*Lightcast labour market data

At QA, we’re seeing this challenge with every business we work with. There’s still a desire to follow traditional hiring models, headhunting ready-skilled workers who you believe are most likely to hit the ground running when they join. It makes sense, limiting risk and knowing the talent you attract has the skills you need. But even if you can attract this talent, retention is increasingly challenging.

Published every year since 2008, **the Scottish Technology Industry Survey 2022** supports this synopsis. Despite a return to pre-pandemic levels of sales growth, talent shortages stick out as a real cause for concern and an area where more must be done to tackle the challenges this creates for the industry.

Quite simply, we must diversify our approach to talent acquisition. Apprenticeships are a proven, powerful way to do this. This short report looks at the Scottish Technology Industry Survey findings on apprenticeships alongside QA’s own research of Scottish businesses that currently count apprentices among their workforce.



The aim is to show the realities of the apprenticeship experience for employers and what we can do to support them, demonstrate why they're worth pursuing as part of your talent strategy and provide recommendations on how any business can unlock the power of apprenticeships to support their goals.

I hope you find it of interest.

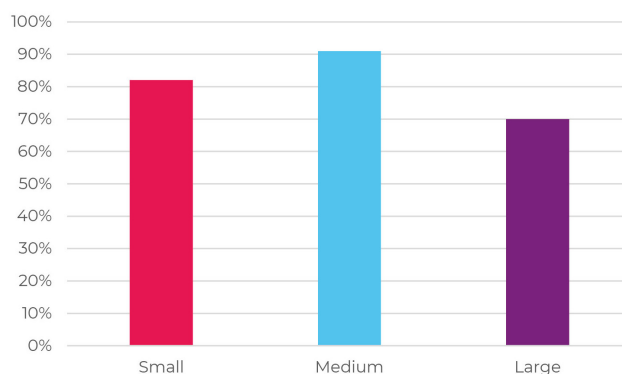
Chris Shekleton
Scotland Director for Apprenticeships
QA

THE SCOTTISH TECHNOLOGY INDUSTRY SURVEY 2022

For the past 15 years, the Scottish Technology Industry Survey, published by **ScotlandIS**, has been providing fascinating insights into the industry's health, performance, outlook and trends.

The **2022 edition**, conducted between December 2021 and March 2022 paints a promising picture for post-pandemic recovery in terms of sales and growth. 72% of companies reported increased sales year-on-year and 76% of businesses expect to increase their headcount this year. But it's also clear there are challenges that we must overcome if we are to effectively fuel success and growth across the industry, particularly navigating a widening skills gap and acquiring talent.

Percentage of businesses expecting to increase headcount in 2022 by business size





In-Demand Skills Are Hard to Acquire

The majority of businesses (58%) continue to expect that they will find their new staff in Scotland. However, the increasing demand for skills in key areas makes that a challenging prospect.

The survey finds that companies believe the greatest opportunities for their businesses over the next year come from areas where skill sets are also most in demand including data analytics, artificial intelligence and cyber security.

In January 2022, Lightcast labour market data showed that job postings for software developers in Scotland had increased 49% compared to the same month in 2020, while the average advertised salary had increased by more than 11%. Over the same period, web development saw a 4% increase in job postings, but average salary grew 12.3%.

Though web development saw a much smaller increase than software development, the total number of advertised posts in January 2022 (269) was equivalent to 8% of all people employed in web development in the country.

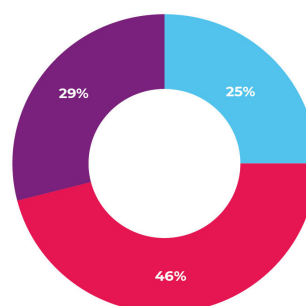
Given employment in these roles is expected to grow just 1% over the next year, it leaves a significant shortfall when it comes to plugging skills gaps.

“THE GREATEST OPPORTUNITIES FOR BUSINESSES COME FROM AREAS WHERE SKILL SETS ARE ALSO MOST IN DEMAND”

Most in-demand skill sets according to employers compared to 2021

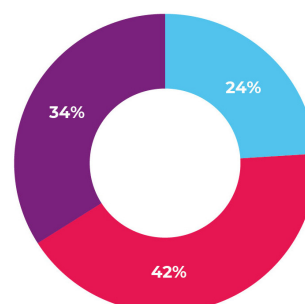
Cyber Security

■ High requirement ■ Same requirement ■ No requirement



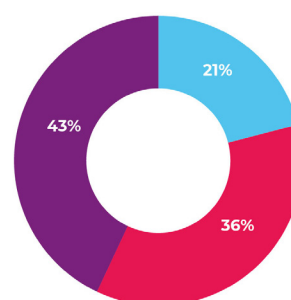
Data

■ High requirement ■ Same requirement ■ No requirement



Artificial Intelligence

■ High requirement ■ Same requirement ■ No requirement





Expanding the Talent Pool

This data points to a harsh reality for companies. Even if you can attract ready-skilled talent to meet your needs, you're going to have to pay more and you're going to be taking from a pot of talent that isn't big enough to meet business requirements from across the whole economy.

"62% OF BUSINESSES ARE UNLIKELY TO RECRUIT MODERN APPRENTICES"

This leaves two possibilities for businesses if they want to hire ready-skilled professionals to plug existing skills gaps. Either be prepared to pay more than your competitors and take the risk that other businesses are actively looking to poach this talent, or look to alternative hiring practices to bring in the skills you need.

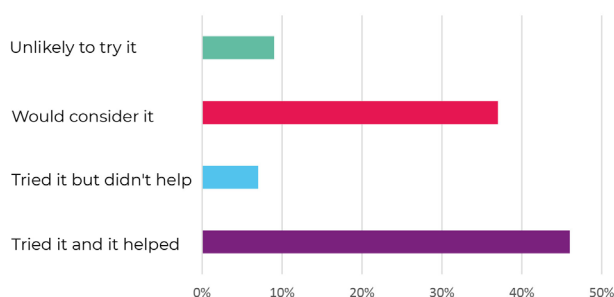
On the surface, the Scottish Technology Industry Survey suggests that businesses are thinking more creatively about recruitment.

Interest in all levels of apprenticeships saw an increase year-on-year while reskilling and upskilling was the most common type of training companies believed they needed to invest in, up to 51% from 44% the previous year.

In addition, more than half of businesses said they had reviewed their required qualifications and experiences to support expansion of their talent pool. 46% of businesses say this has helped them, up an impressive 18% year-on-year. But the focus on new talent continues to be dominated by university graduates, with 76% of respondents saying they plan to hire recent graduates in the next 12 months, compared to just 52% who are looking at college graduates.

Just 11% of businesses say they definitely will recruit any type of apprentice and 62% of businesses say they are unlikely to recruit modern apprentices or aren't aware of them.

Businesses reviewing required qualifications and experiences of candidates



The Apprenticeship Quandary

Given these realities, focusing on hiring your way out of a skills gap is a challenging feat - and we're missing a trick.

Modern apprenticeships have been designed to provide extra training for new starts and upskill existing employees, solving a multitude of challenges for businesses including addressing skills shortages, improving diversity and boosting productivity.

They also provide a solid foundation for mastering the most in-demand skill sets including data analysis, artificial intelligence and cyber security.

“THE SURVEY CLEARLY SHOWED THAT APPRENTICESHIPS ARE WORKING”

But an unwillingness to recruit modern apprentices suggests that many companies perceive challenges in diversifying into this talent pool. This could be for a number of reasons.

In our experience, businesses may have concerns about putting in the correct infrastructure to support apprentices, believe they will take longer to become productive than ready-skilled or university level hires, worry that time off the job will affect productivity or simply do not understand where modern apprentices can shore up their skills gaps.

QA APPRENTICESHIP SURVEY OF SCOTTISH EMPLOYERS

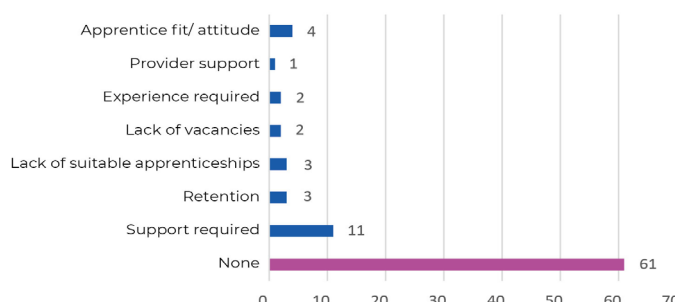
In March 2022, to better understand employer reservations around recruiting modern apprentices, QA surveyed 87 Scottish employers who currently count apprentices among their workforce. The survey also aimed to identify areas where better support can be developed to help employers get what they need from apprenticeship programmes.

Employers Largely Have No Reservations

The survey clearly showed that apprenticeships are working. More than two thirds (70%) of businesses who had taken the decision to hire modern apprentices had no reservations about hiring apprentices for further roles. Of the remaining 30%, most had reservations about the support required (mentoring and time) to ensure success for both apprentice and employer.

Just a very small number of employers perceived a lack of suitable apprenticeships for their needs or had concerns about retaining their apprentices longer-term.

QAA Scotland employer reservations



The Impact of Virtual Learning

Although over half of surveyed participants (62%) reported that they had no difficulties with virtual working during the pandemic, several issues were raised by others.

11% of employers stated that they missed the classroom element, feeling that it was more productive for learners, and provided an important social aspect which could not be recreated virtually.

Classroom learning was also credited with improving communication skills and reducing anxiety amongst learners.

Encouragingly, some employers said that virtual learning had provided a better experience for their apprentices, due to the reduced amount of time spent travelling, which boosted overall efficiency.

Future Learning Delivery

When asked about future learning delivery approaches, 47% of surveyed employers stated that they would like to see a blended learning solution.

30% were still keen to see a classroom-based element to training, once again highlighting the importance that it holds for employers and their learners.

Embracing Blended Learning

Taking these responses into account, QA Scotland plans to launch a proven blended learning model to the market to improve quality of experience and outcomes for apprentices and employers.

This model, known as **Digital by Design (DxD)** allows learners to:

- **Experiment with different learning styles, encouraging creativity in the workplace**
- **Develop skills in a safe environment, boosting confidence in real-life situations**
- **Work flexibly at a pace that suits themselves and their employer**
- **Become productive in the workplace more quickly, enhancing overall efficiency**

CONCLUSION

The Scottish Technology Industry Survey and labour market data shows that there is an urgent need for businesses to find tech talent. But despite an indication that they are willing to diverge from traditional hiring methods, employers continue to demonstrate hesitancy around alternative solutions such as apprenticeships.

While further evidence would be required to truly understand the reasons behind this, it seems reasonable to conclude that several factors are in play, including uncertainty around the benefits apprentices can bring to businesses and a lack of understanding as to how to effectively deploy and nurture them as part of a talent strategy.

QA's research has shown that reservations based on the impact apprentices can have in addressing skills and talent needs are unfounded, with the majority of businesses finding them a powerful solution to their requirements. Those who have raised concerns predominantly see these in the level of support required, which QA believes will be largely addressed by the delivery of a new blended learning model to support apprentices and businesses across Scotland.



FIVE WAYS TO UNLOCK THE POWER OF APPRENTICESHIPS

If you want to unlock the power of apprenticeships for your business, here are some simple things you can do:

1 Think (and act!) outside the box



It's great to see that Scottish employers are beginning to think about diverging from traditional hiring pathways – but until you take a leap of faith and act upon it, you are missing out on the potential benefits. As our research shows, most of the hesitations that employers have around apprenticeships fade once they actually take the plunge. Take a chance on a youngster, take a chance on a career-changer, and you'll wonder why you didn't do it sooner.

2 ...and inside the box



Often the answer to the problem is right under your nose. Within your organisation already, you will have employees with the passion and capability to upskill or retrain in vital tech skills. Forget age, job title or seniority, tech is for everyone.

Apprenticeships are a great way to invest in your existing employees, who in turn will show you great loyalty and help you close your digital skills gap.

3 Act now



Is it theoretically less effort to hire ready-skilled workers – of course! But currently, and for the foreseeable future, skilled workers are hard to come by and harder to retain. Taking on an apprentice undoubtedly requires a certain level of commitment but, in the meantime, you're being unproductive by not filling the seat. Almost two-thirds of employers across the UK anticipate problems filling vacancies over the next six months, so what are you waiting for?

There's no time like the present to improve the future of your business.



4 Look to the future



Boosting the digital capability of your business isn't going to happen overnight. The odd training course here and there is not going to cut it and reactively trying to hire ready-skilled talent is futile. Digitisation needs to be part of a long-term proactive strategy, a key part of which is apprenticeships.

Homegrown talent over many years is what will boost productivity and increase retention for your business.

5 Share the load



If you're inspired to take on an apprentice but need a little help getting started – find a reputable skills provider to help!

From sourcing candidates and arranging interviews to implementing training tailored to your business, a skills provider will take the pain away, making sure that you're not weighed down with extra work.

If you want to talk to someone about apprenticeships, we'd be more than happy to help.

Contact us at qa.com/contact





REAL STORIES

DAXTRA

DaXtra technologies, a global leader in recruitment management software, needed to grow its team but was finding it difficult to find experienced members of staff. After working with apprentices at a former company, John Scott, Client Services and Operations Manager, introduced the scheme to DaXtra. Since then, apprentices have brought a completely new dynamic to the company, while also highlighting where the company was lacking in training for existing employees. Consequently, tools and processes have been put in place to help all employees improve the quality of their knowledge, and apprenticeships now form part of DaXtra's long-term hiring strategy.

"We've employed over 15 apprentices over the last 5 years, and it's one of the best things that DaXtra has ever done. We've proven that apprentices can come to the business and rise through the ranks. We've got members of staff who joined us as apprentices and have been promoted several times."

John Scott, Client Services and Operations Manager, DaXtra

"We need to put in the effort to teach new generations how to progress their career. If you put that effort into teaching somebody, they will reward you with loyalty."

Roberto Melo, Support and Solutions Technical Manager, DaXtra



KICK ICT GROUP

As one of Scotland's fastest growing IT companies, Kick ICT needed to expand their workforce to manage a rising workload. Rather than hiring experienced tech workers, the company wanted to bring in fresh talent that they could mould and train in line with their company culture and ethos.

"We could go and get somebody who is experienced in the industry, but we like the idea of growing our own talent within the company. It gives them a good foundation for learning, and it gives us time to make sure they are the right people for our company. They're also free from the restrictions of someone who has been in the industry for years - so they think more freely and impart more ideas. It has proven very successful over the past 5 years."

**Donald McKay, Head of Support,
Kick ICT Group**

UNIVERSITY OF ST ANDREWS

Traditionally the University of St Andrews had only hired graduates, however they took a chance with QA apprenticeships and have never looked back. The introduction of new staff has enabled the university to provide a much more efficient service which, in turn, has increased customer satisfaction. Apprentices have furthered their knowledge alongside long-serving, highly experienced IT professionals, improving their tech skills whilst putting them into practice in the workplace.

"My IT apprenticeship has been a wonderful experience. Great working with such a renowned IT service team and brilliant meeting people from all around the globe."

**Grant, Telecommunications Apprentice,
University of St Andrews**



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