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The Edge Evolution:

Powering Success from Core to Edge

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Executive summary

As generative AI (GenAI) adoption accelerates, moving into production and implementation, enterprises face challenges posed by outdated legacy infrastructure. While many enterprises have modernized by migrating to public cloud platforms, these deployments remain concentrated in centralized datacenters, often far from remote business locations and customers.

To address this, enterprises are anticipating **an infrastructure evolution at the edge** aimed at overcoming technical debt and enabling true AI readiness. This shift requires tackling two priorities: modernizing legacy infrastructure and extending public cloud capabilities to edge locations. GenAI's data-intensive requirements for proximity to customers call for investments in a modern infrastructure that extends from core to edge, addressing scalability, latency, cost, and performance challenges.

This transformation, or what is emerging as ***"The Edge Evolution,"*** necessitates a new connected digital backbone to handle the exponential growth of edge data with enhanced performance, robust security, and scalability. By leveraging public cloud-based infrastructure across the core to edge, enterprises can rightsize workloads and run applications efficiently, wherever they are needed. This decentralized approach to IT services improves performance, optimizes IT costs, and enhances customer experiences by bringing services closer to users.

IDC forecasts a significant shift toward public cloud-based provisioned services at the edge over the next three years. Spending on public cloud services at the edge is projected to reach US$29 billion by 2028, representing a 17% compound annual growth rate (CAGR) from 2024 to 2028 in the Asia/Pacific (excluding Japan) region.[1]

This IDC InfoBrief explores the evolving IT landscape, highlighting how enterprises are building their digital infrastructure around connected public cloud models. It also provides best practices and actionable recommendations for designing a modern digital infrastructure that meets both current and future needs.

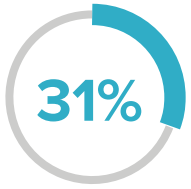
By 2028, in response to the growth of GenAI inferencing workloads, **30%** of A2000 in Asia/Pacific will supersize edge IT by doubling spend on remote compute, storage, and networking resources.[2]

[1] IDC Worldwide Edge Spending Guide — Forecast, 2025, [2] IDC FutureScape: Worldwide Digital Infrastructure 2025 Predictions — Asia/Pacific (Excluding Japan Implications)

New digital backbone needed to power GenAI and intelligence at the edge

The rise of GenAI is reshaping industries, unlocking unprecedented opportunities for innovation, automation, and customer engagement.

of Asia/Pacific enterprises surveyed believe GenAI has already disrupted or will disrupt their businesses in the next 18 months.[1]



of Asia/Pacific organizations have introduced GenAI applications into production environments, while **64%** are conducting initial testing and proofs of concept.[1]

Edge computing is emerging as the frontier for the next-generation of digital innovation, driving *"The Edge Evolution"* and necessitating a transformative approach to building resilient, future-ready digital ecosystems.

To meet the demands of GenAI workloads, organizations require a modernized digital backbone — one that integrates scalable edge IT to bring intelligence closer to users and applications.

Edge IT will see the highest increase in IT spending among the majority of Asia/Pacific enterprises in 2025[2] driven by the need to bring GenAI services closer to remote locations or customers, unlocking the potential of industry-specific use cases

[1] IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 10 (APJ n = 300), [2] IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 8 (APEJ n = 250)

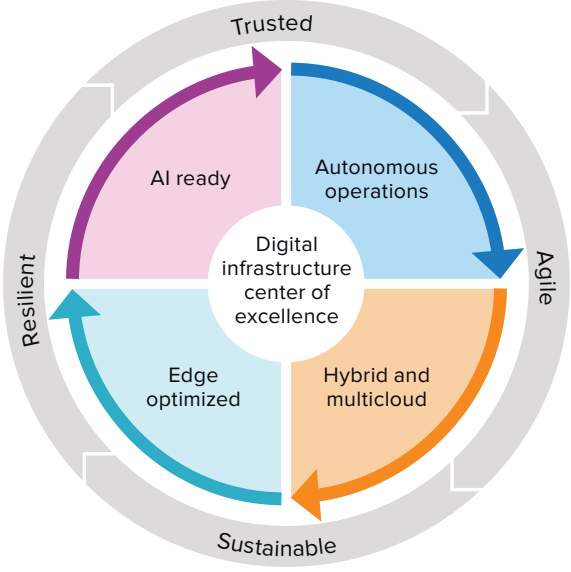
Building a GenAI-optimized digital infrastructure supporting edge use cases

Digital business architecture is the top technology initiative for Asia/Pacific organizations, compared to its sixth-place ranking among global CEOs.[1]

This indicates the region's heightened focus on adopting advanced digital technologies, such as core-to-edge infrastructure, to deliver the performance, flexibility, and scalability needed for business growth. To build a digital infrastructure that is GenAI-optimized and supports edge use cases, enterprises must embrace a strategy that extends from core to edge.

IDC's Future of Digital Infrastructure framework provides the road map to achieve this, ensuring organizations are equipped to meet the demands of agility, scalability, and performance while driving innovation and growth.

IDC's Future of Digital Infrastructure Framework



Source: IDC, 2025

Six building blocks for a future-ready digital infrastructure

- **AI-ready:** Drive operational efficiency, build next-generation applications, and create personalized, data-driven customer experiences.
- **GenAI deployment:** Invest in accelerated, small and large language models, and AI-infused applications to support significant edge deployments.
- **Modern edge IT:** Process data where it is generated, reduce costs of frequent data transfer to core, and operate low-latency applications closer to customers.
- **Edge-optimized architectures:** Accommodate decentralized enterprise computing, data management, and connectivity requirements.
- **Cloud to edge:** Extend public cloud investments to the edge to build a connected digital IT infrastructure and deliver services where required.
- **Autonomous operations:** Enable efficient IT operations and a true digital experience powered by AI technologies.

But challenges stand in the way of building this connected cloud-based digital infrastructure

Source: [1] IDC *CEO Survey*, 2025

Cost, latency, security, and portability: Challenges addressed by modern edge IT

Building a connected digital infrastructure comes with challenges. Globally, 56% of organizations report business disruptions from edge incidents and see infrastructure upgrades as the solution. Additionally, 49% face multicloud complexity due to non-standardized tools, while regulatory compliance remains a hurdle.[1]

A modern edge IT infrastructure can aid in addressing these issues:

Cost management and optimization

- Rising public cloud costs driving scrutiny of related compute resources (GPUs/TPUs for new AI/GenAI workloads), storage for large data sets, higher networking bandwidth costs, and increased security and digital sovereignty.
- Cloud costs are often unpredictable, with 24% of organizations in the Asia/Pacific citing this as a key challenge in their GenAI journey.[2]

Latency issues

- Deploying applications centrally leads to higher latency when accessed from far distances.
- Advanced protocols and technologies are needed to minimize latency, such as for real-time data analytics, fraud detection systems.
- Deploying workloads at the edge delivers key benefits:
  - Improve speed of deploying new applications
  - Higher performance as it is closer to users
  - Faster data processing and business decision-making

Data security

- The edge can either offer security challenges or provide higher security.
- Security at the edge is challenging due to the distributed nature of edge devices.
- Data at the edge is closer to its source and that reduces the risk of interception during transmission.
- Robust security measures, such as strong encryption, multifactor authentication, and regular security audits, are critical to protect against cyberthreats.

Portability

- Lack of support hinders porting of applications across different public cloud platforms.
- There are challenges around optimizing performance, ensuring uniform compliance, security, and resiliency across platforms.

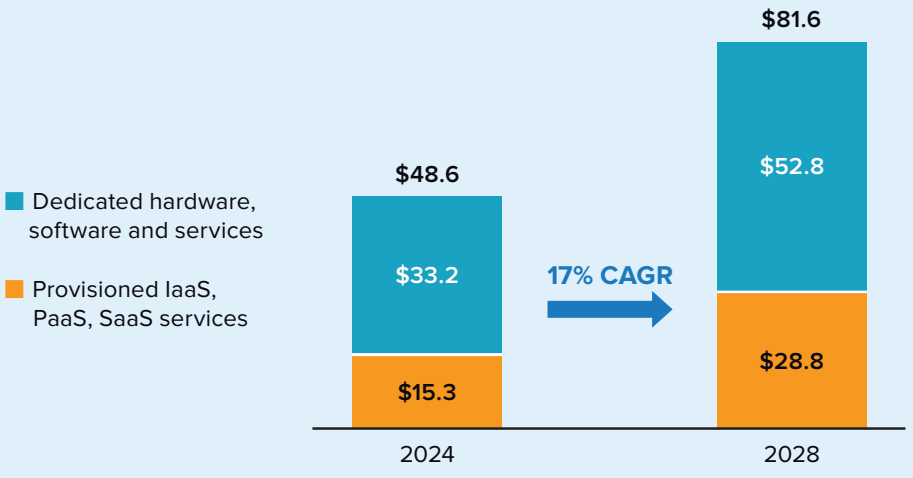
The edge is essential in this digital era, and IDC predicts that by the end of 2025, 50% of the A1000 will grapple with divergent regulations and evolving standards.

[1] IDC FutureScape: Worldwide CIO Agenda 2025 Predictions — Asia/Pacific (Excluding Japan) Implications
[2] IDC EdgeView, 2024 (n = 800)

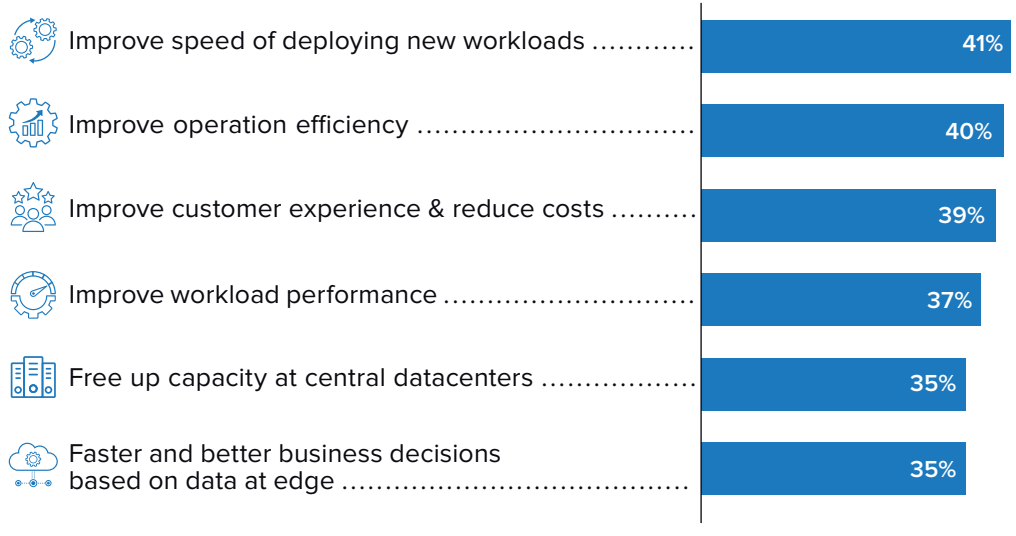
Rapid growth of edge IT: US$81.6B investments by 2028

Investments in provisioned public cloud services — including infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS) — at the edge will accelerate, driven by the need for agility, scalability, and support for next-generation technologies like AI. IDC forecasts a 17% compound annual growth rate (CAGR) for the Asia/Pacific edge infrastructure market for public cloud-based provisioned services. Key drivers for this growth include improved speed in deploying new workloads and enhanced operational efficiency, highlighting the transformative benefits of edge computing.

APEJ edge infrastructure forecast (US$ billion)



Top benefits of deploying workloads at the edge



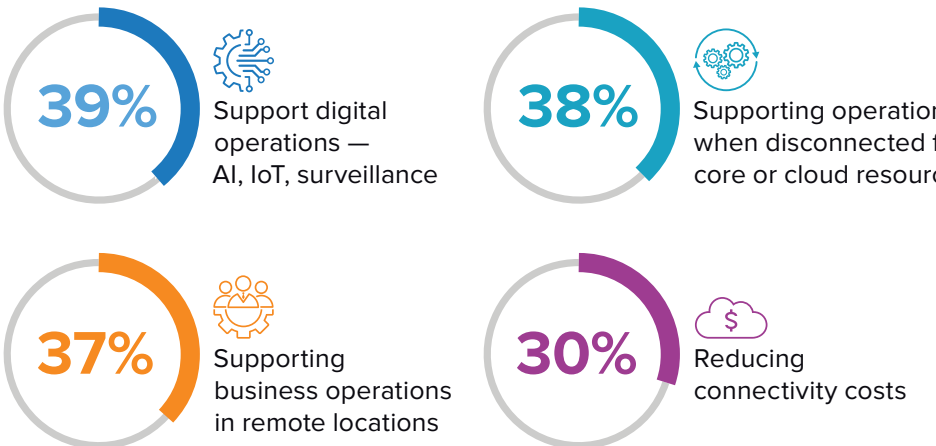
Sources: IDC Worldwide Edge Spending Guide — Forecast, 2025, *Asia/Pacific Cloud Survey*, 2024, AP (n = 702)

Unlocking edge IT: Transformative use cases across Asia/Pacific industries

The edge provides the ability to distribute infrastructure in a way that reduces latency for real-time applications, mitigates issues with unreliable networks, and allows organizations to respond quicker to rapidly changing business conditions.

Companies are increasingly looking to adopt edge computing to support digital operations and ensure continuity when disconnected from core or cloud resources. This underscores the increasing reliance on edge infrastructure to deliver seamless functionality and resilience across diverse operational environments.

What type of use cases will drive edge IT investments in the next 18 months?



Sources: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3 (APJ n = 300)

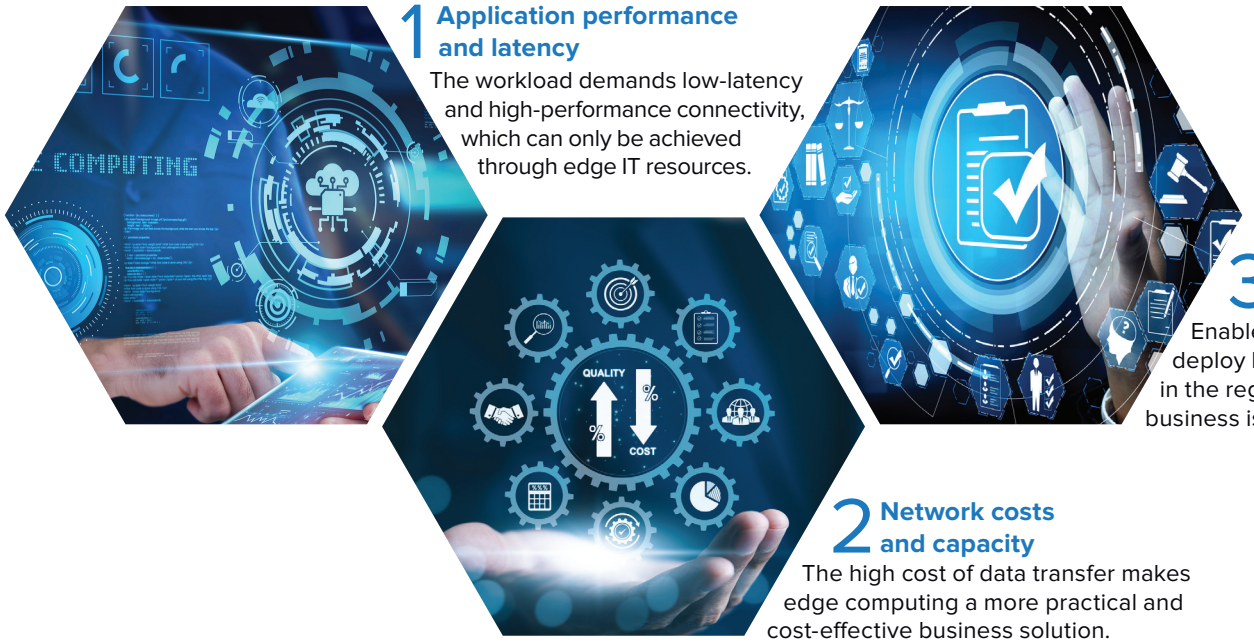
Modern edge critical to meet the high-performance and sovereignty demands of GenAI applications

Edge IT services address three critical demands posed by GenAI applications: performance, cost efficiency, and digital sovereignty.

Running GenAI at the edge offers key advantages — enhanced application performance and reduced latency, lower costs by minimizing data transfer, and compliance with data sovereignty by deploying IT where business is conducted.

IDC predicts that by 2027, 80% of CIOs will turn to edge services from cloud providers to overcome the challenges of scaling GenAI inferencing while meeting performance and data compliance requirements.

Top reasons to run GenAI at the edge



1 Application performance and latency

The workload demands low-latency and high-performance connectivity, which can only be achieved through edge IT resources.

2 Network costs and capacity

The high cost of data transfer makes edge computing a more practical and cost-effective business solution.

3 Data sovereignty and compliance

Enables companies to deploy IT infrastructure in the region/country where business is conducted.

Source: IDC Edge View, 2025, (n = 800)

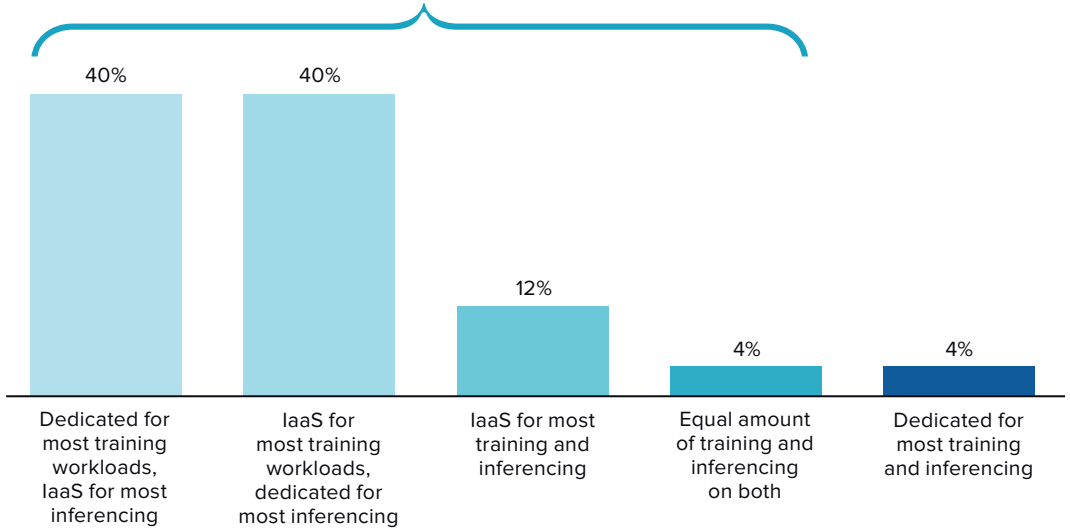
GenAI infrastructure will fuel public cloud models at the edge

A significant portion of AI infrastructure is set to be deployed on public cloud models to meet growing business demands.

Several edge use cases are driving the deployment of GenAI-accelerated computing, such as GPUs, to support performance-intensive applications and ensure scalability. This convergence of GenAI and edge computing bridges the gap between centralized cloud resources and decentralized edge environments, ensuring both scalability and performance.

Enterprises are investing in GenAI infrastructure for future business demand

96% of Asia/Pacific enterprises adopting GenAI will leverage public cloud IaaS for training and inferencing workloads



Key edge use cases driving the deployment of GenAI-accelerated computing, including GPUs

1. Operational technologies (automated industrial uses at the edge)
2. Predictive AI
3. GenAI
4. Interpretive AI

Sources: IDC's *Future Enterprise Resiliency and Spending (FERS) Survey*, 2024, Wave 4, (Asia/Pacific n = 300), IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3, (Asia/Pacific n = 150)

Goal-setting to meet performance, security, and cost SLAs for GenAI infrastructure

AI inferencing and GenAI-infused apps are the "killer apps" that are driving demand for better edge infrastructure. These applications demand ultra low latency, consistent data security, to deliver personalized customer experiences and faster decision-making. Often these infrastructure components can lead to cost overruns.

Enterprises need to consider these points before building their GenAI infrastructure:

Latency sensitivity: How and where to train and run large and small language models (LLMs and SLMs)

Cost optimization: Determine the actual cost of AI infrastructure supporting model training and GenAI applications

Maximize value: How to best balance the performance and cost of GenAI workloads across multiple locations

To meet the business SLAs of performance, cost, and security, enterprises need to set specific goals while they build their modern GenAI infrastructure.

Key goals for enterprises building GenAI infrastructure

- Ensuring consistent data security and compliance across locations for AI workloads
- Reducing the cost and complexity of AI-related data transport and storage
- Adding infrastructure to improve inferencing quality
- Extending AI capabilities to edge locations

Partnering with cloud service providers offering edge-optimized public cloud services is crucial for delivering performance, cost-effectiveness solutions, as well as security and compliance guardrails to support GenAI workloads efficiently.

Source: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, 2025, Wave 1, (Asia/Pacific n = 150)

CIO guide: Eight best practices for digital success from core to edge

Align strategy with business goals

Develop a comprehensive strategy that aligns with business goals. Assess the current IT infrastructure, evaluate different cloud providers, and determine the best fit for various workloads. Evolve the strategy as the IT and business landscape evolves.

Strengthen governance and security

Implement robust governance for data security, compliance, and effective monitoring. Implement encryption, zero trust architecture, and real-time network monitoring. Use a "secure-by-design" approach for edge cases, ensure regulatory compliance, and automate data analysis with AI and machine learning (ML).

Streamline management with automations

Leverage automation tools to simplify application deployment and management across different cloud deployments. Reduce human error and free up IT staff for strategic initiatives.

Optimize costs with FinOps

Adopt a FinOps and cloud economics strategy to track usage, identify savings opportunities, and implement sustainable cost reduction measures. Use cost management tools and AI/GenAI for expense tracking and resource allocation optimization.

Invest in training and upskilling

Provide training and upskilling opportunities for IT teams to build confidence and ensure secure management of hybrid cloud environments.

Ensure integration and interoperability

Enable seamless integration between cloud platforms by adopting open standards and APIs. Use edge orchestration tools to efficiently manage distributed applications and compute resources.

Develop comprehensive data management strategies

This includes implementing data life-cycle management, data sovereignty, and governance frameworks. Automate data analysis and ensure data integrity using AI and ML.

Embrace an ecosystem approach

Partner with cloud providers to build robust ecosystems with local partners to support connected cloud implementation, offer industry-specific solutions, and bridge skills gaps.

Conclusion

- To build a modern digital infrastructure, organizations need to embrace connected cloud computing and transform their infrastructure to be agile and resilient, enabling them to be cost-efficient and deliver on business goals and innovation. Interoperability and integration are crucial for unlocking the full value of a connected cloud environment.

- GenAI workloads are a key driving force for edge modernization, as edge services play a critical in meeting the performance and scalability demands of GenAI. Effective cost management and optimization are vital for maximizing the return on value for the enterprise, particularly in addressing data egress costs as organizations scale out their use of AI/GenAI workloads while moving from test and development into production.

- As the volume of data continues to grow, managing and processing it securely and efficiently at the edge is crucial to unlock its value. The edge is increasingly important to enterprises, with a shift toward public cloud models to leverage the capabilities required for scalability, security, and innovation.

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The Edge Evolution:

Powering Success from Core to Edge

ASEAN (Singapore, Malaysia, and Indonesia)

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New digital backbone needed to power GenAI and intelligence at the edge

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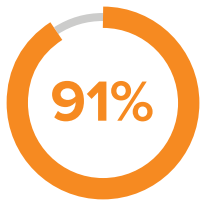

About 91% of enterprises in ASEAN* surveyed believe GenAI has already disrupted or will disrupt their businesses in the next 18 months.[1] About 85% of organizations in Singapore cited AI workloads and applications as the top drivers for infrastructure change,[2] compared to 63% in Indonesia and 35% in Malaysia.

With 16% of ASEAN enterprises having introduced GenAI applications into production environments, and 84% conducting initial testing and proofs of concept,[3] this signals a high impact on their core-to-edge infrastructure cloud.

Edge computing is emerging as the frontier for the next-generation of digital innovation, driving *"The Edge Evolution"* and necessitating a transformative approach to building resilient, future-ready digital ecosystems.

To fully capitalize on the power of GenAI, organizations need a modernized digital backbone — one that integrates edge computing to bring intelligence closer to users and applications.

Edge IT will see a steady increase in IT spending among ASEAN enterprises in 2025 driven by the need to bring GenAI services closer to remote locations or customers, unlocking the potential of industry-specific use cases. Markets like Indonesia will have more remote locations because of its geographical spread and raise the demand for industry-specific edge use cases.

*ASEAN refers to Singapore + Indonesia + Malaysia,
Sources: [1] IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 10 (ASEAN n = 50), [2] IDC's *Worldwide IT Infrastructure Sentiment Survey*, 2024, (ASEAN n = 60), [3] IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 10 (ASEAN n = 50)

Building a GenAI-optimized digital infrastructure supporting edge use cases

Advancing their AI strategy and road map is the top technology initiative for organizations in ASEAN. This indicates ASEAN's heightened focus on adopting advanced digital technologies to realize the benefits of AI and the need to deliver the performance, flexibility, and scalability needed for business growth. To build a digital infrastructure that is GenAI-optimized and supports edge use cases, enterprises must embrace a strategy that extends from core to edge.

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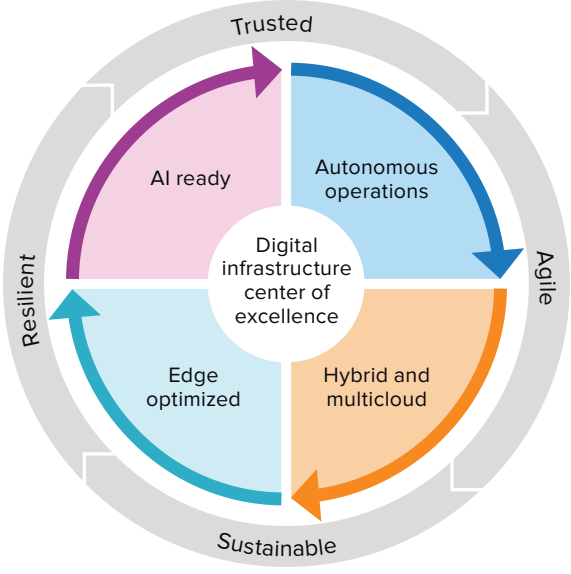
IDC's Future of Digital Infrastructure Framework



Six building blocks for a future-ready digital infrastructure

- **AI-ready:** Drive operational efficiency, build next-generation applications, and create personalized, data-driven customer experiences.
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But challenges stand in the way of building this connected cloud-based digital infrastructure

Sources: IDC, 2025, IDC *CEO Survey*, 2025

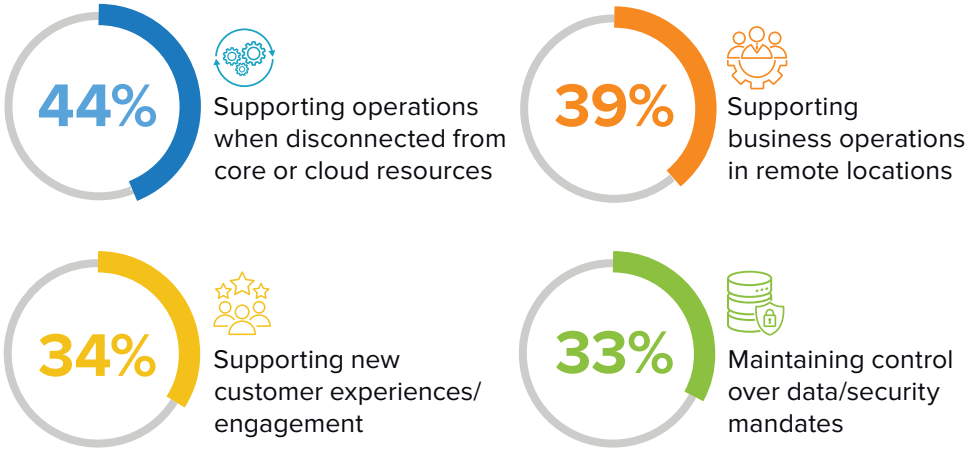
Unlocking edge IT: Transformative use cases across ASEAN industries

ASEAN is a dynamic market, with mature IT markets like Singapore driving edge investments to support low-latency AI workloads closer to customers. This trend is also emerging in maturing markets like Malaysia and Indonesia, where investments are focused more on supporting growing remote businesses in areas beyond their capital cities.

In markets like Indonesia, with a widely spread population, edge investments are critical for enhancing customer experiences in digital operations, ensuring the security of data and applications in remote locations, and adhering to local compliance norms.

These use cases will leverage GenAI technologies to enhance efficiency and customer experience. Edge infrastructure will play a critical role in supporting digital operations and ensuring continuity, even when disconnected from core or cloud resources.

What type of use cases will drive edge IT investments in the next 18 months?



Source: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3 (ASEAN n = 50)

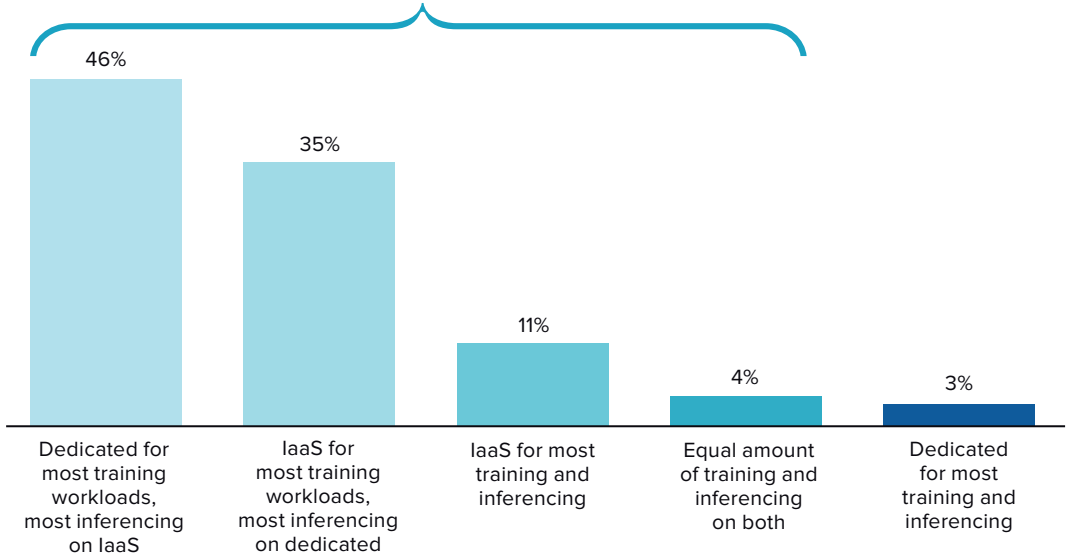
GenAI infrastructure will fuel public cloud models at the edge

A significant portion of AI infrastructure is set to be deployed on public cloud models to meet growing business demands.

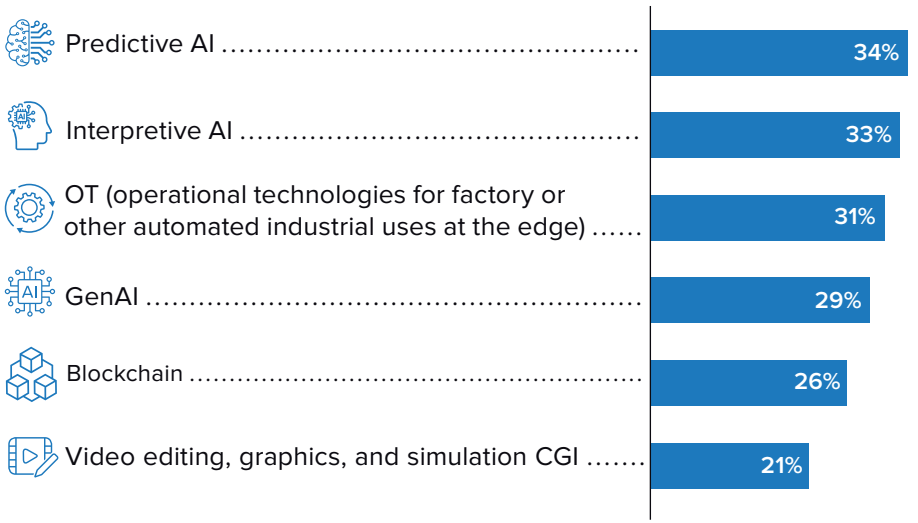
Several edge use cases are driving the deployment of GenAI-accelerated computing, such as GPUs, to support performance-intensive applications and ensure scalability. More emphasis on industry-specific operations at a large number of remote locations will require capabilities of edge IT running GenAI applications. This will drive deployment of accelerated computing resources at edge locations across ASEAN markets.

Enterprises are investing in GenAI infrastructure for future business demand

96% of enterprises in ASEAN that are adopting GenAI will leverage public cloud IaaS for training and inferencing workloads, nearly at par with the Asia/Pacific region



Key edge use cases driving the deployment of GenAI-accelerated computing, including GPUs



Sources: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 2, (ASEAN n = 47), IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3, (ASEAN n = 39)

CIO guide: Eight best practices for digital success from core to edge

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Streamline management with automation
Leverage automation tools to simplify application deployment and management across different cloud deployments. Reduce human error and free up IT staff for strategic initiatives.

Optimize costs with FinOps
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Invest in training and upskilling
Provide training and upskilling opportunities for IT teams to build confidence and ensure secure management of hybrid cloud environments.

Ensure integration and interoperability
Enable seamless integration between cloud platforms by adopting open standards and APIs. Use edge orchestration tools to efficiently manage distributed applications and compute resources.

Develop comprehensive data management strategies
This includes implementing data life-cycle management, data sovereignty, and governance frameworks. Automate data analysis and ensure data integrity using AI and ML.

Embrace an ecosystem approach
Partner with cloud providers to build robust ecosystems with local partners to support connected cloud implementation, offer industry-specific solutions, and bridge skills gaps.

Conclusion

- Digital infrastructure transformation in ASEAN is advancing rapidly, with higher adoption in markets like Singapore and fast growth in Indonesia and Malaysia. Digital transformation, coupled with the adoption of GenAI, will drive demand for agile, performance-driven, secure, and cost-optimized IT systems. Enterprises are prioritizing modern infrastructure that is scalable, on-demand, and seamlessly connected across core-to-edge locations.
- Public cloud providers are investing in ASEAN, increasing the availability of IaaS for deploying GenAI for AI training or inferencing, and fueling the growth of cloud services in the region. At the same time, edge IT investments are becoming a top priority, as organizations modernize and extend edge capabilities to support new business use cases in locations beyond central capital regions. GenAI is the next wave of IT transformation, accelerating edge modernization across ASEAN.
- To succeed, organizations must expand their use of AI to enhance operational performance and efficiency, modernize their core-to-edge infrastructure, and support new workloads and business innovation. This requires addressing challenges such as operational complexity, portability, cost management, security, and latency.
- Interoperability will be critical, requiring investments in technologies that enable a connected cloud experience with centralized management across multiple platforms. This approach is essential in the AI era to ensure robust governance, security, and compliance.

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The Edge Evolution:

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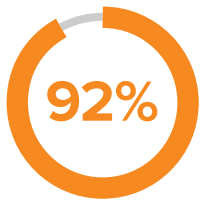

About 92% of enterprises in India surveyed believe GenAI has already disrupted or will disrupt their businesses in the next 18 months.[1] About 56% of organizations in India say AI workloads and applications are the top driver for infrastructure change.[2]

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To fully capitalize on the power of GenAI, organizations need a modernized digital backbone — one that integrates edge computing to bring intelligence closer to users and applications.

Edge IT will see a steady increase in IT spending among a large majority of Indian enterprises in 2025 driven by the need to bring GenAI services closer to remote locations or customers and servicing them. Industry-specific use cases like IoT and surveillance will further drive edge use cases. The result is the growth of edge datacenters in the country in tier 2 and 3 cities to support these requirements.

Sources: [1] IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 10 (India n = 50), [2] IDC's *Worldwide IT Infrastructure Sentiment Survey*, 2024, (India n = 50), [3] IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 8, (India n = 50)

Building a GenAI-optimized digital infrastructure supporting edge use cases

Advancing their AI strategy and road map is the top technology initiative for organizations in India. This indicates India's heightened focus on adopting advanced digital technologies to realize the benefits of AI and the need to deliver the performance, flexibility, and scalability needed for business growth. To build a digital infrastructure that is GenAI-optimized and supports edge use cases, enterprises must embrace a strategy that extends from core to edge.

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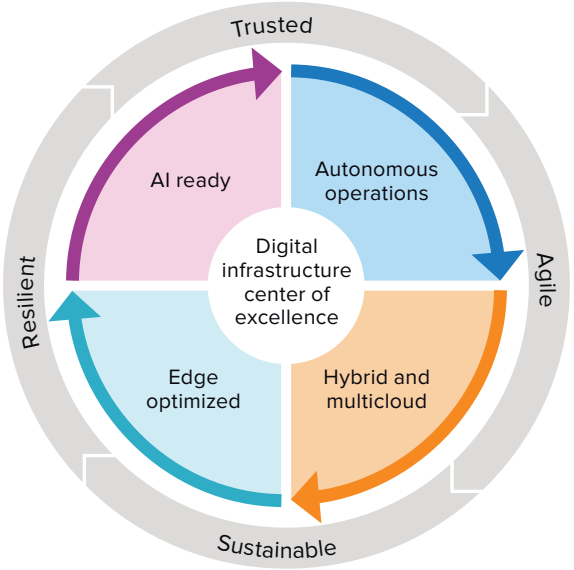

Six building blocks for a future-ready digital infrastructure

- **AI-ready:** Drive operational efficiency, build next-generation applications, and create personalized, data-driven customer experiences.
- **GenAI deployment:** Invest in accelerated, small and large language models, and AI-infused applications to support significant edge deployments.
- **Modern edge IT:** Process data where it is generated, reduce costs of frequent data transfer to core, and operate low-latency applications closer to customers.
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- **Cloud to edge:** Extend public cloud investments to the edge to build a connected digital IT infrastructure and deliver services where required.
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But challenges stand in the way of building this connected cloud-based digital infrastructure

Sources: IDC, 2025, IDC *CEO Survey*, 2025

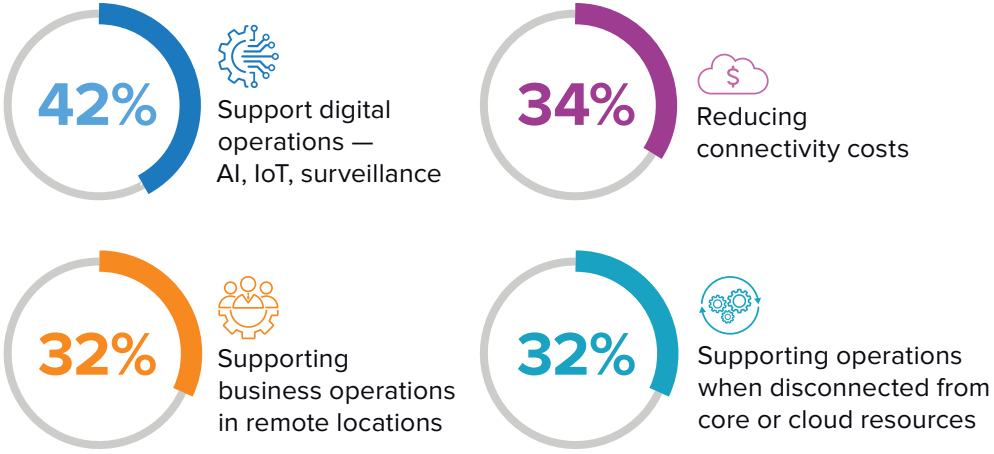
Unlocking edge IT: Transformative use cases across India's industries

Edge computing in India will enable the processing of AI workloads closer to customers across key verticals such as financial services, healthcare, telecommunications, and retail. Industry use cases like IoT and surveillance will further drive scalable edge IT adoption, ensuring high performance for low-latency AI applications.

Network cost and quality remain critical challenges due to India's wide geographic spread of customers far from core datacenters. The edge mitigates issues with unreliable networks and reduces connectivity costs, allowing organizations to respond quicker to rapidly changing business conditions.

As digital services expand, India is expected to see a rise in edge IT spending, driven by use cases such as content streaming, web hosting, robotics and autonomous machines.

What type of use cases will drive edge IT investments in the next 18 months?



Source: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3 (India n = 50)

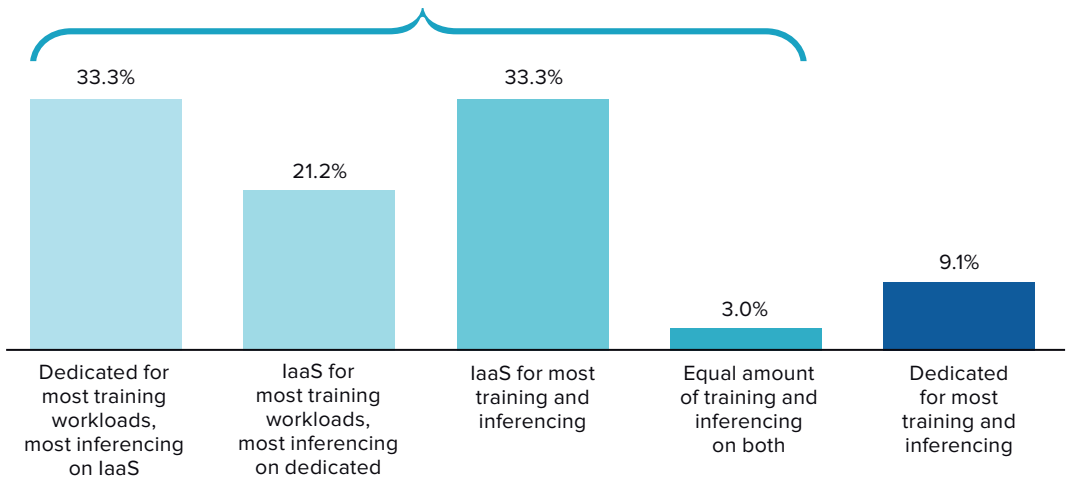
GenAI infrastructure will fuel public cloud models at the edge

A significant portion of AI infrastructure is set to be deployed on public cloud models to meet growing business demands.

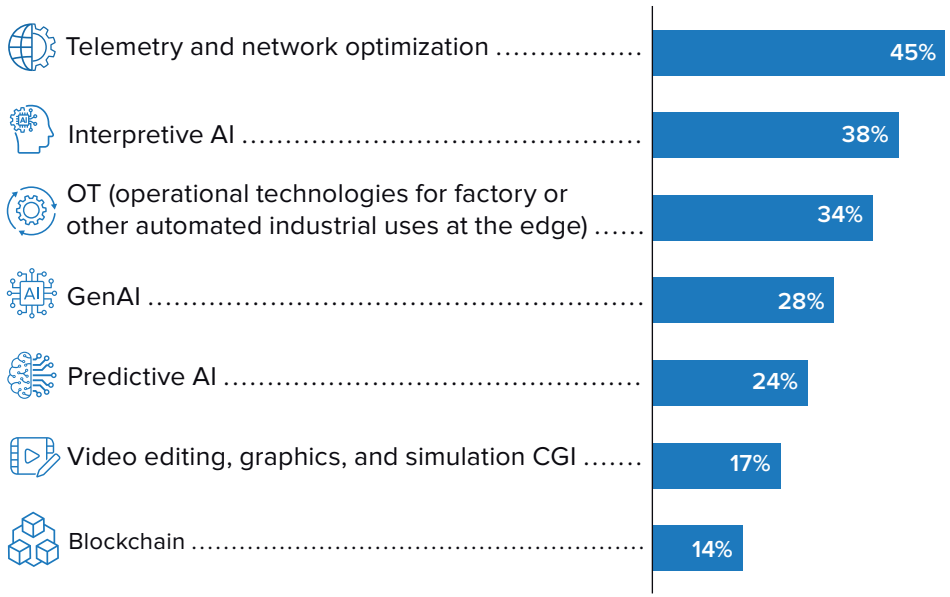
In India, edge use cases and associated spending will be driven by the data generated at edge locations and the need to collect and analyze it for insights. Industry-specific use cases in manufacturing, healthcare, and financial services will also grow, further driving edge investments. These use cases will drive the deployment of GenAI-accelerated computing, such as GPUs, to support performance-intensive applications and ensure scalability.

Enterprises are investing in GenAI infrastructure for future business demand

91% of enterprises in India that are adopting GenAI will leverage public cloud IaaS for training and inferencing workloads. Lack of skills and high costs will drive enterprises to source AI infrastructure on public cloud



Key edge use cases driving the deployment of GenAI-accelerated computing, including GPUs



Sources: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 2, (India n = 33), IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3, (India n = 29)

CIO guide: Eight best practices for digital success from core to edge

Align strategy with business goals
Develop a comprehensive strategy that aligns with business goals. Assess the current IT infrastructure, evaluate different cloud providers, and determine the best fit for various workloads. Evolve the strategy as the IT and business landscape evolves.

Strengthen governance and security
Implement robust governance for data security, compliance, and effective monitoring. Implement encryption, zero trust architecture, and real-time network monitoring. Use a "secure-by-design" approach for edge cases, ensure regulatory compliance, and automate data analysis with AI and machine learning (ML).

Streamline management with automation
Leverage automation tools to simplify application deployment and management across different cloud deployments. Reduce human error and free up IT staff for strategic initiatives.

Optimize costs with FinOps
Adopt a FinOps and cloud economics strategy to track usage, identify savings opportunities, and implement sustainable cost reduction measures. Use cost management tools and AI/GenAI for expense tracking and resource allocation optimization.

Invest in training and upskilling
Provide training and upskilling opportunities for IT teams to build confidence and ensure secure management of hybrid cloud environments.

Ensure integration and interoperability
Enable seamless integration between cloud platforms by adopting open standards and APIs. Use edge orchestration tools to efficiently manage distributed applications and compute resources.

Develop comprehensive data management strategies
This includes implementing data life-cycle management, data sovereignty, and governance frameworks. Automate data analysis and ensure data integrity using AI and ML.

Embrace an ecosystem approach
Partner with cloud providers to build robust ecosystems with local partners to support connected cloud implementation, offer industry-specific solutions, and bridge skills gaps.

Conclusion

- Digital infrastructure transformation in India is relatively mature and continues to evolve, driven by the transformative impact of AI technologies. These advancements call for agile, secure, high-performance, and cost-efficient IT systems, spurring enterprises to prioritize scalable, on-demand infrastructure seamlessly connected across core-to-edge locations.
- Public cloud IaaS is often the preferred choice for deploying GenAI for AI training or inferencing, fueling the growth of cloud services in India. At the same time, edge IT investments are becoming a top priority, with organizations modernizing and extending edge capabilities to support new workloads and drive business innovation.
- To succeed, organizations in India must have an AI-first strategy to enhance operational performance and efficiency, modernize their core-to-edge infrastructure, and support new workloads and business innovation. This requires addressing challenges like operational complexity, portability, cost management, security, and latency.
- A key concern for organizations in India is the cost of public cloud, making it essential to partner a cloud provider that offers cost-effective cloud compute and storage services, along with lower egress costs.
- Interoperability will be critical, requiring investments for a connected cloud experience with centralized management as well as robust governance, security, and compliance.

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The Edge Evolution:

Powering Success from Core to Edge (China)

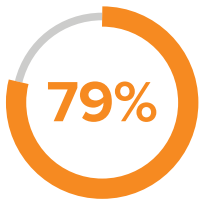
Daphne Chung
Research Director,
Cloud Services and Software Research,
IDC Asia/Pacific

Rajiv Ranjan
Associate Research Director,
IDC Asia/Pacific

New digital backbone needed to power GenAI and intelligence at the edge

The rise of generative AI (GenAI) is reshaping industries, unlocking unprecedented opportunities for innovation, automation, and customer engagement.

Enterprises in China are highly digital and leverage public cloud to run production applications across the enterprise to support important business operations.



About 79%[1] of China's enterprises surveyed believe GenAI has already disrupted or will disrupt their businesses in the next 18 months.

While 37% of organizations have introduced GenAI applications into production environments and another 61% are conducting initial GenAI testing and proofs of concept, this will significantly impact the demands placed on their core-to-edge cloud.

Edge computing is emerging as the frontier for the next-generation of digital innovation, driving *"The Edge Evolution"* and necessitating a transformative approach to building resilient, future-ready digital ecosystems.

To fully capitalize on the power of GenAI, organizations need a modernized digital backbone — one that integrates edge computing to bring intelligence closer to users and applications.

Edge IT will see the highest increase in IT spending among the majority of China enterprises in 2025[2] driven by the need to bring GenAI services closer to remote locations or customers, unlocking the potential of industry-specific use cases.

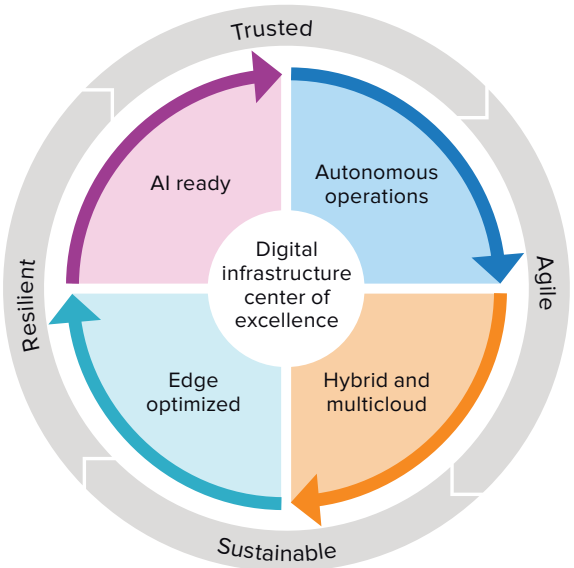
[1]IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 10 (China = 100), [2]IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 8, (China =100)

Building a GenAI-optimized digital infrastructure supporting edge use cases

Digital business architecture is the top technology initiative for organizations in China, indicating the market's heightened focus on adopting advanced digital technologies, such as core-to-edge infrastructure, to deliver the performance, flexibility, and scalability needed for business growth. To build a digital infrastructure that is GenAI-optimized and supports edge use cases, enterprises must embrace a strategy that extends from core to edge.

IDC's Future of Digital Infrastructure framework provides the road map to achieve this, ensuring organizations are equipped to meet the demands of agility, scalability, and performance while driving innovation and growth.

IDC's Future of Digital Infrastructure Framework



Six building blocks for a future-ready digital infrastructure

- **AI-ready:** Drive operational efficiency, build next-generation applications, and create personalized, data-driven customer experiences.
- **GenAI deployment:** Invest in accelerated, small and large language models, and AI-infused applications to support significant edge deployments.
- **Modern edge IT:** Process data where it is generated, reduce costs of frequent data transfer to core, and operate low-latency applications closer to customers.
- **Edge-optimized architectures:** Accommodate decentralized enterprise computing, data management, and connectivity requirements.
- **Cloud to edge:** Extend public cloud investments to the edge to build a connected digital IT infrastructure and deliver services where required.
- **Autonomous operations:** Enable efficient IT operations and a true digital experience powered by AI technologies.

But challenges stand in the way of building this connected cloud-based digital infrastructure

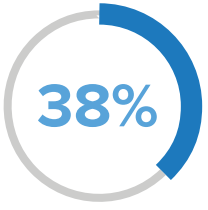
Sources: IDC, 2025, IDC *CEO Survey*, 2025

Unlocking edge IT: Transformative use cases across China's industries

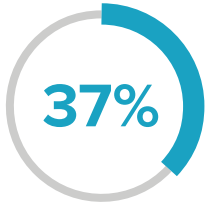
The edge provides the ability to distribute infrastructure in a way that reduces latency for real-time applications, mitigates issues with unreliable networks, and allows organizations to respond quicker to rapidly changing business conditions.

Companies are increasingly looking to adopt edge computing to support digital operations and ensure continuity when disconnected from core or cloud resources. This underscores the increasing reliance on edge infrastructure to deliver seamless functionality and resilience across diverse operational environments.

What type of use cases will drive edge IT investments in the next 18 months?



Support digital operations — AI, IoT, surveillance



Supporting operations when disconnected from core or cloud resources

Supporting business operations in remote locations

Reducing connectivity costs

Sources: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3 (China n = 100)

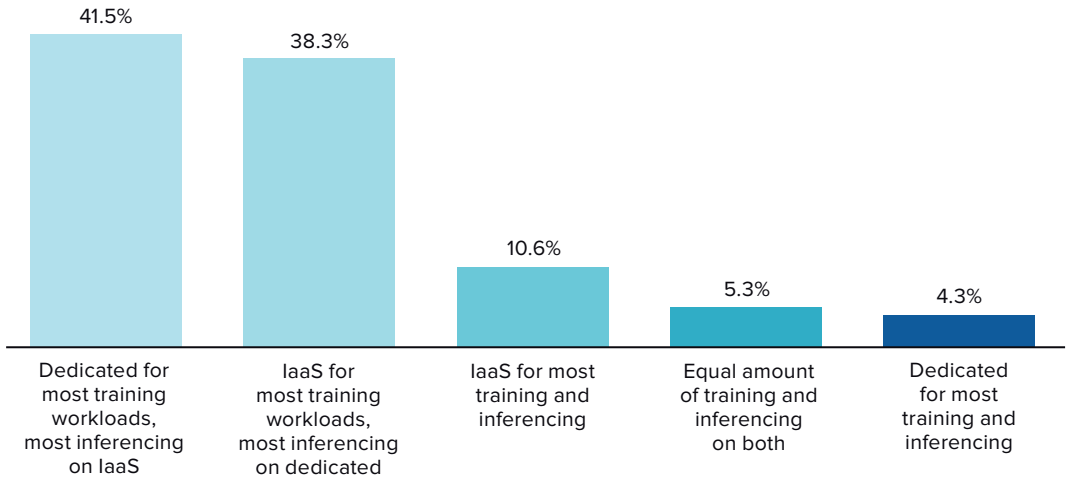
GenAI infrastructure will fuel public cloud models at the edge

A significant portion of AI infrastructure is set to be deployed on public cloud models to meet growing business demands.

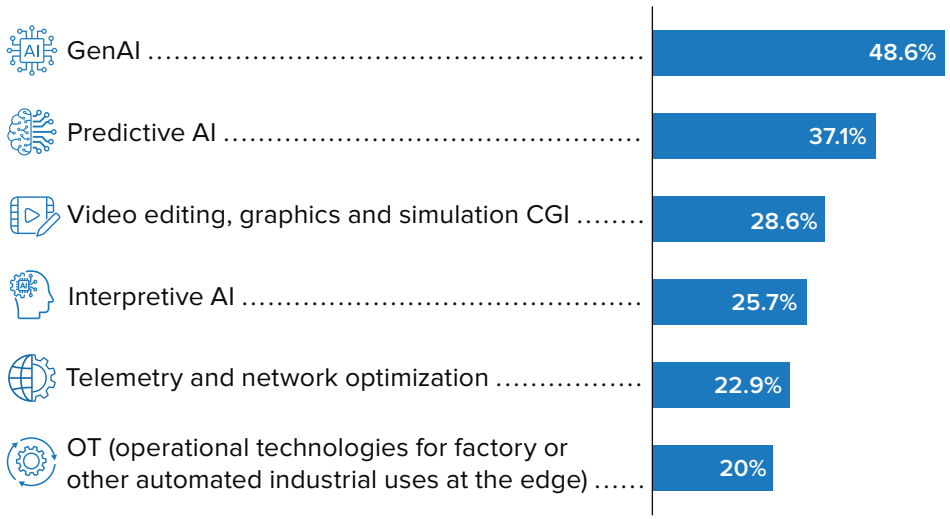
Several edge use cases are driving the deployment of GenAI-accelerated computing, such as GPUs, to support performance-intensive applications and ensure scalability. This convergence of GenAI and edge computing bridges the gap between centralized cloud resources and decentralized edge environments, ensuring both scalability and performance.

Enterprises are investing in GenAI infrastructure for future business demand

96% of China's enterprises adopting GenAI will leverage public cloud IaaS for training and inferencing workloads, a higher percentage compared to the Asia/Pacific region



Key edge use cases driving the deployment of GenAI-accelerated computing, including GPUs



Sources: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 2, (China n = 94), IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3, (China n = 95)

CIO guide: Eight best practices for digital success from core to edge

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Embrace an ecosystem approach
Partner with cloud providers to build robust ecosystems with local partners to support connected cloud implementation, offer industry-specific solutions, and bridge skills gaps.

Conclusion

- Given the highly digital nature of businesses in China, adopting a comprehensive approach to integrating AI and expanding their edge infrastructure will enable them to further advance their digital ambitions. Modern digital infrastructure must be scalable, agile, available on-demand as a service, and seamlessly connected across core-to-edge locations to support their real-time innovation.
- Public cloud IaaS is emerging as the preferred choice for deploying GenAI, whether for AI training or inferencing, and is driving the growth of public cloud services in China.
- Investing in an intelligent edge focused on operational efficiency and delivering premium or innovative customer services is a priority. Edge IT must be modernized to align with public cloud models that are agile, secure, and capable of delivering high performance while supporting advanced technologies.
- As AI and GenAI adoption accelerates, organizations in China must ensure effective governance across all departments to manage AI risks and comply with regulatory requirements. Interoperability will be critical, requiring investments in technologies that enable a connected cloud experience with centralized management of multiple cloud platforms.
- A robust data architecture that integrates strong data governance practices will ensure data is accessible, reliable, and secure. Planning for infrastructure and connectivity needs when deploying at the edge will address challenges such as operational complexity, portability, cost management, security concerns, and latency issues.

August 2025 | InfoBrief, sponsored by Akamai Technologies

The Edge Evolution:

Powering Success from Core to Edge (Japan)

Daphne Chung
Research Director,
Cloud Services and Software Research,
IDC Asia/Pacific

Rajiv Ranjan
Associate Research Director,
IDC Asia/Pacific

New digital backbone needed to power GenAI and intelligence at the edge

The rise of generative AI (GenAI) is reshaping industries, unlocking unprecedented opportunities for innovation, automation, and customer engagement.

About 84% of Japan enterprises surveyed believe GenAI has already disrupted or will disrupt their businesses in the next 18 months.[1] Two-thirds of organizations in Japan say AI workloads and applications are the top driver of change for infrastructure.[2]

Another survey showed that 38% of Japan enterprises have introduced GenAI applications into production environments, and 52% are conducting initial testing and proofs of concept.[1] This signals a high impact on their infrastructure from core to the edge.

Edge computing is emerging as the frontier for the next-generation of digital innovation, driving *"The Edge Evolution"* and necessitating a transformative approach to building resilient, future-ready digital ecosystems.

To fully capitalize on the power of GenAI, organizations need a modernized digital backbone — one that integrates edge computing to bring intelligence closer to users and applications.

Edge IT will see the highest increase in IT spending among the majority of Asia/Pacific enterprises in 2025 driven by the need to bring GenAI services closer to remote locations or customers, unlocking the potential of industry-specific use cases. This ranks sixth in Japan where migrating from an on-premises model to cloud ranks number 1.[3]

Sources: [1] IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 10 (Japan n = 50), [2] IDC's *Worldwide Digital Infrastructure Sentiment Survey*, 2024, (Japan n = 161), [3] IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 8 (APEJ n = 250)

Building a GenAI-optimized digital infrastructure supporting edge use cases

Advancing their AI strategy and road map is the top technology initiative for organizations in Japan. This indicates Japan's heightened focus on adopting advanced digital technologies to realize the benefits of AI and the need to deliver the performance, flexibility, and scalability needed for business growth. To build a digital infrastructure that is GenAI-optimized and supports edge use cases, enterprises must embrace a strategy that extends from core to edge.

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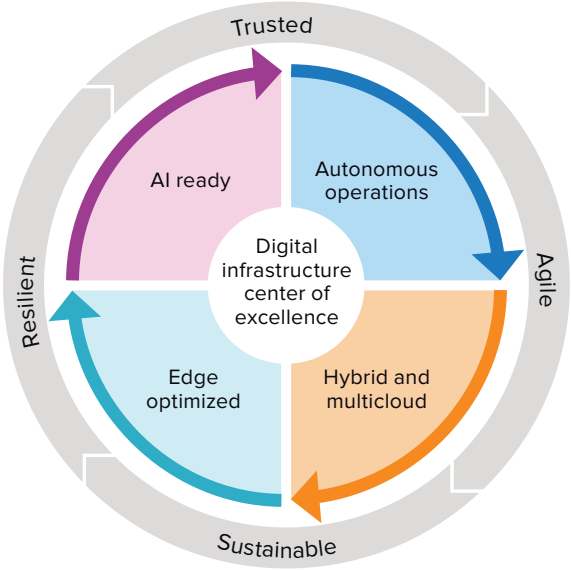

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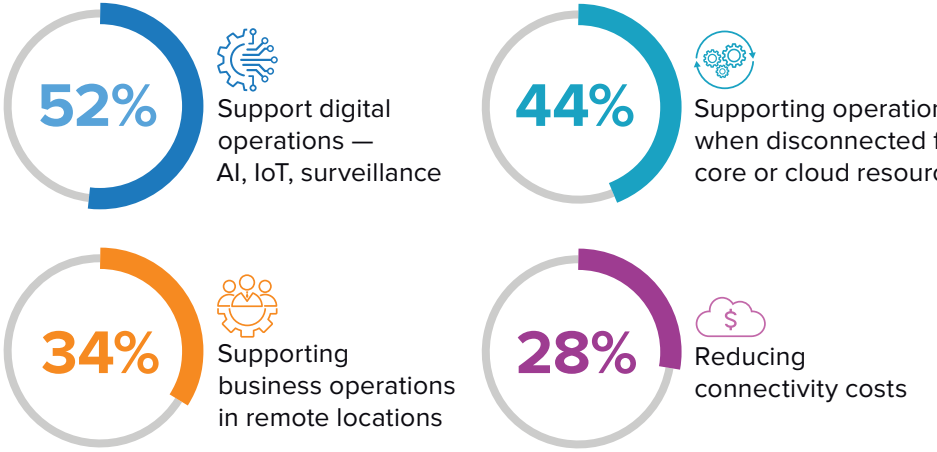

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GenAI infrastructure will fuel public cloud models at the edge

A significant portion of AI infrastructure is set to be deployed on public cloud models to meet growing business demands.

Several edge use cases are driving the deployment of GenAI-accelerated computing, such as GPUs, to support performance-intensive applications and ensure scalability. This convergence of GenAI and edge computing bridges the gap between centralized cloud resources and decentralized edge environments, ensuring both scalability and performance.

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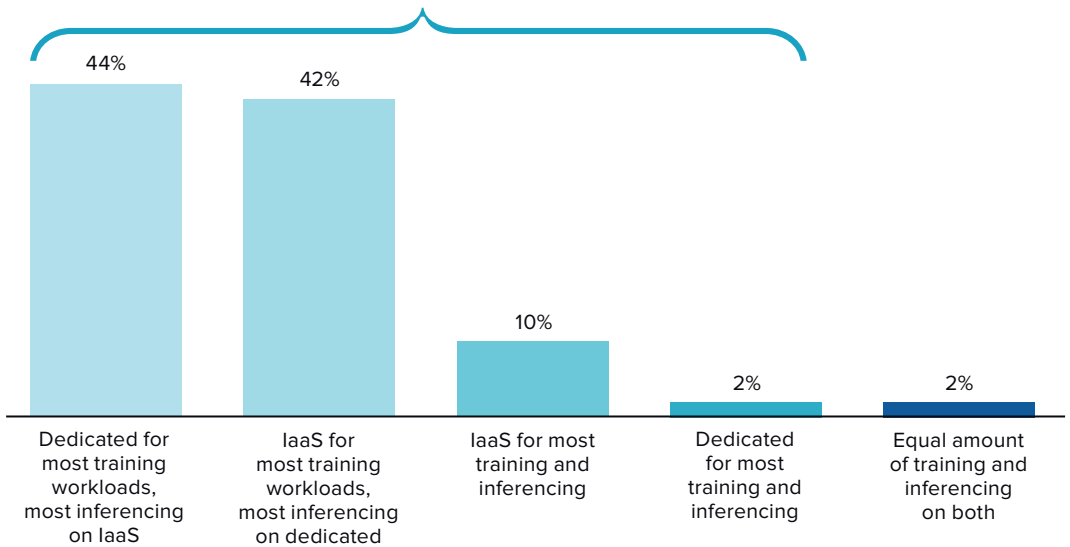
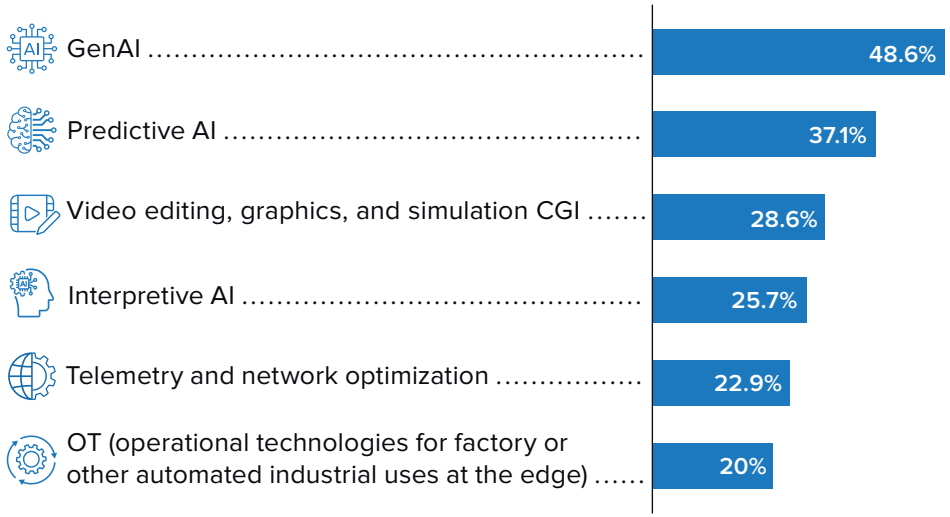


Key edge use cases driving the deployment of GenAI-accelerated computing, including GPUs



Sources: IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 2, (Japan n = 48), IDC's *Future Enterprise Resiliency and Spending Survey*, 2024, Wave 3, (Japan n = 35)

CIO guide: Eight best practices for digital success from core to edge

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Embrace an ecosystem approach
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Conclusion

- Digital infrastructure transformation in Japan is lagging, but growing business demands for agile, performance-driven, secure, and cost-optimized IT systems are accelerating change. Enterprises are prioritizing modern infrastructure that is scalable, on-demand, and seamlessly connected across core-to-edge locations.
- Public cloud IaaS is often the preferred choice for deploying GenAI for AI training or inferencing, fueling the growth of cloud services in Japan. At the same time, edge IT investments are becoming a top priority, with organizations modernizing and extending edge capabilities to support new workloads and drive business innovation.
- To succeed, organizations in Japan must expand their use of AI to enhance operational performance and efficiency, modernize their core-to-edge infrastructure, and support new workloads and business innovation. This requires addressing challenges like operational complexity, portability, cost management, security, and latency.
- Interoperability will be critical, requiring investments in technologies that enable a connected cloud experience with centralized management across multiple platforms. This approach is essential in the AI era to ensure robust governance, security, and compliance.

About the IDC Analysts

Daphne Chung
Research Director,
Cloud Services and Software Research,
IDC Asia/Pacific

Daphne Chung is a research director with IDC's Asia/Pacific (excluding Japan) Cloud Services and Software research group. Based in Singapore, she focuses on cloud services research with emphasis on cloud software research. Previously, Daphne managed the Asia/Pacific semiannual software tracker program and, together with the team, tracked, analyzed, and delivered insights on key dynamics and opportunities in the software markets as well as related public cloud services markets in the region. Her previous focus at IDC included life sciences market research.

More about Daphne Chung

Rajiv Ranjan
Associate Research Director,
IDC Asia/Pacific

Based in the IDC Bangalore office, Rajiv Ranjan works as an associate research director with the Asia/Pacific team and leads the Future of Digital Infrastructure Research for India. Rajiv has a specific focus on cloud and artificial intelligence (AI) research program management. He manages the advisory assignments for IT vendors in the areas of cloud infrastructure strategy, go-to-market strategy, strategic marketing, and end-user insights across technologies and industry verticals. In a previous stint with IDC, Rajiv led the Asia/Pacific Enterprise Storage Infrastructure research practice.

More about Rajiv Ranjan

Message from the Sponsor

Across Asia/Pacific, we are witnessing a fundamental shift in how enterprises approach their infrastructure strategies. With generative AI moving beyond the testing phase into real-world business applications, enterprises are increasingly confronted with the limits of traditional cloud models, prompting a rethink of how data is processed to enable greater speed, efficiency, and control.

This IDC InfoBrief, commissioned by Akamai Technologies, captures the scale of this change unfolding across Asia/Pacific. It finds that 96% of APAC enterprises plan to invest in IaaS for AI workloads by 2027, and 80% of CIOs expect to rely on integrated cloud-edge services. The data tells a clear story: edge-enabled models are fast becoming foundational to digital success.

Today, the question facing enterprises is not about *whether* to embrace edge computing for AI workloads, but *how quickly* can they evolve their infrastructure to stay competitive. At Akamai, we have been pioneering this edge evolution for over two decades, with a deep belief that the future is distributed.

Learn more about how Akamai Cloud powers and protects digital experiences from core to edge at akamai.com

Parimal Pandya
Senior Vice President, Sales, and Managing Director
Asia-Pacific at Akamai Technologies

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