# How AI at the edge brings insights that can transform your business

Deliver AI innovation where your data lives, with end-to-end solutions optimized for every kind of edge location.

## The situation:

### Edge-AI offers an advantage in competitive markets

Across every industry, the race to become a leader in AI-driven innovation is on. This year has been called "AI's breakout year," in which adoption rates are skyrocketing. As many as one third of organizations have started using generative AI and other tools on a regular basis.[1] Those who succeed in creating value from AI today are likely to gain a competitive advantage they can keep building on.

AI technologies are data hungry. Many current industry leaders have access to data from millions of customers, which they have used to train and refine machine learning and deep learning models. But it is even more important to ensure the data is accurate, so that AI training can produce effective models. This requires the removal of data bottlenecks and silos.

Bringing AI to the edge means bringing AI training and inference and your data together in one place. Models can be trained with continuous, low-latency access to all of your latest data, without network bottlenecks. Inferencing can happen closer to where you deliver services and where you need optimized processes.

![Lenovo logo] | **AMD**

## The challenges of adopting AI at the edge:

A range of obstacles stand between non-tech or tech-lagging organizations and AI adoption, including:

- **The need for custom systems** – Projects may require AI systems that are costly to build and require dedicated teams to maintain them.

- **Getting from proof of concept to production** – Significant engineering effort is often needed to deploy successful models in production.

- **Connectivity issues** – AI systems that depend on cloud services are difficult to deploy at the edge, where connectivity may be limited.

- **Data security and compliance** – As AI regulations evolve, alongside expanding data privacy laws, organizations may need proven solutions to ensure they meet compliance requirements.

- **Skills shortages** – The skills to build and manage AI systems are often in short supply, especially at remote edge locations.

Lenovo and AMD collaborated to develop a highly performant and energy-efficient edge platform for enabling next-generation AI applications.
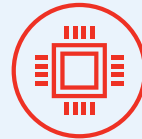
Lenovo servers powered by AMD processors combine proven innovations and services that meet the challenges of delivering AI at the edge. The Lenovo ThinkEdge SE455 V3 server is specifically designed for the rugged conditions and limitations of remote edge locations, bringing the exceptional reliability and security of Lenovo servers to the edge. AMD EPYC™ processors deliver industry-leading, edge-optimized performance per watt for AI workloads.[2]

And with Lenovo TruScale for Edge and AI, organizations have a pay-as-you-go option for tested and ready solutions. TruScale solutions remove the need for large up-front investments, in-house expertise, and long journeys from production to value.

## Accelerate insights at the edge

**High performance for AI workloads:** Unlock data intelligence and enable next-generation AI applications with up to 64 cores and 50% more GPU capacity than previous generations.[3]

**Edge-optimized energy efficiency:** Consume up to 32% less energy than comparable edge servers, with the exceptional performance per watt of AMD EPYC 8004 Series Processors in ThinkEdge SE455 V3 servers.[3] Reduce waste and overprovisioning with right-sized infrastructure via Lenovo TruScale for Edge and AI.

**Agility to meet changing needs:** Expand capability to run large AI workloads, with 2x more storage options and 20% more PCI acceleration options than comparable edge servers.[3] And scale your infrastructure as needed with the metered, pay-as-you-go billing of Lenovo TruScale AI at the Edge.

## Innovate with confidence

**Support from AI experts:** Easily set up a proof of concept by leveraging Lenovo's AI Discover Center of Excellence where you can access edge-AI expertise wherever you are, thanks to Lenovo's global network. With Lenovo and AMD you can build a strategy that delivers insights, experience, and shared learnings to accelerate your edge transformation.

**Access to proven industry solutions:** Get access to proven AI solutions to the big challenges in your industries with Lenovo's AI Innovators partner ecosystem. Partners offer a full range of support to help businesses simplify implementation across a variety of infrastructures and deploy today's most innovative AI software.

**Pay-as-you-go model:** Remove cost barriers and wrap an end-to-end AI experience at the edge into a single subscription with one predictable, monthly bill with Lenovo TruScale for Edge and AI.

**Help protect data and infrastructure:** The Lenovo ThinkEdge SE455 V3 includes a wide range of built-in security features for remote edge locations. These include lockable covers, security bezels, and tamper detection. The server can also help you safeguard data with self-encrypting solid-state drives and onboard Trusted Platform Module 2.0 (TPM 2.0) crypto processors.

## Have a seamless edge-AI experience

**Compact, quiet and ruggedized:** Run workloads reliably in harsh environments like factories and warehouses. The ThinkEdge SE455 V3 server offers dust-filtering, shock and vibration resistance features, and the toughness to operate in temperatures ranging from 0 to 55C. Its compact form factor and ultra-quiet operation also make it ideal for customer-facing locations like retail stores.

**Fast and easy deployment:** Achieve near-zero-touch provisioning with enhanced Lenovo Open Cloud Automation software (LOC-A). LOC-A automations help you reduce deployment time by up to 3.3x, reduce resource requirements by up to 4.1x, and save up to 50% in deployment costs.[4]

**Simple remote management:** Use a single interface to manage your distributed edge-AI server portfolio, with newly enhanced Lenovo XClarity Controller software. You can easily view, manage and update your entire ThinkEdge portfolio.

**Resource-saving managed services:** Deploy and run edge infrastructure with ease, around the world, with the expertise and global presence of Lenovo's managed services partners.

# Why Lenovo and AMD?

Lenovo and AMD are creating new ways to solve business problems and new opportunities to help you transform the way you use data. We're here to help you deliver meaningful insights with end-to-end solutions and services, at any scale, through accessible and reliable technology. Tap into the power of AI at the edge with Lenovo servers powered by AMD processors.

**Find out more**

1   McKinsey (2023). The state of AI in 2023: Generative AI's breakout year.

2   AMD (2023, September 18). AMD Completes 4th Gen EPYC Family with the AMD EPYC 8004 Processors, Purpose Built for Cloud Services, Intelligent Edge and Telco.

3   Lenovo (2023, Sept 18). Lenovo Delivers Next Generation AI at the Edge with Industry's Most Powerful Edge Server Based on AMD EPYC 8004 Series Processors, Providing Breakthrough Performance and Efficiency.

4   "Based on Lenovo internal testing"