

SCOTLANDIS

SCOTTISH TECHNOLOGY INDUSTRY SURVEY

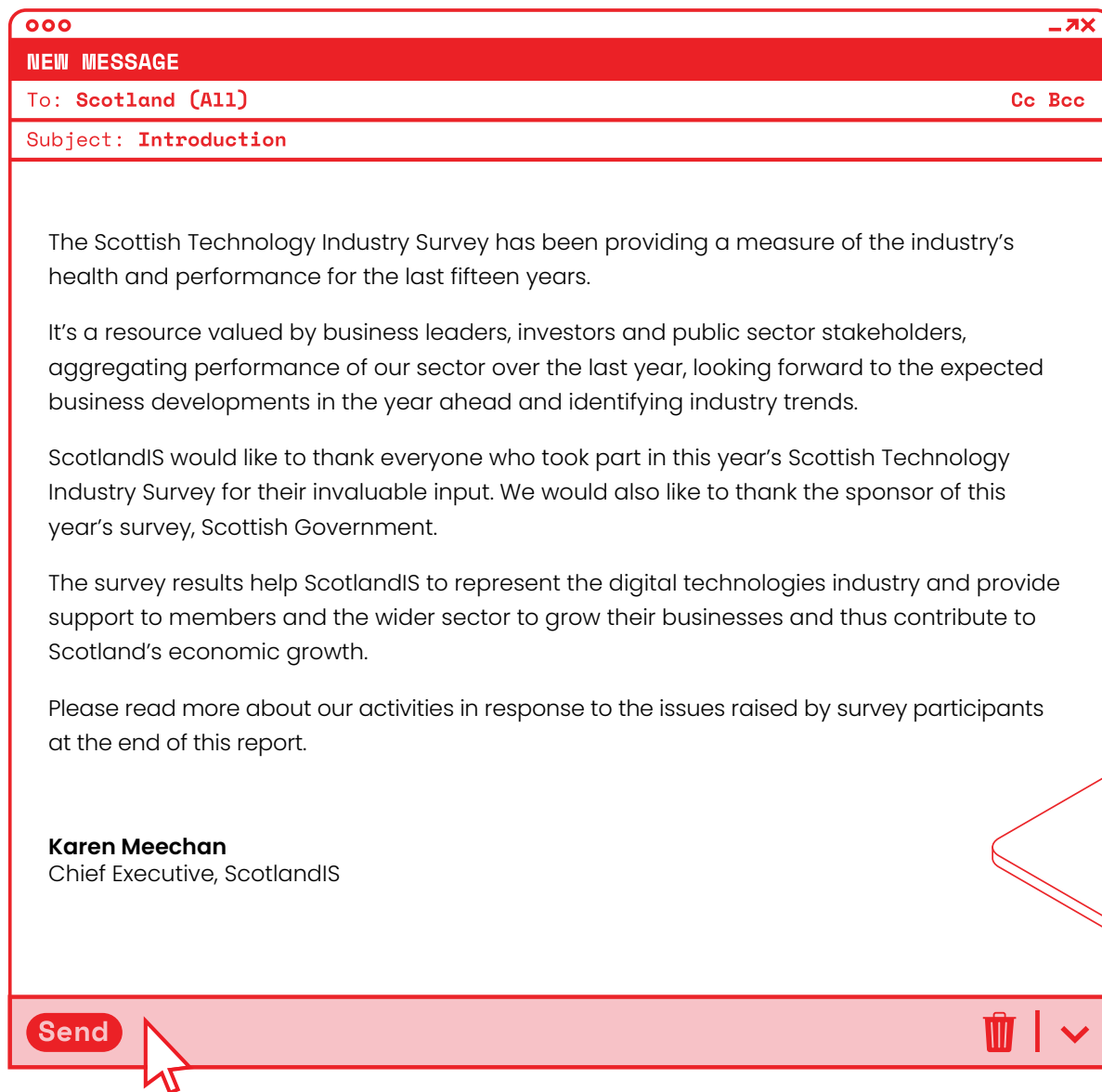
2022

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NEW MESSAGE

To: Scotland (All)

Cc Bcc

Subject: Forward

Our ambitions for Scotland's tech sector are huge – its potential for growth is central to our country's economic prosperity and a source of fulfilling, well-paying work for our people. That is why the sector is at the heart of economic policy through the implementation of the Scottish Technology Ecosystem Review (STER) and features prominently in the recent National Strategy for Economic Transformation (NSET) which takes the thinking in the STER report to the next level.

It is crucial of course, that this economic policy is informed by evidence and that is why this survey is so valuable. I am grateful both to ScotlandIS and all of those in the sector who participated. This year's findings reinforce themes and policy issues with which we are all familiar. For example, the sector continues to report skill shortages and low participation of women and ethnic minority groups. The survey's stark findings on gender and ethnicity provide a challenge for us all across business, academia and government. We all need to be doing much more. It is all of our responsibility to create a sector where equal opportunities are available to everyone. If we are not providing fair opportunities to more than half of our population then it is scarcely surprising that there is a talent squeeze. So how can Government and the sector work together to reverse these trends and create new pathways into work?

The recommendations on talent and skills in the NSET report provide a useful vehicle to stimulate that collaboration. It commits to deeper partnership with industry, to the creation of new apprenticeship frameworks and embedding key technical skills in schools and post-16 education. We also need to think about non-traditional pathways into the sector – many thousands of young people leave our colleges with tech skills every year, but not enough of them are finding employment in the sector. We need to fix these disconnects between talent supply and demand.

Elsewhere in the results, I was encouraged to see our tech sector grow and strengthen in 2021 with 72% of companies reporting increased sales and clear optimism for the year ahead – testimony to the tenacity, innovation and leadership of the sector through challenging times.

The results also showed a largely internal market focus – highlighting an opportunity to be grasped. The passion for innovation in the sector is palatable and I have no doubt that the economic rewards of looking to other markets will be boundless. Scotland's tech sector has a glowing future ahead of it and together we will pave the way for our future generation of tech entrepreneurs, leaders, and innovators to prosper.

Kate Forbes

Cabinet Secretary for Finance & Economy

Send



Top Trends



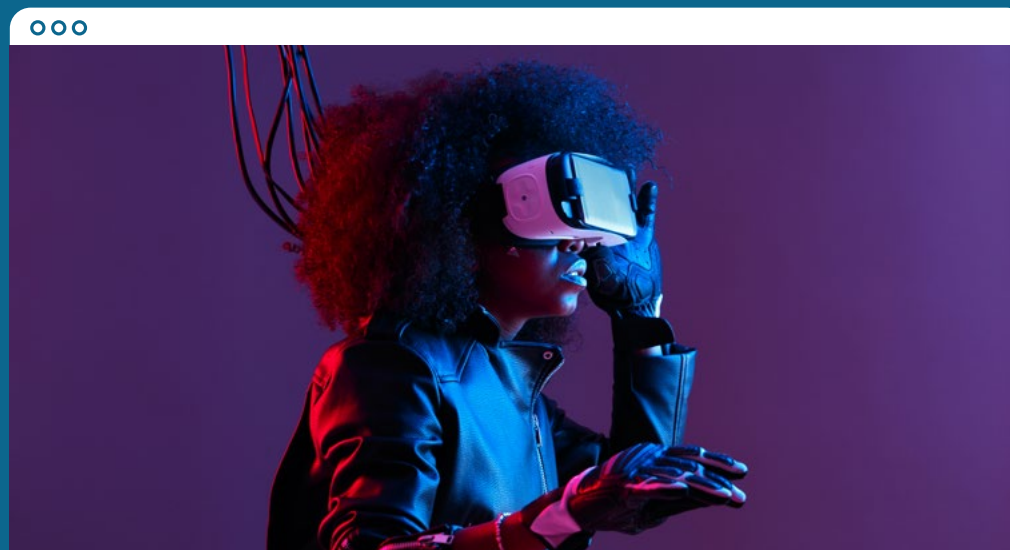
Continued growth

Optimism levels grew further this year with 79% of respondents optimistic for the year ahead in 2022 compared to 75% in 2021.

Scotland's tech sector bounced back strongly in 2021, with 72% of companies reporting increased sales compared to 44% in the previous year. 2020 results were severely impacted by the tight restrictions during the coronavirus pandemic, but it is further evidence that Scotland's tech sector remains resilient and in growth mode. 21% of companies reported a decrease in sales compared to 40% in 2020.

Engagement in international markets dipped ever so slightly this year (56%) from (60%). However, there was a 1% increase of respondents who plan to export this year. The ongoing restrictions across the globe and growing geopolitical tensions are factors worth taking into consideration in this slight drop. 20% of respondents have no plans to export in the next year.

The top three current export markets have slightly changed in dynamic this year. Europe has moved above North America with 68% respondents viewing it as the most attractive compared to 64% previously. The Rest of the UK remains the most attractive market for 77% of respondents, up 5% from the previous year. There have been notable drops for North America and Asia, 6% and 9% respectively.





Ever growing need for new staff

Expectations for employment growth remain high, with 76% of respondents forecasting an increase in their employee numbers. This is slightly up from last year's 74% forecast, and numbers have remained around this high level for the last four years.

Demand for the recruitment of university graduates has increased with 76% of responding businesses reporting that they are likely to recruit this type of talent in the next 12 months, up by 5% from last year. Demand for college graduates has increased significantly, from 44% in 2021 to 52%. This year we saw the highest ever number of respondents (67%) report they are likely to take on students for work placements.

As in previous years, Graduate Apprentices are the most popular type of apprentice, with 47% of respondents reporting they are likely to recruit someone for a Graduate Apprenticeship (up from 33% in 2021). Interest in Modern Apprentices also increased (from 22% in 2021 to 38% this year) as well as Foundation Apprentices (from 12% to 22%). Respondents likely to recruit someone who has undergone retraining is also up from 44% in 2021 to 51%.

The vast majority of survey participants are taking proactive steps to widen their talent pool with two thirds (66%) offering flexible working patterns.

Skills Demand

The most in demand skills sets this year are again sales & marketing, with 84% indicating either a high requirement or some requirement in this area, this increased only slightly from last year's 82% of respondent's indication. While demand for data skills did not differ from last year, it fell in the rankings behind demand for skills in software and web development, cyber, and leadership. After enquiring into the demand for leadership skills for the first time in 2021, we saw an increase amongst this year's respondents (70%, up from 57% last year).

When we asked companies about the greatest opportunities for their business over the next 12 months, the top three answers were related to data analytics, artificial intelligence and cyber security. Cyber security is noted as having the most significant increase in area of opportunity, rising to 31% from 23% last year.

Respondents showed a continuing strong demand for software development skills, with SQL, Python and .NET leading the ranking of specific technical skills companies have the greatest demand for. Demand for cloud computing skills remains the highest in the sector for technical skills, despite experiencing a dip from last year (42% down from 54%).

SALES & MARKETING
IS THE MOST
IN DEMAND SKILL

Industry Overview



D I G I T A L
T E C H N O L O G Y
B U S I N E S S E S
W E R E R E G I S T E R E D
I N S C O T L A N D

Scotland's digital technologies sector

In 2020, around 11,240 digital technologies businesses were registered in Scotland which makes up 6.3% of the Scottish business base. 97,000 people were in employment in the sector, making up 3.7% of Scotland's total employment.¹

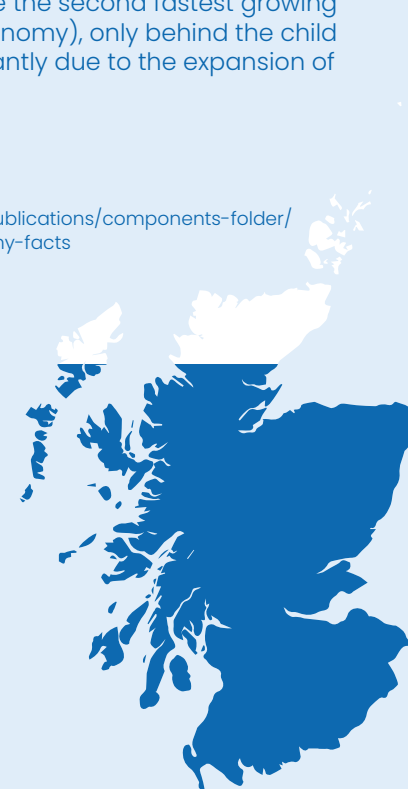
According to data from the Office of National Statistics (ONS), 'computer programming and consultancy' is the largest sub-sector, making up 85% of all digital technologies businesses (employing 62% of the tech workforce) followed by 'telecommunications' with 4% of the company base (24% of the workforce).

Scotland is home to a thriving tech ecosystem with over 1,500 companies that contributed £4.9bn Gross Value Added (GVA) to Scotland's economy in 2019, accounting for 3.5% of total GVA. GVA per head for the tech sector is 40% higher than for the economy, making it a considerable contributor to Scotland's economy. This success has elevated Edinburgh to the most active tech community outside London, closely followed by Glasgow in 4th place. Until 2029, the digital technologies industry is forecasted to be the second fastest growing sector in Scotland (1.5 times faster than overall economy), only behind the child day-care sectors which continues to grow significantly due to the expansion of free provision.

¹ www.scottish-enterprise.com/learning-zone/research-and-publications/components-folder/research-and-publications-listings/scotlands-digital-economy-facts

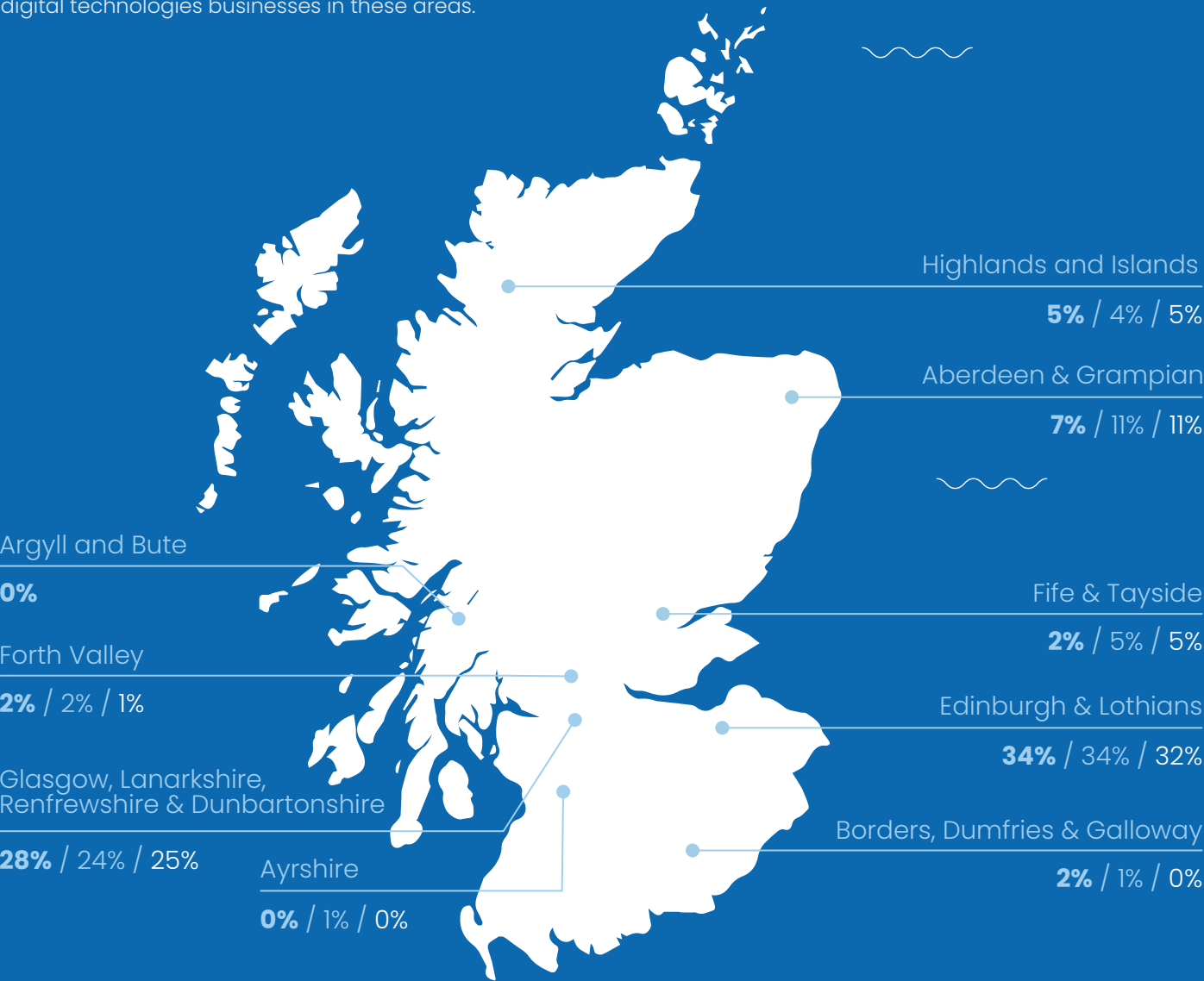


C O M P U T E R P R O G R A M M I N G
A N D C O N S U L T A N C Y
M A K E S U P 8 5 % O F A L L
D I G I T A L
T E C H N O L O G Y
B U S I N E S S E S



Headquarters location

The biggest cluster of respondents are located in Edinburgh & Lothians (34%), followed by the Greater Glasgow area (28%), and Aberdeen & Grampian (7%). These figures only reflect the location of companies responding to this survey and not the actual share of digital technologies businesses in these areas.



2022 / 2021 / 2020

2022 / 2021 / 2020

UK outwith Scotland

10% / 8% / 9%

EU outwith UK

2% / 3% / 1%

US headquartered

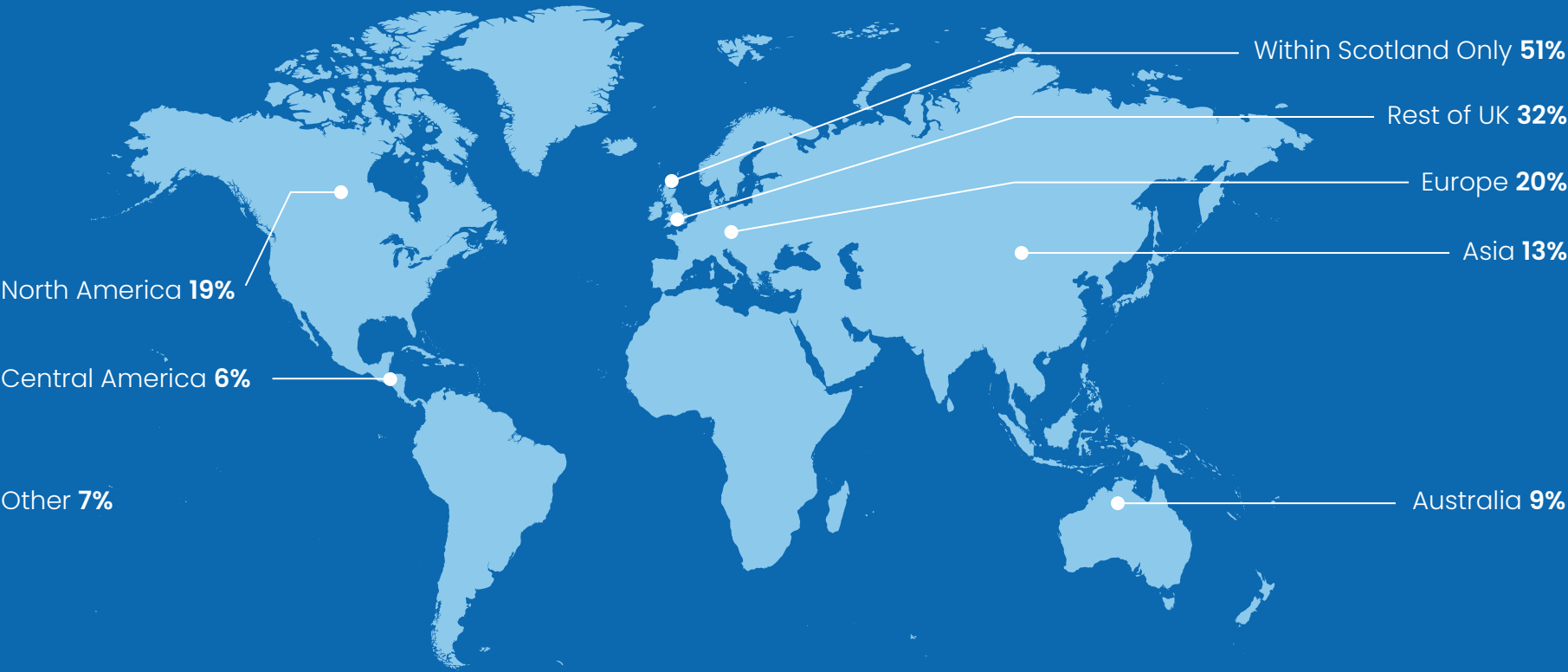
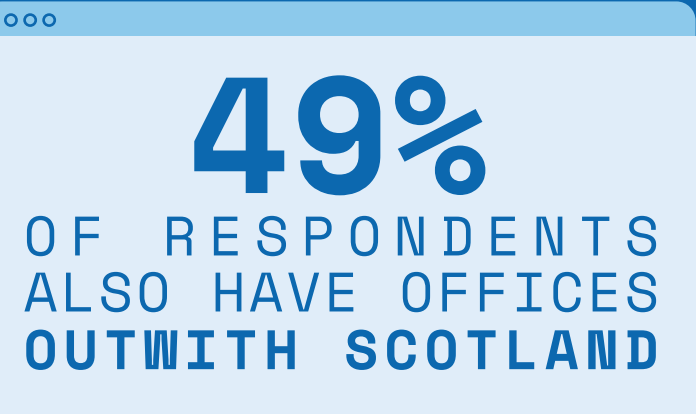
4% / 4% / 8%

Other

4% / 4% / 2%

Offices outwith Scotland

For the first year ever, we asked respondents if they had any offices outwith Scotland. Overall, there was a healthy mix of international offices across the globe with Europe coming in with 20% of respondents, North America 19% and Asia with 13%. The Rest of the UK was the most popular place for organisations to have other offices with 32% having a presence across the UK.



Staff Location

This year we looked at the location of respondents' staff base. The vast majority of respondents staff are based within Scotland only, (92%), followed by the Rest of UK with 45% and Europe with 24%. The coronavirus pandemic demonstrated the ability for companies to pivot operations.

Within Scotland Only **92%**

Rest of UK **45%**

Europe **24%**

Asia **13%**

North America **19%**

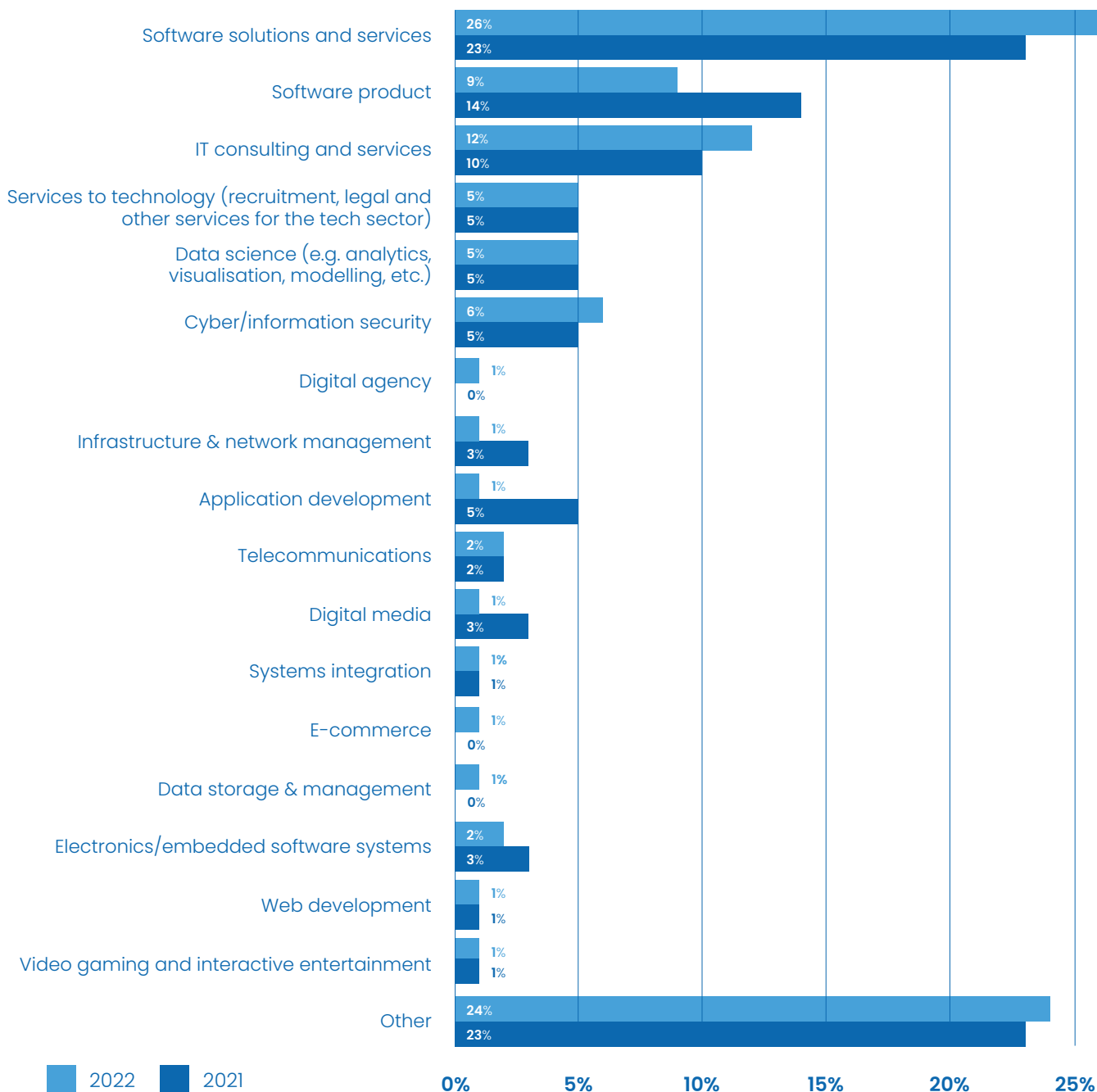
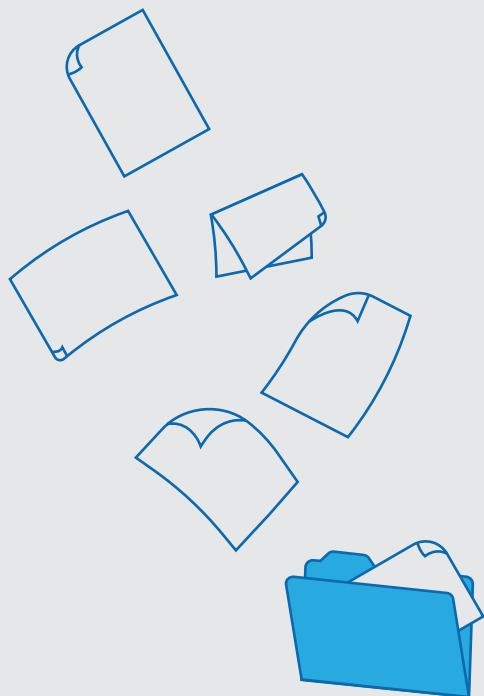
Central America **5%**

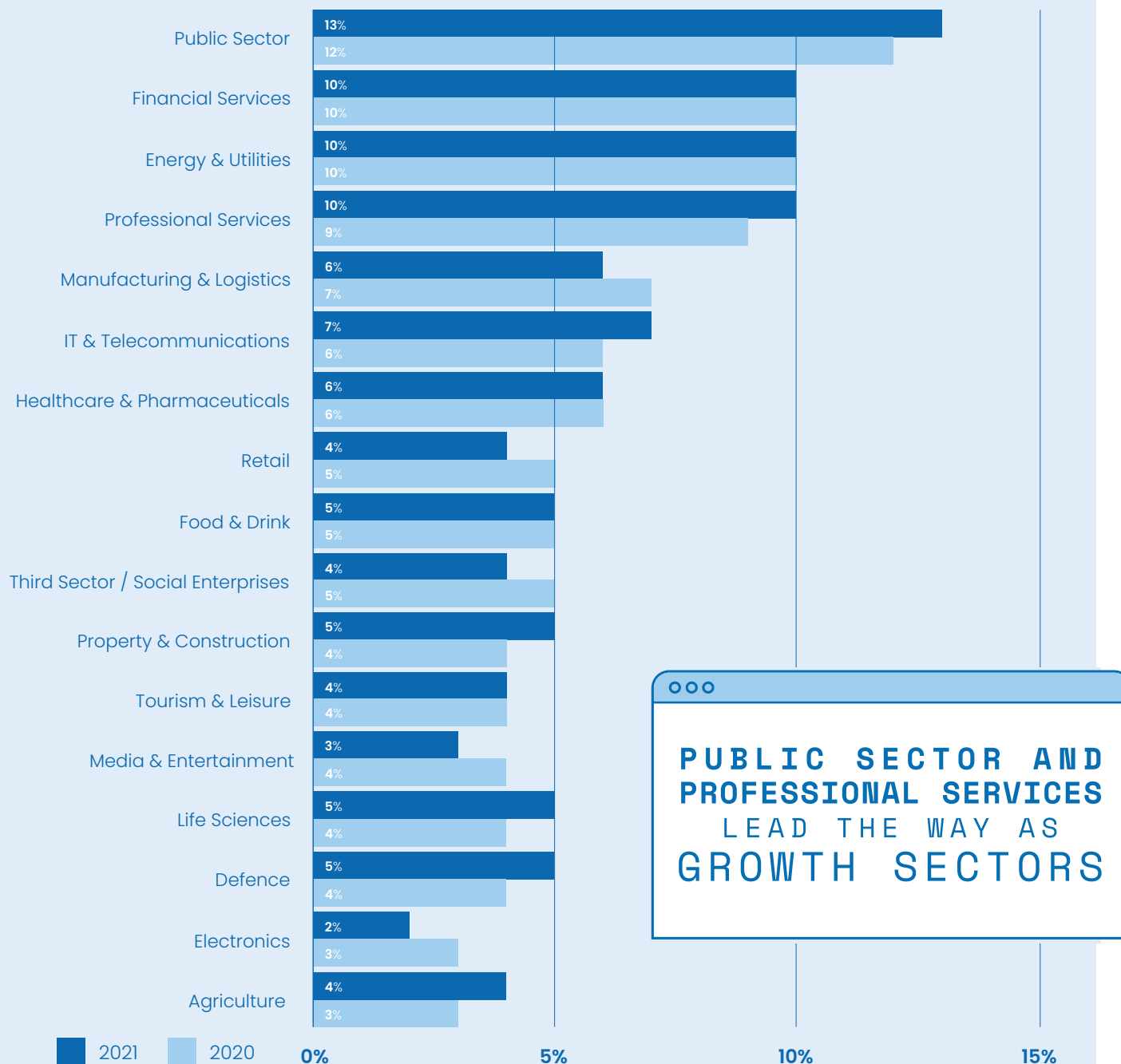
Australia **8%**

Other **5%**

Main activity of business

Software solutions and services continues to be the most significant area of activity that respondents are engaged in (26%), however the sector has witnessed a decrease in the area of software products (down 5% from last year), replaced by IT solutions and services as the second most popular activity of business (12%).





Sectors being supplied

The industry supplies a wide range of sectors - the top four remained the public sector with a slight increase of 13%, financial services staying at 10%, energy & utilities also remained at 10% and professional services rose to 10%. There were marginal gains also for IT & Telecommunications (7%), Life Sciences (5%), Defence (5%) and Property (5%).

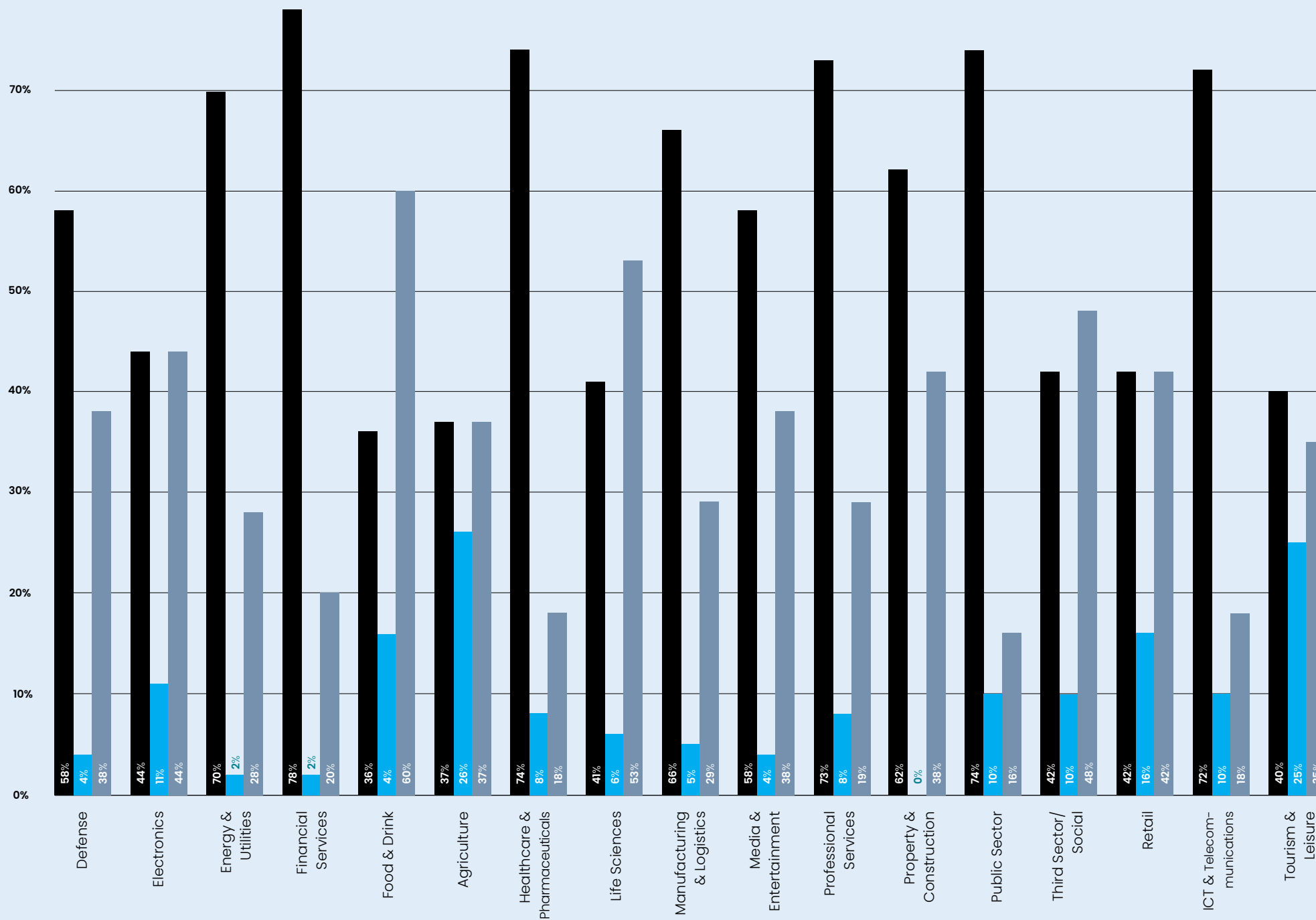


Expected demand in 2022

Asked about expected demand for the next 12 months, 78% of respondents supplying the finances services sector expect an increase in business from this sector, which matches the previous year. The public sector and healthcare sector both saw 74% of respondents predicting an increase in business. A decline in demand is anticipated by 26% of agricultural sector providers and 25% of tourism and leisure providers.



- An increase in business
- A decrease in business
- No change



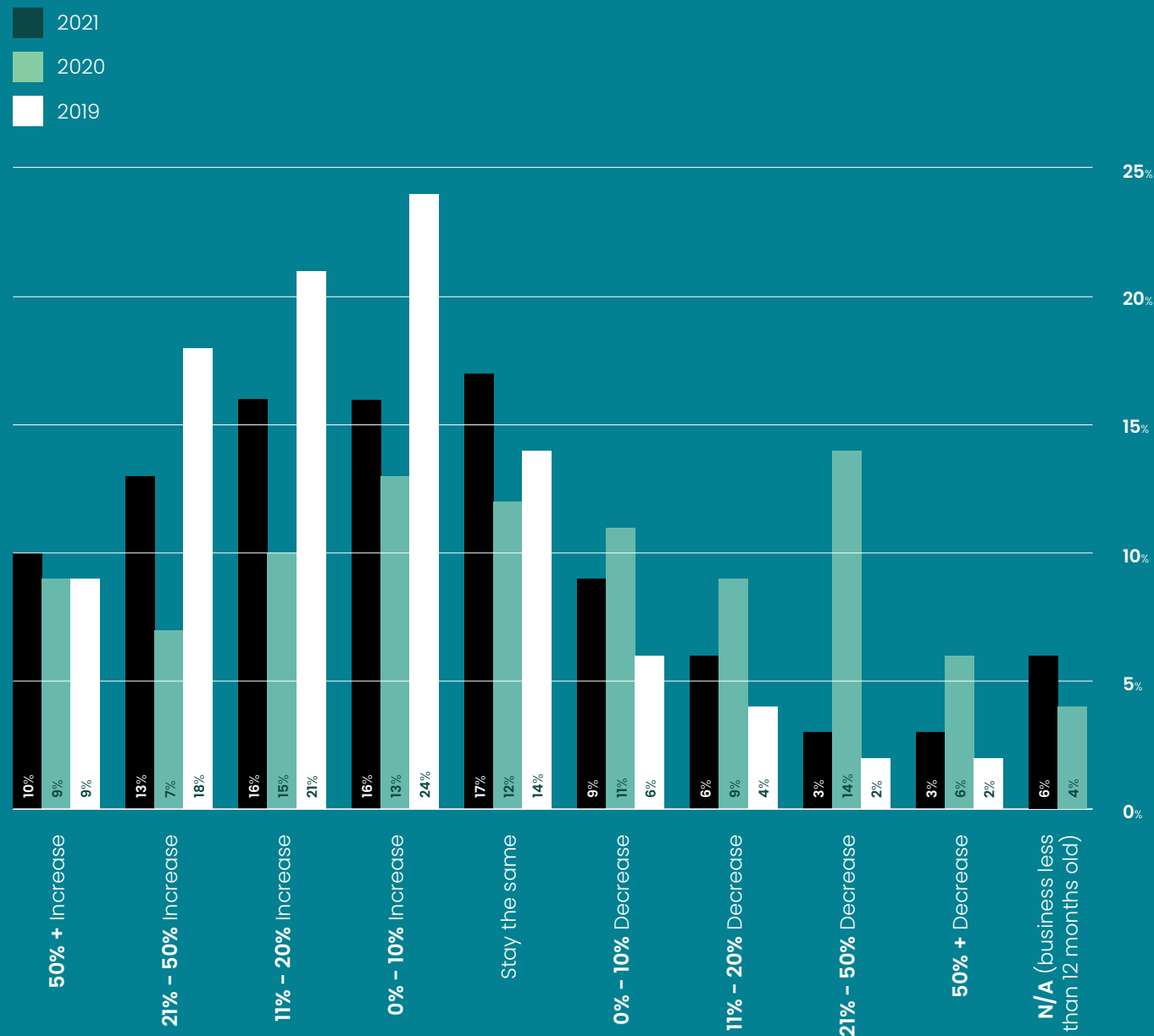
Review of 2021

Sales levels

The share of companies seeing sales increases in 2021 has increased significantly with 72% of companies reporting increased sales for 2021, compared to 44% in the previous year. 2020 results were severely impacted by the tight restrictions during the coronavirus pandemic.

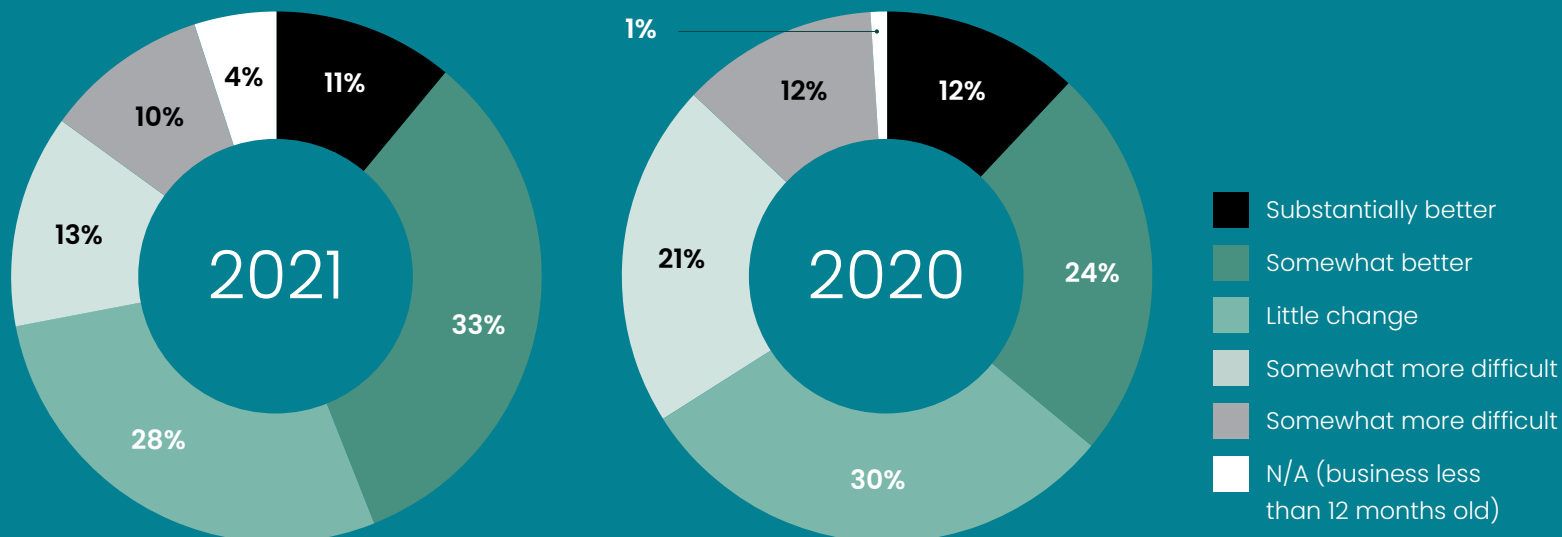
Continuing on the positive front, fewer companies also reported a decrease in sales in 2021 (21%) than in 2020 (40%).

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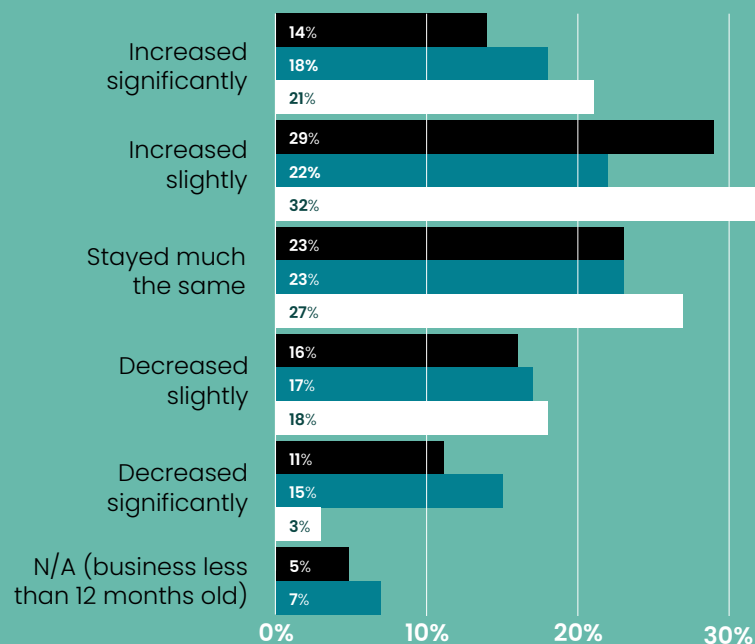
Cashflow

The cashflow situation of respondents also improved markedly, with 44% of respondents reporting positive cashflow compared to 36% in 2020. The share of companies seeing little change in cashflow remains stable.



Profit margin performance in 2021 compared to 2020

Profit margins increased slightly in 2021 with 43% compared to 42% in 2020 but still below the 53% in 2019. The share of businesses experiencing decreasing profit margins remained at a low level, with an even lower level reported in 2021 (27%) than in 2020 (32%).



PROFIT MARGINS
ROSE FOR
43%
OF RESPONDENTS



Outlook for 2022

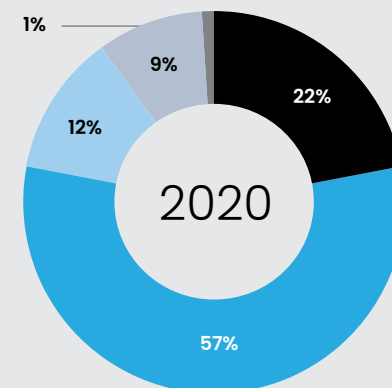
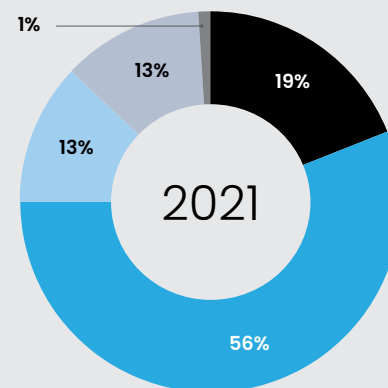
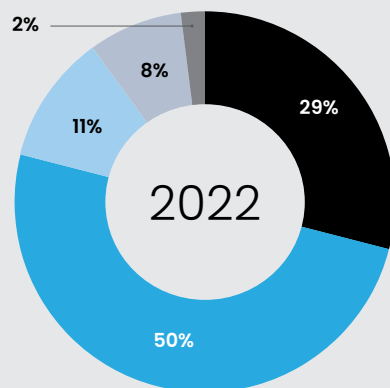


THE SECTOR REMAINS
OPTIMISTIC
ABOUT THE YEAR AHEAD

The sector remains optimistic about the year ahead, particularly with restrictions ending. There has been another increase in optimism for 2022, with 79% of respondents reporting optimism compared to 75% in 2021. There has also been a decrease in those reporting pessimism with only 10% being pessimistic about the year ahead compared to 14% in 2020. Once again, this is attributed towards an easing of restrictions.

55% of respondents linked their optimism to the ever-increasing sales pipeline they are expecting in 2022. The share of respondents indicating that they are pessimistic because of geopolitical uncertainty, mainly due to the Ukraine crisis, Brexit and the Coronavirus pandemic, has dropped somewhat compared to previous years with this cited as 18% this year compared to 38% in 2020. This number could be expected to grow in the coming months due to uncertainty over the ongoing crisis in Ukraine at the time of writing. Other concerns of note surrounded cyber security (7%) and the skills shortage (6%).

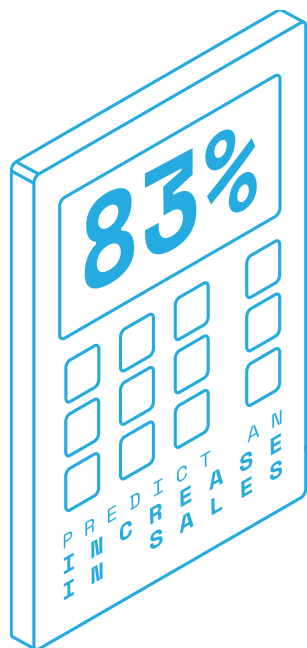
The top three challenges for 2022 are staff recruitment and retention, mentioned by 49% of respondents, followed by cashflow (21%) and the geopolitical situation (19%). These were also the most common challenges in 2021 but there has been a very slight decrease for both staff recruitment and retention (down by 9%). The share of respondents identifying the political situation as a challenge has decreased but again this figure is likely to change given the current situation in Ukraine.



Very optimistic Optimistic No change Pessimistic Very pessimistic

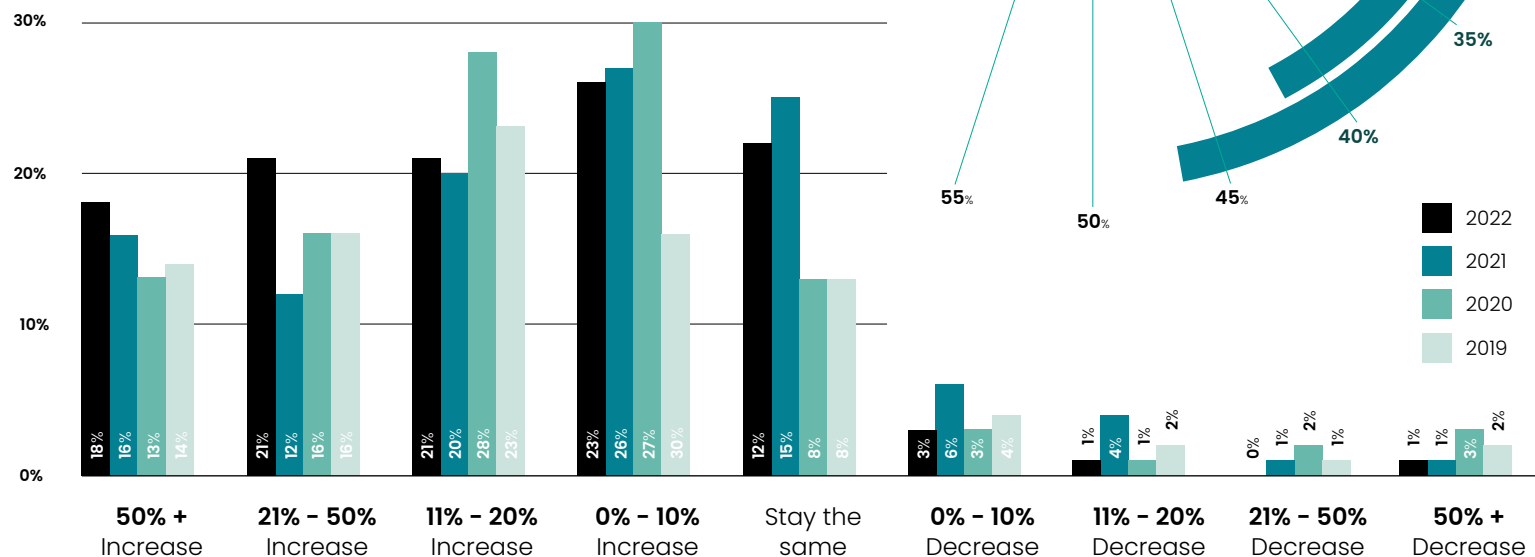
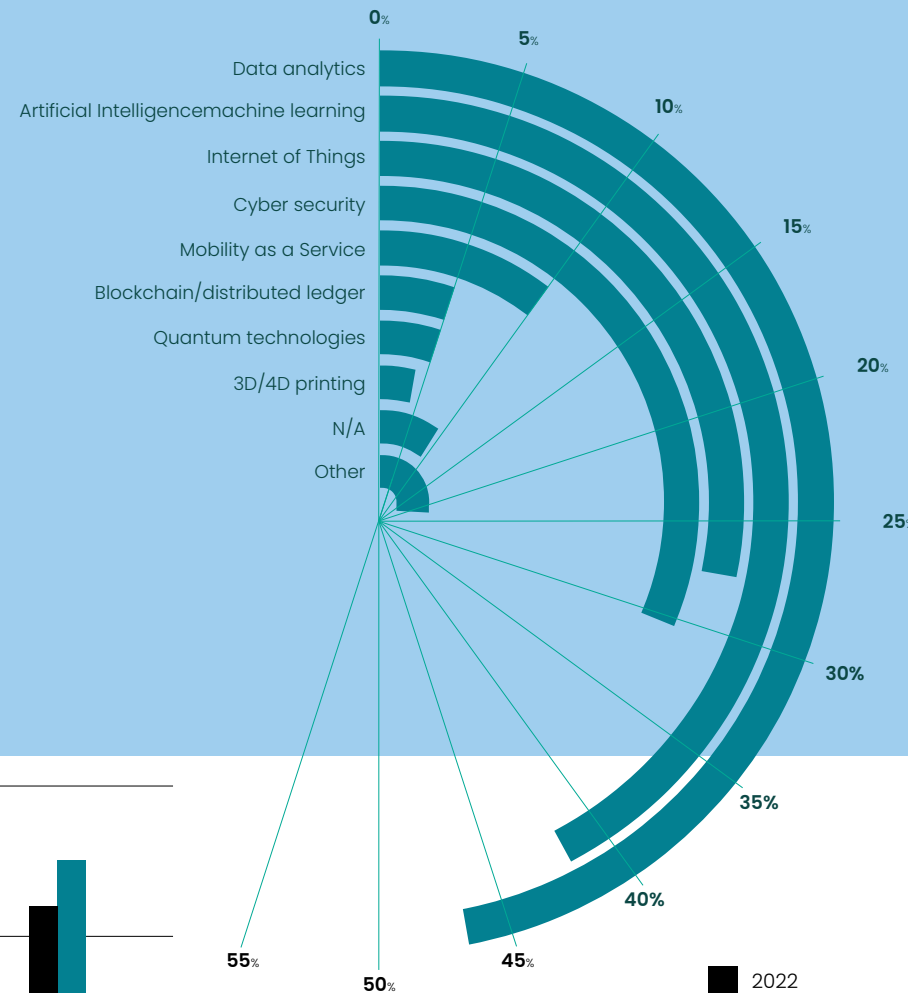
Expected change in sales over the next 12 months

Business optimism over expected sales levels for the next 12 months has increased with 83% of companies predicting an increase and 12% expecting sales to stay the same. This figure was similar to the years 2020 and 2019. 2021 was the year which dropped the most, to 74% of expected increases.

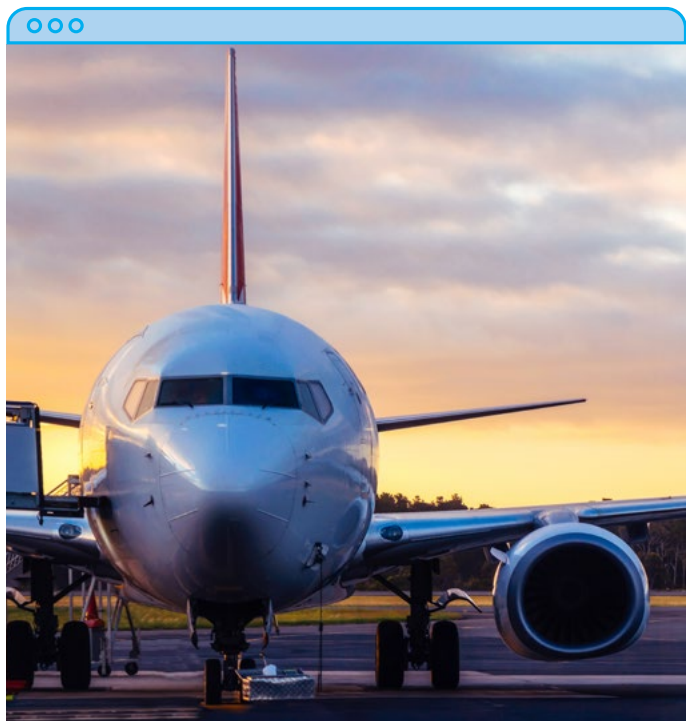


New opportunities

Companies report seeing the greatest opportunities for their business over the next 12 months in data analytics (47%), followed by artificial intelligence (42%) and cyber security (31%). Whilst opportunities in data analytics and artificial intelligence remained in the top two, they did drop a few percentage points. However, we did note a marked increase in opportunities for cyber security which is up 8% on the previous year. Mobility as a Service and IoT both saw marginal gains from the previous year too. Quantum technologies and 3D/4D printing were generally not perceived as key opportunities over the next 12 months. These results remain broadly similar to the previous year, highlighting the stability of the sector. Quantum technologies (5%) and 3D/4D printing (3%), despite growing, remained amongst the lower end of the category for opportunities.



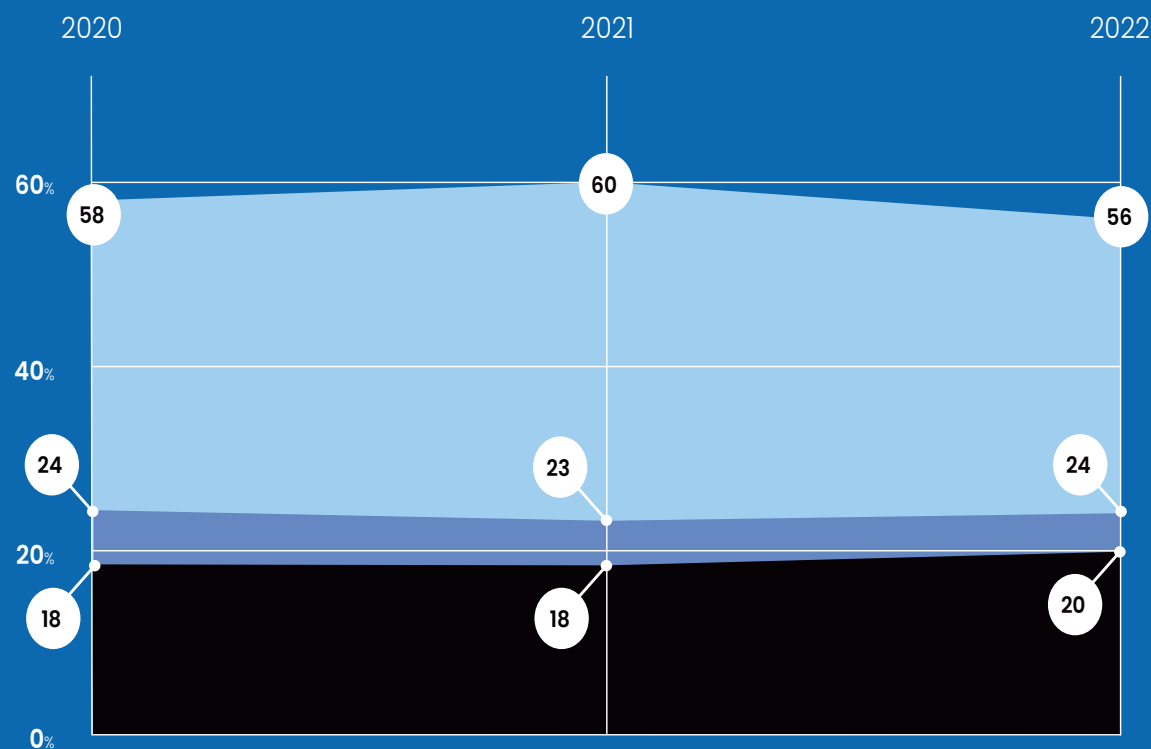
International Opportunities

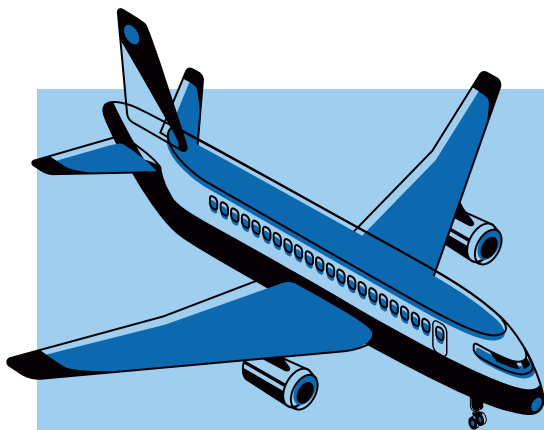


Export levels

Engagement of respondents in international markets has decreased slightly (56% from 60%). However, there was a 1% increase of respondents who plan to export this year. The ongoing restrictions across the globe and growing geopolitical tensions are factors worth consideration in the slight drop. 20% of respondents have no plans to export in the next year.

- Exporting
- Planning to
- No plans





Export markets

The top three current export markets have slightly changed in dynamic this year. Europe has moved above North America with 68% respondents viewing it as the most attractive compared to 64% previously. The Rest of the UK remains the most attractive market for 77% of respondents, up 5% from the previous year. There have been notable drops for North America and Asia, 6% and 9% respectively.

Top markets in 2021 / Most attractive in 2022

North America

62% / 66%

Rest of the UK

61% / 77%

Europe

65% / 68%

Africa

/ 3%

Middle & South America

7% / 5%

Asia

20% / 14%

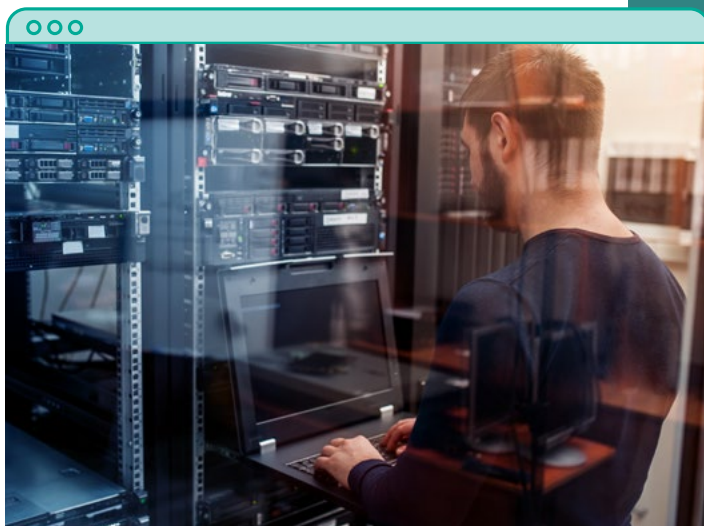
Middle East

7% / 10%

Australia & New Zealand

11% / 9%

Employment & Skills



Digital technologies employment in Scotland

In 2020 (the latest available ONS data), 80,785 people were employed in digital technologies companies. The increased levels of funding going into UK tech also mean companies need trained technical and business staff. There has been a 50% rise in overall UK tech job vacancies advertised this year compared to 2020's figures, with advertised tech vacancies hitting 160,887 in November. Currently, tech vacancies make up 12% of all available jobs in the UK, with just over 50% of these jobs available outside of London and the South East.

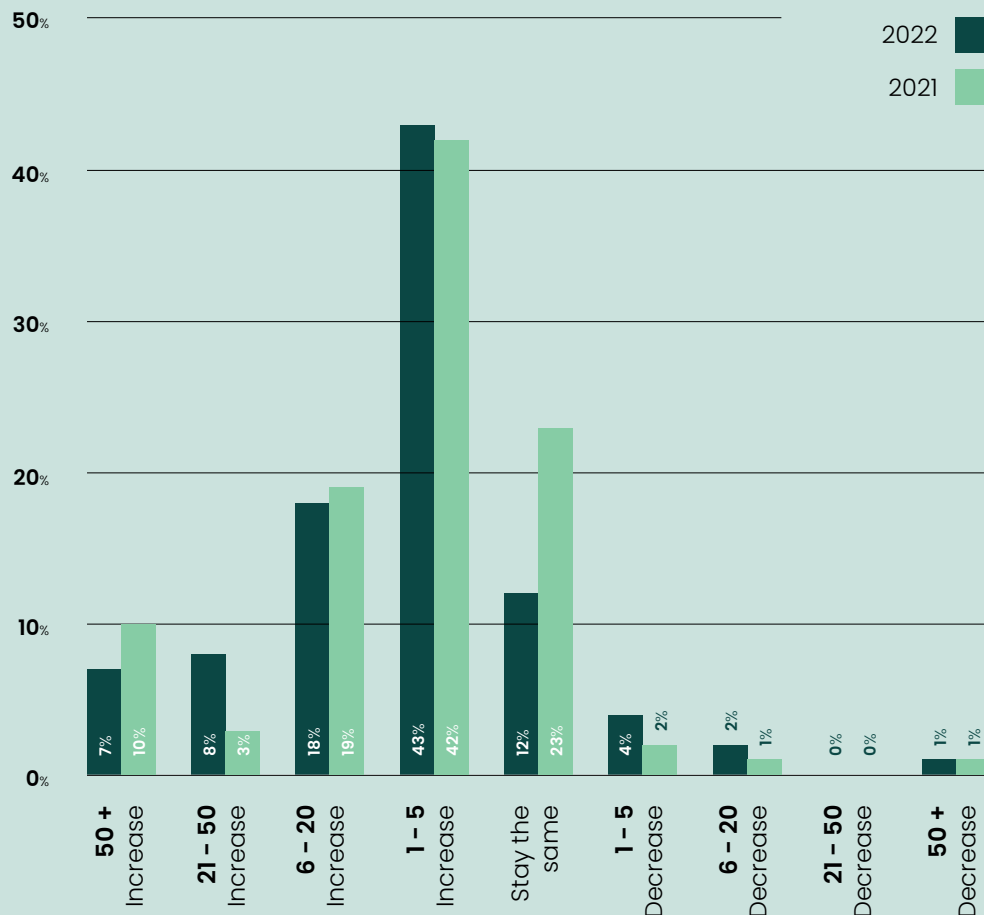
Software developers are still the most in-demand tech roles across the UK. These positions make up 9% of all tech jobs with prospective developers being offered an average salary of £64,318, a 12% increase on 2020's figures. Specialist staff such as Java developers and IT systems architects continue to be able to command high salaries with the average advertised wage for these roles being £80,076 and £93,004 respectively.

Around 13,000 digital technologies job opportunities are created every year, partly in response to people retiring from or leaving the industry but also through growing demand for these skills. There continues to be a gap between the number of job opportunities and the number of college and university leavers, apprentices and career changers that enter the labour market with relevant skills.



AROUND
13,000
DIGITAL TECHNOLOGY
JOB OPPORTUNITIES
ARE CREATED
EVERY YEAR

1. Please see the chapter on methodology at the end of the report for details on the definition of the digital technologies sector and sources of the figures in this employment overview.



Change in employee numbers over the next 12 months

Expectations for employment growth remain high, with 76% of respondents forecasting an increase in their employee numbers. Forecasts have been at this high level for the last 4 years (74% in 2021, 80% in 2020, 81% in 2019, 80% in 2018). The share of businesses expecting a decrease in staff numbers has remained largely stable.

2. www.gov.uk/government/news/uk-tech-sector-achieves-best-year-ever-as-success-feeds-cities-outside-london

Location of talent

The majority of respondents (58%) still expect to find most of their new staff in Scotland. Recruits from Europe and the Rest of the World have both risen this year with 6% and 11% respectively compared to 4% and 6% last year.

2022 / 2021 / 2020

Scotland

58% / 57% / 70%

Rest of the UK

19% / 20% / 15%

5% / 13% N/A

Europe

6% / 4% / 9%

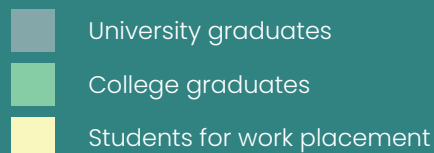
Rest of the World

11% / 6% / 6%



76%

OF RESPONDENTS
PLAN TO HIRE
RECENT GRADUATES
IN THE NEXT 12 MONTHS

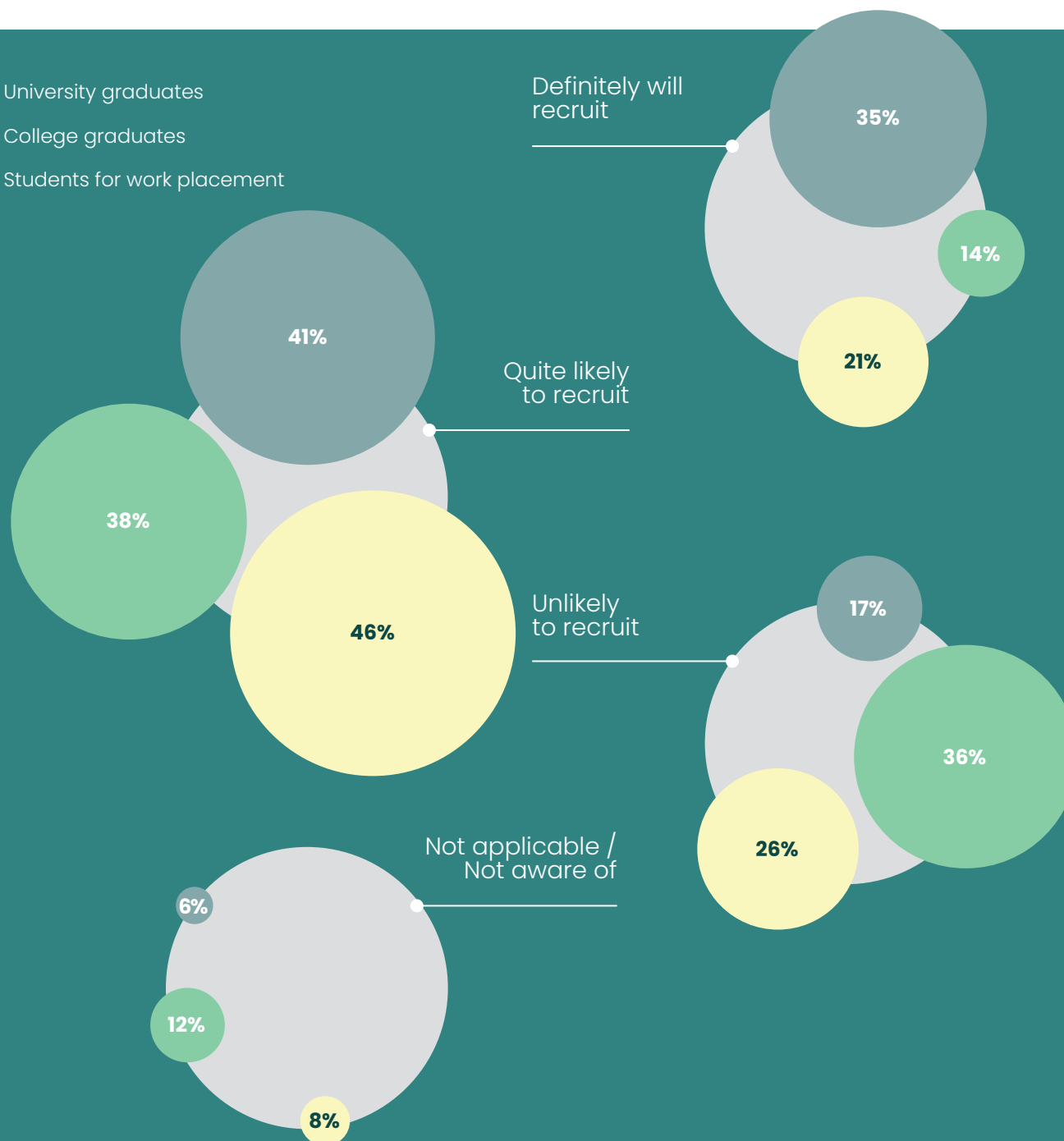


Recruitment from colleges and universities

Demand for the recruitment of university graduates has increased with 76% of responding businesses reporting that they are definitely or quite likely to recruit graduates in the next 12 months, up from figures around 71% last year.

Interest in college graduates has increased significantly with 52% definitely or quite likely to hire them, up from 44% last year.

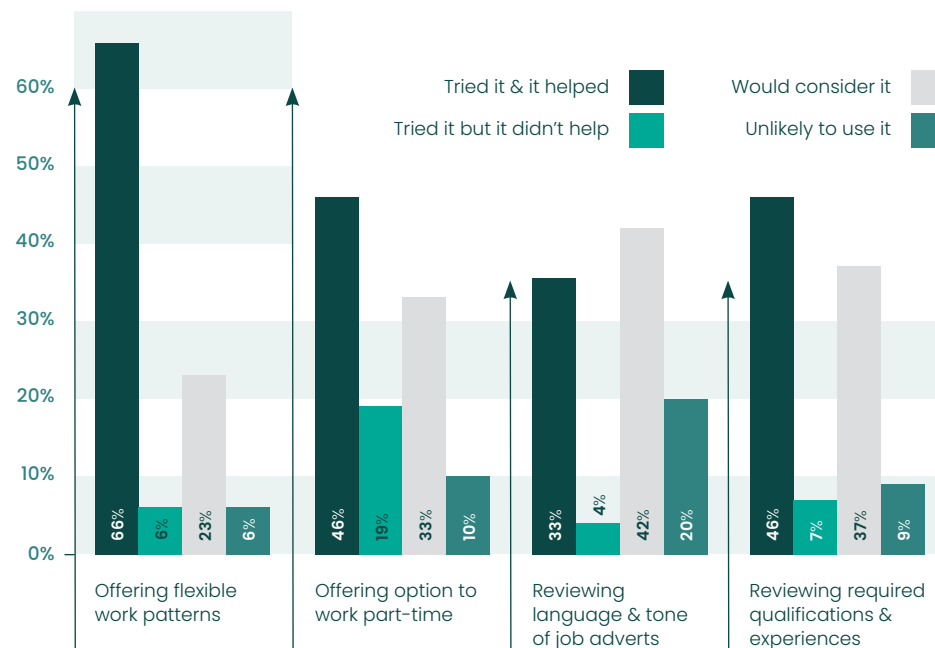
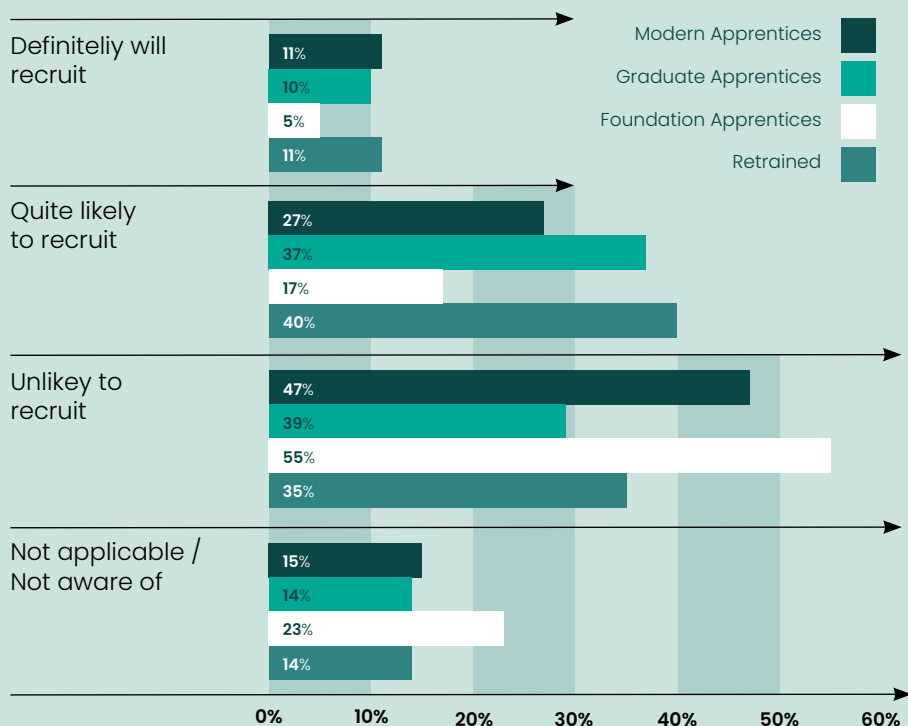
For only the third year we asked companies how likely they are to take on students for work placements. This year we saw the highest ever number of respondents (67%) who are likely to recruit them, with 28% unlikely to do so.



Recruitment of apprentices

Graduate Apprentices are again the most popular type of apprentice, like last year, but the share of respondents has increased sharply, with 47% of respondents reporting they are likely to recruit someone for a Graduate Apprenticeship (up from 33% in 2021). Interest also increased for Modern Apprentices, with 38% of respondents citing they are either likely or quite likely to recruit a Modern Apprentice, up from 22% last year. Foundation Apprentices also saw an increase (from 12% in 2021 to 22% in 2022).

The reskilling and upskilling agenda was the most common type of training companies in 2022 felt they needed to embark on, with 51% likely to do so, up from 44% last year.



Expanding your talent pool

Given the persistent and ongoing skills gap in our industry, we asked survey participants this year what steps they have taken to expand the talent pool they can recruit from.

Offering flexible work patterns is the most common measure taken by respondents. 66% of respondents have tried it and found that it helped with recruitment. This is a slight increase from last year, when we asked the same question and 63% of respondents had tried it successfully. Given the hybrid approach to working in Scotland, this increase was expected.

One of the largest and most interesting shifts this year is around "reviewing qualifications and experiences" in the recruitment process. This year 46% said they tried this and it helped, a huge increase from last year when 28% had done so. The ongoing skills shortage may have prompted employers to think more creatively about recruitment measures. A proportion of employers commented that they are beginning to think less about the qualification and more about the individual.

Other measures mentioned by respondents were enhanced HR practices around diversity, engagement in local communities and also looking towards the Kickstart Scheme and working with University start-up/spin out groups.

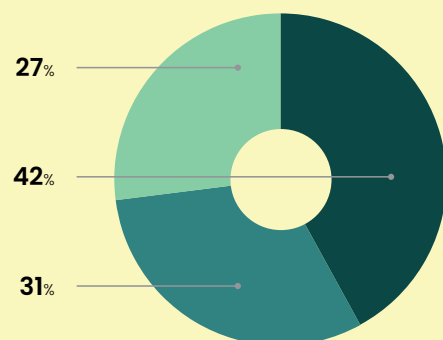
Most in demand skill sets

Leadership and Sales and Marketing skills are still in high demand across the sector. 70% of companies reported a requirement for Leadership talent and 84% are looking to sales/marketing support to aid business growth. 71% of respondents indicated a need for Cyber Security skills, an increase of 12% when compared to last year.

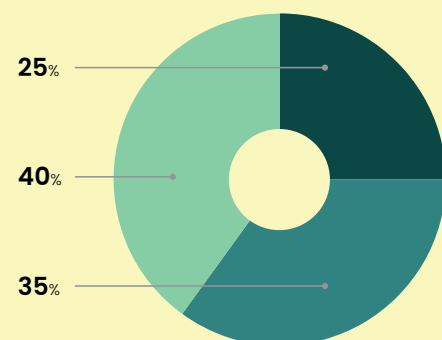


CYBER SECURITY SKILLS
INCREASED IN DEMAND
12% OVER THE
LAST YEAR

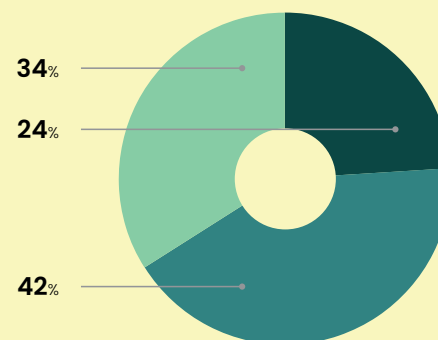
Software & Web Development



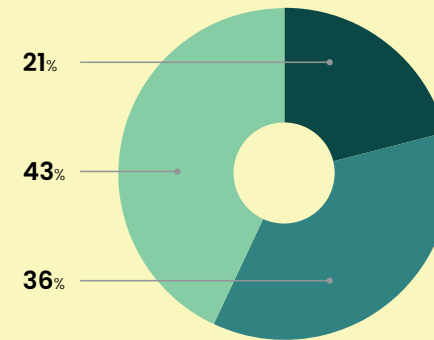
Infrastructure & Support Management



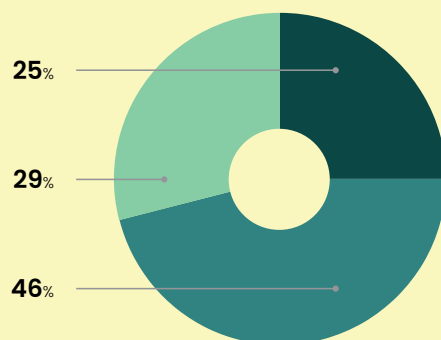
Data



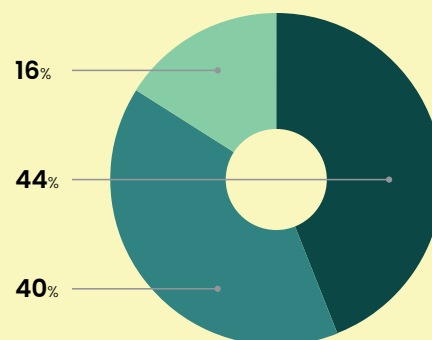
Artificial Intelligence/
Machine Learning



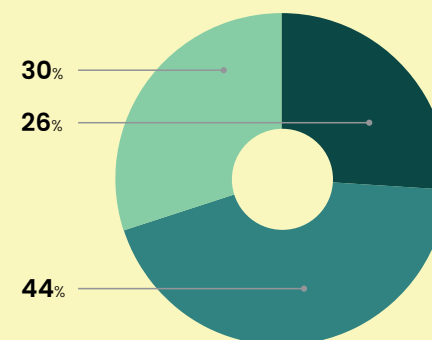
Cyber Security



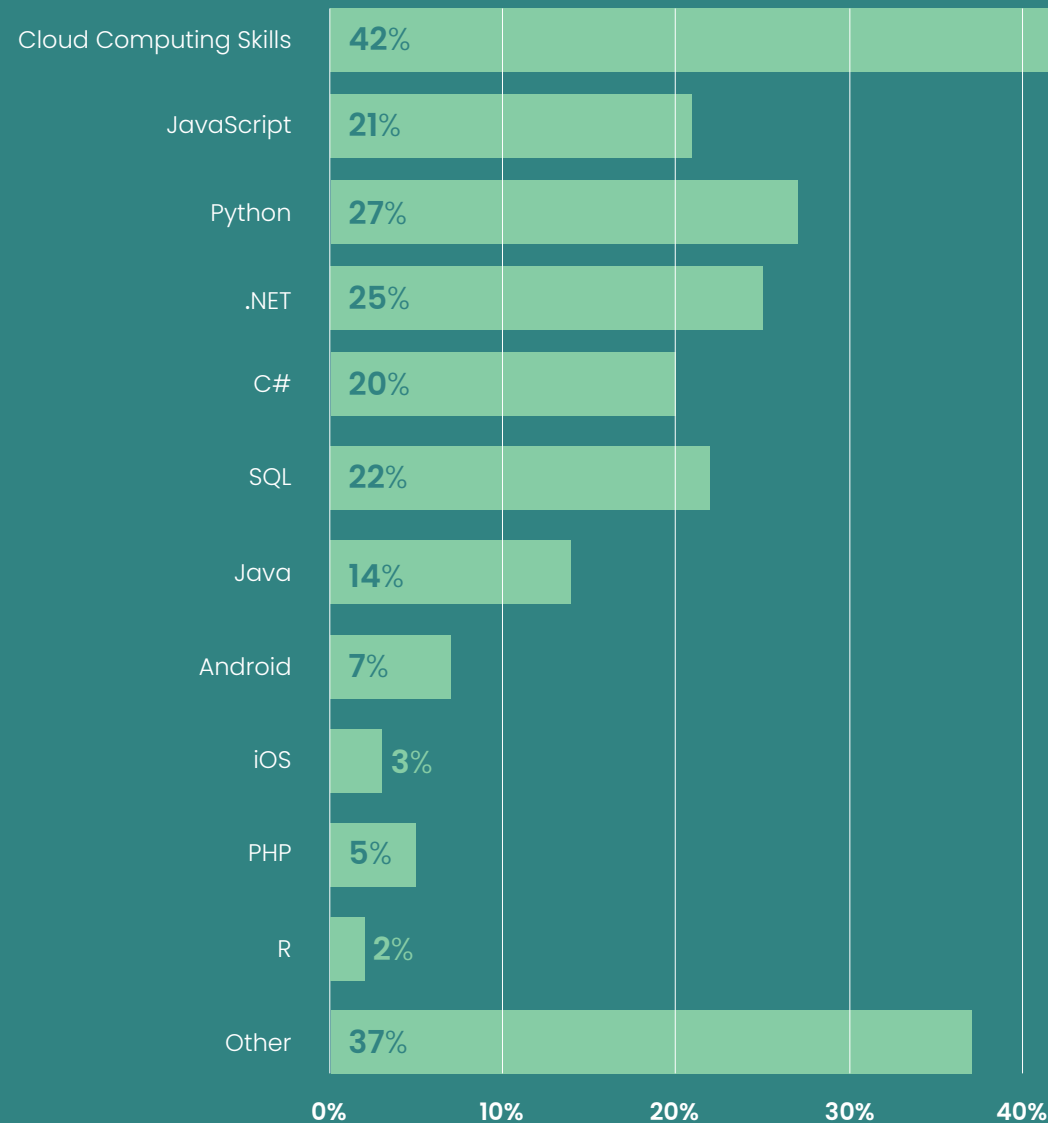
Sales & Marketing



Leadership



High Requirement
Some Requirement
No Requirement



Technical skills

Respondents showed a continuing strong demand for cloud computing skills, albeit with a slight dip from last year (42% from 54%). Python remained steady (27%), and while .NET decreased slightly, it remained in the top three for specific technical skills companies have the greatest demand for.

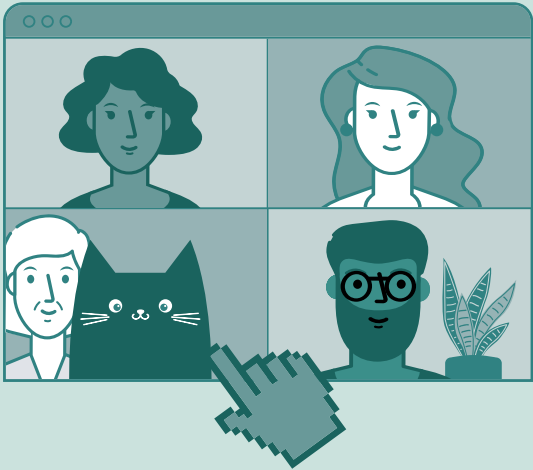
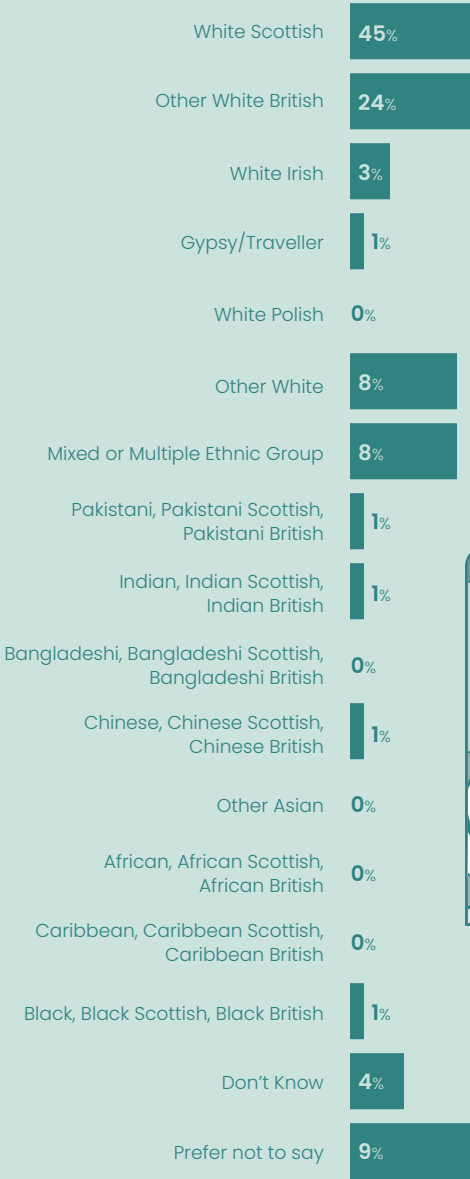


Diversity and Inclusion

This year we surveyed our respondents on diversity and inclusion. The data has demonstrated in terms of ethnicity, “White” is the overwhelming majority for the respondents to this survey. Respondents outwith the “White” category make up 12% of the ethnic background to this survey.

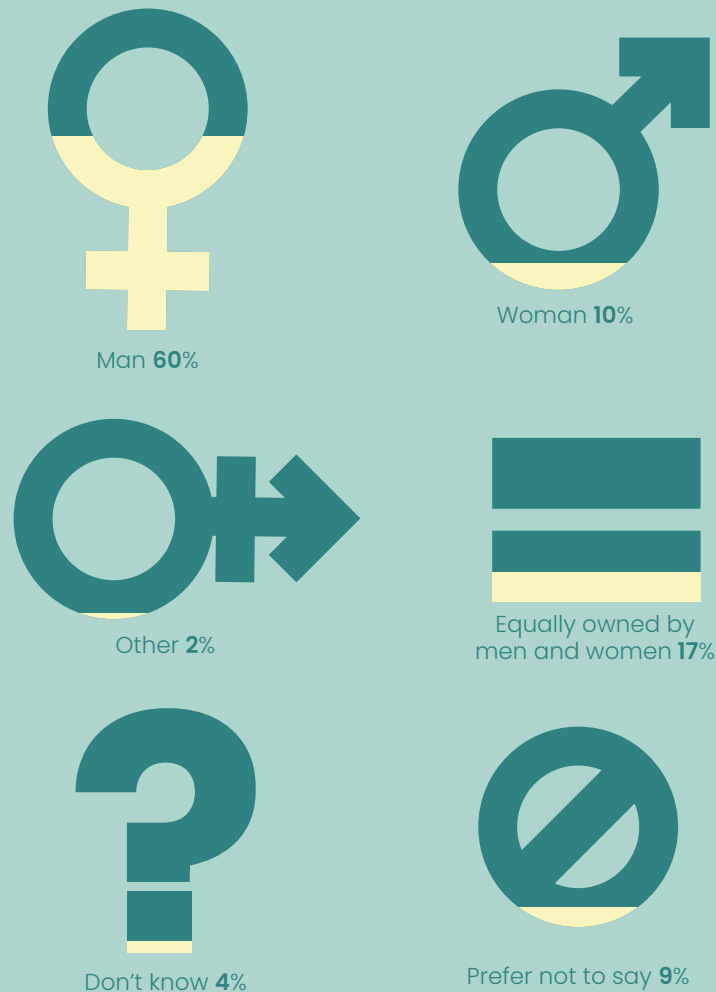


Ethnic Background

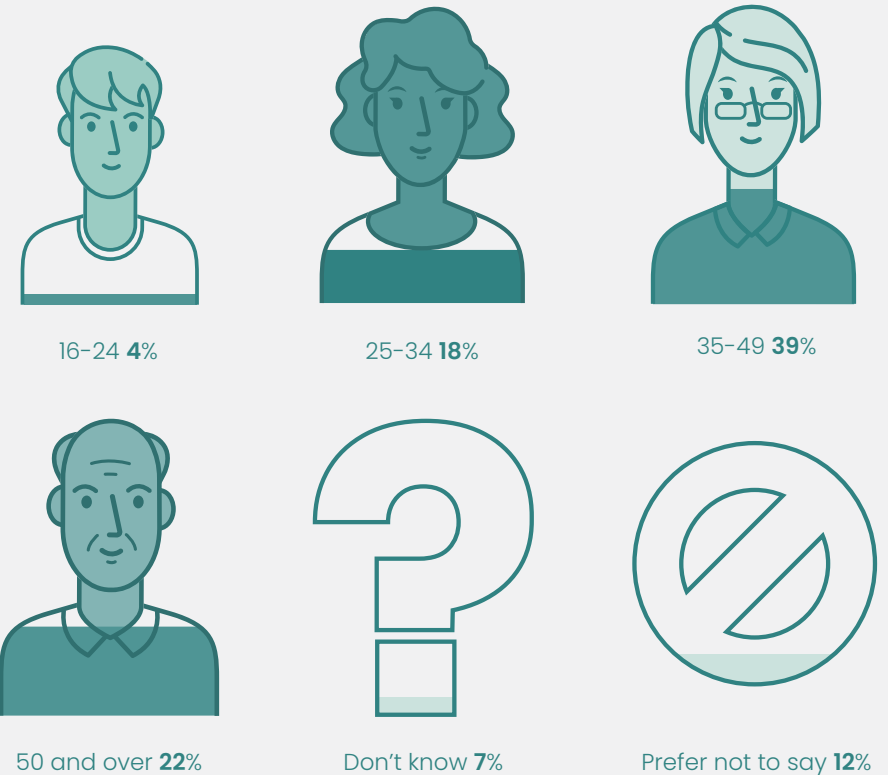


Gender Identity of Business Owner

We also asked our respondents about the gender makeup of each respective organisation with regards to business ownership. 60% of respondent's organisations were owned by men, 10% were owned by women and 17% were co-owned by males and females. The rest of the respondents cast votes for other, prefer not to say and don't know.



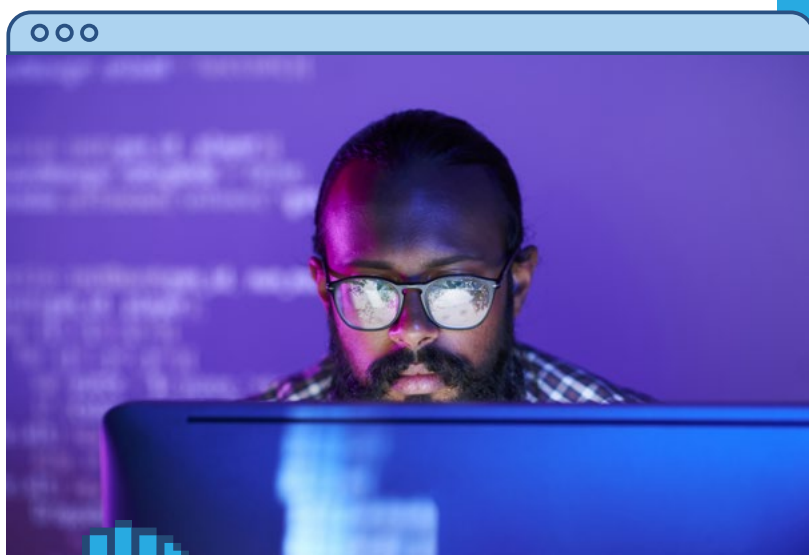
Age of Business Owner



The age of business owners was more of a varied picture. The most prominent age was 35-49 who made up 39% of the response. 16-24 year olds made up 4% of the business owner age. This question focused on the business owner themselves as opposed to employees within the workforce.

Benchmark 1:

Smaller Companies (up to 35 employees)



24%

OF SMALL BUSINESSES
STILL FEEL THE
IMPACT OF COVID

Reflections on 2021

2021 was a relatively steady year for small businesses, with 51% experiencing an increase in sales (up from 37% in 2020) and back to pre-COVID levels in 2019, which was also 51% reporting increased profit margins.

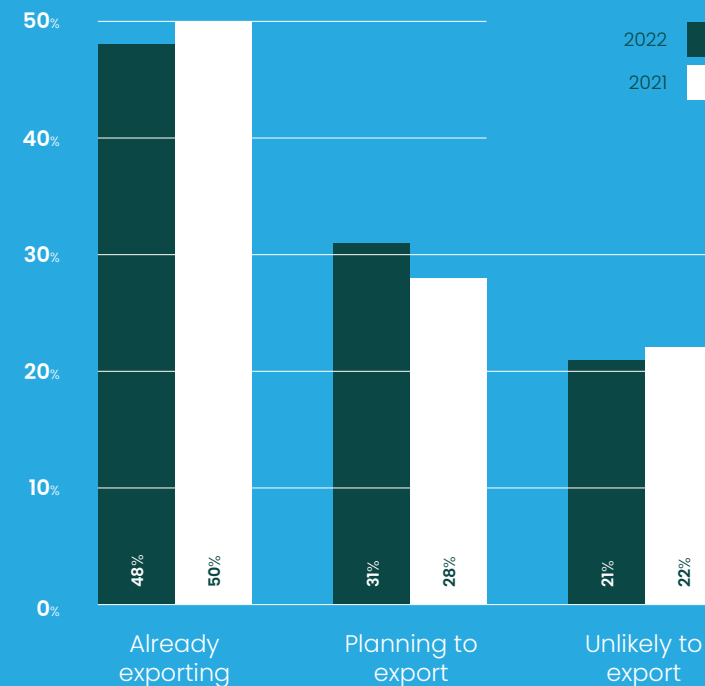
51% of respondents from smaller businesses have an optimistic outlook for the next 12 months, which is down compared to 69% in the previous year. 44% of respondents had cited geopolitical factors for lower optimism, 24% reported that the impact of COVID was still being felt.

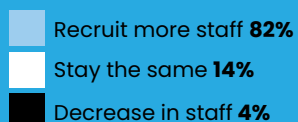
51%

HAVE AN
OPTIMISTIC
OUTLOOK
FOR THE NEXT
12 MONTHS

International sales

48% of smaller businesses are already selling internationally, slightly down from 50% last year. 31% are planning on exporting, which is up slightly from the previous year (28%), whilst those unlikely to export has decreased very slightly from 22% to 21%.





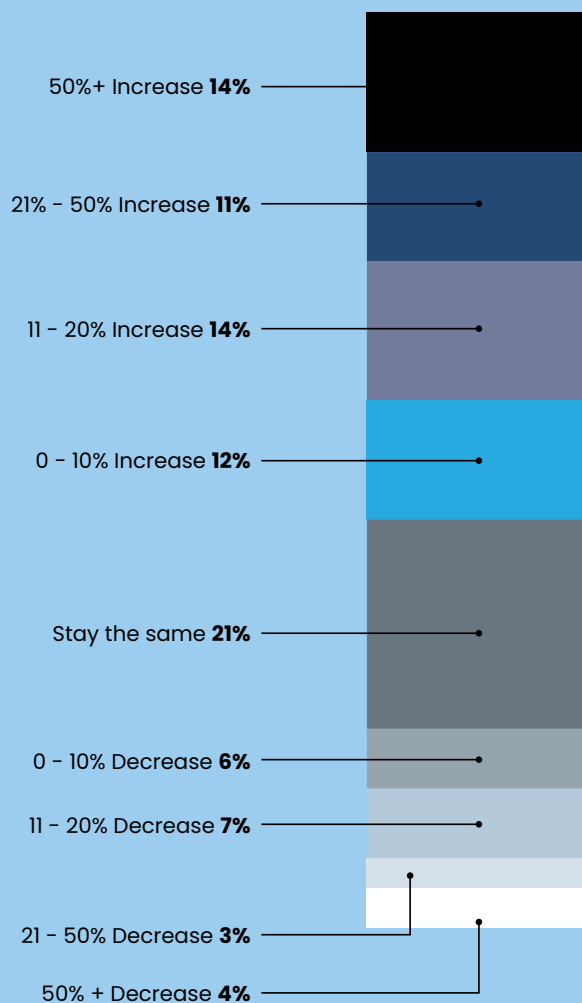
People and skills

82% of small businesses expect to increase staff numbers, which is considerably up from last year's figure of 66%, showing a strong rebound in the demand for recruitment in small businesses across Scotland.

70% of respondents are likely to recruit university graduates (up from 64% in 2021) and 45% think that they will take on college graduates (also up from 2021 which was 36%). Graduate Apprentices are the most popular type of apprentice, with 33% of respondents from smaller companies saying they are likely to recruit them, up from 23% last year, followed by 19% for Modern Apprentices (10% in 2021) and 16% for Foundation Apprentices (up significantly from 4% in 2021). 43% reported that they are likely to employ someone who underwent retraining in the next 12 months, again up from last year's figure of 36% and closer to 2020's figure of 45%, also showcasing a rebound from small business.

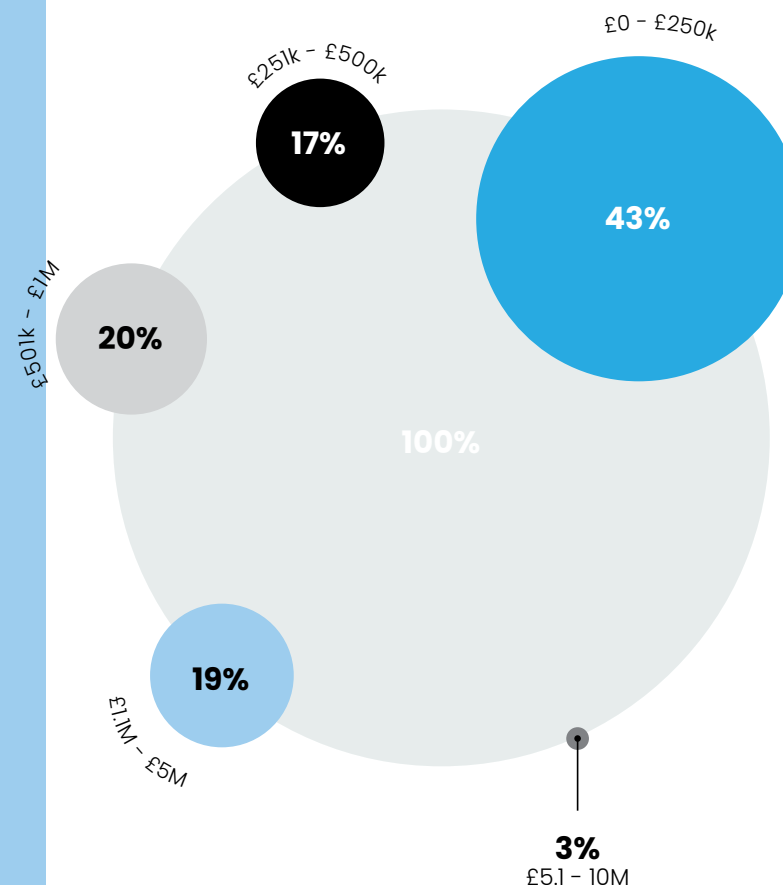
Sales outlook for 2022

The sales outlook of small businesses for the next 12 months is down slightly from 2021, with 51% reporting an increase compared to last year's 69%. 21% anticipate they will stay the same (same as 2021), while 20% forecast a decrease in sales (up 10% from last year).



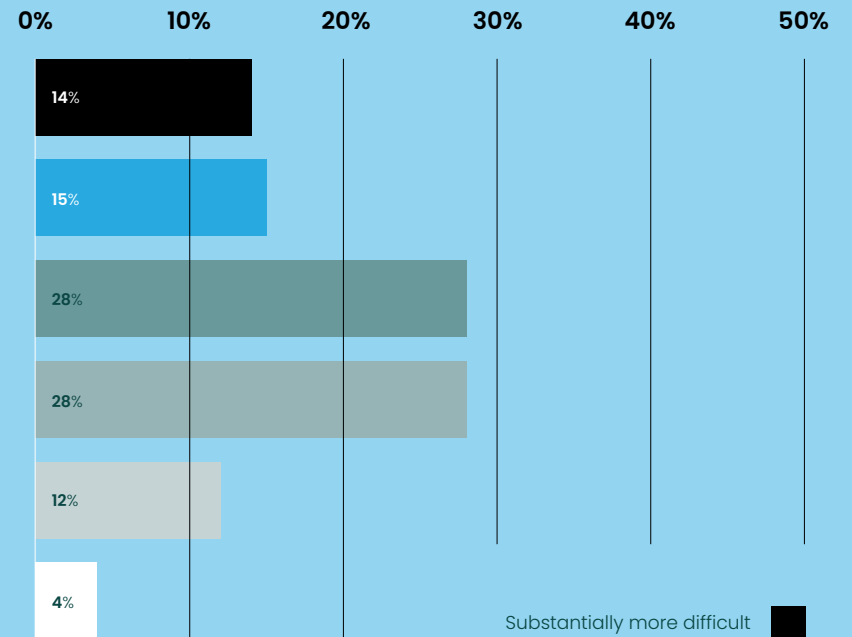
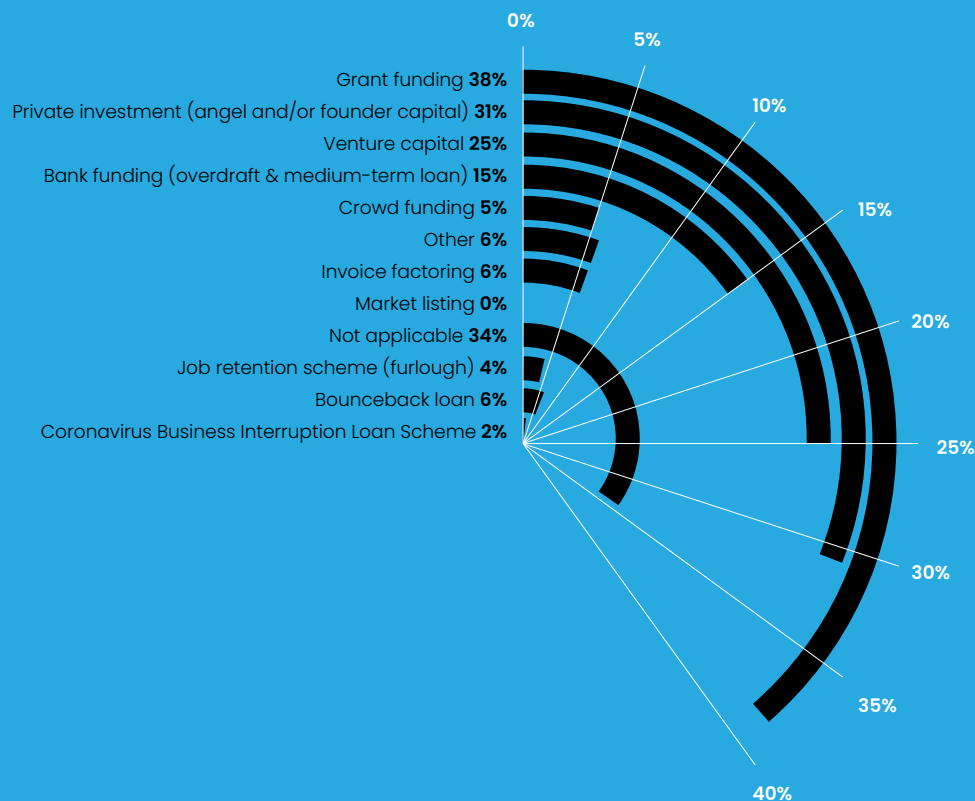
Financial environment

Turnover for 100% of smaller businesses was in the region of £0-£5M. The figures are similar to previous years.



Funding needs

For the majority of smaller businesses that need additional finance, e.g. for growth in 2022, grant funding is still the preferred option (38% same as last year) followed by an increase in private investment (up 3% from 2021) and venture capital which has increased steadily with 25% ranking, up from 17% in 2021.



Substantially more difficult
Somewhat more difficult
Little change
Somewhat better
Substantially better
N/A (business less than 12 months old)



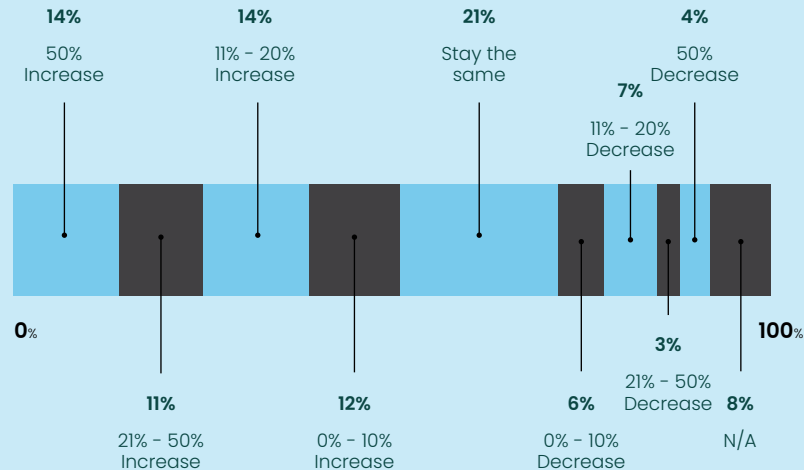
Cashflow compared to last year

Smaller businesses reported a healthier cashflow situation than last year. 40% experienced improvements (up from 30% in 2021) with 29% reporting difficulties (down from 35%).

2021 sales levels compared with 2020

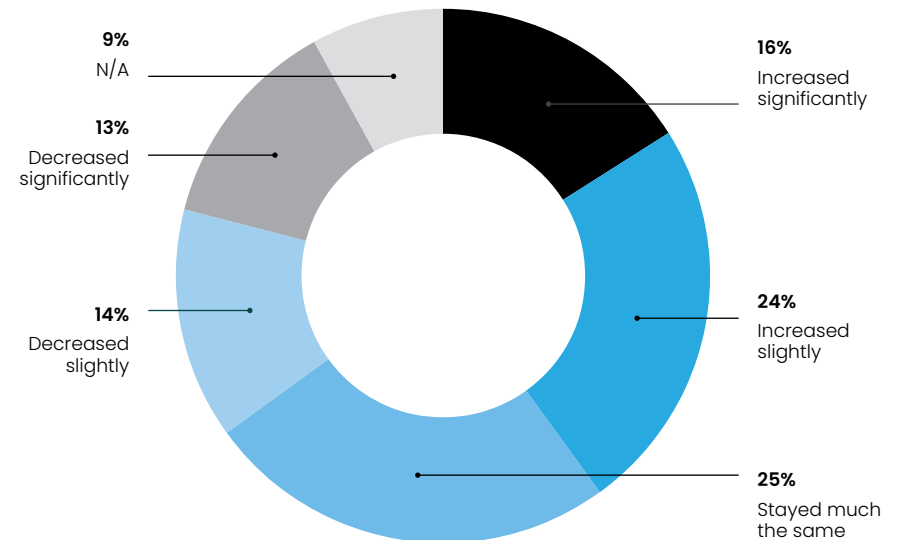
2021 saw marginal growth compared to 2020 with 51% of smaller businesses reporting an increase in sales compared with 30% in 2020. However, 20% still reported a decrease in sales levels, which is down from 44% in 2020, which was a considerably harder year across the board.

51
REPORTED
AN INCREASE
IN SALES

Profit margins

In 2021, a greater number of smaller companies (40%) reported increased profit margins than in 2020 (37%). Those seeing a decrease in profit margins sat at 27% compared to last year's 29%, which was further good news.



Benchmark 2:

Medium-sized Companies (36 – 500 employees)

Reflections on 2021

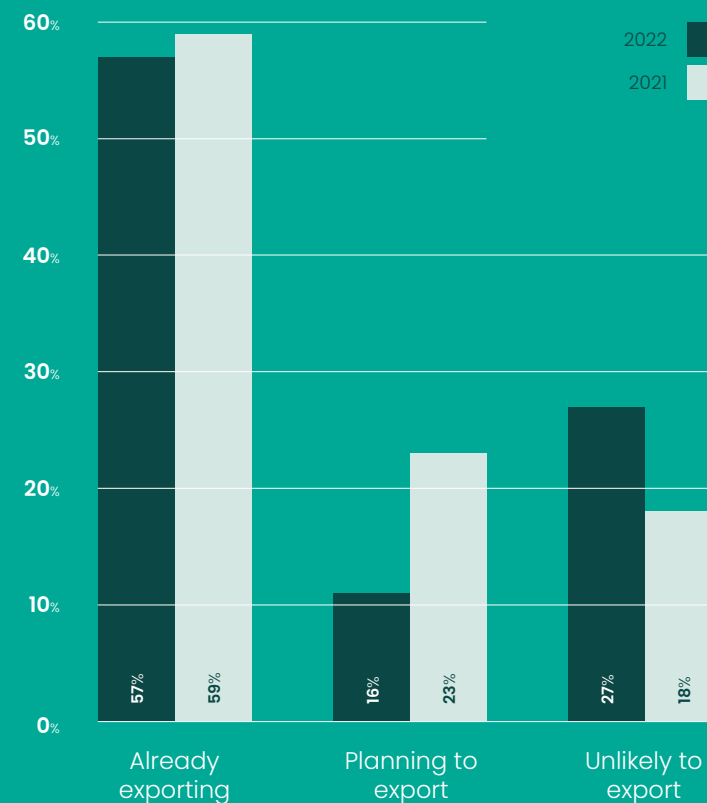
The performance of medium-sized businesses in 2021 has been somewhat mixed but overall an improvement from last year, with 68% reporting an increase in sales (up from 54%).

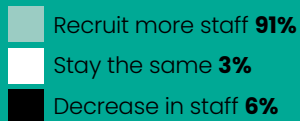
91% remain on the recruitment drive, which is steady compared to previous years, showcasing ongoing demand.

92% 
**ARE PLANNING
TO RECRUIT**

International sales

The share of medium-sized business that are already exporting decreased slightly from 59% in 2021 to 57%, and there was also a decrease in the number of companies who are planning to export in the future (23% in 2021, 16% in 2022).



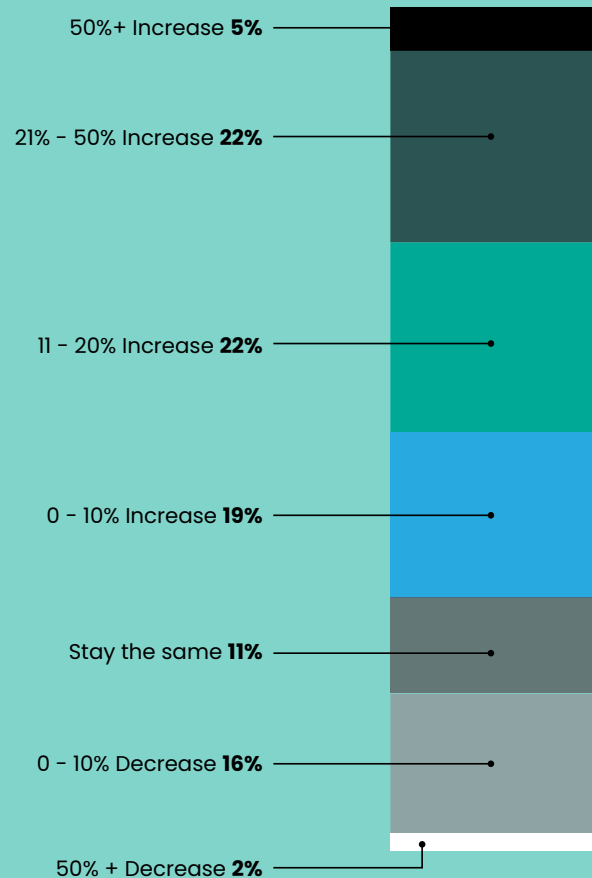


People and skills

91% of medium-sized businesses expect to increase staff numbers in 2022, which is almost identical to expectations for 2021. 77% of respondents are likely to recruit university graduates (up from 72% in 2021) and 56% are likely to take on college graduates (52% last year). 41% of medium businesses are likely to recruit Graduate Apprentices (up from 39% last year), whilst interest in Modern Apprentices rose slightly from 28% to 31%. Demand for Foundation Apprentices remained at the same level (18%, up from 1% last year). 44% of medium-sized companies are likely to hire someone who underwent retraining or upskilling/reskilling in the workforce, which is down slightly from last year's 52%.

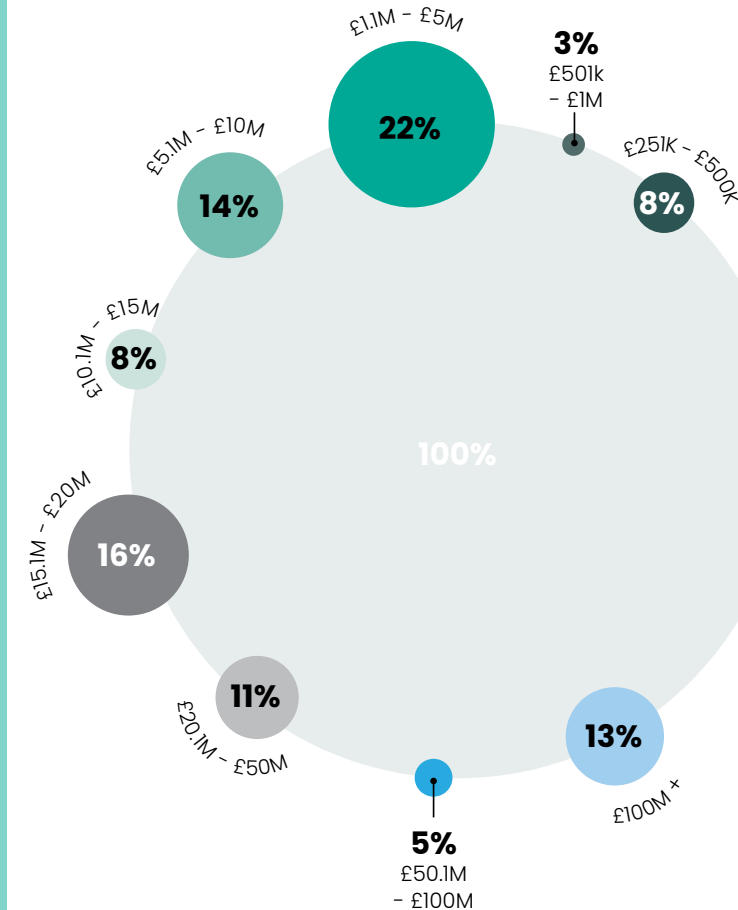
Sales outlook for 2022

68% of medium-sized businesses expect their sales to increase over the next 12 months which is down from 83% last year, whilst 18% of the medium-sized respondents forecast a fall in sales (11% last year).



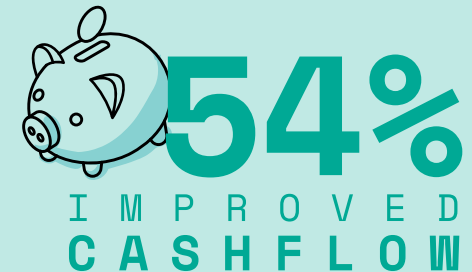
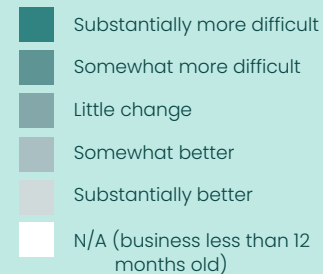
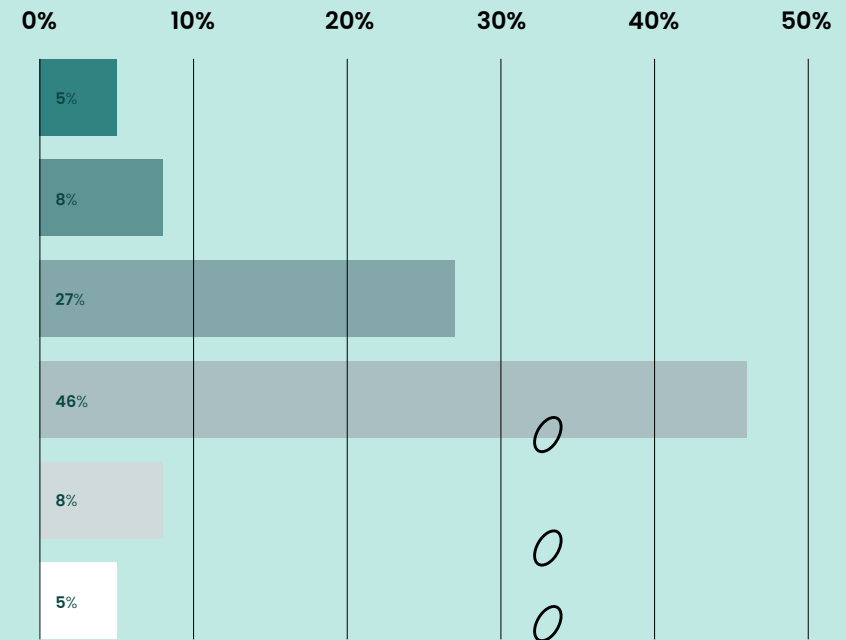
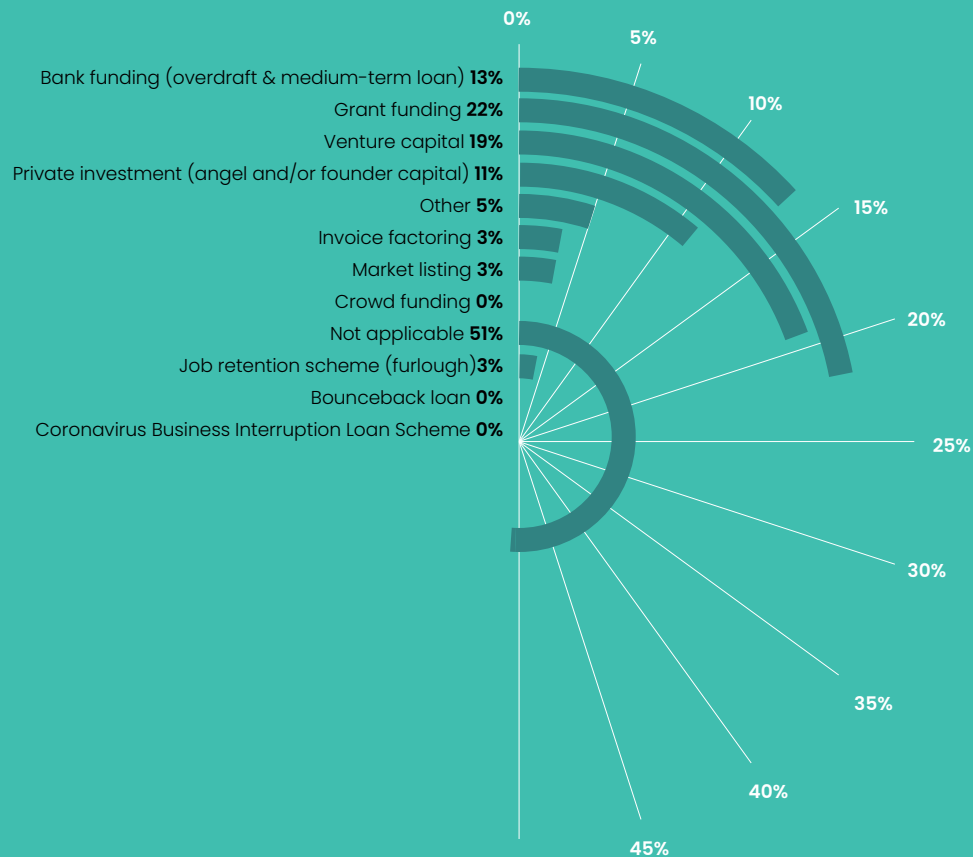
Financial environment

The majority of medium-sized businesses (53%) report turnover between £10.1M-100M+ which is a notable difference from last year's figure of 33%. 47% of respondents report turnover between 251k-10M, which is also an improvement on last year's 33%.



Funding needs

Medium-sized companies needing additional finance in 2022 identified bank funding, grant funding and venture capital as their top three options. The demand for venture capital increased steadily from 10% to 19%.

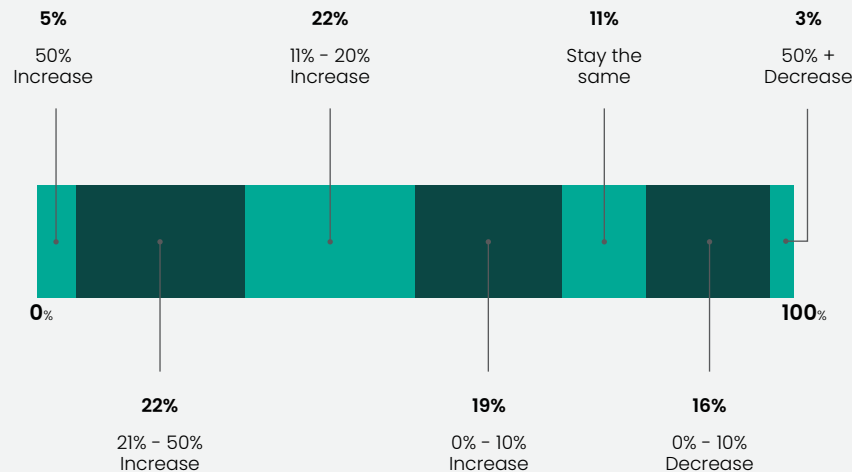


Cashflow compared to last year

The cashflow situation of medium-sized businesses has grown significantly compared to last year. 54% reported improvements in cashflow, up from 41%, and only 13% experienced difficulties, down from a high of 29% last year.

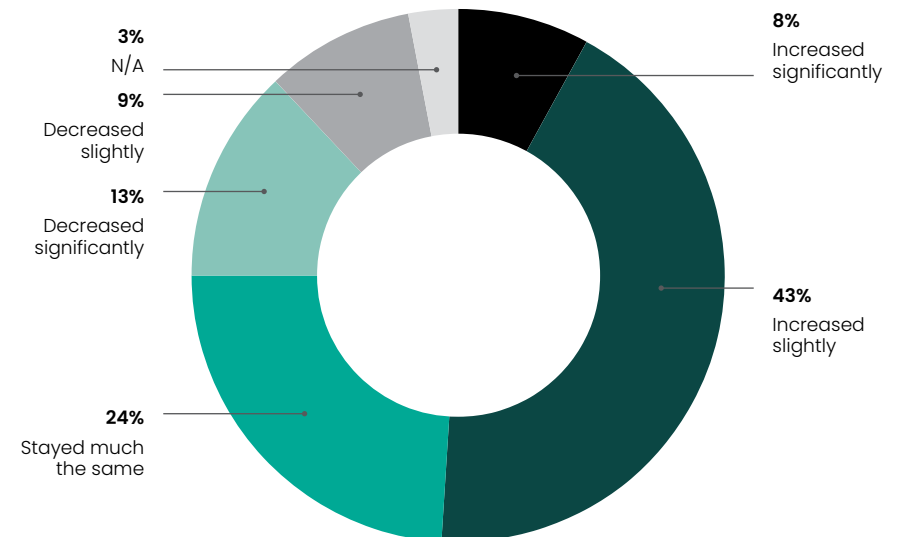
2021 sales levels compared with 2020

In 2021, the sales performance of medium-sized businesses grew compared to last year. 68% reported an increase in sales (54% last year) and 19% saw a decrease in sales levels (down from 36% last year).



Profit margins

In 2021, 51% of medium-sized businesses increased their profit margins which is a slight improvement compared to 2020 (46%). Fewer medium companies (22%) experienced decreases in profit margins (down from 36%).



Benchmark 3:

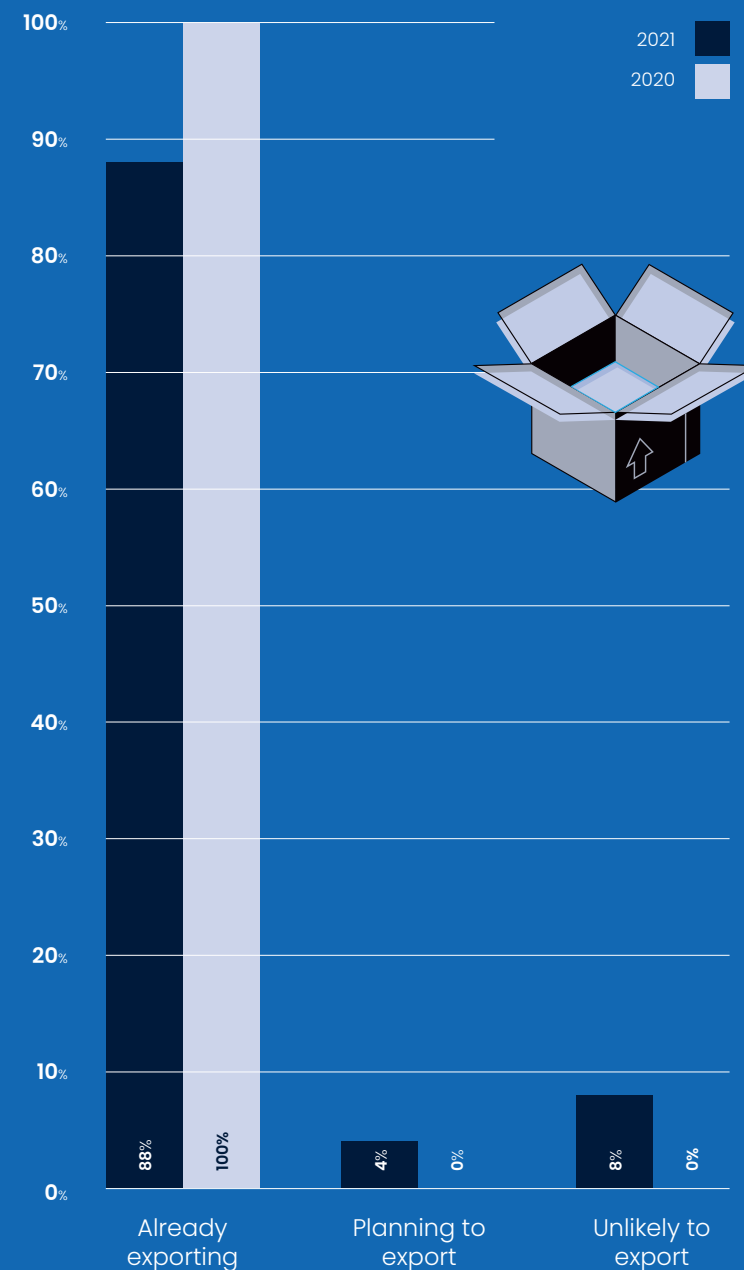
Larger Companies (500+ employees)

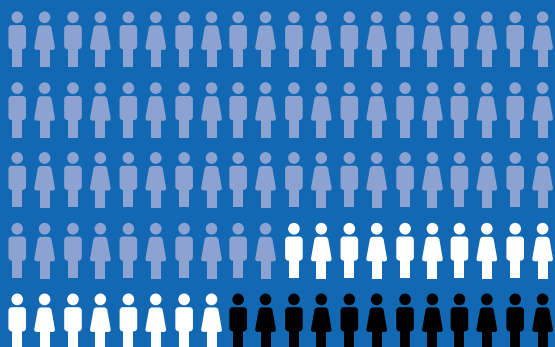
Reflections on 2021

The performance of larger companies in 2021 was generally more positive than 2020, albeit with some exceptions. Sales levels grew, to 61% this year compared to 50% last year. There was also an increase in profit margins from 39% last year to 46% this year.

International sales

The share of larger businesses that are already exporting has decreased from 100% last year to 88%. However, 4% of companies in 2022 are planning to export compared to 0% last year.





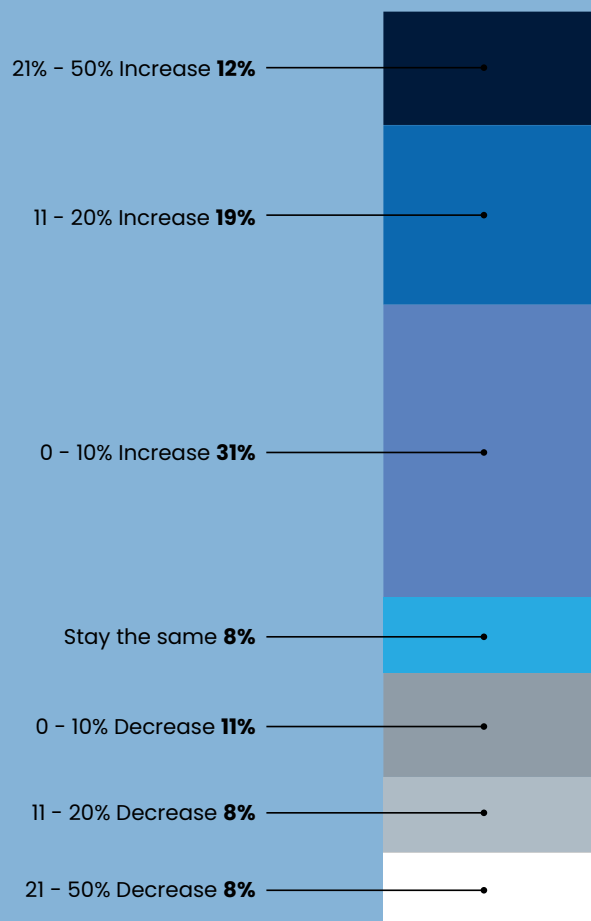
- Recruit more staff **70%**
- Stay the same **18%**
- Decrease in staff **12%**

People and skills

With 70% of respondents expecting to increase their employee numbers this year, the recruitment outlook for larger businesses is slightly less positive than the previous year (down from 71% in 2021). 86% of respondents are likely to recruit university graduates (up from 82% last year) and 65% are likely to hire college graduates (up from 56%). Graduate Apprentices bounced back as the most popular type of apprentice (72%). 42% of large businesses are likely to hire a person that underwent retraining.

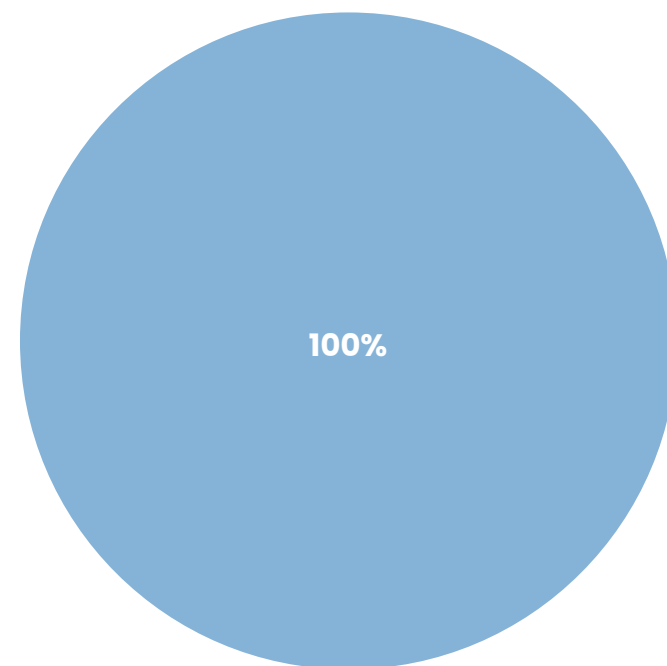
Sales outlook for 2022

62% of larger businesses expect their sales to increase over the next 12 months. This is down from last year's figure (78%), whilst the share of businesses expecting dropping sales levels increased from 22% to 27%.



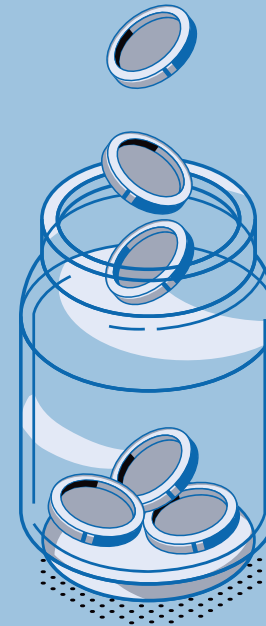
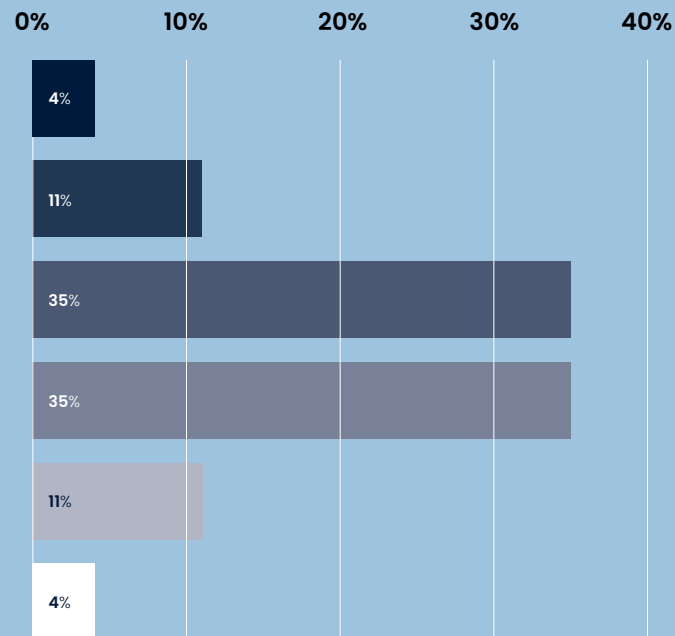
Financial environment

2022: 100% of larger businesses have a turnover of more than £100M, the same figure as 2021.

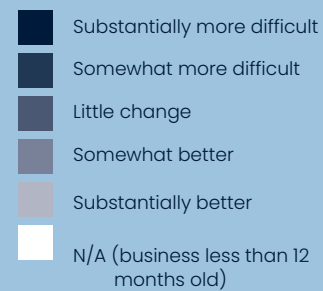


Cashflow compared to last year

There were fewer larger businesses reporting difficulties with cashflow in 2021 than 2020 (15%, down from 29% in 2020). The cashflow situation has remained relatively positive with only a slight dip from last year (46% down from 48% last year).

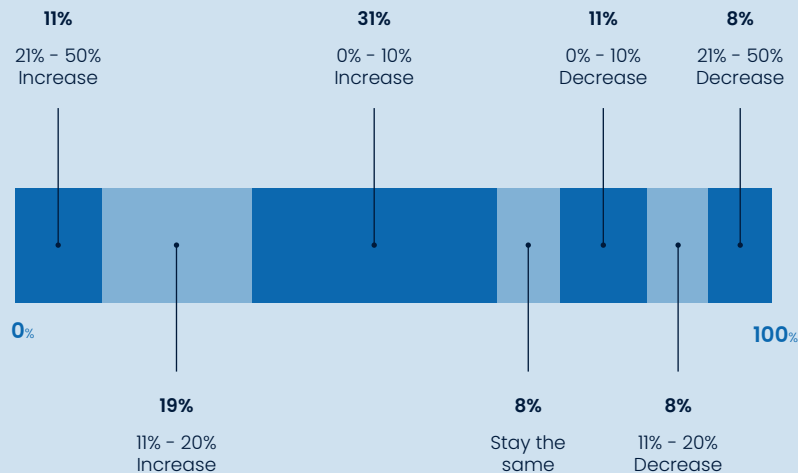


46%
IMPROVED
CASHFLOW



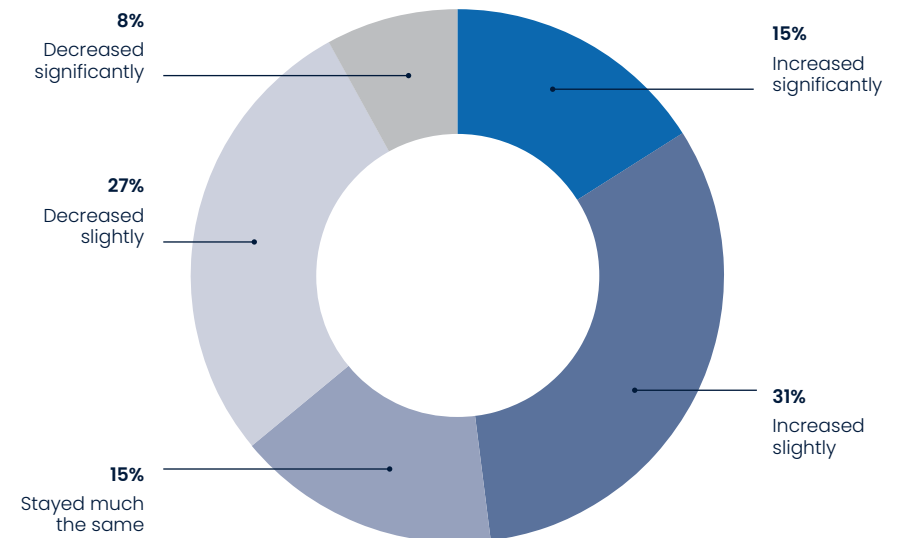
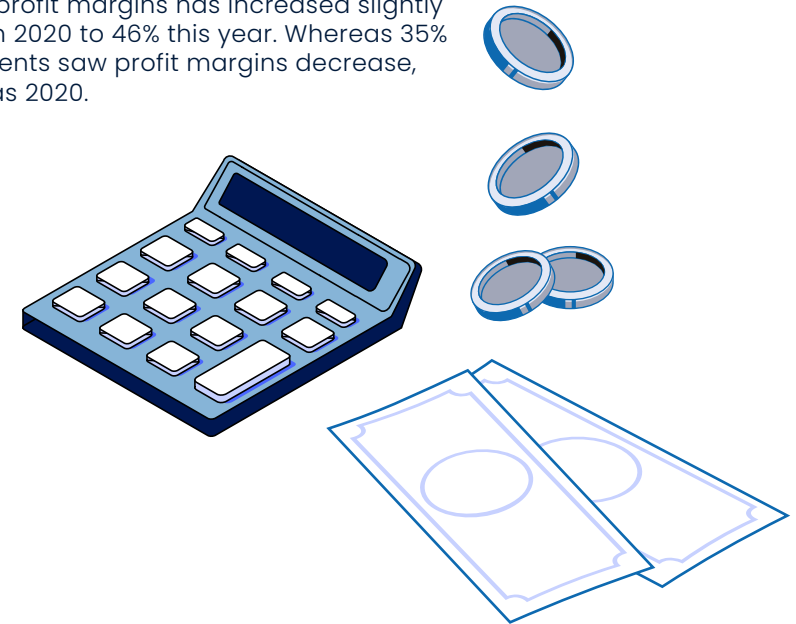
2021 sales levels compared with 2020

The sales situation in larger businesses remains positive with 61% reporting an increase in the last 12 months, compared to 50% in the previous year. The percentage of larger businesses reporting lower sales decreased from 35% to 27%.



Profit margins

The share of larger businesses reporting increased profit margins has increased slightly from 39% in 2020 to 46% this year. Whereas 35% of respondents saw profit margins decrease, the same as 2020.



ScotlandIS commentary

ScotlandIS has evolved and adapted over the past twelve months to continue to provide the services to the sector that you expect from your trade body.



We're building a thriving digital technology ecosystem in Scotland and supporting our members to grow nationally and internationally. Members join us because of our track record, our connections and authority within the industry. They join us because they know we can help them build their business and drive the industry forward.

We have influence and connections within industry, with Scottish and UK Governments and the public sector. The implications for business of our political lobbying and policy-making are far reaching, ranging from procurement to skills. The positive work we do benefits every business in the sector.

We assess emerging trends and bring together knowledge, events and insights from leading experts to enable all businesses to understand and make informed decisions to drive growth.

ScotlandIS brings intelligent influence to national strategic debates. We speak with authority across the spectrum of issues that surround the information revolution.

We are members of the Home Office Migration Advisory Group, working with and advising on challenges faced by our members on talent attraction and retention.

Supported by Scottish Government, ScotlandIS distributed a £255,000 Cyber Upskilling Fund across industry and over £180,000 to Scottish IT Managed Service companies to aid them in securing Cyber Essentials and Cyber Essentials Plus certification.

In partnership with DYW Glasgow and SDS (Skills Development Scotland) and supported by industry we launched the Digital Critical Friends programme across Glasgow, The West and South of Scotland. Securing technical practitioners in all high schools in the area to bring industry best practice to the classroom and expose the next generation of talent to the opportunities within the Scottish digital/technology sector.

Collaboration and innovation to tackle the skills gap

We know there is a critical shortage of skilled software and IT people in Scotland. Securing the talent of the future is high on our agenda. We are focused on connecting skilled people with business to realise potential.

Seen as forward-thinking and enabling, ScotlandIS advocates and encourages grass roots interest in computer science, increasing diversity and higher participation throughout the education system.

In partnership with DYW Glasgow, Skills Development Scotland and with the support of industry we launched our Digital Critical Friend pilot programme in Glasgow, the West and South of Scotland.. This is part of a new initiative to meet the rapidly growing and changing skills requirements of the digital industry. With the aim to help provide industry mentors for computer science teachers, this pilot will allow us to let teachers know where the new technologies are, encourage young people into computing and tech subjects and expose the next generation of talent to the opportunities within the Scottish digital/technology sector.

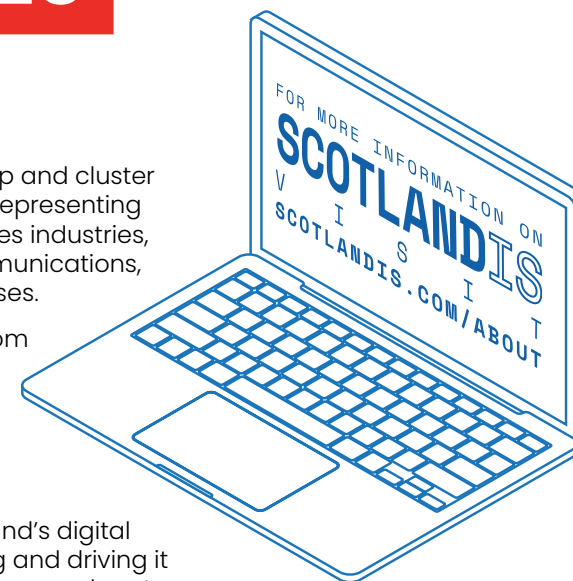
The Scottish Cluster Ecosystem Alliance (SCEA) was created by ScotlandIS to ensure collaboration across the cluster ecosystem in Scotland. As the only Silver Accredited Cluster Management Organisation in the UK, We aim to bring together cluster managers and sector coordinators from across Scotland to share insights, plans and ambitions in order to explore ways of connecting sectors and communities for collaborating, partnering and building relationships. Our goal is to set best practice through knowledge sharing around creating and managing clusters.



About ScotlandIS



- ScotlandIS is the membership and cluster management organisation representing Scotland's digital technologies industries, including software, telecommunications, IT and digital media businesses.
- ScotlandIS members vary from very small start-ups to global companies and internationally-recognised exporters, and cover a wide range of skills and markets.
- We are at the heart of Scotland's digital economy, shaping, changing and driving it forward. We work with members and partners to support the wider digital transformation of business and society. ScotlandIS provides members with connections up, down and across the industry, as well as relevant market intelligence, and we act as a single voice to policy makers.
- Ensuring a continuing supply of current and future skills is a major area of focus, and we facilitate a range of special interest groups and clusters including cyber, infrastructure, software engineering and Mobility as a Service.
- ScotlandIS works closely with Scottish Government, Highlands and Islands Enterprise, Scottish Enterprise and Skills Development Scotland to underline the importance of our industry to the Scottish economy.



Methodology

The Scottish Technology Industry Survey 2022 was conducted between 21 December 2021 and 7 March 2022 through an online survey platform. The survey received 267 responses in total, of which 178 have been selected for analysis after discounting duplicates and unusable responses. The respondents include both ScotlandIS members and non-members.

For the overviews on Scotland's digital technologies sector and on digital technologies employment the following standard industrial classification (SIC) and standard occupational classification (SOC) codes have been used to define digital technologies businesses and jobs:

→ Number and size of digital technologies businesses

UK Business counts, compiled from the Inter Departmental Business Register (IDBR), available through the Nomis service provided by the Office for National Statistics.

→ GVA

Regional gross value added (balanced) information, provided by the Office for National Statistics, December 2018. Available at: <https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry>. Based on SIC 2007 divisions 26 and 58-63 as more detailed figures not available. For more information about the change in methodology for calculating GVA, please see "Information" tab of the data spreadsheet. Information on the forecast GVA growth is available in: Digital Scotland, Scotland's Digital Technologies: Summary Report 2019, September 2019, <https://www.skillsdevelopmentscotland.co.uk/media/43306/scotlands-digital-technologies-summary-report.pdf>

→ Exports

Scottish Government: Export Statistics Scotland, January 2019, available at <http://www.gov.scot/Topics/Statistics/Browse/Economy/Exports/ESSPublication/ESSPDF>. Based on SIC 2007 divisions 26 and 58-63 as more detailed figures not available.

→ Employment in digital technologies companies

Business Register and Employment Survey, available through the Nomis service provided by the Office for National Statistics.

→ Employment in digital technologies roles, salary information, future skills demand and skills pipeline information

Digital Scotland, Scotland's Digital Technologies: Summary Report 2019, September 2019, available at: <https://www.skillsdevelopmentscotland.co.uk/media/43306/scotlands-digital-technologies-summary-report.pdf>
<https://www.gov.uk/government/news/uk-tech-sector-achieves-best-year-ever-as-success-feeds-cities-outside-london>

Digital technologies sector definition by main area of business

SIC Code	Description
18203	Reproduction of computer media
2611	Manufacture of electronic components
2612	Manufacture of loaded electronic boards
262	Manufacture of computers and peripheral equipment
263	Manufacture of communication equipment
264	Manufacture of consumer electronics
268	Manufacture of magnetic and optical media
2731	Manufacture of fibre optic cables
5821	Publishing of computer games
5829	Other software publishing
611	Wired telecommunications activities
612	Wireless telecommunications activities
613	Satellite telecommunications activities
619	Other telecommunications activities
6201	Computer programming activities
6202	Computer consultancy activities
6203	Computer facilities management activities
6209	Other information technology and computer service activities
6311	Data processing, hosting and related activities
6312	Web portals
6399	Other information service activities not elsewhere classified
9511	Repair of computers and peripheral equipment
9512	Repair of communication equipment

Digital technologies sector definition by occupation

SOC Code	Description
1136	Information Technology and Telecommunications Directors
2133	IT Specialist Managers
2134	IT Project and Programme Managers
2135	IT Business Analysts, Architects and Systems Designers
2136	Programmers and Software Development Professionals
2137	Web Design and Development Professionals
2139	Information Technology and Telecommunications Professionals not elsewhere classified
3131	IT Operations Technicians
3132	IT User Support Technicians
5242	Telecommunications Engineers
5245	IT Engineers



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