

CASE STUDY

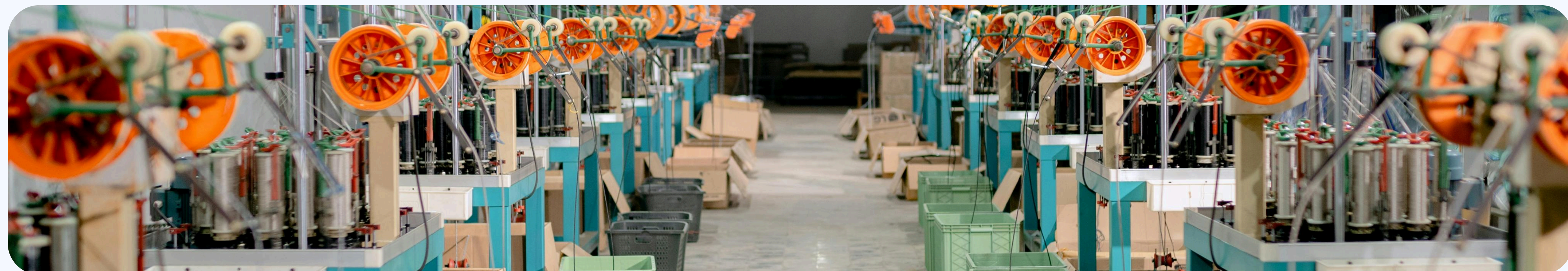
# Manufacturing Workflow Automation

How we streamlined production workflows, inventory tracking, and operational visibility with an AI powered system improving efficiency and reducing manual dependency.

01 THE CHALLENGE

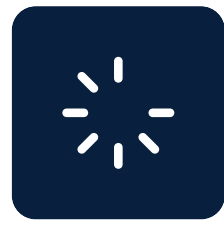
## Manual Processes Operational Delays

The company relied on manual coordination across production, inventory tracking, and reporting, leading to inefficiencies, delays, and limited visibility into operations.



### Production Delays

Manual planning and coordination caused slow production cycles and inconsistent output.



### Inventory Gaps

Lack of real-time tracking led to stock imbalances and material shortages.



### Limited Visibility

Operational data was not easily accessible, making it difficult to track performance and identify bottlenecks.

02 THE SOLUTION

## Seamless Workflow

Process Automation AI

### 01 Production Planning Agent

Optimizes production schedules, allocates resources efficiently, and ensures smooth workflow across manufacturing processes.

Inventory Intelligence

### 02 Inventory Management Agent

Tracks raw materials and finished goods in real time, preventing shortages and overstock situations.

Operational Insights

### 03 Reporting & Analytics Agent

Generates real-time production insights, highlighting inefficiencies and improving decision making.

Workflow Coordination

### 04 Operations Management Agent

Ensures seamless coordination between production, inventory, and reporting systems.

03 TRANSFORMATION

## Before vs After

ORDER	LINE	STATUS	SUPERVISOR
PO-8801	Line A — Assembly	UNSCHEDULED	Unassigned
PO-8802	Line B — Packaging	MATERIAL LOW	J. Harper
PO-8803	Line C — QC Check	DEFECT SPIKE	M. Donovan
PO-8804	Line D — Finishing	OVERSTOCK	no data

14 production orders behind schedule this week  
Manual planning • Issues caught after output impacted

OEE	MATERIAL WASTE	DOWNTIME / WK	COST OVERBLN
61%	18%	~12 hrs	-\$34,600

ORDER	LINE	STATUS	OUTPUT
PO-8801	A — Assembly	Auto-scheduled	1,240 units
PO-8802	B — Packaging	Stock auto-ordered	980 units
PO-8803	C — QC Check	Anomaly flagged early	1,100 units
PO-8804	D — Finishing	Inventory balanced	860 units

All 4 lines running • 0 unplanned stops • Inventory synced live  
Predictive maintenance active • Defect detection in real time

Manual Operations

- Unplanned Production**  
Manual scheduling caused delays and inconsistent output.
- Stock Imbalances**  
Material shortages and overstock situations disrupted workflows.
- Low Visibility**  
Limited access to real time production data.
- Reactive Decisions**  
Issues addressed only after impacting operations.

AI-Powered System

- Optimized Production**  
Automated planning ensures consistent and efficient output.
- Real-Time Inventory**  
Accurate tracking prevents shortages and excess stock.
- Live Insights**  
Operational data available instantly for better control.
- Proactive Decisions**  
Early insights enable faster issue resolution.

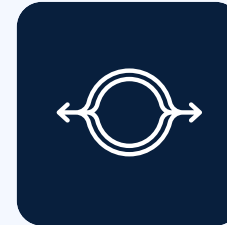
04 SCALABILITY

## Built to Handle Production Demand



### 24/7 Operations

Continuously monitors and optimizes production workflows.



### Production Management

Efficiently manages scheduling, resources, and workflow coordination.



### Consistent Accuracy

Maintains precision across production and inventory processes.



### Real-Time Reporting

Provides live operational insights for continuous improvement.



Whether handling steady production or demand fluctuations, operations remain efficient and consistent.

05 RESULTS

## Measurable Impact, Immediate Gains



40%

EFFICIENCY GAIN

Improved production efficiency and workflow optimization.

30%

WASTE REDUCTION

Reduced material waste through better inventory control.

Faster

DECISION MAKING

Improved operational decisions with real-time insights.

NEXT STEPS

## Your Operations could be next

See how TechYard's AI systems can automate manufacturing workflows and improve operational efficiency.