

Technology | Norway

Collaboration shaping the future of AI applications

Nscale

How Lenovo, AMD, and Nokia are enabling hyperscaler Nscale to make AI accessible and scalable.

 NSCALE

NOKIA

AMD 

Lenovo



1

Customer background

The brave new world of AI

As AI keeps booming, the quickly evolving technology is disrupting aspects of every industry. Generative AI extends far beyond simple content generation with applications in diverse fields like customer services, healthcare, fraud detection and security, and so many more. But, as the capabilities of AI technology continue to grow, so do the infrastructure requirements needed to implement it.

1

Customer background

That's where Nscale comes into play. Through its cloud platform, strategically placed data centers, and powerful GPU node clusters, the hyperscaler is already offering turnkey AI development and deployment to companies around the world. With contributions from partners Lenovo, Nokia, and AMD, the future of AI is looking more accessible than ever.

A scenic winter landscape featuring snow-covered mountains, a small town, and a lake. The text "Building the future of Smarter AI" is overlaid on the image.

Building the future
of **Smarter AI**

1

Customer background

Who is Nscale?

Premiere hyperscaler Nscale is one of the companies defining the sector, offering GPU as-a-service through their environmentally conscious infrastructure. Companies in industries like finance, healthcare, software, and more are eager to leverage this AI-focused infrastructure to grow their competitive advantage in the market.

That's why they turn to Nscale's cloud-computing infrastructure, to gain access to thousands of GPUs tailored to their exact requirements. Through Nscale, AI training, fine-tuning, inferencing, and development are all possible, not only at a lower cost but also at a higher level of efficiency and scalability.

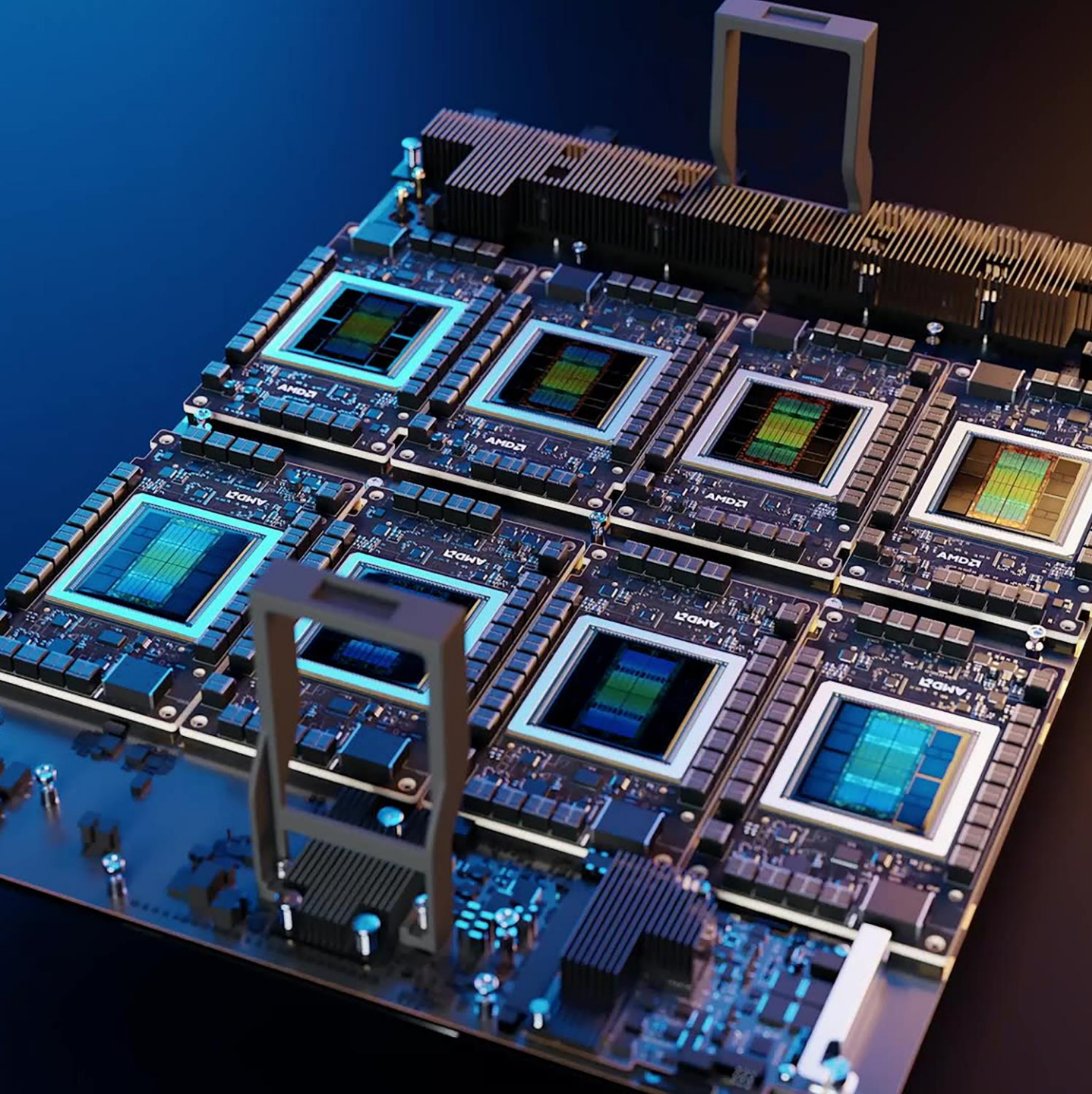


2 The challenge

AI at hyperscale

“As a hyperscaler,” explains Nscale CTO, David Power, “Nscale provides massive amounts of cloud computing and services to companies around the world, helping them be more efficient, innovative, and agile as their business grow.”

That is no simple task. Considering the sheer scale at which Nscale and its AI infrastructure operate, they need to lean on the most cutting-edge, and most reliable technology available. This is why Nscale’s collaborators are key to its success.



“Data is exploding, and our customers need computing architectures that can keep up, so we set out to bring best-in-class partners together to build an AI architecture for the future.”

David Power

CTO, Nscale

2 The challenge

Partnering for success

“Our AI-optimized cloud services need three main ingredients: cutting edge hardware with state-of-the-art AI accelerators, reliable high-speed networking, and an optimized AI orchestration layer to bring everything together under a simple and intuitive interface.”

Through its strategic alliances with Lenovo, AMD, and Nokia, Nscale can offer all that, and more.

The heart of Nscale's operation is its data centers in Norway, housing thousands of GPUs inside its network of Lenovo ThinkSystem servers. These high-performance computing clusters were tailored by Lenovo specifically for their partners at Nscale through Lenovo engineering consultation and services.



3 The solution

Purpose-built Infrastructure

“We worked closely with our partners to engineer a custom solution that is ideal for this project,” says Lenovo’s Per Overgaard, EMEA CTO and Executive Director of the Infrastructure Solutions Group. “The Lenovo ThinkSystem SR685a V3 is a powerful 8U server that features two AMD EPYC™ 9004 CPU processors and eight high-performance AMD Instinct™ MI300x GPUs. It was designed fully in-house by Lenovo from the ground up to provide best-in-class modularity, thermal performance, and reliability, and our Lenovo-managed services keep the ship running smoothly.”

Hardware

Lenovo ThinkSystem SR685a V3
Lenovo Neptune™
AMD EPYC™ 9004 CPU processors
AMD Instinct™ MI300x GPUs

3 The solution

Sustainability at the heart

AI workloads are incredibly power-intensive, largely due to the massive computational demands of training and running large models. Processing huge datasets and running complex neural networks, especially in real-time applications, requires significant energy resources, making efficient data centers and specialized hardware essential to meeting AI's power needs sustainably. Nscale's commitment to sustainability is a core aspect of the company.

“Our strategic location in the Arctic Circle allows us to leverage local climate for energy efficient adiabatic cooling,” explains Power, “complimented by our use of 100% renewable energy, underscoring our dedication to a sustainable digital future.”

Energy efficiency and cooling were also priorities for Lenovo when it came to the design of its servers.



3 The solution

“The Lenovo servers are designed with efficiency in mind,” says Overgaard, “reducing the energy footprint of each computation. Our air-cooled systems give top-of-the-line air-cooling performance, and Lenovo’s Neptune™ has led the world in data center cooling technology for more than a decade. Using warm water to cool processors directly helps reduce energy use and costs while maintaining performance. This eco-friendly solution minimizes the need for traditional air conditioning, making it ideal for energy-intensive workloads like AI.”

These collaborative efforts outline both companies’ focus on sustainability underlining Nscale’s commitment to offer the most effective AI cloud platform, as well as the most efficient and responsible platform possible.



Another key aspect of Nscale's cloud platform resides inside the servers themselves. The GPU nodes that customers tap into are comprised of AMD Instinct GPUs, which bring the most power possible to high-intensity AI workloads, without compromising on efficiency.

With the expertise of Lenovo and AMD behind them, Nscale's data centers can continually meet the highest standards of efficiency and performance.



“At AMD, we’re proud to collaborate with Nscale to **drive innovation** with our AMD Instinct™ Accelerators and AMD EPYC™ processors in Lenovo ThinkSystem SR685a V3 servers, powering their cloud services to meet the **growing demands of AI and HPC workloads**.

By leveraging the **energy-efficient architecture** of our solutions, Nscale can deliver **top-tier performance while reducing operational costs and environmental impact**. Together with Nokia’s networking expertise, Nscale can showcase the **flexibility, scalability and performance** that Lenovo and AMD technology bring to the table.”

Negin Oliver

Corporate Vice President of Business Development, Data Center GPU Business, AMD

3 The solution

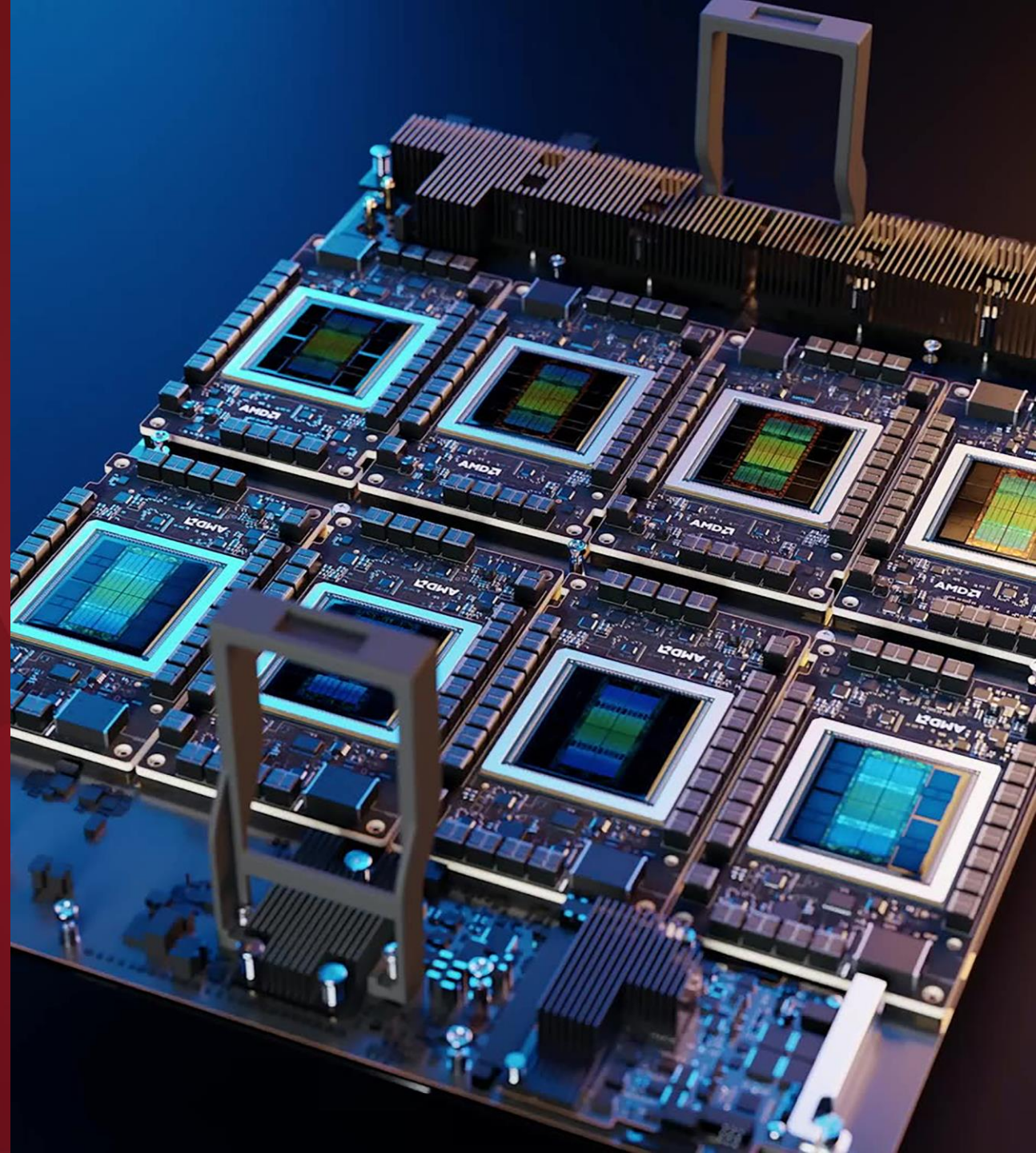
Reliability is key

The final piece of the collaboration comes in the form of network connectivity. Network partner, Nokia, completes the infrastructural puzzle by leveraging their world-class network for AI use cases. When a customer turns to Nscale to tap into the potential of AI, Nokia's intelligent network design means data at any scale can be accessed whenever, wherever.

“Data is only useful if it can get where it needs to be,” says Paul Alexander, Nokia's VP of Cloud Infrastructure for Europe, “As a leader in networking technologies, Nokia is one of the few that can provide stability and lossless data delivery across this very compute-intensive infrastructure. Our reliable networks are optimized for AI workloads, ensuring high-performance data transfer and energy efficiency.”

In the spirit of the collaboration, Nokia is also emphasizing sustainability in its contribution, and intelligent network design is one of the ways the company is accomplishing that.

“With intelligent network design,” says Alexander, “we’re able to reduce energy consumption immensely, ensuring that we’re maximizing efficiency and reducing energy consumption.”



4 The results

A collaborative future

One of the most promising aspects of AI is the way it can make massive tasks manageable. Nscale has made it manageable for companies anywhere to tap into the potential that AI offers without taking on massive infrastructural demands. That collaborative spirit is also present in the contributions of Lenovo, AMD, and Nokia.



4 The results

“The Nscale-Lenovo-Nokia alliance, powered by AMD, represents a paradigm shift in AI infrastructure solutions,” says Alexander, and leaders at Lenovo and AMD share this optimism when it comes to the future of AI.

“Everything from life-saving research to new retail solutions, to analyzing traffic to make roads safer,” says Overgaard, “all will be shaped by this technology.”



Custom-engineered solution



Powerful AMD CPU and GPU resources



100% renewable energy

4 The results

When customers turn to Nscale's cloud platform, they take advantage of the optimization and efficiency of Lenovo ThinkSystem servers, the power and capability of AMD Instinct™ accelerators, and the intelligence and reliability of Nokia's network. These partnerships are part of what positions Nscale as the most capable hyperscalers out there, providing a glimpse into an AI future that is more collaborative and more accessible than ever.



“This is one of the most powerful platforms for AI workloads on the market, and we’re just getting started.”

David Power

CTO, Nscale

What does the future of AI hold?

Learn how Lenovo, AMD, and Nokia are enabling hyperscaler Nscale to make AI accessible and scalable.

[Explore Lenovo HPC Solutions](#)



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