



The AI Network:

Your AI Strategy Is
Only As Strong As The
Network Beneath It

Executive Summary

AI strategy is now a network readiness challenge

AI is moving from experimentation into everyday business execution. Organisations are investing in copilots, automation, AI agents and new productivity models, but many are overlooking the infrastructure those ambitions depend on. AI can only deliver at scale if the network beneath it is fast, resilient, secure and ready for real-time, machine-driven workloads.

AI is already increasing demand on enterprise networks. Research referenced in this article points to a 34% increase in AI-related network traffic over the past 12 months, with a further 96% growth expected within the next year. Within three years, enterprise traffic could reach three times current levels as agentic AI becomes more widely adopted.

The issue is not only volume. Traditional networks were designed around predictable application use and human-paced activity. AI introduces continuous, automated traffic between systems, models, cloud platforms, edge environments and users, making latency, visibility, upstream capacity, governance and resilience as important as bandwidth.

For leadership teams, this creates a readiness gap. AI projects may stall not because the technology fails, but because the environment cannot support it. Organisations need to treat the network as part of the AI strategy, not as a separate infrastructure layer.

Sovereignty is also becoming a board-level consideration. As AI uses more sensitive business data, organisations need stronger control over where data, models, keys and compute are hosted, secured and audited. Viatel helps customers build AI foundations that are practical, controlled and scalable.

Viatel's Customer Zero approach strengthens this message. By implementing AI internally first, with governance, security, training and practical use cases built in from the start, Viatel has first-hand experience of what effective AI adoption requires.

"AI initiatives stall not because the technology fails, but because the infrastructure cannot support them."

96%
projected growth in
AI-related
network traffic
within the next year.

73%
of organisations
already face or
expect to face
network capacity
limitations.

3x
current traffic
levels projected
within three years,
driven by generative,
agentic and
physical AI.

Introduction

As AI scales from experimentation to execution, organisations face a new constraint: networks not built for autonomous, real-time, machine-driven workloads.

By Eilish O'Connor

Director of Strategy & AI

AI is moving from experimentation to execution fast. Conversations are centred on copilots, agents, automation and the promise of productivity gains at scale. But there is a growing disconnect in how organisations are approaching this transformation.

Most strategies focus on what AI can do. Far fewer ask whether the underlying infrastructure can actually support it. That gap is becoming critical. In many cases, the network is now the limiting factor in AI success.



AI is already delivering clear business value. Organisations are using it to improve productivity, enhance customer experience and reduce manual workload across functions. From automating repetitive tasks to accelerating decision-making, the benefits are tangible. But as these use cases scale, they place increasing demands on the infrastructure that supports them.

Research from Cisco and Foundry highlights the scale of the issue: AI is placing unprecedented strain on enterprise networks, particularly across environments where users, applications and systems converge. Over the past 12 months alone, organisations have seen an average **34% increase in network traffic tied to AI workloads**, with a further **96% growth expected within the next year**.¹ The result is a widening gap between AI ambition and network readiness.



“Put simply, organisations are building AI strategies on foundations that were never designed to support them.”



↑
96%

Additional growth in traffic expected within the next year.

AI is changing how networks behave, not just how much they carry

Organisations are already seeing substantial growth in network demand driven by AI workloads, with traffic expected to multiply significantly in the coming years. Some projections suggest that without agentic AI, enterprise traffic could grow by around 2.5x over the next decade, but with agentic AI, that could increase closer to 9x¹. In fact, overall traffic is projected to reach **three times current levels within three years**, driven by generative, agentic and physical AI.



209%

Traffic projected to reach **3x** current levels over the next three years, compounded across generative AI (genAI), agentic, and physical AI.

Projected growth of AI technologies

More importantly, AI is changing the nature of that traffic.

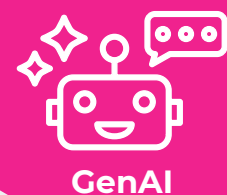
Traditional enterprise networks were built for predictable patterns such as SaaS applications, email and CRM systems. AI introduces continuous, automated and often unpredictable flows of data. Systems communicate in real time. AI agents interact, iterate and respond dynamically.

Traditional planning assumptions such as predictable bursts, download-heavy usage and human-paced interactions are being replaced by continuous, autonomous, machine-to-machine activity operating at software speed and demanding far greater upstream capacity.

This leads to increased east-west traffic, data moving laterally across systems, alongside more latency-sensitive and burst-driven workloads.

In this environment, performance is no longer just about bandwidth. It is about responsiveness.

Even small delays can render AI ineffective. As AI becomes embedded in real-world workflows, network performance directly impacts outcomes, customer experience and operational efficiency.



GenAI

↑
90%



Agentic AI

↑
85%



Physical AI

↑
70%

¹ AI Impact on Wide Area Networks: Cisco 2026 report

The readiness gap is real and growing

Despite rapid AI adoption, most organisations are not ready for this shift.

73% of organisations already face or expect to face network capacity limitations² in the near term. For AI initiatives to scale successfully, enterprises must upgrade their networking infrastructure or risk being surpassed by competitors that are truly AI-enabled.

At the same time, AI is moving beyond experimentation. It is becoming embedded in core operations, decision-making and customer engagement.

This creates a fundamental risk: AI initiatives stall not because the technology fails, but because the infrastructure cannot support them.

This is the challenge, and increasingly the opportunity, for organisations that can rethink their network as part of their AI strategy.

For organisations, the question is shifting. It is no longer “What can AI do for us?” but “Can our environment actually deliver it?”

73%

Percentage of organisations already face or expect to face campus and branch capacity limitations within the next 24 months.

“AI initiatives stall not because the technology fails, but because the infrastructure cannot support them.”

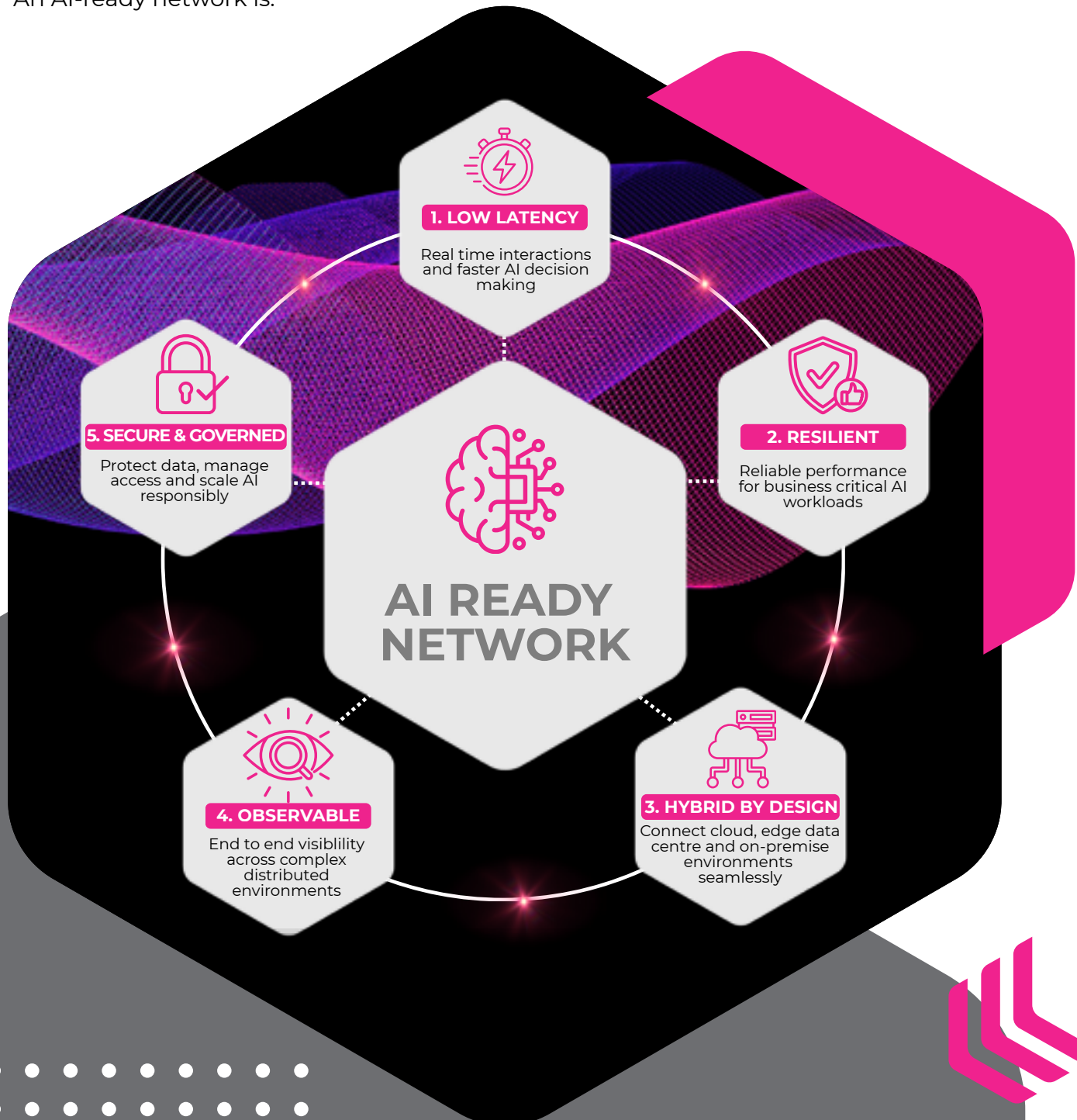


Introducing “The AI Network”

This is where a shift in thinking is needed.

We need to start talking about the **AI Network** as a design principle.

An AI-ready network is:



In this model, the network is no longer a supporting layer. It becomes a core enabler or a bottleneck.

This is the next seismic shift in networking. Cloud migration was the last major driver that forced organisations to rethink connectivity. AI is now creating the next one, with more dynamic, distributed and performance-sensitive demands.

Sovereignty becomes a strategic requirement

Alongside performance, sovereignty is rising in importance.

As AI systems process more sensitive and business-critical data, organisations need clarity on where data, models, keys and compute are hosted, and how they are governed and audited.

This is not just about compliance. It is about control and trust.

Businesses need assurance over data integrity, visibility and accountability across distributed environments.

Secure data centre infrastructure and sovereign cloud models are becoming more relevant, giving organisations greater control, visibility and assurance. For Viatel customers, this means access to Viatel's own secure data centres and resilient networks designed to support AI workloads with confidence.

Viatel's heritage in connectivity, private cloud and secure data centre services is now becoming a foundation for the next stage of customer transformation: AI that can run securely, reliably and at scale.

In an AI context, sovereignty is not a secondary consideration. It is part of the foundation.



Learning by doing: the Customer Zero approach

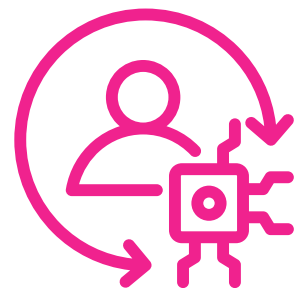
At Viatel Technology Group, we recognised early that AI could not be approached as a purely theoretical exercise.

That is why we adopted a “Customer Zero” model, implementing and scaling AI internally before guiding customers.

We focused on practical use cases, built governance and security from the outset, and supported adoption through training, clear ownership and structured pilots, ensuring AI was deployed responsibly, effectively and with strong data foundations. Over time, this evolved into scaled deployment and increasingly into automation through AI-driven agents.

The lesson is clear: successful AI adoption is not just about capability, it is about building the right foundations to support it at scale across infrastructure, data, governance and people. That is where organisations need partners who understand both AI and the networks that underpin it.

To read about this in more detail **visit us here**.



The next question for leadership

AI is moving quickly from experimentation to execution. The organisations that succeed will not necessarily be those with the most advanced models, but those with the most prepared environments.

Network readiness is now a defining factor.

The next strategic question for organisations is no longer whether they have an AI strategy.

It is whether their network can carry it.

The organisations that succeed in the AI era will not think about networks, cloud, data and security as separate domains. They will recognise that AI depends on all four operating as a single foundation. The future belongs to organisations that can connect people, data, applications and AI securely, seamlessly and at scale.

Because in the AI era, the network is not just part of the architecture, it will determine whether your AI strategy succeeds or stalls.

“The next strategic question is no longer whether an organisation has an AI strategy. It is whether its network can carry it.”



About the Author

Eilish O'Connor serves as the Director of Strategy & AI at Viatel Technology Group and is a senior technology leader with over 20 years of experience across the technology sector, including international experience spanning communications, software, IT, and cybersecurity.

A graduate of Applied Physics from the University of Limerick, she has held leadership roles across both multinational and indigenous organisations, combining deep technical expertise with strategic business insight.

Following eight years as Chief Technology Officer, O'Connor transitioned into this inaugural group-wide role to cement Viatel's leadership in the AI era. She now focuses on shaping the company's long-term direction, ensuring that AI, cybersecurity, communications, and digital services are tightly aligned to drive high-value business outcomes.

This approach underpins the Viatel Solution Stack, a cohesive, end-to-end offering designed to help organisations scale. Her remit reflects a deliberate shift towards enterprise-level strategy, recognising AI as a critical enabler of growth and resilience.

Speaking on her role, she noted: "We are entering a new era of possibility; I am proud to unlock practical AI solutions that move the needle for our customers."

An active member of WiCyS and CWIT, Eilish has been recognised in the Business & Finance CIO 100 Index for four consecutive years, reflecting her sustained influence in the sector.

She has been central to Viatel's recent market recognition, including Microsoft Ireland Modern Work Partner of the Year and Platinum Deloitte Best Managed Company status.

Read about Eilish's appointment as Director of Strategy and AI [here](#).



About Viatel Technology Group

Viatel Technology Group helps organisations across Ireland and the UK simplify how technology supports their business. By combining connectivity, digital services, cybersecurity and AI, Viatel makes it easier for customers to reduce complexity, strengthen resilience and move forward with confidence. Viatel's commitment to security and operational excellence is backed by rigorous compliance, including ISO27001, SOC 2 and PCI-DSS certifications, in line with obligations as a NIS2 Essential Entity. As a Platinum Deloitte Best Managed Company, Microsoft's Modern Work Partner of the Year and Cisco Premier Provider Worldwide, Viatel possesses the verified scale and expertise to protect critical operations. This enables our customers work and grow securely.



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