

Key Learnings from VocTech Market Activity

Quarterly Report, July – September 2023

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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 to both 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 quarterly review of select current market developments and dynamics in a challenging and contradictory time. For more information about the methodology we use in compiling this briefing, please refer to our annual report, [The Jobs Frontier 2023](#).

This briefing is not exhaustive, but covers key developments and issues over the last quarter that we feel are of particular interest to those operating and investing in vocational technology and the Future of Work in the UK and Europe more generally. It moves from the general to the specific, starting with the broad context and labour market developments, before covering interventions and investments of particular relevance.



Executive summary

This quarter continued a tentative economic recovery process. High inflation continues to dampen economic growth across wealthy nations, despite slight easing in the UK and some parts of Europe.

Central banks have continued to maintain high interest rates in efforts to combat high inflation, though there are indications it may be reaching a peak (such as the slowed pace of interest rate raises in the US and UK during the quarter).

Labour markets have remained robust across the UK, US and Europe, though unemployment rates have risen – possibly due to layoffs. Organisations, however, have continued to report unfilled vacancies and skill shortages that have ultimately slowed growth. For individuals, the cost of living crisis continues as high inflation and interest rates limit their purchasing power. Union and strike activity demanding better pay and benefits have continued as a result. In some cases, this has led to increased wages and benefits. The UK government passed the Lifelong Learning Bill, a significant development in the skills funding landscape.

Investment activity continued to be tepid in response to the economic conditions. The latest era of large Seed and Series A rounds in the education and future of work sectors seems to have passed. However, some investor interest remains in the sector, significantly indicated by Brighteye Ventures closing a €100m fund during the quarter. Other highlights of this quarter in the VocTech space were more consolidation efforts through M&A activity. The frenzied flow of AI (Artificial Intelligence) investments across the economy became more focussed; AI-powered products that focus on large and immediate pain points seem to have been validated with select investments. Existing applications within education, notably the variations on an artificial intelligence tutor, were continuations of efforts to tailor features to learning use cases. AI regulation remained an open question as there were some orchestrated efforts to propose controls, but institutional and industry adoption of cohesive policies was limited. While AI has benefited some private sector firms in talent acquisition efforts, large-scale public initiatives focussed on less technological, more traditional educational access programs to meet demand and start to close the skills gap.

Framing Questions

- Q. What is technology's place in filling the skills gap? Why aren't government efforts more technology-enabled?
- Q. What is the best way to introduce generative AI products to current educational systems?
- Q. How reliant on current educational systems will future efforts in skills-based hiring be?

Part I: Context

Macroeconomic context

The UK and the Eurozone saw Q3 dips in inflation, while the US experienced a slight increase. However, rates overall continued to drop from the highs of 2022.

The Bank of England [increased interest rates](#) from 5.00% to 5.25% in early August and voted narrowly in September to maintain that rate after 14 consecutive interest rate hikes.

The European Central Bank [projects 2024 inflation to persist](#) well above 3%, indicating that [interest rates in the Eurozone](#) will also continue to increase.

In the US, gasoline and housing prices drove the increase in inflation. The US Federal Reserve continued to [raise interest rates](#) to 5.33%, though the rate of increase has slowed in recent months. And while there was [speculation](#) of how another government shutdown could impact the economy, the US [narrowly avoided](#) such an event at the tail end of the quarter.

Headline Inflation				
Region	Q1 2023	Q2 2023	Q3 2023	Source
United States	5%	4%	3.7%	Bureau of Labour Statistics
United Kingdom	8.9%	7.9%	6.3%	Office for National Statistics
Eurozone	8.5%	5.5%	5.3%	Eurostat
Germany	7.8%	6.3%	6.4%	Eurostat
France	6.7%	5.3%	5.7%	Eurostat
Spain	3.1%	1.9%	2.4%	Eurostat

GDP / Economic Growth				
Region	Q4 2022	Q1 2023	Q2 2023	Source
United States	2.9%	2.2%	2.1%	Bureau of Economic Analysis
United Kingdom	0.1%	0.1%	0.2%	Office of National Statistics
Eurozone	-0.1%	-0.1%	0.1%	Eurostat
Germany	-0.5%	-0.3%	0.0%	Eurostat
France	0%	0.2%	0.5%	Eurostat
Spain	0.5%	0.6%	0.4%	Eurostat

Labour market conditions

Unemployment ticked back up in Q2 within the UK and US even as the number of vacancies decreased. UK layoffs [decreased](#) slightly from a high in the spring. Layoffs in the US also [recovered](#) from peaks in January and March but were not fully down to 2021 or pre-pandemic numbers. However, preliminary findings from this past quarter indicated a generally robust labour market despite lower economic growth. Eurozone unemployment rates [remain low](#); analysts pointed to lower worker productivity and fewer working hours as a reason for the dissonance between low economic growth and high employment (but, see [this analysis from The Economist](#) which factors in exchange rates and holidays). Another contributing factor may have been that firms were [potentially hoarding workers](#) in the hopes of weathering a short downturn without having to re-attract competitive talent when conditions improve. In fact, a UK Chartered Institute of Personnel and Development [survey](#) earlier this quarter found that 40% of employers have engaged in bidding wars to retain staff.

Still, some labour market holes have persisted after the pandemic, further highlighting the skills gap. For example, critics in the UK cite generous disability benefits and a lack of mental health services as cause for high unemployment rates among young people. Many people, particularly young men, with limited education or de-valued skillsets have found themselves in a feedback loop of poor labour opportunities and debilitating mental health issues. Scholars in the US have noted [similar trends](#), coining the term 'deaths of despair' to characterize how limited labour opportunity and mental health issues compound to rising mortality rates.

Union activity has continued to be steady as workers ask for better pay and as employers adjust to new economic dynamics and increased labour power. Rail workers in the UK are [continuing strikes](#) for higher pay to combat high inflation. NHS strikes are also continuing, leaving many people untreated and economically inactive due to long-term illnesses. In the US, the Teamsters union [successfully negotiated](#) a new contract with UPS after threatening to strike with its 30,000-member base. Almost 13,000 workers across America are [striking](#) against top automotive firms, capturing the attention of the White House and even leading President Biden [to join a picket line](#).

Unemployment rate				
Region	Q4 2022	Q1 2023	Q2 2023	Source
United States	3.5%	3.7%	3.8%	Bureau of Labour Statistics
United Kingdom	3.7%	3.8%	4.3%	Office for National Statistics
Eurozone	6.7%	6.6%	6.5%	Eurostat
Germany	3.1%	2.9%	3.0%	Eurostat
France	7.2%	7.0%	7.2%	Eurostat
Spain	12.9%	12.8%	11.19%	Eurostat

Total number of vacancies				
Region	Q4 2022	Q1 2023	Q2 2023	Source
United States	10,817,000	10,094,000	9,165,000	Bureau of Labour Statistics
United Kingdom	1,130,000	1,051,000	989,000	Office for National Statistics
Germany	1,968,516	1,747,412	1,729,112	Eurostat
France	Similar stats are unavailable			
Spain	140,517	145,138	146,069	Eurostat

Number of Youth out of Employment and Education (15- 24yr olds)				
Region	Q4 2022	Q1 2023	Q2 2023	Source
United States	Similar stats are unavailable			
United Kingdom	788,000	770,000	794,000	Office for National Statistics
Eurozone	3,453,000	3,374,000	3,329,000	Eurostat
Germany	556,000	591,000	589,000	Eurostat
France	833,000	834,000	826,000	Eurostat
Spain	550,000	496,000	490,000	Eurostat

Key sectors continue to face workforce challenges

Across sectors, the skills gap is continuing to establish itself as a constant business threat. Organisations are juggling efforts to innovate with new technology and to manage a continuing need for labour.

Education

Education, in particular Higher Education, remains troubled. In the UK, institutional [budgets are tightening](#) as EU funding for UK universities has reduced post-Brexit and [student distrust rises](#) following the pandemic. However, the UK did [rejoin](#) Horizon Europe, the continent-wide research collaboration and grant distribution infrastructure. This will allow UK research institutions to claw back and maintain some of the funding which they had been deeply concerned about losing, and bolster their competitiveness in international science.

Americans are expressing a [lack of belief](#) in the value of a college degree, primarily due to high tuition costs and political perceptions. Despite an increasing wage premium for college graduates, many young people believe that a high school diploma will suffice for career success.

From a global perspective, the World Bank [published a report](#) highlighting the gaps between most technical and vocational education and training systems and the labour markets that rely on skilled workers from those systems. More than 20% of youth in low- and middle-income countries are not in education or the labour force – twice the rate of high-income countries. The report cites problems that are familiar in UK and US higher education systems: a lack of information transparency for potential learners, small educator pools, and a need for labour outcome accountability for providers.

Meanwhile, K-12 systems still face basic challenges. In the UK, schools are scrambling to accommodate more than 10,000 students in response to the [closure of buildings](#) built with a particular type of concrete found to be dangerous. This comes just after teachers' unions [agreed to a pay increase](#) of at least 6.5% following many months of strikes. Geographical inequality in school funding also [threatens to jeopardize](#) economic forecasts, particularly for communities in the North. In the US, teacher apprenticeship programs have received [new guidance and funding](#) (almost \$100M) from the Education and Labor Departments to respond to persistent labour shortages. In France, recent bans of abayas (robes worn by some Muslim students) have created controversy, though many believe that [low teacher salaries and other infrastructure problems should take centre stage](#). Germany, too, faces unrest over its education system. Late in September, thousands of people took to the streets [to call for educational reform](#) and a \$107B fund dedicated to child-care centres and schools.



Healthcare

Healthcare systems are continuing to face substantial challenges. In the UK, a [record](#) 7.7 million people are on the treatment waiting list. Healthcare worker strikes have also been ongoing since December of last year to ask for better pay in light of the high demand. Junior doctors have [recently joined the strike efforts](#), the first time in NHS history that junior doctors and senior consultants have engaged in a joint strike. The NHS [enlisted the help](#) of private providers to assist in managing the backlog.

A recent [systematic review](#) of available studies found that the rise in private equity ownership of healthcare providers has increased costs and decreased quality for affected patients across the globe, at least in the short term. The study focussed primarily on the US, with its very different system of funding to the UK. While US lawmakers are interested in the effects of private equity within the healthcare systems, [the direction of future legislation is unclear](#).

Information and Communication Technology (ICT)

The past several months have been relatively less tumultuous for the ICT sector. According to [TechCrunch](#), the summer months saw an average of 10-11K employees laid off compared to the 20-90K figures of winter and spring. While the number of tech companies who laid off employees this quarter remained high (200+), the total number of employees affected [shrank dramatically](#), suggesting that firms are having to take less drastic measures.

AI is continuing its strong hold on the sector. In September, IBM released its [Granite models](#), which are trained on “enterprise-specialized datasets” to ensure trust and industry relevance. Other firms are also doubling down on enterprise-specific AI applications and receiving sustained investor interest. Of recent note, AI21 Labs [raised a \\$155M Series C](#), Databricks [raised a \\$500M+ Series I](#), and Writer raised a [\\$100M Series B](#). ChatGPT just [launched](#) an enterprise version of its chatbot; Microsoft Copilot, a cross-product AI tool, is being [incorporated into Windows 11](#) and will be made available to general enterprise customers in November. Last quarter, Mistral AI [raised a \\$113M seed round](#) to build an enterprise-focused model before the company even had a working prototype.

Beyond AI, [a McKinsey report projected](#) that new technology related to quantum computing could add \$1.3T in value to select industries by 2035. As the US recently restricted foreign investment into China’s quantum computing and AI sectors, the UK is [considering how to position itself](#) to ensure trade success and national security. Also important to the quantum computing space are semiconductor processing chips. Nvidia, the US-based software giant, is currently [dominating](#) large swaths of the AI space due to its microchip dominance and is looking well positioned to expand that dominance into the quantum computing space. In light of the competition, the UK currently aims to compete globally in [semiconductor design](#), rather than manufacturing.

A separate [McKinsey report](#) estimated that, over the next 10 years, the technology workforce will grow twice as fast as the US workforce overall; it recommends that companies pay close attention to employer value propositions as workers become increasingly mobile and less loyal to traditional brands.



Green economy

The transition to a green economy continues to show promise for job creation. A [Confederation of British Industry \(CBI\) report](#) asserted the UK's potential for £57B in GDP growth through key policy interventions to encourage investment, including the promotion of green services and electric vehicles, by 2030. The report is in direct response to the US Inflation Reduction Act, which has [encouraged \\$110B](#) in green manufacturing investments from the private sector within its first year. The Inflation Reduction Act instituted favourable tax credits and loan interest rates that have [encouraged many firms](#) within the green economy to move operations from Europe to the US.

Recent findings emphasize just how important upskilling will be for a green economy transition. [60% of carbon sector workers](#) believe that the green economy will leave them jobless by 2025, and two-thirds of workers do not think they have the skills to adapt to future energy sector changes. However, according to website WorkingNation (backed by a US Venture Capitalist), [the vast majority of green job seekers](#) have relevant skills or experience for these roles, and most skills needed for the green economy already exist. A recent study found that less than 1% of all US workers transitioning out of a carbon-intensive role move to the green economy – most move to another carbon-intensive job or into manufacturing, particularly those without a traditional education credential that might support an industry switch. Initiatives to upskill and support workers into newly available roles are key, particularly as we have anecdotally observed major challenges for such energy sector workers even to understand how to migrate to the green economy.

Structural Trends

Small and medium-sized businesses in the UK are suffering from labour shortages in particular, with over [half of such businesses advocating](#) for relaxed immigration policies in order to attract high-skill talent from the EU and beyond. Older workers are [being retained](#) later and later into their lives as well; a plausible explanation is that they are being re-attracted in order to plug holes in the labour market that younger workers have not been equipped for. In another example of AI being a potential solution to a self-created problem, AI-powered career assistants such as FutureFit AI's [Career Copilot](#) are emerging, allowing those in search of new jobs to more easily survey the changing labour landscape and assess opportunities.

These past months have helped refine the collective understanding and anticipation of many AI effects on the labour landscape. Salaries for AI roles continue to [skyrocket](#) as firms scramble to incorporate (what now seem like table stakes) AI capabilities into their products. A [report from the International Labour Organization](#) found that most occupations are not threatened significantly by AI; clerical work, which is female-dominated, was determined a vulnerable outlier. Only 4% of executives [report](#) considering a headcount reduction due to AI. We are seeing faster product development and commercialisation thanks in part to AI, which limits new hiring while reducing redundancies. Of course, there have been instances of layoffs as AI threatens older products; for example, Southern New Hampshire University recently [let go of 180 employees](#) and closed its coding bootcamp operations, Kenzie Academy, due to the rise of AI alternatives. Pearson [replaced its CEO](#), Andy Bird, with Microsoft executive Omar Abbosh due in part to unresolved shareholder worries of being left behind in the AI market, according to analysts.



However, most industries have settled on a relatively tempered perspective on AI. AI in [music](#) has made content creation easier, but strong opinions have emerged that human personality will still dominate and drive the industry. Hollywood is perhaps not yet as optimistic – concerns over screenwriting and acting credits due to AI interventions have in part [fuelled](#) the writers’ and actors’ strike in the entertainment capital. While the writers’ union has [tentatively reached an agreement](#) with network executives, terms of the deal and future implications are unclear.

Professional services firms are also [engaging with AI](#) after some hesitation. PwC, KPMG, and Accenture are all investing billions of dollars over the next few years on in-house AI tools and capabilities as they race to realize AI’s efficiency potential without falling victim to its hallucinatory or data privacy pitfalls. [McKinsey is touting its Lilli tool](#). Large-scale data analysis powered by AI allows accountants and consultants alike to uncover solutions to client problems. In finance, increased interest over [AI’s ability to detect financial crimes](#) and scale more accurate lending practices has been qualified by AI’s ability to also effectively enable financial crimes. A [Thomson Reuters survey](#) found that while professional service workers held reservations about AI accuracy and job loss, they were generally optimistic about AI applications in their work, particularly around possibilities for increased efficiency and new career paths due to AI. Indeed, McKinsey estimates that, along with STEM professionals and education and workforce training professionals, workers in business and legal services will see some of the [largest AI-induced accelerations in automation](#) across the next few years: up to 30% of hours in the space could be automated by 2030 due to AI, up from just 16% without AI’s help.

Though visions have softened around how AI will be used, it remains a key consideration for the Future of Work across the conversations we are having. IBM [estimated](#) that 40% of workers globally may need upskilling to stay relevant in the face of AI. In contrast, Randstad’s [Workmonitor Pulse survey](#) found that only 13% of employees have received AI training in the past year. And while funding for AI has not reached the staggering heights of earlier this year, many of the largest Future of Work investments we highlight below continue to be AI-enabled (e.g., Preply, Intenseye, and Prins AI).

AI developments have also continued to have ramifications across the education system. ChatGPT can now have [voice conversations](#), and some [teachers are already adapting](#) their role in the classroom in response. OpenAI in particular is intent on [entering classrooms with ChatGPT](#). The company has provided [guidance for teachers](#), including use cases provided by bought-in educators. The company promotes classroom use while also acknowledging the potential for plagiarism and irresponsible use – Turnitin reports that [more than 1 in 10 student papers include at least 20% AI-generated text](#), though OpenAI states that AI detection software does not work. OpenAI's approach notably differs from other initiatives that are trading more slowly with safety protocols embedded in education-specific models. [Merlyn Mind](#), which we mentioned in our last report, and [Georgia Tech](#) are noteworthy examples of models tailored to the classroom. [Stretch](#), another education-specific AI chatbot, was developed by US nonprofit ISTE-ASCD to avoid hallucinatory or inaccurate responses.¹ Like IBM's Granite models, Stretch is trained on curated datasets rather than the masses of internet data publicly available. Broadly speaking, OpenAI's ChatGPT targets individual consumers and students, while the education-tailored models aim to appeal to institutions and teachers. It is yet to be determined which approach will successfully achieve adoption for all parties.

Responses

AI policies and regulations

As part of their continuing work on AI in education, UNESCO released official [guidance for generative AI in education and research](#). The report outlines proposed responsibilities for relevant players in ensuring that AI is pedagogically relevant, safe, and compatible with assessment mechanisms. Policy makers should ensure relevant legislation is coherent and outlines (un)acceptable applications clearly based on anticipated risk to users, and they should commit early to regulations around data privacy and ownership. Technology providers should be accountable for model behaviour and work to ensure AI content labelling and unbiased outputs are achievable. Educational institutions should audit relevant AI models to validate transparency, and they should track usage to determine AI effects on student outcomes. While the effect of UNESCO's guidance is still unclear, it is timely. Earlier this year, Tyton Partners' [Time for Class 2023](#) report found that while only 3% of US higher education institutions have a formal AI policy in place, 58% are looking to develop a policy soon.

Tech providers are making some efforts to self-regulate and explore what responsible AI might look like. Google [announced a \\$20M fund](#) to support organisations developing AI thought leadership as a part of its Digital Futures Project. The EU's AI Act, however, is [facing some pushback](#) from AI companies as it is being written. In the UK, the [Online Safety Bill](#) passed through Parliament, forcing technology companies to devise ways to stop the publication of inappropriate content and enforce age restrictions for users. The bill, aimed to prevent things such as bullying and grooming, also covers content generated or recommended by AI like harmful deepfakes. While AI tools to scan and judge user content are possible solutions for compliance, critics call the bill a privacy overreach and point out flaws in existing AI content monitoring tools.

¹ Disclosure: Nick Kind, co-author of this report, currently serves pro bono on the board of ISTE-ASCD.

Upskilling initiatives and skills-based hiring

Governments and organisations are continuing to respond to the changing skills and employment landscape. Earlier in the summer, the UK government [eased visa restrictions](#) for sectors with labour shortages, and the German Federal Council [passed the Skilled Immigration Act](#), making it easier for skilled workers from non-EU countries to enter the country and work.

The UK government passed the [Lifelong Learning Bill](#), a significant development in the skills funding landscape which will likely have far-reaching implications for institutions, workers, the companies that serve them and – consequently – interested investors.

Our analysis: By expanding postsecondary student funding to cover learners across a much wider range of disciplines and skills, and supporting modular, "stackable" pathways which can be taken with different providers at different times, all but the most comfortable current providers of degrees and training will need to adapt their offerings, and room has emerged for substantial innovation from existing players and new entrants. Further scaffolding and support to help learners comprehend the fragmentation, and chart their most fruitful course, may become even more important. [Find the official full description of the legislation here.](#)

Additionally, UK Prime Minister Rishi Sunak [announced](#) enrolment limits for individual university degree paths with poor career outcomes. The measures, which go into effect in 2024-25, aim to encourage economic returns for both learners and taxpayers, but critics slammed the announcement for penalising institutions that serve working-class students. The Biden administration similarly [revamped the enforcement](#) around the Gainful Employment rule in the US, which requires postsecondary institutions to report career outcomes and meet certain standards to maintain federal funding eligibility. Elsewhere in the US, California Governor Newsom signed an [executive order](#) to start development of a "coherent system" for career education in the state. In the private sector, Bright Horizons has begun to offer [college admissions consulting](#) as a benefit to companies; critics note that these services may only reinforce the socioeconomic stratification of higher education in the US.



The UK Apprenticeship Levy continues to attract debate and attention. Local councils within England are pushing the government to reform funding systems for apprenticeships following a 19% participation decline since 2018. Just into Q4, both UK main parties announced plans for substantial reforms of skills and education during their party conferences; we will cover these in full in our next report, as education and skills seem to be becoming key areas in pre-election campaigning.

Some countries see accepting students from other countries as a key part of the solution to skills gaps (and have the educational reputation and infrastructure to make this possible). The UK remains [keen on preserving China](#) as a transnational education partner despite a tumultuous political climate, and Canada recently [streamlined its international student intake processes](#) in an effort to establish itself as a leader in the space. Firms in the transnational education space have seen some recent investment. India-based study abroad platforms Leverage Edu and GradRight recently raised [\\$40M](#) and [\\$6M](#), respectively. Education loan provider Auxilo also [raised \\$57M](#). Last quarter, MPOWER, an international education loan provider, [raised \\$150M](#); Canada-based Passage [raised \\$30M](#) for its immigrant-focused talent matching platform; and Adventum Student Living, a study abroad platform, [raised \\$5M](#) in a Series B.

The US White House launched the [National Cyber Workforce and Education Strategy](#), which aims to meet cyber workforce needs through short-term upskilling and long-term cyber education investments. The US Department of Labor also [awarded over \\$78M in grants](#) to several states in order to increase the nursing instructor pool. In Pennsylvania, the state government is [leveraging \\$400M](#) in Inflation Reduction Act funding to institute apprenticeship and workforce development programs for construction contractors. Institutional systems are continuing to test out the microcredential universe; the University of Texas' Texas [Credentials for the Future program](#) just expanded its partnership with Coursera, aiming to reach 30,000 students over the next two years.

More basic access and infrastructure initiatives were also implemented. In the UK, 50,000 students aged 11-14 recently received access to Cyber Explorers, a government-designed platform to encourage interest in cyber security. In the US, the state of Georgia [launched an initiative](#) to provide free internet to low-income K-12 students. Salesforce [committed \\$20M](#) to strengthen tech career pathways within US public schools. AWS also [committed \\$20M](#) to bolster cybersecurity within K-12 schools to protect against malware and ransomware attacks.

Outside of the public sector, UK firms within the green economy are [building in-house academies and training programs](#) to upskill engineers and mechanics who may only need a few weeks to get up to speed, though they note that the available pool of skilled workers is limited. LinkedIn [reported last quarter](#) that demand for green skills is growing at double the rate of supply of workers with such skills. Upskilling within the UK green economy remains a gap, particularly in the context of the US: though the EU has proposed its own regulations to counter the Inflation Reduction Act (e.g., the [Net Zero Industry Act](#)), US cleantech investments are [2.5x](#) that of the EU's since the Inflation Reduction Act was enacted, and the Act is [poised to create almost 1M new jobs](#) annually for the US. The US is also launching programs like the [American Climate Corps](#), which aims to funnel over 20,000 young people into the green economy while providing relevant skills.

Efforts are also being made to make the employer-employee matching process more efficient and accurate. AtriumU and SHRM are [partnering together](#) to better match applicants and potential employers based on inferred skills and experiences not included in resumes or transcripts. However, a [survey from Multiverse](#), a start-up focussed on apprenticeship models, concluded that while skills-based hiring is a hot topic within companies, gaps still remain to fully realise its potential. The survey found

that while almost 64% of UK firms reported not requiring college degrees for entry-level positions, only 24% of firms reported not giving any advantage or bias to degree-holders. The US fared even worse, with 40% of firms reporting that they have dropped entry-level degree requirements and only 9% saying degrees provided no advantage at all in the hiring process.

Labour regulations

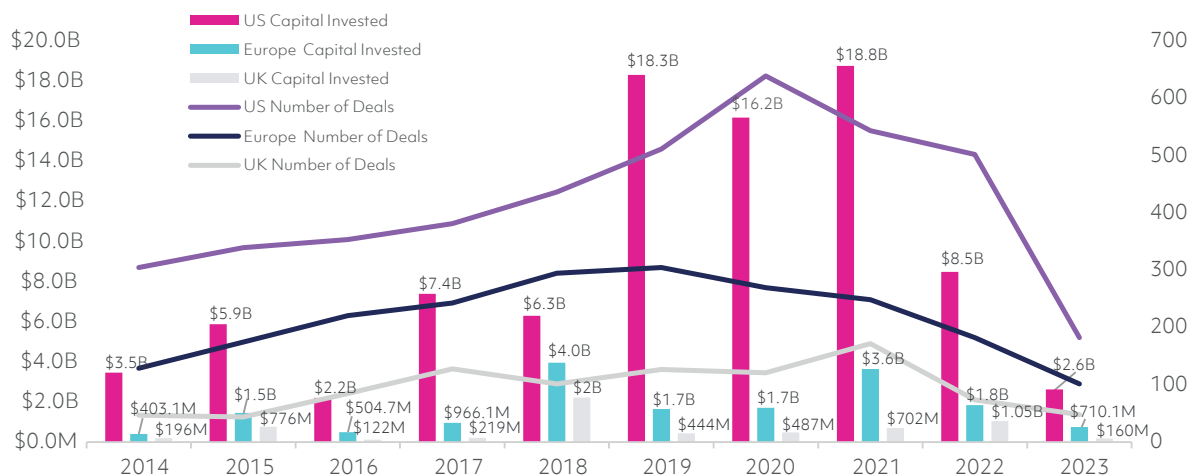
Finally, perhaps in part due to the high volume of labour union activity in past months, workers' rights in Europe received a small boost. In the UK, the [Employment Relations \(Flexible Working\) Act](#) was passed, putting more of an onus on employers to actively engage with workers when requests for flexible working arrangements come through; such workers might include students, caregivers, or gig workers. Though the Act originally proposed to allow workers a right to request flexible working arrangements from their first day of employment, the original restriction of 26 weeks of employment remains. Employers can also still reject requests based on business needs. In the EU, members of the European Parliament [signed a proposal](#) to protect remote workers from internet tracking at home and from being forced to respond to communications outside of working hours.

As we will discuss in the next section, investment in EdTech has continued to decline even as AI experimentation continues steadily and as the skills gap becomes more and more apparent. The public and private responses to these trends are increasingly less technological (though some opportunity remains) and increasingly more about building raw capacity, either through foundational education and skills or transference of people (i.e., immigration policies). After the surge of AI-induced investments in 2021, this could indicate the nearing of a plateau for upskilling the already-high-skilled workforce; and while technology may help enable the upskilling programs already in existence, this quarter is a strong reminder that providing educational access at a basic level (technology-enabled or otherwise) may be the biggest opportunity to resolve the skills gap.



Part II: VocTech Market Activity

Capital Invested in HR Tech Q3 2023



Source: Pitchbook

Overall, investors remain hesitant within the Future of Work space. While select firms are [attracting investments](#) with applications of AI, [investor appetite has decreased overall](#) and EdTech layoffs continue. According to Pitchbook data and Tyton Partners analysis, HR Tech investment fell to \$526M, less than half of that in Q1 or Q2. The UK continues to suffer the most, with investments on track to hit just 20% of 2022 figures.

A few notable investment events are worth mentioning, however. Late last quarter, Brighteye Ventures, the Brussels-based EdTech venture capital firm, [closed its second fund](#) at €100M. Other late Q2 transactions of note include [Passage's seed funding](#), Docebo's acquisition of [Edugo.AI](#), and IU Group's acquisitions of [University of Frederiction²](#) and the [London Institute of Banking & Finance](#). Detailed below for this quarter: Preply's \$120M Series C, Nursa's \$80M Series B, and HiBob's \$150M raise indicate some persistent interest in the space.

M&A activity in the talent acquisition space could indicate preferences for consolidation over raw innovation. Many firms we highlight in the space offer technology that optimizes talent searches to find the correct qualified candidate, but the core offering remains the marketplace/sourcing capability to find any qualified candidate, as the M&A activity to increase geographic scope suggests. In a cautious market, talent acquisition firms may be seeing increased movement due to their ability to address the skills gap at a more basic and attainable level. Anecdotally, we are also seeing early-stage companies experiment with niche job markets or auto-applying tools in order to stake a claim in the space.

² Note that Tyton Partners' Investment Banking practice advised IU on this deal.

Consolidation is not unique to the VocTech space – large EdTech players are also repositioning. Kahoot was recently [taken private](#) by a group of investors for \$1.7B. One of the investors, Kirkbi, is the parent company of Lego and recently acquired BrainPOP, another EdTech provider. K-12 giant PowerSchool recently [acquired SchoolMessenger](#), a communications solutions provider for \$300M in an effort to expand the integrated features within its suite. PowerSchool also [acquired Neverskip](#), an India-based ERP provider, as it looks to expand geographically. Expanding into India as well, Coursera is following up on its [intentions](#) to build more hiring-focused operations by [investing in Unstop](#), a talent community platform with over 6 million students.

As firms face labour difficulties, talent searches become increasingly borderless. Transnational education venture funding continues momentum from last quarter with rounds from Leverage Edu, GradRight, and Auxilo mentioned previously.

In particular, this quarter highlights the material interest in India as a burgeoning hub for skilled labour and education in its own right and for the global economy. (Leverage Edu, GradRight, and Auxilo are all based in India.) Despite Byju's rocky year, including the most recent [5,000-employee layoff](#) along with news of restructuring and loan disputes, activity in India persists. Mumbai-based Upgrad is rumoured to be in talks with Udacity to [acquire the MOOC provider](#). Masters' Union, an industry-focused program provider, is [set to raise \\$20M](#). ZuAI, a start-up building an AI personal tutor, raised about [\\$500K in seed funding](#). Funding rounds for Disprz and SmartStaff, mentioned below, and the investments by PowerSchool and Coursera, also serve to highlight a flurry of activity in India – even post-pandemic.

Language learning continues to emerge as an important upskilling device complementary to transnational education. Preply, ELSA, and Speak, mentioned below, all enjoyed sizeable funding rounds this quarter, while Babbel acquired Toucan to expand its customer base. The firms are also all relying on AI to further develop their products. Though many AI models are dealing with hallucination problems in fact-finding, AI's ability to check and generate accurate grammar and vocabulary [has not raised as many flags](#).

Finally, while large scale layoffs at organisations like Pearson, Kaplan, Byju's, Guild, and Newsela have occurred earlier in the year, EdTech firms are still being affected by the economic climate:

- Boundless Learning (the online program management unit that Pearson sold to private equity firm Regents LP this past March) [laid off half of its staff without severance](#). The firm currently [employs roughly 175 employees](#) according to its LinkedIn page.
- The Chan Zuckerberg Initiative [laid off 48 of its education team members](#) in August.
- Paper, the virtual tutoring firm that shot to unicorn status during the pandemic, [let go of 106 employees](#) in August and [another 87](#) in September after tightened district budgets and [reports](#) of inadequate services. The firm has now undergone three layoffs and laid off 274 employees in 2023.
- West Virginia University's new budget [plans to cut](#) 143 full-time faculty positions (as well as 28 academic programs).
- India-based Skill-Lync [laid off 225 employees](#), or 20% of its employee base. The company had previously laid off more than 400 employees in the spring.
- 2U laid off a number of employees in late September. Unofficial estimates from [TheLayoff.com](#) range from 200 to 500 affected employees.

Our lists of selected deals are organised by sub-sector.



Upskilling and corporate training

- [Preply](#), a US-based language learning platform that caters to corporations, [closed its Series C at \\$120M](#). Funders included Horizon Capital, Reach Capital, Hoxton Ventures, and Owl Ventures. The funds will specifically be used to leverage AI for scaling efforts.
- [Transfr](#), a VR-enabled training platform provider, [raised \\$40M in a Series C](#) led by ABS Capital. The firm looks to expand its training course offerings as well as develop more Spanish-based trainings.
- [Lepaya](#), an Amsterdam-based corporate training firm targeting employee retention and productivity, [raised €36M](#) in a round led by Endeit Capital. The company currently offers in-person, virtual, and VR training, and it plans to use the new funds to further personalize its offerings with AI.
- [Disprz](#), an Indian firm focused on employee engagement and training, raised a [\\$30M Series C](#) from Lumos Capital, IIFL Wealth, Kae Capital, KOIS, and Dallas Venture Capital. The company plans to use the funds to continue US entrance.
- [Intellum](#), a US-based enterprise learning management system provider, [raised \\$25M](#) from Guidepost Growth Equity.
- [ELSA](#), an English learning platform featuring an AI tutor, [raised a \\$23M Series C](#) from UOB Venture Management, UniPresident, and Gradient Ventures, among others. The firm will use the funds to drive expansion into Southeast Asia as well as the B2B market.
- [Prins AI](#), a provider of AI-enabled digital avatar videos that can be used for corporate training content, [raised \\$22M in Series A funding](#) from Paradigm, Kleiner Perkins, and Base10 partners. In contrast with the cookie-cutter training videos that are popular now, Prins AI promises high quality, low effort, and low-cost L&D content that can be customized to match individual business cultures and employee needs as they evolve. (The firm is growing rapidly: Prins AI followed this up quickly with a [\\$100M Series B](#) led by AAB VC right at the start of Q4.)

- [Speak](#), a language learning platform with a focus on developing an AI tutor, [raised \\$16M](#) in a round led by angel investor Lachy Groom and that included the OpenAI Startup Fund.
- [Kinnu](#), an AI-powered upskilling provider based in the UK, [raised \\$6.5M](#) from investors including LocalGlobe, Calvary Ventures, Spark Capital, and Jigsaw.
- [Administrate](#), a corporate training platform provider based in the UK, [raised \\$6.4M](#) from Hambro Perks, Archangels, Mercia, and the Scottish Investment Bank.
- [Unstop](#), a talent community platform for students and companies in India, [raised \\$5M](#) from Mynavi and Coursera, among others.
- [Babbel](#), the German language learning company, [acquired Toucan](#), a browser-based extension for practicing new vocabulary while web surfing.
- [Meteor Learning](#), a firm that helps higher education institutions provide more skills-based, employer-aligned programming, [was acquired by Noodle](#), a higher education consulting firm.
- [Elentra Corp](#), a Canadian training platform provider for healthcare workers, was [acquired by Achieve Partners](#), a social impact investment firm.
- [PeopleGrove](#), an American provider of career services to universities, [acquired jobZology](#), a predictive science student success platform provider.
- [Mintra Holding](#), a Norway-based training provider for energy and maritime sectors, [acquired Seably and WellAtSea](#), two corporate education providers for the maritime sector.

Talent acquisition

- [Nursa](#), a nursing staffing platform in the US, [raised \\$80M in a Series B](#) from investors including General Catalyst and First Round Capital.
- [PowerUs](#), a Berlin-based staffing and career development platform for skilled trade workers, [raised €24M in a Series B](#) led by Eurazeo, General Catalyst, Headline, and HV-Capital. A focus of the platform is addressing the skills shortage around Germany's clean energy transition.
- [Datapeople](#), a US-based recruiting data intelligence firm, [raised a \\$13M Series A](#) from GreatPoint Ventures and New Markets Venture Partners, as well as First Round Capital, NextView Ventures, and Uncork Capital, Gaingels, and FOG Ventures.
- [Smartstaff](#), a staffing platform for India's manufacturing industry, [raised \\$6.2M in a Series A](#) from Nexus Ventures, Arkam Ventures, Blume Ventures, and Alteria Capital.
- [Flo Recruit](#), a legal staffing recruitment platform based in the US, [raised \\$4.2M](#) from LiveOak Venture Partners, Moneta Ventures, Tau Ventures, and Alumni Ventures.
- [Slinger](#), a UK-based staffing platform for the hospitality industry, [raised £500k](#) from Fuel Ventures and Ufi Ventures, among others. Slinger seeks to reduce the barriers to hiring (by replacing CV and shift trials with video submissions, for example) and increase the supply of quality staff for firms. Slinger also looks to complement its hiring platform with upskilling and career development support for job seekers.

- [Randstad](#), one of the world's largest staffing firms, [acquired Grupo CTC](#), a Spanish outsourcing firm, for \$86M.
- [Appcast](#), a US-based recruitment marketing platform, [acquired Bayard Advertising](#), another recruitment marketing firm. Appcast will now service over 2,000 clients globally.
- [Howdy.com](#), a LatAm tech talent provider to US companies, [acquired GeekHunter](#), a recruitment firm that specializes in staffing US firms with IT professionals from Brazil.
- [WorkGenius](#), a US-based freelance staffing platform, [acquired Expertlead](#), a German-based technology professional staffing firm.
- [Accres HR Solutions](#), a Dutch staffing and management firm, [acquired HR-Groep](#), a freelance staffing agency.
- [Spark Hire](#), a US-based video recruiting platform provider, [acquired Chally](#), a talent assessment provider. This follows Spark Hire's [acquisition of the ATS firm Comeet](#) late last quarter.

Workforce management

- [HiBob](#), a global workforce management platform provider, [raised \\$150M](#) in a round led by Farallon Capital and Alpha Wave Global. The firm plans to expand geographically and increase its integration capabilities.
- [Intenseye](#), an AI-enabled workplace safety tracking software provider, raised [\\$65M in a Series B](#) led by Lightspeed Venture Partners.
- [One Model](#), an AI-based HR analytics firm based in the US, [raised \\$41M](#) from Riverwood Capital, Queensland Investment Corporation, Geekdom, and AV8 Ventures.
- [deskbird](#), a Switzerland-based workplace management software tailored for hybrid environments, raised a [\\$13M Series A](#) from ALSTIN Capital and Axa Venture Partners, as well as session.vc, Rivus Capital, and PortfoLion.
- [Erudit](#), an AI-powered workforce analytics platform provider, [raised \\$10M in a Series A](#) led by Conexo Ventures, Athos Capital, Ignia Partners, True Blue Partners, and Fondo Bolsa Social.
- [Qlearsite](#), a UK-based HR analytics firm, [raised \\$7.7M](#) from Summa Digital.
- [Confirm](#), an AI-powered performance management firm based in the US, [raised \\$6.2M](#) from Spero Ventures, SHRMLabs, Elefund, Gaingels, and Black Angel Group.
- [Limeade](#), an employee well-being firm based in the US, [was acquired](#) by WebMD Health Services. Pitchbook [reported](#) the deal was worth \$112M.
- [Symplefy](#), an HR management solutions provider, was [acquired](#) by GoLogiq for up to \$30M. GoLogiq plans to use the acquisition to expand into the Southeast Asia market.

Transnational education

- [Auxilo](#), an education-focused loan provider, [raised \\$57M](#) in a round led by Tata Capital Growth, Trifecta Capital Partners, and Xponentia.
- [Leverage Edu](#), a platform assisting students interested in studying abroad, [raised \\$40M in a Series C](#) led by ETS.
- [GradRight](#), a platform to connect lenders, universities, and students globally, [raised \\$6M in a Series A](#) from IvyCap Ventures.

Final reflections

It is difficult to avoid AI this quarter. As firms, workers, and educational institutions grapple with rapid technology innovation and its potential to change the landscape of how work is done and education is delivered, governments and other relevant stakeholders are working to implement regulations around the use of the technology. It has become an integral part of the post-pandemic renegotiation of earning a wage, as we calibrate where human interaction and human involvement remain essential to working, learning and living.

Though the effects of the rapid adoption of AIs, particularly large language models, will be continually and rapidly evolving, it is obvious the technology will shape the future of work, education and more. We are already seeing some of the effects in the labour markets given layoffs and union activity to protect workers – for example, the headline-grabbing Hollywood writers' strike in the US. From our anecdotal conversations, companies are adopting AI to reduce their overheads and launch products, services and content more quickly. A pessimistic view suggests that more workers will be replaced as innovation and investment increases (and even as products and services improve). Issues of data protection and the accuracy of the technology remain and indicate the need for “humans in the loop”. We predict that this will reinforce the need for upskilling and reskilling for workers to adapt to this rapid technological adoption – and for investors to think ever harder about how it affects where they deploy their money.

