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How AI Factories Enable Secure, Scalable, and Production-Ready Enterprise AI

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Executive summary

As enterprises accelerate AI adoption, many initiatives continue to stall at proof-of-concept (POC). Fragmented infrastructure, fragile data pipelines, and a lack of production-ready systems prevent AI from scaling beyond experimentation. To unlock real value, organisations must move from isolated projects to industrialised, operational AI environments.

At the centre of this shift is the AI Enterprise Factory, a secure, fully integrated platform designed to build, train, deploy, and scale enterprise AI. These factories combine scalable compute, low-latency networking, storage, software, power and cooling into a unified, validated architecture, enabling organisations to deploy AI at scale while maintaining full control over their data. With increasing focus on data sovereignty, governance, and security, on-prem and private AI environments are becoming critical to enterprise adoption.

This approach is particularly important as organisations look to scale AI beyond the current phase of agentic deployments, including AI agents, copilots, retrieval-augmented generation systems and workflow automation solutions. Physical AI is also beginning to emerge, with early use cases appearing in areas such as robotics, digital twins, smart manufacturing and autonomous systems. While adoption remains limited today, these use cases are expected to accelerate significantly in the coming years, creating demand for scalable, high-performance AI factories built on validated designs and GPU-accelerated platforms.

This whitepaper explores why organisations are adopting AI Enterprise Factories, the infrastructure, software, and services required to implement them successfully, and where they deliver the greatest value across emerging AI applications. It also highlights the critical role of channel partners in enabling this transformation, from consultation and design through to deployment and optimisation.

Ultimately, AI success goes beyond infrastructure alone. Building secure, scalable AI factories requires partners to act as trusted advisors, helping organisations create long-term competitive advantage through controlled, governed, and production-ready AI.

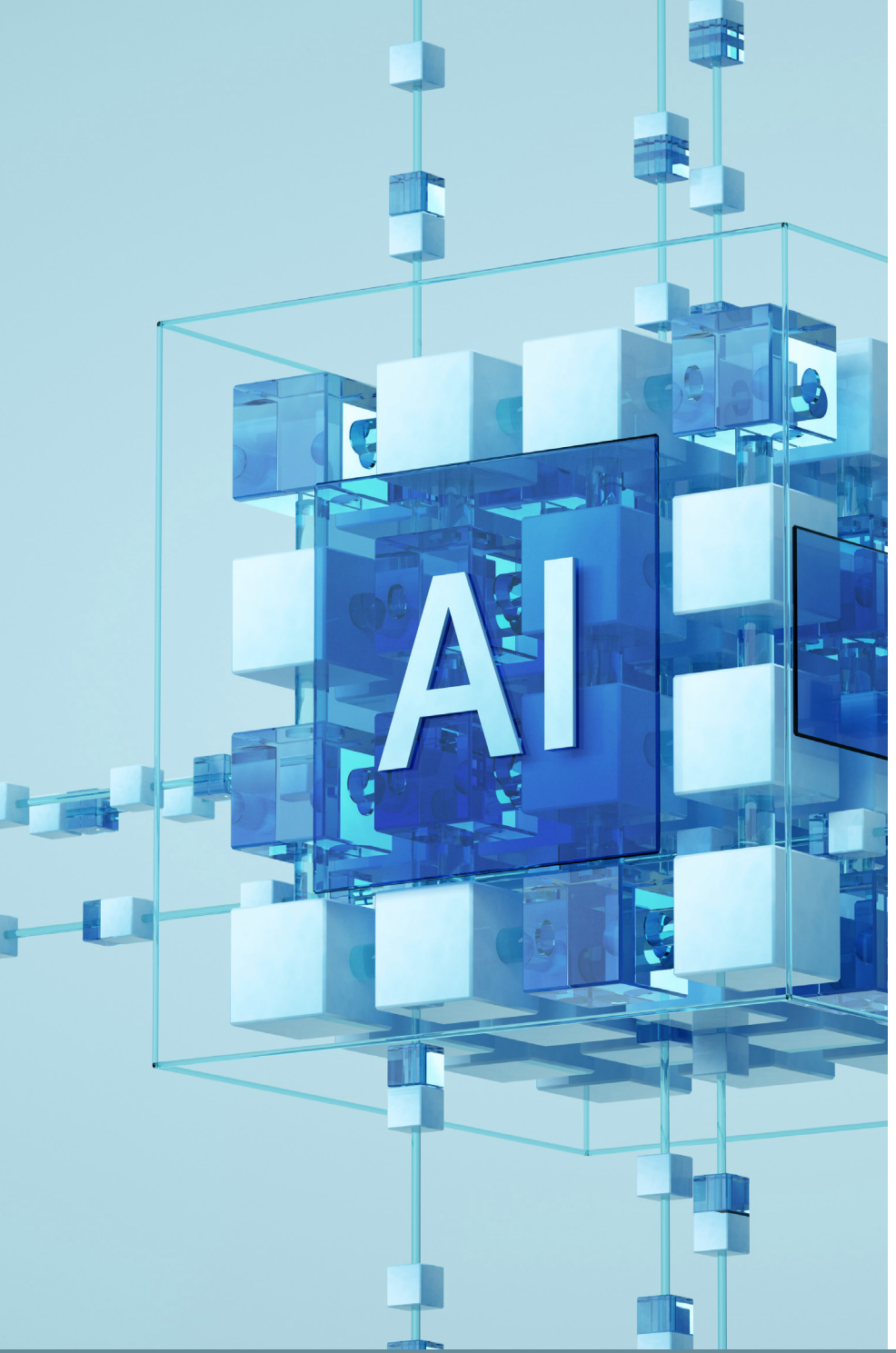


Moving beyond proof-of-concept

To understand how IT leaders are approaching AI industrialisation, and gauge how channel partners can support customers on their AI journeys, in June and July 2026 CRN surveyed 100 EMEA-based IT leaders from a range of industries, including 43% in senior management and a further 21% at C-suite or executive level. 24% are from middle management, and a further 12% are specialist professionals including engineers, consultants, or analysts.

AI success has moved beyond experimentation. It is no longer based around individual projects but about turning AI into a standardised, automated process that delivers continuous business intelligence.

Organisations now want to industrialise AI, either by developing their own models using their own data, or offering their customers AI services. Rather than simply accessing foundation models, organisations want to securely customise, deploy, and scale AI applications using their own data, while maintaining full control over governance, security, and sovereignty.



Key findings

51%

- of respondents report having a partially integrated approach to AI, and only 11% have implemented a fully integrated platform, leaving 39% still operating through fragmented, project-based environments.

14%

- of respondents report having governance frameworks that are fully defined and enforced.

5%

- of organisations have deployed an AI Factory and 8% are at the pilot or experimentation stage.

85%

- report gaining at least some competitive advantage from AI Factories.

71%

- agree that their organisation lacks the resources or expertise to deploy AI Factories without third-party support.

Despite the rise of AI industrialisation, the first research finding suggests that many organisations have not yet achieved a fully integrated AI infrastructure model. While a majority of 51% report having a partially integrated approach, only 11% have implemented a fully integrated platform, leaving 39% still operating through fragmented, project-based environments.

This suggests that organisations are investing in AI, but many are yet to translate experimentation into scalable deployments. The fact that 39% of respondents remain in a project-based phase suggests that AI initiatives are still focused on individual use cases rather than a long-term strategy.

Fig. 1: Which best describes your current AI infrastructure approach?

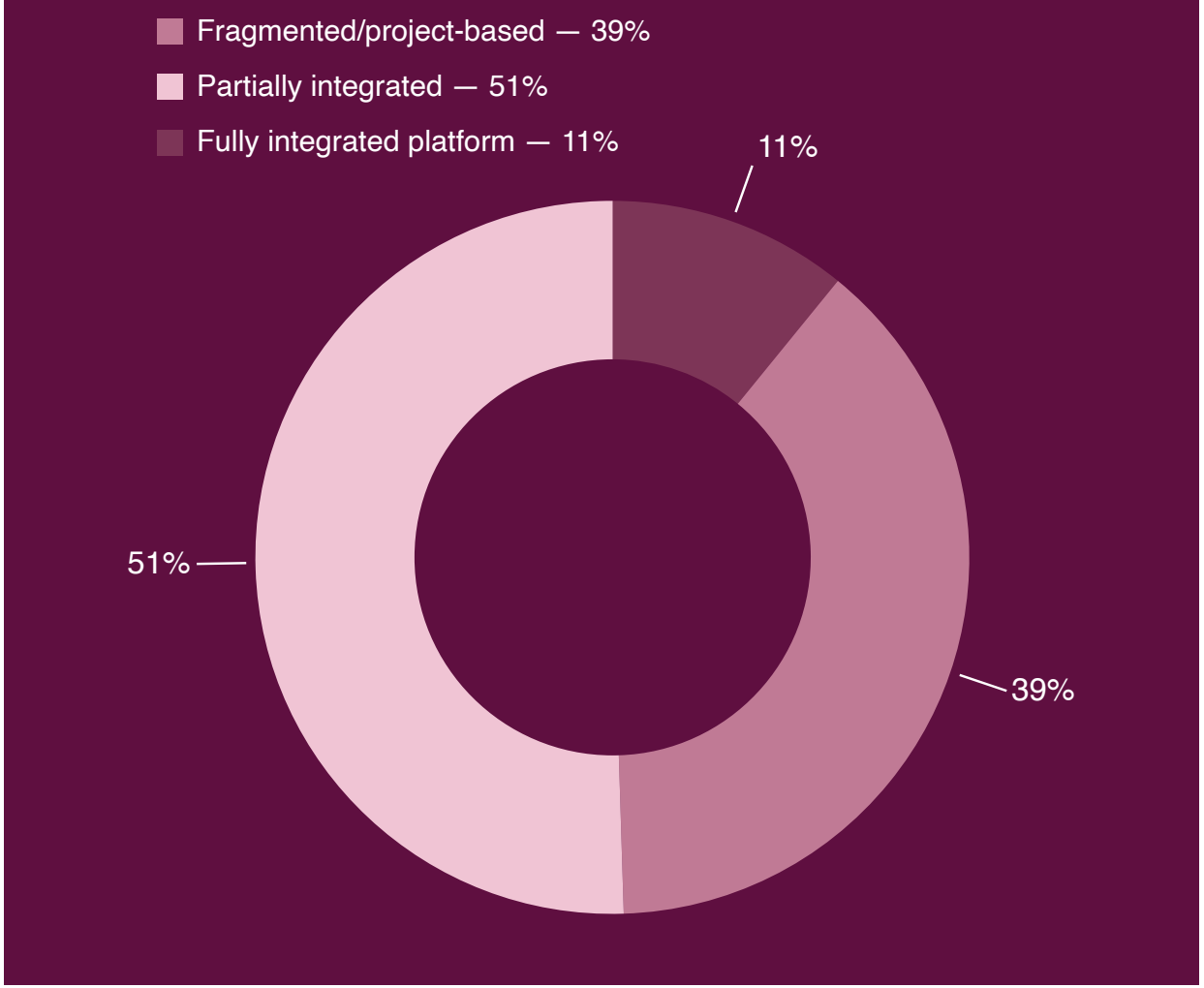
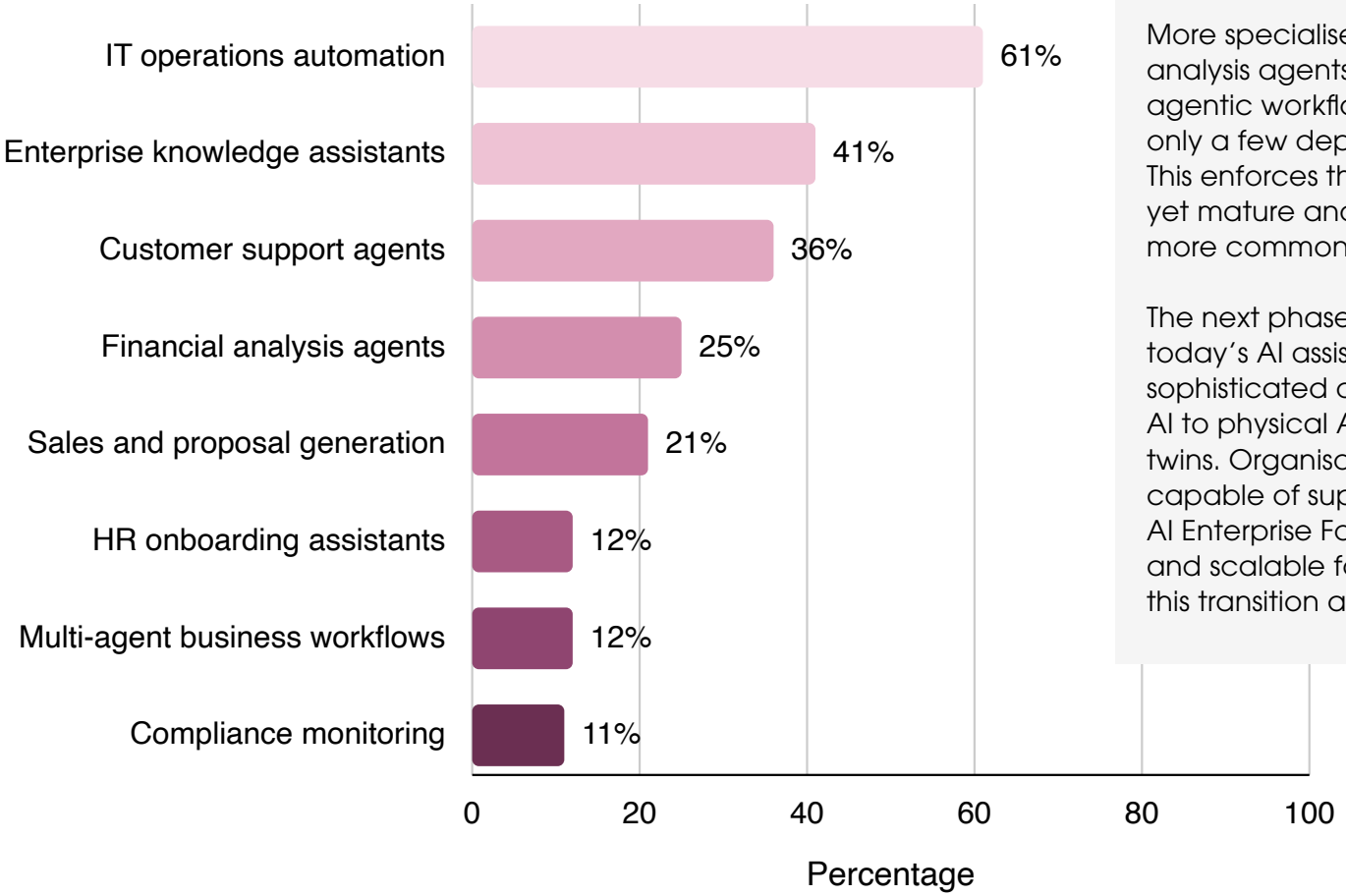


Fig. 2: Which of the following have been implemented at your organisation?



In terms of how AI is being implemented at respondents' organisations, IT operations automation is leading at 61%, followed by enterprise knowledge assistants at 41% and customer support agents at 36%. This suggests organisations are prioritising AI in areas where automation can deliver clear operational efficiencies and improve access to information.

More specialised business agents, such as financial analysis agents, are less mature, and advanced agentic workflows are still an emerging use case, with only a few deploying sophisticated multi-agent systems. This enforces the idea that AI industrialisation is not yet mature and deploying individual agents is more common.

The next phase of enterprise AI will extend far beyond today's AI assistants and agents towards more sophisticated applications, from enterprise-scale agentic AI to physical AI systems such as robotics and digital twins. Organisations must ensure their infrastructure is capable of supporting these more complex workloads. AI Enterprise Factories provide the validated, secure, and scalable foundation organisations need to enable this transition and support future AI innovation at scale.

Training AI models requires large volumes of data and robust governance frameworks help maintain data quality, comply with regulations, and mitigate risks stemming from bias, model degradation or data breaches.

However, the next finding indicates that governance maturity remains relatively low. Only 14% of respondents report having governance frameworks that are fully defined and enforced, while the vast majority are still building, refining or implementing controls around AI use.

As AI moves from experimentation to industrialisation, having governance frameworks in place is essential, with clear policies needed around data access, model development, model monitoring and risk management.

Fig. 3: To what extent do you have governance frameworks in place for AI today?

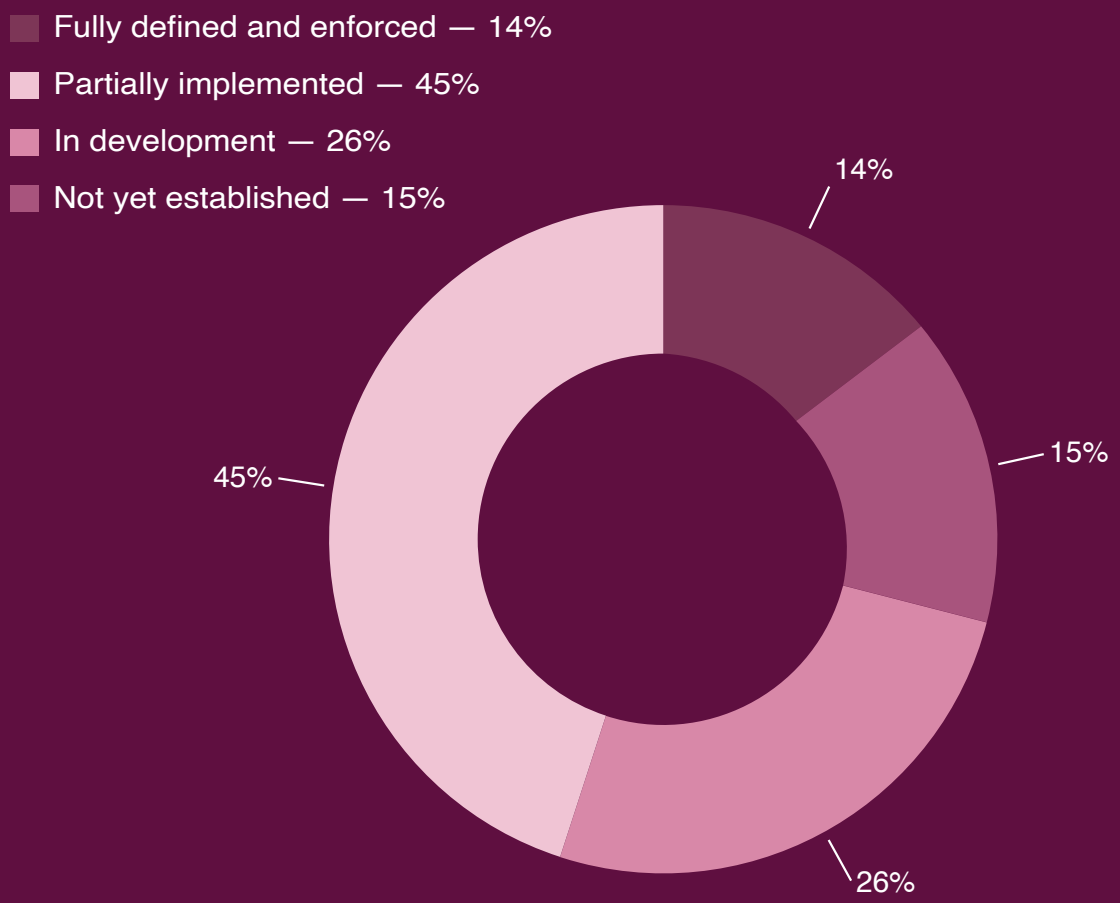
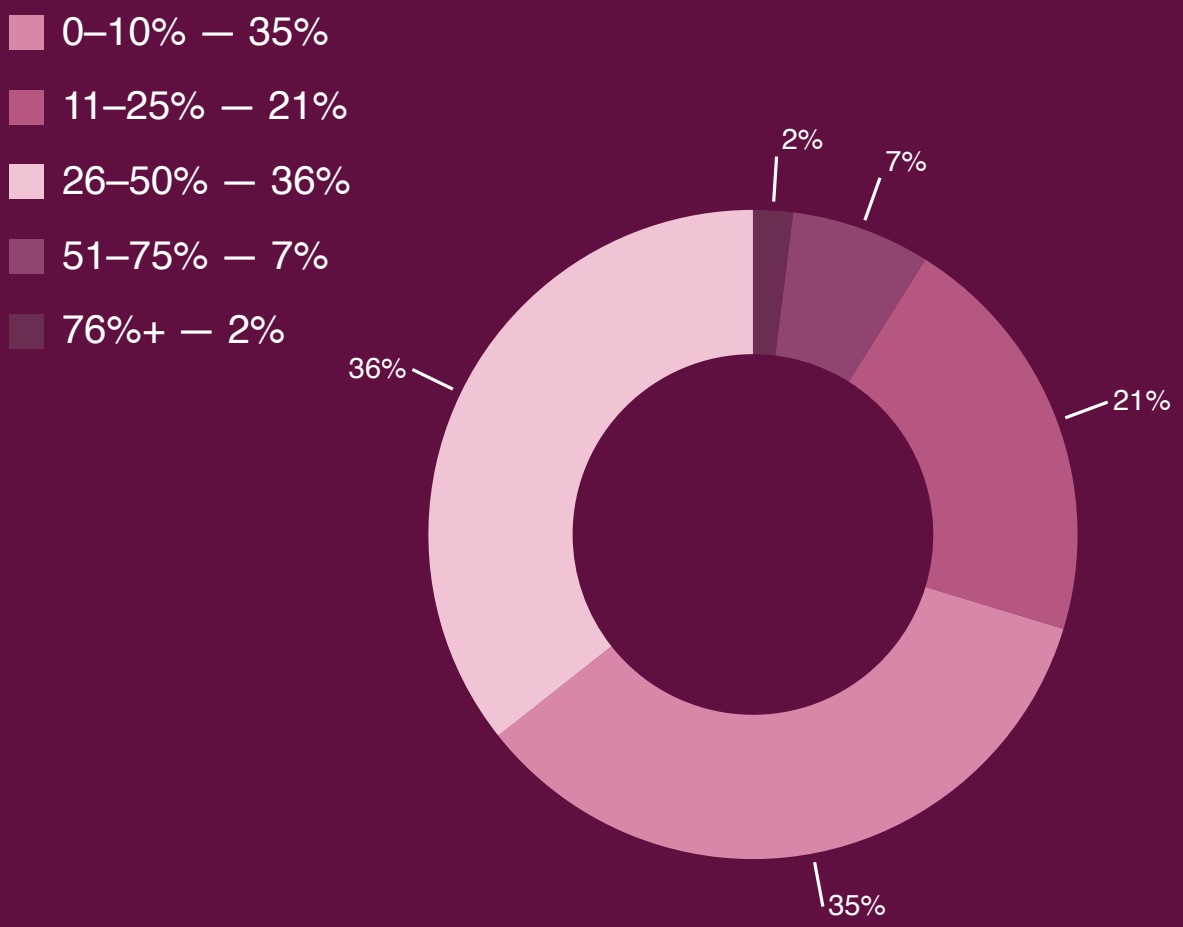


Fig. 4: What percentage of your AI initiatives have successfully moved beyond proof-of-concept into

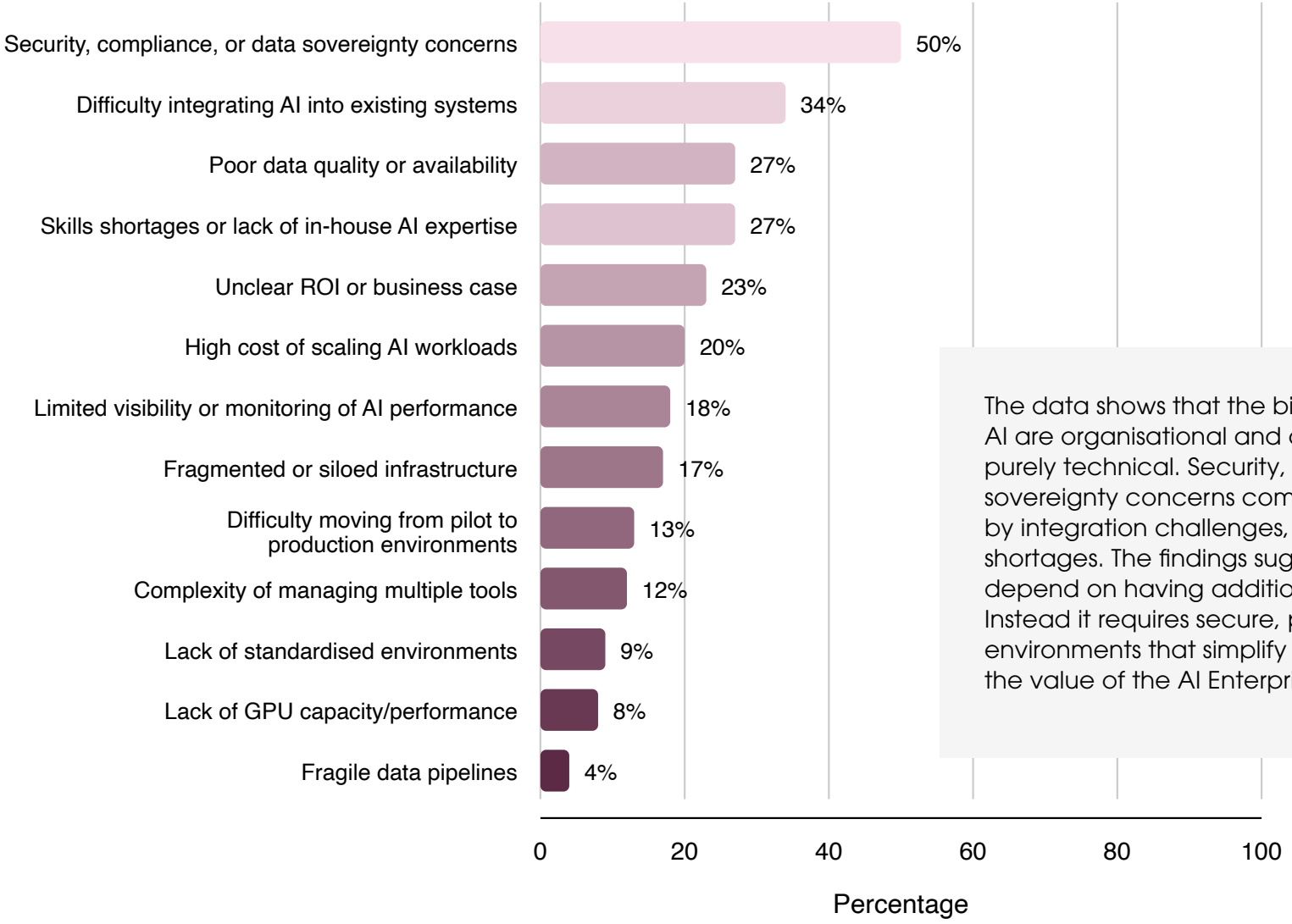


Many organisations are now well-versed in launching AI proof-of-concepts or test environments, such as running pilots or testing AI agents, but scaling beyond this requires the right computing power, architecture and data centre planning.

The data shows that most organisations are still finding it difficult to turn AI experimentation into real-world value. 36% say that 26–50% of their AI initiatives have reached production, indicating some organisations have established the foundational capabilities needed to operationalise AI.

However, more than a third of respondents say that only 0–10% of their AI initiatives have successfully moved beyond proof-of-concept, while a further 21% say they have successfully scaled 11–25% of projects. Overall, this means 56% of organisations are currently seeing a quarter or fewer of their AI projects reach production. This indicates that many IT leaders are experiencing operational challenges involved in scaling.

Fig. 5: What are the biggest challenges preventing your AI initiatives from scaling into production?



The data shows that the biggest obstacles to scaling AI are organisational and operational rather than purely technical. Security, compliance, and data sovereignty concerns come out on top at 50%, followed by integration challenges, poor data quality, and skills shortages. The findings suggest that AI success doesn't depend on having additional AI tools or hardware. Instead it requires secure, production-ready AI environments that simplify deployment, reinforcing the value of the AI Enterprise Factory model.



AI Factory adoption

An AI Factory is a complete, end-to-end solution designed to manage the entire AI lifecycle, encompassing core infrastructure and hardware, software and data operations, and governance and management. Unlike data centres or general-purpose computing, they are specifically designed to support highly intensive, AI-specific workloads.

AI Factories enable organisations to get the most from their GPUs thanks to a comprehensive infrastructure to manage data, workloads and the scale of models[1].

[1]Building a High-performance AI Factory whitepaper, NVIDIA and PNY (2026)

This finding suggests that AI Factories are still in the early stages of market adoption. Only 5% of organisations have deployed an AI Factory and 8% are at the pilot or experimentation stage. 21% are planning to implement one in the next 12-24 months, indicating widespread awareness even if deployment is limited.

However, 37% are considering deploying an AI Factory but have no concrete plans, and 29% have no plans at all.

Overall, many organisations recognise the need for more scalable and controlled AI infrastructure, but relatively few have reached the point where they are ready to invest in an AI Factory platform. And a significant proportion are yet to engage with the technology.

The finding also reinforces the role of channel partners as trusted advisors. With almost six in ten organisations either considering or planning AI Factory adoption, there is a significant opportunity for partners to help customers understand the business value, develop roadmaps, and identify use cases.

Fig. 6: Which best describes your organisation's current use of AI Enterprise Factory solutions?

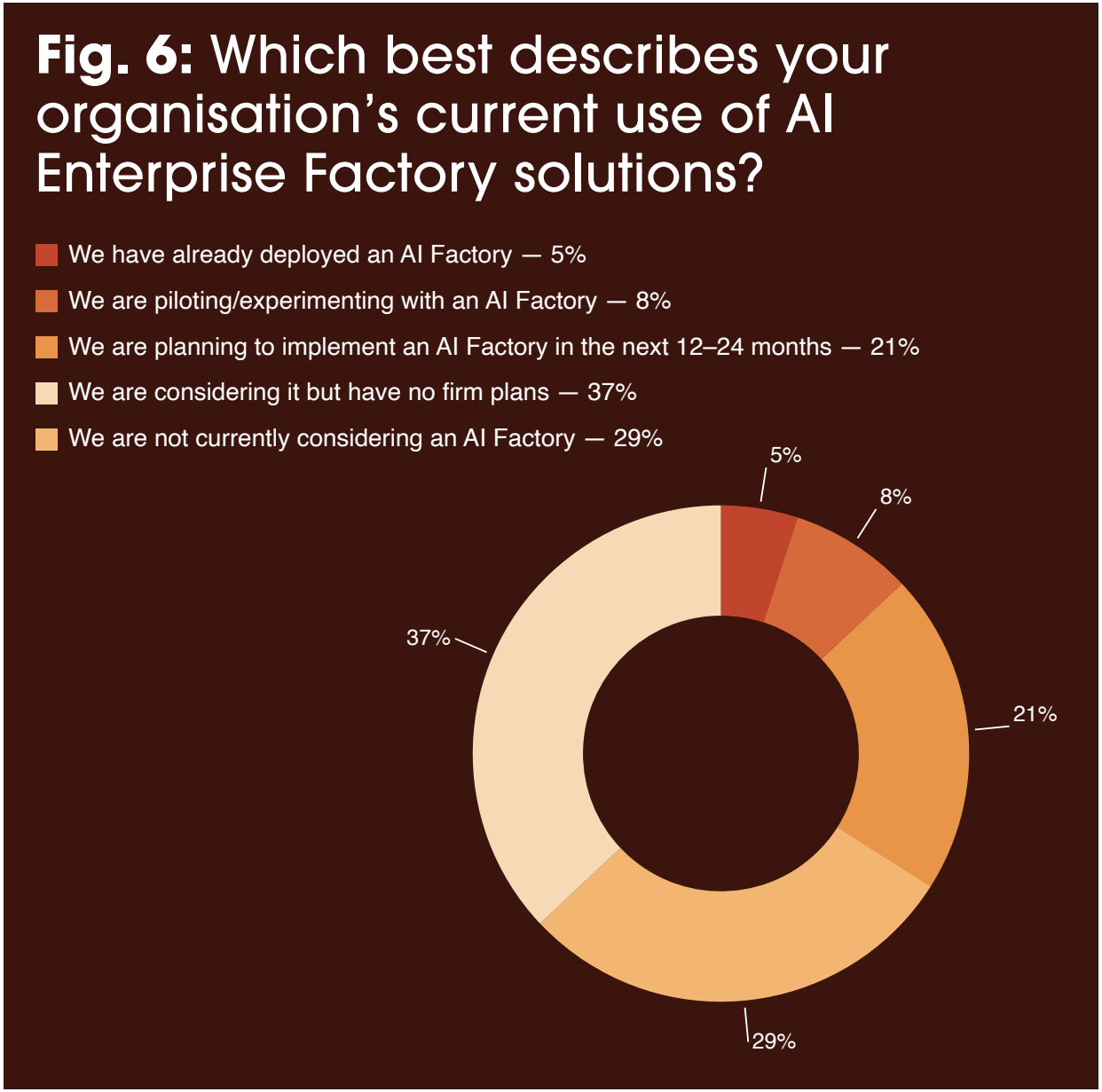
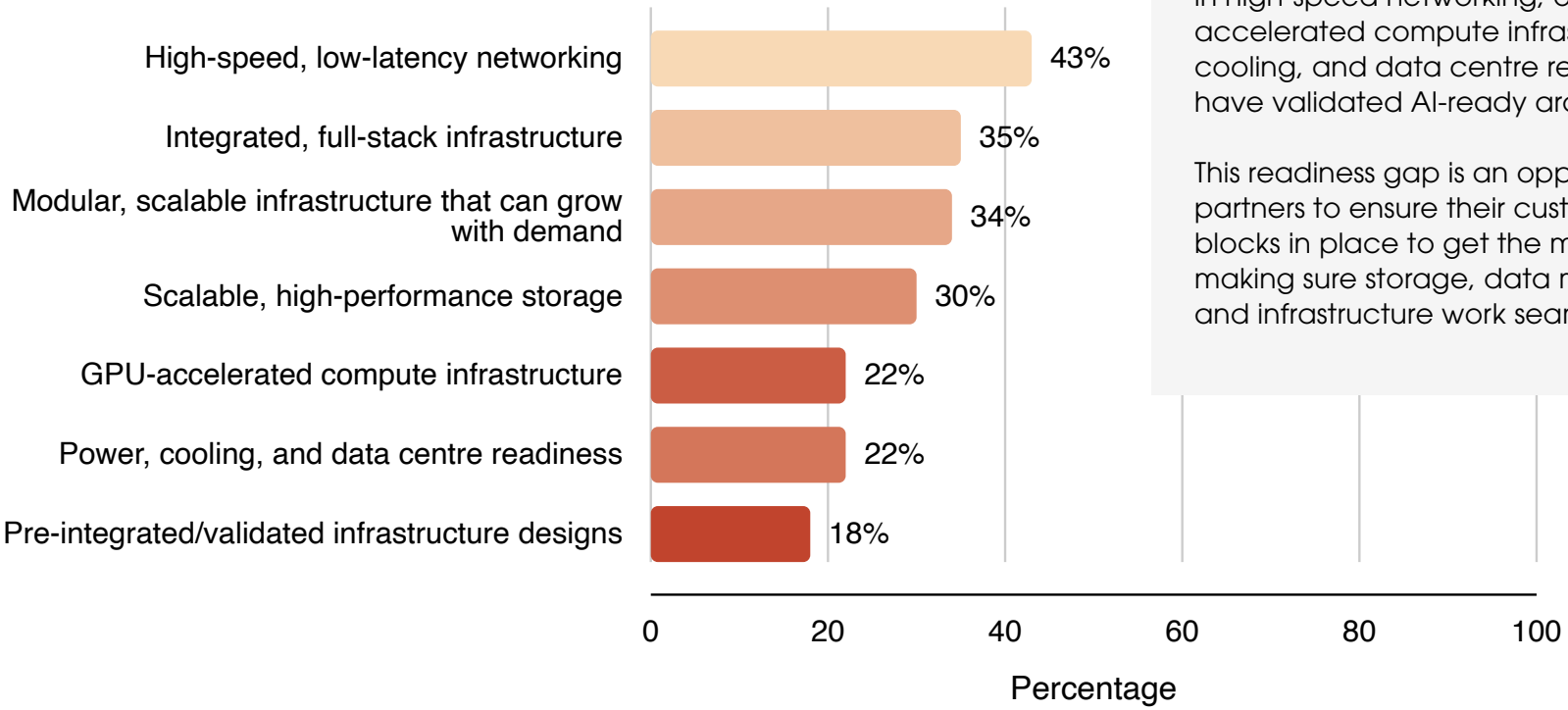


Fig. 7: Which of the following infrastructure capabilities essential for successfully deploying an AI Factory are you confident your organisation already has in place?



This next finding gives some indication as to why AI Enterprise Factory adoption is still in its early stages, suggesting that while many organisations have some of the foundational capabilities needed to support deployments, relatively few have all the elements required. While 43% report confidence in high-speed networking, only 22% have GPU-accelerated compute infrastructure and power, cooling, and data centre readiness, and just 18% have validated AI-ready architectures.

This readiness gap is an opportunity for channel partners to ensure their customers have the building blocks in place to get the most from their data, making sure storage, data management, software, and infrastructure work seamlessly together.

While AI Factory adoption is not yet mature, among those that have experience with the technology attitudes are broadly positive. 85% report gaining at least some competitive advantage, with 23% describing that advantage as significant. Respondents that have implemented AI Factories are realising tangible business benefits, suggesting that integrated AI environments are already helping organisations overcome many of the barriers preventing AI from delivering value at scale and becoming a strategic asset.

Fig. 8: Do you feel AI Factory use has given your organisation a competitive advantage?

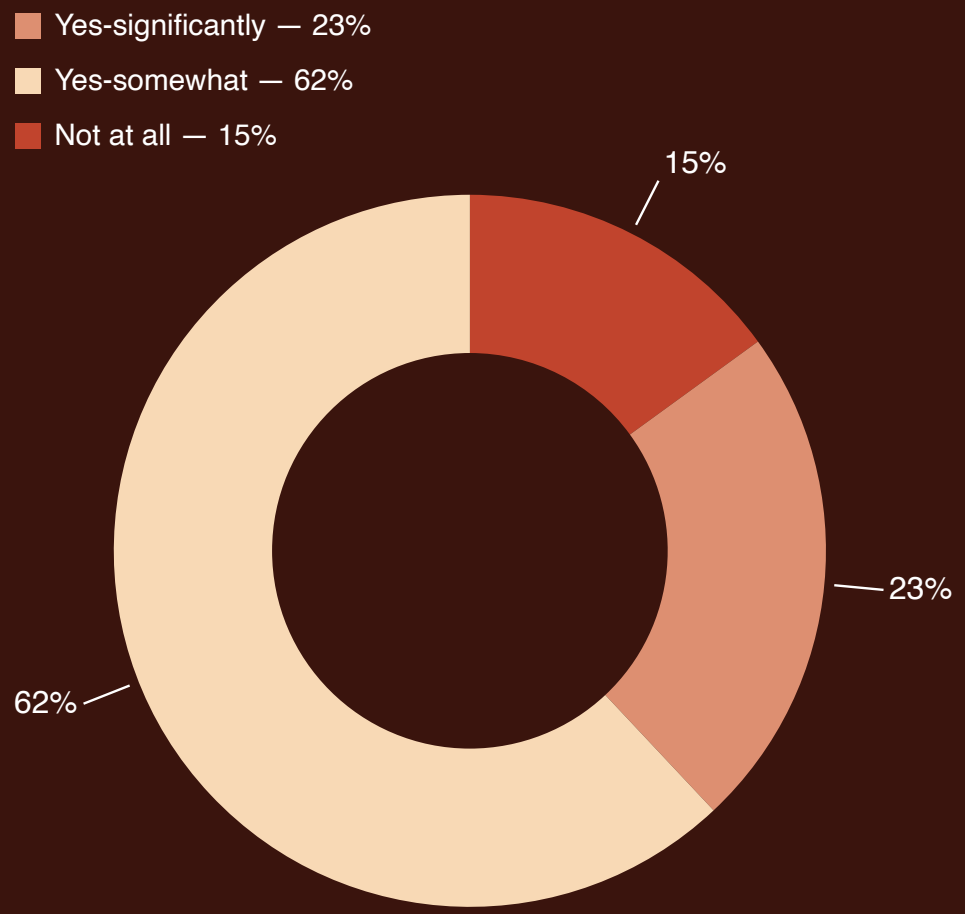
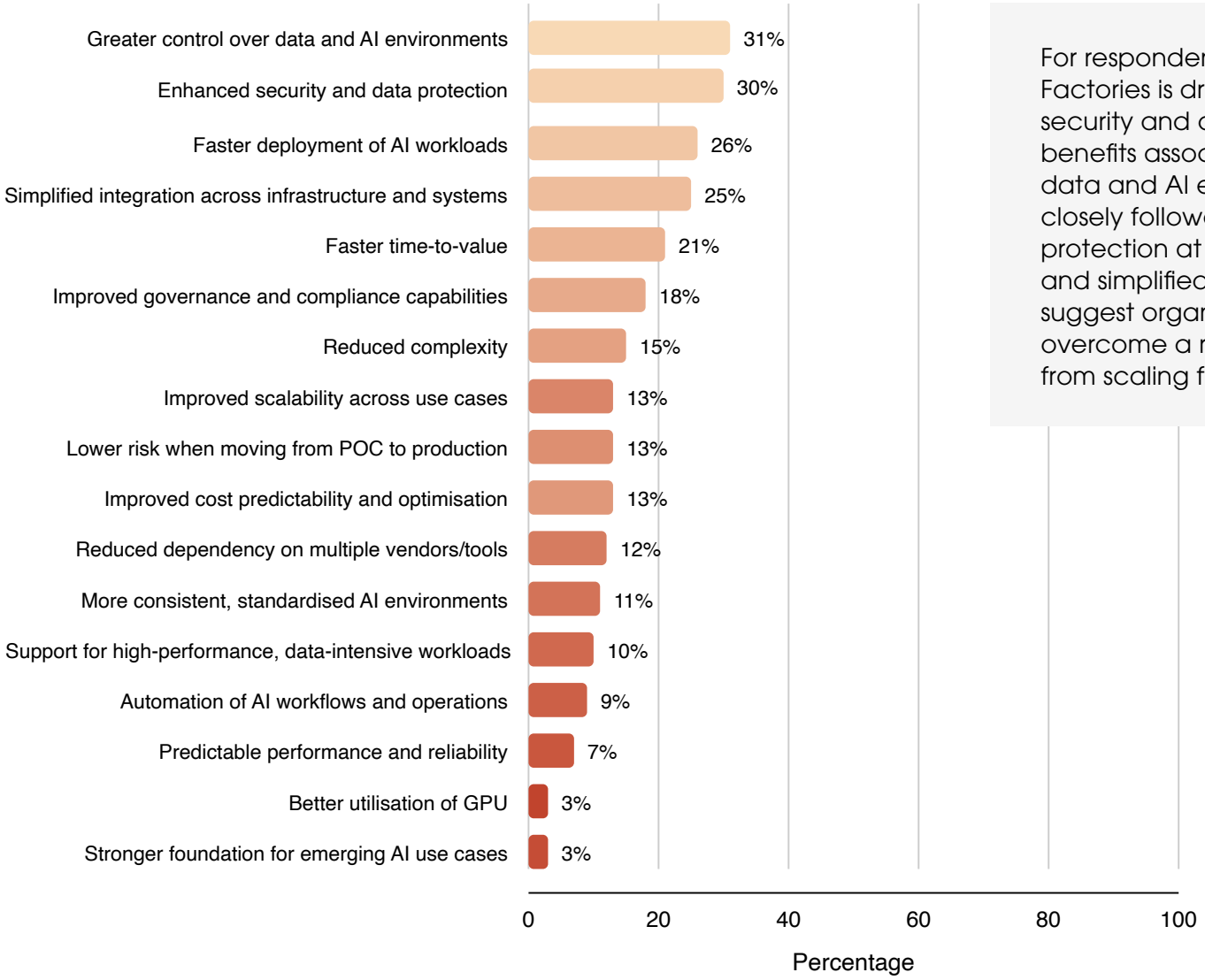


Fig. 9: Which benefits of an AI Factory approach are most compelling to your organisation?

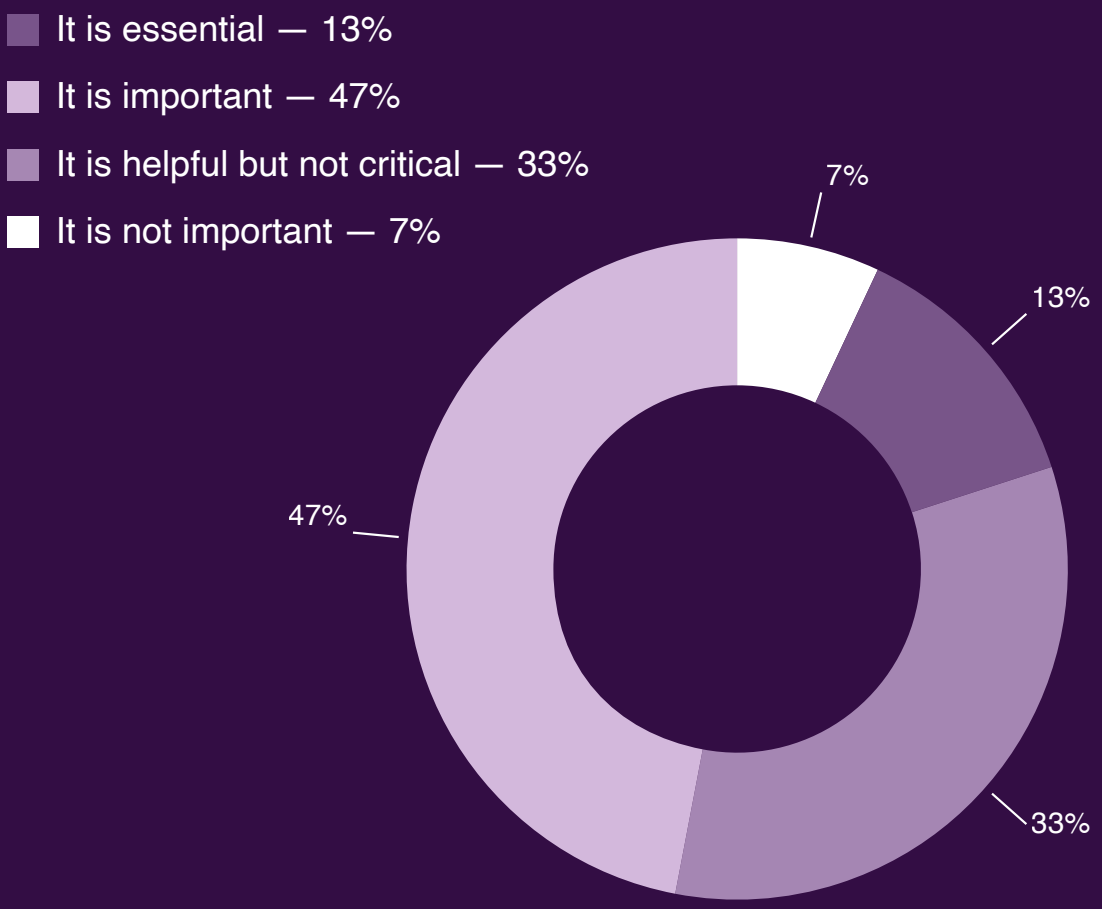


For respondents, the appeal of AI Enterprise Factories is driven primarily by governance, security and operational efficiency; common benefits associated with AI. Greater control over data and AI environments was chosen by 31%, closely followed by enhanced security and data protection at 30%, faster AI deployment at 26% and simplified integration at 25%. The findings suggest organisations view AI Factories as a way to overcome a range of barriers that are preventing AI from scaling from proof-of-concept to production.

The role of channel partners



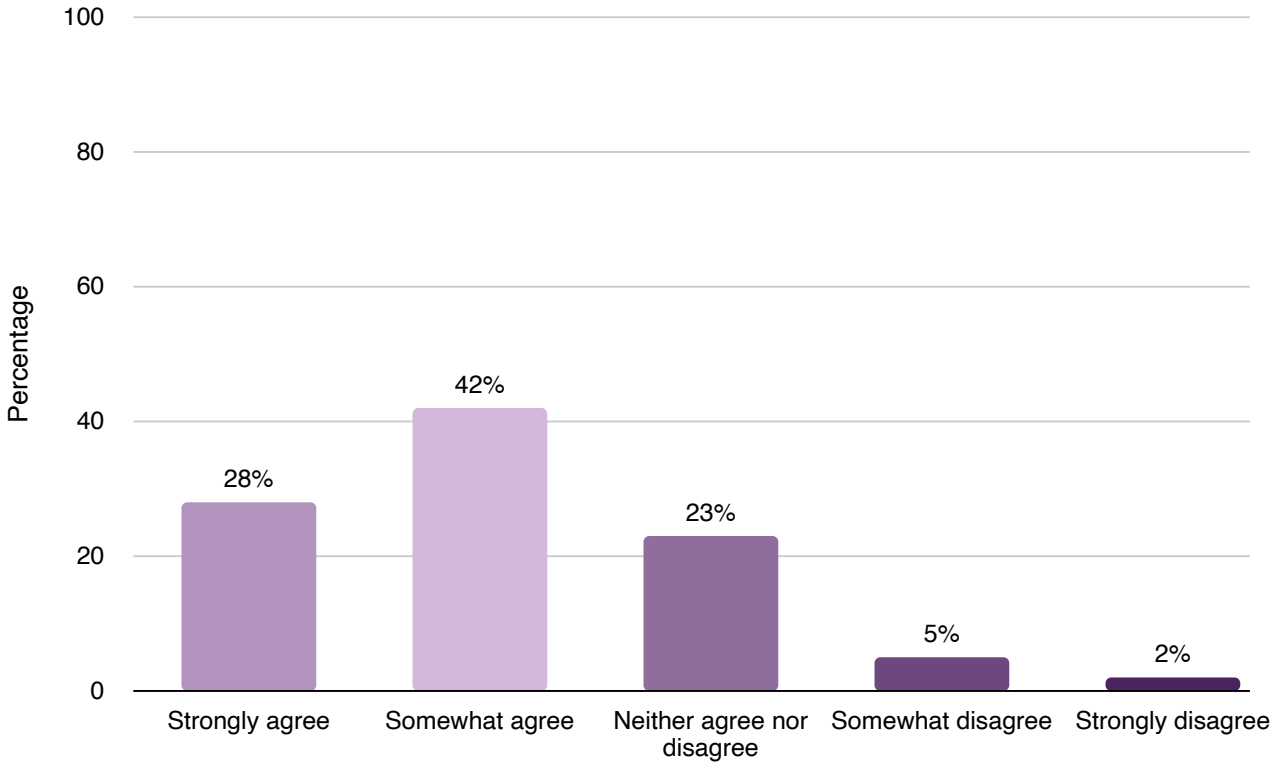
Fig. 10: To what extent do you require a unified AI architecture (rather than multiple tools) to scale AI effectively?



The research indicates growing support for a unified approach to enterprise AI, with 60% of organisations saying a unified AI architecture is either essential or important for scaling AI effectively. Just 7% say it is unimportant.

The finding suggests that architectural consistency is increasingly viewed as a key enabler of production-scale AI deployment, reinforcing the benefits of the AI Enterprise Factory model. To effectively support customers in their AI journeys, channel partners must go beyond supplying components that are combined ad-hoc, and instead focus on entire cohesive systems.

Fig. 11: To what extent do you agree with the following: "I am concerned about the level of control we have over our data with my organisation's current AI usage"

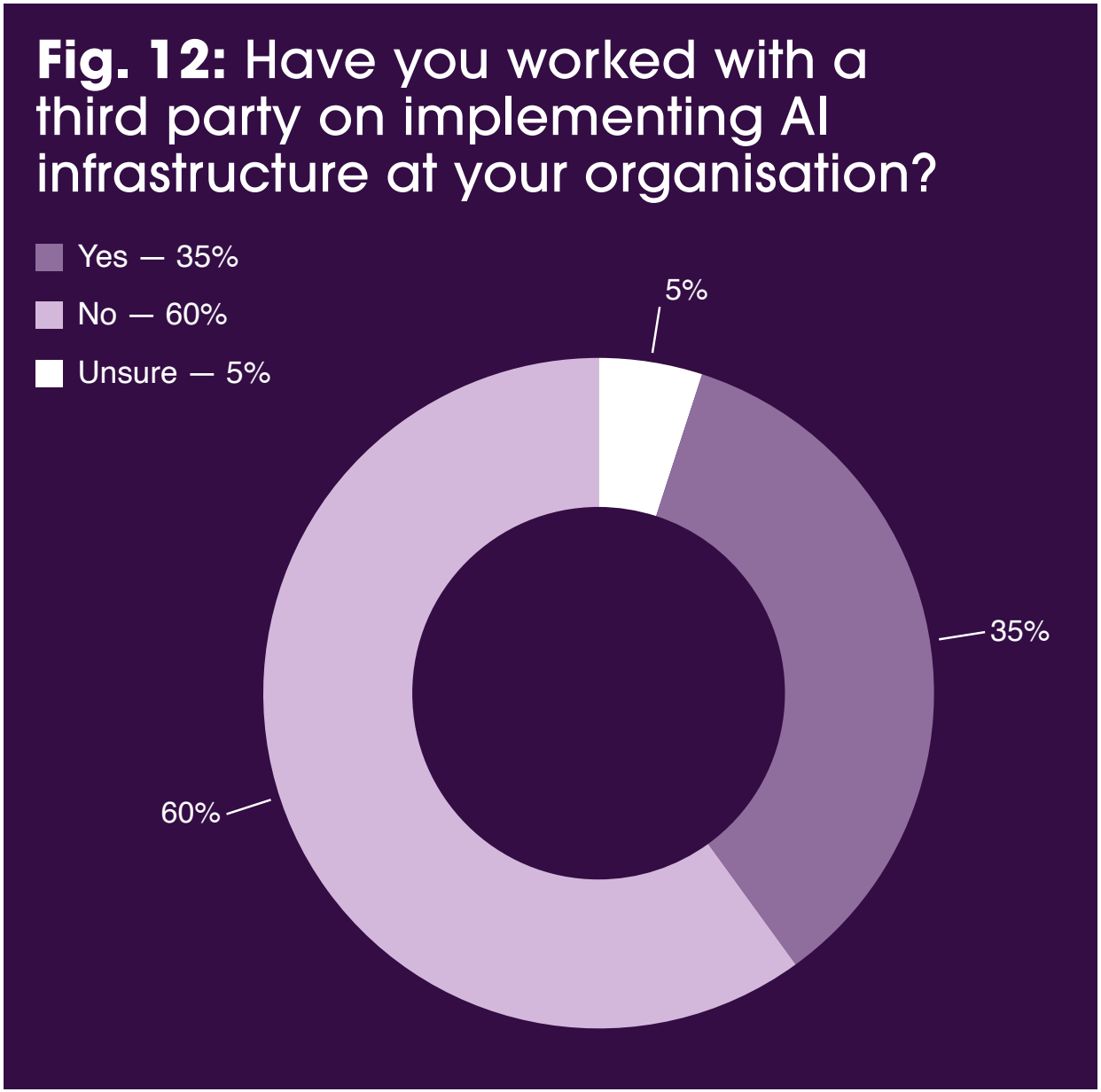


As well as cohesive systems, having clear visibility over how data is being used by AI is key to success. Concern over data control is very common among respondents, with 70% of organisations expressing at least some concern about the level of control they have over data. Just 7% disagree with the statement. This creates a strong case for private and controlled AI environments, enabling organisations to own their own data rather than using someone else's infrastructure.

AI Enterprise Factory architectures provide stronger governance, security, sovereignty, and visibility over how data is managed throughout the AI lifecycle, and this finding indicates a strong business need for this technology among those concerned about their current level of control.

This is especially clear when combined with previous findings, with 50% citing security, compliance, and sovereignty as barriers to scaling AI, 31% viewing greater data control as the most compelling AI Enterprise Factory benefit, and 30% citing enhanced security and data protection as a key advantage.

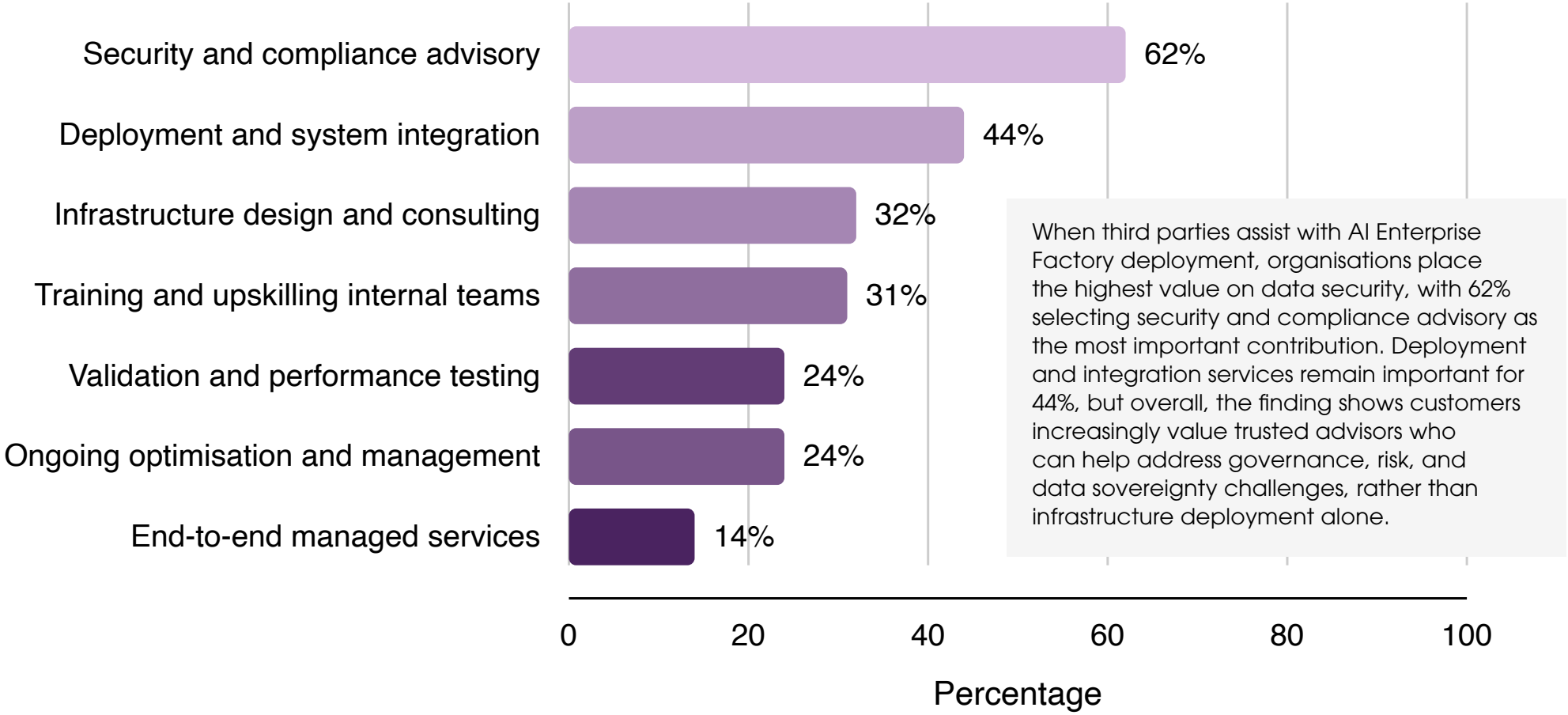
Fig. 12: Have you worked with a third party on implementing AI infrastructure at your organisation?



60% of respondents say they have not worked with a third party on implementing AI infrastructure, compared with 35% who have engaged external expertise and 5% who are unsure.

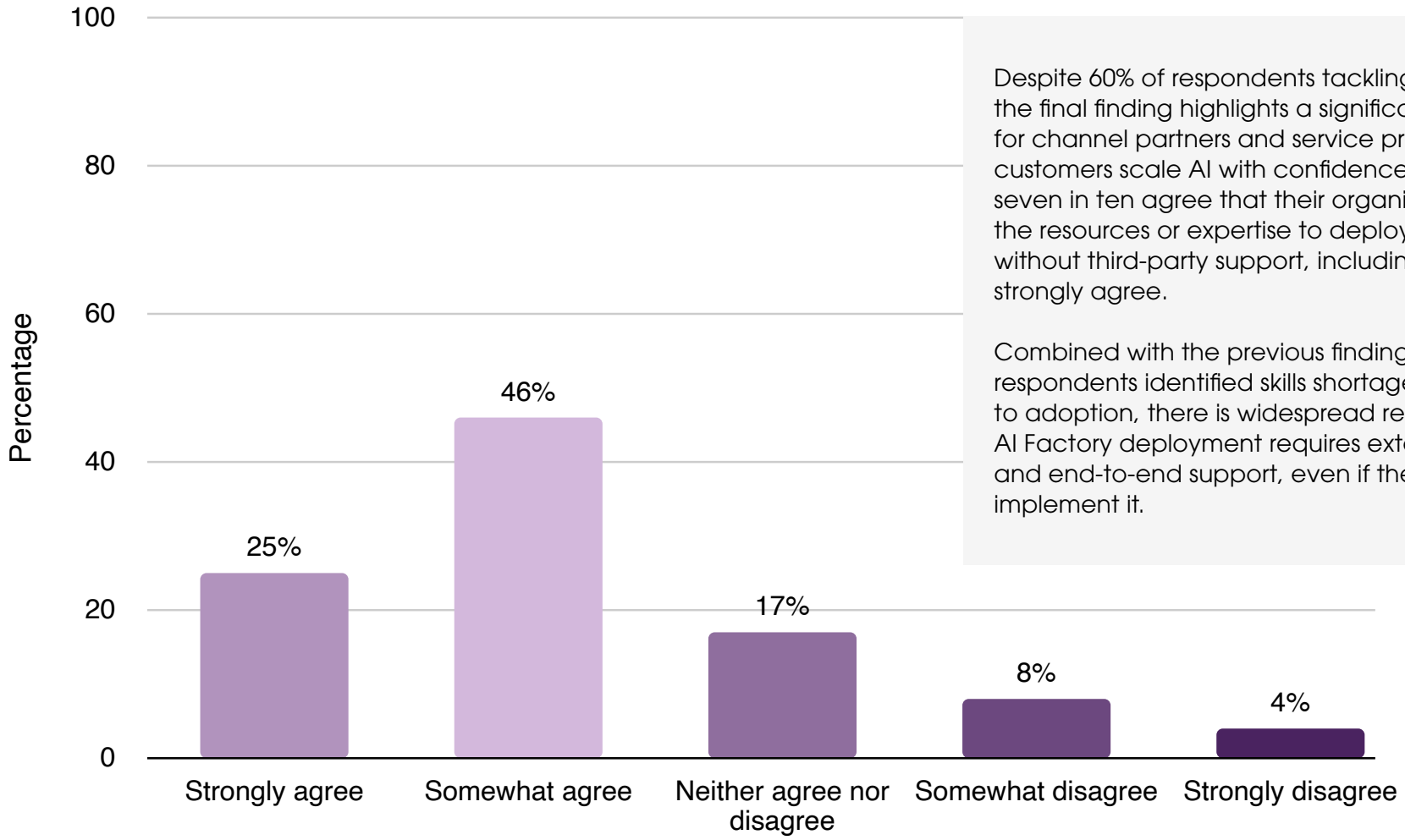
Most respondents are still navigating AI infrastructure implementation without external assistance, despite widespread challenges around security, governance, integration, and skills shortages.

Fig. 13: Which of the following is most valuable for a third party to deliver when it comes to AI Factory deployment?



When third parties assist with AI Enterprise Factory deployment, organisations place the highest value on data security, with 62% selecting security and compliance advisory as the most important contribution. Deployment and integration services remain important for 44%, but overall, the finding shows customers increasingly value trusted advisors who can help address governance, risk, and data sovereignty challenges, rather than infrastructure deployment alone.

Fig. 14: To what extent do you agree with the following: "My organisation does not have the resources/expertise to deploy AI Factories without third-party support"



Despite 60% of respondents tackling AI internally, the final finding highlights a significant opportunity for channel partners and service providers to help customers scale AI with confidence. More than seven in ten agree that their organisation lacks the resources or expertise to deploy AI Factories without third-party support, including 25% who strongly agree.

Combined with the previous findings in which respondents identified skills shortages, as a barrier to adoption, there is widespread recognition that AI Factory deployment requires external expertise and end-to-end support, even if they are yet to implement it.

Conclusion

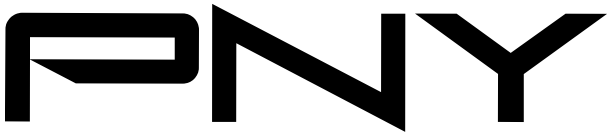
The research findings show that while AI industrialisation is becoming a priority for many, most organisations are still at an early stage of maturity. Many remain reliant on fragmented or only partially integrated infrastructure, governance frameworks are still developing, and more than half are seeing only a quarter or fewer of their AI initiatives move beyond proof-of-concept. At the same time, concerns around security, compliance, data sovereignty, integration, and skills shortages are preventing AI from scaling with confidence. This points to a clear gap between AI ambition and operational readiness: many do not yet have the architecture, expertise, or controls needed to realise their AI goals.

AI Enterprise Factories directly address this challenge by providing a unified foundation for the full AI lifecycle, bringing compute, storage, networking, software, governance, and operational management into one system. This is increasingly important as enterprise AI moves beyond isolated assistants and pilots towards more advanced deployments.

For channel partners, the opportunity is significant. Many customers lack the internal resources and expertise to design, deploy, and optimise AI, and AI Enterprise Factory adoption levels are currently low. Partners therefore have a critical role to play as trusted advisors: helping customers identify use cases, assess infrastructure readiness, build deployment roadmaps, and address security and compliance. Their value lies not only in implementation, but in giving customers a practical path from experimentation to production.

PNY is well positioned to aid partners and customers at every stage of AI Enterprise Factory deployment by not simply distributing individual components, but supporting the entire production workflow, from design to validation, integration, and deployment. By supplying solutions tailored to individual organisations and use cases, customers can industrialise AI in a way that is secure, controlled, and commercially sustainable[2].

[2] Building a High-performance AI Factory whitepaper, NVIDIA and PNY (2026)



About the sponsor

PNY Technologies is a global technology company specializing in PC components, storage solutions, professional graphics, and artificial intelligence infrastructure. With over 40 years of experience in the IT industry, PNY combines its manufacturing background with expertise as a value-added distributor, supported by long-standing partnerships with technology leaders such as NVIDIA.

Operating worldwide, with an EMEA HQ based in France, PNY leverages its global presence, agile logistics capabilities and deep technology expertise to support customers across the multiple computing environments.

From retail and e-tail channels to large-scale AI Factory infrastructures, PNY provides a complete range of NVIDIA GeForce, Flash, DRAM memory and SSDs as well as NVIDIA RTX PRO, DC infrastructure and GPUs, AI software solutions, and networking. This end-to-end approach enables PNY to address the needs for professional workstations, gaming platforms, HPC and advanced AI deployments.