The Jobs Frontier 2023

Catalysing the Future of Workforce Development

A Tyton Partners report commissioned by Ufi Ventures

Ufi Ventures and Tyton Partners are collaborating on an ongoing exploration of the opportunities for investors in the Future of Workforce Development. We are working together both to refine Ufi Ventures' focus over time and to catalyse the broader field of VocTech investing across the UK, drawing lessons and insights from continental Europe and North America.

In this report, Ufi Ventures and Tyton Partners offer their annual review of the frameworks, trends and analyses they work with for investing in the Future of Workforce Development, including an overview of the current market landscape and explanation for how it informs their investment thesis. It is a chance for the team to step back and offer reflections, prompts and questions on looking both backwards and forwards.

Content found in the report is informed from the following sources:

- Expert interviews and analysis.
- Tyton and Ufi's proprietary market intelligence process.
- Key reports from global think tanks, government bodies, and private organisations.
- Conversations with organisations of all types in the course of our work, including investors, foundations, and small and large companies.
- Our own joint programme of face-to-face and online roundtables.

Given that this report draws on our regularly published quarterly reports, we do not provide links to sources, save for our scenarios which are unique and proprietary to this report. For any other references, please do not hesitate to contact us and we will provide them where possible.

Our thanks to Tyton Partners' Somi Ajibola, Belle Ferro and Megan Ganguly; plus, Ufi Ventures' Alex Bishop, who have worked so hard on the extensive research, analysis and production work behind this document. We are also most grateful to all of those who have taken the time to participate in our events and discuss the market and their ideas with us over the last year.

Helen Gironi
Director – Ufi Ventures

Nick Kind
Managing Director – Tyton Partners

Ufi VocTech Trust supports the development of digital technologies that help us all obtain the vocational skills we need to get more out of our working lives. Ufi's vision is a world where vocational skills are celebrated and valued as the engine upon which the UK economy is built. Ufi Ventures is Ufi's activity to invest equity in early-stage companies in pursuit of the same goal.

ufi.co.uk/ventures

Tyton Partners is a dynamic advisory firm focused exclusively on the education and human capital management industry, offering both strategy consulting and investment banking services. Based in the US and Europe, the Tyton Partners team has deep expertise in supporting and creating sustainable financial vehicles for those interested in the Future of Work.

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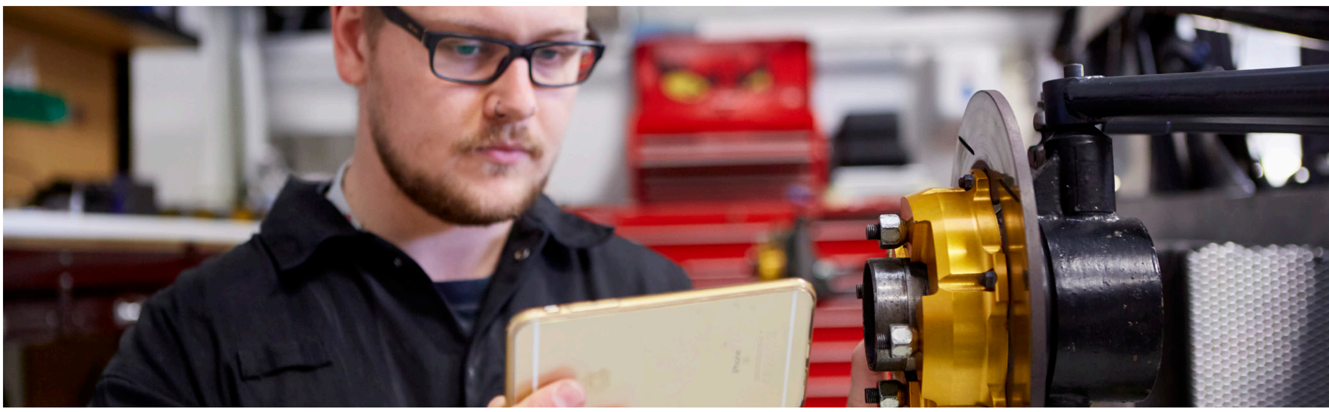
Executive Summary, Key Findings, and Reflections

When we wrote the 2022 version of this report, we were hopeful that we were moving towards a "new normal" – on a path towards reimagining and reassembling the components of successful individual working lives and an improving society after the ravages of the COVID-19 pandemic. Sadly, the year was not what we expected.

The most destructive war on European soil for decades has been unleashed, with profound, immediate effects on many forms of security. Russia was a major source of energy; Ukraine was a major source of food. Whilst those in Ukraine are obviously facing the most extreme type of threat – to their lives and their nation – the rest of Europe is grappling with a major cost of living crisis, and the entire world is contending with aggression, which many thought was confined to history.

Vladmir Putin's Russia is not the only disruptor that has emerged. Xi Jinping's China spent most of the year under a globally exceptional and highly unpredictable "zero-COVID" regime. At the same time, China continues to promote a confrontational industrial policy. Supply chains suffered and demand fell, exacerbating economic slowdown. Amidst its own fractious politics, the US rolled out the Inflation Reduction Act and other similar initiatives. Whilst these have many positive features (including the acceleration of investment in green technologies), their focus on ensuring America's competitive advantage against China constitutes a retreat from globalisation and a drag on innovation in much of the rest of the world.

In the UK, there was political upheaval, deepening the economic challenges faced by the country and impeding progress towards national recovery after the pandemic and Brexit. Industrial unrest broke out on a scale not seen since the 20th century. Basic infrastructure that many had always taken for granted – notably, the National Health Service – started to show major signs of strain. Even the weather was unpredictable and unseasonal, heightening the sense of climate emergency. It often seemed that we had moved from focusing measures around "building back better" to grappling with just getting through.



Furthermore, underlying structural shifts in the world of work continue to play out. The changes driven by the Fourth Industrial Revolution, and accelerated by COVID-19, continue. Most significantly, many economies continue to face a superficially paradoxical situation of job losses and economic slowdown accompanied by labour market shortages. Looking below the surface, this seems to be driven by evermore acute mismatches between the capabilities required by employers and the skills available in the labour force. It has also been exacerbated by the many who have chosen not to continue working, or (worst of all) feel that trying to find a job is simply not worth it.

For "white-collar" workers and employers fortunate enough to be operating successfully, there are still mutual renegotiations of both location and satisfaction around working life that remain to be key points of tension:

- What are the limits of hybrid working?
- When should people be in the office?
- How much can companies support staff in pursuing their desired career paths and work/life balance versus just wanting employees to do the job in front of them?
- How much can employees put up with before quitting ("quietly" or otherwise)?

Many of the themes we highlighted in last year's report remain (see box), but 2023 will likely see a hardening on both sides of the equation as the downturn bites.

2022 Themes in 2023

Underlying trends for 2023 which continue to interest us, and which are documented more fully in the 2022 report, are as follows:

- Employee experience and learning in the flow of work.
- DEI as a solution – not a challenge.
- HR (Big) Tech is telling you how to manage your workforce, like it or not.
- Soft skills to power skills.
- Culture as the differentiator.

Technology continues to drive both solutions and questions that accelerate the arrival of new uncertainties. Additional research is starting to emerge about the effectiveness of virtual/augmented/extended reality in delivering training. Tyton Partners' work on one proposal this year made us excited about the possibilities of building digital hubs, which could securely hold descriptions of jobs and their capabilities, matching qualifications, details of workers' skills, available jobs, and potential learning pathways citizens could follow. All of which would be held in a single, open infrastructure. The arrival of ChatGPT challenges many existing jobs and tasks, from legal opinions to academic writing (and even the work of strategy consultants!).

Yet we believe there is plenty of room for hope. The war in Ukraine has made the transition to green energy a short-term issue of national security as well as a long-term necessity for our home planet, driving substantial funding. Major investments from corporations and governments are supporting reskilling and upskilling. In the US, previously rigid job requirements and fixed credential frameworks are starting to become more flexible and joined-up, in efforts to increase access to diverse pools of talent (one example is UpSkill Together, a partnership between SkillStorm and universities across the US to provide individuals from underrepresented communities with instructor led tech training as well as guide them into tech careers). Unexpected and creative collaborations are emerging between governments, academic institutions, and the private and third sectors. For those with talent and the ability to work remotely, distance is becoming a minor impediment to a living wage. Despite increased caution and lower overall capital deployment, investors and major corporate players continue to see "The Future of Work" as a viable, investable space. The idea of "Hire-Train-Deploy", where companies take raw, potential talent all the way through into a job (and which is only really implemented at-scale in the world of IT) shows early signs of catching on in more industry sectors.

A positive path forward requires some clear choices. As we memorably heard in a GIIN conference panel last year, "there can be no green transition without a just transition". Governments and enterprises need to engage with the necessity of equipping people across society with the skills we all need to build a thriving economy and to nurture fulfilled human beings. Much of the investment that we observe goes into solutions considered relatively "easy"; for example, delivering trainings in cybersecurity or leadership do not have the same capital intensity or time-to-market as providing both digital training and face-to-face locations with physical equipment to learn how to maintain electric cars, install wind turbines, or treat patients. Parts of the UK and even the world are clearly being left behind. Incentives and initiatives are therefore needed to drive focus on the places and industries that deserve more attention. We hope this report provides some inspiration to investors, innovators, and other stakeholders in the UK and beyond.

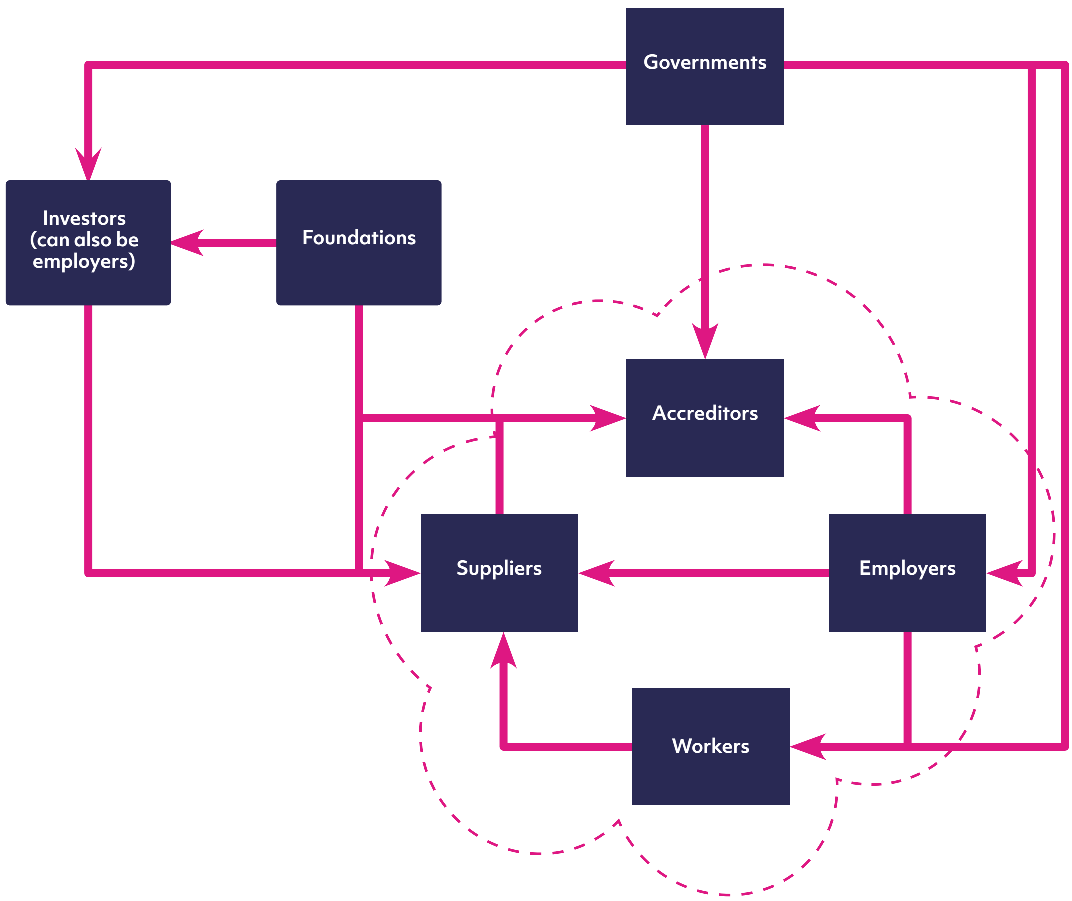
Contents

Part I: Strategic Investment Framework and Priorities

How we think about the VocTech ecosystem: some foundational statistics

We think of the stakeholders involved in vocational technology and the broader "Future of Work" as an ecosystem – multiple types of organisations and individuals, connected in various ways. Flows of money, rules and regulations, and data exchange, are only some examples of these connections. Each connection is generally an assertion of some sort of need or problem that needs to be solved. These problems often represent business opportunities of varying attractiveness that can inform the Ufi Ventures investment thesis.

Various stakeholders within our society catalyse the flow of resources and thus have the ability to help individuals get jobs, secure better jobs, and ensure organisations have the right pools of talent and skills. This diagram represents the relationship of those stakeholders within the employment technology ecosystem around the flow of money, and establishes the foundation for understanding Ufi's target segments for investment:



By the numbers:

$5 trillion

TAM for HR VocTech [payroll, benefits, and employee programs] [2021]

$250 billion

TAM for recruitment, advertising, interviewing, and assessment [2021]

$240 billion

TAM for employee learning and development [2021]

$51 billion

TAM for corporate wellbeing, growing at 4.8% annually

13.7%

CAGR for HR VocTech [2021]

$7.7 billion

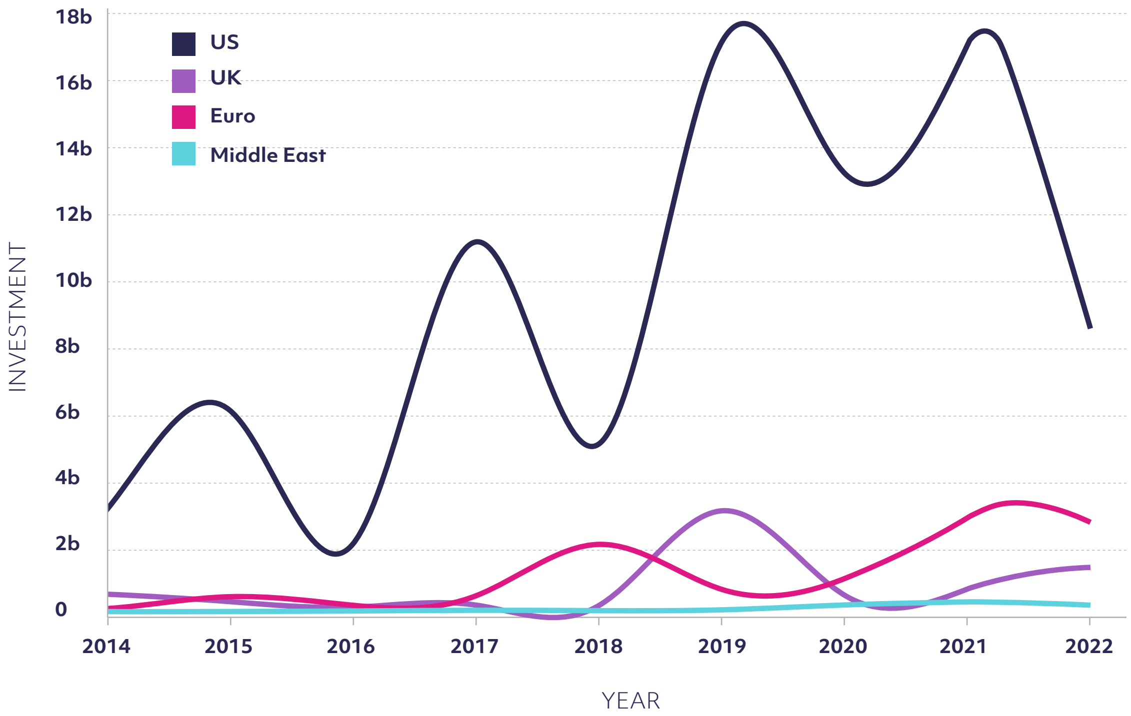
USA capital invested in HR tech in 2022, according to Pitchbook; 631 transactions made

The amount of private investment – as well as the unrelenting pace of innovation – implies there is an increasing level of interest in the VocTech market. While considerably less money has gone into Europe and the Middle East than in the US, the combined GDP of the European Union and MENA regions is larger than the US. There are many factors which could explain the gap between US and non-US funding, including the reach of US companies in the VocTech space beyond the borders of America; but it seems fair to conclude there will be latent demand in Europe and the Middle East.

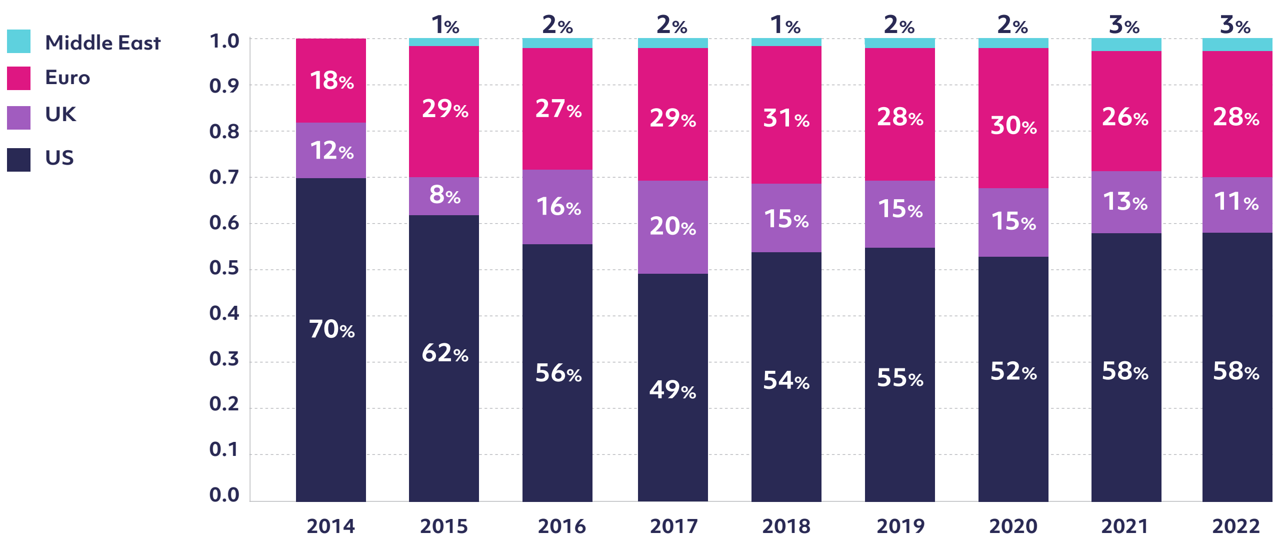
$991 million

UK capital invested in HR tech in 2022, according to Pitchbook; 125 transactions made

Capital Invested into HR Tech by Region 2014-2022 ($)



Number of HR Tech Deals by Region 2014-2022



Source: Pitchbook, retrieved February 2022

VocTech market segmentation

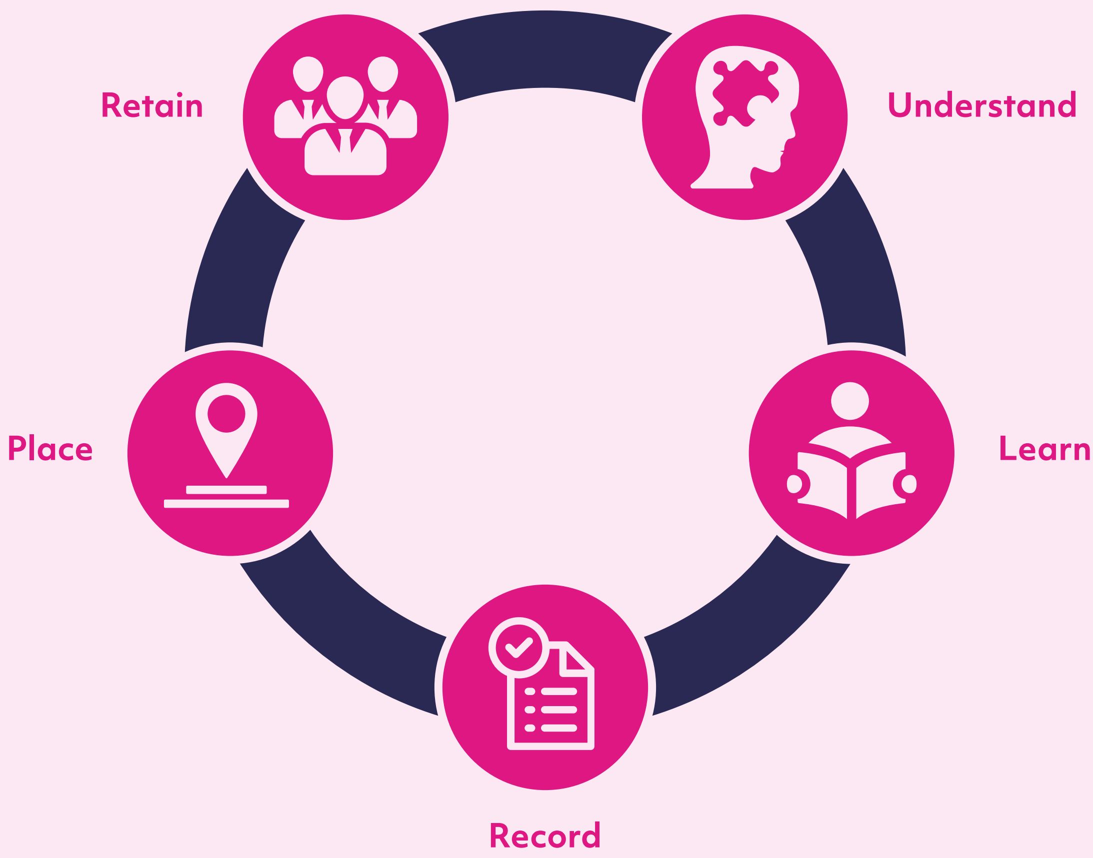
Each stakeholder group across the ecosystem includes various types of "customers" – each with different needs, and therefore different solutions across the VocTech cycle of employment. As such, we have segmented the market in two ways: (1) customer and (2) cycle of employment. When combined, the result is a framework through which we can identify priority areas of investment and interpret and evaluate individual candidates.

Customer segments

The following table outlines the most high-stakes priorities for various VocTech customers:

Stakeholder role	Areas of high-stake needs related to the future of workforce development
Corporate C-Suite (Employer)	• Hire, train, and retain diverse people with competencies that fit in an increasingly tight market.
Worker ("white-collar")	• Verifiable evidence of skills, attitudes, and experience to differentiate job applications. • Navigating the new world of work.
Worker ("blue-collar")	• "21st century" skills as automation spreads (e.g. communication skills in English, teamworking). • Core numeracy, literacy and finance skills.
Government minister	• Get people into good and better jobs fast to increase productivity, maintain competitiveness, and ensure stability of society. • Focus on bringing industry to under-served regions to support equity.
Education and training provider (including universities, colleges and commercial companies)	• Demonstrate value of experiences to aspiring learners and employees who are increasingly requiring proof of employability and return on investment.

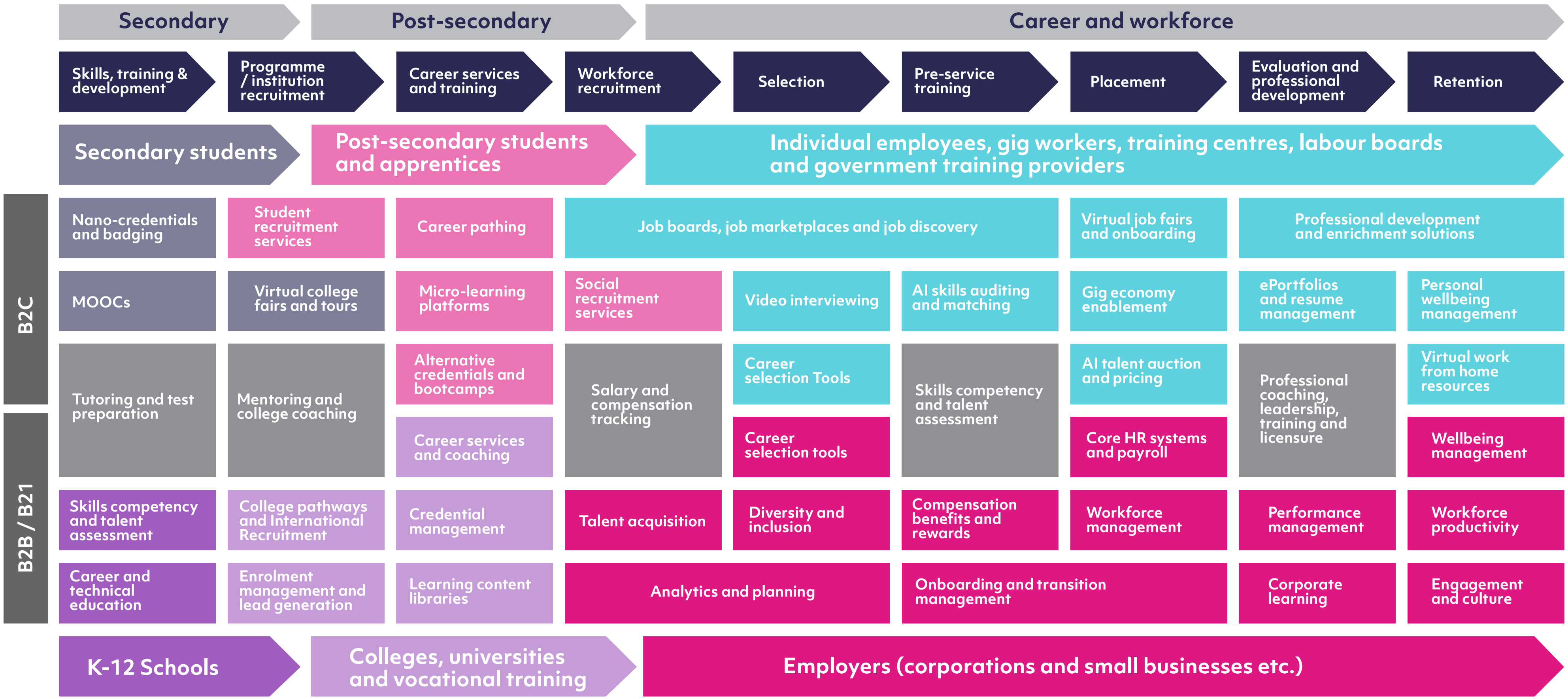
"Cycle of employment" segments



- **Understand** // Workers and employers understand how to identify and bridge gaps between aspirations and capabilities.
- **Learn** // Workers and employers bridge the gaps by gaining new capabilities geared towards an innovative 21st century workplace.
- **Record** // Workers can signal suitability for certain roles, with increasing demand for micro-credentialing as technology allows for more granular validation and discovery of skills.
- **Place** // People find work, and companies find workers or employees.
- **Retain** // Organisations keep their workers, raising productivity and reducing cost, while workers see their potential rise with continuous learning and progression.

A further, more detailed model of all the types of businesses that can be found in this ecosystem is described by the framework below, which we introduced into our market modelling in 2021:

Future of Work career development life-cycle



Sources: Josh Bersin/ Tyton Partners analysis

Part II: Ongoing Market Intelligence

Approach

In the winter of 2019-2020, Tyton Partners and Ufi commenced on what has been an ongoing effort to monitor the VocTech market and continuously advance our point of view on the Future of Workforce Development. The concept of market intelligence is not new, but the unique process through which we have set out to gather and make use of it is. Below is a summary of a discrete set of activities performed by Tyton Partners, in concert with Ufi, that represent the full arc of our ongoing intelligence efforts.

As well as monitoring key data sources, news outlets and commentary, Ufi and Tyton Partners has mapped the universe of organisations across the ecosystem, from companies and investors to NGOs, think tanks, and thought leaders. By tagging each with location and alignment to mission and market segments using our frameworks detailed in Part I, this database is a way to quickly draw connections across the universe. There are currently >500 organisations in the database, each mapped to the career development lifecycle above. We have reviewed these organisations and people and curated an ever-growing list of entities we watch more closely than others – it's known as the "watchlist". Entities are placed on the watchlist if they are (1) emerging companies with high-level of alignment to our thesis; (2) established companies with great levels of influence over the market; and/or (3) organisations, individuals, or government bodies whose activity indicate where the future is headed. By setting up alerts, we are able to monitor significant market activity that will further inform strategy.

Key learnings from quarterly analyses

Trigged by our watchlist alerts and wider market reports, Tyton Partners was able to identify key ecosystem activity and analyse implications, noting standout examples. Below, we offer the selected highlights and key trends from 2023.

The broad context

Political and economic

- **Inflation slows economic and wage growth, causing unrest:** Economic growth has continued in the UK, Europe, and US; albeit, at a slower pace. The UK experienced the slowest economic growth in the G8, growing by 5.5% in 2022 – a drop from 7.6% in 2021, due to pressures of high inflation, reduced consumer demand and labour shortages. Primarily driven by the war in Ukraine's effect on energy and food prices, inflation rose to its highest level in 14 years. Individuals have consequently seen their real wages fall, even though the median monthly pay increased by 7.7% compared with December 2021. Workers were unsurprisingly unhappy. The ONS reports that 417,000 working days were lost in the UK from June to October due to strikes over better pay and improved benefits. Many UK businesses were affected – bars, pubs, hotels, and restaurants reported to have lost £1.5bn in revenue according to trade bodies. Similar strikes occurred across Europe and continue into 2023.

- **Labour and skill shortages continue:** The number of vacancies in the UK remained above one million, though it reduced marginally compared to 2021. This has impacted the health, social work, hospitality, and wholesale and retail sectors in particular, who now have the largest vacancy rates in the UK. Research from City and Guilds indicated that only 25% of workers are attracted to jobs in the food production, logistics, health, and social care sectors. Despite waves of layoffs at big tech companies such as Google and Microsoft, research from the International Information System Security Certification Consortium found that there are still 2.7 million unfilled information security jobs in the world, a sign that there is still huge demand for workers with tech skills – and this will continue into 2023. However, the UK unemployment rate eased from 4.1% in 2021 to 3.7% in 2022 (although, some of the reduction is due to an increased number of inactive workers who have left the labour force entirely). UK employment remained nearly flat, increasing by 0.1% to 75.6% in 2022. Shortages also persisted in the US, where total vacancies reached 11 million. Similarly, in Europe, there were more than 4 million vacancies across 31 countries comprising 27 EU member states as well as Iceland, Liechtenstein, Norway and Switzerland.

- **A skills mismatch:** Organisations have continued to report a labour market with too few individuals with the required skills to be effective at work, which is ultimately impacting business performance and output. A quarterly survey conducted by the European Commission found about 25% of manufacturing and services businesses reported a lack of skilled workers as a major factor limiting production. In the UK public sector, 75% of civil servants say their departments lack the necessary technology skills to digitally transform public services. More than half of companies in Germany also report skilled labour shortages according to the German Chambers of Commerce and Industry.

- **Impact investors in Europe unaware of education and Future of Work opportunities:** At the Global Impact Investing Network Summit in The Hague (a major conference for the industry), there was little coverage of how and where to invest in education, reskilling, and upskilling. Anecdotally, and in sharp contrast to the US ecosystem, it seemed that investors were unaware of activities, companies, and instruments that could be deployed.

Social

- **A re-evaluation of work/life balance:** It appears that those who have the choice of leaving work are often doing so. A report from McKinsey analysing workers from six different countries found that two out of five employees in their sample were looking to leave their jobs in three to six months. Some of these "quitters" are leaving the workforce entirely to care for children or elders, or simply to focus on themselves. The main driver of resignations or early retirements in the UK from workers aged 50-64 has been for personal reasons other than health, according to a House of Lords report on the Great Resignation. These early retirees usually do not return to the labour market. When older workers return to the workforce after a period of unemployment, they take the biggest hit in salary of all age groups, according to research by the Resolution Foundation. A more worrying report from Personio (a provider of HR software, so potentially with a vested interest) found that 49% of UK workers aged 18-34 plan to quit their jobs in 2023.

- **Shortages contributing to burnout and dissatisfaction:** Shortages of skilled labour have put pressure on current staff to take on more work, often leading to burnout. A study by the Society for Human Resource Management found that 43% of 200 executives said burnout from work prompted their job search. In the health sector, labour shortages often lead to inadequate healthcare service to patients: 83% of nurses and midwives said that there were not enough staff to meet all patients' needs safely and effectively, according to a report from the Royal College of Nursing. The education sector also suffered, notably in the US. Schools reported shortages as thousands of teachers left their roles, with some pivoting to jobs ranging from healthcare to IT, according to an analysis of teacher profiles from LinkedIn.

Technological

- Whilst many of the major software companies see HR Tech as a focus, Microsoft was particularly active in this effort. It continued to introduce functionality in Office 365 to understand employees' behaviour, enhance hybrid working, and improve remote workers' experiences.
- Another major move by Microsoft was taking a further stake in OpenAI, developer of ChatGPT, through a **$10bn** investment and a multiyear partnership that will see Microsoft deploy OpenAI models in its consumer and enterprise products such as Azure.
- Educators and commentators have been worried about the potential use of ChatGPT by students to answer exam questions and help write essays. Indeed, the AI has managed to pass multiple high-stakes tests. However, it has also been advertised as a tool which could improve teachers' productivity by assisting them with marking and providing students with instant feedback.
- ChatGPT also theoretically threatens jobs in journalism, research, and other occupations where analytical writing is a key skill; although, commentators have been quick to point out the technology's ability to combine a very confident style of writing with major inaccuracies.
- The use of virtual and augmented reality (VR/AR) in teaching technical and "hands-on" skills has continued to gain traction. Research to demonstrate the effects of VR training on skills in a surgical operating environment published in the National Library of Medicine found that the use of AR/VR reduced the risk of surgeons making errors in the operating theatre.

Environmental

- **Green transition bottlenecks:** The importance of the transition to green sources of energy has been emphasised by the ongoing war in Ukraine. The Biden-Harris administration introduced the Inflation Reduction Act in 2022 to focus on boosting domestic clean energy manufacturing in the US. The legislation uses tax incentives, grants, and loan guarantees for organisations in the sector to direct nearly **$400bn** to clean energy production. However, **shortages of skilled labour, along with** supply chain bottlenecks for raw materials, could negatively impact energy transition plans. The UK will reportedly need to fill 400,000 roles for engineers and specialists to reach net-zero emissions by 2050.
- Filling roles is not the only issue. Analysis from McKinsey predicts that the transition will add **200m** roles – but will also lead to the loss of **185m** jobs. Comments from Ford's CEO back this claim, stating that production of electric vehicles requires 40% less labour than building cars powered by petrol. 2023 job cuts by the auto maker show how they are acting on their analysis.

Getting a job and hiring the right talent

- **A tougher market for many:** The economic climate has had adverse effects on organisations, pushing them to pause hiring, or layoff staff. Layoffs were particularly rampant in the technology sector where more than 42,000 employees lost their jobs in November 2022. Big players (like Meta, Amazon, Cisco, Twitter, and Microsoft) announced layoffs or plans to do so in 2023.
- **Young people do not feel optimistic about the labour market:** The number of people aged 16-24 not in employment or education increased by 724,000 in 2022. A survey conducted by City and Guilds of 5,000 18–24-year-olds in the UK found that 13% were unemployed, while 9% claim they never intend to start working. It seems a significant number do not have an optimistic view of their chances in the labour market, cannot afford education, or do not perceive the benefits of getting more education.
- **Individuals are moving to better options:** The competition for talent has continued as individuals quit their jobs for reasons ranging from early retirement, to starting their own businesses, or moving to jobs offering better pay. According to the U.S. Bureau of Labor Statistics, the quit rate in the US is 25% higher than pre-pandemic levels, and 48% of those quitters switched to different industries. Data from the U.S. Bureau of Labor Statistics also shows that most of the job quitters were job switchers who moved away from retail and hospitality sectors. A survey of 1,000 US retail frontline workers found the main drivers of attrition were flexibility and career development opportunities. Respondents from suburban and rural areas cited demand for flexibility as the third greatest barrier for them in getting jobs.

Retaining employment/employees

- **Keeping good people remains hard:** Employers are adopting new ways of standing out in the labour market by putting in more effort to retain top talent, notably by offering more benefits and flexibility. Hybrid work has been a key component of retaining talent, despite organisations attempting to get their employees back into the office. For example, Google has asked workers to come in at least three times a week after investing $1bn into a new office space in London, but will focus on making its workplace more collaborative and interactive. PwC, on the other hand, has told its 40,000 employees in the US that they can work remotely permanently if they wish. In the UK, the ONS claims a fifth of UK workers were using a hybrid model of working. Workplace trips were down 24%, in October when compared with the same period before the pandemic according to Google phone tracking movements data and Financial Times analysis.

- **Gig workers get some protection:** The gig economy continued to grow in 2022, buoyed by the rise of platforms that have eased access to gig work and the economic downturn that is pushing employers to use gig workers rather than employ full-time staff (likely, to manage costs). The number of workers on zero-hour contracts in the UK rose from 917,000 to 1,049,000 according to the ONS. In Spain, gig workers have seen their labour and social security rights brought in line with other employed workers, meaning gig workers (e.g., domestic staff) have the right to health and safety protections just like any other full-time worker in Spain. The law also abolishes the ability to dismiss gig workers without just cause. The U.S. Department of Labor also released a proposal to have more gig workers classified as employees rather than independent contractors.

- **Upskilling as a benefit:** More employers are investing in offering upskilling and reskilling opportunities as added benefits to retain their workers. American trucking companies introduced employee benefits to attract and retain their truck drivers amid an 80,000-truck driver shortage in the US. Amazon committed **$450m** in investments towards benefits for their drivers and Delivery Service Partners to gain new skills or earn degrees.

Responses to skill shortages and labour shortages

- **Creating non-linear career pathways:** A Josh Bersin report advises HR departments to embrace creating nonlinear career pathways for their employees and recommends doing so through external partnerships with organisations in different industries. The report also claimed non-linear career pathways help to reduce employee dissatisfaction and burnout.

- **Dropping the undergraduate degree requirement:** The US four-year degree requirement has always been a standard proxy for assessing a candidate's skills, but now some organisations such as Opportunity@work are convincing employers to diversify their talent pools by hiring individuals who are "skilled through alternative routes". This means they have received community college graduate training, had some work experience, or completed job training programmes. Organisations and governments have responded: the state of Maryland dropped degree requirements for thousands of jobs. Amazon, Accenture, IBM, and HP also claimed to be easing their job requirements for some tech jobs by favouring IT credentials over the typical US four-year degree. An article from McKinsey on skills-based hiring states that such policies could make employers more resilient in the face of a recession.

- **Rise in apprenticeships, but questions about UK quality:** There was considerable focus on the use of apprenticeships to help upskill and reskill the labour force, as well as open up opportunities to a more diverse pool of talent. In the UK, the number of apprenticeships has increased by 45% since 2020 and the number of organisations providing vocationally-focussed T levels is set to grow significantly over the next few years, according to the Department of Education. However, the CIPD and others have criticised the continuing use of UK apprenticeship funds for training older, more senior staff rather than junior, younger workers. Additionally, OFSTED graded apprenticeship provision as requiring improvement or inadequate in one-third of cases. In the US, there were also some major apprenticeship moves. One is the Biden-Harris Administration's launch of the Apprenticeship Ambassador Initiative, a network of 200+ employer organisations committed to creating pathways to good-paying jobs for diverse pools of talent through apprenticeships. Second, IBM announced a $250m commitment to build out apprenticeships and other training programs. Third, the U.S. Department of Labor formed a partnership with the state of Tennessee to establish free teacher apprenticeship programs.

- **Apprenticeships + degrees = a new model?:** Innovation continues around bringing both of these qualifications together into an attractive proposition for learners, parents, and organisations. Multiverse, the tech-focussed apprenticeship provider, was granted degree-awarding powers by the Office for Students in the UK. This was alongside their very well-funded expansion into the US market (see below for funding details). It will be interesting to see if and how these two strands are brought together. FDM Group is a UK-based IT staffing provider that has pioneered the increasingly discussed and implemented the "Hire-Train-Deploy" model as a response to skills shortages – it announced a partnership with Sheffield Hallam University to create an "Earn While You Learn" apprenticeship focused on giving individuals from under-served backgrounds training to get placed into IT positions, while also paying them during the period of training. FDM plans to create similar partnerships with other universities. French provider of online degrees, Open Classrooms, announced a partnership with Year Up Professional Resources, a talent placement firm, to create an apprenticeship program registered with the U.S. Department of Labor to create pathways and recruit entry-level and middle-skill talent from untapped pools through tech apprenticeships.

- **Partnerships and initiatives for upskilling and reskilling:** Partnerships geared towards upskilling, reskilling, and creating pathways for under-served populations have been numerous during the year. OneTen partnered with The National Student Clearinghouse to open employment opportunities for Black workers without college degrees into family-sustaining jobs. Google announced the launch of a $100m fund aimed at getting low-income-earning Americans into good-paying jobs. Skillstorm announced an initiative aimed at improving access to high-demand credentials for people from under-served communities. The year also saw collaboration between educators and private organisations to create job training initiatives; for example, The University of Arizona Global Campus and Revature formed a partnership to provide job training to college graduates.

- **Offshore hiring:** The rise in hybrid working provides an avenue for organisations to diversify their talent pools and recruit talent from different regions of the world. This has been particularly prevalent in the technology industry. Microsoft and Amazon have increased recruitment efforts in Africa, and in some cases, offered relocation to their hubs in Europe and the US. A report from technology service company, Commit, predicts that offshore hiring of software developers could increase by 70% in 2023. The UK government also seems to be looking to international students to fill shortages with its recently updated visa schemes that allow international students to work in the UK for two years after graduation.

Broader context questions we are asking in 2023:

- What can we learn in Europe from the pace and nature of US innovation? Whilst clearly, there are structural and cultural differences, how can we build collaboration in the same way?
- Why do young people feel discouraged about their employment chances? Do they have visibility on the full variety of opportunities available?
- Can the skills gap be plugged by making vocational learning as valued as academic higher education, perhaps via degree apprenticeships?
- What efforts can the government and private sector make to increase visibility and access to good-paying jobs to diverse talent in the UK?
- Will the economic climate force those older workers who have quit their jobs for lifestyle reasons back into the labour force?
- How can mainstream and impact investors in Europe be educated about the possibilities of investing in upskilling and reskilling?

The commercial and investment landscape: deals and developments

Investment activity in VocTech started strong in the first half of the year. In Europe, investments into EdTech were 40% higher in the first half of 2022 than the first half of 2021. However, investment activity slowed significantly in the final two quarters of 2022 as high interest rates and an uncertain economic climate dampened investor appetite. EdTech companies who had raised huge rounds saw their valuations fall, leading to widespread layoffs. Anecdotally, we hear of investors encouraging portfolio companies to focus on revenue and conserve cash. The size of funding rounds has also dropped significantly: large seed and Series A rounds were few and far between in the last two quarters of 2022, but big players continued to consolidate. In addition, there were also major deals in AI, talent acquisition, VR/AR training, corporate and technical training, and others.

Major players in EdTech and VocTech looked to solidify their strategic positions in the market by adding more features or services through acquisitions. Some of the major deals during the year were:

- Pearson continues to build on its lifelong learning strategy. The education group's biggest acquisition of the year was that of Credly, a digital credential provider that helps organisations certify the knowledge and skills of workers, for **$200m**. The company also acquired Mondly (an English language learning platform), Clutch Prep (a video tutorial platform), and Personnel Decisions Research Institute (a provider of workforce assessment services to the US federal government). The education group also announced plans to sell 75% of its courseware publishing business based in South Africa for $64m – a further indication of the strategic focus on lifelong learning solutions.
- ELB Learning (formerly known as eLearning Brothers), an online learning platform and provider of templates to create online courses, announced several acquisitions during the year to improve and diversify its product offerings. The online learning platform also raised $54m from RLG Capital and Trinity Investors to fuel its acquisitive ambitions. The acquisitions were Rehearsal (a video coaching platform), Origin Learning (an India-based provider of learning solutions), and CoreAxis (a creative design training platform).
- House of HR, a Belgium-based recruitment agency, announced the acquisition of four staffing firms across Europe; StaffMe (a France-based digital staffing platform), LD Personalvermittlung (a healthcare staffing firm based in Germany), BIS people, and FID. The latter are both temporary staffing platforms in Netherlands, acquired through its subsidiary, House of Covebo.
- Cengage Group, a global education technology company, acquired cybersecurity training platform Infosec for **$190m**.
- Degreed, a lifelong learning company with a strong presence in corporate learning through its Learning Experience Platform (LXP), announced the acquisition of LearnIn for an undisclosed sum to add talent academy services to its platform.

- BARBRI, an online learning platform that offers legal exam preparation services, training, and certification for legal professionals, acquired Strafford, a provider of online courses and test preparation courses for attorneys, accountants, and other professions. Financial details of the transaction were not disclosed. Investors continue to view compliance and mandatory training as an attractive defensive bet.
- A UK IT recruitment group, Focus Cloud, announced the acquisition of specialist Microsoft recruitment firm, Cognitive Group. The merged company will be named Focus Cloud Group.

Corporate learning was the only EdTech vertical to grow total investment in Europe in 2022, according to Brighteye Ventures. Major deals included:

- Domestika, a Berkeley, California-based online learning provider and community for creatives, offering courses ranging from fashion design to photography and video, raised **$110m** in a Series D round led by Zee Ventures and GSV Ventures at a valuation of **$1.3bn**.
- ThriveDx, a cybersecurity and digital skills workforce training provider that forms partnerships with academic institutions and corporations worldwide to develop and licence cybersecurity training programs, raised **$75m** in a round led by Nightdragon.
- Go1, a corporate education content hub, announced the acquisition of Coorpacademy, an e-learning platform and content library to support their geographical expansion plans.
- Rise Up, a provider of employee learning software solutions, announced a **$30m** Series B round led by Connected Capital. The company plans to use funds for international expansion.

- Masterschool, a network of coding training schools that allows its students choose a program from its network of online coding schools, raised **$100m** in a seed round led by Group 11 with participation from Target Global, Pitango Ventures, Dynamic Loop Capital and Sir Ronald Cohen.
- Finnish cybersecurity training platform Hoxhunt, raised a **$40m** Series B round led by Level Equity Management.
- Multiverse, a start-up founded by Euan Blair focused on connecting individuals with apprenticeships, announced a Series D round of **$220m**, bringing the company's valuation to **$1.7bn**.
- Guild Education, a corporate upskilling platform that pairs employees with learning opportunities, announced a **$175m** Series F round led by Wellington Management with participation from Oprah Winfrey, Citi Impact Fund and others; bringing the company's valuation to **$4.4bn**.
- Simplilearn, provider of online training and professional certification courses, raised **$45m** of development capital, from DisruptAD, GSV Ventures and others. The company also acquired Fullstack Academy, an engineering coding bootcamp. (Note: Tyton Partners advised Fullstack on this transaction.)
- Hone, a workplace training platform that provides instructor led courses on "leadership & development, DEI, wellbeing, and more" closed a Series B round of **$30m** to improve their platform's learning experience. The round was led by 3L Capital and followed by F-Prime Capital, Cowboy Ventures, and Slack Fund.
- Cybrary, an online cybersecurity training platform announced a **$25m** Series C round led by Build Group and Gula Tech Adventure.

Virtual Reality and Augmented Reality technology to upskill and reskill remained attractive to investors. Examples include:

- Oxford Medical Simulation, a healthcare training platform that uses VR to train doctors and nurses, raised **$2.4m** in a round led by ACF investors and Dr Nicolaus Henke.
- Loft Dynamics, a Switzerland-based virtual reality training platform for helicopter pilots, raised **$20m** in a round led by David Sacks' Craft Ventures, Up Ventures, and Sky Dayton.
- Strivr, a virtual reality training platform used by the likes of Walmart, Verizon, and Bank of America, raised **$35m** in an extension to a previously announced Series B round.
- TransfrVR, a virtual training platform that simulates on-the-job training, announced a **$35m** Series B round led by Lumos Capital Group, which the company plans to use to expand into new regions and industries.
- Labster, a Copenhagen and Boston-based virtual lab that develops training simulations to enhance traditional science training for students, announced a **$47m** round led by Sofina Group and Pirate Impact with participation from Owl Ventures.
- FundamentalVR, an immersive simulation platform for medical and health care professionals, raised **$24.88m** in a Series B round led by EQT Life Sciences.

Talent acquisition and talent management platforms continue to receive funding from investors as skill shortages persist:

- Gale Healthcare, which matches nurses with empty shifts, raised **$60m** in a round led by FTV Capital.
- Also in the travel nurse recruitment sector, Nomad Health, an online platform that connects travel nurses with jobs, announced a **$105m** funding round led by Adams Street Partners and Icon Ventures.
- Incredible Health, a US-based job matching platform for healthcare professionals, raised **$80m** in a Series B round at a 1.65bn valuation.
- Gojob, a recruitment platform based in France that matches temporary workers with jobs, announced a **$23m** funding round led by Amundi, Breega, KOIS, and Alter Equity.
- Grupa Pracuj, the parent company of several European job boards, acquired Softgarden, a German-based e-recruiting platform for **$120m.**
- Jobandtalent, who secured a **$250m** investment from US investment banks Citi and Goldman Sachs to purse its expansion plans into new markets, announced the acquisition of Instaff, a staffing platform for acquiring temporary workers, for an undisclosed sum.

There were significant deals with companies that look to match organisations with global and remote talent:

- Atlas Technology Solutions, provider of human resource services to help organisations onboard and pay international employees, raised **$200m** in a round from Sixth Street Partners and Guidepost Growth.
- Velocity Global, a provider of global talent solutions for organisations looking to expand their teams beyond their geography, raised **$400m** in a Series B round led by Eldridge and Norwest Venture Partners.
- WorkMotion, a Berlin-based company that provides HR solutions to companies with international teams, announced a **$50m** Series B round led by Canaan.
- Remote, a provider of payroll, benefits, taxes, and compliance for companies with hybrid workers across the globe, announced a **$286m** Series C round led by SoftBank Vision Fund 2 at a **$3bn** valuation.
- Deel, an Israeli start-up that offers payroll solutions for companies with international staff, raised **$50m** some months after a **$425m** Series D round bringing its valuation to **$12bn**.

The increase in skills-based hiring policies (which has seen some organisations drop the four-degree requirement for jobs) has increased the need for other proxies to assess an individual's skills. Skills assessment platforms may offer solutions, which could explain the continued funding from investors for platforms that find ways to understand individuals' capabilities. Here are some of the major deals:

- Sova Assessments, a UK-based talent assessment and workforce skills mapping platform, raised **$9m** in funding round led by Octopus Ventures.
- The Sydney-based talent assessment platform, Reejig, raised **$15m**, after it raised $6m in a Series A round six months prior. Both rounds were led by Skip Capital.
- Goshabba, a talent assessment platform that uses gamified assessments to analyse talent capabilities, raised **€3.5m** in a round filled by Orange Venture, Daphni, Inco, Founders Future, and BNP Paribas.
- Stockholm-based Alva Labs, a candidate assessment platform that uses personality and logic assessments to assess talent potential, raised **€11.7m** in a round led by VNV Global.

As mentioned above, some recruitment platforms are adopting a "Hire-Train-Deploy" model where talent is sourced, trained, and then placed at organisations. Adecco, one of the industry giants, now talks extensively about reskilling and upskilling on its website, noting "We upskill and reskill more than half a million people annually, enhancing employability, and accelerating careers. We build and incubate capabilities in areas where persistent skills shortages exist and connect that talent to organisations to power their success". Private Equity is also taking an interest in this model: Back to Work Training, a UK-based recruitment and pre-employment training platform owned by Palatine Private Equity, acquired Just IT, a provider of IT apprenticeships and bootcamps based in London.

Part III: Scenarios and Indicators

From our extensive research in workforce trends in 2019 and 2020, Ufi and Tyton Partners considered and developed four scenarios which painted bold pictures of how the ecosystem may develop.

In 2021, we re-examined these scenarios in the light of the pandemic and the war in Ukraine, establishing three new frames. To date, using scenarios has helped us identify the indicators of change that we will monitor on a quarterly basis to better understand where the market – and society – is trending. These scenarios are not intended to be fully accurate depictions of the future, but thought-provoking narratives which help us know what to look out for.

Scenario 1: bigger, stronger, faster

Technology companies witness unparalleled and unabated growth, generating immense wealth that is increasingly concentrated in large US and Chinese firms.

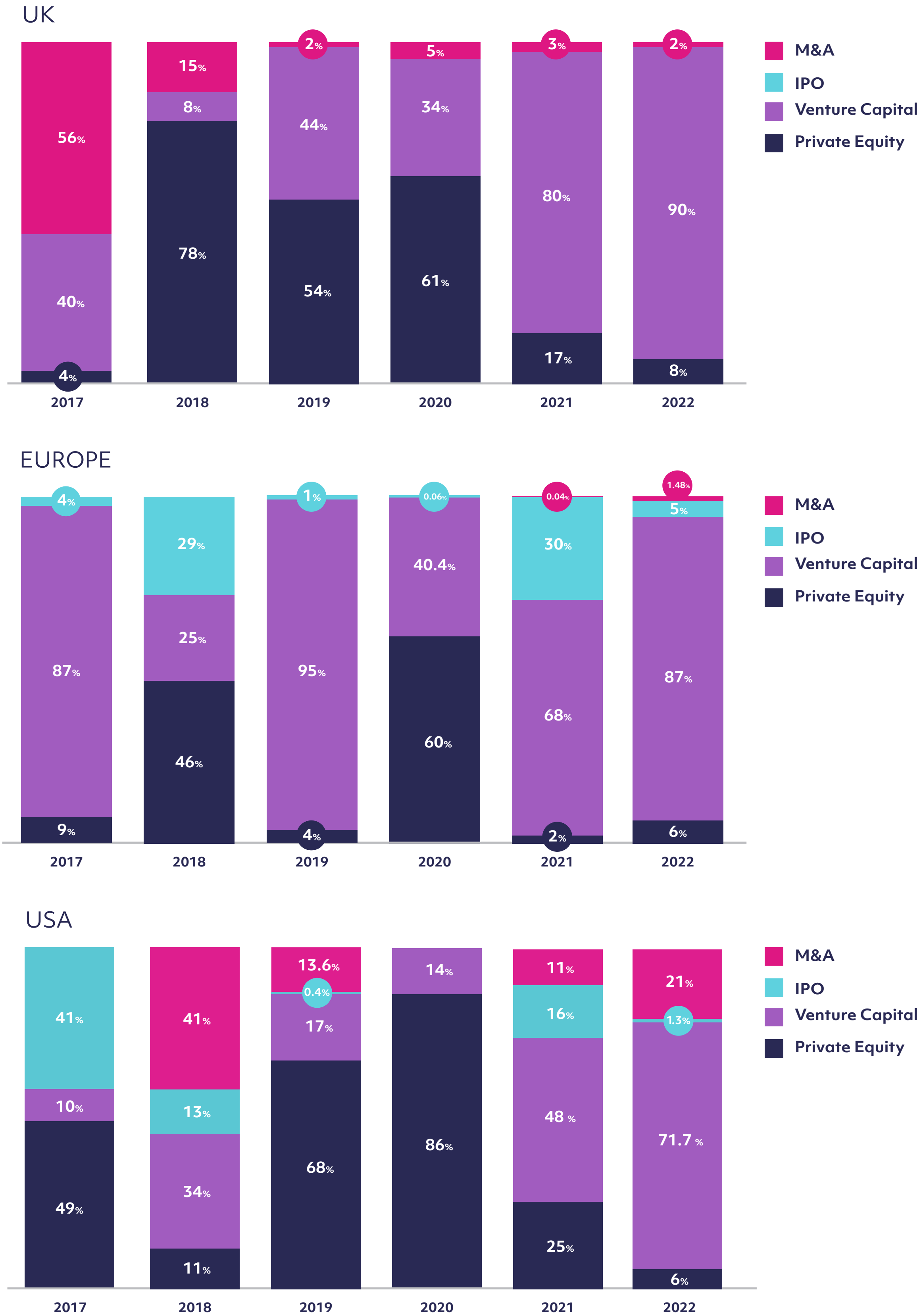
Evidence of this trend accelerating would include rising automation, unions struggling to adapt to a changing labour market dynamic, and a growing number of mega-corporations headquartered in the US and China that all contribute to a tech-oriented, bifocal, global power structure. Such a trend has the potential to alter the Future of Work. As millions of middle and low-skill jobs disappear due to automation, unions in those fields will lose significant bargaining power and be left unable to protect worker rights. This leaves individuals vulnerable and in need of affordable, accessible opportunities to upskill and/or reskill on their own.

Our view

However, this trend seems to be less likely. 2022 has seen setbacks and major scrutiny for Facebook and Twitter, as well as the ongoing progress of the Online Safety Bill in the UK. China is becoming increasingly isolated, due both to its "zero-COVID" policy (only recently relaxed) and its aggressive stance on Taiwan (arguably reversing globalisation). Strikes have broken out across Europe and the US, and at least one Amazon warehouse in the US has become unionised. Additionally, the amount of investment that has gone into the HR Tech ecosystem this year is broadly spread across all stages from seed to M&A, implying that Big Tech is not the only stakeholder investing. The biggest have not become fully dominant yet.

Scenario 1: indicators

Investments in HR Tech by deal type, 2017-2021



Directional Trend	Indicator	Dec 2020	Dec 2021	Dec 2022	Commentary
↓	⇒ UK unemployment rate	4.9%	4.1%	3.7%	Organisations are experiencing labor shortages due to early retirements. The number of vacancies is still over 1m.
↑	⇒ UK Cost/Inflation Index	0.90%	4.8%	10.5%	Inflation rose to 11.1% in October, a 40-year high before dropping slightly in the following months. High inflation is due to rising food prices and energy costs.
↓	⇒ Global investment in AI	$106B	$189B	$143B	Investment into AI slowed this year, possibly due to more cautious investor appetite.
→	⇒ Workers' Rights Index – Percent of EU countries violating collective bargaining	56%	54%	54%	Many countries continue to break collective bargaining rights in the EU.
	⇒ Number of UK Trade union members	6.56m	6.44m	Data not yet available	There has been significant trade union activity during the year as employees protest for better wages and benefits across the UK.
→	⇒% of global GDP resting in US and China	43%	42%	42%	
↑	⇒ UK output per worker productivity index	91.3	99.4	100.9	UK worker output per hour worked increased slightly in 2022. The biggest worker productivity increase was seen in the manufacturing, finance, construction, and IT sectors.
↑	⇒ Job Quality Index	81.09%	81.17%	N/A	
↓	⇒ Range between highest unemployment area to average	2.7%	1.6.%	1.1%	The Northeast had the highest rate of 4.7%, the lowest was the Southwest at 2.1%, while the UK average is 3.6%.
	⇒ UK tuition fees for universities	£9,250 per annum			

Directional Trend	Indicator	Dec 2020	Dec 2021	Dec 2022	Commentary
↑	⇒ Ratio of Further Education to Higher Education institutions	0.92	0.99	1.05	The number of higher education institutions dropped from 162 to 153 ,while the number of further education institutions remained almost unchanged dropping from 163 to 161. An indication that demand for higher education over further education may be falling.
	⇒ Ratio of immigrants entering UK to immigrants leaving	1.8	-	-	Suspended – something which tells its own story about the UK government's challenges with forming a coherent immigration policy.

Scenarios 2 and 3: The Great Upskilling or The Divide Grows?

As mentioned above, **labour shortages and skills mismatches are the key market dynamic.** These are accompanied by some economic growth, but also an emerging cost of living crisis, at least in the UK. A major question is therefore whether shortages will remain or if the market will work quickly to resolve them.

Our two related scenarios assume that shortages are systemic rather than cyclical. We make this judgement on the basis that whilst there may well be wage increases that fill some of the gaps and bring a proportion of workers back into jobs, we feel that the following trends will remain:

- In a tight job market, people will obviously choose better paid positions with prospects and decent conditions; and companies will widen hiring pools. This will mean that the "worst" jobs (whether in terms of pay, status, conditions, or all three) will continue not to be filled. Traditionally, one solution to this problem has been immigration; but, in the post-Brexit UK at least, this is politically challenging.
- Those who can will continue to exercise wider choice (particularly in knowledge work which can be done remotely) across the world. This likely creates even more polarisation between those who are skilled and/or can afford credibly to upskill in certain sectors, and those who are not/cannot. ICT is an obvious sector here. But even in ICT, given the rapidly changing and growing market, pre-existing skills gaps, the current failures in existing education systems, and the unproven nature of postsecondary upskilling solutions, shortages of qualified staff are still very likely to remain.
- Driven by a shortage of reliable and affordable care support (whether for the young, old, infirm, or otherwise needy), care responsibilities will take other workers out of the labour market.
- In some countries (notably, Germany), the ageing population will continue to reduce the available pool of human capital. This has been accelerated by "The Great Resignation", which has been disproportionately taken up by older workers.
- Additionally, automation, digitisation, and the drive towards "green" jobs will continue to play out and change the available vacancies, creating new types of jobs which cannot be filled with unskilled applicants.

We therefore see two scenarios which are driven by the choices that stakeholders make around training up those who do not have in-demand capabilities. They are deliberately extreme to inspire debate.

The Great Upskilling is characterised by commitment. All stakeholders (whether out of public service ethos or self-interest) work to give people the capabilities they need for a world transitioning from pandemic to endemic, from carbon to circular/regenerative, and moving into the later stages of the Fourth Industrial Revolution. Governments spend on long-term, effective programmes to provide the right skills from growing industries in the right places to people who would not otherwise be able to access them. Companies broaden their hiring funnels to capture potential employees from diverse talent, which is often geographically spread, perhaps using new assessment technologies rather than old-fashioned interviewing and CVs.

They train their new people into their jobs and use both technology and human input to offer them pathways towards even more skilled positions. Company culture becomes a differentiator in a highly competitive market for talent. Nevertheless, shortages continue, or even accelerate, in the jobs that people don't want to do – from logistics to night shifts – as workers' options increase. Automation and remote solutions in these areas grow. Some European countries choose to mitigate this by allowing further immigration (perhaps notably by skilled Ukrainians or even Russians), but the UK does not in the aftermath of Brexit.

The Divide Grows is unfortunately, self-explanatory. Since upskilling has been left to the individual, those who can't afford it or don't have the capabilities or support to access training are left behind. Short courses and private options grow for those who can pay. A rift broadens between the "nomadic" knowledge workers and those without skills who are stuck in lower-paid jobs with few prospects. Companies look to automation and other geographies to get many types of jobs done, rather than focussing on spending on their human capital. Employment voids, which are places where people find it very difficult to find work due to the constraints of their local context (from public transport to industrial specialisation), persist. Again, some countries increase immigration to fill some gaps, but not the UK. As the cost-of-living increases, resentment grows amongst those "left behind".

Our view

In the UK, we currently (and unfortunately) favour "The Divide Grows". High inflation and slowed economic growth point towards an economic downturn that will likely make organisations cut costs. The government's skills policy remains patchy and short-term rather than holistic and visionary. This puts upskilling possibilities only into the hands of those who can pay for it. Those who cannot afford to upskill already feel less optimistic about their chances of getting a good job or the value of education. With the cost of living already high, many cannot afford to pay the fees required to earn qualifications and therefore do not get access to quality jobs. Even those in the middle of their careers may find taking adult education or reskilling courses too expensive in 2023: higher education leaders in the UK are warning that enrolment numbers are dwindling. The Open University, which trains about half of the part-time undergraduate students in the UK, reported that its total number of students fell by 14% in 2022. Those without access to resources will continue to see their opportunities in the labour force dwindle as more organisations adopt the use of AI to do simple tasks. In Europe, we also expect the divide to grow in the absence of major governmental upskilling initiatives: using just one indicator, 2.8m people aged 25 and under are unemployed, an increase of 209,000 from the previous year.

The US may be different. We are seeing some evidence of "The Great Upskilling", albeit from a low-base relative to Europe's skills infrastructure. Large organisations and even state governments are easing four-year degree requirements and looking for innovative ways to increase access to good-paying jobs for broader and under-served populations. This may lead to a slight narrowing of the divide as workers from more diverse communities get access to better-paying jobs. However, the ongoing unpredictability of US politics remains a major risk to progress.

Indicators

Directional Trend	Indicator	Dec 2020	Dec 2021	Dec 2022	Commentary
↓	⇒ Ratio of capital raised in HR tech relative to all verticals	0.36%	0.46%	0.24%	The year has seen high value transactions in EdTech reduce significantly.
→	⇒ Major data privacy laws passed	0	0	0	
↓	⇒ Unemployment rate in UK	4.9%	4.1%	3.7%	The unemployment rate is dropping a sign of labour shortages as well as those who are not looking for jobs.
↓	⇒ Annual UK GDP growth index	-9.6%	7.6% yoy	5.5% year on year	GDP growth has slowed due to a rise in cost of goods and services.
↑	⇒ Growth in real gross weekly earnings for professionals relative to all other occupations	-2.5%	2.1%	2.4%	There has been growth in real wage earnings.
↑	⇒ London Stock Exchange value	6873	7384	7451	
↑	⇒ UK employment rate	74.7%	75.5%	75.6%	Employment has risen slightly.
↓	⇒ Investments in ICT market	$400b	$2.2tn	1.7tn	Investment has slowed during the year and that has been reflected across most verticals, including the ICT sector. A reset from the pandemic boom, there is still significant investment in the sector.
↑	⇒ Amount spent on schools funding in the UK	£51bn	£104B	£116B	Increase in public school funding.
↑	⇒ Employees on zero-hour contracts	999,000	917,000	1,049,000	More employers have taken up gig workers due to economic uncertainty, higher costs, and lower profits. Full-time workers are taking up gig work to increase earnings.

Directional Trend	Indicator	Dec 2020	Dec 2021	Dec 2022	Commentary
↑	⇒ Number of young people not in education, employment, or training	798,000	694,000	724,000	More young people are not in education or in employment indicating that more are being left behind.
↑	⇒ Young people not in education, employment, or training	11.8%	10.2%	10.6%	More young people are not in education or in employment indicating that more are being left behind.

Conclusions

Ufi Ventures' investment thesis

Examining the ecosystem, we believe that – despite its challenges and uncertainties – the "Future of Work" carries with it an opportunity for the right VocTech solutions to take root and achieve scale at a remarkable rate. The skills gap is well-evidenced and keenly felt by numerous and well-resourced stakeholders with multiple existing and emerging high-stakes needs that people will pay to get solved, while operating in a fast-changing context.

We know that economic growth comes from a better skilled workforce, and that vocational skills are the engine of the UK economy. We back businesses that primarily meet two needs: 1) help adults in the UK access and progress in work through improved skills; and 2) help employers in the UK to improve their business performance by improving the skills of their workforce. We prioritise areas of the ecosystem where **societal need** and **business benefit** strongly align.

We think carefully about the needs of sectors, locations, skill levels and individuals not currently well served. We believe that technology has a critical role to play in helping areas of the economy with structural challenges, and opening access and opportunity so that no one is left behind.

At a time when the UK labour market is not producing a suitably skilled workforce, the economy is changing, fuelled by digitisation, automation, and decarbonisation across industries. We back VocTech that helps deliver the skills people and employers in the UK need for work now and in the future. We are currently working with Learning and Work Institute on the VocTech Challenge 2023 to accelerate the adoption and deployment of technology which aims to help every adult in the UK get the skills they need to participate and benefit from our transitioning economy. Ufi and Learning and Work Institute have come together at a time of rapid change in the UK economy and labour market, where we see that the UK's needs will not be met unless there is greater and more equitable access to skills.

This thesis is intended to inform the search for investment opportunities, but not govern investment activity. Our ongoing analysis of the Future of Workforce Development and VocTech market data will help to prioritise opportunities that meet the criteria below.

Strategic priorities:

In 2023, our strategic priorities are investing in:

1. VocTech that drives skills development and flow of talent into areas of the economy where there are significant skills shortages. For example:
   a. Supporting accessible training and career pathways in sectors with chronic talent shortages including care, construction, the creative economy, transport, and energy.
   b. Providing workers with the necessary skills to support emerging areas of the economy, including the transition to net-zero.

2. VocTech that enables wider adoption of vocational learning and better vocational skills development. For example:
   a. Increasing youth employability through alternative pathways into work.
   b. Supporting workers where their roles are at risk of automation with reskilling/upskilling.

3. VocTech that reaches under-served or hard-to-engage communities and supports them with better access to training and jobs. For example:
   a. Supporting new, emerging work models for flexible workers.
   b. Supporting workers currently outside the labour market with better access to skills and work.

Ufi Ventures invests approximately £150k at seed stage, and £75k at pre-seed stage, with the ability to provide follow-on investment.

Strategic implications

2022 reveals definite implications for the Ufi Ventures investment thesis. Overall, the headlines validate key areas of the thesis, suggesting even greater emphasis should be placed on select strategic areas. Specifically, there is a high volume of activity that implies the need for **skills for areas of the economy where there are significant skills shortages.**

However, recent activity also presents certain challenges. When it comes to HR infrastructure, the market consolidation of major providers suggests it will be even more difficult for newer and smaller ventures to gain market share. Moreover, the high valuations and huge fundraisings that are becoming common imply the need for discipline and focus. The influx of money also highlights the question of the role of private capital motivated by a desire for social impact, as opposed to “vanilla” investors, or systemic, governmental initiatives, and/or private philanthropy with no expectation of financial return.

Looking ahead

Ufi Ventures actively invests equity in early-stage companies, driving people and companies towards a more productive and equitable future. In addition to nurturing an active deal pipeline, Ufi and Tyton Partners will also disseminate research findings and host events so that leaders across the ecosystem can further their understanding of what the future might hold.

If you would like to learn more about Ufi, Tyton Partners, and the work we are undertaking, please do not hesitate to reach out. Whether you would like to discuss investments, contribute to our insights, or consider other ways to get involved, it would be our pleasure to set up a call.

For more information, please contact us:

Ufi Ventures
Helen Gironi
helen.gironi@ufi.co.uk

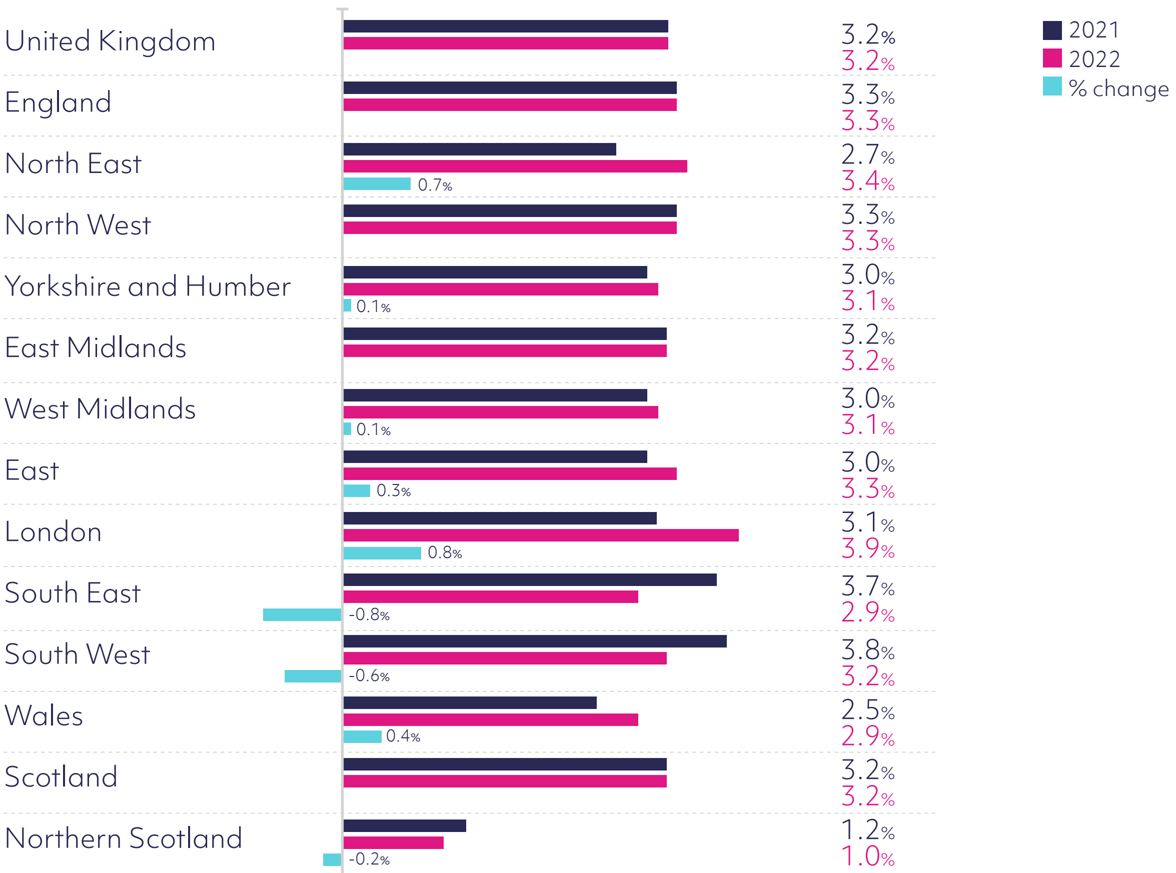
Tyton Partners
In North and South America:
Adam Newman
anewman@tytonpartners.com

In Europe, the Middle East, Asia, and Australasia:
Nick Kind
nkind@tytonpartners.com

Appendix

Unemployment figures as per previous report

% of people employed on zero-hour contracts



Unemployment claims [2022]

Appendix:

Scenario indicator sources

1. **Bigger, stronger, faster //** Technology companies witness unparalleled and unabated growth, generating immense wealth that is increasingly concentrated in large US and Chinese firms.

Characteristic	Indicators	Source(s)
☐ Automation and technological advancement continue, as older workers leaving creates gaps in the workforce, while the cost of goods soar.	☐ UK unemployment claim rate.	https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment
	☐ UK cost/inflation index.	https://www.ons.gov.uk/economy/inflationandpriceindices
	☐ Global investment in AI.	Pitchbook
	☐ Global investment in ICT.	Pitchbook
☐ Unions are unable to adapt as workers face increasing rate of automation.	☐ "Workers' Rights Index" – percent of European countries violating collective bargaining.	https://www.ituc-csi.org/violations-workers-rights-seven-year-high
	☐ Number of UK trade union members.	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/887740/Trade-union-membership-2019-statistical-bulletin.pdf
	☐ Number of working days lost to Strike activity.	https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/bbfw/lms
☐ Rise of mega-corporations in US and China.	☐ Percentage of global GDP resting in US and China.	https://www.imf.org/external/datamapper/NGDPD@WEO/WEOWORLD/CHN/USA
☐ Productivity increases across industry.	☐ UK "output per worker" productivity index.	https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity
☐ Inequality reduced slightly on an individual level and geographical level.	☐ Job Quality Index.	https://www.jobqualityindex.com
	☐ Range between highest unemployment area to average.	https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/regionallabourmarket/december2020
☐ Learning becomes more market-driven, less regulated; adult ed becomes more exclusive, reducing access for people with lower incomes and/or lower skills.	☐ UK tuition rates.	https://www.timeshighereducation.com/student/advice/cost-studying-university-uk
	☐ Ratio of Further Ed (FE) to Higher Ed (HE) institutions.	https://www.aoc.co.uk/about/college-key-facts

Characteristic	Indicators	Source(s)
☐ Discontinued.	☐ Ratio of immigrants entering UK to migrants leaving UK.	https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/bulletins/migrationstatisticsquarterlyreport/august2020/previous/v1#main-points

2. **The great upskilling or the divide grows //** All stakeholders, whether out of public service ethos or self-interest, work to give people the capabilities they need for a world transitioning from pandemic to endemic. Otherwise, upskilling is left to the individual, those who can't afford it or don't have the capabilities to access training are left behind.

Characteristic	Indicators	Source(s)
☐ Reduced interest in HR tech, meaning there is now more patient capital and sector specific investors.	☐ Ratio of capital raised in HR tech relative to all verticals.	Pitchbook
☐ No major privacy data laws.	☐ Major data privacy laws passed.	https://www.gov.uk/data-protection
☐ Rise of more flexible gigs weakens job security, increases competition, and generates fewer sustainable job opportunities for the low-skilled worker.	☐ Unemployment rate in UK.	https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment
☐ Gig economy and contract work displaces traditional modes of employment.	☐ Employees on zero-hour contracts.	https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/
☐ All sectors experience incremental growth and innovation due to falling labor costs.	☐ Annual UK GDP growth index.	https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpmonthlyestimateuk/november2022
☐ Improved demand and working conditions for high skilled workers.	☐ Growth in real gross weekly earnings for professionals relative to all other occupations.	https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/
☐ The London Stock exchange value stayed almost flat due to slowed economic growth.	☐ London Stock Exchange value.	https://www.londonstockexchange.com/indices/ftse-100
☐ Decreasing number of outputs are achieved more efficiently by leveraging advanced ICT, putting more jobs at risk.	☐ UK employment rate.	https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/employmentintheuk/january2023
	☐ Investments in ICT market.	Pitchbook

Characteristic	Indicators	Source(s)
☐ Public funding rising.	☐ Amount spent on schools funding in the UK.	https://ifs.org.uk/publications/annual-report-education-spending-england-2022
☐ More youth cannot afford education and feel discouraged about their chances in the labor market.	☐ Number of young people not in education, employment, or training.	www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/bulletins/

Ufi VocTech Trust, First Floor, 10 Queen Street Place, London EC4R 1BE
info@ufi.co.uk | ufi.co.uk