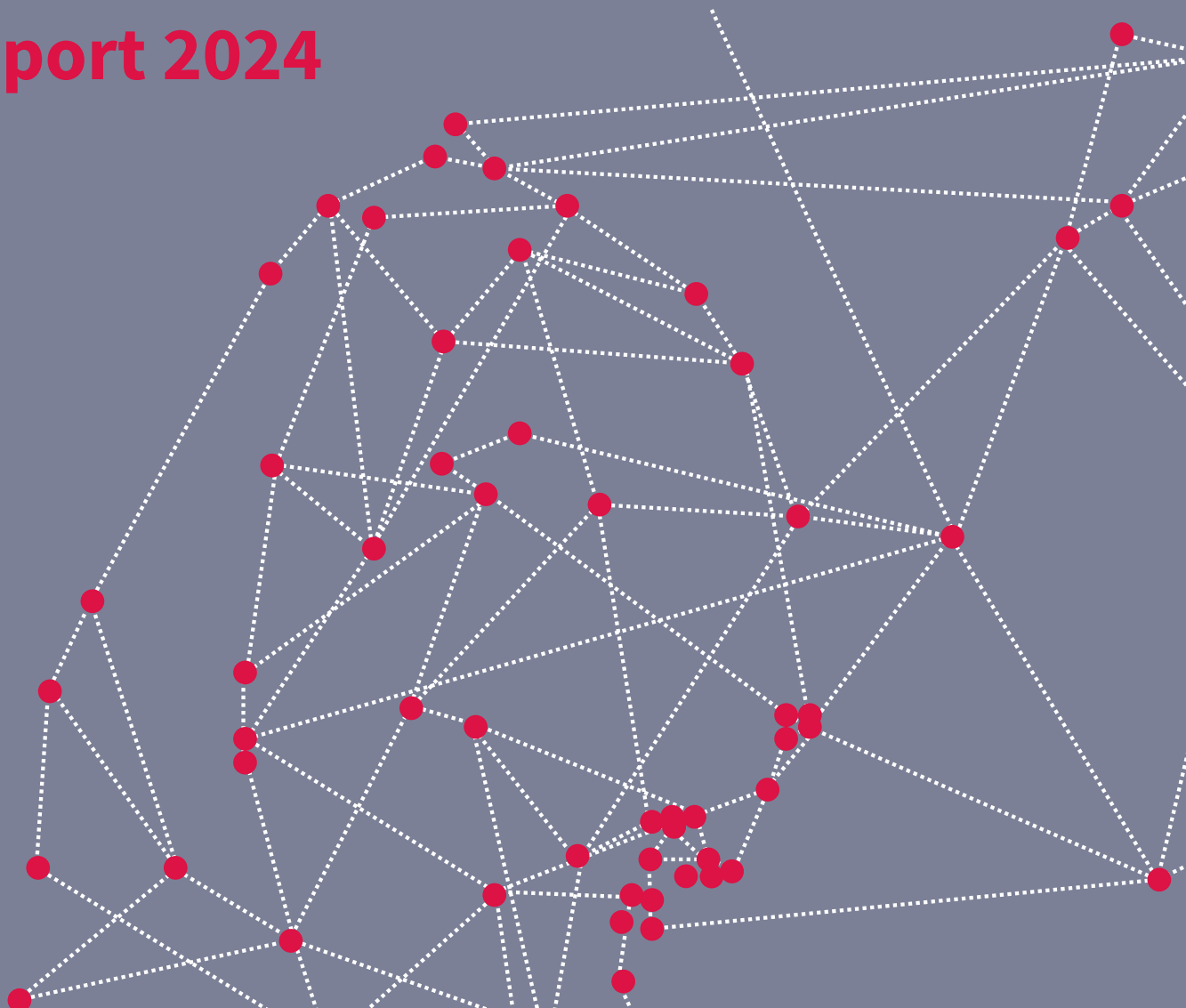# Digital Skills
Audit
Report 2024

Part One

Introduction

Welcome to the report on the first Sheffield Digital Skills Audit, part of Sheffield Digital's "Talent23" skills campaign. The purpose of this audit was to compile information from South Yorkshire digital and tech businesses about their current and future skills requirements, and how well those are being met by education and training organisations and by the talent available in the region.

This information is important because there is no data focused specifically on the skills needs of our region's digital and tech businesses. Our aim was to take a step towards filling this gap and thus be able to provide evidence to influence improved skills provision and policies. This first audit will provide benchmark data which we plan to build on annually.

We would like to thank Sheffield Hallam University for their support for this work, through the Higher Skills Higher Growth programme which is part-funded by the European Social Fund Programme 2014-2020.

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Methodology

The audit was conducted through a survey questionnaire with a mix of multiple choice and open questions. It was modelled on Manchester Digital's annual Skills Audit, which has been running for many years and provides valuable data and insights. Manchester Digital very kindly shared their most recent questionnaire and gave Sheffield Digital permission to use it as a base for our own survey.

Businesses were asked to identify themselves to avoid duplication, but all the results have been anonymised. The survey was conducted under Sheffield Digital's privacy and data protection policy.

The survey was designed and targeted to collect responses from individuals with knowledge of the skills and recruitment requirements within their organisation.

**The types of businesses and organisations included were:**

- **Those that are technology-first i.e. the business offers products or services that are directly related to digital hardware and/or software.**
- **Those that are technology-driven i.e. the business relies on digital hardware and/or software to deliver its products or services.**
- **Those that have a significant requirement for technology skills i.e. organisations that have an IT department or team of software engineers.**
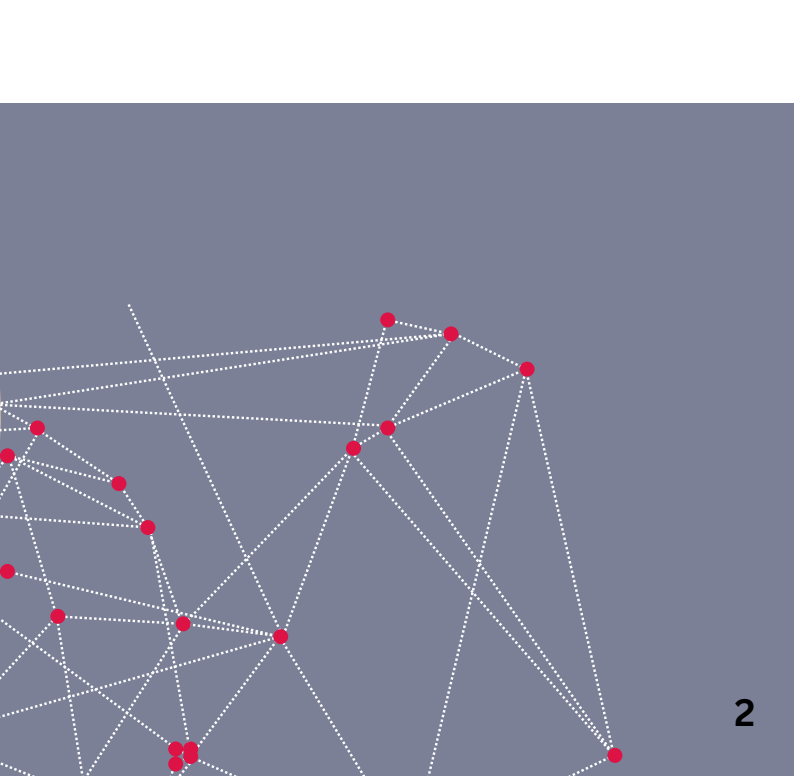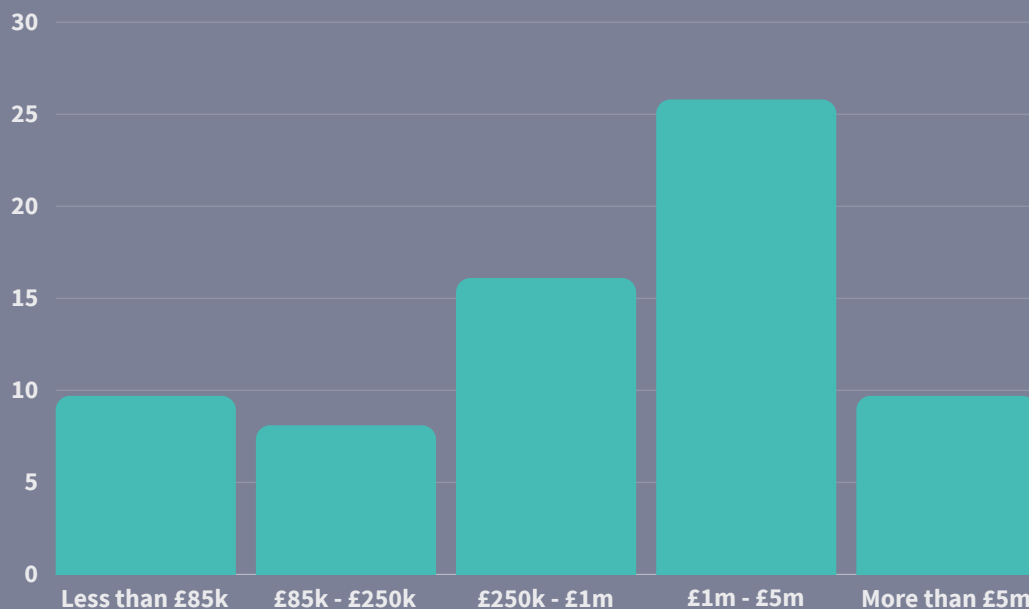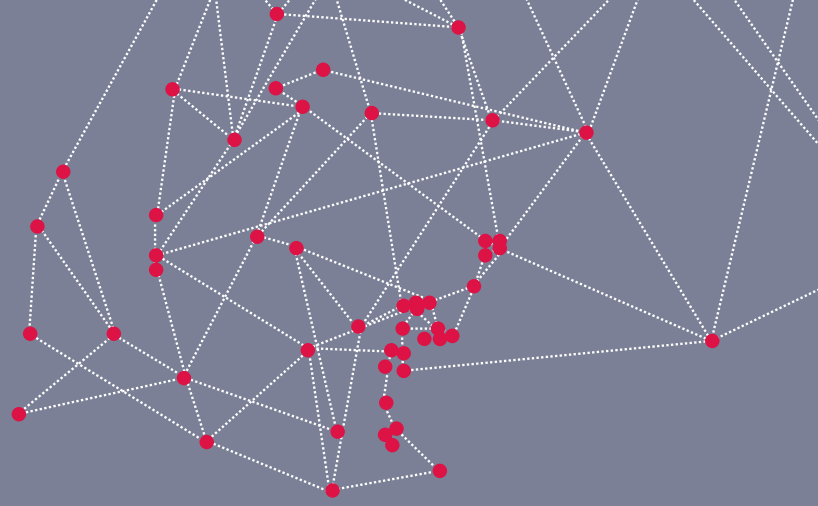
Who responded?

We collected just under 50 usable responses, 30 of which were from Sheffield Digital member companies. While this is a fairly small sample, we can see that it is broadly representative of the region's digital and tech sector.

% of companies by number of employees

Less than 10	11 - 50	51 - 100	101 - 250	More than 250
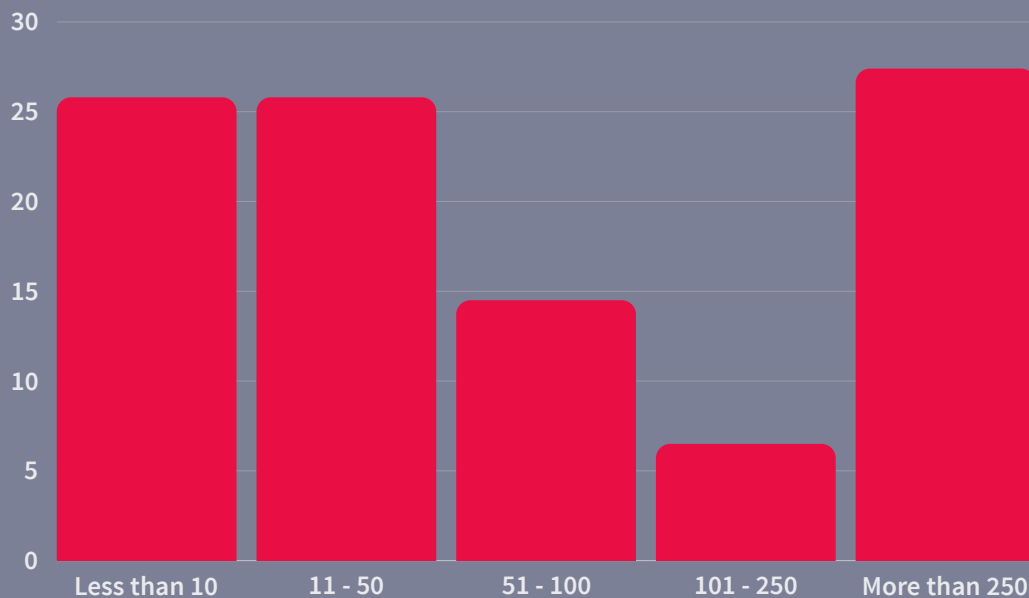
% of companies by turnover

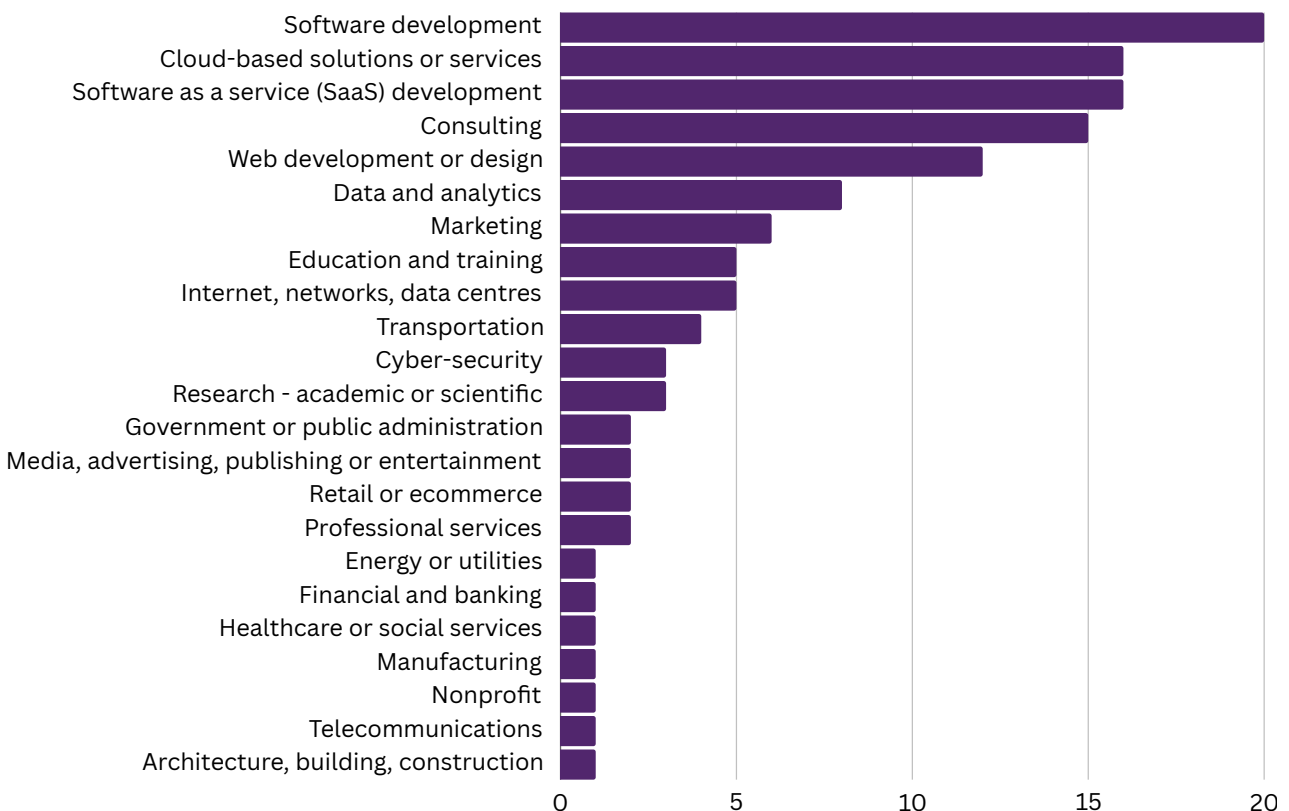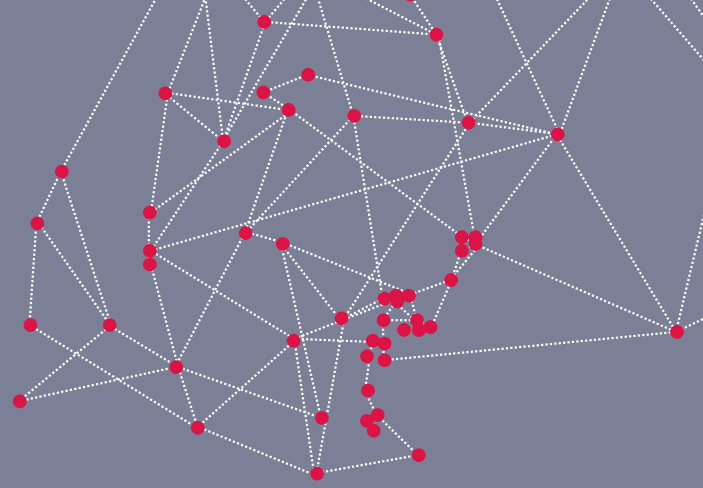|	
Less than £85k	£85k - £250k	£250k - £1m	£1m - £5m	More than £5m

We were pleased to receive responses from several of the large employers in the region, such as local authorities, both universities and the NHS. While their size relative to the sector in general skews the data slightly, they are significant employers and it was important to have their perspectives included.

96% of the organisations that responded have been in business for at least two years.

What do companies do?

Category	Value
Software development	20
Cloud-based solutions or services	16
Software as a service (SaaS) development	16
Consulting	15
Web development or design	12
Data and analytics	8
Marketing	6
Education and training	5
Internet, networks, data centres	5
Transportation	4
Cyber-security	3
Research - academic or scientific	3
Government or public administration	2
Media, advertising, publishing or entertainment	2
Retail or ecommerce	2
Professional services	2
Energy or utilities	1
Financial and banking	1
Healthcare or social services	1
Manufacturing	1
Nonprofit	1
Telecommunications	1
Architecture, building, construction	1

Part Two

How are companies feeling about the current economic climate and its potential impact on their operations?
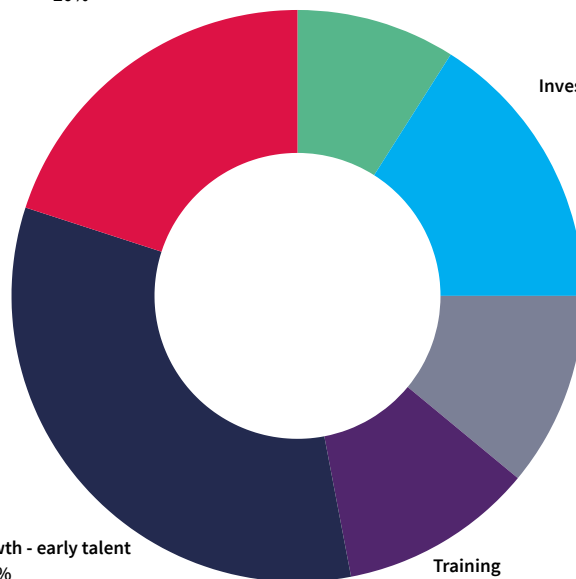
Expect to reduce staff/turnover
20%
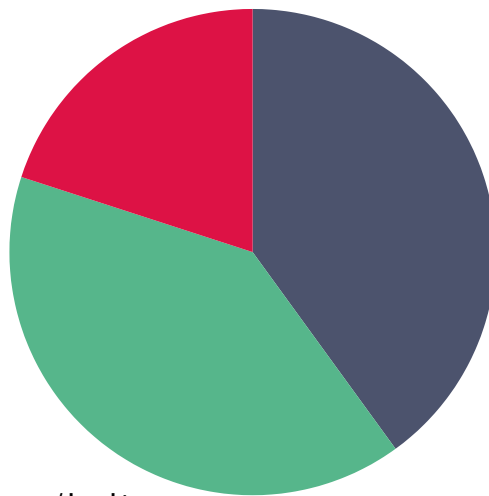
Don't expect an impact
40%

Don't know / hard to say
40%

Where do you expect to reduce investment?

Recruitment growth - experienced talent
20%

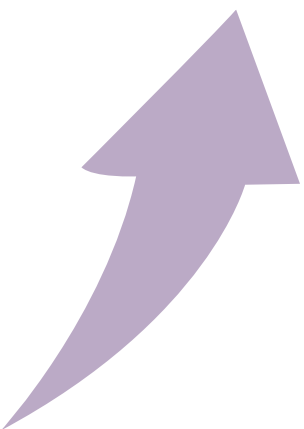Research and development
9%

Investment in technologies
16%

Marketing
11%

Training
11%

Recruitment growth - early talent
33%

What challenges are affecting productivity?

1. Not enough experienced talent
2. Quality of talent
3. Ways of working (hybrid etc)
4. Cost of living
5. Other (sales/marketing, rapid growth, government policy, bad hires)
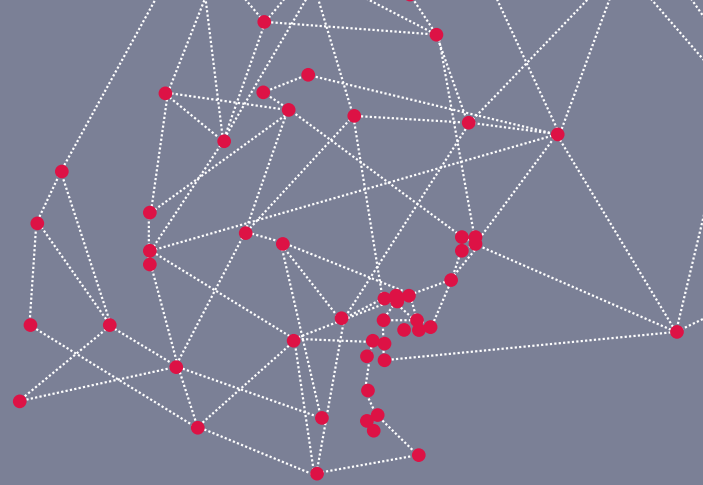6. Transport (cost & infrastructure)
7. Not enough early talent

Before we look at the challenges relating to talent, it is worth noting the impact of changes in working patterns since the pandemic:

	Before pandemic	After pandemic
Remote	3.92%	5.36%
Hybrid	29.41%	91.07%
Fully office based	66.67%	3.57%

As well as presenting management challenges, this substantial shift from office-based to hybrid working makes it much harder for companies to support inexperienced staff members.

Part Three
Skills & recruitment

Understanding the demand

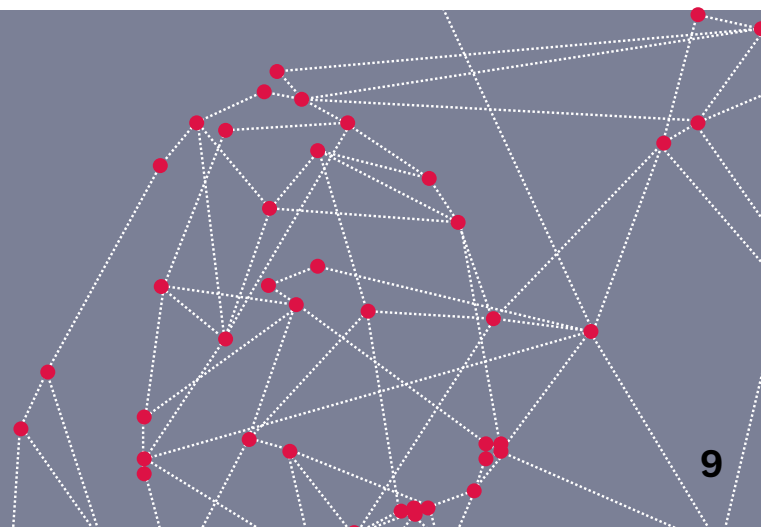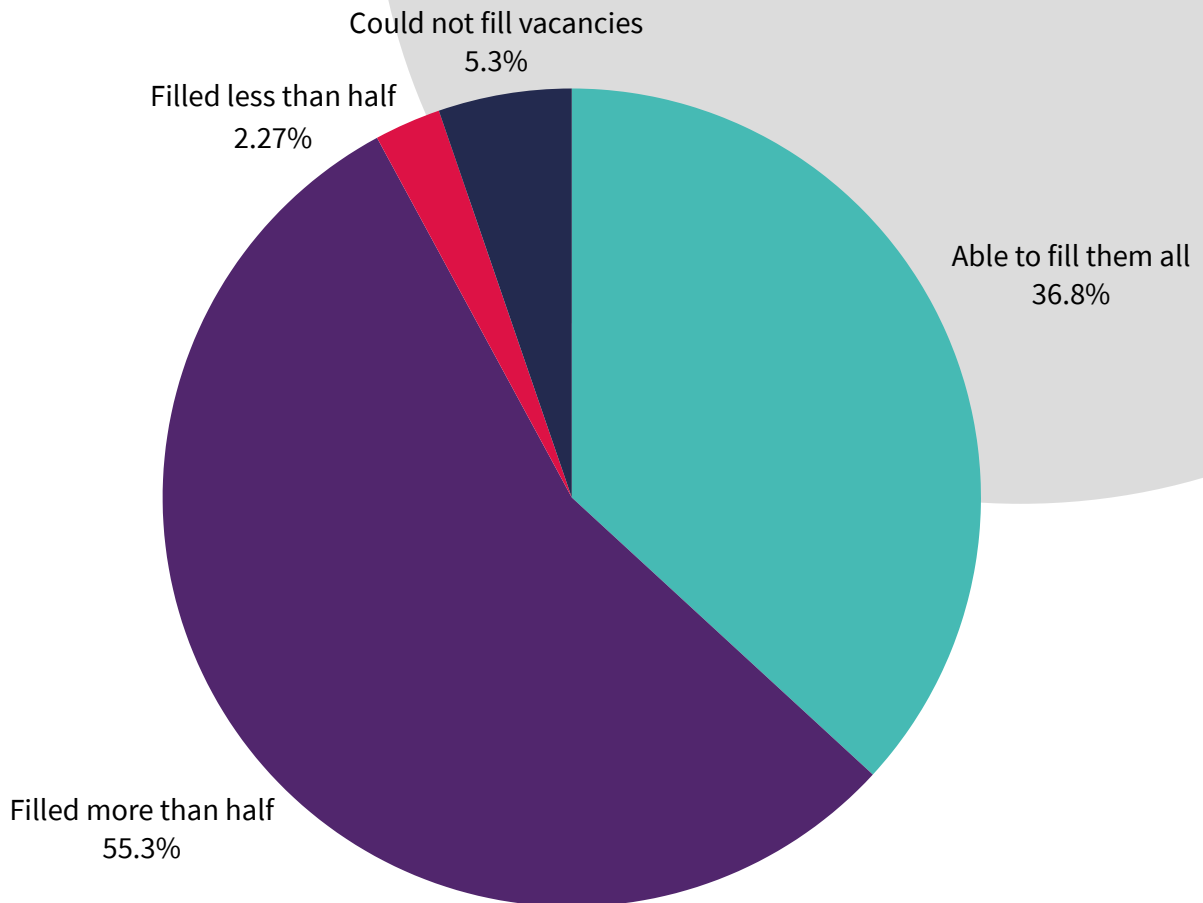**How many vacancies did employers have over the previous 12 months?**

Category	Value
More than 50	4
26-50	2
11-25	4
6-10	9
1-5	21
No vacancies that needed to be filled	5
No vacancies due to recruitment freeze	2

Which digital and tech related roles were they trying to recruit for?

Developer (programming) including system engineering
Product management
Testers/quality assurance
User experience (UX), research and design
Project management
Business analysis
Data analysis
Dev ops
Digital marketing including social media, SEO, CRO, PPC
Cloud technologies
IT and infrastructure
Design
Systems architect
Artificial intelligence (AI) and machine learning
Sales and business development
Account management
Creative
Data science
Business support services e.g. finance, HR
Cybersecurity
Network engineering
Client services/liaison
Sys admin
Augmented reality (AR)
Virtual reality (VR)

And how successful were they?

Could not fill vacancies
5.3%

Filled less than half
2.27%

Able to fill them all
36.8%

Filled more than half
55.3%

Which roles were the hardest to fill?

Developer (programming) including system engineering
Systems architect
Artificial intelligence (AI) and machine learning
Data science
Product management
Sales and business development
Business analysis
Cybersecurity
Dev ops
Sys admin
Testers/quality assurance (QA)
User experience (UX), research and design
Account management
Augmented reality (AR)
Cloud technologies
Creative
Data analysis
Design
IT and infrastructure
Project management
Virtual reality (VR)

Why were these vacancies hard to fill?

48% of respondents said there was a lack of candidates with the desired skills, knowledge and behaviours. Specifically, this related to:

- Lack of industry work experience
- Business/commercial awareness
- Communication skills
- Problem solving

20% said they were unable to meet salary demands**

14% said there was a lack of interest or applications

9% said the positions required specialist skills.

Attracting & retaining talent

**80% of respondents said they have had to increase salaries to attract or retain talent over the past 12 months.

People felt that the level of pay they could offer had the biggest impact on attracting and retaining talent, followed by being able to offer flexible working and a clear career progression path.

It is also worth noting that 67% of respondents said they either use freelancers now or plan to in the future.

Experienced vs entry level talent

For each role, we asked people to state whether they were looking for experienced people, entry level talent or a mix of both.

As one would expect, companies showed a preference for recruiting experienced people. However, there was interest in entry level talent across a wide variety of roles, with the exception of roles in sales and business development and client services. Areas where employers said they were more open to entry level talent included creative, design, IT and infrastructure, testing, and user experience.

What skills do employers value?

Most important: problem solving, mindset, teamwork, communication

Less important: ability to use job role specific software, platforms and tools; industry work experience

Importance of qualifications

Despite 75% of respondents saying that they were interested in the person and their aptitude and experience rather than qualifications, the survey also showed that qualifications continue to be important to employers.
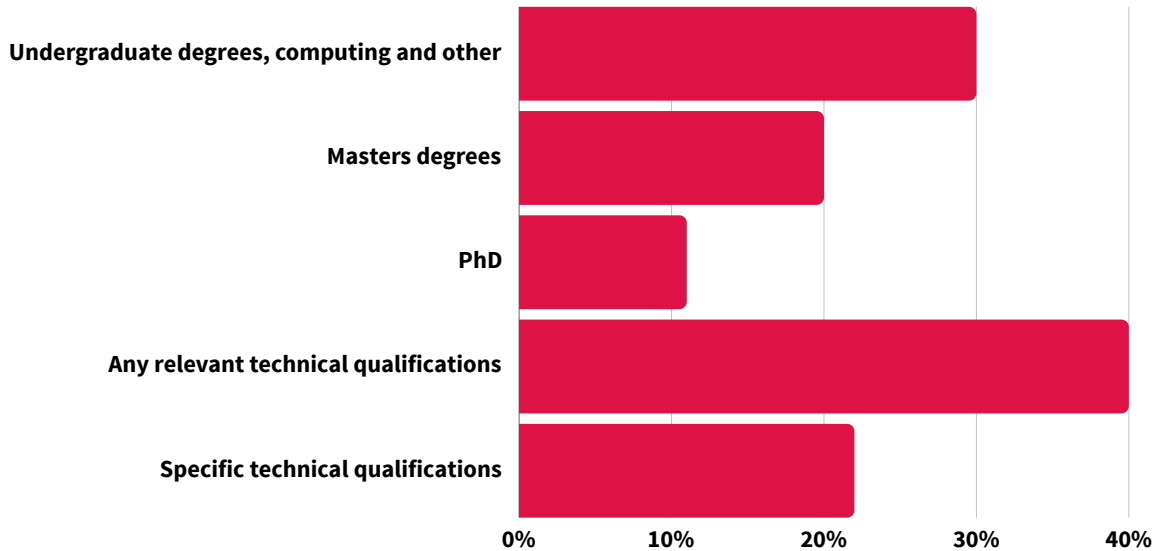
Respondents were generally satisfied with the calibre of their graduate recruits, a bit less so with apprentices and people from bootcamps. One respondent pointed out the following issue:

"Many candidates from bootcamps have done a basic course in coding, but do not pick up the more in-depth computer science and maths skills that are actually important. The opposite is true with computer science graduates. They have an excellent understanding of the fundamentals, but often very little actual coding experience. Computer science is not actually a degree in writing code, and sometimes that shows. We have had most success when candidates have a degree in mathematics or a maths-focussed engineering degree, along with their recent coding training."

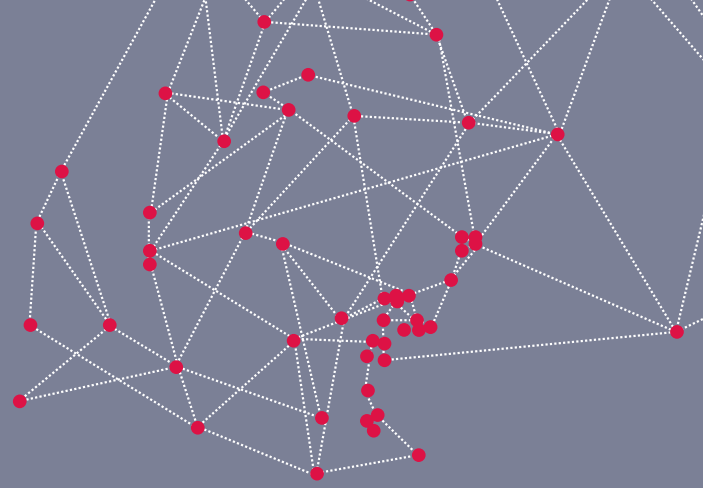# What sources do companies use for recruitment?
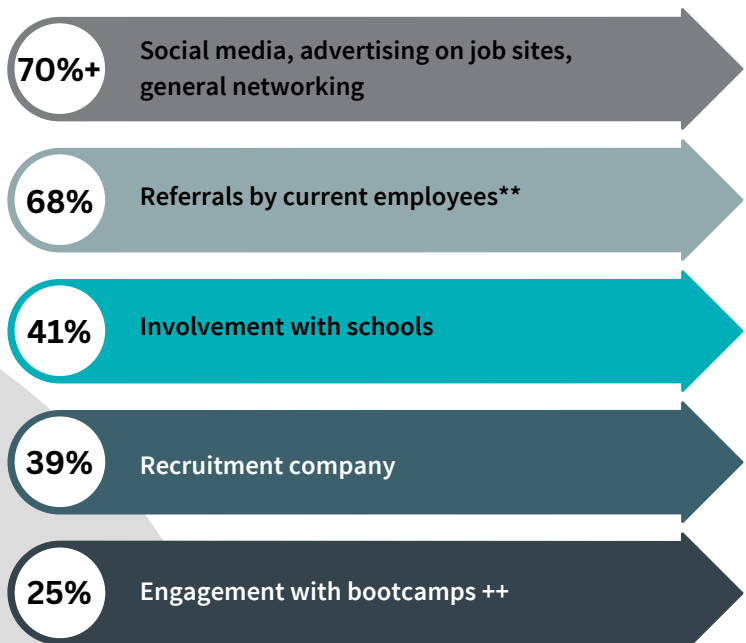
** Respondents said that referrals by current employees was the most effective source of new talent.

++ Of those respondents that had used bootcamps, 70% said they were likely to use them again.

70%+ Social media, advertising on job sites, general networking

68% Referrals by current employees**

41% Involvement with schools

39% Recruitment company

**25%** Engagement with bootcamps ++

Part Four

Early stage talent

With two Universities, several Further Education (FE) colleges and University Technical Colleges (UTCs), and reskilling providers such as the Developer Academy, South Yorkshire has no shortage of provision of early stage talent for the digital industries. However, this next generation of talented individuals faces some key challenges:

- Many courses require a work placement and these opportunities are hard to find in the region
- The region does not have many organisations that are of a size to run formal early talent intake programmes

We wanted to understand how digital employers in the region view early stage talent.
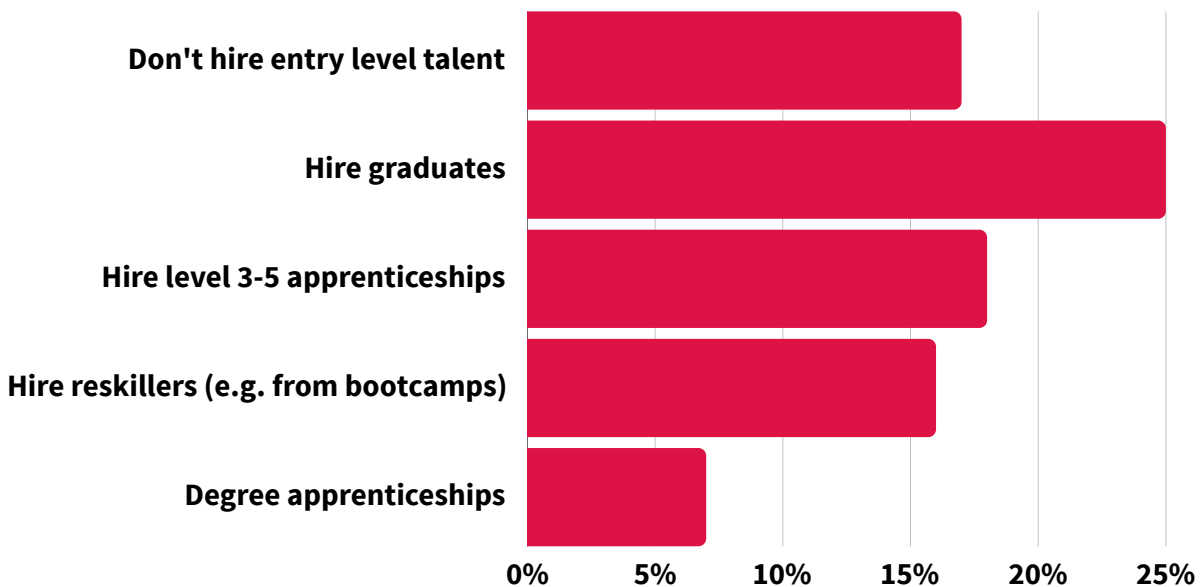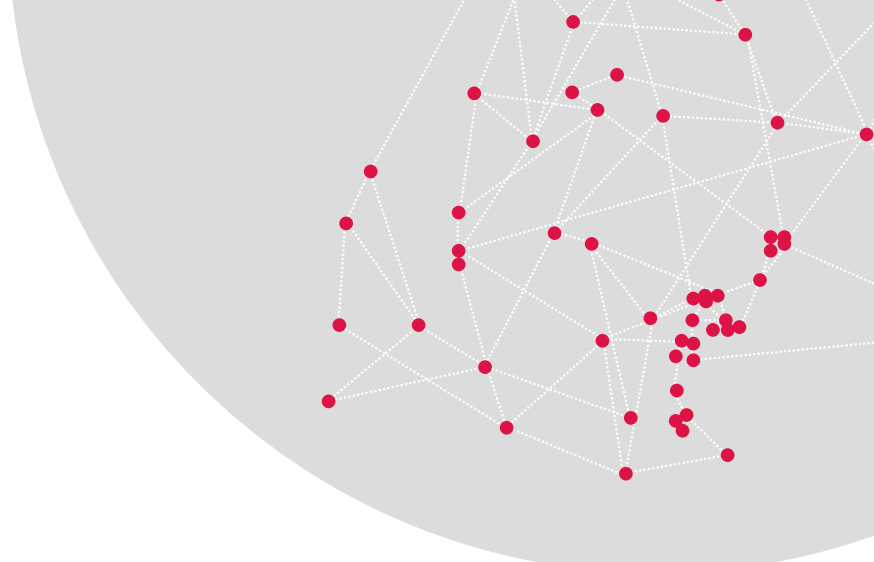
Of the organisations that do hire entry level talent, the majority felt that their new recruits met or exceeded expectations. However, there were a number of comments that highlighted the challenges that organisations face in bringing inexperienced people into their teams:

"We were not ready for the amount of resource required to nurture a team member where this was their first role."

*"Recruits lacked commercial awareness and a grasp that time equates to money in a consultancy."*

Investing in entry level talent

Some tech organisations in the region are finding their own ways to invest in entry level talent. Examples include companies that run their own internal academies or have dedicated development programmes aimed at entry level recruits. Others have partnered with an FE college to run branded training programmes, where the company is an active participant in the curriculum. Several companies also provide year-long internships for university students and find this is a good way to build relationships with future employees.

Part Five

Diversity & inclusion
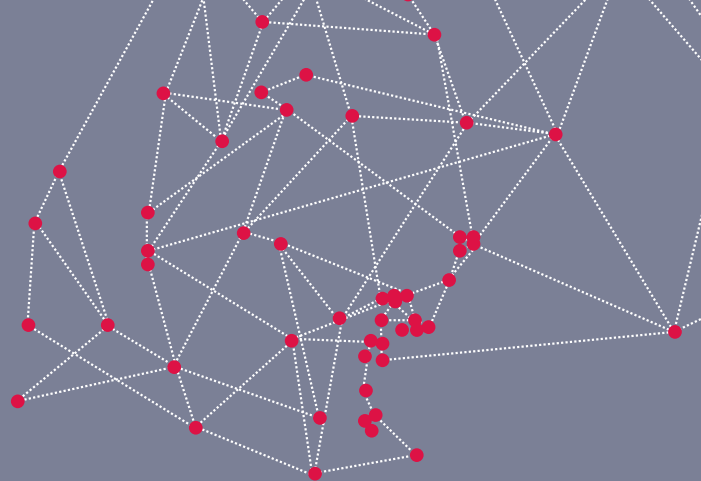
Attracting a more diverse range of people into the industry is very important, for several reasons:

1. It will ensure that digital products and services are appropriate to the needs of all communities
2. It will help reduce unintended bias in the way that products and services are developed
3. It will provide opportunities for more people to benefit from careers in the industry
4. It will increase innovation
5. Diverse companies are proven to be more profitable and productive

In this audit, we asked questions about gender, age, disability and ethnicity. Very few companies were able (or willing) to provide information about disability and ethnicity.
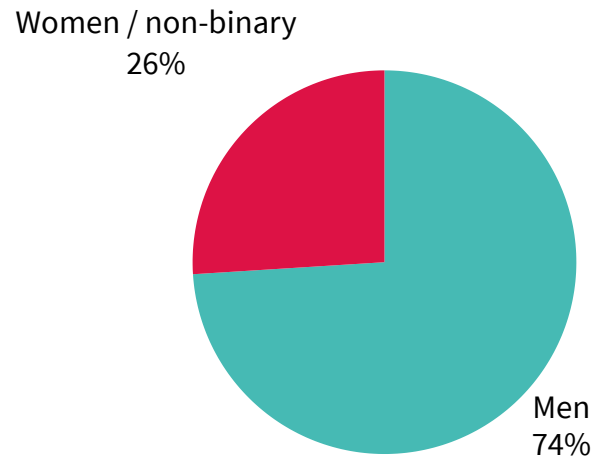
Age profile of companies that responded:
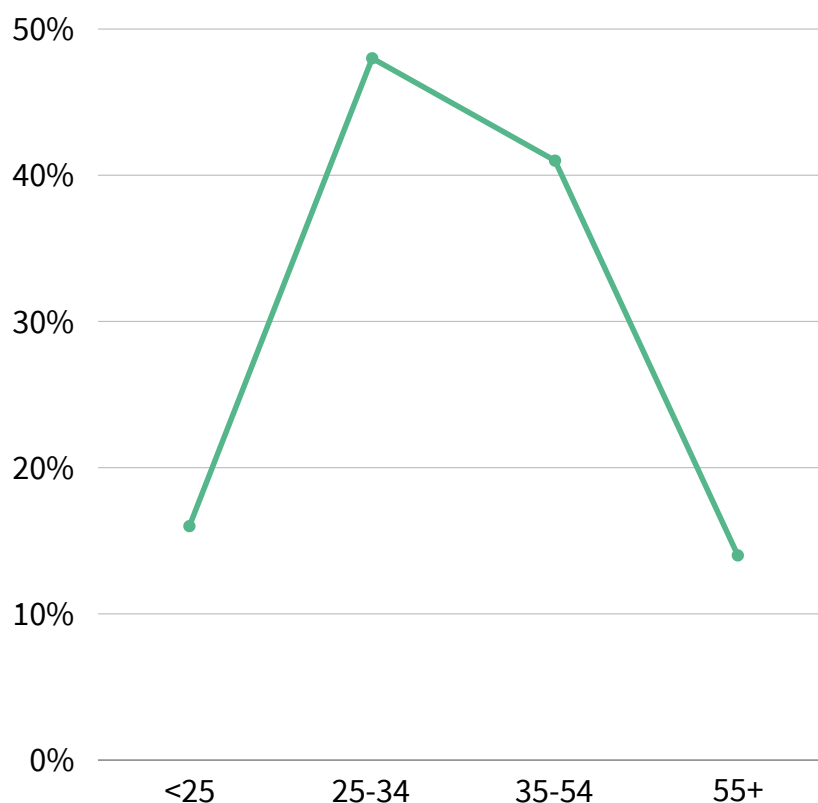
Gender profile of companies that responded:

Totalworkforce

Women / non-binary
40%

Men
60%

Technical workforce

Women / non-binary
26%

Men
74%
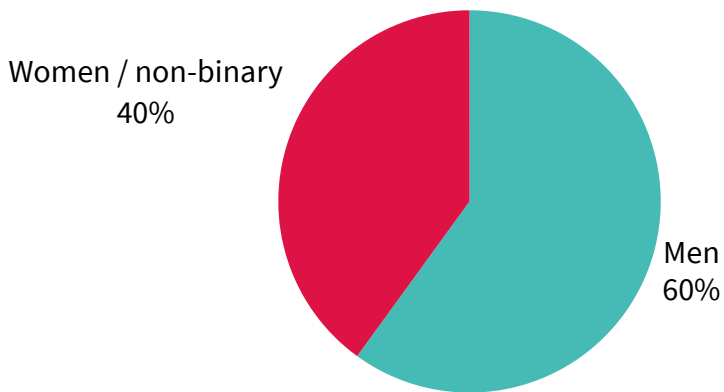
The latest research by the UK's Tech Talent Charter found that 28% of tech workers are gender minorities and that this reduces to 22% in senior roles. Tech UK puts the proportion of women working in tech at 24%.

So we can take heart that our region is broadly in line with national statistics on gender diversity, although there is still a long way to go. The organisation Diversity in Tech adds that the two biggest barriers for women in tech are a lack of mentors and a lack of female role models.

Part Six

Looking ahead
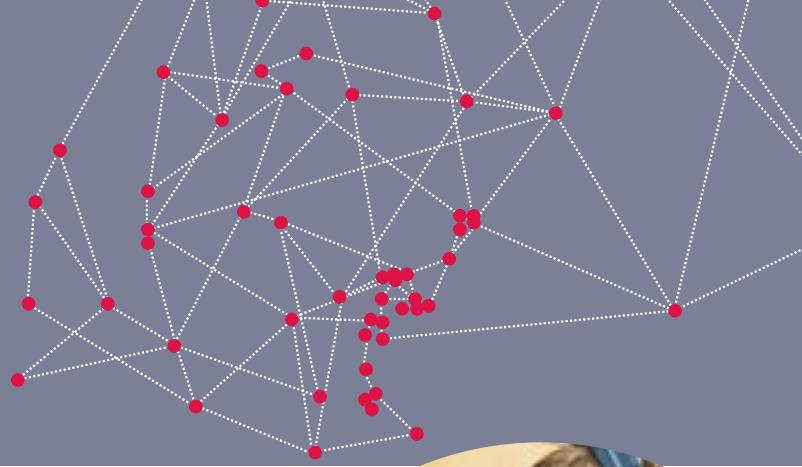
Finally, we asked our respondents which technical skills would be most important to the future growth of their companies. Their top picks were:

- **Developers**
- **Sales & business development**
- **AI**
- **Cloud technologies, project management**
- **Testers, strategy**
- **UX**
- **Business analysis**
- **Data analysis & data science**
- **Design, client services**
- **Cyber security, dev ops, digital marketing**
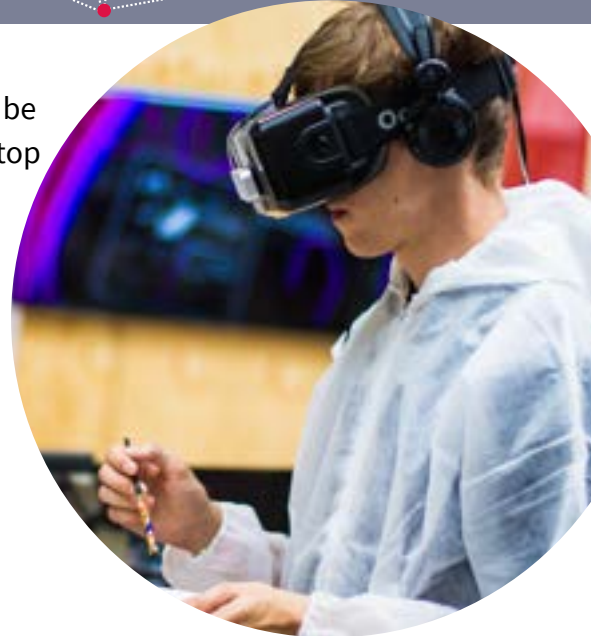
The demand for well-rounded, versatile developers came through strongly, while AI and data skills are going to become more important. The challenge here is that the demand is for people with experience while the pipeline of inexperienced people continues to grow. The industry as a whole needs to address how to build a stronger talent ecosystem - both to bring inexperienced people up to productivity faster and to encourage a more diverse workforce.

Sheffield Digital, through our T23 talent and skills project in 2023, has developed a number of initiatives to help with this challenge:

- Our mentoring scheme matches people in the early stages of their careers or looking to change careers with experienced digital industry professionals.
- We produce short videos and podcasts where people talk about their roles and career paths.
- We publish blogs showcasing how digital companies in the region are engaging with education and training providers to raise the profile of the industry and find new talent.

We will be continuing and building on this work in 2024 and look forward to working closely with digital employers, education and training providers and policy makers as we do so. If you have ideas or resources that you would like to contribute, please get in touch with us via info@sheffield.digital.

Our thanks to everyone who participated in this audit or who helped to share it through the region.

talent 23
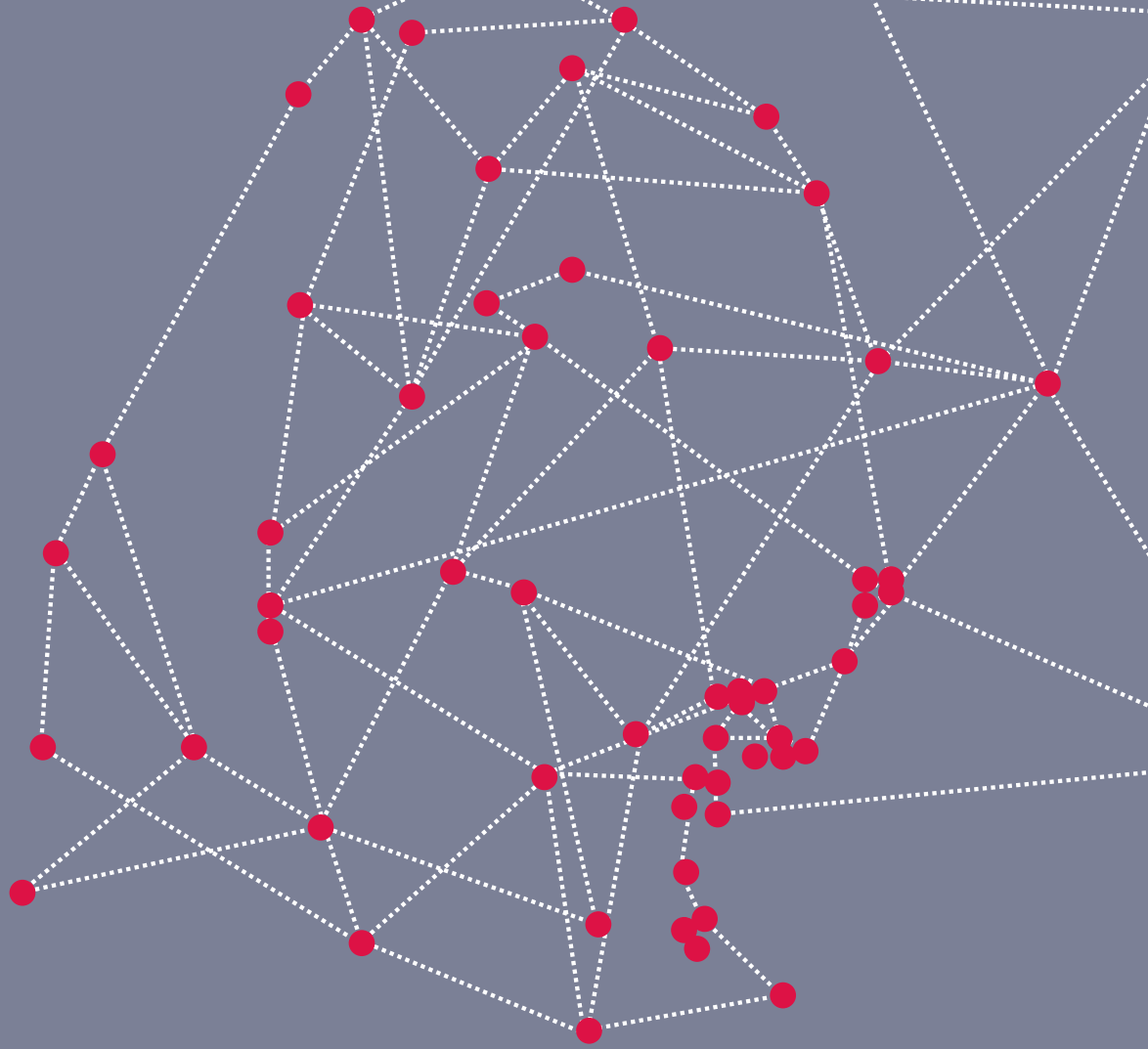
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