

HOW ENTERPRISES ARE MODERNIZING THEIR DATA CENTERS FOR AI READINESS

AI data center strategies are now central to business success. As AI transforms operations across the enterprise, data center modernization becomes essential to support growing workloads and unlock new capabilities. Explore the three stages of maturity to identify where you stand, and what it takes to advance on the path to enterprise AI readiness.

MOST ENTERPRISES ARE STUCK IN THE MIDDLE

New research reveals a clear divide in AI data center maturity and enterprise AI readiness. While a small group is already positioned for AI-scale transformation, most are still modernizing—and some haven’t even started. The longer organizations delay, the harder it becomes to compete at scale.

DATA CENTER MODERNIZATION FALLS INTO THREE MAJOR SEGMENTS



1 LEADERS

AHEAD OF THE CURVE

Leaders have done the hard work of data center modernization in the past two years, achieving enterprise AI readiness.

More than

80%

of enterprises will have used generative AI technology, either through API and models or applications deployed in their production environments.²

ADVANTAGES

- 01 Ready to deploy AI at scale
- 02 Lower operational costs through automation
- 03 Greater agility and business alignment enable faster innovation

RISKS

- 01 Integration complexity across legacy systems
- 02 Technical debt from earlier decisions can drive unexpected overspend
- 03 Underestimating cloud costs

61%

of organizations say that infrastructure limitations either currently prevent or will prevent them in the future from retraining AI models more frequently.³

2 CHALLENGERS

CLOSING THE GAP

Challengers are making progress towards enterprise AI readiness, modernizing their AI data centers while balancing competing priorities and resource constraints.

ADVANTAGES

- 01 Learning from early adopters to avoid costly missteps
- 02 Improved stability and cost control through proven technologies
- 03 More flexibility to adopt best practices and scale strategically

RISKS

- 01 Difficulty proving AI's return on investment (ROI)
- 02 Misalignment between IT and business priorities
- 03 Infrastructure may limit AI model retraining and performance

3 OBSERVERS

AT RISK OF FALLING BEHIND

Observers are in the earliest stage of enterprise AI readiness and data center modernization, with plans to upgrade in the next two years.

Only

12%

of Observers believe their IT infrastructure is fully adequate to support their AI plans.¹

ADVANTAGES

- 01 Opportunity to leapfrog with modern, AI-centric infrastructure
- 02 Can focus resources on proven, high impact use cases
- 03 Lower risk of early adoption missteps

RISKS

- 01 Delayed modernization widens the competitive gap
- 02 Legacy systems increase operational costs and integration challenges
- 03 Lack infrastructure to support AI workloads at scale

THE PATH TO LEADERSHIP

There’s no “one-size-fits-all” approach to data center modernization. Each organization must shape its strategy around its infrastructure realities, enterprise AI readiness, and long-term priorities. Advancing toward leadership means selecting a path that supports both AI innovation and execution.

01

MODERNIZING IN PLACE

Enhancing existing on-premises or hybrid infrastructure to support AI workloads without a full re-architecture.

02

REFACTORIZING AND SHIFTING

Rebuilding applications using cloud-native frameworks to enable greater scalability, agility, and AI performance.

SUCCESS STORY: KT CLOUD

KT Cloud (formerly Korea Telecom) partnered with AMD and Moreh to launch a scalable AI platform powered by over 1,000 AMD Instinct™ MI250 GPUs. This architecture delivered the performance and efficiency needed to support large-scale language model training while significantly reducing cost.

70%

reduction in GPU cloud service costs⁴

Up to

117%

performance improvement for large-scale model training⁴

1.9x

higher throughput per dollar vs. NVIDIA⁴



In terms of cost-effectiveness, the AMD Instinct-based cluster using Moreh software exhibited 1.9 times higher throughput per dollar compared to the NVIDIA cluster while improving results by up to 117%.⁴



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VP OF KT CLOUD

WANT TO EXPLORE MORE?

Explore the full eBook to see how AMD powers enterprise AI readiness through scalable, modernized data center solutions.

[GET THE EBOOK](#)

¹AMD, S&P Global Market Intelligence, 2025.

²Gartner, More Than 80% of Enterprises Will Have Used Generative AI APIs or Deployed Generative AI-Enabled Applications by 2026, 2023.

³Vanguard Report, The Newest Workloads Will Be Heterogeneous and Cloud Native, 2023.

⁴AMD, KT Cloud Case Study, 2024.