



## IX® Case Study

### AI-Powered Maintenance Copilot for Food & Beverage Operations

 **VOOBAN**



**IMPLEMENTATION  
ENGINEERS®**  
BEYOND CONSULTING



**Increased  
OEE through  
reduced  
unplanned  
downtime**

**Fewer repeat  
failures across  
critical assets**

Food & beverage and consumer goods manufacturers operate in one of the most unforgiving environments in manufacturing. Unplanned downtime doesn't just reduce output. It creates food safety risk, triggers sanitation resets, disrupts retailer commitments, and drives direct EBITDA impact.

Across high-speed filling, packaging, and CIP systems, even a minor fault can stop an entire line. Most organizations already have the data to prevent these failures. They just don't have a way to turn it into action on the floor.

## The Challenge

Maintenance teams are managing increasing complexity without the tools to keep up:

- Downtime data is buried in inconsistent CMMS free-text fields, making root cause analysis unreliable
- Troubleshooting depends on tribal knowledge from experienced technicians
- Manuals, SOPs, and sanitation requirements are fragmented across systems and paper
- PLC, SCADA, and historian data is underutilized and only reviewed after failures occur
- Reactive maintenance drives unplanned downtime, overtime costs, and lost production

# AI Implementation

We implement an AI-powered Maintenance Copilot embedded directly into plant operations, connecting data, systems, and people to drive real-time decision-making.

## Predictive Maintenance Agent

- Continuously monitors asset signals (fillers, conveyors, pumps, CIP systems)
- Detects anomalies and predicts failures before they stop the line
- Enables planned interventions vs. emergency downtime

## Diagnostic Clustering Agent

- Structures historical work orders and downtime logs
- Identifies recurring failure patterns and root causes
- Standardizes failure taxonomy for cleaner data going forward

## Technician Copilot

- Embedded directly in CMMS work orders
- Surfaces:
  - Relevant manuals and SOPs
  - Past failures and fixes on the same asset
  - Sanitation and compliance requirements
  - Step-by-step diagnostic guidance

# Operational Implementation

AI only creates value when it is embedded into how the plant runs. That's where we drive impact.

We implement across the maintenance and operations value stream:

## **Asset Performance Excellence (Maintenance)**

- Work order standardization (identify → plan → schedule → execute → close)
- Failure code structure and data governance
- Integration of predictive signals into maintenance planning

## **Maintenance & Operations MOS**

- Daily and weekly routines tied to asset performance
- Escalation processes driven by real-time signals
- Accountability at supervisor and technician level

## **Process & Data Integration**

- Connect CMMS (SAP PM, Maximo, Infor) with historian and SCADA systems
- Align OT and IT layers without disrupting production
- Ensure data is usable, not just available

## **Workforce Enablement**

- Train technicians and supervisors to use AI tools in daily execution
- Embed decision-making into standard work
- Eliminate dependency on tribal knowledge

## How It Works on the Floor

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A fault occurs on a filling or packaging line.

Instead of reacting blindly:

- The technician opens the work order
- The Copilot immediately surfaces:
  - Similar past failures
  - Root cause patterns
  - Relevant procedures and manuals
  - Recommended diagnostic steps
- Predictive signals may have already flagged the issue before failure

No searching. No guesswork. No waiting. Just execution.

## This Applies Anywhere That...

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- High-speed production lines cannot afford unplanned downtime
- Maintenance teams rely on tribal knowledge instead of structured systems
- Data exists but is not used to drive decisions
- Plants are struggling to move from reactive to predictive maintenance
- AI initiatives have stalled because they are not integrated into operations

# Let's Turn Your Vision Into Results

Implementation Engineers and Vooban deliver together — turning strategy into operational reality through AI-enabled execution.

Our proven **Align-Design-Execute** framework ensures your strategy doesn't stall at planning. From aligning leadership around priorities, to designing AI-driven operating models, to executing change inside your operations, we work side-by-side to deliver results that scale.

## Ready to Get Started?

Let's explore how we deliver together. Contact us today to schedule a conversation. Together, we'll chart the path from vision to execution.

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