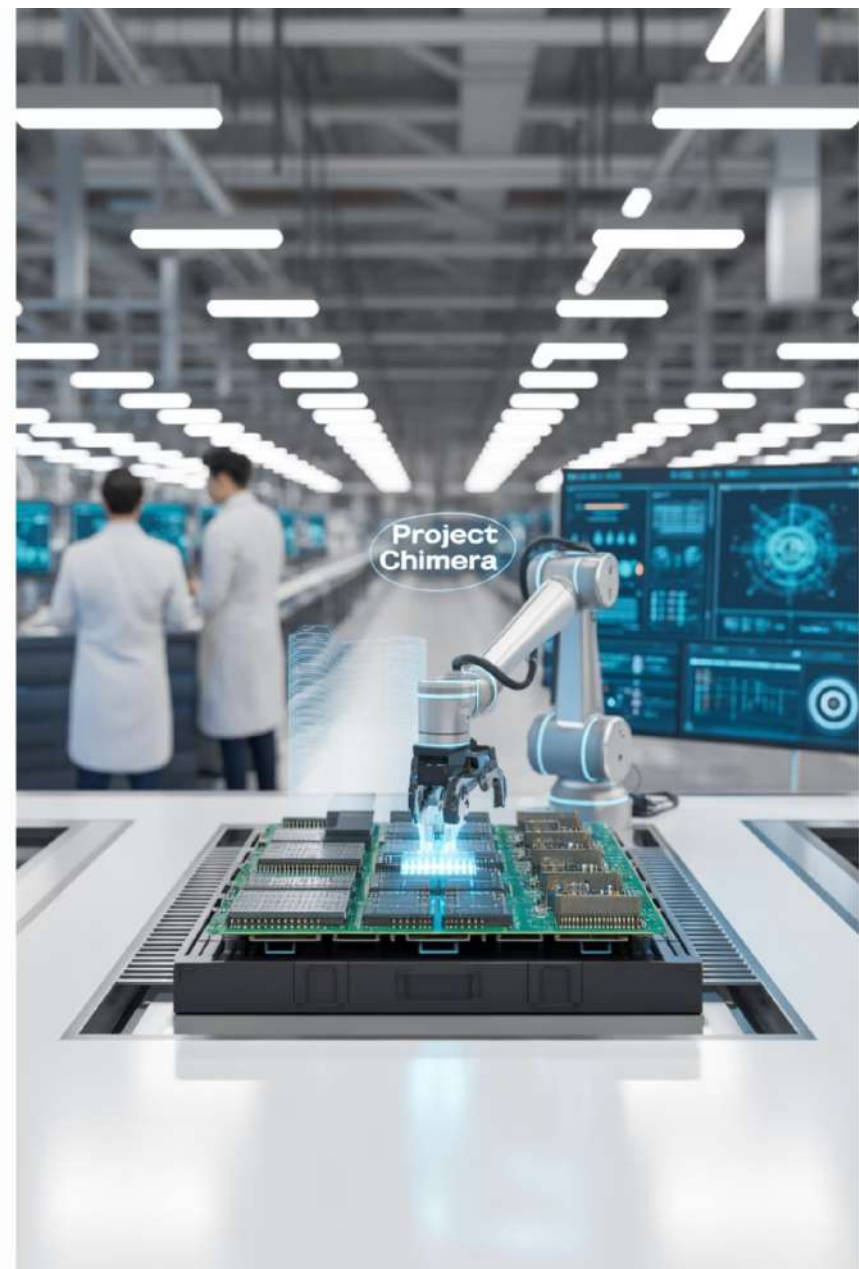




Case Study: Deploying Generative AI Infrastructure with AIOps in Manufacturing

Transforming industrial operations through intelligent automation and predictive analytics



Introduction: Manufacturing Meets AI Innovation

The Manufacturing Giant

A leading global manufacturing company specialising in high-end industrial machinery faced mounting challenges in their digital operations. With production facilities across multiple continents and complex supply chains, traditional monitoring approaches were no longer sufficient.

The organisation needed to transform their IT operations to maintain competitive advantage and meet growing customer demands for reliability and efficiency.

Core Challenge

Disparate monitoring tools creating operational blind spots and delayed issue resolution across global facilities

Strategic Goal

Achieve unified AI-driven operations to boost uptime, operational efficiency, and predictive maintenance capabilities





The Challenge: Complex IT & Operational Silos

The manufacturing giant operated with fragmented systems that created significant operational challenges. Each plant maintained separate monitoring tools, creating information silos that hindered effective decision-making and rapid response to critical issues.

Fragmented Infrastructure

Multiple plants worldwide utilising different IT monitoring tools, creating inconsistent visibility and management complexity

Delayed Issue Detection

Lack of event correlation causing delayed detection of critical failures, resulting in costly unplanned downtime

Manual Process Bottlenecks

Manual ticketing and resolution processes slowing down operations and increasing mean time to recovery

Limited Strategic Visibility

No end-to-end visibility for strategic decision-making, hampering long-term operational planning





Solution Overview: Integrated GenAI & AIOps Platform

The transformation strategy centred on implementing a comprehensive AI-driven operations platform that would unify monitoring, automate responses, and provide predictive insights across all manufacturing operations.

- 1 Infrastructure Discovery**
Full-stack hybrid IT discovery and dependency mapping for entire infrastructure, creating complete operational visibility
- 2 Unified Monitoring**
Single pane of glass replacing legacy tools, consolidating alerts and metrics from all systems and locations
- 3 AI-Powered Correlation**
Continuous event correlation using machine learning to detect outages and performance issues before they impact production
- 4 Automated Response**
Automated ticketing and rule-based service routing for faster incident handling and resolution
- 5 Role-Based Dashboards**
Persona-based dashboards tailored for IT directors, operations teams, and development staff

Tools & Technologies Deployed

The implementation leveraged cutting-edge technologies to create a robust, scalable AI infrastructure capable of handling complex manufacturing environments.



Generative AI Models

Advanced predictive analytics and anomaly detection algorithms for proactive maintenance and quality control



UnityOne AIOps Platform

Comprehensive event correlation, auto-remediation, and monitoring solution providing unified operational control



AWS Cloud Infrastructure

Data Lakes and Amazon SageMaker for GenAI workloads, ensuring scalable and reliable AI processing capabilities

Legacy System Integration

Seamless integration with existing network, systems, and database monitoring tools, preserving existing investments while enhancing capabilities

Workflow Automation

Automated workflows for incident ticket creation, escalation, and resolution, reducing manual intervention and accelerating response times



How AIOps Transformed Operations

The AIOps implementation delivered immediate and measurable improvements across all operational metrics. The transformation eliminated noise, reduced manual effort, and empowered teams with actionable insights for strategic decision-making.

80%

Alert Correlation

Infrastructure alerts correlated automatically, providing clear incident priorities

95%

Noise Reduction

Dramatic reduction in false alerts and notification fatigue for operations teams

35%

Self-Remediation

Incidents resolved automatically without requiring human intervention



Real-Time Visibility

Comprehensive infrastructure visibility enabled proactive maintenance strategies and faster root cause analysis capabilities



Accelerated Resolution

Reduced manual ticketing effort significantly accelerated mean time to resolution (MTTR) across all incident categories

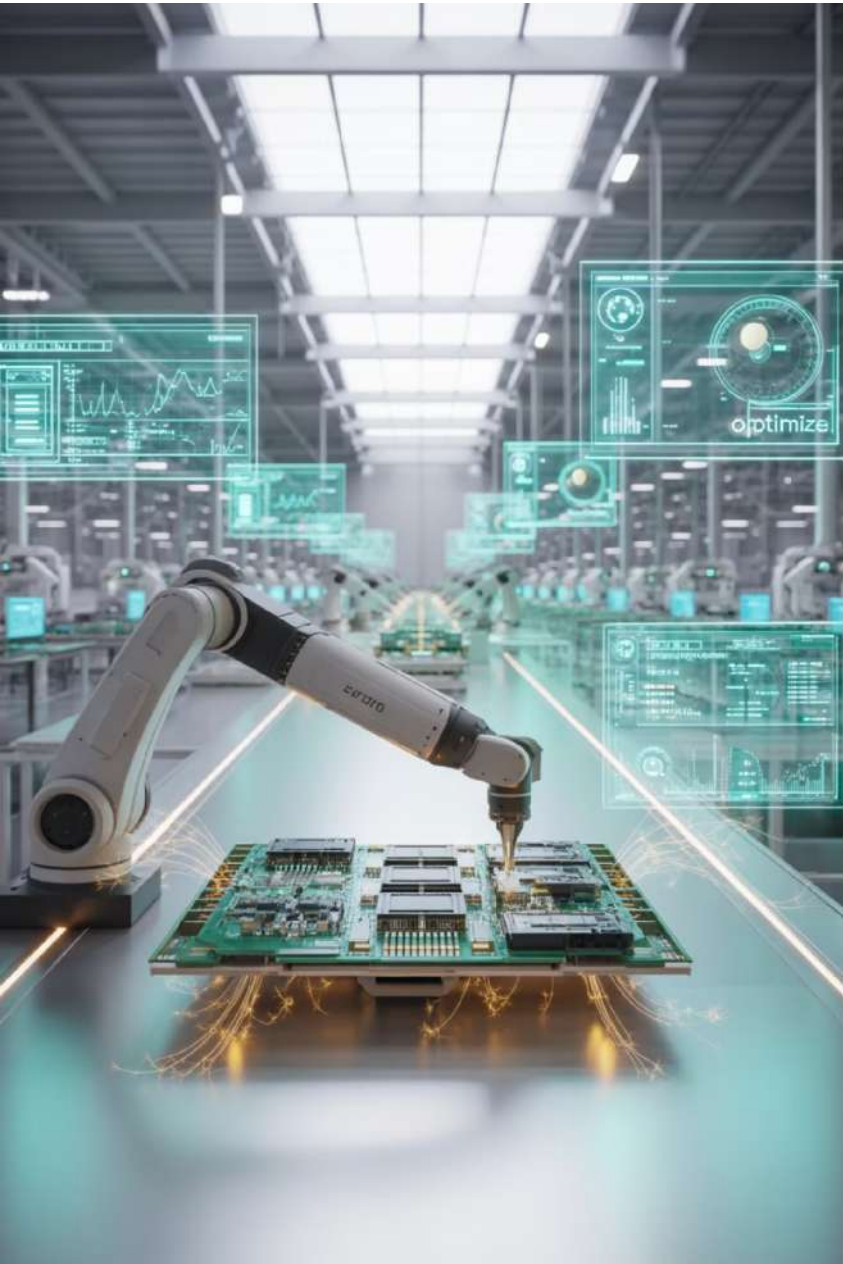


Strategic Empowerment

Role-based dashboards empowered both strategic and operational decision-making with relevant, actionable insights

Generative AI Impact on Manufacturing Processes

Beyond infrastructure monitoring, Generative AI transformed core manufacturing processes, delivering measurable improvements in productivity, quality, and operational efficiency across the entire production ecosystem.



01

Predictive Maintenance Revolution

AI models accurately forecasted equipment failures weeks in advance, enabling scheduled maintenance during planned downtime

02

Digital Twin Optimisation

Virtual production simulations tested scenarios without disrupting operations, optimising workflows and resource allocation

03

Quality Control Enhancement

AI-generated insights shortened product design cycles whilst improving quality control through real-time defect detection

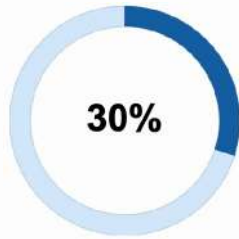
04

Workforce Productivity

Personalised AI-driven work instructions enhanced workforce productivity through contextual guidance and knowledge transfer

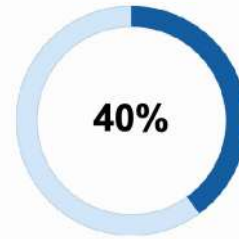
Business Milestones Achieved

The GenAI and AIOps implementation delivered exceptional business value, exceeding initial expectations and establishing new benchmarks for operational excellence in manufacturing.



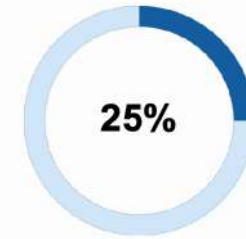
Downtime Reduction

Significant reduction in unplanned downtime across multiple manufacturing plants worldwide



Time-to-Market

Faster delivery of new machinery models through AI-accelerated research and development processes



Cost Savings

Substantial reduction in maintenance and operational expenses through predictive maintenance and automation

Compliance & Governance

Enhanced regulatory compliance and governance capabilities with AI-powered audit trails providing complete operational transparency and traceability.



Future-Ready Infrastructure

Scalable AI infrastructure positioned the organisation for future Industry 4.0 expansions, smart factory implementations, and emerging technology adoption.





The Future of Manufacturing is AI-Driven

This case study demonstrates that unified GenAI and AIOps platforms are not just beneficial—they're critical for digital transformation success in manufacturing environments.

Real-Time Intelligence

Continuous insights and intelligent automation unlock unprecedented operational excellence and competitive advantage

Scalable Foundation

Future-ready AI infrastructure paves the way for smart factories, Industry 4.0 implementations, and emerging technologies

Strategic Imperative

Manufacturing organisations must embrace AI transformation to future-proof operations and accelerate sustainable growth

✔ **Call to Action:** Transform your manufacturing operations today. Embrace AI-driven solutions to unlock operational excellence, reduce costs, and accelerate growth in the competitive manufacturing landscape.

