QINFINITE

Optimizing Core Manufacturing Processes with Intelligent Solutions

Driving Process Excellence in Manufacturing Through AI-Powered Insights and Automation

Operate | Modernize | Innovate

Driving Process Excellence in Manufacturing Through AI-Powered Insights and Automation

In the competitive manufacturing landscape, optimizing core operational processes is key to achieving higher efficiency, better quality, and greater agility. While modernizing IT and OT infrastructure is crucial, the true value lies in leveraging these advancements to directly enhance processes like production planning, quality management, maintenance, and shop floor operations. Qinfinite delivers a powerful suite of AI-driven solutions that provide the intelligence and automation necessary to transform these core manufacturing processes.

Challenges in Optimizing Manufacturing Domain Processes

- **Manufacturers often face persistent challenges in streamlining their core processes:**

- **Inefficient Production Scheduling:** Difficulty in aligning production plans with real-time shop floor conditions, material availability, and equipment status.

- **Quality Escapes & High Rework:** Inability to proactively identify process deviations or equipment issues that lead to defects and increased scrap.

- **Reactive Maintenance & Unplanned Downtime:** Equipment failures that disrupt production due to a lack of predictive insights into asset health.

- **Lack of Shop Floor Visibility:** Limited real-time understanding of what's happening on the production floor, hindering quick responses to disruptions.

- **Supply Chain Disruptions:** Poor visibility into IT systems supporting logistics and SCM, leading to delays and inefficiencies.

- **Suboptimal Resource Utilization:** Inefficient use of machinery, materials, and manpower due to poor coordination and lack of data-driven insights.

Qinfinite's Solutions: Targeting Key Manufacturing Processes

Qinfinite's Event Intelligence and Auto Optimize platforms provide the foundation to directly improve critical manufacturing domain processes:

Enhancing Production Planning & Scheduling   1

How Qinfinite Helps:

- **Event Intelligence:** Provides real-time insights into the health and performance of IT/OT systems supporting MES and ERP. This allows planners to create more realistic schedules based on actual system availability and potential risks. Anomaly detection can flag early warnings of issues that might impact production capacity.

- **Auto Optimize:** Ensures that the underlying IT infrastructure for planning and scheduling systems is always performing optimally and has the required capacity, preventing system slowdowns or crashes that can derail production plans.

Process Outcomes:

- More accurate production forecasts, reduced scheduling conflicts, better alignment of production with actual capacity, improved on-time delivery.

Improving Quality Management & Control   2

How Qinfinite Helps:

- **Event Intelligence**: Correlates events from production equipment, environmental sensors, and quality control systems to identify patterns or anomalies that could indicate quality deviations. Automated Root Cause Analysis helps pinpoint the source of quality issues faster.

- **Auto Optimize**: Guarantees the reliability and performance of Quality Management Systems (QMS) and data collection platforms, ensuring accurate and timely quality data for analysis and reporting.

Process Outcomes:

- Reduced defects and scrap, lower rework costs, improved product consistency, faster identification of root causes for quality issues, enhanced compliance.

Qinfinite's Solutions: Targeting Key Manufacturing Processes

Qinfinite's Event Intelligence and Auto Optimize platforms provide the foundation to directly improve critical manufacturing domain processes:

Enabling Predictive & Proactive Maintenance　　3

How Qinfinite Helps:

- **Event Intelligence**: Analyzes data streams from equipment sensors and IT/OT systems to detect subtle anomalies and patterns indicative of impending equipment failure. This enables a shift from reactive or scheduled maintenance to condition-based and predictive maintenance.

- **Auto Optimize:** Ensures the reliability of systems collecting and processing sensor data for predictive maintenance algorithms.

Process Outcomes:

- Reduced unplanned equipment downtime, extended asset lifespan, optimized maintenance schedules and costs, improved technician productivity.

Optimizing Shop Floor Operations & Monitoring　　4

How Qinfinite Helps:

- **Event Intelligence**: Offers a unified view of events from diverse shop floor systems (SCADA, HMI, PLCs, MES). AI-powered correlation and noise reduction highlight critical alerts from machinery or control systems, enabling supervisors to address emerging issues proactively. The Knowledge Graph maps dependencies between shop floor assets and IT systems.

- **Auto Optimize**: Ensures high availability and performance of MES and other shop floor control applications, facilitating smooth data flow and operational control.

Process Outcomes:

- Increased shop floor visibility, faster response to production disruptions, improved OEE (Overall Equipment Effectiveness), streamlined workflows.

Qinfinite's Solutions: Targeting Key Manufacturing Processes

Qinfinite's Event Intelligence and Auto Optimize platforms provide the foundation to directly improve critical manufacturing domain processes:
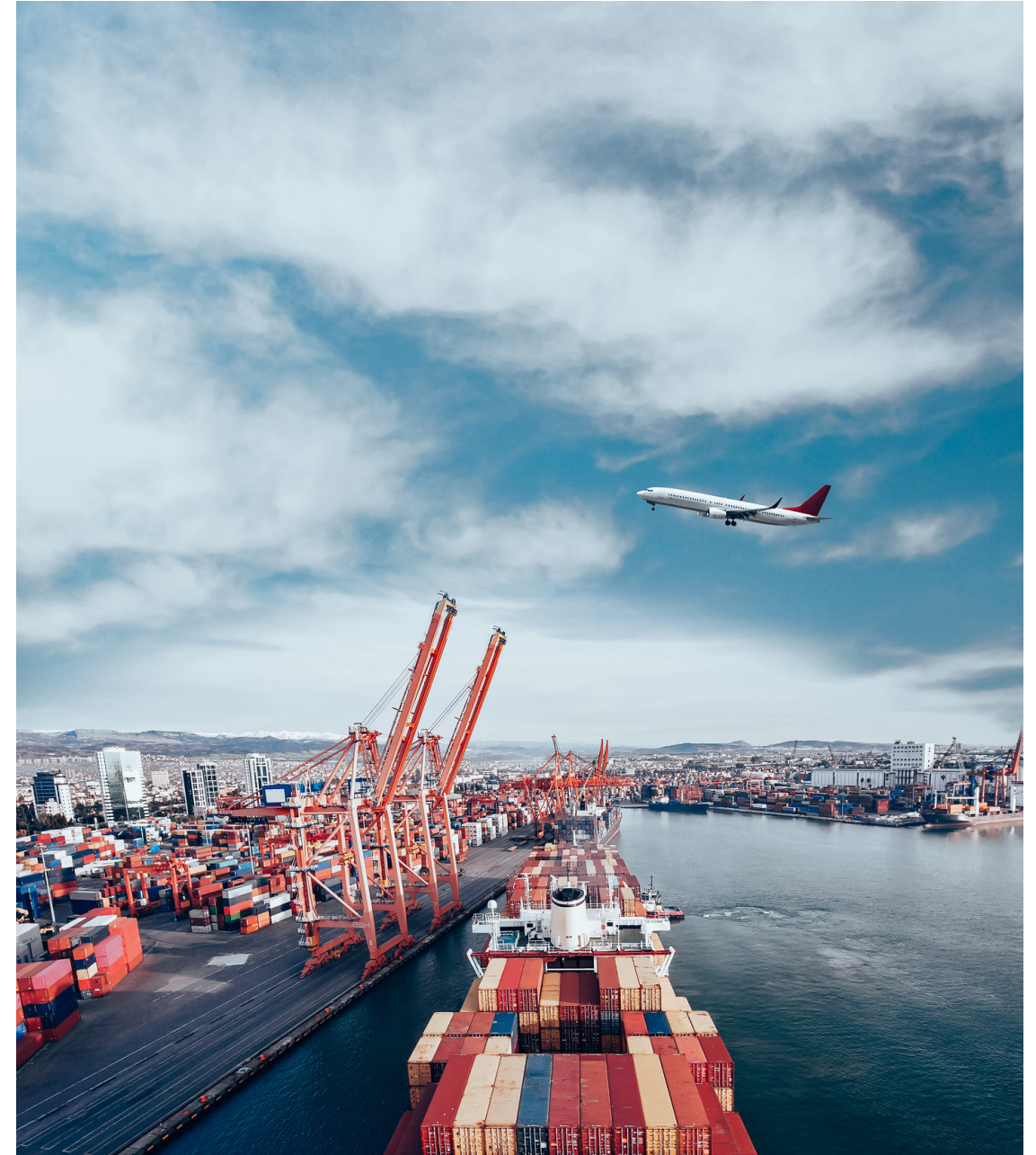
Increasing Supply Chain & Logistics Visibility 5

How Qinfinite Helps:

- **Event Intelligence**: Monitors the health and performance of IT systems crucial for SCM, WMS (Warehouse Management Systems), and logistics operations. It can flag issues in data exchange, system integrations, or application performance that could disrupt the supply chain.

- **Auto Optimize**: Ensures that these critical supply chain applications have the necessary IT resources to perform reliably, especially during peak demand periods.

Process Outcomes:

- More reliable supply chain operations, reduced delays, improved inventory management (through reliable system data), better coordination with suppliers and logistics partners.

Mapping Qinfinite Capabilities to Process Excellence

Translating intelligent IT insights into smarter, faster, and more resilient process operations.

Qinfinite Event Intelligence provides the critical insights by:

- **AI-Powered Correlation & Noise Reduction:** Focusing on events that truly impact processes.

- **Knowledge Graph & Topology Mapping:** Understanding how IT/OT issues affect specific manufacturing workflows.

- **Real-Time Anomaly Detection:** Catching process deviations early.

- **Automated Root Cause Analysis:** Speeding up the diagnosis of process-related problems.

Qinfinite Auto optimize provides the stable and efficient IT foundation by:

- **Predictive Capacity Planning:** Ensuring systems supporting processes always have enough resources.

- **Hybrid Infrastructure Optimization:** Allowing processes to run efficiently across diverse IT environments.

- **Automated Scaling & Resource Allocation:** Guaranteeing performance for process-critical applications.

Tangible Benefits for Your Manufacturing Processes

By applying Qinfinite's solutions to your core manufacturing processes, you can achieve:

- **Improved Overall Equipment Effectiveness (OEE):** Through reduced downtime and optimized performance**.**

- **Reduced Scrap, Rework, and Waste:** By proactively identifying and addressing quality issues and process inefficiencies.

- **Enhanced On-Time Delivery Performance:** Due to more reliable production schedules and fewer disruptions.

- **Optimized Maintenance Costs & Strategies:** Shifting to predictive approaches and reducing emergency repairs.

- **Increased Production Throughput & Output:** By minimizing bottlenecks and maximizing asset utilization.

- **Better Resource Utilization:** Ensuring machinery, materials, and personnel are used more effectively.

- **Greater Operational Agility:** Enabling faster responses to change in demand or operational conditions.

Why Qinfinite for Manufacturing Process Optimization

- **Direct Process Impact:** Solutions designed to connect IT/OT intelligence directly improving specific manufacturing workflows.

- **Holistic Visibility:** Bridging the gap between IT, OT, and business processes for a comprehensive operational view.

- **AI-Driven Proactivity:** Moving beyond reactive problem-solving to anticipate and prevent process disruptions.

- **Data-Driven Improvements:** Providing the data and insights needed for continuous process optimization and lean initiatives.

- **Scalable for Your Needs:** Adapting to the specific process priorities and scale of your manufacturing operations.

Transform Your Manufacturing Processes with Qinfinite.

Unlock new levels of efficiency and performance in your core manufacturing operations. Contact us today to explore how Qinfinite's AI-powered solutions can be tailored to optimize your unique production planning, quality, maintenance, and shop floor processes.

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Book Your Demo   iAM Readiness Assessment   Get Free Qinfinite Consulting

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