Smarter technology for all

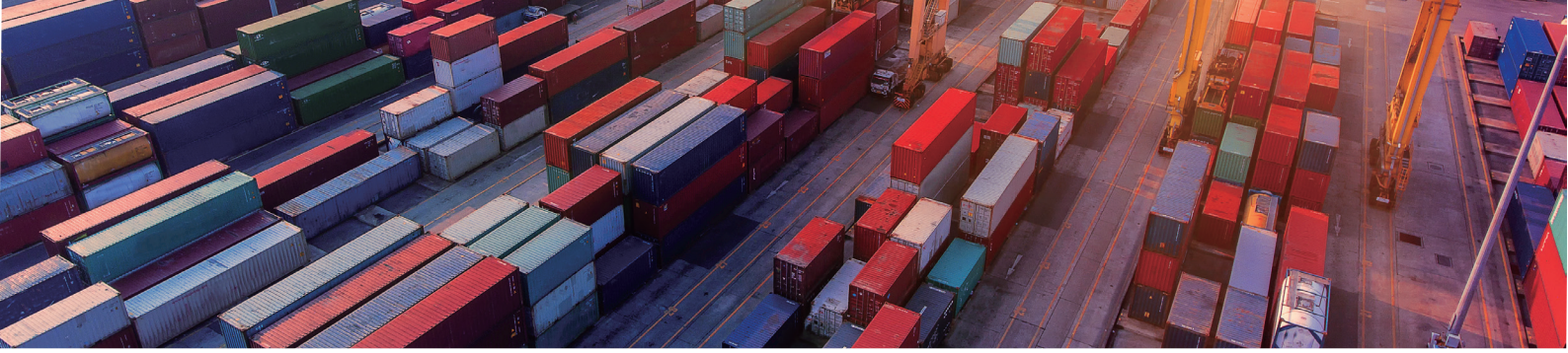
Lenovo

Automated Guided Forklift (AGF)

Revolutionizing Warehousing with AGF - Smarter Automation for the Manufacturing Industry

The manufacturing industry is facing rising labor costs, driving a shift toward logistics automation to enhance efficiency and reduce operational expenses. Lenovo's Automated Guided Forklift (AGF) delivers a groundbreaking solution, redefining industrial vehicles with advanced technologies such as autonomous platforms, AI, and deep learning. With high-precision positioning and perception capabilities, the AGF is perfectly suited for diverse warehouse scenarios, seamlessly managing tasks like loading, unloading, put-away, and order picking.

Lenovo Manufacturing Solutions



Solution Structure

ONSITE FACILITIES

System-WMS/MES/ERP
Manufacturing Execution System
Ware house management System
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Automated Equipment
Environment Monitoring System
Elevator, Automatic Door
Roller Conveyor, Button/ Tablet

SOFTWARE

RCS (Robot Control System)

WCS (Warehouse Control System)

TPS (Task Processing System)

HARDWARE

Automated Guided Industrial Vehicles

CORE TECH

Positioning Technology
Vision + Laser +IMU

Perception Technology
Vision+ Laser
Deep Learning

Control Technology
Real-Time Motion Planning
Visual Servo Control

Scheduling Technology
Large-scale Multi-Level
Robots Scheduling Technology

Main advantages

Safety

Strictly compiled with international safety design standards, use dual system control and 5 level safety protection; Risk warning in real time feedback

5 level

Efficiency

Improve the logistics efficiency by about 30% without changing the existing processes

+30%

Digital management

Visual operation, synchronize information flow and material flow; cloud computing and data management

Transforming Warehouse Efficiency with Smarter Automation

Lenovo's Automated Guided Forklift (AGF) revolutionizes warehouse operations, delivering nearly a **20% improvement** in cargo handling and overall efficiency.

+20%

By leveraging advanced AI, deep learning, and precision navigation, the AGF safely and autonomously manages critical tasks like loading, unloading, and order picking. This intelligent automation **reduces reliance on manual labor, minimizes errors**, and transforms traditionally labor-intensive processes into **streamlined, cost-effective** workflows. Businesses can lower operating costs while embracing sustainable logistics automation that adapts seamlessly to their existing infrastructure and workflows.

Scalable Intelligence for Future-Ready Operations

Designed with AI-enhanced scheduling and cutting-edge technologies, the AGF ensures **smooth and conflict-free** operations, even in high-throughput scenarios involving thousands of units. Its dynamic, ant colony-based optimization algorithms analyze real-time data to **maximize efficiency, optimize paths, and ensure stable logistics operations**. Effortless integration with various racking systems and layouts allows businesses to progressively automate processes without costly infrastructure changes. Lenovo's AGF combines **intelligence, adaptability, and efficiency to empower businesses** with the tools they need for measurable growth and sustainable success.

Use Cases:

Warehousing and Logistics:

Streamlines pallet transport between docks, storage racks, and shipping areas, operating 24/7 to reduce labor costs and handle surges during peak seasons.

Manufacturing Facilities:

Optimizes workflows by transporting raw materials to production lines and moving finished goods to packaging, ensuring just-in-time delivery for smooth operations.

Features

- **AI for Real-Time Perception:**
  Advanced AI and deep learning enable the AGF to interpret its environment, navigate autonomously, avoid obstacles, and execute tasks without human input.
- **Precision Autonomous Navigation:**
  The AGF maps its surroundings, plots optimal routes, and self-navigates safely and efficiently for seamless warehouse operations.
- **Versatile Automation:**
  Automates critical processes like loading, unloading, put-away, and order picking, tailored to diverse operational needs.
- **Effortless Integration:**
  Integrates seamlessly with existing infrastructures, supporting various racking systems and workflows right out of the box.
- **Real-Time Monitoring:**
  5G connectivity provides live updates on fleet location, status, and tasks, ensuring better oversight and operational agility.
- **Continuous Optimization:**
  By analyzing real-time data, the AGF refines its tasks and routes, improving efficiency and performance over time.

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

Lenovo ranks 5th in the Gartner® Supply Chain Top 25 for 2026 report

World Economic Forum's Global Lighthouse Network

TITAN Business Awards

BIG Awards for Business - Product of the Year

GOLD GLOBEE® AWARDS

Smarter logistics. Smarter warehouse.

The AGF revolutionizes operations through cutting-edge AI and automation, seamlessly handling tasks to drive efficiency. This smart forklift is equipped to optimize your warehouse today and evolve with your needs tomorrow.

Maximize your warehouse efficiency today with the AGF's revolutionary AI and automation

Talk to your Lenovo Representative now for smarter logistics and a smarter warehouse.

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

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