Lenovo Manufacturing Solutions

WES

Smart Technology with AI drives the Future of Manufacturing

While the manufacturing sector is large and diverse, its core companies remain sharply focused on operational efficiency and product quality. To achieve this, manufacturers are increasingly adopting AI to enhance customer experience, productivity, and decision-making—with 34% planning implementation within a year. Interpretive AI (39%) and generative AI (39%) are top priorities, driven by a 159% surge in AI investment. Success hinges on sufficient budget, management commitment, and strong AI partnerships, while overcoming hurdles like scaling challenges, IT costs, and data quality.

Data is central to AI in manufacturing, with production, supply chain, and quality control data as key inputs. Nearly a third of manufacturers aim to improve data management—critical for AI adoption. The primary approach is to adopt on-premises, private, or hybrid infrastructure for AI workloads, with manufacturers seeking partners for AI expertise to scale solutions.

Business Priorities

- Improving customer experience & satisfaction
- Improving employee productivity
- Enhancing decision making
- Increasing revenues & profit growth
- Reducing business risk & cyber threats

What do Organizations Seek in a Partner?

- AI knowledge & expertise (including scaling AI solutions)
- Support for data management
- Ability to help our organization deliver measurable business outcomes
- Support for data security & privacy

Current AI Adoption

Adoption

AI is **systematically adopted** across the enterprise	**6%**
Supporting different **pilot** projects/use cases	**27%**
Early stages of development/ implementation	**21%**

Non-Adopters

Planning to start using AI in the next 12 months	**34%**
Considering or **evaluating** AI, but with no plans yet	**13%**

Lenovo AI Services: For every stage of the AI journey

AI Readiness Methodology
Security I People I Technology I Processes

Proven Responsible AI Framework

01	02	03	04	05
AI Discover	AI Advisory	AI Fast Start	AI Deploy & Scale	AI Managed
Identify the ways AI creates value	Define outcomes, plan and roadmap, business case	Design and build critical AI elements to showcase outcomes	Implement a secure and tailored Hybrid AI solution	Continue to manage and optimize the AI environment

Outcomes Definition and Rapid Innovation → Production → Optimization

* All data are from 2025 CIO Playbook.

Smarter in-plant logistics to boost your efficiency - WES optimizes warehouse operations for maximum productivity

Poorly coordinated warehouse operations can lead to costly delays and inefficiency. The WES from Lenovo provides an intelligent solution to optimize your warehouse operations for maximum productivity. By serving as a centralized gateway between your **WMS** and **WCS**, the WES gives you real time visibility into exceptions and errors to enable rapid response. With holistic data dashboards and AI-powered analytics, you can boost operational efficiency by over **10%** while significantly reducing robotics management efforts. Equipped with the WES, your business is smarter, more agile, and ready to meet the demands of a complex manufacturing environment.

Supercharge Warehouse Efficiency

The WES acts as a **centralized data hub** between your WMS and WCS, providing **real-time tracking** of warehouse operations. With a comprehensive overview down to the equipment level, you can proactively identify and resolve errors to prevent disruptions. The WES maximizes productivity for smarter logistics.

Rapid Response to Exceptions

The WES delivers **instant alerts for exceptions** through an integrated system. Instead of scrambling to address failures, your team can isolate issues quickly and keep operations running. With systematic exception handling, the WES enables a rapid response to keep warehouse productivity on track.

Actionable Insights for Optimization

Advanced analytics and AI allow the WES to surface **data-driven insights** about warehouse performance. Holistic dashboards let you pinpoint improvement areas and track KPIs. By leveraging WES analytics, you can fine-tune processes for greater efficiency gains over **10%**.

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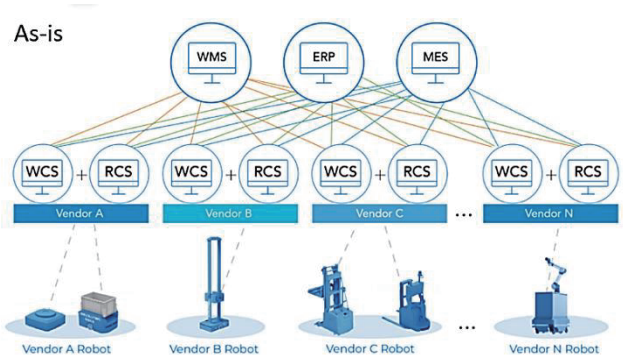
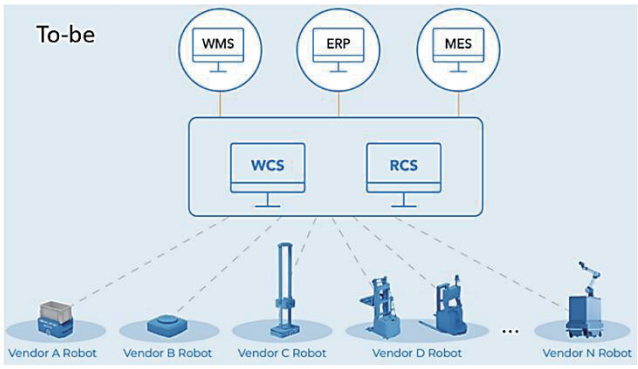
System Configuration





Algorithm driven rules setting

Utilize inference-based AI algorithm to dynamically calculate each move for each robot, avoiding deadlock and congestion without any human rules

Inventory Allocation Optimization

Find the globally optimal inventory allocation and order waves. Significantly reduce the movement of inventory for fulfillment, increasing system's efficiency

Task Scheduling Optimization

Search for optimal task scheduling, increasing system's throughput

Task Assignment Optimization

Find the globally optimal task assignment, rather than looking for locally optimal solutions for each task/robot

Key Features

- **Real-time data integration**

The WES serves as a centralized data hub, integrating real-time data between WMS, WCS, robots, and equipment for complete operational visibility.

- **Comprehensive analytics and reporting**

Holistic dashboards provide data-driven insights into warehouse KPIs. Gain transparency into productivity, exceptions, and more to optimize operations.

- **Intelligent exception handling**

Get instant alerts for errors and disruptions. The system isolates failures and facilitates rapid response to minimize downtime.

- **Advanced AI and algorithms**

Leverage predictive analytics and AI-powered tools to boost warehouse productivity by over 10%. Continuously improve and refine processes.

- **Easy integration and configuration**

Seamlessly connect with existing warehouse management systems. Efficiently configure maintenance workflows for diverse automation equipment.

- **Optimized warehouse control**

Orchestrate and synchronize automated systems for maximum efficiency. Intelligently manage robotics and operations for smarter logistics.

Smarter logistics maximizes productivity. The WES optimizes your warehouse operations with real-time data, intelligent automation, and AI-powered analytics.

Lenovo's global strength

180
Markets

10M+
Order lines per year

1B+
Global customers

120M+
Shipments

30+
Global manufacturing sites

2000+
Suppliers

>$160M
Digital transformation investment

18
R&D locations worldwide

69.5K
People

Global supply chain ranked 8th by Gartner®

World Economic Forum Global Industry 4.0 Lighthouse Recognition

AAA-rated for ESG by MSCI

Use Case

Optics manufacturing demands a meticulously clean environment, with the delicate transfer of lenses posing a challenge. Furthermore, the factory's in-plant logistics encountered issues like inefficient manual work, lack of coordination between operations, and delayed logistics information. After conducting extensive research on the factory, we scamlessly integrated mobile robots from three different vendors to handle various material handling tasks. The project has yielded remarkable improvements in overall factory efficiency, including a 50% increase in production flow efficiency, reallocating 90% of manpower from heavy carrying tasks to more refined responsibilities, and enhancing human-machine collaboration within the facility.

Unify your warehouse today with Lenovo's WES - the smart data hub that boosts efficiency over 10% with real-time tracking, rapid response, and AI-powered analytics. Act now for optimized logistics.

Contact us today to discover how Lenovo Manufacturing Solutions can bring the future of manufacturing to you.
Learn more on: http://lenovo.com/manufacturing

Smarter technology for all

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