

10^x DS

10xSENSE™

SMART MANUFACTURING • AGENTIC AI • DIGITAL WORKFORCE



Executive Summary

Industry Transformation

Manufacturing has evolved through mechanization, automation, and Industry 4.0. Factories today are equipped with ERP systems, PLCs, MES platforms, industrial IoT devices, and CCTV cameras; yet many day-to-day operational decisions still rely on people manually monitoring processes, interpreting data, and coordinating responses.

Operational Challenges

This creates challenges such as production losses, inconsistent quality, unplanned downtime, delayed decision-making, and increasing operational costs.

The 10xSENSE Solution

10xSENSE introduces an AI-powered Digital Workforce that continuously observes, understands, reasons, and acts across the factory. It combines Vision AI, Voice AI, Agentic AI, IoT, and enterprise integrations into a single operational intelligence platform.

Beyond Detection

Unlike traditional computer vision systems that simply detect defects, 10xSENSE transforms your factory into a continuously monitored, self-aware, and intelligent operation.



Vision AI

Continuous visual monitoring and defect detection



Voice AI

Hands-free voice interaction and alerts



Agentic AI

Autonomous reasoning and decision-making



IoT

Real-time sensor data from across the factory floor



Enterprise Integrations

Seamless connectivity with ERP, MES, and more

Manufacturing Challenges Today

Most factories face similar operational challenges:



Production

- ☐ Unplanned downtime
- ☐ Line bottlenecks
- ☐ Reduced Overall Equipment Effectiveness (OEE)
- ☐ Production delays
- ☐ Material shortages



Quality

- ☐ Manual inspections
- ☐ Inconsistent quality checks
- ☐ High rejection rates
- ☐ Customer complaints
- ☐ Warranty claims



Safety

- ☐ PPE violations
- ☐ Unsafe work practices
- ☐ Restricted area access
- ☐ Delayed incident reporting



Maintenance

- ☐ Reactive maintenance
- ☐ Unexpected equipment failures
- ☐ High maintenance costs
- ☐ Poor asset visibility



Operations

- ☐ Multiple disconnected systems
- ☐ Delayed decision-making
- ☐ Manual reporting
- ☐ Information silos

The challenge is no longer the lack of data. Modern factories already generate vast amounts of information through cameras, sensors, machines, and business systems.

The real challenge is turning that data into timely decisions and actions.

What is 10xSENSE?

10xSENSE is an **Agentic Operational Intelligence Platform** that acts as a digital workforce for your factory.

It continuously monitors:



Production lines



Machines



Workers



Products



Utilities



Warehouses



Safety compliance



Equipment health

It not only detects issues but also understands their business impact, determines the appropriate response, and initiates actions automatically or with human approval.



The Five Senses of **10xSENSE**



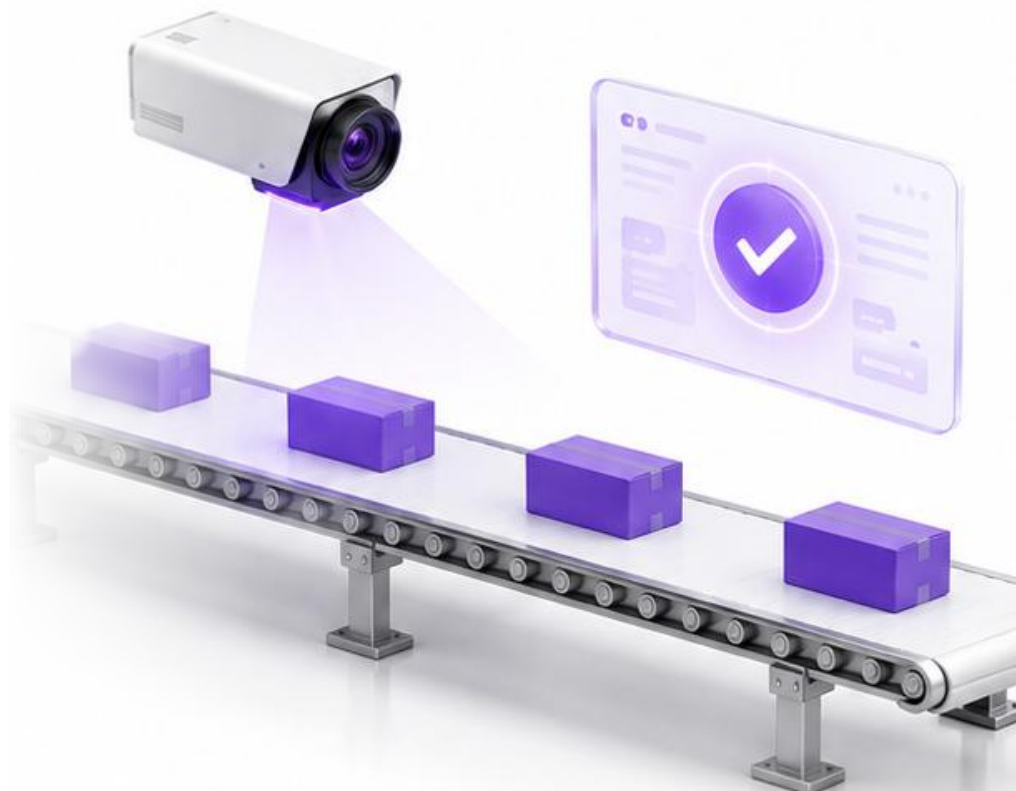
1. Vision AI : The Eyes

Using industrial cameras and computer vision, 10xSENSE continuously observes operations.

It can identify:

- Product defects & surface scratches
- Worker safety violations
- Missing components & incorrect assembly
- Packaging issues & material handling errors
- Machine abnormalities & inventory movement
- Vehicle movement, loading & unloading activities

Every camera becomes an intelligent quality inspector and operations observer.



2. Voice AI : The Ears and Voice

Factory managers no longer need to search through multiple dashboards.

Instead, they can simply ask:

"What caused the downtime on Line 2 today?"

"Show all rejected products from the last shift."

"Call the maintenance supervisor."

10xSENSE understands natural language, retrieves relevant information, explains findings, and can communicate with employees via phone calls, WhatsApp, or voice assistants.



3. Agentic AI : The Brain

This is where 10xSENSE goes beyond traditional monitoring systems.

The AI reasons across multiple data sources to answer questions such as:



Why did this happen?



What is the likely impact?



What actions should be taken?



Who needs to be informed?



Which systems need updating?

It coordinates responses across departments, ensuring faster and more consistent decision-making.



4. IoT and Sensor Intelligence: The Nervous System

10xSENSE integrates with existing factory infrastructure, including:



PLCs



SCADA



MES



ERP systems



Industrial IoT sensors



Energy meters



Environmental sensors



Production equipment

This allows it to combine visual observations with real-time operational data for a complete picture of factory performance.



5. Digital Workforce: The Hands

Rather than simply generating alerts, 10xSENSE can take action.

Examples include:



Creating maintenance work orders



Notifying supervisors



Updating ERP records



Initiating quality investigations



Scheduling inspections



Escalating safety incidents

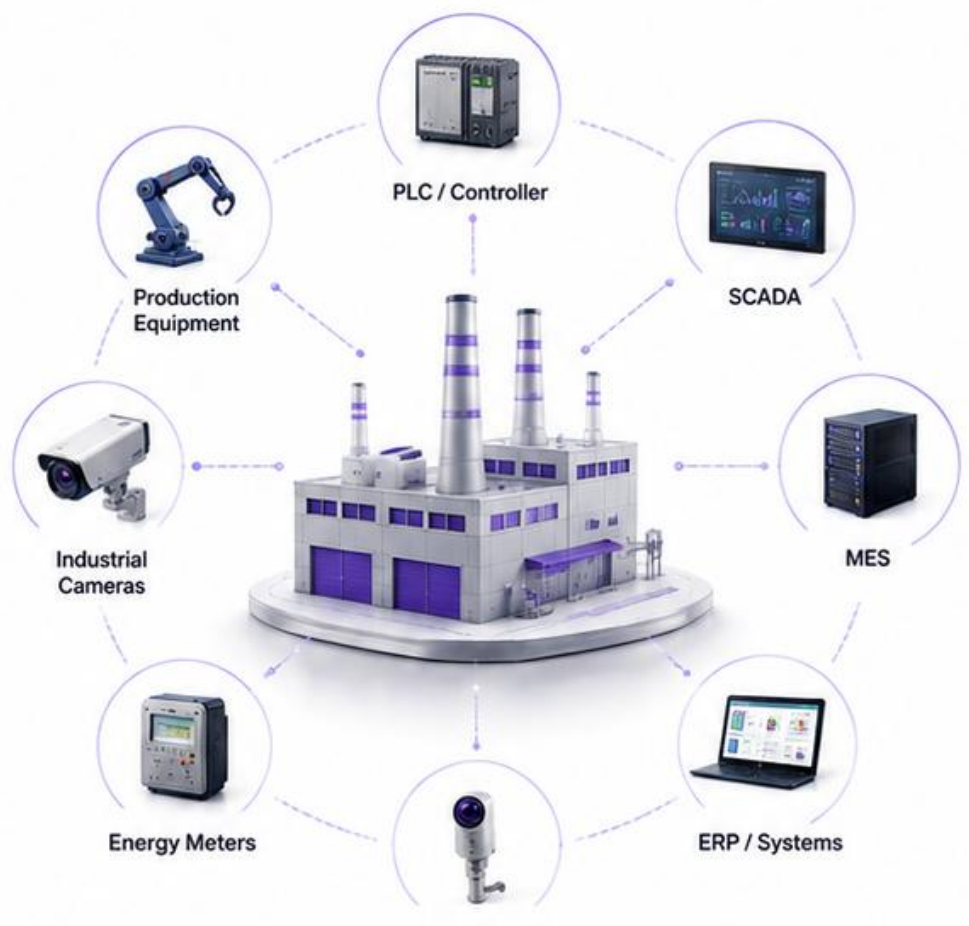


Sending customer notifications



Generating compliance reports

This transforms AI from a passive monitoring tool into an active operational partner.



Digital Workers Inside the Factory

10xSENSE enables multiple specialized AI agents, each responsible for a specific operational area.

AI Quality Inspector

- ❑ Inspects every product
- ❑ Detects defects
- ❑ Validates dimensions
- ❑ Confirms assembly quality
- ❑ Monitors packaging accuracy

AI Production Supervisor

- ❑ Tracks production targets
- ❑ Identifies bottlenecks
- ❑ Monitors cycle times
- ❑ Calculates OEE
- ❑ Detects production anomalies

AI Maintenance Coordinator

- ❑ Predicts equipment failures
- ❑ Monitors machine health
- ❑ Schedules preventive maintenance
- ❑ Tracks maintenance history
- ❑ Coordinates maintenance teams

AI Safety Officer

- ❑ Detects PPE violations
- ❑ Monitors hazardous areas
- ❑ Identifies unsafe behaviours
- ❑ Tracks emergency incidents
- ❑ Supports compliance reporting

AI Warehouse Supervisor

- ❑ Monitors inventory movement
- ❑ Tracks forklifts
- ❑ Verifies loading accuracy
- ❑ Detects inventory discrepancies
- ❑ Optimizes warehouse operations

AI Utilities Manager

- ❑ Monitors electricity consumption
- ❑ Tracks compressed air usage
- ❑ Detects water leaks
- ❑ Identifies energy wastage
- ❑ Optimizes utility costs

AI Environmental Compliance Officer

- ❑ Tracks emissions
- ❑ Monitors waste handling
- ❑ Supports ESG reporting
- ❑ Detects environmental risks

AI Plant Manager Copilot

- ❑ Provides a real-time operational view across the factory, offering:
 - ❑ Daily production summaries
 - ❑ Performance insights
 - ❑ Risk alerts
 - ❑ Recommendations
 - ❑ Executive dashboards

A Typical Scenario

A plastic moulding line begins producing parts with a small surface defect.

Vision AI detects the defect within seconds.

The AI Quality Inspector confirms it exceeds quality thresholds.

The Agentic AI:

- ☐ Identifies all affected batches.
- ☐ Checks machine settings.
- ☐ Correlates the issue with recent maintenance history.
- ☐ Reviews operator changes.
- ☐ Determines the probable root cause.

The AI Production Supervisor:

- ☐ Calculates production impact.
- ☐ Estimates scrap costs.
- ☐ Recommends production adjustments.

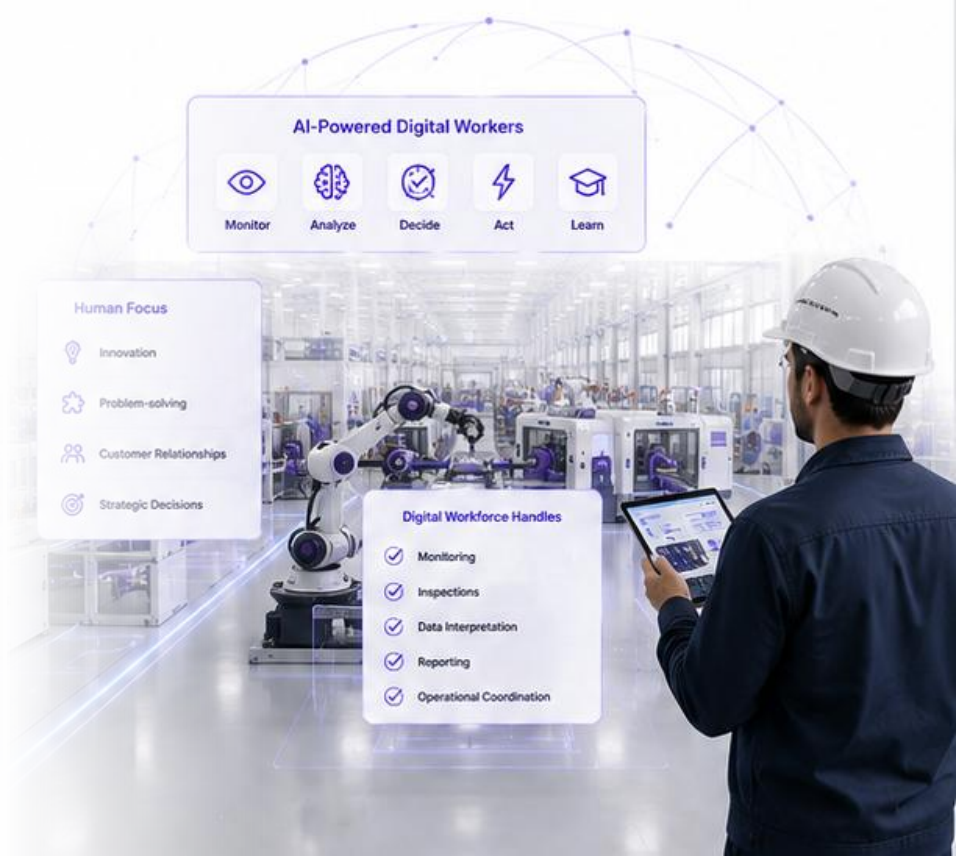
The AI Maintenance Coordinator:

- ☐ Creates a maintenance request.
- ☐ Notifies the maintenance engineer.
- ☐ Suggests corrective actions.

The AI Plant Manager Copilot:

- ☐ Summarizes the incident.
- ☐ Updates dashboards.
- ☐ Generates an executive report.

What once required multiple people and several hours now happens within minutes.



Business Value

Organizations adopting 10xSENSE can expect improvements in:



Product Quality

- ☐ Reduced defects
- ☐ Improved first-pass yield
- ☐ Consistent inspection standards



Productivity

- ☐ Higher throughput
- ☐ Reduced downtime
- ☐ Faster decision-making



Cost Reduction

- ☐ Lower scrap and rework
- ☐ Reduced maintenance costs
- ☐ Better labour utilization
- ☐ Improved energy efficiency



Safety

- ☐ Fewer incidents
- ☐ Better compliance
- ☐ Faster emergency response



Customer Satisfaction

- ☐ Higher product consistency
- ☐ Fewer warranty claims
- ☐ Improved delivery reliability



Integration with Existing Systems

10xSENSE is designed to complement, not replace, existing investments.

It integrates with:



Enterprise & Operations

- ☐ SAP
- ☐ Oracle
- ☐ Microsoft Dynamics
- ☐ MES platforms
- ☐ PLCs
- ☐ SCADA
- ☐ Industrial IoT



Facility & Communication

- ☐ Warehouse systems
- ☐ Quality management systems
- ☐ Maintenance systems (CMMS)
- ☐ CCTV and industrial cameras
- ☐ Microsoft Teams
- ☐ WhatsApp
- ☐ Email
- ☐ Telephony

This enables organizations to maximize the value of their current technology landscape while adding AI-driven operational intelligence.



Why 10xSENSE?

Most AI vision solutions answer a single question:

"What does the camera see?"

10xSENSE answers a much broader set of business questions:



What happened?



Why did it happen?



What is the business impact?



Which products are affected?



Who should be notified?



What actions should be taken?

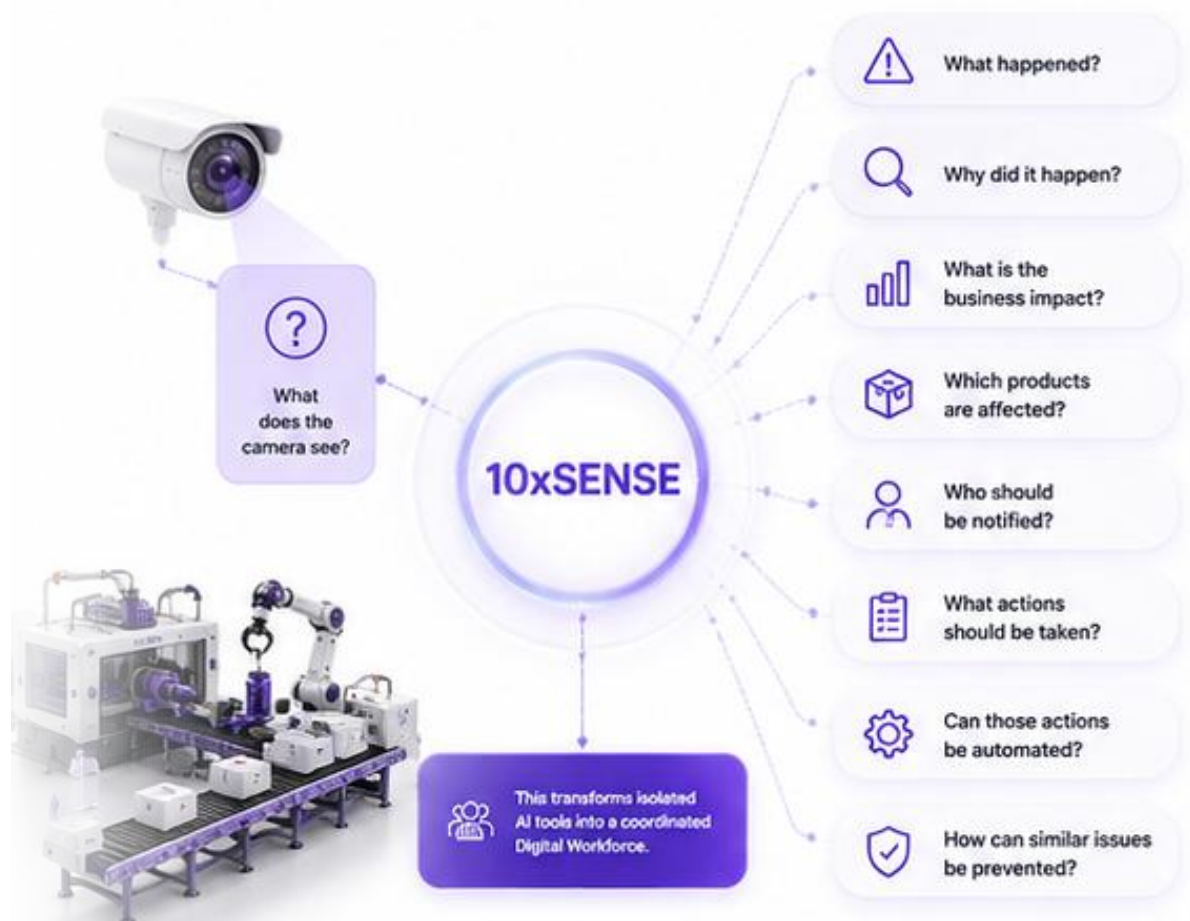


Can those actions be automated?



How can similar issues be prevented?

This transforms isolated AI tools into a coordinated Digital Workforce.



The Future of Manufacturing

Tomorrow's factories will not simply be more automated; they will be more intelligent.



Human Focus

Human employees will continue to focus on innovation, problem-solving, customer relationships, and strategic decisions.



AI-Powered Digital Workers

Routine monitoring, repetitive inspections, data interpretation, reporting, and operational coordination will increasingly be handled by AI-powered Digital Workers.



Seamless Transition

10xSENSE enables manufacturers to make this transition without replacing their existing systems or workforce. Instead, it augments human capability by creating a team of digital colleagues that work continuously, learn from operational data, and help the factory operate with greater precision, speed, and resilience.



About 10xDS

10xDS (Exponential Digital Solutions) helps organizations build and deploy AI-powered Digital Workforces across manufacturing, healthcare, logistics, retail, finance, and enterprise operations. By combining **Vision AI**, **Voice AI**, **Agentic AI**, **Intelligent Document Processing**, and **enterprise automation**, 10xDS enables businesses to transform operational data into real-time decisions and autonomous actions, driving measurable improvements in productivity, quality, safety, and business performance.



Vision AI

Real-time visual intelligence for monitoring, inspection, and detection.



Agentic AI

Autonomous agents that reason, plan, and act on operational data.



Digital Workforce

AI-powered digital workers that operate continuously across workflows.



Voice AI

Conversational interfaces and voice-driven automation for operations.



Intelligent Document Processing

Extract, classify, and act on structured and unstructured data.



Business Performance

Measurable gains in productivity, quality, safety, and operations.





Let's build what's next.

Partner with us to accelerate transformation and deliver measurable impact.



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