

2026

State of Tech Talent Europe Report

AI, Technical Hiring, and
the Skills Gap in Europe

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Foreword by Thierry Carrez,

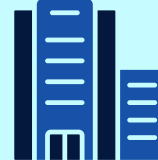
Linux Foundation Europe

2026 State of Tech Talent Europe Report

AI continues to expand technical hiring in IT, with aggregated net hiring effects of +23% in 2025 and +27% in 2026.



AI is NOT eating all IT jobs, as only the largest organisations are reporting a negative net hiring effect (-15%).



The net hiring effect is also negative for entry-level technical positions (-3%), potentially leading to a future shortage of mid-to-senior level professionals.



Understaffing is severe in cybersecurity (48%), 14 percentage points higher in Europe than in the rest of the world.

Capability gaps in AI security and risk management affect 61% of organisations.



Security concerns (51%) and lack of skills (44%) are the leading barriers to adopting new technologies.



Upskilling existing staff (63%) is the primary response to talent gaps, ahead of external hiring (59%), and is rated important by 94% of organisations.



Organisations are **3.7 times more likely to upskill than to hire** across strategic technological domains.



Upskilling is favoured over hiring for understanding business context (7.9x), team cohesion (6.3x), total cost (5.8x), and staff retention (5.6x).



Hiring and onboarding new staff takes 53% longer than upskilling, and 23% of new staff leave within six months.



Technical training (93%) ranks above compensation (83%) as a retention strategy, suggesting that technical teams value opportunities to grow.



66% consider certifications important for evaluating a candidate's technical skills.



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Foreword

As Europe wakes up to its strategic dependency on other countries, specifically in the digital space, we hear lots of calls for increasing digital sovereignty. Open source software is generally seen as a great solution to develop local capabilities and reduce dependency for the most critical workloads: a global technology commons that is readily available, mature and transparent.

But digital sovereignty requires more than just source code. It requires open governance around those projects, to ensure they stay open source. It requires active participation in those communities, to gain enough insights to be self-sustainable and achieve true technology sovereignty without rewriting everything from scratch. It requires a local ecosystem to help productize and support those technologies. And most importantly, to support all of this, it requires local talent.

There can be no digital sovereignty without local tech talent. This is why the 2026 Tech Talent Europe report is both timely and essential. Lack of available talent is often cited as a reason to keep a dependency on proprietary software, or refrain from deploying open source solutions. In the cloud computing space, for example, for too long Europe has been happy to delegate infrastructure management to foreign hyperscalers. For Europe to reverse that trend, getting a clear picture of the current state is the first step.

But digital sovereignty is not the only driver for change currently in Europe. AI is disrupting everything: more and more capable models are constantly released, and their impact on the tech talent market needs to be properly assessed. The 2026 Tech Talent Europe report thoroughly explores that dimension. It delivers a clear analysis of that impact, with multiple reasons to hope for positive overall outcomes.

Happy reading!

Thierry Carrez

General Manager, Linux Foundation Europe

Executive summary

Over the past several years, the Linux Foundation has surveyed the industry to assess the state of the technical talent market amid technological and economic shifts. This year's study is based on an online survey conducted in February 2026, focusing on the impact of AI, technical hiring, and the skills gap. This report analyses responses from Europe and, when relevant, compares them with responses from the rest of the world.

Despite negative media reports about layoffs in the tech industry due to AI, our findings show that AI is acting as a net driver of job creation in IT, with a net hiring effect of +27% expected for 2026 and +17% for 2027 in Europe, slightly smaller than the rest of the world (+34% and +25%, respectively). The data suggest that recent layoffs are concentrated at the largest enterprises (20,000+ employees), the only segment in Europe reporting a negative net hiring effect (-15%) for 2027, which is considerably lower than the +0% in the rest of the world. Smaller organisations may be absorbing displaced technical talent, as they report strong positive net hiring effects (+31% in Europe, 29% in the rest of the world). Demand is particularly high for AI-specific roles (a net hiring effect of +64% in Europe and +58% in the rest of the world).

However, this growth is not evenly distributed across seniority levels. Europe shows a contraction in entry-level technical roles (-3%), in contrast to a positive net effect of +14% in the rest of the world. Therefore, organisations risk a future shortage of mid-to-senior talent if the junior pipeline is not actively maintained.

The data also suggests that the primary obstacle to realising value from AI is not the technology itself, but gaps in security and operational readiness. Organisations are accelerating AI adoption (93% are implementing AI in Europe and 99% in the rest of the world), but many have not yet built the foundational capabilities needed to deploy it safely. Security and privacy concerns have risen sharply, becoming the top barrier to adopting new technologies, up from third place in 2025 (cited by 43%) to the top spot in 2026 (cited by 51%).

This risk is symptomatic of a broader full-stack readiness problem. The report shows that organisations are understaffed across strategic domains, and these staffing shortages are associated with capability gaps. Europe follows a trend similar to the rest of the world, with a majority of organisations reporting capability gaps in AI security and risk management (61%), cost optimisation (58%), and AI operations and monitoring (56%). Operational maturity is further constrained by the low deployment of fundamental AI infrastructure (PARK stack), with deployment as low as 32% for Ray/Distributed Computing, indicating that most organisations still lack the full capabilities required for scalable AI.

To bridge these full-stack and operational gaps, organisations prefer to look to their internal staff. Upskilling and cross-skilling existing staff is the top strategy, favoured over external hiring 3.7 times more often. Upskilling offers major advantages in preserving institutional knowledge and is strongly preferred for understanding business context (7.9x), team cohesion (6.3x), total cost (5.8x), and staff retention (5.6x). Hiring externally, by contrast, is slower and riskier: new hires take 53% longer to reach productivity, and 23% resign within six months. Overall, the findings suggest that organisations rate technical training (93%) as a more effective retention strategy than compensation (83%). Therefore, the path to sustainable AI scaling requires prioritising internal development and continuous learning to build secure, operational full-stack competencies. This also points to the strategic importance of deliberately hiring and developing junior talent today, treating upskilling not only as a gap-closing mechanism for current staff but as a pipeline investment for the mid-to-senior professionals organisations will need in the years ahead.



Introduction

This report provides an analysis of the IT workforce and talent management strategies in the era of artificial intelligence (AI). Our insights draw on survey responses from 398 global participants responsible for hiring, training, and managing technical talent. The analyses focus on European organisations (157) and are complemented by comparative perspectives from global respondents.

The research explores how organisations manage the intersection of talent management and technological innovation, specifically examining AI's transformative impact on workforce dynamics. The research investigates questions such as: Where do organisations expect AI to deliver value? Is that value coming at the cost of technical jobs, or is it generating new ones? What skills does operationalising AI actually require, and how are organisations building them?

This report addresses those questions and examines where organisations expect AI to create value, how AI is reshaping the technical workforce, which skills are needed to support AI in production, and how organisations are responding to the talent gaps. Our analysis highlights the value of skill development programs, including upskilling (deepening existing capabilities) and cross-skilling (expanding expertise across domains). For consistency, we use the term “upskilling” throughout this report to refer to both of these complementary training approaches.

The analysis of the European market provides insights into how organisations are approaching AI integration and talent management.

AI creates value and it is not eating all IT jobs

Gains are expected across core activities

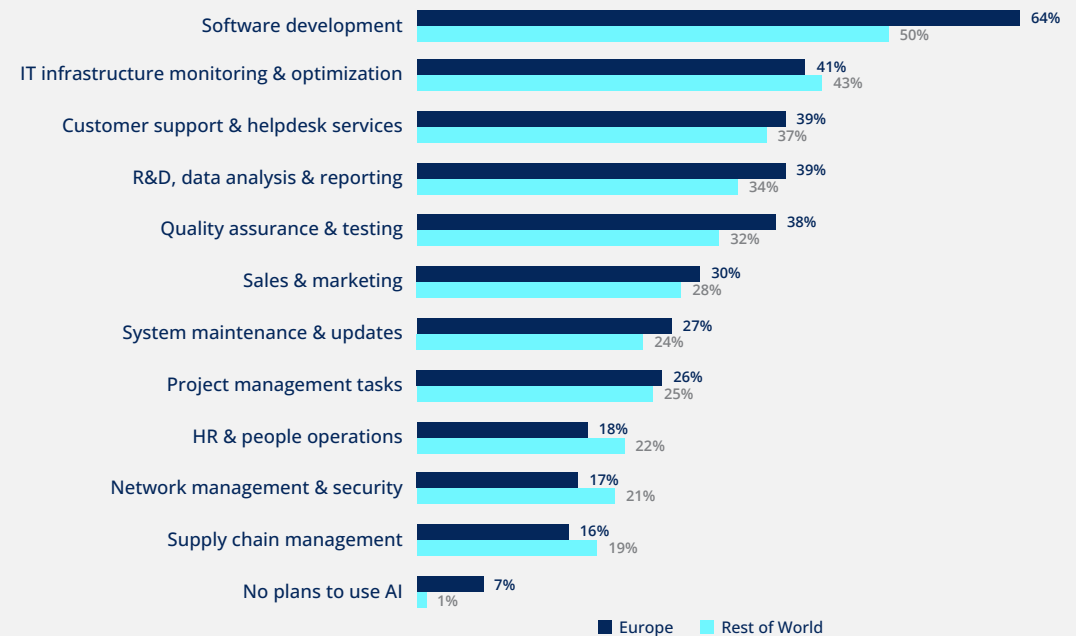
Organisations expect AI-driven gains across core activities, as observed in Figure 1. Only 7% of European organisations report having no AI plans, indicating widespread adoption consistent with global trends.¹

Software development (64%) ranks first among the surveyed activities. These results are consistent with prior research on productivity gains from AI-assisted development^{2,3} and recent industry investments, including the Linux Foundation's launch of the Agentic AI Foundation to support the emerging ecosystem of AI coding agents and agentic infrastructure.⁴ This result likely reflects the close fit between generative AI capabilities and software work, where tasks such as code generation, debugging, documentation, testing, and maintenance can be directly augmented by AI tools.

FIGURE 1: EXPECTED AI GAINS ACROSS CORE ACTIVITIES

% of organisations expecting AI to deliver significant value

2026 Tech Talent, Q23 by Q8, Sample Size Europe = 157, Sample Size Rest of World = 241, Total Mentions = 1,364, DKNS excluded (3%)



- 1 Singla et al., "The state of AI in 2025: Agents, innovation, and transformation," McKinsey & Company, Nov. 2025. [Online]. Available: <https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai>
- 2 Cui et al., "The effects of generative AI on high-skilled work: Evidence from three field experiments with software developers," Management Science, 2026. <https://pubsonline.informs.org/doi/10.1287/mnsc.2025.00535>
- 3 Peng et al., "The impact of AI on developer productivity: Evidence from GitHub Copilot," arXiv:2302.06590, 2023, <https://arxiv.org/abs/2302.06590>
- 4 Linux Foundation, "Linux Foundation announces the formation of the Agentic AI Foundation," Press Release, Dec. 9, 2025. <https://www.linuxfoundation.org/press/linux-foundation-announces-the-formation-of-the-agentic-ai-foundation>

The AI impact on IT jobs

The tech industry in Europe has been substantially expanding. According to Eurostat,⁵ the number of IT specialists in the EU increased by 62.2% from 2014 to 2024, almost six times the 10.6% increase in total employment over the same period.

However, AI's productivity gains raise concerns of AI-driven job displacement in the tech industry. These concerns have been reinforced by recent press reports linking large-scale layoffs to AI adoption.^{6,7,8}

Economists note that such fears can reflect the “lump-of-labor” fallacy:⁹ the assumption that the total amount of work in an economy is fixed, such that productivity gains must come at the expense of jobs. Historical evidence suggests otherwise. When powerful technologies reduce the cost of an input, demand typically expands to create new roles and industries rather than simply eliminating existing ones.

Indeed, Eurostat data¹⁰ show continued growth in IT specialist employment. A European Central Bank analysis¹¹ of approximately 5,000 firms finds that AI use and investment are not currently replacing jobs, and firms planning AI investment are more likely to face employment growth. An EIB working paper¹² analysing more than 12,000 European firms found that AI adoption

raises labour productivity by an average of 4% with no evidence of reduced employment in the short term, pointing to a complementary rather than substitutive relationship. Similarly, a 2025 study¹³ of 25,000 workers in Denmark found that AI use produced time savings but had no significant effect on earnings or recorded working hours across occupations, casting further doubt on mass-displacement scenarios. Nevertheless, this could change in a longer timeframe. In Germany, the ifo Institute reports that 27.1% of companies expect AI to lead to job cuts over the next five years, with affected firms expecting an average workforce reduction of around 8%. At the same time, Germany expects a labour shortage due to generational developments.¹⁴

Our survey adds evidence that AI is making more organisations increase headcount than decreasing it, resulting in a positive net hiring effect in the tech industry. As shown in Figure 2, 2025 saw a +23% net hiring effect, which is expected to increase to +27% in 2026. For 2027, organisations expect a smaller but still positive net hiring effect (+17%). Therefore, at least among surveyed organisations, AI currently appears to be acting more as a driver of demand than as a reducer of headcount. Other analyses are also optimistic. The World Economic Forum's *Future of Jobs Report 2025* projects a net global increase of 78 million jobs by 2030, with 170 million new roles created against 92 million displaced.¹⁵

5 https://ec.europa.eu/eurostat/statistics-explained/index.php?title=ICT_specialists_in_employment

6 <https://www.reuters.com/business/world-at-work/allianz-cut-up-1800-jobs-due-ai-advances-says-source-2025-11-26/>

7 <https://www.reuters.com/business/media-telecom/bt-ceo-eyes-deeper-job-cuts-ai-becomes-more-powerful-ft-reports-2025-06-15/>

8 <https://www.reuters.com/technology/artificial-intelligence/swedens-klarna-says-ai-chatbots-help-shrink-headcount-2024-08-27/>

9 <https://www.stlouisfed.org/publications/page-one-economics/2020/11/02/examining-the-lump-of-labor-fallacy-using-a-simple-economic-model>

10 <https://ec.europa.eu/eurostat/web/interactive-publications/digitalisation-2026>

11 <https://www.ecb.europa.eu/press/blog/date/2026/html/ecb.blog20260304~d9e34fc95f.en.html>

12 <https://www.eib.org/en/publications/20250383-economics-working-paper-2026-02>

13 <https://www.nber.org/papers/w33777>

14 <https://www.destatis.de/EN/Themes/Society-Environment/Population/Population-Projection/medium-term-population-projection.html>

15 World Economic Forum, “The Future of Jobs Report 2025,” <https://www.weforum.org/publications/the-future-of-jobs-report-2025/>

FIGURE 2: A POSITIVE NET HIRING EFFECT IN IT FROM 2025 THROUGH 2027

2026 Tech Talent, Q21, Sample Size Europe = 157, Sample Size Rest of World = 241, not applicable and DKNS excluded (7% in 2025, 14% in 2026, 29% in 2027). Net Hiring Effect = % increase - % decrease

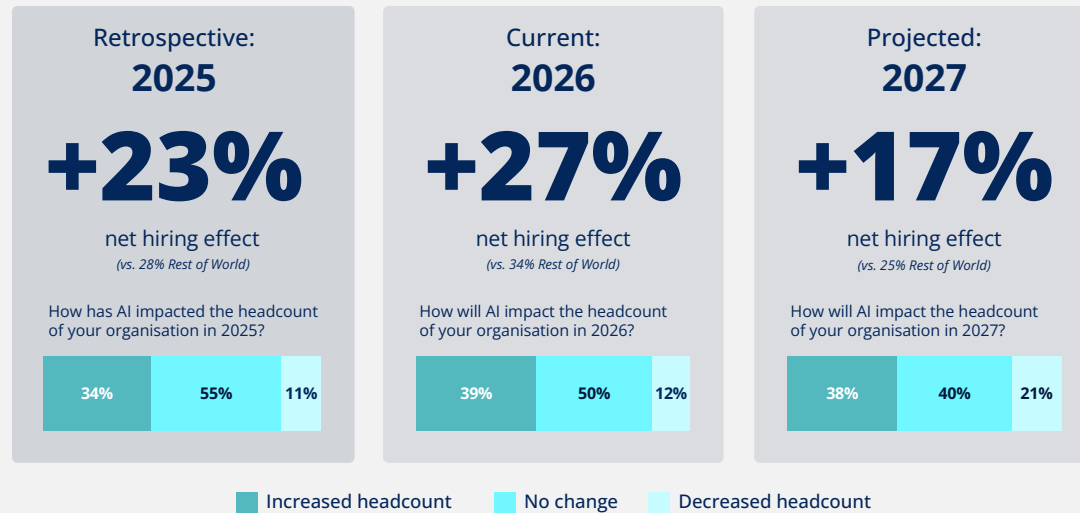
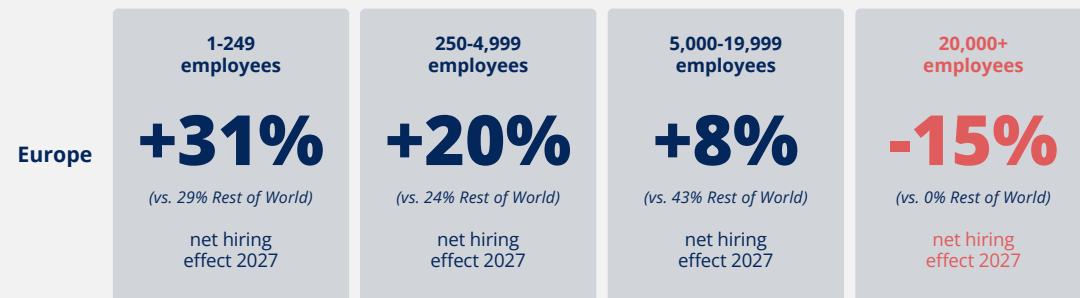


FIGURE 3: EXPECTED NET HIRING EFFECT ACROSS ORGANISATION SIZES

2026 Tech Talent, Q21 by Q13, Sample Size Europe = 157, Sample Size Rest of World = 241, not applicable and DKNS excluded, data for 2027 expectations, Net Hiring Effect = % increase - % decrease, detailed data available in appendices A1.1 and A1.2



When breaking down the net hiring effect by organisation size (Figure 3), we observe that larger organisations are more prone to reducing headcount due to AI, especially in Europe, with a net hiring effect of -15% in 2027 for organisations with 20,000 or more employees. All smaller segments report positive effects ranging from +8% to +31%, suggesting that the headline layoffs may be concentrated in large enterprises. These results may also indicate that demand among smaller firms could offset some reductions among large enterprises.

Our findings highlight a potential misalignment between survey evidence and press reports that attribute recent layoffs to AI. Macroeconomic conditions, post-pandemic workforce corrections, and geopolitical pressures are also plausible contributors to job cuts, factors that receive less attention when AI offers a more compelling explanatory frame. At the same time, our findings should be interpreted cautiously. The survey captures self-reported perceptions within the IT sector and does not isolate AI's independent contribution from broader economic conditions, sectoral growth cycles, or organisational investment decisions that may have coincided with AI adoption. Moreover, the organisations represented here may be skewed toward those actively investing in AI. Finally, whether the findings presented here reflect a durable effect or a transitional phase that may correct as automation matures remains an open question.

AI is reshaping technical roles

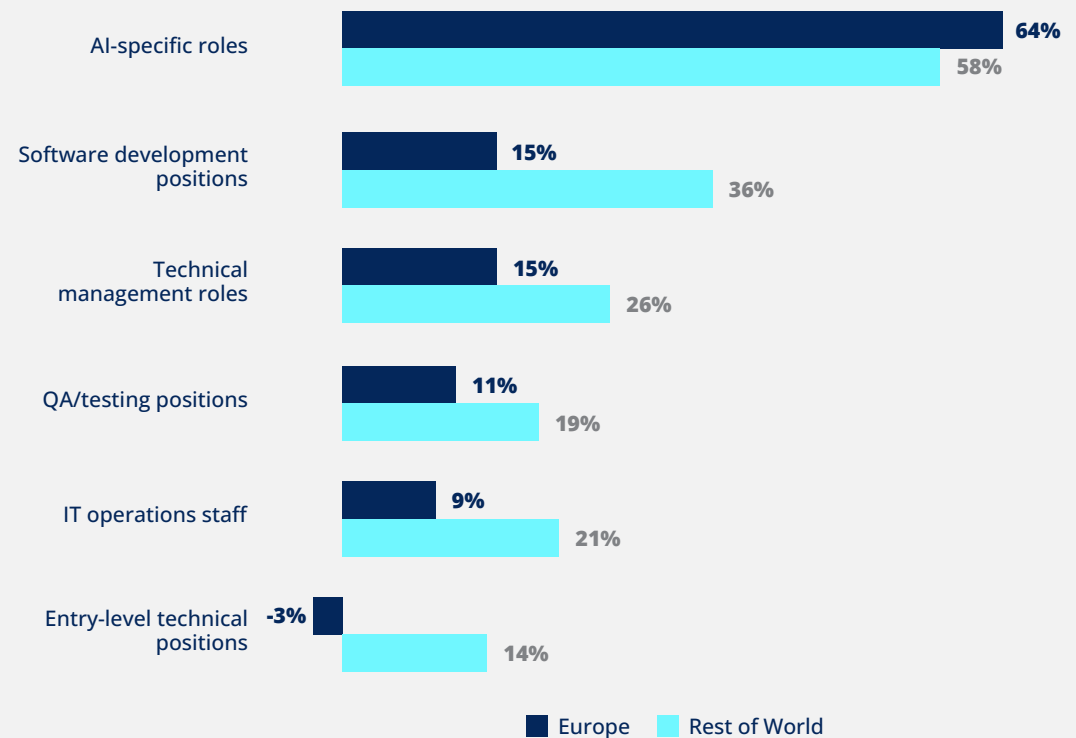
We also observe positive net hiring effects at the role level (Figure 4). AI-specific roles show the largest net hiring effect, at +64%. Software development (+15%), technical management (+15%), QA and testing (+11%), and IT operations (+9%) also had a positive net hiring effect in 2025, at smaller levels than the rest of the world (+36%, 26%, 19%, and 21%, respectively). This growth coexists with the reshaping of roles within the profession. Developers, for example, acknowledge that their role is changing, with greater emphasis on architecture, integration, and AI-enabled decision-making.¹⁶

Nevertheless, Europe faces a contraction in entry-level technical roles (-3%), in the opposite direction of the rest of the world, which showed a positive net hiring effect of 14%. One possible explanation for such contraction is that AI is automating some tasks that have traditionally served as entry points into the profession. If these tasks have been absorbed by AI, organisations may be reducing junior hiring while increasing demand for mid- and senior-level roles that require judgment, contextual reasoning, and oversight of AI systems. If sustained, this trend raises questions about career pipeline development and may necessitate stronger upskilling initiatives.

FIGURE 4: THE NET HIRING EFFECT WAS POSITIVE FOR MOST TECHNICAL POSITIONS

Net hiring effects for technical areas in 2025

2026 Tech Talent, Q22, Sample Size Europe = 157, Sample Size Rest of World = 241, not applicable and DKNS excluded. Net Hiring Effect = % increase – % decrease, detailed data in appendices A2.1 and A2.2



¹⁶ BairesDev, "Dev Barometer 2025: A New Generation of AI-Native Developers — The Impact of AI on Software Developers and What to Expect in 2026," White Paper, 2025. https://www.bairesdev.com/files/Dev_Barometer_2025_White_Paper.pdf

The skills gap is in the full stack, not just AI

Organisations are understaffed in AI and other strategic domains

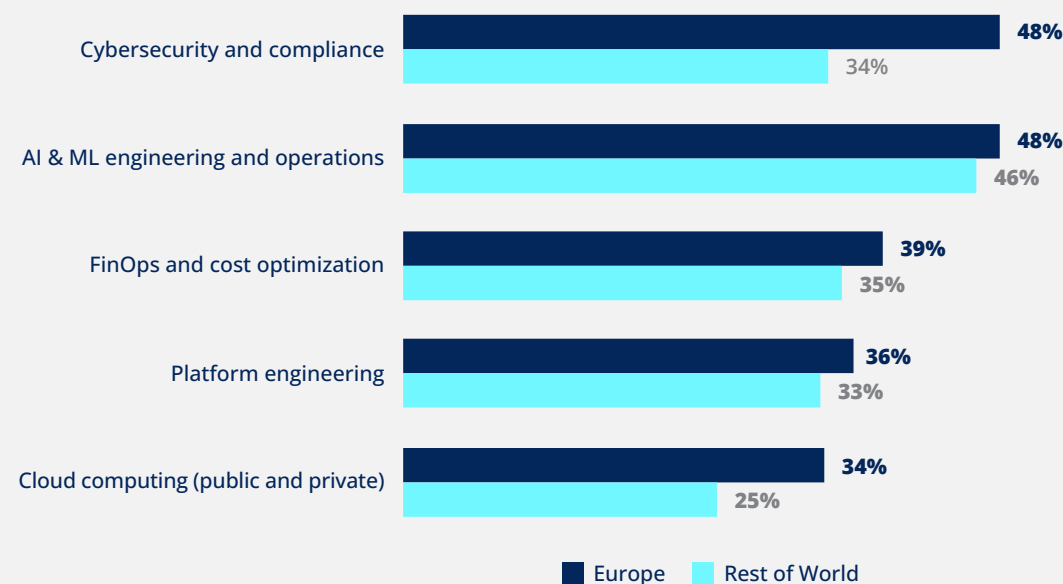
Even as hiring expands, organisations are understaffed across all surveyed technical domains (Figure 5). The shortage is not concentrated in AI specialisation but reflects a broad deficit in the infrastructure and operational support upon which AI deployment depends. Cybersecurity and AI engineering and operations lead at 48% understaffing. Deploying AI agents or models in production requires robust platform engineering, container orchestration, cost governance, and security hardening. In other words, the skills gap is not just about knowing how to use AI, it is also about having the engineering knowledge required to deploy it. As observed in Figure 5, understaffing is particularly acute in Europe compared to the rest of the world, especially in cybersecurity and compliance (a 14-percentage-point difference).

Staffing gaps can contribute to capability gaps in key AI competencies (Figure 6). 61% of organisations report capability gaps in AI security and risk management, followed closely by cost optimisation for AI workloads (58%) and AI operations and monitoring (56%). Change management and communication (49%), data management (48%), building and managing AI infrastructure (44%), infrastructure and platform (38%), and business domain expertise (31%) also show gaps for implementing AI.

FIGURE 5: ORGANISATIONS ARE UNDERSTAFFED ACROSS TECHNICAL DOMAINS

% of organisations rating themselves as understaffed (significantly or somewhat)

2026 Tech Talent, Q19, Sample Size Europe = 157, Sample Size Rest of World = 241, DKNS excluded, detailed data in appendices A3.1 and A3.2



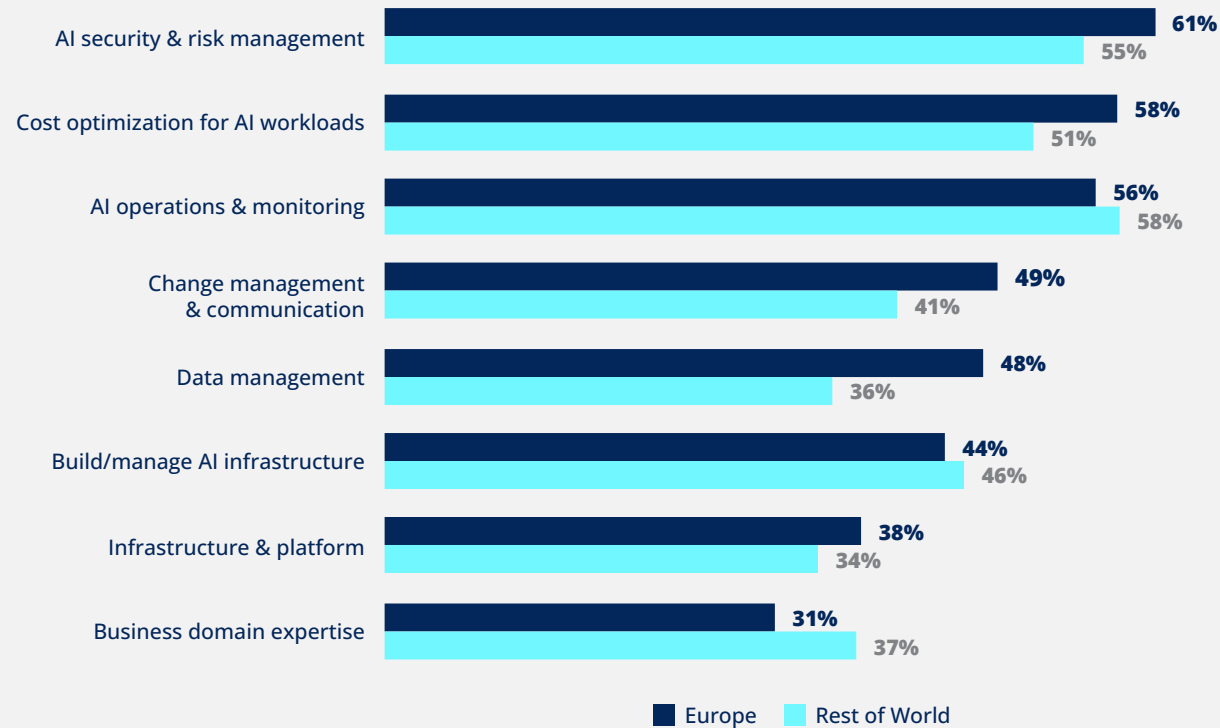
14%

More understaffed in cybersecurity and compliance than the rest of world

FIGURE 6: ORGANISATIONS REPORT CAPABILITY GAPS ACROSS KEY AI COMPETENCIES

% of organisations rating themselves as having a significant or minor capability gap

2026 Tech Talent, Q25, Sample Size Europe = 157, Sample Size Rest of World = 241, DKNS excluded, detailed data in appendices A4.1 and A4.2



These findings challenge a common assumption about AI readiness. Organisations often treat AI readiness as a matter of training staff on prompt engineering or new tools. However, the data suggest a need to build technical fluency and operational readiness across the full stack that supports AI in production. In other words, the skills gap is not an AI problem narrowly defined, but a full-stack readiness problem. This gap can constrain the value organisations expect AI to deliver, regardless of how much they invest in AI tooling alone.

Most organisations lag behind in the PARK stack implementation

Our results also show that the infrastructure required to deploy AI in production is adopted unevenly across the surveyed organisations (Figure 7). The PARK stack, a layered architecture for production AI first introduced by Ben Lorica,¹⁷ is in early-to-mid stages of adoption, with deployment rates varying considerably across its four layers. Much like the LAMP stack bundled complementary technologies for building, hosting, and maintaining web applications, PARK provides a common shorthand for the integrated set of capabilities organisations must assemble to move AI from experimentation into production.

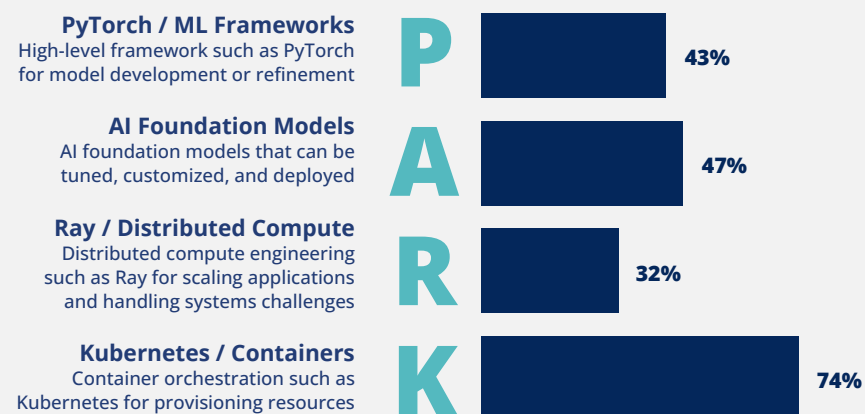
The PARK stack comprises PyTorch and equivalent ML frameworks (**P**) for model development and refinement (which 43% of European organisations have at least partially deployed), AI foundation models (**A**) for providing base intelligence (47%), Ray and distributed compute (**R**) for scaling applications across systems (32%), and Kubernetes and containers (**K**) for resource provisioning and orchestration (74%). We can observe that, consistent with the findings from the previous section, except for Kubernetes, Europe lags behind in the deployment of core technologies that support AI.

Distributed compute engineering, such as Ray, has the lowest deployment rate within the PARK stack at 32%, suggesting that organisations are not yet scaling AI workloads or handling the associated systems-level challenges. AI foundation models and PyTorch-based ML frameworks sit in the middle, at 47% and 43%, respectively. Kubernetes and containers lead the stack at 74%, consistent with their maturity in production environments.¹⁸

FIGURE 7: DEPLOYMENT RATES FOR PARK INFRASTRUCTURE TECHNOLOGIES

What progress has your organisation made in implementing each layer of the PARK stack?

2026 Tech Talent, Q20, Sample Size Europe = 157, Sample Size Rest of World = 241, DKNS excluded, 'At least partially deployed' = fully + partially deployed, detailed data available in appendices A5.1 and A5.2



Nevertheless, even at the high end, one-fourth of organisations have not yet adopted Kubernetes and containers for AI workloads. For inference use cases, the primary workload for most organisations, Kubernetes can support autoscaling, cost optimisation, multi-provider fallback, and latency management, making it a natural fit as AI moves into production. Recognising this, the Cloud Native Computing Foundation (CNCF) launched the Certified Kubernetes AI Conformance Program in November 2025,¹⁹ a community-led effort to define and validate standards for running AI workloads on Kubernetes.

17 Ben Lorica, "The PARK Stack Is Becoming the Standard for Production AI," <https://gradientflow.com/park-stack/>

18 Lawson and Sica, "CNCF Annual Cloud Native Survey: The Infrastructure of AI's Future," Cloud Native Computing Foundation (CNCF), The Linux Foundation, Jan. 2026. https://www.cncf.io/wp-content/uploads/2026/01/CNCF_Annual_Survey_Report_final.pdf

19 Cloud Native Computing Foundation, "CNCF Launches Certified Kubernetes AI Conformance Program to Standardize AI Workloads on Kubernetes," CNCF, Nov. 11, 2025. <https://www.cncf.io/announcements/2025/11/11/cncf-launches-certified-kubernetes-ai-conformance-program-to-standardize-ai-workloads-on-kubernetes/>

The uneven deployment of the PARK stack suggests that for most organisations, maturity is still being built. Expanding headcount and adopting AI tools are necessary steps, but they are not enough without the full-stack capabilities required to deploy and scale production AI.

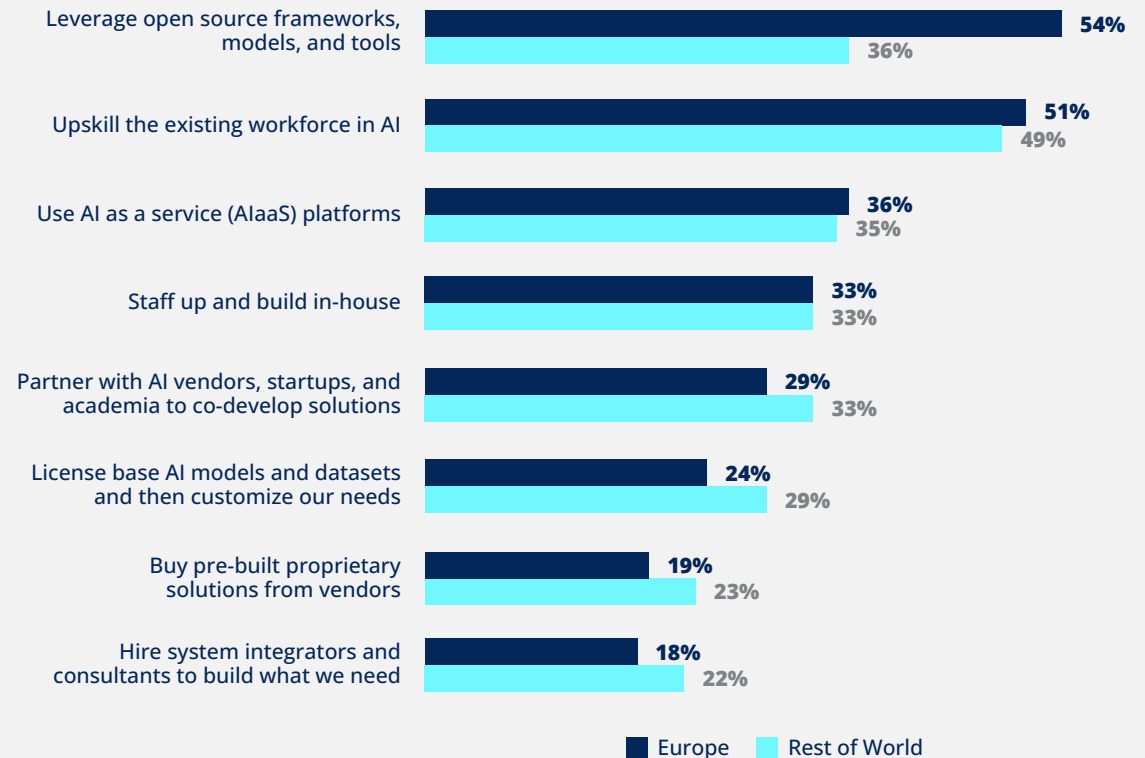
Open source as a solution for addressing AI core activities

As shown in Figure 8, open source is the top strategy for implementing AI core activities among European organisations, cited by 54% of respondents, 18 percentage points ahead of the rest of the world (36%). This approach is consistent with broader patterns of OSS adoption in Europe. According to LF Research’s World of Open Source Europe Spotlight 2025,²⁰ open source is already embedded across enterprise technology stacks and most organisations consider open source a critical approach to developing sovereign AI. The PARK stack described in the previous section is itself a largely open source architecture, and organisations building on these components may reduce licensing costs and vendor lock-in risks.

FIGURE 8: OPEN SOURCE FRAMEWORKS, MODELS, AND TOOLS ARE THE TOP SOLUTION FOR IMPLEMENTING AI CORE ACTIVITIES

How does your organisation plan to address its AI core activities?

2026 Tech Talent, Q20, Sample Size Europe = 157, Sample Size Rest of World = 241, DKNS excluded

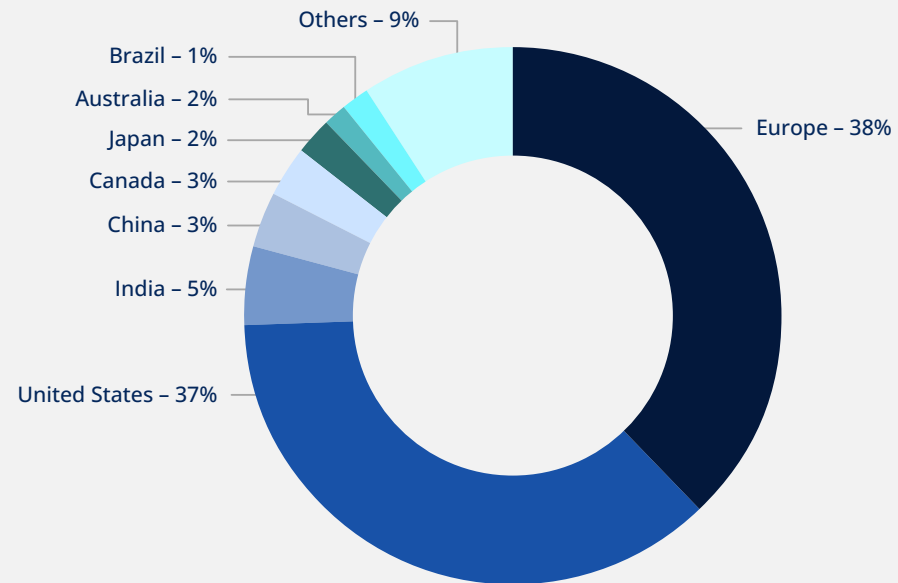


20 Osborne and Lawson, “Open Source as Europe’s Strategic Advantage: World of Open Source Europe Spotlight 2025,” The Linux Foundation, Aug. 2025. <https://www.linuxfoundation.org/research/world-of-open-source-eu-2025>

The European regulatory environment further strengthens the strategic value of open source. The EU AI Act and the Cyber Resilience Act impose transparency, auditability, and security-by-design requirements that open source systems are better positioned to satisfy than closed alternatives. The capability gaps documented earlier in this report, particularly in AI security and risk management, can be partially addressed through open source communities, which produce shared tooling, vulnerability disclosures, and reference architectures that would otherwise require substantial internal investment to develop.

The strong preference for open source as an enabler of AI core activities aligns with Europe's high level of engagement in OSS. As shown by LFX Insights²¹ (Figure 9), Europeans account for the largest share of contributions to CNCF projects. Organisations with active OSS contributors benefit from deeper visibility into project direction, earlier awareness of security issues, and greater influence over the roadmaps of tools they rely on in production. For AI deployment, this matters because core infrastructure components such as PyTorch, Ray, and Kubernetes underpin the PARK stack. Europe's active participation in these communities gives its technical ecosystem a practical advantage in turning open source engagement into operational capability.

FIGURE 9: EUROPE IS HIGHLY ENGAGED IN CONTRIBUTIONS TO OSS FOUNDATIONAL INFRASTRUCTURE



Source: LFX Insights, <https://insights.linuxfoundation.org/report/cncf> (consultation date: May 6, 2026)

21 LFX Insights, "CNCF Contributor Geographic Distribution", <https://insights.linuxfoundation.org/report/cncf>

Agentic AI raises serious security risks, and most organisations are not ready

Security challenges are rising in relevance

Many organisations report gaps in staffing and capability needed to address the security challenges posed by AI. As presented in previous sections, security ranks first among understaffed domains and capability gaps, with 48% and 61% facing deficits in these areas, respectively (Figure 10)

These numbers point to a significant vulnerability as AI systems become more capable and more deeply embedded in organisational operations. Agentic AI amplifies the risks even further. A non-deterministic system that can read and write files, query databases, trigger workflows, or call external APIs introduces risks that traditional application security models may not fully address and that require security expertise already missing in organisations.

FIGURE 10: ORGANISATIONS REPORT SUBSTANTIAL TALENT AND CAPABILITY GAPS IN SECURITY

LEFT: 2026 Tech Talent, Q19, Sample Size = 157, DKNS excluded

RIGHT: 2026 Tech Talent, Q25, Sample Size = 157, excluding Not Applicable, Gap = % reporting significant or minor capability gap

48%

of organisations report they are understaffed in **cybersecurity and compliance**

#1 among understaffed tech domains

61%

of organisations report a capacity gap in **AI security & risk management**

#1 among technical capability gaps

Organisations are increasingly aware of the importance of security. As observed in Figure 11, security and privacy concerns ranked third among the barriers to adopting new technologies in 2025 at 43% and climbed to first place in 2026 at 51%, an 8-percentage-point increase.

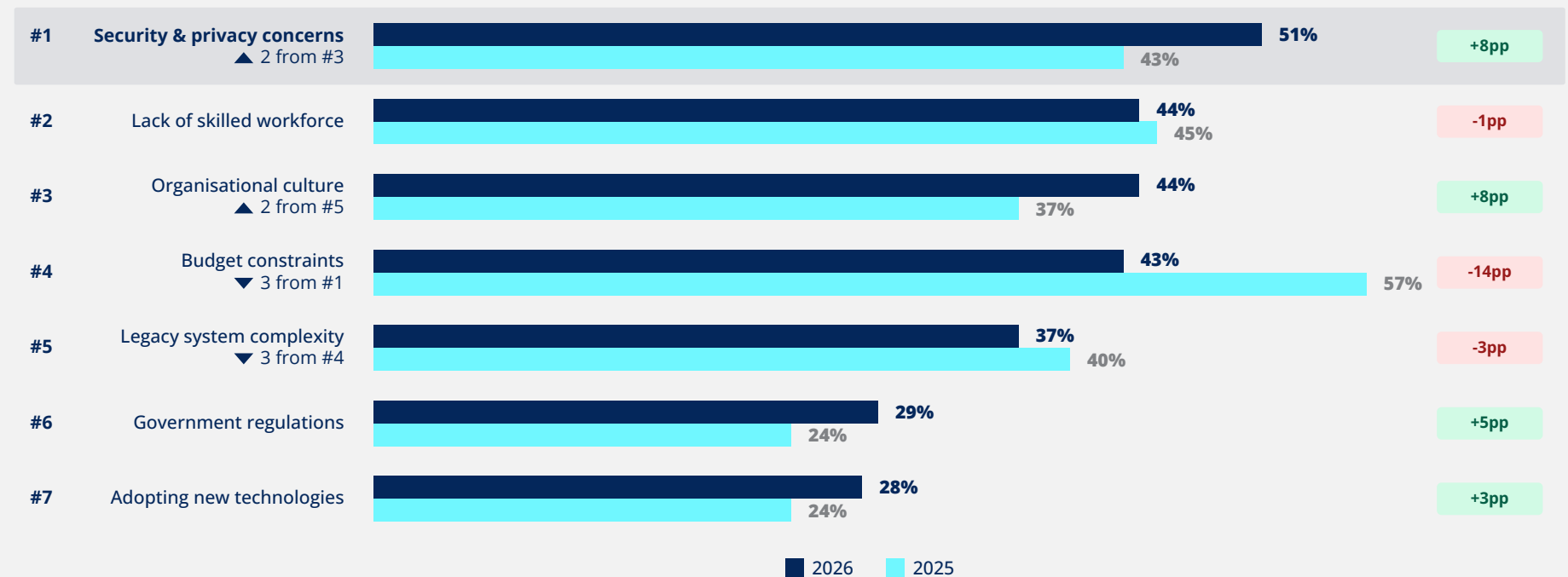
Interestingly, budget constraints, which topped the European ranking in 2025, dropped to fourth place in 2026, suggesting that budget constraints may be less dominant than security, skills, and culture barriers in this year's responses.

“Many organisations report gaps in staffing and capability needed to address the security challenges posed by AI.”

FIGURE 11: SECURITY AND PRIVACY CONCERNS BECAME THE TOP BARRIER TO ADOPTING NEW TECHNOLOGIES IN 2026

What are the primary challenge(s) of adopting new technologies? (select all that apply)

2026 Tech Talent, Q18, Sample Size Europe = 157, 2025 Tech Talent, Q18, Sample Size = 171, DKNS excluded, % of respondents citing each challenge, ranked by 2026



Security concerns are the leading barrier to getting value from AI

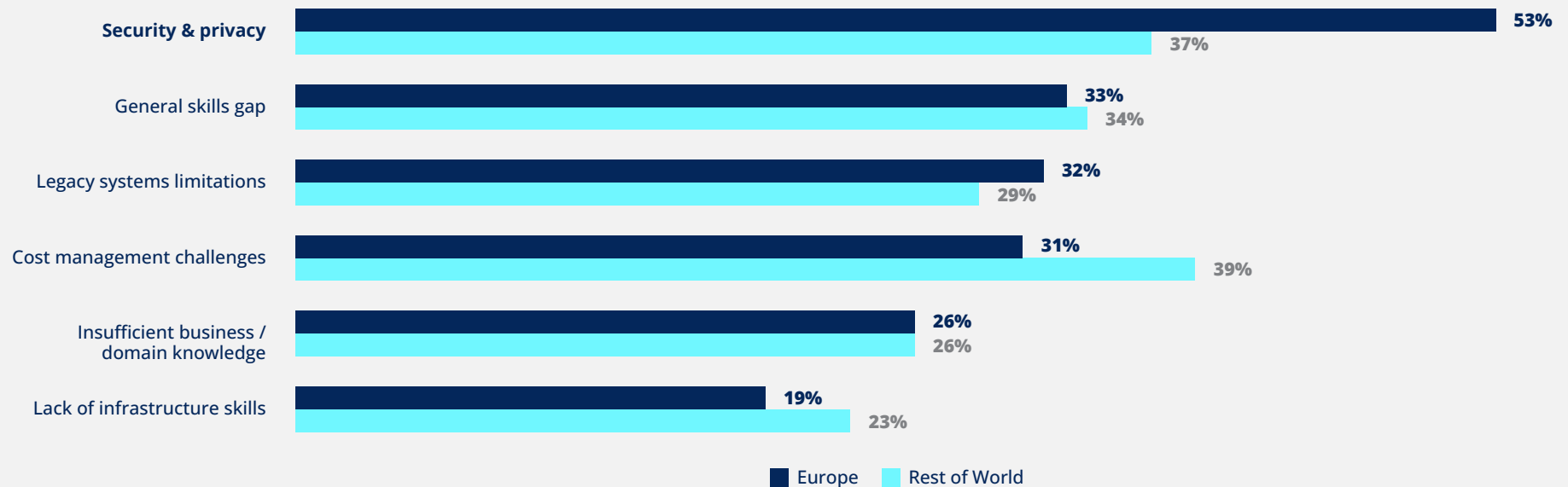
When asked specifically what prevents their organisations from getting value from AI, European respondents ranked security concerns first at 53% (Figure 12), 16 percentage points above the rest of the world. Security concerns rank ahead of general skills gap (33%), legacy systems limitations (32%), cost management challenges (31%), insufficient business and domain knowledge (26%), and lack of infrastructure skills (19%).

These security concerns align with the rise of AI agents. AI agents can be granted the ability to operate semi-autonomously, including sending emails, querying databases, calling APIs, or making decisions. These activities expand the attack surface and create attack vectors, such as prompt injection, supply chain vulnerabilities in tools, and agents operating across trust boundaries without human oversight. Unlike deterministic software, for which the same input produces the same output, systems based on generative AI behave probabilistically, and the same input can yield different actions across runs, making their behaviour difficult to anticipate, test, or control.

FIGURE 12: TOP BARRIERS TO REALISING VALUE FROM AI

What are your organisation's top barriers to getting value from AI? (select up to three)

2026 Tech Talent, Q26, Sample Size Europe = 157, Sample Size Rest of World = 241, Total Mentions = 805, DKNS excluded, top responses shown



The security community has begun formalising responses to these risks. OWASP (the Open Worldwide Application Security Project) launched its Top 10 for LLM Applications as a community-driven effort to identify and address security issues specific to AI applications.²² The U.S. National Security Agency (NSA), alongside other federal agencies, released joint guidance titled “AI Data Security: Best Practices for Securing Data Used to Train & Operate AI Systems,” outlining best practices for securing data across the AI system lifecycle, including the data supply chain and protection against malicious or unauthorised modification.²³

The European security and regulatory community has also begun formalising responses to these risks. The EU AI Act²⁴ establishes lifecycle-oriented obligations for high-risk AI systems, including risk management, data governance, technical documentation, record-keeping, transparency, human oversight, accuracy, robustness, and cybersecurity. In 2025, the European Commission made available the General-Purpose AI Code of Practice.²⁵ The Commission describes safety and security practices for managing systemic risks from the most advanced models. Providers can rely on their recommendations to comply with AI Act obligations for general-purpose AI models that pose systemic risk. In parallel, the UK National Cyber Security Centre’s Guidelines for Secure AI System Development²⁶ recommend secure-by-design practices for providers of AI systems, including systems created from scratch or built on third-party tools and services.

22 OWASP Gen AI Security Project, “OWASP Top 10 for LLM Applications 2025,” Nov. 17, 2024. <https://genai.owasp.org/resource/owasp-top-10-for-llm-applications-2025/>

23 National Security Agency, “NSA’s AISC Releases Joint Guidance on the Risks and Best Practices in AI Data Security,” May 22, 2025. <https://www.nsa.gov/Press-Room/Press-Releases-Statements/Press-Release-View/Article/4192332/nsas-aisc-releases-joint-guidance-on-the-risks-and-best-practices-in-ai-data-se>

24 <https://artificialintelligenceact.eu/article/15/>

25 <https://digital-strategy.ec.europa.eu/en/policies/contents-code-gpai>

26 <https://www.ncsc.gov.uk/collection/guidelines-secure-ai-system-development>



The value of institutional knowledge

Upskilling is the preferred strategy to address the lack of a skilled workforce

Workforce skills remain a major barrier to technology adoption. As illustrated in Figure 13, the lack of a skilled workforce is the second most relevant barrier for technology adoption and for getting value from AI.

“Organisations cannot buy institutional knowledge.”

Organisations have a clear preference for how to address the technical talent gaps. They are looking inward, with 51% of organisations planning to address AI core activities by upskilling the existing workforce (Figure 13). This finding suggests that effectively deploying AI is not purely a technical challenge, as it requires understanding the business processes, data flows, organisational context, and domain-specific nuances that shape how AI systems should behave and where they are likely to fail. This knowledge is largely tacit, living in the people who have worked in the organisation, and it is not easily documented, transferred, or replicated by external hires. An AI system implemented by people who lack that context may be technically sound but operationally misaligned. Upskilling existing staff in AI, rather than bringing in AI specialists from outside, keeps that institutional knowledge in the loop.

Figure 14 shows upskilling existing staff (63%) as the primary response to talent gaps, ahead of hiring new technical staff (59%) and upskilling inexperienced staff for technical roles (45%). Existing staff carry institutional knowledge of systems, processes, codebases, and organisational context that is difficult to acquire quickly through external hiring. Building new technical competencies on top of the existing institutional knowledge foundation is less disruptive than onboarding external talent, who must first learn the environment before contributing. Not surprisingly, 94% of organisations consider upskilling important, very important, or extremely important (Figure 15).

FIGURE 13: SKILLS GAPS HINDER AI ADOPTION IN EUROPE AND UPSKILLING IS A LEADING RESPONSE STRATEGY

2026 Tech Talent, Q18, Q26, Q24, Sample Size = 157, only respondents from Europe

44%

cite **lack of skilled workforce** as a primary challenge in tech adoption

#2 among adoption challenges

33%

cite **general skill gap** as one of the top barriers for getting value from AI

#2 among barriers

51%

plan to address AI core activities **upskilling the existing workforce**

#2 among strategies

FIGURE 14: UPSKILLING/CROSS-SKILLING IS THE TOP STRATEGY TO ADDRESS TECHNICAL TALENT GAPS

How does your organisation ensure that its technical staff have the necessary skills to fulfill the technological needs of the organisation? (select all that apply)

2026 Tech Talent, Q27, Sample Size Europe = 157, Sample Size Rest of World = 241, Total Mentions = 808, DKNS excluded

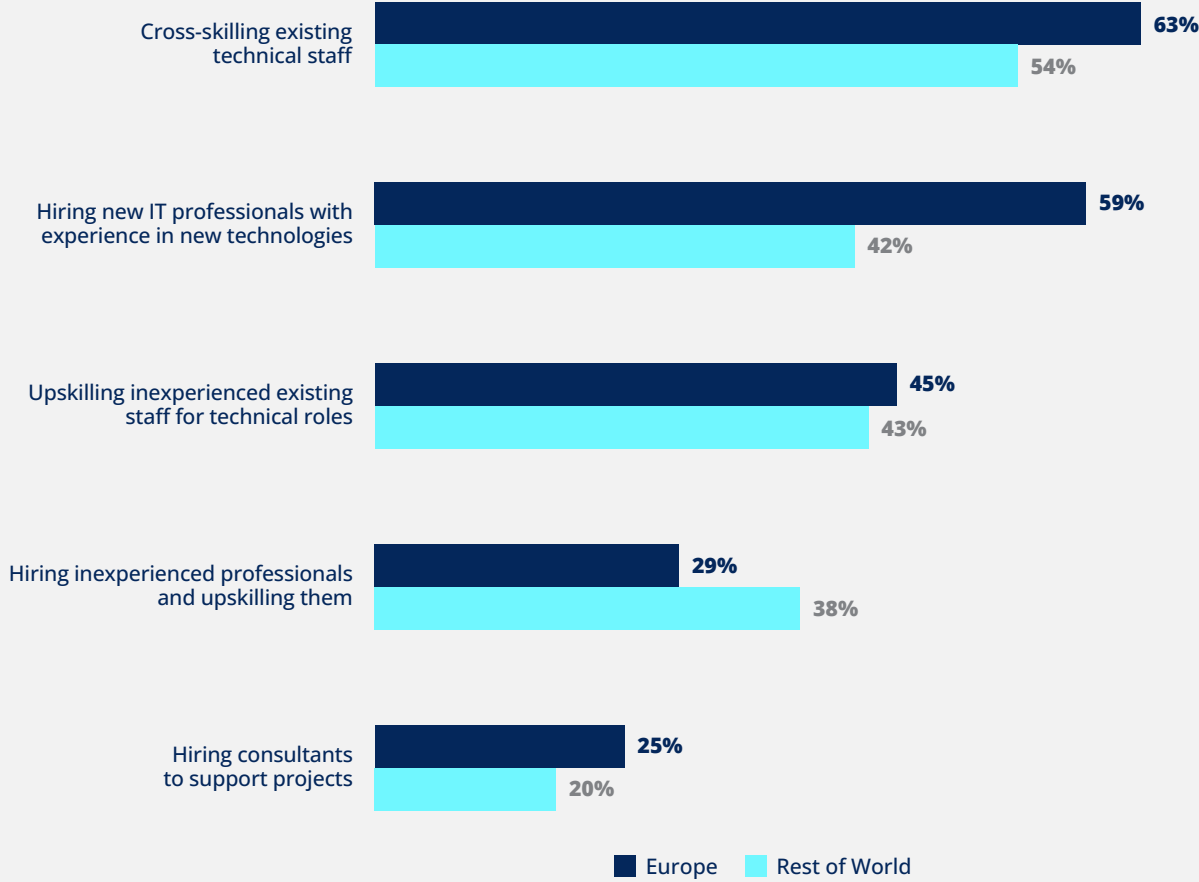


FIGURE 15: UPSKILLING IS VIEWED AS IMPORTANT BY NEARLY ALL ORGANISATIONS

2026 Tech Talent, Q28, Sample Size = 157, DKNS excluded, respondents from Europe only



Upskilling is preferred across the technology stack

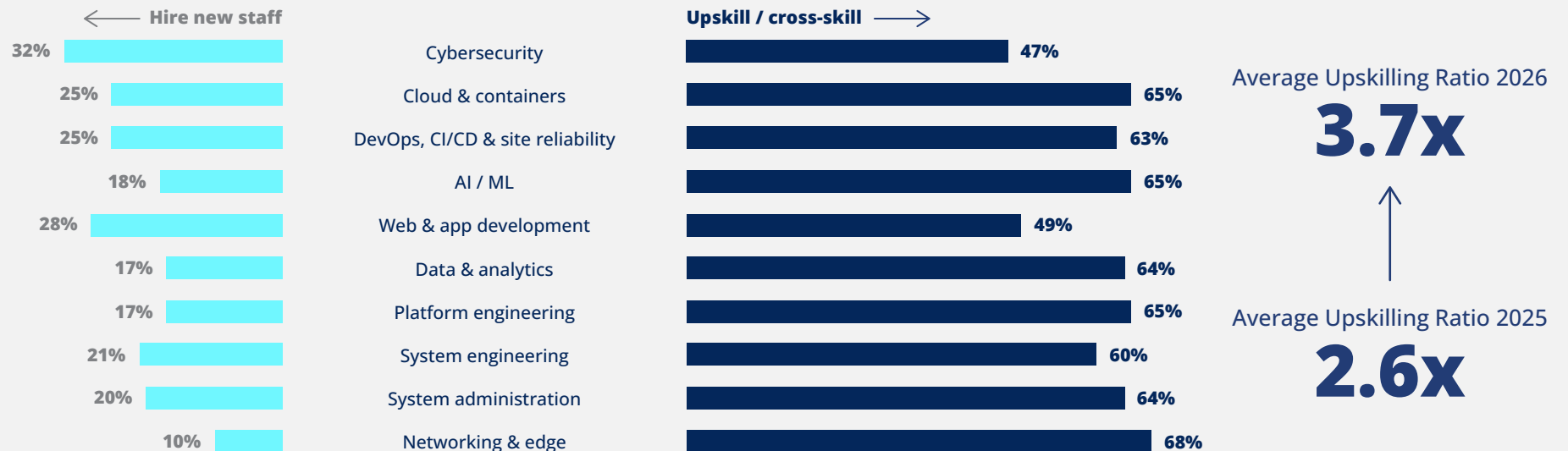
Upskilling outpaces hiring new staff, not only in AI but across all surveyed technical domains (Figure 16). The margins are widest in networking and edge (68% upskill vs 10% hire, a 6.8x ratio), data analytics (64% vs 17%, 3.8x), and platform engineering (65% vs. 17%, 3.8x), precisely the infrastructure domains critical for AI deployment. Security-related areas, which show both high understaffing and the largest AI capability gap, show the strongest preference for hiring new staff at 32%, suggesting that some organisations may perceive the security skills deficit as too specialised to close through internal development alone. Even so, upskilling still leads there at 47%, a 1.5x ratio.

The preference for upskilling is increasing over time. In 2026, organisations are 3.7 times more likely to upskill than to hire across all surveyed domains, up from 2.6 times the previous year. For organisations, this means that closing skills gaps increasingly depends on the effectiveness of their internal learning programs.

FIGURE 16: UPSKILLING BEATS HIRING ACROSS PRIORITY DOMAINS

For the following technology areas, which approach would you prioritise in 2026 to meet your organisation's needs?

2026 Tech Talent, Q40, Sample Size = 157, DKNS and Not a Priority excluded, respondents from Europe only. 2025 Tech Talent, Q42, Sample Size = 171, sorted by priority areas, only the top 10 are shown. The average ratio is calculated for all areas, not only those shown in the figure. Ratios compare upskill/cross-skill vs. hire new technical staff after excluding 'not a priority' responses. Detailed data available in Appendix A6.



Upskilling vs hiring: benefits and challenges

The preference for upskilling is widespread but not without trade-offs (Figure 17). The top benefits of upskilling are career development and job satisfaction (54%), a growth pathway for junior talent (52%), and the ability to bring in people already familiar with the company and its established relationships (51%). Challenges also exist: 47% of organisations believe that building a continuous learning culture takes effort and time, 41% find it can divert resources from other priorities, and 38% believe upskilling can be ineffective in highly specialised roles.

External hiring also comes with benefits and challenges. External candidates bring fresh perspectives and innovative approaches (62%), can cover multiple roles (46%), and have the skills required for the role (46%), making it attractive when

the required expertise is too specialised to develop internally in a reasonable timeframe. The costs, however, are substantial: 53% consider that it can delay projects, 45% report that recruitment is frequently costly and fails to identify the right candidate, and 40% consider that verifying claimed technical skills is difficult.

When organisations compare the two approaches side by side (Figure 18), upskilling outperforms hiring across all surveyed dimensions. The preference for upskilling is especially pronounced in dimensions strongly tied to accumulated organisational knowledge and social capital, such as understanding of the business context (7.9x advantage for upskilling) and team cohesion (6.3x). Other dimensions with clear preference for upskilling include total cost (5.8x), staff retention (5.6x), quality of work (2.7x), and time to productivity (1.7x).

FIGURE 17: UPSKILLING AND HIRING OFFER DISTINCT TRADEOFFS IN WORKFORCE DEVELOPMENT

2026 Tech Talent Survey, Q37, Q38, Q34, Q35, Sample Size = 157, DKNS excluded, respondents from Europe only, top 3 responses displayed (labels abbreviated); complete response distributions are provided in appendices A7-A10.

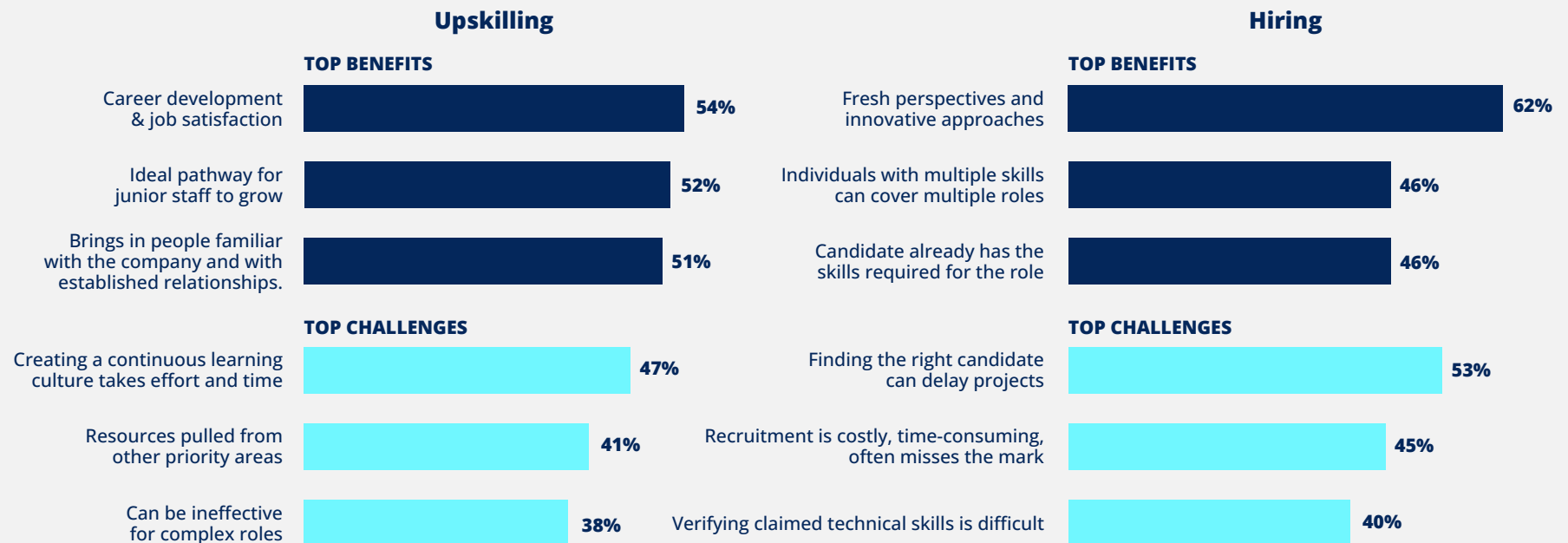


FIGURE 18: UPSKILLING OUTPERFORMS HIRING ACROSS KEY DIMENSIONS

How do these approaches compare in your experience?

2026 Tech Talent, Q39, Sample Size = 157, respondents from Europe only, DKNS excluded

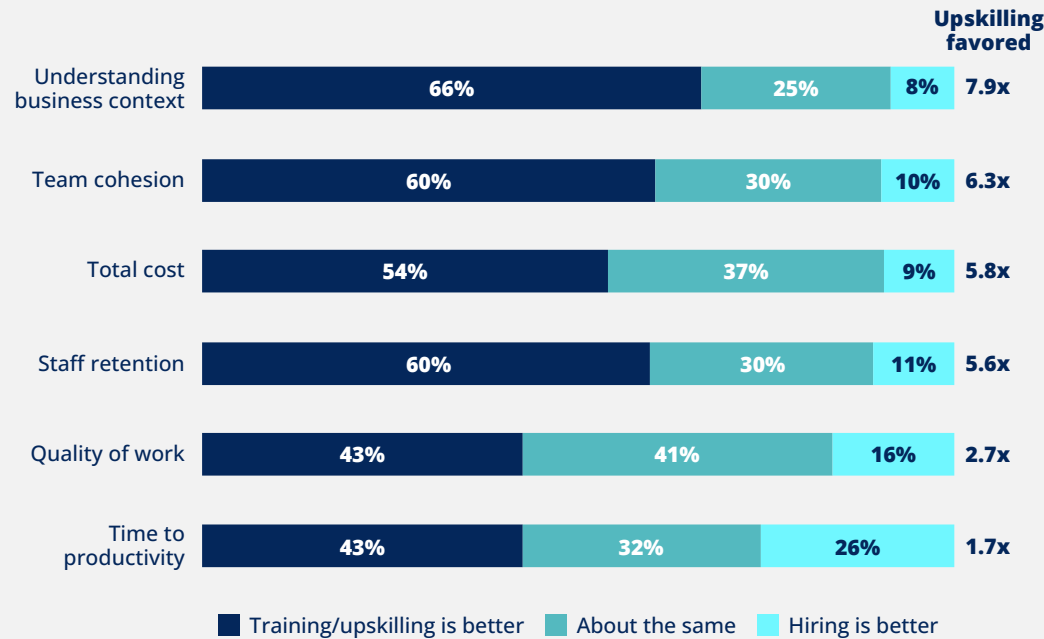


FIGURE 19: HIRING IS SLOWER AND RISKIER THAN UPSKILLING

2026 Tech Talent, Q30, Q31, Q32, Q36, Sample Size = 157, respondents from Europe only, weighted averages, detailed data available in Appendices A11-A14. Averages were estimated by assigning each response range its midpoint value, weighting those values by the share of respondents in each range, and summing the weighted values.



Our survey suggests that the hiring cycle is much slower than upskilling and can be risky (Figure 19). Hiring and onboarding new technical staff is estimated to take 53% longer than upskilling, reinforcing the idea that business context, tacit knowledge, and institutional familiarity cannot be taught quickly. Moreover, an estimated 23% of new hires leave within six months. When nearly one in four new employees leave within half a year, a considerable part of the hiring and onboarding investment is lost.

Technical training is among the top strategies to retain technical talent

Retention is one of the main benefits organisations associate with an upskilling strategy (Figure 20). For retaining technical talent, technical training (93%), including training and certification programs, ranks first, tied with work-environment factors such as remote work and flexible hours. Technical growth ranks third at 90%, just three percentage points behind the leaders and ahead of compensation (83%) and career growth opportunities (83%). These results suggest that technical professionals weigh learning and development at least as heavily as compensation when deciding whether to stay.

These findings reinforce a central theme of this report: technical talent is more likely to stay where it has room to grow. Organisations that invest in continuous development are not only closing skills gaps but also creating conditions that encourage skilled professionals to stay.

Open source culture, including dedicated time for open source contributions and a clear OSS policy, ranks last among the surveyed factors. Even so, 73% of respondents recognise its effectiveness. Therefore, organisations should also consider open source culture as part of their retention strategy.

“Technical talent is more likely to stay where it has room to grow.”

FIGURE 20: STRATEGIES TO RETAIN TECHNICAL TALENT

Effectiveness of retention strategies for technical staff

2026 Tech Talent, Q29, Sample Size = 157, respondents from Europe only, excluding DKNS and Not Offered, Effectiveness = % rating strategy as very effective or somewhat effective among those who use it, detailed data in Appendix A15



The factors organisations value most in technical assessments favour internal candidates

When assessing candidates' skills for a technical position, hands-on experience from prior employment (92%) ranks first, followed by portfolio and examples of IT project work (84%) (Figure 21). Both may be easier to evaluate for internal candidates because organisations have direct visibility into existing employees' work, including how they have performed under real conditions, which systems they have worked on, and how they handle unfamiliar technical challenges.

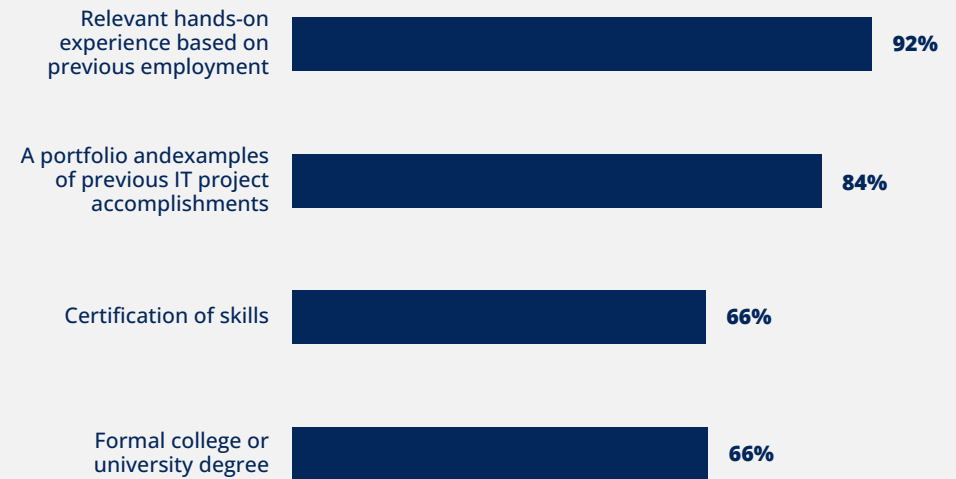
That evidence is difficult to infer from a resume or reconstruct through an interview process. When the primary criteria for technical assessment are experience and demonstrated work, internal development has a clear advantage.

Skills certifications (66%) and formal college or university degrees (66%) trail the top two criteria but remain broadly valued. Notably, certifications are weighted at least as high as formal college or university degrees. Certifications are more narrowly focused and more directly tied to the specific technical domains organisations need. For organisations running upskilling programs, certifications provide a structured path for closing defined gaps while also carrying weight in internal assessments and retention.

FIGURE 21: IMPORTANCE OF FACTORS USED TO ASSESS CANDIDATES' TECHNICAL SKILLS

Importance of education and experience factors when assessing a candidate's technical skills

2026 Tech Talent, Q33, Sample Size = 157, DKNS excluded, respondents from Europe only, aggregation of extremely important, very important, and important, detailed data available in Appendix A16



Conclusion

Findings from the 2026 State of Tech Talent Europe Report suggest that a significant challenge facing the talent market is a skills crisis driven by technological demands, rather than a lack of job opportunities. According to survey respondents, AI is associated with a positive expected net hiring effect in IT (+17% for 2027). However, this growth is not uniform. Large enterprises are the only segment reporting a negative net hiring effect (-15%), suggesting that layoffs may be concentrated among the largest firms while smaller organisations absorb more of the demand.

The report points to a full-stack readiness problem, with organisations needing capabilities that extend beyond AI specialisation alone. While cybersecurity and AI engineering are notably understaffed (48%), capability gaps are also extensive across strategic domains such as AI operations and monitoring. Security concerns have become the leading barrier to adopting new technologies. These results are consistent with the report's finding that implementation of several PAK-stack components remains uneven.

To bridge these talent gaps, organisations largely prefer internal development. Upskilling existing staff is favoured over external hiring, offering important advantages in preserving institutional knowledge, understanding the business context, and achieving faster time-to-productivity and higher retention rates. These findings suggest that technical professionals are more likely to stay in organisations where they have opportunities to grow, with technical training and growth opportunities ranking as highly as compensation in retention decisions.

Based on survey results, recommendations for hiring managers and talent leaders include:

1. Invest in internal talent development and upskilling to reap the benefits of an internal candidate while reducing the costs and risks of external hiring.
2. Hire junior candidates and invest in their development to avoid pipeline risk, as signalled by Europe's contraction in entry-level roles.
3. Create a continuous learning environment to increase the effectiveness of upskilling and increase retention for employees seeking technical training and growth opportunities.
4. Emphasise practical experience and certifications in assessment and actively support certifications as a structured path to close skills gaps.

For those seeking software roles, recommendations include:

1. Focus on full-stack skills to support the operationalisation of AI, including cybersecurity and risk management, AI operations and monitoring, and platform engineering.
2. Build a strong portfolio and pursue certifications to document and demonstrate practical abilities.
3. Target small and medium-sized organisations, which our data shows are actively expanding their technical teams in response to AI adoption.



Methodology and demographics

About the survey

This study is based on an online survey conducted by Linux Foundation Research in February 2026. The survey aimed to understand trends in technical hiring and the effects of AI-related disruption on the workforce. We broadly advertised the survey to Linux Foundation subscribers, members, partner communities, and social media. To mitigate sampling biases, we also hired a panel provider. We addressed data quality through extensive prescreening, survey screening questions, consistency checks, and data quality review to ensure that respondents had sufficient professional experience to answer questions accurately on behalf of their organisation. We only considered complete responses to the survey. After data quality filtering and removal of two respondents who did not identify their region, our final sample comprised 398 responses: 157 from Europe (the focus of this report) and 241 from the rest of the world.

The survey comprised 40 questions covering screening, respondent demographics, AI's impact on organisations, and approaches to addressing talent management needs. The dataset driving the analysis in this report and survey frequencies can be found on Data.World (see below).

The target audience included respondents who met the following criteria: (i) must be responsible for hiring, recruiting, or training information technology (IT) professionals; (ii) must pass an attention check question; and (iii) must be currently employed by an organisation.

A total of 1,077 respondents began the survey, and 530 completed it. After screening and filtering, the final analysed dataset comprised 398 responses. For the European subsample of 157 respondents, the approximate margin of error is larger, about $\pm 6.6\%$ at 90% confidence and $\pm 7.8\%$ at 95% confidence.

Although respondents were required to answer nearly all questions in the survey, a provision was made when a respondent was unable to answer a question. This was accomplished by adding a "Don't know or not sure" (DKNS) response to the list of responses for every question. However, this creates a variety of analytical challenges. One approach was to treat a DKNS just like any other response, so that the percentage of respondents who answered the DKNS is known. This approach has the advantage of showing the exact distribution of the data collected.

The challenge with this approach is that it can distort the distribution of valid responses, i.e., responses where respondents could answer the question. Therefore, most of the analyses in this report exclude DKNS responses. This approach assumes that DKNS responses are missing at random or missing completely at random. Excluding DKNS responses does not change the raw counts for the remaining response options, but it does change the denominator and therefore increases their reported percentages proportionally. This has the effect of proportionally increasing the percentage values of the remaining responses. Where we have elected to exclude DKNS data, the footnote for the figure indicates “DKNS responses excluded from the analysis.”

The percentage values in this report may not total exactly 100% due to rounding. Values in the appendices and aggregations presented in figures may also differ due to rounding.

Data.World access

LF Research makes each of its empirical project datasets available on Data.World (data.world/thelinuxfoundation). Included in this dataset are the survey instrument, raw survey data, screening and filtering criteria, and frequency charts for each question in the survey. Access to Linux Foundation datasets is free but does require you to create a data.world account.

Respondent demographics

Figure 22 presents the European respondent demographics. Most respondents (75%) are hiring managers for technical teams. The vast majority (87%) are employed full-time. Professionally, they are concentrated in software development (37%) and systems operations (25%), with C-level executives making up 5% of respondents. Respondents work in a variety of industries, including IT (31%), financial services (8%), telecommunications (6%), and automotive (6%). They are spread across organisations of varying sizes, with 34% working in smaller companies (1–249 employees), 41% in mid-sized companies (250–4,999 employees), and 24% in large enterprises (5,000+ employees). Most respondents work for technology-focused companies, with 58% working for organisations whose primary revenue comes from IT products or services, while 31% work for companies providing industry-specific products or services. This concentration in technology-focused organisations should be considered when interpreting results for the broader European economy.



FIGURE 22: RESPONDENT DEMOGRAPHICS

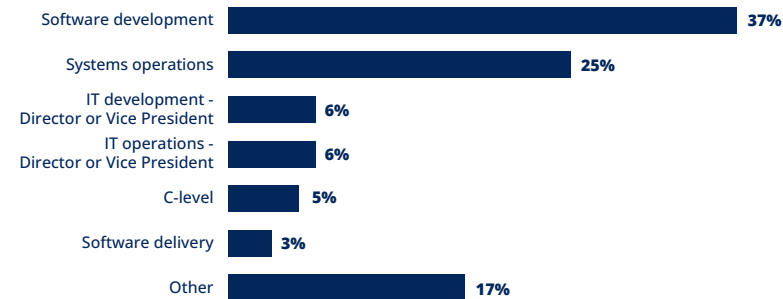
What best describes your role in training or hiring IT professionals?

2026 Tech Talent, Q2, n=157, responses from Europe only



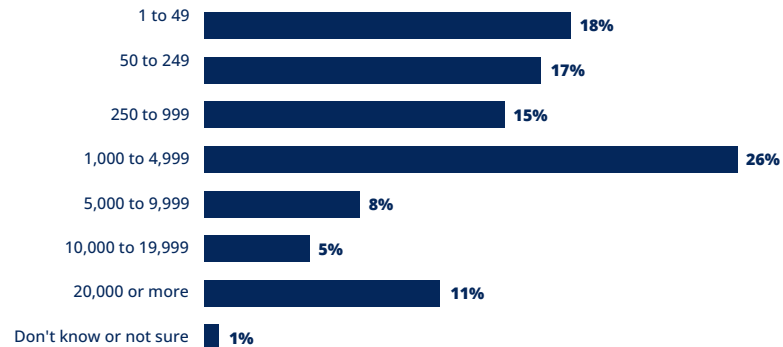
Professionally, which role or field do you most closely identify with?

2026 Tech Talent, Q7, n=157, responses from Europe only



Please estimate how many total employees are in the company or entity you work for.

2026 Tech Talent, Q13, n=157, responses from Europe only



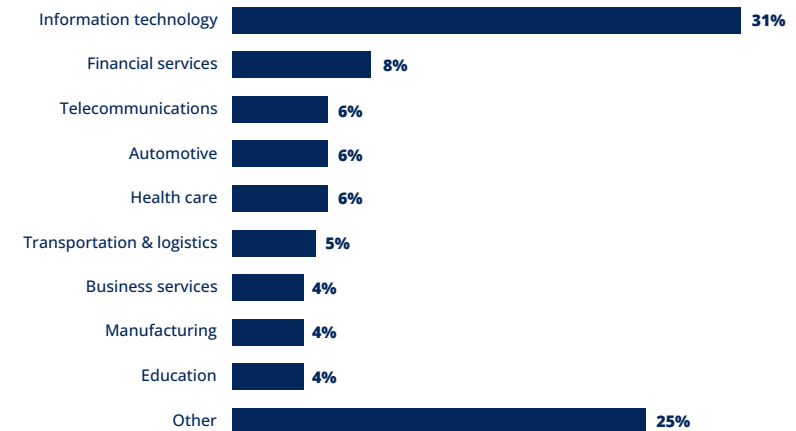
What is your current employment status?

2026 Tech Talent, Q5, n=157, responses from Europe only



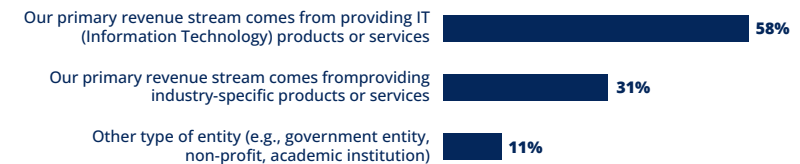
Which of the following best describes your company's or entity's primary industry?

2026 Tech Talent, Q12, n=157, responses from Europe only



Which option best describes the company or entity you work for?

2026 Tech Talent, Q9, n=157, responses from Europe only

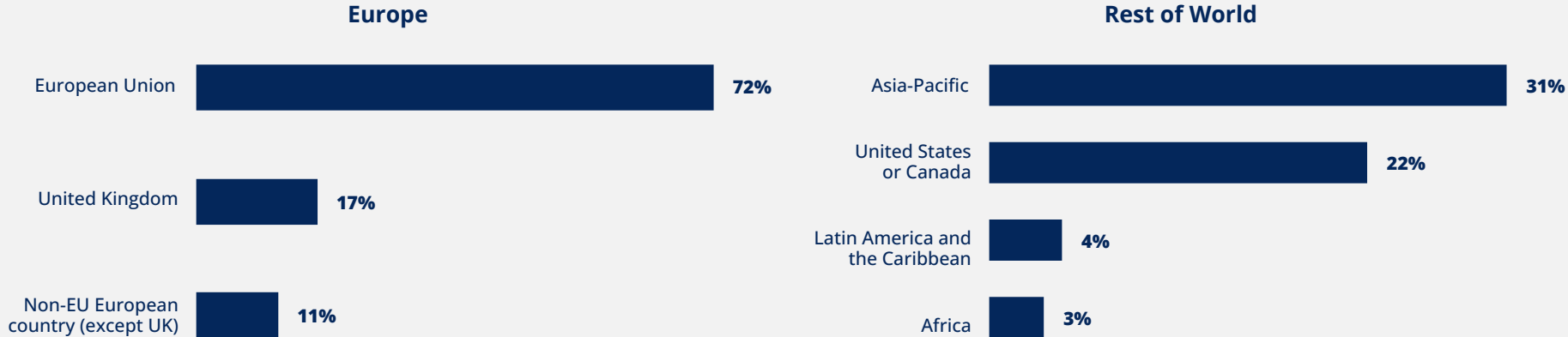


As observed in Figure 23, in terms of geographical distribution, respondents from Europe were distributed across the European Union (72%), the United Kingdom (17%), and non-EU European countries (11%). The respondents from the rest of the world were from Asia Pacific (31%), the United States or Canada (22%), Latin America and the Caribbean (4%), and Africa (3%).

Some demographics have been regrouped to facilitate a more insightful analysis. For the original source data and study frequencies, please see the data world dataset and access as described above.

FIGURE 23: GEOGRAPHICAL DISTRIBUTION OF RESPONDENTS

In what country or region does your organisation have its headquarters? (select one)



2026 Tech Talent, Q8, Sample Size = 157, respondents from Europe

2026 Tech Talent, Q8, Sample Size = 241, respondents not from Europe

Appendix

Appendix A1.1 2026 Tech Talent, Q21 by Q13, data for 2027, Respondents from Europe, Sample Size = 157, DKNS and Not Applicable excluded

HOW HAS AI IMPACTED OR WILL IMPACT THE HEADCOUNT OF YOUR ORGANISATION? (Q21)	DECREASED OUR HEADCOUNT	NO IMPACT TO HEADCOUNT	INCREASED OUR HEADCOUNT
1-249 employees	13%	44%	44%
250-4,999 employees	17%	46%	37%
5,000-19,999 employees	23%	46%	31%
20,000+ employees	54%	8%	38%

Appendix A1.2 2026 Tech Talent, Q21 by Q13, data for 2027, Respondents from the rest of the world, Sample Size = 241, DKNS and Not Applicable excluded

HOW HAS AI IMPACTED OR WILL IMPACT THE HEADCOUNT OF YOUR ORGANISATION? (Q21)	DECREASED OUR HEADCOUNT	NO IMPACT TO HEADCOUNT	INCREASED OUR HEADCOUNT
1-249 employees	15%	41%	44%
250-4,999 employees	13%	50%	37%
5,000-19,999 employees	8%	41%	51%
20,000+ employees	36%	27%	36%

Appendix A2.1 2026 Tech Talent, Q22, Respondents from Europe, Sample Size = 157, not applicable and DKNS excluded.

HOW HAS AI IMPACTED YOUR TECHNICAL WORKFORCE IN THE FOLLOWING AREAS DURING 2025? (Q22)	DECREASE	NO CHANGE	INCREASE
AI-specific roles	2%	31%	67%
Software development positions	13%	58%	29%
Technical management roles	7%	70%	22%
QA/testing positions	14%	61%	25%
IT operations staff	10%	71%	19%
Entry-level technical positions	25%	53%	22%

Appendix A2.2 2026 Tech Talent, Q22, Respondents from the rest of the world, Sample Size = 241, not applicable and DKNS excluded.

HOW HAS AI IMPACTED YOUR TECHNICAL WORKFORCE IN THE FOLLOWING AREAS DURING 2025? (Q22)	DECREASE	NO CHANGE	INCREASE
AI-specific roles	4%	35%	62%
Software development positions	12%	40%	48%
Technical management roles	8%	58%	34%
QA/testing positions	18%	45%	37%
IT operations staff	13%	53%	34%
Entry-level technical positions	20%	46%	34%

Appendix A3.1 2026 Tech Talent, Q19, Respondents from Europe, Sample Size = 157, DKNS excluded.

RATE YOUR ORGANISATION'S CURRENT STAFFING CAPACITY IN THESE STRATEGIC DOMAINS: (Q19)	SIGNIFICANTLY UNDERSTAFFED	SOMEWHAT UNDERSTAFFED	ADEQUATELY STAFFED	WELL-STAFFED	OVER-STAFFED
Cybersecurity and compliance	12%	36%	28%	19%	5%
AI & ML engineering and operations	17%	31%	22%	20%	11%
FinOps and cost optimization	11%	28%	31%	24%	6%
Platform engineering	10%	26%	31%	28%	5%
Cloud computing (public and private)	5%	29%	31%	29%	6%

Appendix A3.2 2026 Tech Talent, Q19, Respondents from the rest of the world, Sample Size = 241, DKNS excluded.

RATE YOUR ORGANISATION'S CURRENT STAFFING CAPACITY IN THESE STRATEGIC DOMAINS: (Q19)	SIGNIFICANTLY UNDERSTAFFED	SOMEWHAT UNDERSTAFFED	ADEQUATELY STAFFED	WELL-STAFFED	OVER-STAFFED
AI & ML engineering and operations	17%	29%	25%	24%	5%
FinOps and cost optimization	14%	21%	38%	23%	5%
Cybersecurity and compliance	11%	23%	39%	24%	3%
Platform engineering	8%	26%	34%	28%	5%
Cloud computing (public and private)	7%	18%	44%	27%	4%

Appendix A4.1 2026 Tech Talent, Q25, Respondents from Europe, Sample Size = 157, excluding Not Applicable

RATE YOUR ORGANISATION'S CURRENT CAPABILITY IN THESE AREAS FOR AI SUCCESS: (Q25)	SIGNIFICANT GAP	MINOR GAP	ADEQUATE	STRONG CAPABILITY
AI security and risk management	30%	31%	19%	19%
Cost optimization for AI workloads	30%	28%	22%	20%
AI operations and monitoring	22%	34%	29%	14%
Change management and communication	21%	28%	35%	16%
Data management	21%	26%	33%	19%
Expertise to build/manage AI infrastructure	23%	22%	35%	21%
Infrastructure and platform capabilities (Kubernetes, cloud-native systems)	18%	20%	27%	35%
Business domain expertise	13%	18%	46%	24%

Appendix A4.2 2026 Tech Talent, Q25, Respondents from the rest of the world, Sample Size = 241, excluding Not Applicable

RATE YOUR ORGANISATION'S CURRENT CAPABILITY IN THESE AREAS FOR AI SUCCESS: (Q25)	SIGNIFICANT GAP	MINOR GAP	ADEQUATE	STRONG CAPABILITY
AI operations and monitoring	18%	40%	27%	15%
AI security and risk management	20%	36%	29%	15%
Cost optimization for AI workloads	19%	33%	37%	12%
Expertise to build/manage AI infrastructure	15%	31%	40%	14%
Change management and communication	14%	27%	44%	15%
Business domain expertise	12%	26%	38%	24%
Data management	9%	27%	45%	20%
Infrastructure and platform capabilities (Kubernetes, cloud-native systems)	14%	20%	48%	17%

Appendix A5.1 2026 Tech Talent, Q20, Respondents from Europe, Sample Size = 157, Not Applicable and DKNS excluded

WHAT PROGRESS HAS YOUR ORGANISATION MADE IN IMPLEMENTING EACH LAYER OF THE PARK STACK? (Q20)	NOT STARTED	PLANNING	IN PROGRESS	PARTIALLY DEPLOYED	FULLY DEPLOYED
High-level framework such as PyTorch for model development or refinement	28%	14%	16%	22%	22%
AI foundation models that can be tuned, customized, and deployed	13%	17%	23%	32%	15%
Distributed compute engineering such as Ray for scaling applications and handling systems challenges	39%	14%	15%	14%	19%
Container orchestration such as Kubernetes for provisioning resources	5%	4%	16%	22%	53%

Appendix A5.2 2026 Tech Talent, Q20, Respondents from the rest of the world, Sample Size = 241, Not Applicable and DKNS excluded

WHAT PROGRESS HAS YOUR ORGANISATION MADE IN IMPLEMENTING EACH LAYER OF THE PARK STACK? (Q20)	NOT STARTED	PLANNING	IN PROGRESS	PARTIALLY DEPLOYED	FULLY DEPLOYED
High-level framework such as PyTorch for model development or refinement	18%	6%	20%	34%	23%
AI foundation models that can be tuned, customized, and deployed	6%	13%	25%	38%	18%
Distributed compute engineering such as Ray for scaling applications and handling systems challenges	23%	10%	32%	23%	11%
Container orchestration such as Kubernetes for provisioning resources	4%	7%	23%	29%	36%

Appendix A6

2026 Tech Talent, Q40, Respondents from Europe, Sample Size = 157, DKNS excluded. Sorted by priority areas. These numbers may be different than the ones presented in the text, which were recalculated excluding the “not a priority” responses.

FOR THE FOLLOWING TECHNOLOGY AREAS, WHICH APPROACH WOULD YOU PRIORITIZE IN 2026 TO MEET YOUR ORGANISATION'S NEEDS? (Q40)	UPSKILL OR CROSS-SKILL EXISTING TECHNICAL STAFF	HIRE NEW TECHNICAL STAFF	HIRE CONSULTANTS	NOT A PRIORITY
Cybersecurity	46%	31%	20%	3%
Cloud and containers	60%	23%	9%	8%
DevOps, CI/CD and site reliability	58%	23%	11%	8%
AI/ML	56%	16%	15%	13%
Web & Application Development	41%	24%	19%	16%
Data and analytics	52%	14%	16%	19%
Platform engineering	52%	13%	14%	21%
System engineering	47%	17%	15%	22%
System administration	49%	15%	13%	23%
Networking and edge	47%	7%	15%	31%
Open source and compliance best practices	40%	6%	18%	35%
Supply chain	36%	5%	22%	37%
Linux kernel and operating systems	39%	9%	13%	39%
Safety-critical systems	28%	12%	15%	45%
IoT and embedded	35%	6%	9%	50%
Visual effects, augmented/virtual reality	22%	11%	12%	55%
Open hardware	23%	4%	13%	59%
Open Source Program Offices (OSPO)	23%	5%	13%	60%
Quantum computing	13%	10%	14%	63%
Blockchain and decentralized identity	12%	5%	18%	65%

Appendix A7

2026 Tech Talent, Q37, Respondents from Europe, Sample Size = 157, DKNS excluded

WHAT ARE THE MAIN BENEFITS TO UPSKILLING OR CROSS-SKILLING STAFF? (SELECT ALL THAT APPLY) (Q37)	%
Presents career development opportunities to staff members, potentially leading to higher job satisfaction	54%
Provides an ideal pathway for junior technical staff to expand their capabilities	52%
Brings people into roles who already possess familiarity with and have relationships with the company	51%
A more cost-effective approach to increasing technical expertise compared to hiring new employees	50%
Produces employees with varied skillsets who can be redeployed more effectively than new hires	47%
Serves as an effective strategy for filling senior positions when technical headcount is difficult to find	38%
Works best when learning narrowly focused skills	21%
Other (please specify)	3%
Our organisation sees no benefits to upskilling	1%

Appendix A8

2026 Tech Talent, Q38, Respondents from Europe, Sample Size = 157, DKNS excluded

WHAT ARE THE MAIN CHALLENGES TO UPSKILLING OR CROSS-SKILLING STAFF? (SELECT ALL THAT APPLY) (Q38)	%
Creating and nurturing an environment for continuous learning takes effort and time	47%
Resources are pulled away from other priority areas	41%
Upskilling takes time and can be ineffective at training for complex roles	38%
Finding the appropriate training materials is a challenge	35%
It can be difficult to translate new knowledge into practical applications	29%
Upskilling staff doesn't help us to fill new positions because we still have to backfill for the positions vacated	22%
Upskilling doesn't work for senior roles because you can't teach broad subject matter expertise	22%
Our organisation has not experienced any challenges to upskilling	3%
Other (please specify)	2%

Appendix A9

2026 Tech Talent, Q34, Respondents from Europe, Sample Size = 157, DKNS excluded

WHAT ARE THE MAIN BENEFITS OF HIRING TECHNICAL STAFF? (SELECT ALL THAT APPLY) (Q34)	%
New technical employees can bring fresh perspectives and innovative approaches	62%
Hiring individuals with multiple skills can cover multiple roles	46%
The candidate already has the skills required for the role	46%
Skill gaps can be addressed with precision	45%
Access to a wider talent pool	34%
Increasing overall staff headcount means additional, instead of reallocated resources	28%
Little or no investment needed in their technical training	24%
Our organisation sees no benefits to hiring	1%
Other (please specify)	1%

Appendix A10

2026 Tech Talent, Q35, Respondents from Europe, Sample Size = 157, DKNS excluded

WHAT ARE THE MAIN CHALLENGES TO HIRING FOR TECHNICAL STAFF? (SELECT ALL THAT APPLY) (Q35)	%
Problems in finding the candidate with the right skills can delay projects	53%
Recruitment is costly, time consuming, and often does not lead to the right candidate for the position	45%
Verifying claimed technical skills	40%
Onboarding takes valuable internal resources away from other critical projects and is time consuming	38%
Not all tech talent is the same – it's challenging that they do not have a common benchmark of skills, methodologies	33%
There is not a streamlined way to recruit new technical staff with proven skills	27%
Hiring the wrong candidate and then having to onboard again is an issue	24%
Other (please specify)	5%
Our organisation has not experienced any challenges to hiring	3%

Appendix A11

2026 Tech Talent, Q30, Respondents from Europe, Sample Size = 157.

ON AVERAGE, HOW LONG DOES IT TAKE TO HIRE A HEADCOUNT TO FILL AN OPEN TECHNICAL POSITION IN YOUR ORGANISATION? (SELECT ONE) (Q30)	%
Less than a month	5%
1 to 3 months	31%
4 to 6 months	36%
7 to 9 months	14%
10 to 12 months	4%
More than 12 months	2%
Don't know or not sure	7%

Appendix A13

2026 Tech Talent, Q36, Respondents from Europe, Sample Size = 157

ON AVERAGE, HOW LONG DOES IT TAKE TO UPSKILL OR CROSS-SKILL AN EXISTING EMPLOYEE TO REACH NORMAL PRODUCTIVITY IN A NEW TECHNICAL ROLE? (SELECT ONE) (Q36)	%
Less than a month	1%
1 to 3 months	29%
4 to 6 months	43%
7 to 9 months	10%
10 to 12 months	6%
More than 12 months	5%
Don't know or not sure	5%

Appendix A12

2026 Tech Talent, Q31, Respondents from Europe, Sample Size = 157

HOW LONG DOES THE ONBOARDING PROCESS TAKE FOR A NEW TECHNICAL HEADCOUNT TO REACH NORMAL PRODUCTIVITY? (SELECT ONE) (Q31)	%
Up to 1 month	16%
1 to 3 months	41%
4 to 6 months	32%
7 to 12 months	6%
More than 12 months	1%
Don't know or not sure	3%

Appendix A14

2026 Tech Talent, Q32, Respondents from Europe, Sample Size = 157

ON AVERAGE, WHAT PERCENTAGE OF NEW TECHNICAL STAFF HIRES RESIGN OR WERE ASKED TO LEAVE WITHIN 6 MONTHS OF BEING ONBOARDED? (SELECT ONE) (Q32)	%
0-20%	56%
21-40%	13%
41-60%	13%
61-80%	6%
81-100%	0%
Don't know or not sure	11%

Appendix A15

2026 Tech Talent, Q29, Respondents from Europe, Sample Size = 157, DKNS and Not Offered excluded

WHAT STRATEGIES DOES YOUR ORGANISATION EMPLOY TO RETAIN TECHNICAL TALENT? RATE THE EFFECTIVENESS OF EACH: (Q29)	NOT EFFECTIVE	SOMEWHAT EFFECTIVE	VERY EFFECTIVE
Technical training (e.g., training and certification opportunities)	7%	53%	40%
Work environment benefits (e.g., remote work, flexible hours)	7%	35%	58%
Technical growth (e.g., cutting-edge technology involvement)	10%	46%	45%
Career growth (e.g., clear career paths, conference speaking opportunities)	17%	46%	38%
Compensation (e.g., salary increase, performance bonus, stock options)	17%	47%	36%
Open source culture (e.g., dedicated OSS contribution time, OSS policy)	27%	31%	42%

Appendix A16

2026 Tech Talent, Q33, Respondents from Europe, Sample Size = 157, DKNS and Not Offered excluded

HOW IMPORTANT ARE THE FOLLOWING EDUCATION AND EXPERIENCE FACTORS WHEN ASSESSING A CANDIDATE'S TECHNICAL SKILLS? (Q33)	NOT IMPORTANT AT ALL	NOT VERY IMPORTANT	IMPORTANT	VERY IMPORTANT	EXTREMELY IMPORTANT
Relevant hands-on experience based on previous employment	2%	6%	20%	43%	29%
A portfolio and examples of previous IT project accomplishments	2%	14%	39%	29%	16%
Certification of skills	11%	23%	37%	23%	6%
Formal college or university degree	11%	22%	40%	16%	10%

About the authors

MARCO GEROSA is a full professor of Computer Science at Northern Arizona University and a research analyst at LF Research. His research on software engineering and open source software has resulted in over 300 publications in top-tier venues. Dr Gerosa has a PhD, a master's in Informatics, and a B.S. in Computer Engineering. He is a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and the Association for Computing Machinery (ACM). He supervised several PhD and MSc students who are now researchers in top institutions. He also has more than 20 years of teaching experience. For more information, visit <http://www.marcoagerosa.com>.

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