

Smarter AI transforms your organization

AI-powered solutions
for manufacturing



Get started with Intel AI in manufacturing



Smarter
technology
for all

Lenovo

Manufacturing is evolving with the help of AI

Organizations are tackling their biggest challenges by integrating AI into their technology stack, enabling advancements in:



Warehouse automation



Sustainable manufacturing



Operational efficiency



Supply chain evolution



How could you use AI today?



Warehouse automation:

Leverage predictive maintenance, reduce downtime, and streamline production workflows.



Sustainable manufacturing:

Optimize energy use and reduce waste through AI-powered efficiency and predictive insights.



Supply chain evolution:

Improve demand forecasting, logistics coordination, and resource allocation with advanced analytics.



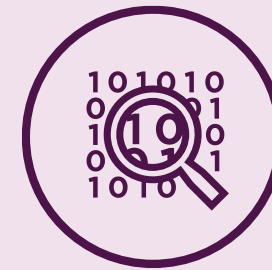
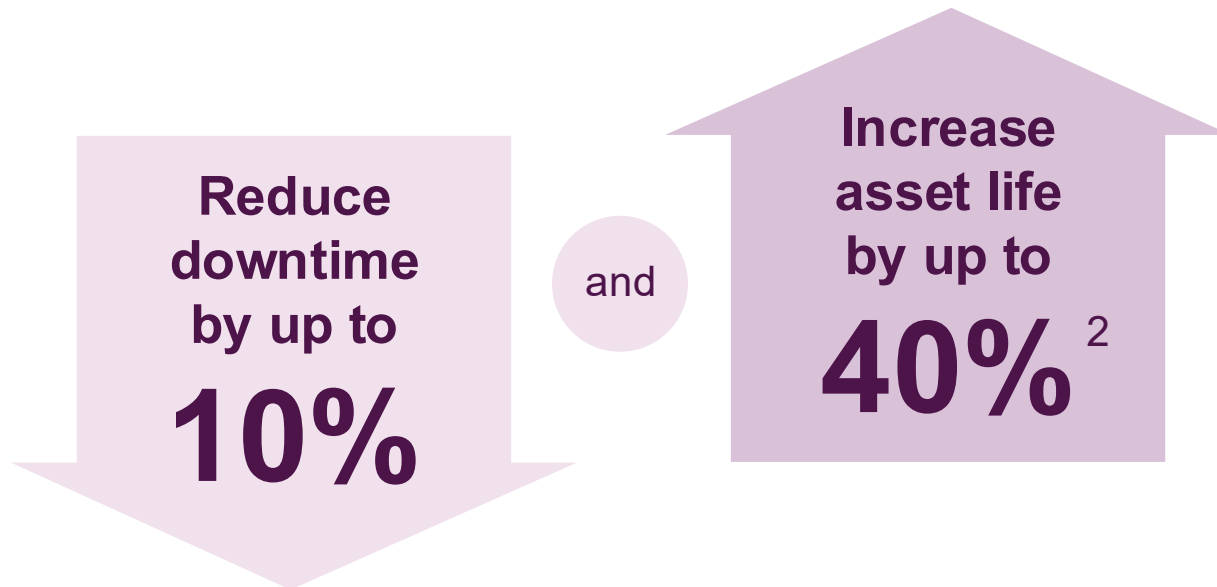
Enhanced quality control:

Automate inspections with AI for real-time defect detection and consistent product standards.



AI-powered quality inspection can reduce defect detection time by up to **99%**¹

Predictive maintenance using AI can:



73%

of all data within an enterprise goes unused for analytics³



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

20%⁴

¹ Generative AI's Role in the Factory of the Future, December 2023, Boston Consulting Group

² Predictive maintenance Deloitte's Approach, Deloitte, 2022

³ The Tech Debt Toolkit, Forrester, 2024

⁴ Occupational Safety and Health Administration, Osha, 2021

Personal | Enterprise | Public

Hybrid AI requires infrastructure that ensures AI is delivered seamlessly, responsibly and securely to personal, enterprise and public environments. Together, Lenovo and Intel enable a broad hardware portfolio for hybrid AI—data center, cloud, edge, and PC.

Personal:

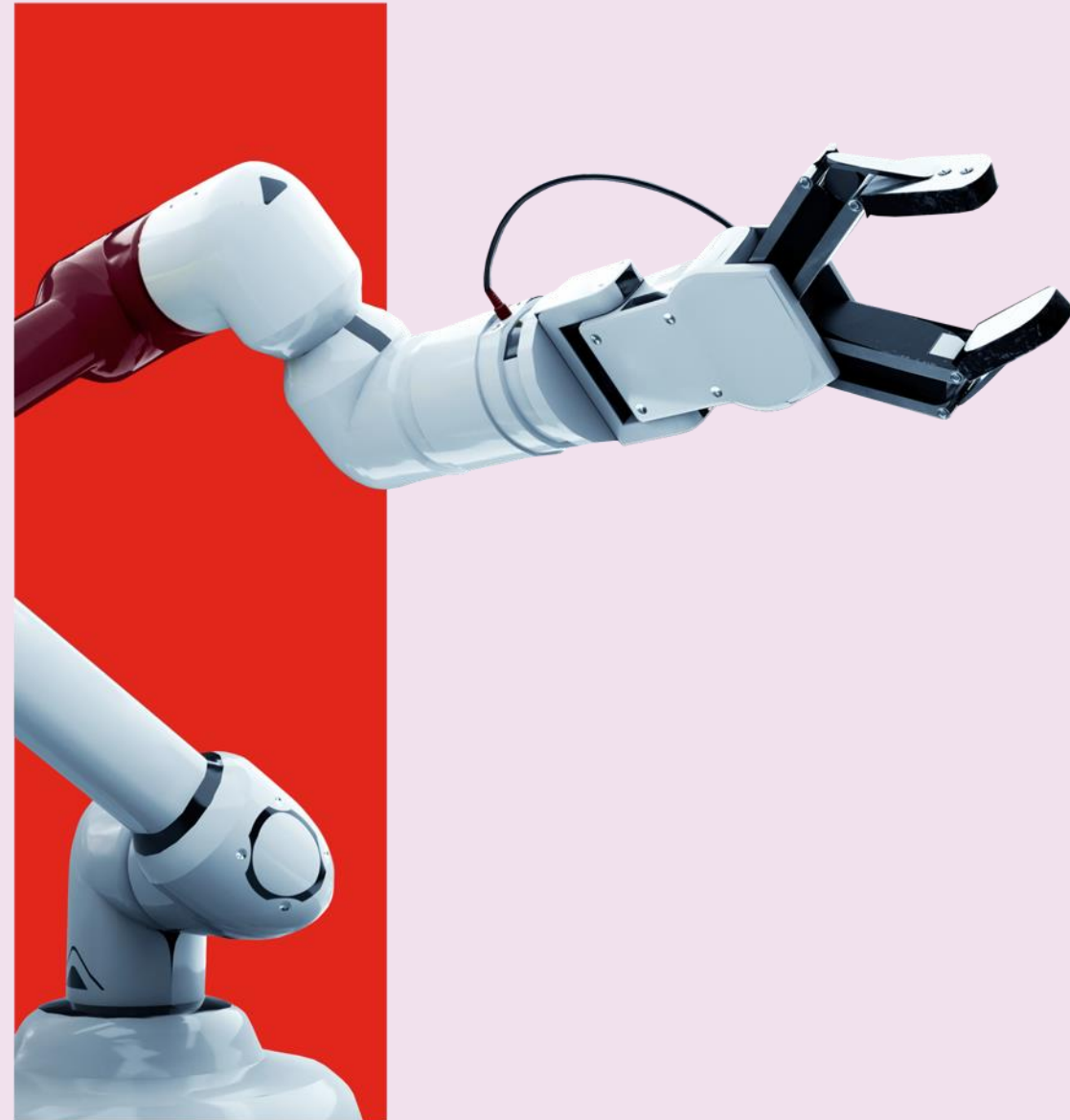
AI PCs predict the needs of engineers and designers, enabling them to leverage AI for simulations, process optimization and real-time analytics. Teams are also empowered to perform strategic sales and marketing analysis locally—and all while keeping data private.

Enterprise:

Securely and privately 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.

Public:

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



AI grounded in security

Lenovo's security-by-design approach, powered by the Intel vPro® platform, lays the groundwork for responsible and Smarter AI for All so diverse AI workloads are further secured from data center to edge.

- Commitment and strategic importance of AI and security through our Global Security Organization
- Appointment of our Chief Security & Artificial Intelligence Officer (CSAIO) to oversee AI governance and security protocols
- Participation in the [Joint Cyber Defense Collaborative initiative](#)
- 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 manufacturing ensures security is built into every system and component
- Lenovo-established governance across products and services, to maintain a vigilant focus on customer safety
- Constant innovation in security to continuously earn and deserve our customers' trust



All the devices, infrastructure,
and services you need.

Smart Operations

Devices:

Working together, Lenovo AI PCs, Workstations, and Edge devices provide the infrastructure required to power AI-based solutions.

ThinkStation PX



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.



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.



Get started with Intel AI in manufacturing

Production Line

Lenovo Industrial Computer Vision:

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.

Robotic Inspection:

Enable 24/7, automated monitoring of assets by integrating intelligent sensors and technologies like computer vision and ThinkEdge.

Industrial AR:

Leverage ThinkReality AR wearable devices and computer vision technology 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.

Supply Chain Intelligence (SCI):

One centralized hub to provide immediate visibility and management across the entire supply chain ecosystem.



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.

Automated Storage & Retrieval Systems (AS/RS):

Offers high density, flexibility and scalability in stereo warehouse and combines different kinds of robotics with AI algorithms to unleash the potential of precise and agile pallet movement.

Pick Assist AMR (Autonomous Mobile Robot):

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.

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 tasks.

Infrastructure

Lenovo and Intel's partnership provides AI-ready infrastructure which delivers scalable power and performance to support a wide range of AI applications, from data analytics to real-time processing:

Neptune™ Liquid Cooling:

AI technology demands significantly higher system power, which leads to excess heat generation. Lenovo's Neptune™ Liquid Cooling delivers peak performance for AI model training, data-intensive research, and real-time cybersecurity, while dramatically improving energy efficiency.⁵

Lenovo High-Performance Computing (HPC):

Lenovo is the world's #1 supercomputing provider⁶ with industry-leading technology and global HPC architects and experts, we deliver customer-centric HPC solutions for evolving manufacturing needs.



ThinkEdge SE350 V2

Lenovo ThinkEdge

Powered by Intel® Xeon® Scalable processors
Purpose-built platforms for compute-intensive applications deployed outside traditional data centers, with the flexibility needed for real-time data processing.



ThinkSystem SR650

Lenovo ThinkSystem

Powered by Intel® Xeon® Scalable processors
High-performance servers optimized for deploying and training AI models, handling large datasets, and complex algorithms.



ThinkAgile HX650

Lenovo ThinkAgile

Powered by Intel® Xeon® Scalable processors
Integrated systems offering pre-configured servers, storage, and networking to streamline AI adoption and deployment.

⁵ <https://static.lenovo.com/www/img/dc/campaigns/everyyscale/pdf/lenovo-intel-neptune-whitepaper.pdf>

⁶ [TOP500.org](https://www.top500.org)

The pace of change:

Lenovo is passionate about responsible AI practices, while helping organizations keep pace with AI's rapid evolution. Successfully delivering these applications requires customized, sustainable solutions supported by a foundation of strong governance and robust security measures:

AI Center of Excellence:

Provides workshops, proof of concepts, performance optimization, and global expertise through a robust partner ecosystem.

Lenovo Fast Start:

Enables you to prove the business value of use cases on Personal AI, Enterprise AI and Public AI platforms within weeks.

AI Innovators Program:

Access to AI Discover Labs and a suite of **165+ pre-validated AI solutions from over 50 leading software providers.**

TruScale DaaS & IaaS:

Flexible, subscription-based models offering scalable infrastructure and devices, future-proofing investments.

Responsible AI Committee:

Ensures ethical and safe AI practices, aligned with UNESCO guidelines, including compliance with FDA and EMA regulations.



How to get started...

Lenovo's AI Services can support your manufacturing AI-driven technology initiatives at every step from end-user devices to cloud infrastructure.



Discover:

Lenovo assesses your AI readiness



Deploy & Scale:

Implement secure and scalable AI systems that grows with you



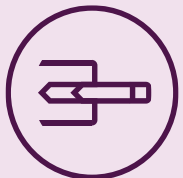
Advisory:

Develop a strategic AI roadmap to aligns with your goals



AI Managed Services:

Continuous support and optimization



Fast-Start:

Designs and builds AI elements tailored to your specific needs



**Smarter
technology
for all**

Lenovo

thanks.



Get started with Intel AI in manufacturing

2024 Lenovo Internal. All rights reserved.