The Jobs Frontier 2022

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 Vocational Technology (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.

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, which has taken place throughout 2021 and which will continue in 2022

Our thanks to the Tyton Partners team of Emma Faulds and Somi Ajibola who have worked so hard on the extensive research and analysis behind this document, plus those who have taken time to participate in our events and discuss the market and their ideas with us over the last turbulent year.

Helen Gironi
Director – Ufi Ventures

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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 vision.

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 U.S. 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

The Future of Work has arrived for massive swathes of the world's workers. As COVID forced entire industries and populations online, the basic assumptions that have long underpinned how and where we work have been challenged, forcing businesses and governments to adapt and iterate.

The unintended consequences of this rapid and necessary pace of change continue to reverberate throughout the global economic system and the workers that support it. However, this era presents a novel opportunity for governments and corporations to rebuild a more intentional, equitable, and innovative world of work. The three objectives central to the Future of Workforce Development – getting a job, progressing and developing in work, and ensuring organisations have the right and equitable talent pool – have only become more urgent societal needs. The following pages outline at a high-level Ufi and Tyton's joint approach to investing in the VocTech market. Specifically, this paper discusses key findings from (1) current market analysis and (2) ongoing intelligence to better understand where the Future of Workforce Development is trending.

Key findings

- We are moving from pandemic to endemic, which is accelerating the Fourth Industrial Revolution and the green transition even faster.
- One unexpected aspect of the return to a more normal society is labour shortages, which are only accentuating skills gaps.
- We're never going back to the office in the same way. The new social contract between employers and workers is being negotiated, with technology a key ingredient and point of debate: hybrid work, the porous organisation, and the need for a meaningful digital employee experience are all pressing issues for corporate leaders.
- Big Tech, Big Money, and Big Corporate all have ambitions in this space, and they are not all acting in the public interest, particularly as they seek to wall off profitable pools of data.
- For knowledge work at least, opportunities are becoming open to a wider range of people in a wider range of places through DEI (Diversity, Equity & Inclusion) initiatives and the potential for remote employment.
- Decisions about upskilling are key, particularly for those with low skills, and for the industries which are only just starting to invent jobs (notably in areas related to becoming a circular economy). It is too early to tell if governments' rhetoric will become effective reality.
- Investment in the space is rising, likely driven by the need for investment firms to demonstrate their ESG credentials, and the continuing quantity of money that is available for deals. Additionally, the definitions of investment stages are becoming blurred, with some companies claiming Series A rounds of more than €10m. Valuations are also becoming (in our opinion) inflated in certain parts of the sector. This implies a need for discipline around investment decisions.
- Whilst technically out of scope of the coverage of this report, any view of the future sadly cannot ignore the implications of the unexpected and horrific war in Ukraine. Clearly, it will have profound effects on the politics and societies of Europe. Focussing strictly on the scope of this report, the short-term implications are likely that supply chain challenges will become worse, and inflation will rise further. In the medium-to long-term, the effects are highly uncertain at the time of writing given the unknown duration of the conflict; but it is perhaps safe to say that the enormous displacement of people, plus the eventual need to rebuild Ukraine will have significant implications on the European labour market. One near-certainty is an even greater acceleration of the transition to sustainable sources of energy, and an associated growth in the demand for related skills.

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Part I: Strategic investment priorities and framework

Challenges facing workers and businesses of the future

A year of reaction rather than clear change, but systemic changes potentially emerging

2021 was, in our view, a year of oscillation and improvisation as people and organisations continued to grapple with the unpredictability of a coronavirus pandemic. Vaccinations, variants, and regularly changing rules about who you could see, where you could go, and how you could work, made it very difficult to plan for the next few weeks, let alone the long-term future. Yet underlying disruptive trends did not go away: the Fourth Industrial Revolution continued to drive the increased automation and digitisation of many aspects of people's lives, geopolitical tensions increased, the climate crisis became ever more pressing, and the effects of Brexit started to take effect in the UK and Europe.

However, we believe that there are early signs of fundamental structural shifts in how the world goes about its business, and what this means for workers, employers and governments in 2022 and beyond. The move from pandemic to endemic is starting to happen, and there is a clear need to examine what that might mean. We consequently have a number of observations from last year, and a number of questions for the coming one, around the key areas of the Future of Work:

Getting a job

- **No UK furlough fallout – in fact, major labour shortages //**
  Many commentators anticipated a hard landing for those on furlough as it expired in the second half of 2021, and poverty and economic decline as a result. But the unexpected happened: there was a rise in employment rate in the UK, the number of vacancies shot past 1m, and the UK economy grew by 6.8% year on year. The hospitality sector suffered the greatest with shortages 40% below pre pandemic levels, but logistics/supply chain, health and social care, and agriculture were also severely affected. In the UK, labour shortages were very likely exacerbated by Brexit rules becoming real: however, similar effects were felt in the USA and across Europe.

- **Those with choices, made them //** One of the lasting phrases of 2021 may turn out to be "The Great Resignation". Many workers resigned from roles due to early retirement, the need to provide care for family members or children, and/or career transitions. In the US 4.5m quit their roles in November 2021, while in the UK resignation rates were the highest since 2009.
- **Those with choices, are getting more //** There was early, anecdotal evidence of how those who can work remotely have more options than ever. Importantly, this included possibilities growing for those in the Global South – arguably, we are only at the beginning of a widening of opportunity which means that competition for many knowledge jobs is now global not local. Competition for workers across sectors and severe shortages of skills have forced employers across the world to employ remotely. According to Josh Bersin, at least 80% of the workforce is now "deskless". Andela, a global talent network based in Nigeria that helps companies build remote engineering teams with talent from emerging markets, raised $200m in a round led by Softbank at a $1.5bn valuation.
- **But who is left out, and where is their voice? //** Whilst NEET numbers in the UK are running at very low levels, 1.4m people are still unemployed. Skills gaps clearly remain. Little is appearing in news reports about those who are being left behind, and the characteristics of people who cannot make progress in the current context.

Maintaining employment

- **Rise in gig workers, but more protections are perhaps coming //** Temporary employment and digital gig work continue to rise. However, in the UK at least, the number of workers on zero-hours contracts is falling, indicating at least some better working conditions. Additionally, a series of UK court judgements relating to Uber's working practices have challenged its desired role as only a market maker rather than a formal employer.

- **Employee experience and learning in the flow of work: there is substance beyond the buzzwords //** Whilst these phrases are perhaps already clichés and over-used in marketing and pitch decks, the key underlying issues they illustrate are real:

  - particularly given the tight labour market, companies now need to focus on providing employees with tools that help them work and learn better, and which make them feel part of an organisation which values them.

  - many workplaces face such information overload and such a rapidly changing market environment, that "bite-sized" learning at the point of need, often delivered digitally and embedded into other tools and processes, is now necessary.

- **HR (Big) Tech is telling you how to manage your workforce, like it or not //** Working digitally means more data, and allegedly more meaningful insights to improve the employee experience. Microsoft is introducing this technology by default, with recommendations about people's working practices hitting email inboxes every day via Viva; the idea of the virtual/augmented reality "Metaverse" as a new working space is being pushed by Meta; and smaller companies such as Profinda and Temporall are mining companies' "digital exhaust" to recommend and report on how employees feel, and who might work together well in which teams. There is as yet little hard evidence about how much of a difference these tools make (and to whom), but organisations now need to be thoughtful and intentional about how they are and aren't going to use them, including their point of view on privacy.

- **Soft skills to power skills //** Dutch "power skills training provider" Lepaya raised a $40m Series B at the end of December – and made great play of its branding around what used to be called "soft skills". But it is just one of the companies that has raised a great deal of money in this space in 2021, and our soundings in the market indicate that leadership and coaching training revenues are growing very fast. Companies are clearly now taking the need for these skills seriously, and/or wanting to show personal development pathways for staff at "flight risk".

Hiring the right talent

- **The skills gaps remain, and they aren't just about digital** // Whilst knowledge workers are clearly using their laptops to work remotely amidst the pandemic, skills gaps are emerging in "digital manual" jobs – those which used to require just manual aptitude, but which now require old and new manual skills, extra knowledge, and the ability to interact with technology - from digital signallers to electric car mechanics. One training provider asserts "It is predicted that around 75,000 vehicle technicians will be needed to service the electric vehicle parc [sic] within the next few years, however, the IMI has identified that just 5% of technicians currently working in garages and dealerships are EV trained."
- **DEI and upskilling are now solutions not problems** // Diversity, equality and inclusion have rapidly followed a trajectory from ethically worthy, to a clear differentiator when competing for staff, to a solution for a lack of qualified employees. Companies are having to widen their net for good people, and consequently having to make themselves more attractive to the broadest possible range of audiences. They are being forced to abandon prejudice, and consider fitting jobs around individuals rather than vice-versa. In the US, philanthropists are taking this seriously with multiple efforts to create partnerships which broaden opportunity for underserved populations (for example, the SkillUp Coalition).
- **Culture as the differentiator** // Organisations are asserting their individuality as they try to gain the right talent, and stark differences are starting to appear. Workers will make their choices. From the CEO of Goldman Sachs describing remote work as an "aberration", to those who have adopted a "work anywhere" approach (for example, Asda, who has made hybrid working permanent for its staff working at the company's head office), there is a huge spectrum of approaches to compensation, across wages, timings, location and more.
- **Hiring temporary and project-based staff is going to get easier for organisations** // The battle is on in the era of the "porous organisation". Enormously well-funded digital upstarts such as JobandTalent are threatening the established players such as Adecco and Manpower (and these players are responding). As all invest to provide better solutions, those wanting staff will only benefit from the competition. The investment is not just confined to simple, blue-collar "gig work", but covers all types of jobs, from STEM professionals to students in supermarkets.
- **Cyber security becomes essential** // Given the substantially increased opportunity to disrupt remote work through digital attacks, this aspect of companies' capabilities has now become vital – not only for those in IT, but for every employee who needs to watch out for which emails they choose to open. Governments of wealthy nations as well as some big tech companies have launched schemes aimed at increasing the number of professionals with these skills.
- **Green is here** // COP21 highlighted the dramatic shift necessary; the war in Ukraine has placed energy security at the top of many European government's priorities (notably Germany); and investors and governments are starting to respond. Green jobs already exist, and there are already shortages, for example around electric vehicle maintenance as documented above.

The questions we're asking in 2022

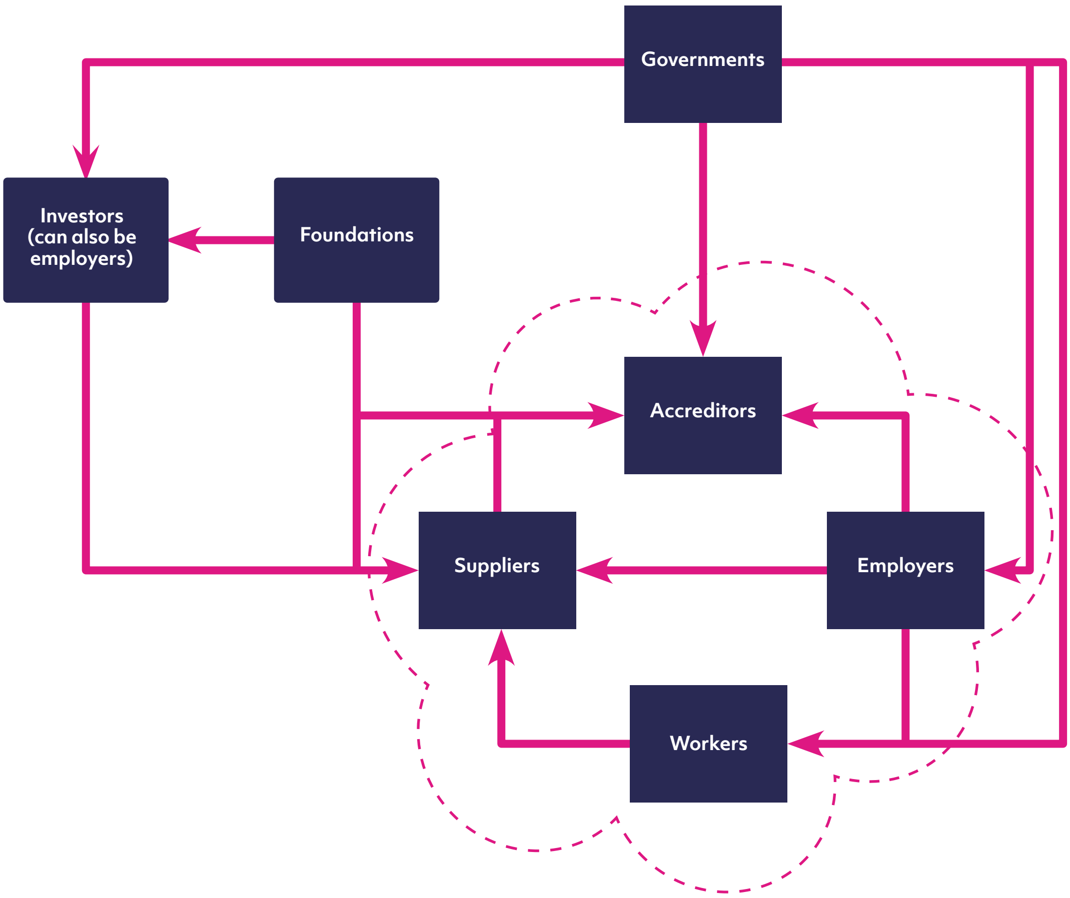
- Will the market eventually respond to labour shortages and Brexit? Will automation replace these jobs? Who does the jobs people don't want to do? What will be the role of immigration?
- What are the boundaries of the new social employment contract between employer and worker – around where, when and how people work? How much will, can, and should these differ between sectors, organisations, and types of job (including temporary and gig work)? How will individuals, organisations, and governments deal with the regulatory aspects of the changes?
- What work requires physical proximity and what doesn't? How will this continue to change given Covid has changed our tolerances?
- For how long will employees have power over their experience, given the impact of the impending "cost of living squeeze"? Will "caring" companies continue to care, or will employers pull back on "human centred" initiatives when they don't have to differentiate themselves anymore? Will the CV and degree matter again when there are more jobs than applicants, rather than the other way around? Will tech solutions as shortcuts create other problems? Or are we moving towards a recognition of the inherent shortfalls of such hiring approaches, and an era characterised by trying clearly to identify and fill skills gaps?
- Will governments intervene effectively to resolve skills gaps?
- When will data use and privacy resurface as an issue, and where?

The market landscape for Vocational Technology (VocTech)

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, and can inform the Ufl Ventures investment thesis.

Mapping the ecosystem

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. This diagram represents the relationship of those stakeholders within the employment tech ecosystem, and establishes the foundation for understanding Ufi's target segments for investment:



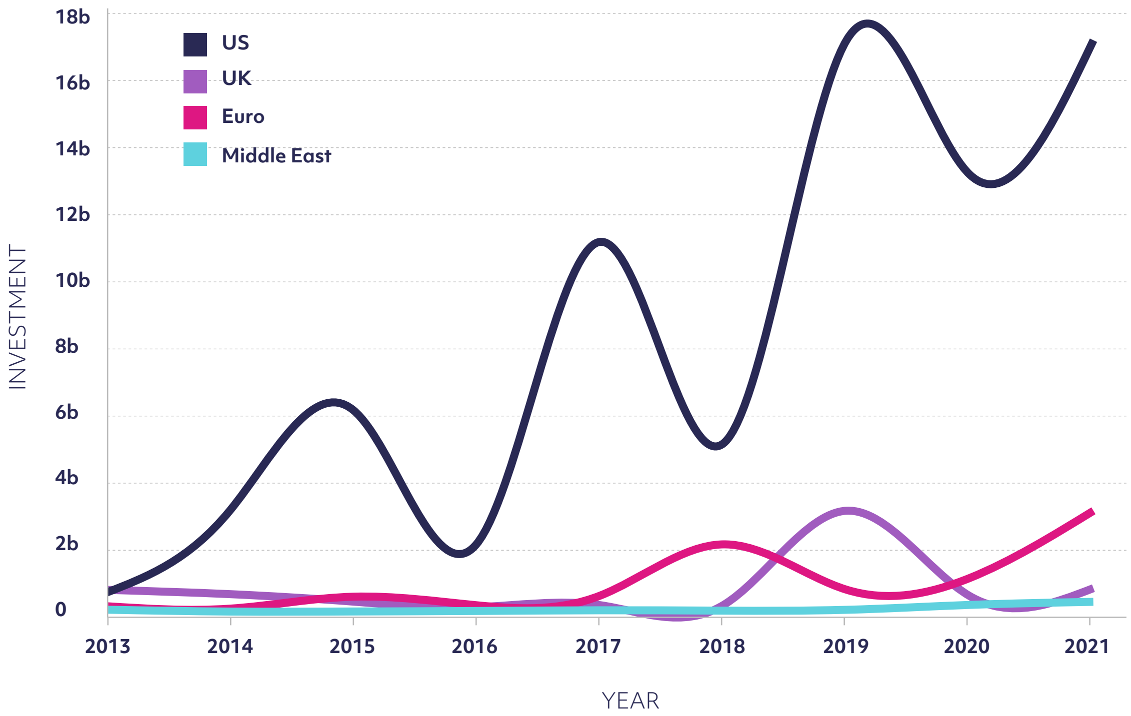
By the numbers:

$250 billion TAM for recruitment, advertising, interviewing, and assessment	$240 billion TAM for employee learning and development	$48 billion TAM for corporate wellbeing, growing at 6% annually
$5 trillion TAM for HR VocTech (payroll, benefits, and employee programs)	$16 billion USA capital invested in HR tech in 2021, according to Pitchbook; 612 transactions made	$695 million UK capital invested in HR tech in 2021, according to Pitchbook; 211 transactions made

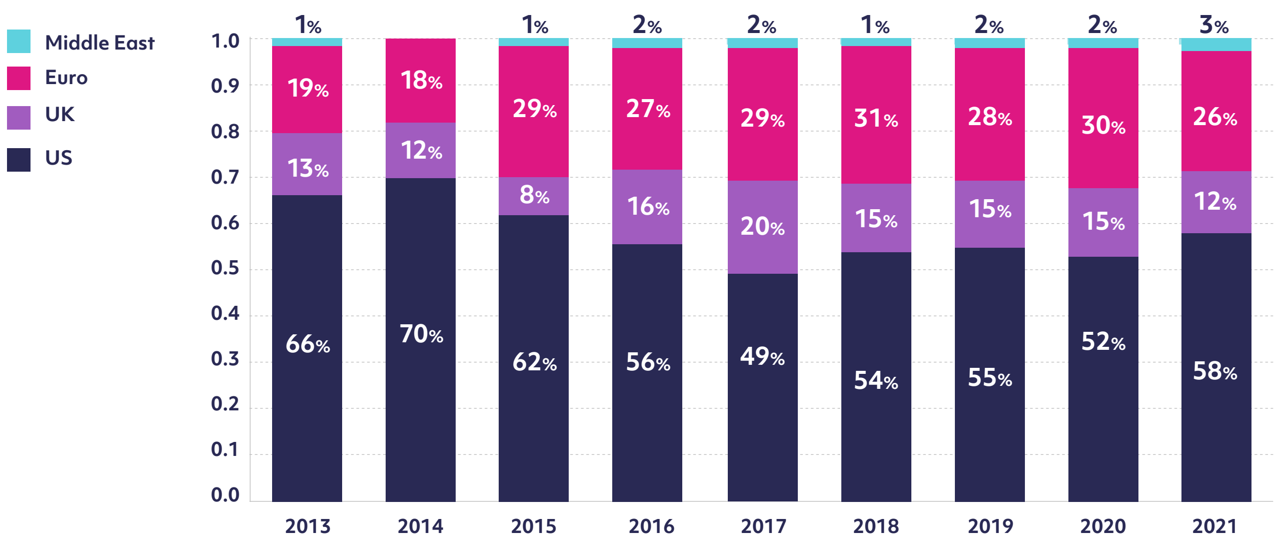
The amount of private investment – as well as the unrelenting pace of innovation – implies there is an increasing level of interest in the VocTech market. While considerably less money has gone into Europe and the Middle East than the US, the combined GDP of the European Union and MENA regions is larger 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.

HR Technology 2021: The Definitive Guide (Josh Bersin)
Pitchbook; retrieved February 2022

Capital Invested into HR Tech by Region 2013-2021



Number of HR Tech Deals by Region 2013-2021



Source: Pitchbook, retrieved February 2022

VocTech market segmentation

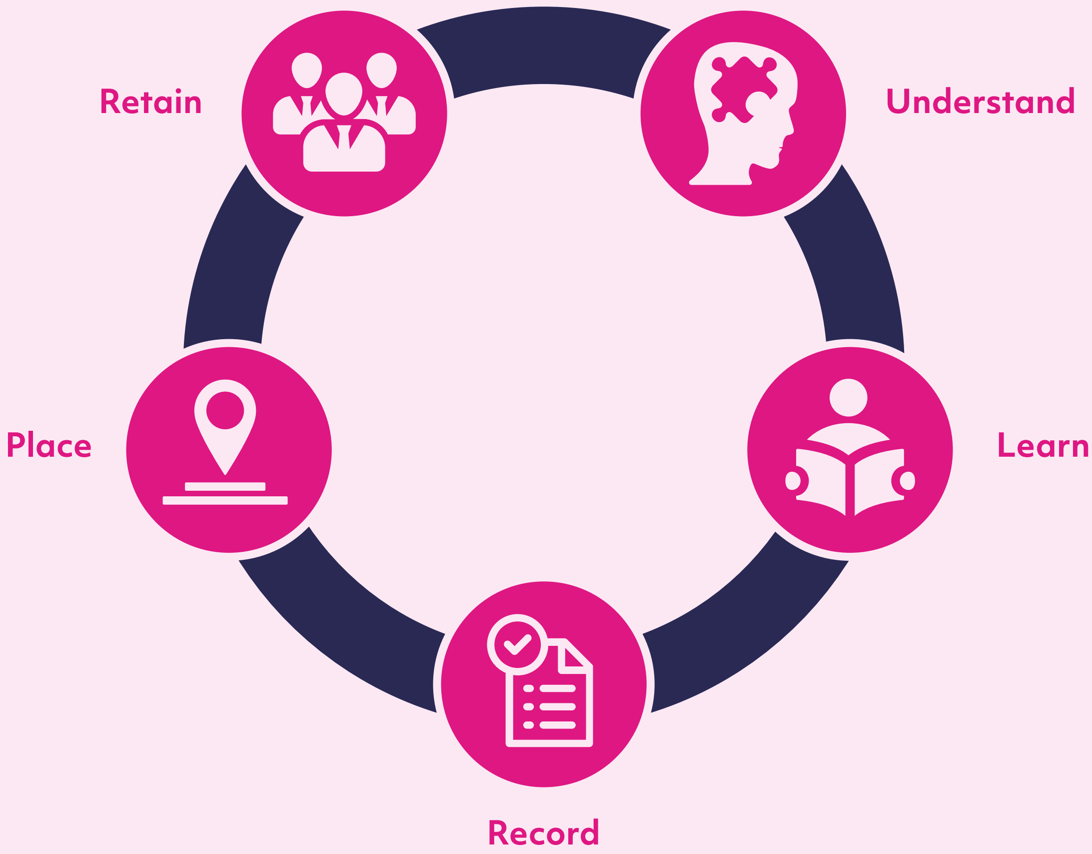
Each stakeholder group across the ecosystem includes various types of "customers" – each with different needs, and thus different solutions across the VocTech cycle of employment. As such, we have segmented the market in two ways: (1) customer and (2) cycle of employment. When combined, the result is 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 underserved regions to support "build back better" mission
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

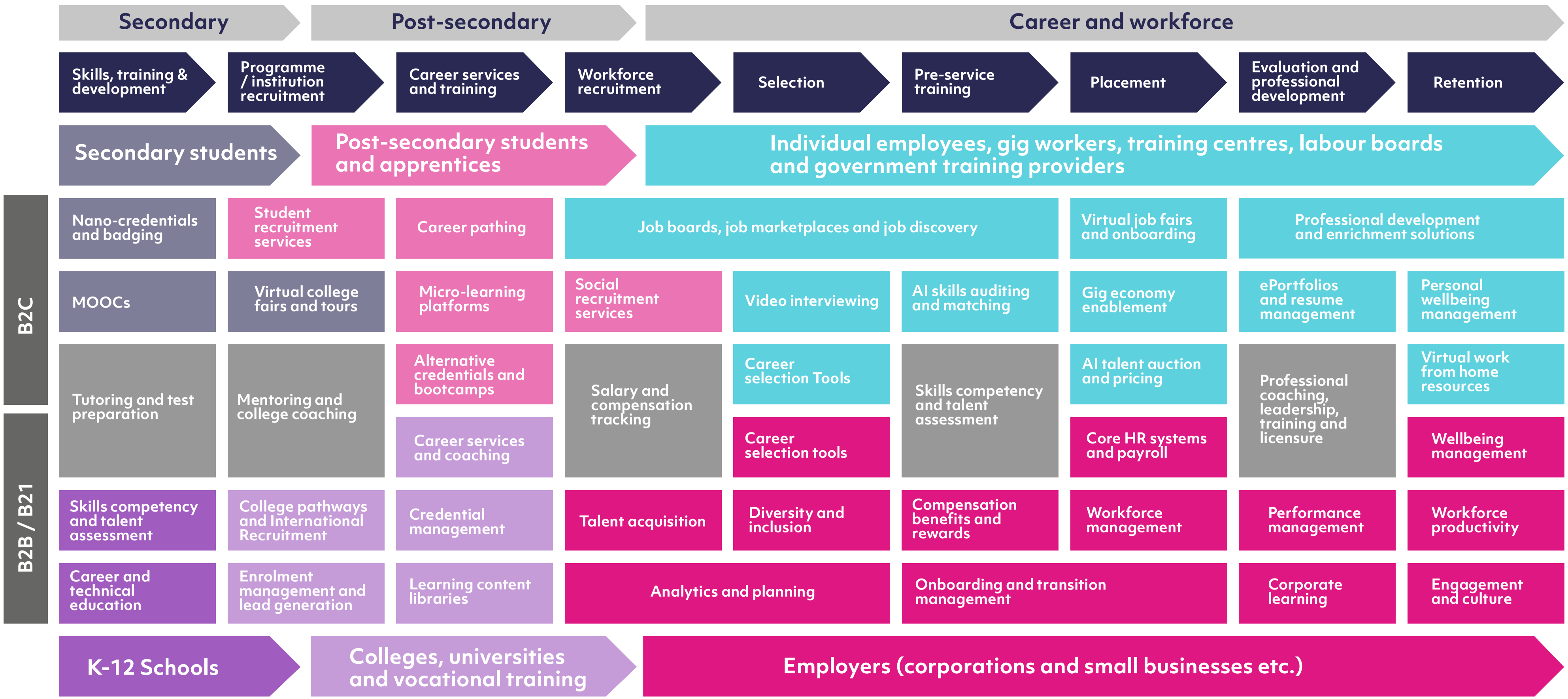
"Cycle of employment" segments



- **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 of the types of businesses that can be found in this ecosystem is described by the framework below:

Future of Work career development life-cycle



Sources: Josh Bersin/ Tyton Partners analysis

Part II: Ongoing market intelligence

In the winter of 2019-2020, Tyton Partners and Ufi commenced 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.

VocTech universe

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, 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.

Illustrative universe examples:

Name	HQ region	Type of organsation	Primary taxonomy	Stage	Ownership
Adecco	Europe	Large player	Talent Acquisition	Corporate	Public
Andela	US	Upstart	Talent Acquisition	Corporate	VC backed
Aspiring minds	Asia	Target	Skills, Competency and Talent Assessment	Corporate	Acquired by SHL Group
Bertelesmann	US	Investor	Not Applicable	Not Applicable	Not Applicable

Key learnings from quarterly analyses

Throughout 2021, our market intelligence system recorded notable deals and events across the VocTech ecosystem. 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 the year.

- Major consolidations continued this year in the HR Tech space. Companies looked to profit from rapid digitalisation in workplaces by solidifying their positions strategically, and adding more features to their product offerings to stand out in what is becoming a very competitive space.
  - Learning Technologies Group acquired GP Strategies for $394m in efforts to expand its footprint globally, particularly into the US and Asia markets.
  - Workday acquired employee feedback platform Peakon for $700m, as well as revealing plans to acquire VNDLY a workforce management platform for $510m.
  - 2U acquired EdX for $800m in cash in a somewhat controversial transaction that took a previously storied non-profit initiative into private ownership. 2U is clearly trying to move into B2C and B2B short course provision alongside its core OPM[1] business serving universities.
  - Microsoft announced the acquisition of Ally, as it looks to add goal and performance management to Viva's growing scope. It also announced the acquisition of TakeLessons, an unusual move into content – which may presage more. (Tyton Partners advised TakeLessons on this deal.)
  - Pearson announced its first move into the corporate learning space with the acquisition of Faethm, a workforce skills analytics and mapping platform. The purchase of Credly followed in 2022, and the UK giant has carved out a new "workforce" division from these and legacy assets.
  - Chegg completed the acquisition of language learning platform Busuu in a $436m transaction, as the US based EdTech company looks to add language learning to its product offerings and extend its geographical reach.
  - Skillsoft, a leader in corporate digital learning acquired Codeacademy for approximately $525m to solidify its position as a leader in IT skills training. (Tyton has advised Skillsoft relative to their recent merger June 2021.)

- HR Tech boomed, as organisations looked to attract and retain talent against labour shortages and skills gaps
  - Beamery, a London based talent acquisition platform, raised $138m at an $800m valuation.

[1] OPM stands for "Online Program Management" – the provision of online courses to universities, usually encompassing activities all the way from student recruitment, to delivery of teaching and learning. This market is competitive and fragmenting in the USA at the moment.

- Fuse announced the acquisition of PowerGuides, a performance support platform for workplaces for an undisclosed amount.
- Smartrecruiters announced a Series E funding round of $110m. as they look to expand their talent acquisition services and geographical reach. The company later acquired Attrax to improve its product offering for employers. Attrax offers software which allows companies to build career sites.
- Manpower Group announced the acquisition of ettain, a leading IT recruitment company based in the US for a reported $925m.
- Adecco, the world's largest staffing company, announced the acquisition of BPI Group (the third largest HR consultancy group in France), the purchase of Akka Technologies (supplier of engineering, technical, and R&D staff) for $2bn, and Qapa (the second largest producer of digital workforce solutions in France) for $72m.
- Both of the above can be seen as defensive moves given the fundraisings happening elsewhere, documented below:

• Severe worker shortages in the hospitality and care sectors are forcing employers to look to gig workers to fill shifts and vacancies in the short-term. As a result, there were significant deals by digital players connecting gig workers to employers in a simple and efficient way:

- Wonoloo, a temporary worker staffing platform that connects workers to retail, e-commerce and fulfilment jobs in the US, raised $138m in a funding round led by Leeds Illuminate.
- Contra, a professional community of freelancers based in San Francisco, announced a $30m raise in a Series B funding round led by NEA. The company's platform enables gig workers to create a profile, and gain access to a community of freelance workers and job opportunities.
- Jobandtalent, a Spanish gig worker job matching platform raised $500m in a Series E round led by Kinnevik and Soft Bank Vision Fund 2.

• Upskilling has become a focus for professionals, as organisations and individuals look to acquire skills relevant for the Future of Work. Upskilling platforms therefore saw a boom in activity, with many significant acquisitions and fundraises.

- Coursera went public, initially outperformed expectations, and then fell dramatically, with market capitalisation reaching $7bn and raising $520m; the shares have since sunk to around half this value.
- Udemy also went public through an IPO raising $421m at a $4bn valuation; subsequently its value has also fallen substantially.
- UK-based apprenticeship provider Multiverse — who at an early stage were recipients of a Ufi grant — announced a Series C funding raise of $130m at a valuation of $875m. The company had raised $44m earlier in the year.

- In a parallel move, French company Open Classrooms raised $80m led by specialist US investor Lumos, with the Chan Zuckerberg Initiative and Salesforce Ventures also participating.
- Both transactions mark the ambitions of European digital learning providers for the USA. Multiverse and OpenClassrooms are hoping to take their distinctive models of technology combined with pedagogy, which emerged from UK and French government upskilling subsidies, into the highly competitive US market.
- US based Sololearn, a coding skills training platform, raised $24m in a funding round led by Drive Capital.

- There was a significant boom in deals in digital coaching, with some large valuations as employers look for ways to equip their staff with leadership skills without face-to-face interaction.
  - BetterUp, a digital coaching company, raised two funding rounds in 2021. The first was a $125m Series D round at a $1.73bn valuation, which was followed by a $300m Series E pushing the company's valuation up to $4.7bn. The digital coaching company then moved to acquire Motive (a data analytics and insights company) and Impraise (a workforce performance management software provider) to add data analytics and insights, to make its coaching platform more effective and attractive to employers.
  - Coachhub, a leading German digital coaching platform, announced a Series B round of $80m and then acquired Moove, a digital coaching platform based in France.

- New regulations effectively banning for-profit tutoring platforms were introduced in China and proved highly damaging to education investors. This could explain the number of deals and high valuations that occurred in the EdTech and upskilling sector in India, as emerging market investors looked to other regions with more favourable investment regulations. Another knock-on effect – although not yet visible – may be that the Chinese providers switch to the provision of vocational learning, both at home and abroad.
    - SimpliLearn, an online digital skills bootcamp based in India, was acquired by Blackstone for $250m at a $400m valuation.
    - Upgrad, a Bangalore based start-up that specialises in higher education and upskilling courses, raised $185m in a funding round at a $1.8bn valuation. It also announced the acquisition of The Gate Academy as the company looks to enter the test preparation market.
    - Mumbai-based Eriditus, which works with top universities globally to offer their courses online, raised $650m at a $3.2bn valuation.
    - Unacademy, an online test preparation platform for students and adults in India, raised $440m at a $3.44bn valuation.
    - Byju's announced the acquisition of Austria based GeoGebra in a $100m deal.
    - Teachmint, an Indian EdTech startup helping teachers and institutes create their own virtual classrooms, raised $78m in its Series B round at a $500m valuation.

- Amidst a wave of controversy on how data is being used, Meta announced the new vision of becoming an online 'Metaverse company', where people can learn, work, interact, and more. This sparked dialogue about the role the metaverse could play in education and at the workplace, as hybrid working and digital learning boomed.
    - Facebook launched a virtual office app called 'Horizon Workrooms', a platform created to enable employees collaborate in an imaginary workspace.
    - Microsoft announced plans to push the 250m users of its Teams platform to its own version of the metaverse, as the company looks to provide an alternative to Meta.
    - In his HR predictions for 2022, Josh Bersin claims that the metaverse will transform hybrid work, training, collaboration, and HR processes such as onboarding.

- Andela's fundraise of $200m took the company to unicorn status at a $1.5bn valuation. The company trains up technology talent from around the world, and then offers remote outsourced teams to organisations requiring workers. It has so far concentrated on African countries for sourcing workers. Investors – including Softbank – are clearly convinced that companies will be even more comfortable with remote workers to fill skills gaps (and indeed the lower prices that they may pay for them).

Scenarios and Indicators

From extensive research into 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; to date, these have 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.

2021 forced us to re-examine these scenarios. Whilst we believe that the first of the four is still useful, things have changed so much in the past year, that the remaining three are no longer fit for purpose. Consequently, we have established two new scenarios to add to the pre-existing first, which we explore below. This includes a discussion of why and how we believe that the new scenarios are appropriate.

Scenario 1: Bigger, Stronger, Faster

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

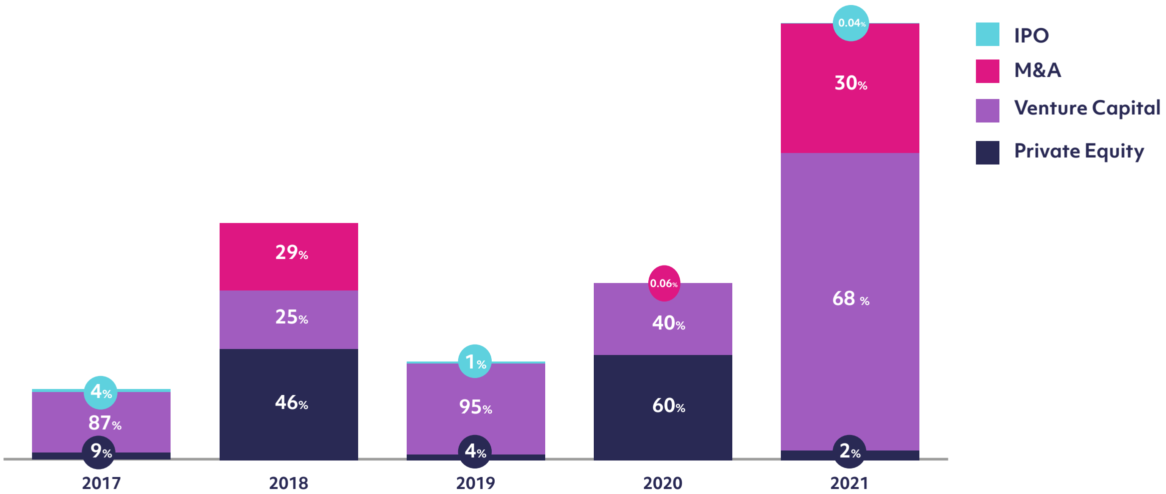
Indicators that provide evidence of this trend accelerating would include rising automation, unions struggling to adapt to a changing labour market dynamic, and a growing number of mega-corporations headquartered in the U.S. and China that all contribute to a tech-oriented, bifocal global power structure. Such a trend has the potential to alter the Future of Work; as ms 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.

However, this now looks less likely. 2021 has seen setbacks and major scrutiny for Facebook in particular, and multiple court judgements against Uber in the UK. China remains very closed and is disconnecting itself from the global market (LinkedIn left the country this year). 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

EUROPE



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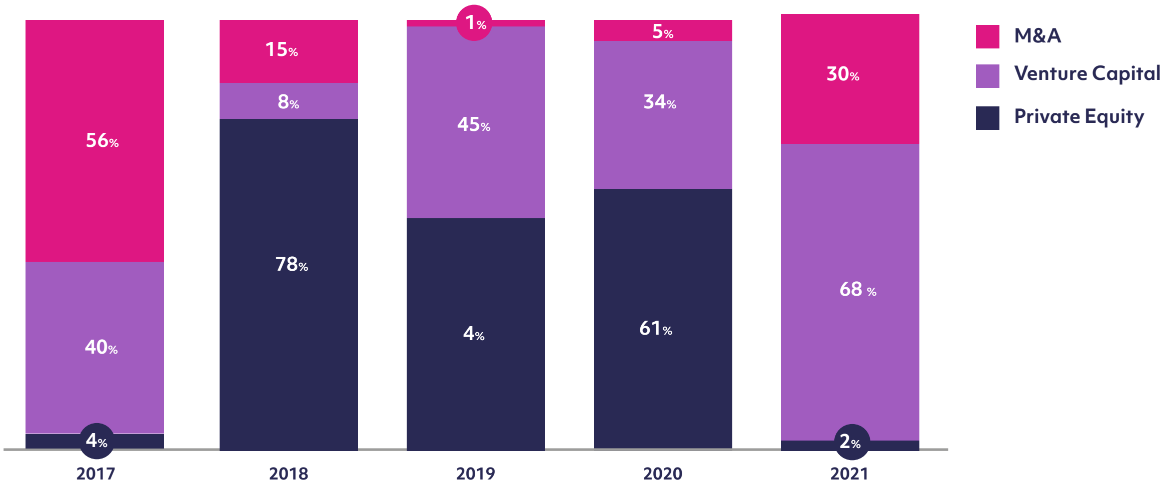
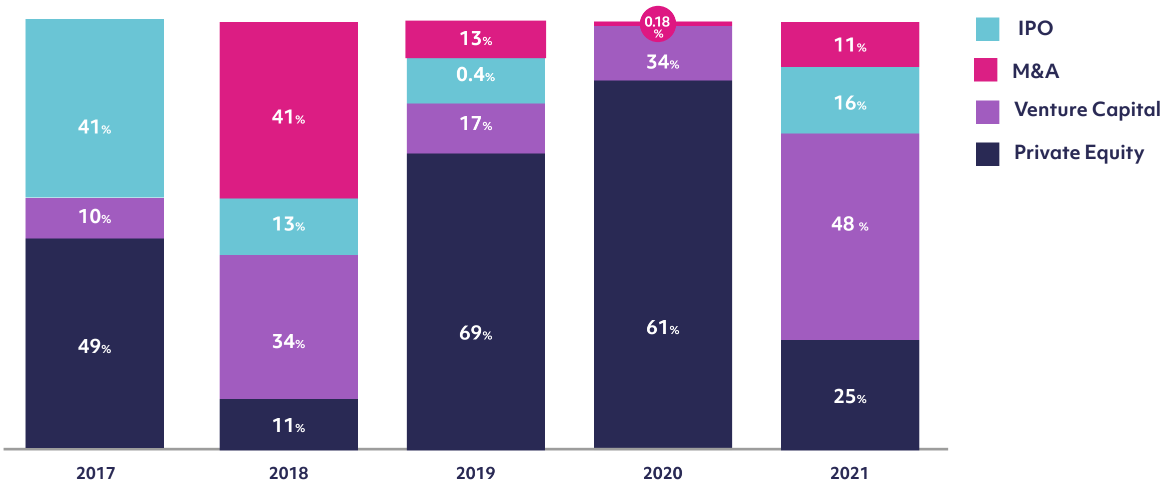


USA



Directional Trend	Indicator	Jan 2020	Dec 2020	Dec 2021	Commentary
↓	⇒ UK unemployment rate	4.9%	4.9%	4.1%	Labour shortages are driving a decline in job-seekers.
↑	⇒ UK Cost/Inflation Index	0.90%	0.90%	4.80%	Inflation rose to its highest level since 1992, likely due to supply chain disruptions and worker shortages.
↑	⇒ Global investment in AI	$69.5bn	$106bn	$189bn	Rise in investment in automation, as labour shortages hampered recovery.
↘	⇒ Workers' Rights Index – Percent of EU countries violating collective bargaining	50%	56%	54%	Many countries broke workers' collective bargaining rights, despite the 2% drop from last year.
↗	⇒ Number of UK Trade union members	6.35m	6.44m	6.56m	Trade union members were up 118,000.
↘	⇒% of global GDP resting in US and China	41%	43%	42%	
↗	⇒ UK output per worker productivity index	101.1	91.3	99.4	Latest update is Q3 2021.
↘	⇒ Job Quality Index	80.39	81.09	81.17	Job satisfaction remained around the same level as last year, despite major raises in wages.
↑	⇒ Range between highest unemployment area to average	2.1%	2.7%	1.6%	The Northeast had the highest rate of 5.7% while the UK average is 4.1%.
→	⇒ UK tuition fees for universities		£9,250 per annum		
↗	⇒ Ratio of Further Education to Higher Education institutions	0.94	0.92	0.99	
	⇒ Ratio of immigrants entering UK to immigrants leaving	1.6	1.8		Data publishing has been suspended.

New scenarios 2 and 3:
The Great Upskilling or The Divide Grows?

As mentioned above, **labour shortages are the key market dynamic as we move into Spring 2022**. 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 new 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 approach to tackle this problem has been immigration: but in the post-Brexit UK at least, this is politically near-impossible.
- Those who can, particularly in knowledge work which can be done remotely, will continue to exercise wider choice – 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, and the current failures in existing education systems and unproven nature of post-secondary 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.
- 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

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, and moving into the later stages of the Fourth Industrial Revolution. Governments spend on long-term, effective programmes to provide the right skills for 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 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.

The Divide Grows

The Divide Grows is unfortunately self-explanatory. With upskilling left to the individual, those who can't afford it or don't have the capabilities 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 — 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".

Scenarios 2 and 3: Indicators

We have included the basket of indicators used for the previous scenarios below, plus some new ones which we feel are relevant around zero hours contracts and NEET numbers. However, we were struck by a significant absence of information about how many of the lower-skilled are accessing training and progressing into work. Whilst there is considerable available data on demand (mostly in the form of statistics about vacancies), it seems very difficult to track people's progression into better jobs. We will continue to investigate this information.

Directional Trend	Indicator	Jan 2020	Dec 2020	Dec 2021	Commentary
↗	⇒ Ratio of capital raised in HR tech relative to all verticals	0.45%	0.36%	0.46%	HR Tech has seen significant uptick in deals, though relative to other verticals it accounts for a small percentage.
↓	⇒ Major data privacy laws passed	1	0	0	There were no laws passed, but Facebook faced considerable criticism for its questionable practices.
↘	⇒ Unemployment rate in UK	3.8%	4.9%	4.1%	The unemployment rate dropped as the economy reopened and employers raced to fill vacancies.

Directional Trend	Indicator	Jan 2020	Dec 2020	Dec 2021	Commentary
↗	⇒ Online Labour index (gig economy labour market statistics measurement)	10.3	10.8	11.5	The pandemic served as a catalyst for the uptick in the number of gig workers, as people left permanent roles in favour of more flexible roles, and organisations looked to fill vacancies caused by worker shortages with gig workers.
↑	⇒ Annual UK GDP growth index	1.4%	-9.6%	6.8% year on year	GDP in the third quarter was $581bn.
↑	⇒ Growth in real gross weekly earnings for professionals relative to all other occupations	1.33%	-2.5%	4.2%	May indicate increasing gap between professionals and others.
↑	⇒ London Stock Exchange value	7,600	6,873	7,384	A 7.4% increase from Jan 21 as the economy recovers from effects of COVID.
↗	⇒ UK employment rate	76.2%	74.7%	75.5%	Employment rate rose, as workers tried to fill vacant roles amid widespread shortages.
↑	⇒ Investments in ICT market	$131bn	$400bn	14.75tn	Investments in information technology has skyrocketed with the pandemic, forcing remote working and the need for organisations and everyone to embrace technology to work, learn and communicate.
↑	⇒ Amount spent on schools funding in the UK	£44bn	£51bn	£104bn	Considerable extra funds were devoted to skills, but little to skills gaps.
↘	⇒ Employees on zero hours contracts	974,000	990,000	917,000	May reflect workers' greater bargaining power in a tight labour market.
↘	⇒ Young people not in education, employment, or training	11.4%	11.8%	10.1%	May reflect labour shortages.

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 market features 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.

As such, Ufi Ventures' investment strategy targets priority areas of the ecosystem, where social need and business benefit strongly align. 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:

1. Skills for work in **key sectors and places**: Digital services which boost the supply of high-demand vocational skills, especially in sectors important for the well-being and prosperity of people in the UK
   a. Learning, placing and retaining workers in high-demand, under-supplied sectors
      i. That are key to wellbeing: healthcare, social care, education, green economy
      ii. That are significant drivers of economic prosperity: technology, manufacturing, professional and financial services, construction
   b. Learning, placing and retraining where the scale of challenge is large:
      i. Sectors with a very large workforce: health/care, retail, manufacturing, construction
      ii. Sectors undergoing radical disruption by long-term trends: retail, automotive/ mobility
   c. Places, communities and regions experiencing significant persistent challenges in their labour market: e.g. East Midlands, East and North-East coastal towns and cities; young people post pandemic.

2. Promote **essential skills**: Using digital technologies to radically improve access and quality when training people with the skills needed in the future

   a. Access to upskilling and continual educational for 21st century skills, literacy and numeracy, basic digital technology

   b. Validating "unseen" but valued skills, i.e. those valued by employers, but developed in work or informal contexts

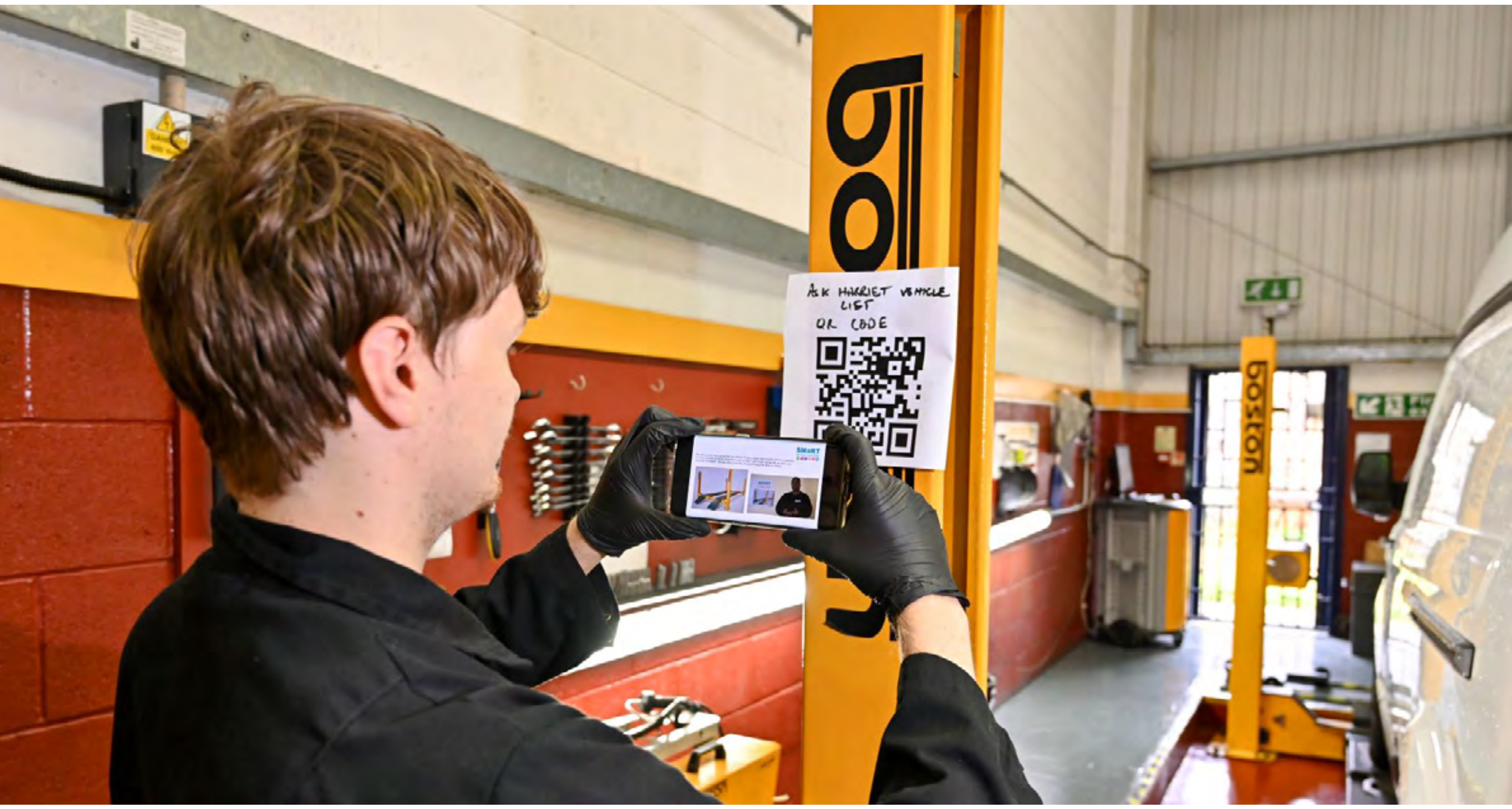
   c. Improving how workers evidence their skills and competencies, and how employers select for this

3. **Aligning outcomes** for workers and employers: digital services that support organisations and workers to realise the benefits of technology, and a higher skilled workforce

   a. Outcome-driven models that measure clear impact (i.e. better job, reduced cost)

   b. Interoperability technologies and services that interconnect all areas of the learning and employment value chain

   c. Services and technologies that identify overlooked talent and facilitate access to it



Conclusions

Strategic implications

2021 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 work in key sectors and places**.

However, recent activity also presents certain challenges. When it comes to HR infrastructure, 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.

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