



Warehouse Execution System (WES)

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.

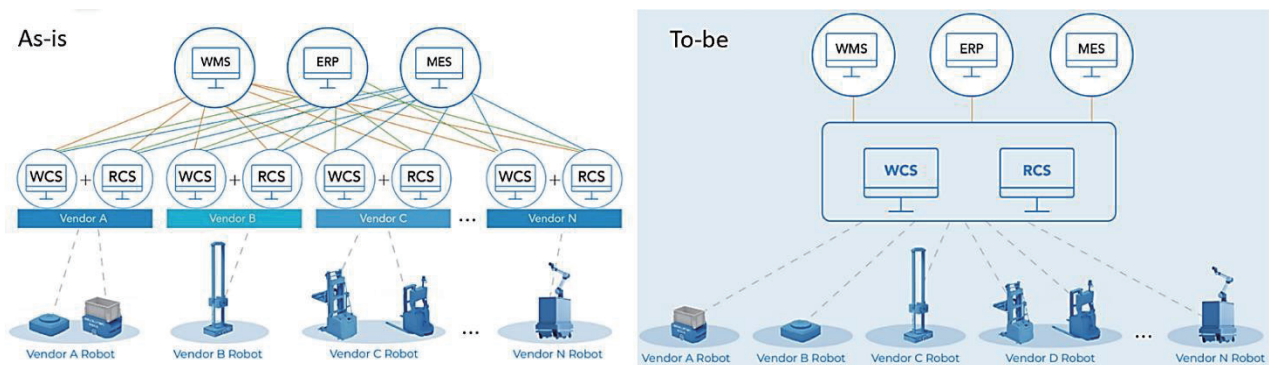
Actionable Insights for Optimization

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%**.

AI-Powered Heterogeneous Cluster Scheduling

The WES uses advanced AI to enable intelligent heterogeneous cluster scheduling. By analyzing real-time data on vehicle load status, actual dimensions, and turning radius, the AI system formulates optimal traffic control strategies autonomously. This **eliminates manual inefficiencies, ensures smooth equipment movement, minimizes disruptions, and boosts operational throughput** for a more agile logistics environment.

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



Task Scheduling Optimization

Identify the optimal task scheduling to maximize system throughput and efficiency.



Inventory Allocation Optimization

Discover the globally optimal inventory allocation and order waves to streamline operations. Significantly reduce inventory movement during fulfillment, enhancing overall system efficiency.



Task Assignment Optimization

Determine the globally optimal task assignment, moving beyond locally optimal solutions for individual tasks or robots.

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 enables 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's Global
Lighthouse Network



TITAN Business Awards



BIG Awards for
Business - Product of
the Year

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 seamlessly 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:

<https://www.lenovo.com/us/en/solutions/industry/manufacturing/>

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**Smarter
technology
for all**

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