Robotic Inspection



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.





Improving customer experience & satisfaction



Improving employee productivity



Enhancing decision





Increasing revenues & profit growth







Reducing business





risk & cyber threats



Support for data

Al knowledge & expertise

(including scaling Al solutions)



management

What do Organizations

Seek in a Partner?



Ability to help our organization deliver measurable business outcomes



Support for data security &

Current Al Adoption Adoption Al is systematically adopted 6% across the enterprise Supporting different pilot 27% projects/use cases Early stages of development/ 21% implementation **Non-Adopters** Planning to start using Al 34% in the next 12 months Considering or evaluating 13% Al, but with no plans yet

Lenovo Al Services: For every stage of the Al journey **AI Readiness Methodology**

Security I People I Technology I Processes

Proven Responsible AI Framework



Identify the ways Al creates value



plan and roadmap, business case

Outcomes Definition and Rapid Innovation

Define outcomes,



critical AI elements to showcase outcomes



and tailored Hybrid Al solution



and optimize the AI environment

Production

Optimization

* All data are from 2025 CIO Playbook.



From Inspection to Insight - AI Takes the Tedium Out of Infrastructure Monitoring

Inspection leverages AI and automation to take the drudgery out of defect detection. By integrating intelligent sensors and technologies like computer vision and edge computing, Robotic

Infrastructure monitoring is often a tedious and labor-intensive process, but it doesn't have to be. Robotic

Inspection enables round-the-clock automated monitoring of assets like substations and pipelines. It identifies defects and anomalies in real time and generates reports instantly, boosting productivity by up to

80%-300%*. With its virtual simulation and digital twin capabilities, the system also reduces the risks of unplanned downtime by up to 50%*. Robotic Inspection brings infrastructure monitoring into the future with intelligent automation that transforms inspection from a chore into an insight. *Note: these figures are calculated based on customer existing condition prior to digital inspection. These figures may vary

depending on each customer's requirement.



End points and sensors



Intelligent platform and tools

Integrated with various sensors and devices, it detects defects and anomalies around the clock without any human effort required.

Automated 24/7 Monitoring

Virtual Simulation Reduces Downtime Robotic Inspection leverages digital twin technology to simulate equipment

and infrastructure in a virtual environment. By modeling changes and

Robotic Inspection works tirelessly day and night to monitor infrastructure.



predicting risks, the system enables early warnings that reduce unplanned downtime by up to 50%.

Instant Insights Boost Productivity Robotic inspection automatically generates reports on defects and abnormalities detected. The system is customized for business scenarios and meter reading (deviation $\leq \pm 2\%$), equipment defect detection (recall $\geq 90\%$,

precision \geq 90%), environmental condition monitoring (accuracy \geq 96%), personnel operation recognition (accuracy ≥ 96%), and equipment status

by up to 80%-300%. The system takes the tedium out of infrastructure

It significantly lessens the burden of manual inspection and boost productivity

Easily set up and customize inspection tasks like routes, schedules, emergency as well as anomaly detection rules.

Key Features

Task configurations:

03

01

Alarm: Get real-time alerts when defects or anomalies are

3D display:

Al self-test:

Use Cases

detected. 05

monitoring (accuracy ≥ 99%).

monitoring.

Visualize assets and infrastructure in interactive 3D. 07

ensure accuracy.

The system automatically performs self-check to

04 Real time monitoring:

02

inspections points. 06

Report query and export:

export customizable reports.

Account configuration: Manage user accounts and permission levels.

Query inspection data on demand and

View live status and streaming data from

Al interaction: Use natural language to query the system and get

80

Photovoltaic Industrial

Park UAV inspection

Factory intelligent





Urban utility tunnel, warehouse and logistics, urban public areas

Lenovo's global strength



Markets



Shipments

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Electric Power UHV Station intelligent inspection platform

30+

18

Global manufacturing sites

Order lines per year

R&D locations worldwide



2000+

69.5K

Suppliers

World Economic Forum Global supply chain ranked 8th by Gartner® Global Industry 4.0 Lighthouse Recognition

Inspections made intelligent. Transform infrastructure monitoring today.

Contact us today to discover how Lenovo Manufacturing Solutions can bring the future of manufacturing to you.

Learn more on: http://lenovo.com/manufacturing