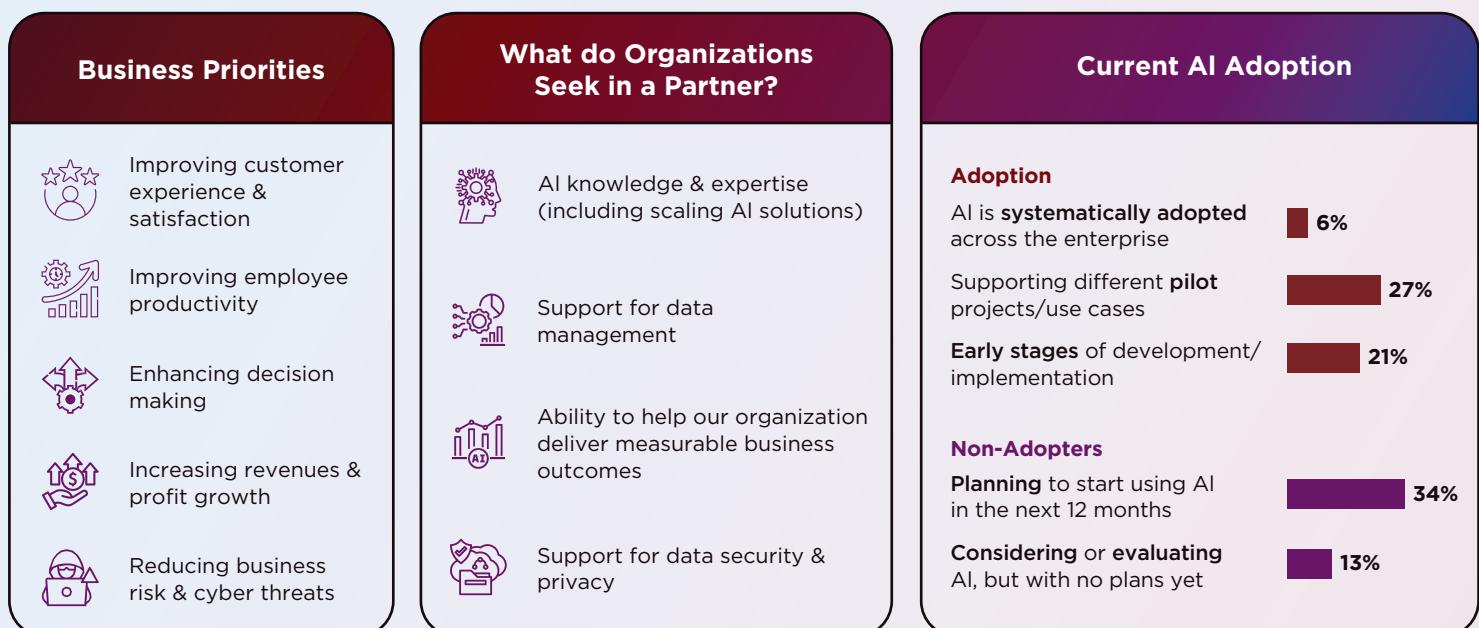




Smart Technology with AI drives the Future of Manufacturing

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.



Lenovo AI Services: For every stage of the AI journey

AI Readiness Methodology

Security | People | Technology | Processes

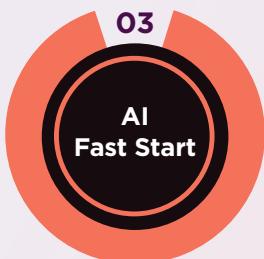
Proven Responsible AI Framework



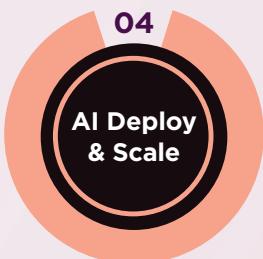
Identify the ways AI creates value



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



Introducing AS/RS (Automated Storage and Retrieval System), a state-of-the-art pallet storage system that revolutionizes your warehouse operations. With cutting-edge technology, AS/RS offers high density, flexibility, and scalability. The 4-way pallet shuttle system combines our robotics platform with intelligent AI algorithms for unmatched innovation. Experience precise and agile pallet movement as our robotic shuttles navigate effortlessly. Our distributed control architecture ensures system redundancy and mitigates the risk of a complete failure in the event of a shuttle malfunction. Embrace the future of warehousing with AS/RS, where efficiency, adaptability, and reliability meet. Elevate your operations with a system that exceeds expectations.

Technology



Fast



Stable



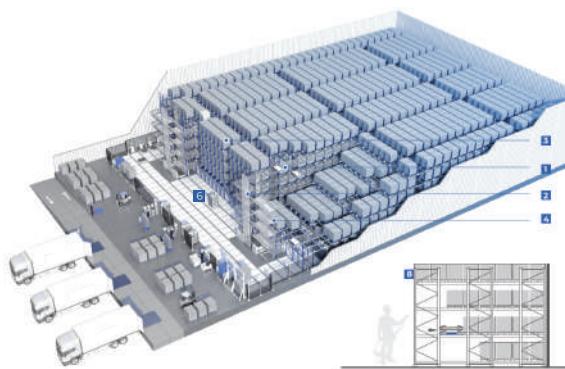
Safe

- Maximum speed 1.5m/s
- Maximum acceleration 2m/s²
- Lifting and lowering time 2.5s
- Reversing time 3.5s
- Positioning time 0.5s

- Automatic obstacle avoidance, repositioning
- Anti-collision, anti-drop, automatic deceleration
- No need for the manual trolley in case of breakdown
- QR code self-cleaning

- Only 125mm thick, for more storage spaces
- Pure mechanical electric vehicle, no oil leakage
- Rigorous computational simulation and stress testing, robust and reliable
- Core components from international first-line brands
- Long battery life, work online all day.

System configuration



- 1 3D pallet shuttle
- 2 Vertical transporter
- 3 Rack system
- 4 Conveyor
- 5 Management software
- 6 AGV
- 7 Charging station
- 8 Worry-free rescue solution
- 9 Accessorial system

Including wireless network, server, QR code, etc.

Use Case

Warehouse

- New
- Retrofit
- Regular
- Irregular

Function

- Density storage
- Buffer and sorting
- Transport handling
- Line-side buffer

Temperature

- Normal (-10~40°C)
- Refrigeration (-5~5°C)
- Freezing Chambers (-18~-25°C)

Industry

- Pharmaceutical
- Food & Beverage
- Manufacture
- Apparel

Fast

Thin

Light

Density

1.5m/s

125mm

330kg

30%+

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

**Maintain stability with
distributed intelligence —
Lenovo AS/RS enhances
end-to-end warehouse
efficiency through
concurrent operations.**

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