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WHITEPAPER

STUCK IN GEARS:

Addressing Technical Challenges in Manufacturing and Logistics

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In today's rapidly evolving economic landscape, manufacturing and logistics companies are faced with a unique set of challenges and opportunities. Over the past few months, I was privileged to interview over 20 leaders from this dynamic sector. These conversations offered invaluable insights into their pressing issues, including inefficiencies in operations, technological gaps, and the rising demand for innovative solutions to keep pace with market demands.

I have paired these two industry segments because we heard many similarities in their challenges. It makes sense since manufacturing companies rely on logistics providers to move materials to production facilities and distribute finished goods to markets.

This white paper consolidates the key findings from those interviews, highlighting shared pain points and strategies driving change in the industry. To bring these insights to life, I have included case studies of real-world solutions delivered by Envative. These examples demonstrate how custom software, machine learning, and IoT technologies address inefficiencies and improve operational performance.

Through these insights and case studies, I aim to provide a clear perspective on the challenges and showcase actionable solutions that inspire innovation and transformation in the industry.

While manufacturing and logistics companies are the backbone of global supply chains, they face mounting challenges in 2025 due to rapid market shifts, rising costs, and inefficiencies in legacy systems. Traditional enterprise resource planning (ERP) and operational systems often fail to meet modern demands, leaving significant visibility, efficiency, and adaptability gaps.

MOST REPORTED CHALLENGES

The manufacturing and logistics industries grapple with various persistent challenges despite technological advancements. As businesses strive to meet increasing demands for efficiency, scalability, and real-time decision-making, common issues such as outdated legacy systems, lack of system integration, and data silos remain significant barriers. These problems hinder operational performance and limit companies' ability to adopt modern solutions like automation, IoT, and AI. In this section, below is a list of the most frequently reported issues across the industry, shedding light on the recurring pain points companies face and their impact on productivity and growth.

LACK OF REAL-TIME VISIBILITY

Legacy ERP systems struggle to provide real-time visibility into production, inventory, and shipping processes. This lack of transparency can lead to delays, inefficiencies, and missed opportunities to respond to market changes. Many companies are forced to add manual steps (like exporting data to MS Excel or other tools) to provide reports and forecasts to leadership.

RISING OPERATIONAL COSTS

From labor shortages to increasing material prices, operational costs continue to climb. Companies are pressured to maintain profitability while meeting customer expectations for speed and quality. Processes are constantly reviewed for optimization, or current methods are reevaluated. Further, manufacturers are contending with economic fluctuations and potential policy shifts, including proposed tariffs, which could strain margins.

OUTDATED LEGACY SYSTEMS

Many manufacturing and logistics companies still rely on outdated systems that are inflexible and unable to integrate with modern technologies. These limitations hinder scalability and innovation.

Legacy systems often persist due to high replacement costs, extensive customization, and operational reliance. However, they can lead to inefficiencies, limited integration capabilities, and technical debt over time, prompting companies to seek modernization strategies.

TECHNOLOGIES EMPLOYED TO ADDRESS THE CHALLENGES

In response to the list of challenges, some companies are turning to custom technologies to drive efficiency, reduce costs, and improve decision-making.

This segment lists some strategies, technologies, and their applications to highlight how some forward-thinking organizations resolve current issues and prepare for future growth.

ENHANCING REAL-TIME VISIBILITY

IoT-enabled sensors and devices provide real-time data on production lines, warehouse inventory, and fleet tracking. Custom software integrates this data into user-friendly dashboards, enabling companies to instantly monitor and respond to changes.

OPTIMIZING COSTS THROUGH PREDICTIVE ANALYTICS

AI and ML algorithms analyze historical data to predict demand, optimize inventory levels, and reduce waste. These insights help companies minimize costs while ensuring they meet customer expectations.

MITIGATING SUPPLY CHAIN RISKS

AI-powered systems provide predictive insights into potential supply chain disruptions. By analyzing global events, weather patterns, and supplier performance, these systems help companies proactively adjust their strategies.

MODERNIZING LEGACY SYSTEMS

Custom software solutions are designed to extend the capabilities of legacy ERP systems by integrating modern features such as IoT connectivity, advanced analytics, and automation. This approach enables companies to innovate without needing a complete system overhaul.

LEVERAGING BLE FOR EFFICIENT INVENTORY MANAGEMENT

BLE tags attached to materials or products transmit real-time data to operational systems, providing precise location and status updates while reducing manual scanning and data entry. Some BLE integrations also streamlined workflows, improving overall inventory accuracy and operational efficiency.

REAL-WORLD APPLICATIONS

CASE STUDY 1:

IMPROVING FLEET MANAGEMENT

A logistics company implemented an IoT-enabled fleet management system that tracked vehicle performance, fuel consumption, and delivery routes in real-time. This reduced fuel costs by 20% and improved delivery accuracy.

FUEL COSTS

↓ 20%

CASE STUDY 2:

STREAMLINING PRODUCTION LINES

A manufacturing firm deployed AI-driven predictive maintenance software integrated with IoT sensors. The solution reduced unplanned downtime by 30% and increased overall equipment efficiency (OEE) by 15%.

UNPLANNED DOWNTIME

↓ 30%

CASE STUDY 3:

ENHANCING WAREHOUSE OPERATIONS

A custom warehouse management system utilized ML algorithms to optimize storage layouts and streamline order-picking processes. This resulted in a 25% reduction in order processing times and a 10% increase in labor productivity.

LABOR PRODUCTIVITY

↑ 10%

CASE STUDY 4:

BLE-ENABLED INVENTORY MANAGEMENT

A logistics provider adopted BLE technology for material tagging and integrated it with a custom inventory management system. This allowed for real-time inventory updates and reduced inventory discrepancies by 35%, significantly improving operational accuracy.

INVENTORY DISCREPANCIES

↓ 35%

WE'D LOVE TO HEAR FROM YOU!

Thank you for exploring this white paper and diving into the insights and examples shared. We'd be delighted to connect if you have any questions, want to discuss the topics covered or consider how similar solutions could benefit your business.

At Envative, we specialize in designing and implementing custom software solutions tailored to the unique needs of industries like food and beverage production. Whether you're looking to optimize your operations, explore IoT or AI opportunities, or address a specific technical challenge, our team is here to help.

LET'S START THE CONVERSATION!

Contact Craig Lamb at clamb@envative.com to schedule a call or meeting. Together, we can identify ways to turn your challenges into opportunities for innovation and growth.

We look forward to collaborating with you!