Roundtable: Mastering IT skills

With technological developments racing ahead, what are the implications for IT skills in 2025? We discuss how the UK's enterprises can ensure their teams are up to the task.

Where are the skills gaps within the UK's existing IT staff?

Alexia Pedersen, SVP International, O'Reilly: Our research underscores significant skills gaps within the UK's existing IT workforce. Employers identified the digital skills they found most lacking, noting an urgent need for expertise in AI and ML (61%), cybersecurity (48%), data analysis (48%), cloud computing (43%), and programming (32%) across their workforce over the next 12 months. The significant surge in demand reflects the urgency for companies to adapt to rapid technological advancements, especially considering the integration of GenAI.

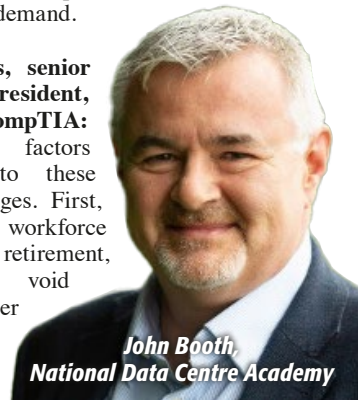
Alexia Pedersen, O'Reilly

Abhas Kumar, Senior VP, NIIT: The IT talent market is now truly global, and the skills shortages seen in the UK reflect those experienced worldwide. The most in-demand technical skills include cybersecurity, cloud computing, data analytics, AI modeling, and ML for advanced roles.

John Booth, Technical Director, National Data Centre Academy: There are still areas where staff don't understand the basic engineering principles for data centres, especially about cooling and the application of the EU Code of Conduct for Data Centres (Energy Efficiency) best practices.

Michael Aspinall, Account Director, First Point Group: As organisations increasingly rely on cloud services and digital infrastructure, the demand for professionals skilled in these areas has surged. However, due to rapid technological advancements and training programmes not adapting quickly enough to the evolving landscape (yet), there is currently a lack of professionals to meet this demand.

Jason Moss, senior vice president, EMEA, CompTIA: Several factors contribute to these skills shortages. First, an ageing workforce approaching retirement, leaving a void that younger



John Booth, National Data Centre Academy

generations are not filling quickly enough. Second, the relentless pace of technological advancement means that many professionals struggle to keep their skills current. Third, the evolving threat landscape, particularly in cybersecurity, demands expertise that is both specialised and adaptable. Finally, organisations are under pressure to drive revenue growth, which often requires adopting new technologies that outpace the availability of skilled professionals. The demand for IT skills in the UK is further compounded by a misalignment between the skills taught in educational institutions and the needs of the modern IT sector.

How are skills requirements changing with the advent of new technologies like AI?

Michael Aspinall: There's a growing need for professionals who not only understand AI technologies but can also integrate and manage them within existing systems. Skills in ML, data manipulation, and ethical AI development are becoming increasingly critical.

Alexia Pedersen: GenAI is now a must-have for all employees. Every employee within an organisation — not just tech teams — must be up to date with GenAI to stay ahead of the competition. AI won't replace humans, but humans with AI will replace humans without it.

O'Reilly's research indicates a strong demand for reskilling across all levels of a business, with non-technical staff seeking opportunities in AI and ML (62%), cybersecurity (53%), data analysis (49%), and programming (31%). Meanwhile, two-thirds of employees in technical roles have proactively pursued upskilling in AI and machine learning, alongside requests for training in cybersecurity (52%), cloud technologies (44%), programming (36%), and software architecture (25%). This shift highlights the need for an organisation that is not only technically adept but also versatile in adapting to the rapid advancement of technology.

Zeshan Sattar, Senior Industry Relations Director, EMEA, CompTIA: The top five functional areas where businesses are adopting AI include data management and analysis, cybersecurity, software development, IT infrastructure, and project management. Professionals across these domains are being called upon to upskill and adapt to this new reality. Yet many lack a clear understanding of critical issues such as data privacy, which could lead to unintended consequences. Indeed, three in 10 UK firms cite insufficient technical skills as a significant challenge.

Abhas Kumar: Generative large language models (LLMs) represent an emerging and transformative AI technology. Future IT professionals would be well served to develop transversal skills – the value will be in the user experience and the interaction of IT tech with real world data continually informing the generative engines.

"GenAI is now a must-have for all employees. Every employee within an organisation — not just tech teams — must be up to date with GenAI to stay ahead of the competition. AI won't replace humans, but humans with AI will replace humans without it."

Can existing IT staff fill the gaps – with adequate training?

Abhas Kumar: Yes and No. Over the last 50 years, the IT industry has been remarkable in the way it has created talent by both reskilling existing staff as well as creating a new discipline of education that provides fresh talent to the industry. Even with productivity enhancing AI tools, demand for IT staff is projected to grow over the medium term, which will require investment in education at the school and college level as well as in reskilling existing staff.

The advantages of upskilling existing staff are manifold – they are familiar with the organization and understand the company's systems, processes, and culture, making it easier to integrate new skills into their current roles and lead to much faster transition period. This is often more cost-effective than recruiting new talent and is beneficial to the overall company culture in terms of retention and tenure. Conversely, companies must also be open to a hybrid approach and look at hiring new talent when it comes to highly specialized skills like advanced AI or quantum computing where current employees lack the foundational knowledge needed to upskill.

Michael Aspinall: If IT professionals have a solid foundation of IT principles, this can be built upon through targeted upskilling. Organisations that invest in comprehensive training programmes can effectively close skills gaps, leveraging the existing knowledge of their staff while building upon their competencies in new and emerging technologies.

Alexia Pedersen: The UK's existing IT staff can fill the gaps with adequate training, but it requires a strategic approach from employers. UK businesses are struggling to fill hundreds of thousands of digital roles due to a scarcity of skilled candidates; a critical digital skills gap that is estimated to cost the UK economy £63 billion per year. Despite this, companies are recognising the value of investing in their current workforce.

Zeshan Sattar: One critical area of focus is the professionalisation of the cybersecurity industry. As this sector matures, there is a growing emphasis on compliance with frameworks and standards, which will help ensure consistency and competency across the workforce. This shift underscores the importance of benchmarking skills and aligning them with industry-recognised certifications to validate expertise and build trust.

Has there been enough investment in training and qualification programmes in recent years?

John Booth: I think yes, but it may have been poorly focussed. It's all very well doing the fancy stuff, 5G, software, AI, etc., but that's like driving an F1 car on a farm track and expecting it to break speed records. I think more training needs to be focussed on the underlying supporting digital infrastructure piece, the foundations for all digital services.

Jason Moss: A significant mismatch remains between the depth of skills required by employers and the training currently available. One key challenge is that employers often lack the time or resources to fully evaluate the training programmes on offer. As a result, they may find that the outcomes do not align with their specific needs.

Alexia Pedersen: With Prime Minister Keir Starmer calling the country's current skills system a 'mess,' employers have taken matters into their own hands. 26% have increased spend on apprenticeship schemes by 21–40%, while a further 24% have increased spend by 41–60%. However, employers still appear to be investing more in recruitment to acquire new talent than in L&D for existing staff, despite 79% of existing employees proactively seeking new digital reskilling opportunities over the past twelve months. In fact, 35% of UK employers will spend between £35,000-50,000 on recruitment for skills in AI and ML, cybersecurity, data analysis, cloud, and programming over the next twelve months. By comparison, only 31% will invest that amount on L&D to enhance these skills within their workforce.

Abhas Kumar: There are bright spots – like UK's support for apprenticeship programs – but in aggregate, we need more investment and to direct the investment to effective outcomes. In our experience, a large part of most training investments is wasted on topics not directly relevant to making a person job ready on Day 1, which is a colossal amount of time and money that can be productively redirected towards targeted outcomes.

What are your expectations for talent, training and hiring practices in the UK in 2025?

Jason Moss: Two-thirds of UK firms surveyed for our IT Industry Outlook 2025 report indicated they will be hiring for anticipated growth of their business in the new year, while 41% will engage in backfill hiring due to retirements and departures. For tech job roles specifically, 72% of UK firms intend to increase staffing in 2025.

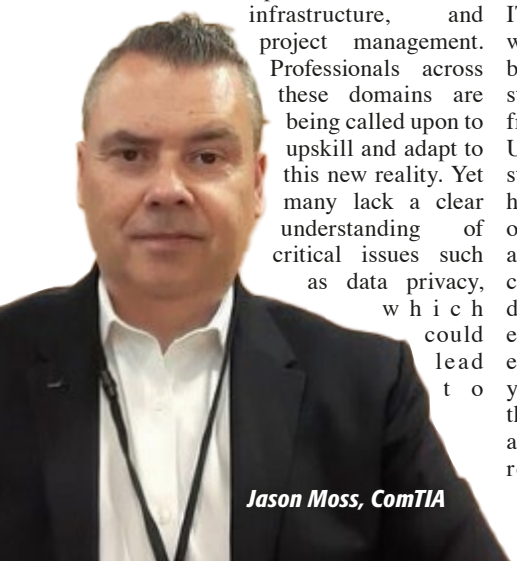
Michael Aspinall: I expect to see a more agile approach. Organisations will likely place greater emphasis on continuous learning and adaptability, ensuring that their workforce can keep pace with technological advancements.

John Booth: The UK Government is friendly to forward direct investment into data centres; already some £25 billion has been announced, and we simply do not have the personnel to meet this need. The sector needs to address this as a matter of some urgency. What is guaranteed is that the existing practice of poaching staff from other organisations is a very short-term approach - couple that with the impending 'grey tsunami' where existing personnel are approaching retirement, and we have a recipe for disaster.

Alexia Pedersen: As the demand for advanced technological expertise continues to exceed supply, companies will need to prioritise training programs which prepare their existing workforce to adapt and grow with evolving technologies and new challenges.

"Organisations will likely place greater emphasis on continuous learning and adaptability, ensuring that their workforce can keep pace with technological advancements."

Hiring practices will likely shift towards a more balanced approach, valuing candidates who demonstrate a commitment to learning and adaptability as much as technical skills. Companies will need to offer supportive work environments that prioritise job security and provide clear pathways for career progression through upskilling. With these strategic investments, businesses can meet their talent needs while strengthening their ability to attract and retain skilled professionals in an increasingly competitive market. ■



Jason Moss, ComTIA

Zeshan Sattar, ComTIA

Michael Aspinall, First Point Group