Smarter AI for All

AI Solutions for manufacturing

intel®

Get started with Intel AI
in manufacturing

Smarter technology for all

Lenovo

Contents

The future of AI in manufacturing

AI is helping to unlock new levels of efficiency, quality, and adaptability across production lines and supply chains. By leveraging AI as a part of your technology stack, you can move from reactive to predictive operations—anticipating machine failures, optimizing energy use, and reducing waste. This shift to a data-driven model empowers businesses to not only improve productivity but also respond quicker to market demands.

The journey there requires a robust AI and data infrastructure that can process data where it's generated—in real time, and at the Edge. Only then can AI, with the capability to automate and optimize, truly transform operations.

Our comprehensive AI products, solutions, as-a-Service models, and a growing partner ecosystem, provide our customers with the greatest set of open choices—where and when they need it most.

Delivering AI with Lenovo

Implementation starts and ends with your business needs. A modern data ecosystem, robust Edge AI infrastructure, devices, and security, integrating all the necessary endpoints, is essential. It's why we work with trusted specialist partners to bring connectivity across your IoT, OT and IT systems.

Together with these specialist ISV (Independent Software Vendor) partners, leveraging validated, tested AI solution designs, Lenovo and Intel can help you deliver secure AI solutions across your entire operation, from product development, warehouse automation, to data collection on the production line and real-time insights across the supply chain.

Our technology enables precise control, cybersecurity, and instant data access, whether on the factory floor, in transit, or within the warehouse, with local and hybrid edge computing solutions.

Hybrid AI built on a hybrid infrastructure

Through a hybrid approach, Lenovo and Intel bring the right size and mix of AI models, robotics, devices, infrastructure, operations and expertise to your data across sites, plants, personal, enterprise and public environments.

What's already happening with AI?

AI-enabled solutions are bringing advancements to warehouse automation, sustainable manufacturing, operational efficiency, and supply chain evolution for greater productivity and responsiveness.

As with other industries, AI systems can also analyze vast quantities of data to provide actionable insights, allowing you to make more informed decisions about asset management, production processes, and logistics, driving overall operational resilience and agility.

Edge computing spend in manufacturing increased by

28%
in 2023 [1]

41%

of manufacturers believe AI to be a game-changer. [1]

99%

AI-powered quality inspection can reduce defect detection time by up to 99%.[2]

How AI is having an industry-wide impact

Take a deeper look into how AI is already being used in manufacturing, and the many ways Lenovo can help drive industry innovation forward.

Quality control:
Enhance defect detection and ensure consistent product quality with AI-powered visual inspections.

Employee safety:
Monitor employee-machine interactions, ensuring adherence to safety protocols and reducing accident risk.

Supply chain and logistics:
Improve handling of pallets and pieces, enhance delivery efficiency and optimize supply chain routes.

Demand forecasting:
Leverage historical data, market trends, and economic indicators to predict demand for goods and services.

Inventory management:
Streamline stock levels and reduce material waste through real-time tracking and demand forecasting.

Operational efficiency:
Optimize production workflows, minimize downtime, and enhance equipment utilization with intelligent automation.

Predictive maintenance:
Continuously monitor equipment and predict failures before they occur, minimizing unplanned downtime.

Customer Services:
Provide exceptional support to internal and external stakeholders using an industry-specific large multimodal model.

GenAI is predicted to reduce manufacturing supply chain expenses **by $500 billion globally.**[3]

Predictive maintenance using AI can **reduce downtime by up to 50%** and **increase asset life by up to 40%**[4]

of all data within an enterprise goes unused for analytics.[5]

The challenges of implementing AI in manufacturing

Despite its vast potential, AI adoption in manufacturing has been uneven, hindered by investment priorities and limited understanding.

Cybersecurity is also a top concern, particularly as AI expands the attack surface, increasing the risk of data breaches, fraud, and model manipulation, potentially exposing sensitive information.

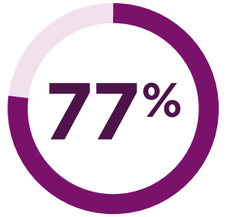
Integrating AI into your existing operations, especially legacy infrastructures, also presents a significant challenge. Many manufacturers face a knowledge gap, lacking the internal expertise needed to move beyond initial AI pilots to full-scale implementations. While they see AI's potential to transform operations, they struggle with how to implement it effectively, securely, and within budget constraints.

Other difficulties of implementing AI for manufacturing include:

- Identifying and validating the right use cases to demonstrate measurable business value
- Knowing where to start
- A lack of strategic approach (AI for the sake of AI)
- The seven Vs of data: volume, veracity, validity, value, velocity, variability, volatility
- Skillset gaps
- Managing evolving cybersecurity risks
- Compliance challenges and staying up to date with evolving regulations, including:
  - EU AI act
  - Digital Operational Resilience Act (DORA)
  - GDPR
- Poor data quality and difficulty integrating simple or complex data from diverse sources, particularly with legacy systems (data silos) and hallucinations
- Safeguarding against inaccurate or misleading content, such as factual errors, logistical inconsistencies and plagiarism harmful to business performance and reputation.
- Ensuring a robust, responsible AI process including transparency, explainability, and fairness/lack of bias
- Consumer trust around data privacy
- Balancing investment in AI technologies with other critical business needs
- Keeping up with increasing market demands
- Underpowered hardware and integration of a fully compliant Zero Trust solution

AI applications focused on safety and compliance can reduce workplace injuries by up to

20% [6]



shared that their organization struggles to gain actionable insights from the data it collects. [7]

of manufacturers said they struggle to keep up with new technologies. [7]

IT should leverage AI using teamwork

The widespread adoption of AI requires IT teams to move beyond traditional roles and become proactive digital advisors, yet many manufacturers face a significant skills gap, lacking the necessary expertise in AI and data science.

Lenovo, as a trusted technology partner, can bridge the gap. As a manufacturer ourselves, we have been on our own smart manufacturing journey for over 10 years with significant success. We're the world's no.1 PC manufacturer by annual number of units shipped, and we understand the challenges of orchestrating long and complex supply chains. From warehouse automation and sustainable manufacturing to improving operational efficiency, evolving supply chains, and deploying data-driven solutions, Lenovo can become part of your technology strategy team, wherever you are on your journey.

AI technology: a team approach

Building a scalable, secure, and sustainable technology stack that includes AI requires a holistic, team-based approach that involves key stakeholders, including division leaders, infrastructure, operations, software development, and data science.

In an industry driven by precision, quality and efficiency, the human touch is still essential, even as we embrace automation.

CASE STUDIES

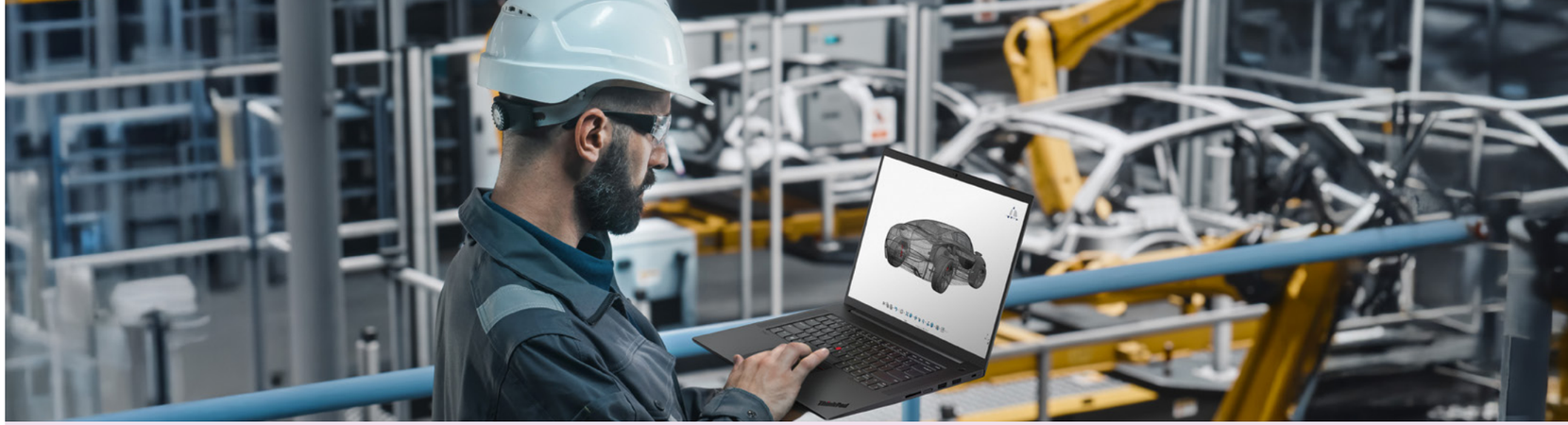
Transforming manufacturing with AI

AI is revolutionizing manufacturing, tackling critical challenges like defect detection and supply chain forecasting.

Advanced technologies such as computer vision and specialized AI models enable real-time quality inspections, swiftly adapting to diverse scenarios without the need for extensive retraining. In supply chain management, AI-driven forecasting enhances demand planning, component sourcing, and logistics optimization.

These innovations are paving the way for more efficient operations and smarter decision-making. The following case studies showcase how these advancements are being applied in real-world manufacturing scenarios.

Learn more



Lenovo's AAA solution (Automated Storage and Retrieval System (AR/RS) + Autonomous Mobile Robot (AMR) + AI)

We accelerate the digital transformation of warehouse operations by integrating AS/RS to increase throughput and inventory capability. AMR empowers operation flexibility and resilience, while AI algorithms and machine vision enable scattered isolated automation as one unified intelligent platform.

Typically, a warehouse powered by Lenovo's industry-leading AI algorithms achieves:

30% higher throughput

35% better space utilization

30% faster order fulfillment

50% clearer visualization

AI also enables real-time data analysis to optimize robot scheduling, device management, exception handling, navigation planning and more.

Enhancing precision with AI-powered Robotic Inspection

Lenovo Daystar, a digital inspection platform, boasts a range of AI capabilities and employs digital technologies to observe, monitor, document and analyze the condition and quality of equipment, processes and environments. It provides real time alarms and warnings, and generates insightful inspection reports.

Daystar utilizes cutting-edge AI technology and complex detection logic to reconstruct scenarios based on a large vision model, ensuring the capture of inspection anomalies.

The platform is customizable and adaptable for different business scenarios and can reach a high standard of image recognition for industrial inspection:

- Meter reading (deviation ≤ ±2%)
- Equipment defect detection (recall ≥ 90%, precision ≥ 90%)
- Environmental condition monitoring (accuracy ≥ 96%)
- Personnel operation recognition (accuracy ≥ 96%)
- Equipment status monitoring (accuracy ≥ 99%)

Optimizing production efficiency with AI-powered Advanced Production Scheduling (APS)

Lenovo partnered with its own manufacturing and research teams to deploy Advanced Production Scheduling (APS), an AI-driven solution designed to improve production efficiency and operational accuracy.

APS uses a hybrid prediction model to predict production demands, manage supply chain variability, and allocate resources effectively.

By integrating real-time data analytics, APS enables Lenovo's manufacturing facilities to reduce bottlenecks, optimize workflows, and improve on-time delivery rates.

75%

of planning process now automated

98%

faster creation of production schedules—from 2 hours to 2 mins

24%

more production line capacity and 19% higher

Read more

AI-accelerated manufacturing and talent development

Lenovo's South Smart Manufacturing Campus (LSSC) in Shenzhen, China, leverages a combination of edge computing and real-time data processing to enhance productivity and support sustainable manufacturing. By utilizing data analytics and machine learning, Lenovo's AI solutions have transformed LSSC into a model of intelligent, automated manufacturing.

20%
reduction
in production time

50%
reduction
in workforce training time

30%
increase
in supply chain forecasting accuracy

> Based on Lenovo's strong R&D capability, the 'mother factory' is progressively integrating and rolling out our innovative solutions across devices, edge and cloud computing, networks, and artificial intelligence businesses."
>
> **Meng Fanyi** – General Manager, Lenovo's South SmartCampus (LSSC)

Read more

Lenovo simplifies AI for manufacturing

Lenovo's vision of Smarter AI for All simplifies adoption and brings AI innovation to everyone. In collaboration with Intel, through our Hybrid AI model, we ensure AI is delivered seamlessly, responsibly, and securely to personal, enterprise, and public environments across the manufacturing sector.

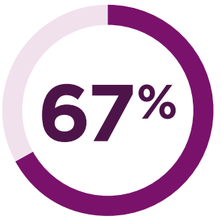
We bring AI to your data where and when you need it most, delivering AI-powered solutions at your edges; on the shop floor, in the warehouse, or within your supply chain operations—wherever your organization needs full control, cybersecurity, and real-time access to data. We also deliver AI-powered solutions at your data centers, providing high performance power, availability, scalability and seamless cloud integration.

Hybrid AI needs hybrid infrastructure. This starts with client devices and Edge computing, all the way to public and private cloud. Through a Hybrid AI approach, we bring the right size and mix of AI models, devices, infrastructure, operations, and expertise to your data across personal, enterprise and public environments.

In line with the unique demands of manufacturing, Lenovo brings a hybrid approach that can blend on-premises and cloud-based processing.

Together, Lenovo and Intel enable a broad portfolio for hybrid AI, data center, cloud, edge, and PC. With Lenovo supporting the adoption of AI into their technology stack, manufacturers can advance sustainable, data-driven strategies, improve operational efficiency, and maintain compliance across production and supply chain processes.

of manufacturing companies report challenges in achieving a quick ROI for AI investments.[8]



of manufacturers struggle with integrating AI into legacy systems and fragmented data silos.[9]

Our Hybrid AI model brings innovation to everyone

Personal

AI PCs enable engineers and designers to leverage AI for simulations, process optimization and real-time analytics. Teams are also empowered to perform strategic sales and marketing analysis locally—all while keeping data private. We call this **AI for You**.

With Lenovo and Intel, AI is:

- **Personalized**: Utilize AI to refine production processes, optimize machine settings, and tailor workflows to specific requirements.
- **Enhanced**: Automate routine tasks like inventory checks and machine diagnostics, freeing up staff to focus on more strategic, value-added activities.
- **Protected**: Fortify digital and physical infrastructure with advanced, predictive security measures, robust threat detection, cyber-resiliency, and loss prevention systems. Safeguarding data and preventing theft or unauthorized access.

Enterprise

Lenovo can help you securely develop, fine-tune, deploy and scale AI solutions (AI apps, agents, tools, models) on-premises, using enterprise data, policies, and governance compliance such as GDPR and the EU AI Act across multiple devices. With Lenovo, your solutions can be:

- **Innovative**: Drive manufacturing innovation with Lenovo's leading AI-ready hardware, providing rapid insights that enhance production efficiency, optimize factory layouts and inform smarter decision making.
- **Transformative**: Transform life and work with enhanced innovation and productivity through scalable and smart AI-powered solutions, infrastructure, services, and support.
- **Responsible**: Apply Responsible AI principles to your AI adoption ensuring the integration of secure, ethical and sustainable AI-powered solutions.

Public

Leverage cloud AI with remote monitoring, predictive analytics, and open-source frameworks, optimizing production costs while driving innovation and driving efficiency.

- **Custom build, design and delivery**: Develop AI-powered solutions tailored to your needs, boosting performance, maintaining compliance, and helping to reduce costs for long-term growth and competitive advantage.
- **Safeguard technology excellence**: Make sure your technology stack is robust, reliable, and performs consistently to minimize downtime, reduce errors, maintain business operations, and build trust.
- **Deliver exceptional manufacturing outcomes**: Incorporating better-designed, more intuitive AI-powered solutions into your operations leads to enhanced user experiences, adoption rates and greater satisfaction.

The Lenovo AI portfolio

Building a scalable and sustainable AI architecture

As a manufacturer ourselves, Lenovo understands the challenges firsthand—and we have active experience in leveraging AI to drive operational efficiency, boost staff productivity, and ensure compliance with safety standards, regulations, and government policies.

Instant AI-driven productivity

Working together with Intel; Lenovo AI PCs, workstations and Edge devices provide the infrastructure required to power AI-based solutions. The latest Intel processors are designed to accelerate high performance and efficient AI processing; enhancing employee productivity and driving real-time decision-making across every touchpoint.

From the production floor to warehouses and supply chain operations, Lenovo Edge AI servers, devices, and ISV-based solutions transform operations across your entire operation.

Lenovo ThinkStation P Series

Powered by Intel® Xeon® Scalable processors

High-performance workstations which are powerful, ISV-certified, energy-efficient and highly versatile. Provide the power and reliability designers and engineers need, including for the most complex workloads like generative AI and digital twin development.

ThinkStation PX

Lenovo ThinkPad X1 2-in-1

Powered by Intel® Core™ Ultra processors

The ThinkPad X1 2-in-1 Gen 10 Aura Edition combines the versatility of a laptop and a tablet, with AI-driven features that adapt to user preferences and improve efficiency.

Lenovo ThinkPad X1 Carbon

Powered by Intel® Core™ Ultra processors

The ThinkPad X1 Carbon integrates AI-driven features like Microsoft Copilot, allowing users to automate tasks and enhance productivity effortlessly.

PRODUCTION LINE

Lenovo Industrial Computer Vision: Boasts a range of AI capabilities and employs computer vision to identify, measure, position and detect the condition and quality of equipment, processes and environment.

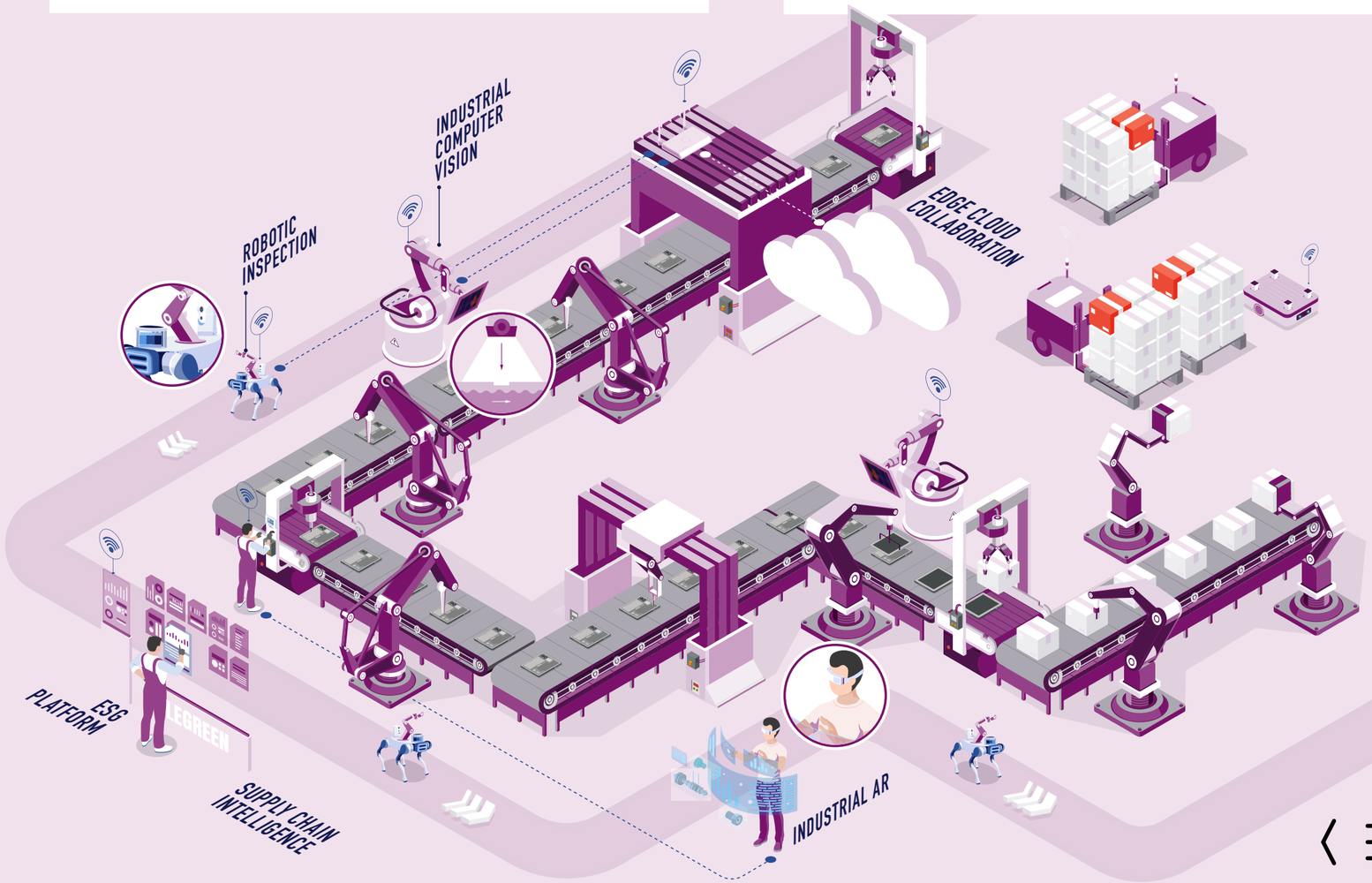
Edge Cloud Collaboration: Manage your data more efficiently with real-time machine data collection according to different industrial protocols with ThinkEdge. Easily add context and timestamps to the collected data on the cloud for further AI analysis.

Robotic Inspection: Take drudgery out of defect detection with AI and automation. Enable round-the-clock, automated monitoring of assets such as substations and pipelines by integrating intelligent sensors and robot technologies like computer vision and edge computing.

Industrial AR: Break through geographical constraints using ThinkReality AR wearable devices and computer vision technology. Build photorealistic and immersive virtual experiences to enhance collaboration efficiency in design and remote support.

Lenovo ESG Navigator: Break down organizational barriers and achieve ESG data-driven decision-making using AI and digital solutions. Process closed-loop management and effectively empower your enterprise in low-carbon transformation and sustainable development.

Supply Chain Intelligence (SCI): One centralized hub to provide immediate visibility and management across the entire supply chain ecosystem by aggregating data from various sources. Helps customers to make better, faster business decisions with the support of comprehensive real-time data and anticipation of market demand.



SMART WAREHOUSE

Asset Tracking: Incorporates real-time locating system to automatically track and record the location of movement and objects with typical sub-meter positioning accuracy.

Pick Assist Autonomous Mobile Robot (AMR): Utilizes the most advance “order to person” human-robot collaborative mode to help eliminate the need for manual route planning, warehouse design or human intervention.

Automated Storage & Retrieval Systems (AS/RS): Offers high density, flexibility and scalability in stereo warehouse and combines a variety of robotics with AI algorithms to unleash the potential of precise and agile pallet movement.

Warehouse Execution System (WES): Focus on real-time coordination and optimization of material handling tasks. Easy to integrate automation resources from different brands into one unique platform.

Automatic Guided Forklift (AGF): Designed to revolutionize your intralogistics operations, this innovative forklift leverages advanced technologies to empower the entire pallet handling process from unloading to high-level put away.

Scalable AI infrastructure

Lenovo's AI-ready infrastructure delivers scalable, high-performance computing to support a wide range of AI applications, from advanced data analytics to real-time processing.

Lenovo ThinkEdge

Powered by Intel® Xeon® Platinum processors

Purpose-built platforms like ThinkEdge SE350 V2, for compute-intensive and latency-sensitive manufacturing applications, including predictive maintenance to mitigate risk, and improve safety, quality control, and productivity.

ThinkEdge SE350 V2

Lenovo ThinkSystem

Powered by Intel® Xeon® Scalable processors

High-performance servers like ThinkSystem SR650, optimized for deploying and training AI and models, handling large datasets. Providing highly reliable, scalable, high-performance that significantly accelerates AI and GenAI.

ThinkSystem SR650

Lenovo ThinkAgile

Powered by Intel® Xeon® Scalable processors

Integrated systems like ThinkAgile HX650, offering pre-configured servers, storage, and networking to streamline AI adoption and deployment.

ThinkAgile HX650

Lenovo High-Performance Computing (HPC):

Supercomputers are increasingly vital in manufacturing to process large datasets, optimize supply chain operations, and perform real-time consumer behavior analysis. Lenovo is the world's #1 supercomputing provider, according to TOP500.org [10]. Available as a Service, TruScale for HPC combines Lenovo's reliable technology with fully managed, predictable billing and flexible scaling to meet constantly changing business needs. With industry-leading technology and global HPC architects and experts, we take a customer-centric approach to deliver HPC solutions that best meet the evolving needs of manufacturers.

Learn more

Neptune™ Liquid Cooling

AI technology requires more system power than ever, putting an increased strain on energy demands. Lenovo's Neptune™ Liquid Cooling enables performance without compromise, reducing energy consumption by up to 40% while providing maximum performance and reliability of critical AI systems, ensuring that these systems can operate optimally without overheating or downtime.

Learn more

The pace of change

Lenovo is passionate about responsible AI practices, offering end-to-end protection and support for your hybrid AI stack.

Our Responsible AI Committee, AI Innovators Program, and flexible Everything-as-a-Service solutions ensure secure, compliant, and sustainable AI expertise, wherever it's required:

AI Center of Excellence

The Lenovo AI Center of Excellence (AI CoE) is designed to help customers put AI to work for their organizations quickly, cost-effectively and at scale, with use cases that bring AI from ideation to reality. Lenovo makes incorporating AI into your technology stack easier for you by providing workshops, proof of concepts, benchmarking, and performance optimization. Together, with our global partner ecosystem, we help reduce time to value and minimize risk. Lenovo has strategically positioned AI data scientists, solution architects, engineers, and industry consortiums worldwide.

Lenovo AI Innovators program

Lenovo has a comprehensive partner strategy that brings together best-in-class Independent Software Vendors (ISVs) for AI software, hardware and solutions. We have over 50 AI Innovators in the program, providing more than 165 solutions. In the AI Innovator program, we provide access to our AI Discover Labs and a collaborative platform where partners can develop, deploy and validate their AI solutions with the support of cutting-edge tools, resources and expertise.

- Find specific enterprise AI solutions for manufacturers
- Execute proof of concept and comply with Lenovo's Responsible AI guidelines
- Train your own data without risking confidentiality

Explore innovation

Services powered by AI

Lenovo AI Fast Start: Helps you quickly prove the business value of use cases on Personal AI, Enterprise AI and Public AI platforms within weeks, Lenovo AI Fast Start gives you access to AI assets, experts and partners that will help you rapidly build use cases with your own data and tailor it to the unique needs of your business, maximizing relevance in real-world environments and speeding progress to deployment at scale.

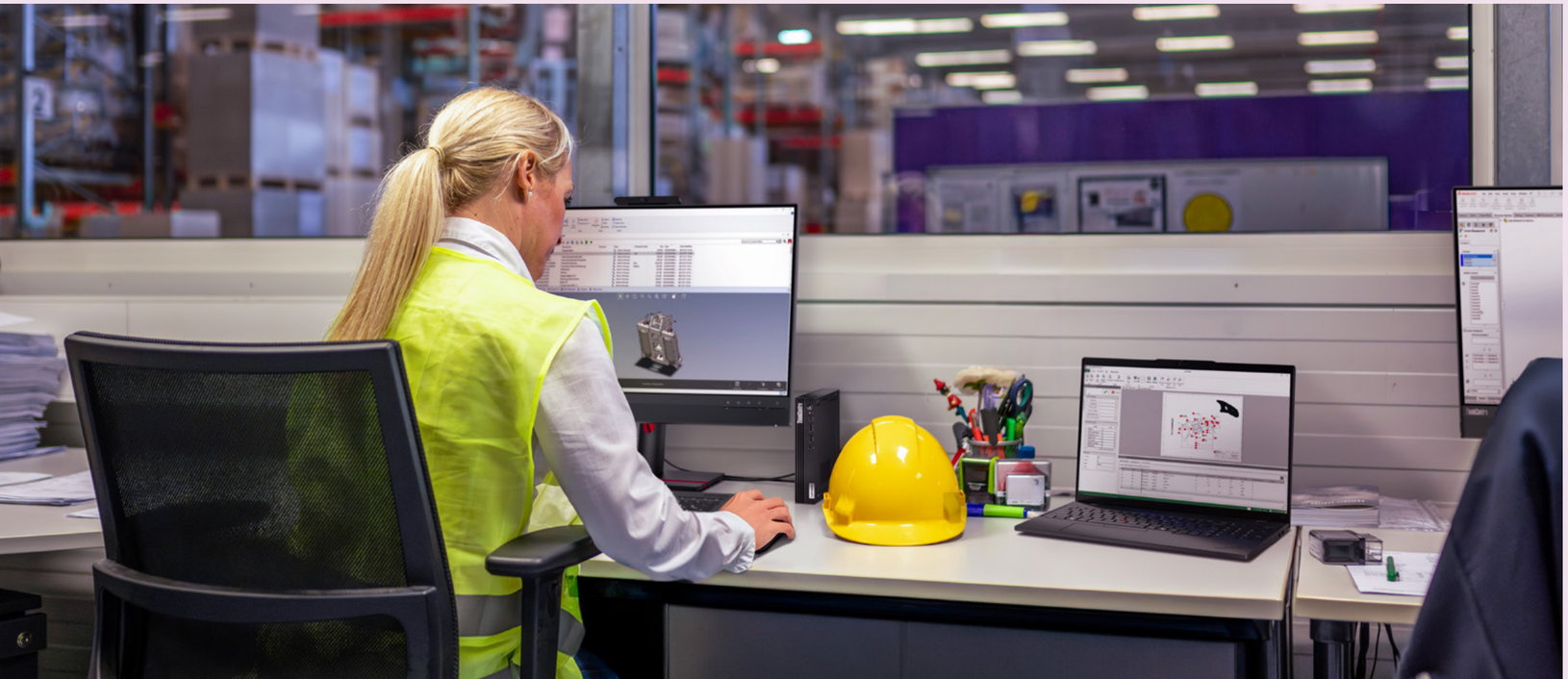
Get started

Lenovo TruScale Device as a Service (DaaS): Provides comprehensive, scalable Smarter AI devices and frees up valuable IT resources with a predictable subscription-based model—all from a single trusted partner. TruScale DaaS allows for quicker upgrades without upfront costs so manufacturing organizations can future-proof their technology investments and remain competitive.

Lenovo TruScale Infrastructure as a Service (IaaS): Unlock the advantages of on-premises infrastructure with the flexibility of a cloud-like experience. Lenovo offers tailored solutions for hybrid and multi-cloud environments, infinite storage, and high-performance computing (HPC).

Our new TruScale GPU as a Service boosts HPC with advanced workload orchestration and usage metering, optimizing AI GPU resources for maximum productivity and availability. Combined with Asset Recovery Services, assets can be securely recycled, reused, or repurposed in an environmentally friendly way to maximize value. In an era of rapid advancements in AI and GenAI hardware and software stacks, this flexibility is crucial. Lenovo provides clients with the broadest range of deployment options.

Explore TruScale



AI grounded in security

In addition to accuracy, explainability, and transparency, security is a cornerstone of AI integration in business processes.

This includes adhering to guidelines such as the EU AI Act, as well as ensuring data privacy and information security. Unlike traditional IT systems, AI solutions must be built on a foundation of strong governance and robust security measures to be responsible, ethical, and trustworthy.

Lenovo's security-by-design approach establishes this foundation, ensuring AI solutions are secure from the component level, where the Intel vPro® platform enables advanced hardware protection, through our Supply Chain Assurance capabilities. Our commitment to AI security is reinforced by our Global Security Organization, the appointment of our Chief Security & Artificial Intelligence Officer (CSAIO), and our participation in initiatives like the Joint Cyber Defense Collaborative.

Put the right foundation in place

Lenovo's security by design approach provides the foundation for responsible AI solutions. Lenovo ThinkShield has you covered at every layer, starting with Supply Chain Assurance to protect your devices from the component level up. It also safeguards your devices from threats below the operating system, all the way to keeping data secure between the operating system and the cloud. And through our partnership with Intel, diverse AI workloads are further secured from data center to edge.

This approach includes:

- Lenovo ThinkShield Zero-Trust practices to secure devices, infrastructure and networks
- Hybrid AI that balances on-premises and cloud processing to protect sensitive data
- Partnerships with leading security vendors to create a robust ecosystem
- Lenovo-owned and controlled manufacturing, so we can ensure security is built in every system and component
- Embedded governance, driving security across products and services to maintain a vigilant focus on customers' safety
- Lenovo experience and expertise prioritizing innovation, continuously earning our customer's trust

The foundation of responsible AI

To safeguard AI driven applications, AI adoption must be grounded in security. Lenovo's multi-layered approach provides the foundation for responsible, ethical, and secure AI solutions, built upon correct and up-to-date governance.

The Lenovo Responsible AI committee covers a wide array of challenges in the AI space. It makes sure AI is legal, ethical, fair, privacy-preserving, secure, and explainable.

The six pillars of Responsible AI at Lenovo are:

1. Diversity & Inclusion
2. Privacy & Security
3. Accountability & Reliability
4. Explainability
5. Transparency
6. Environmental & Social Impact

Read more on Lenovo's Responsible AI

Delivering intelligent sustainability

We understand that what's better for people is also better for business, which is what drives every decision and investment we make.

Lenovo sustainability services include robust offerings to help manufacturers achieve their sustainability goals. Lenovo Asset Recovery Service (ARS) helps extend device ROI with premium warranty, support offerings, and hassle-free disposal.

Our innovative Neptune™ Liquid Cooling technology reduces energy consumption by up to 40%, supporting eco-friendly data centers, while addressing the growing concern of AI powered consumption.[11] Lenovo's CO_2 Offset Services allow our customers to offset their device's carbon footprint.

We also go further with the Lenovo Intelligent Supply Sustainability Analytics (LISSA) tool, which enables transparent monitoring of supply chain sustainability. We ensure all Generative AI solutions enabled by Lenovo undergo a responsible AI review including advising customers on how to setup their own responsible AI review and stay compliant.

Top 10

Lenovo's ranking in the 2024 Gartner Supply Chain Top 25. [12]

Since 2017, Lenovo has invested more than

$1.7 billion

into AI. [12]

Get started with AI for All

Incorporating AI into your technology stack begins with a thorough assessment of your current capabilities and challenges. You'll need to have a robust data strategy, identify your operational challenges, and focus on the quick wins that enhance production efficiency and improve quality control, then rapidly move beyond proof-of-concept.

Lenovo can support your AI initiatives at every stage. Once we understand your unique requirements, we define your desired outcomes, evaluate your data readiness, implement critical milestones, and pilot a use case to demonstrate proof of value and ensure your organization is set up for success, providing you with the tools, knowledge and expert guidance required for robust and reliable AI adoption.

Our AI Services cover five critical phases: AI Discover, where we identify how AI can create value for your organization; AI Advisory, which assesses your AI readiness and defines strategic plans and roadmaps; AI Fast-Start, focused on designing and building AI elements; AI Deploy & Scale, implementing secure, scalable, and tailored Hybrid AI solutions; and AI Managed, which ensures continuous optimization.

Visit **www.lenovo.com/manufacturing**

Why Lenovo?

You can trust Lenovo to empower your business with intelligent technology, driving innovation and growth in a secure and scalable way.

Unlock your fullest potential by incorporating AI and intelligent solutions designed to enhance production quality, strengthen supply chain resilience, and accelerate time-to-market for innovative products. From devices and edge computing to infrastructure, servers, storage, and services, Lenovo delivers a complete, sustainable, and secure solution tailored to your needs.

Get a trusted partner. Discover Smarter AI for All.

Contact your Lenovo representative today.

Learn more

1. eBook, CIO Playbook 2024: Entering the Age of AI Everywhere, April 2024, IDC Doc#NA242471IB
2. Generative AI's Role in the Factory of the Future, December 2023, Boston Consulting Group
3. McKinsey, harnessing generative AI in manufacturing and supply chains, 2024
4. Predictive maintenance Deloitte's Approach, Deloitte, 2022 .
5. The Tech Debt Toolkit, Forrester, 2024.
6. Occupational Safety and Health Administration, Osha, 2021
7. Forrester Consulting (Commissioned by Epicor) study, 2024
8. Deloitte, 2022
9. Overcoming AI Challenges in manufacturing, Boston Consulting group, 2021
10. TOP500.org
11. https://www.forbes.com/sites/bethkindig/2024/06/20/ai-power-consumption-rapidly-becoming-mission-critical/
12. Gartner, "Supply Chain Top 25 for 2024," 2024

intel®

Get started with Intel AI in manufacturing

Smarter technology for all

Lenovo