Agile Manufacturing

EcoStruxure™ boosts manufacturing flexibility & efficiency in the Food & Beverage, Household and Personal Care industries.
Agile Manufacturing
Transforming operations to improve flexibility and profitability

HMI and Data Integration
IoT ready system platform for better collaboration and reduced TCO

Process Control System
Process control system including MES functions designed to serve F&B and CPG applications

Process Automation
Innovative Ethernet based control platform for more performance, transparency and flexibility

Industrial Information Management
Transformation of your data into actionable knowledge and wisdom

Manufacturing Operation Management
Single plant and Multi-site IT platform for best-in-class operation, performance and quality

Smart Machines & Robotic
Packaging automation offer and know-how for outstanding line performance
Manufacturing Operation Management
The different steps of Operation Management benefits

(1) SEE: Reveals the “hidden factory"
(2) ACT: Automates work orchestration
(3) OPTIMIZE: Brings strategy to real-time execution
(4) SCALE: Speed & ease of standardization

- Right Order
- Right Recipe
- Right Equipment
- Right Quality
- Right Quantity
- Right Time
- Right Cost

Performance
Production
Quality
Inventory
Maintenance
Utilities

Standard Solution
Template Library
Manufacturing Operation Management
The model driven approach

1. DIGITALIZE
   - Capture manufacturing processes and collaborations and digitalize them using low code technology
   - Transform how work is done in the plant

2. STANDARDIZE
   - Manage best practices, KPI’s, product specifications and compliance and safety data between sites

3. IMPROVE
   - Continuous improvement of processes based on rich data collection with governed change management
Manufacturing Operation Management

The model driven approach

The solution

Includes market leading Manufacturing execution, recipe management and batch offerings

- Provides a process-based approach, where work practices, business rules and associated UIs are defined graphically into application models
- Able to be easily modified to meet operational requirements without re-programming
- Reliable integration with other IT systems, using the Enterprise Integrator framework and plug-ins
Manufacturing Operation Management

Operational activities description

- Paperless Work Order and Product Specification Management.
- Real-Time Visibility to Production and Inventory activities
- Comprehensive Electronic Manufacturing Genealogy and Material Traceability

- Dynamic Quality Sample Plan generation and enforcement based on Work Order Specification (Product and Process)
- SPC Alerting and Charts to Identify and Correct Quality Deviations in Real-Time

- Detect, Capture & View Utilization Events
- Real-Time Visibility to Line and Equipment Production Performance
- Enables Root-Cause Analysis of Capacity losses

- Recipe Management Standardization across multiple Automation Systems
- Equipment Formula Management and Recipe Procedure Management
- Role based Security, Recipe Versioning and Approval

- Flexible Recipe Management and Batch Scheduling
- Material Management and Traceability
- Electronic Batch Records and Reports with Support for FDA 21 CFR Part 11
Manufacturing Operation Management

The model driven approach

Business Value

- 30% Quality Improvement
- 30% More Equipment Uptime
- 20% Reduction in Manufacturing costs
- 10% Increased Productivity
- 20% OEE Improvement

Learn more
Advanced Planning & Scheduling
A digital nervous system to quickly adapt value chains to dynamic market conditions

• Whether you have plants and warehouses around the world or in a single location with PlanetTogether production planning and scheduling, you'll have demand, capacity and inventory visibility to help you get ahead of whatever changes are coming your way.

• Business values:
  • Grow sales with quicker production lead-times
  • Cut inventory by aligning manufacturing with demand
  • Reduce unit costs with more efficient production runs
  • Improve decisions with capacity visibility and scenarios and Analytics
Customer Challenge
• Cans with missing labels: mislabeling instances and product recalls
• Finished product losses due to manufacturing issues
• Difficulty in process optimization and continuous improvement projects due to minimal plant data collection
• Existing SPC software was out-of-date and not integrated with the ERP system
• Significant inaccuracy in using master data across multiple systems and heterogeneous plant environments

The Solution
• System Platform
• InTouch HMI
• MES Quality / Operations
• Workflow Management

Customer Benefits
• 3% Reduction in material costs
• 75 additional CI projects a year (accelerate continuous improvement efforts)
• Quality solution with mislabeling module: verifies and validates unit and case level labeling
• Achieves manual, semi-automatic and automatic in-/at-line sampling with validation against specifications

The Results: Life is On with... 25% Decrease in product give-away

Link to Video

Global food company making a range of high-quality soups and simple meals, beverages, snacks and packaged fresh foods.
Customer Challenge
• Achieve high level of product quality consistency: difficult tracking & tracing issues related to quality due to paper-based reporting
• Complete its fully-automated smart factory

The Solution
• System Platform
• InTouch HMI
• MES Performance & Operations

Customer Benefits
• Empowered workers with enhanced visibility on the production lines.
• InTouch ensures that a 3,000 quintal batch looks, smells, and tastes identical to a 1 liter sample.

The Results: Life is On with... increased yield, with 32 million bottles of olive oil produced each year

“Food safety also means avoiding cross-contamination within the lines. So, knowing the pipeline is a process that works exactly like it’s supposed to, it’s an important safety guarantee.”

Andrea Violetti
Director General Farchioni Olii

Farchioni automates its ancient process
Olive oil producer

Italy’s leading producer of olive oil.

For Food & Beverage

App, analytics, and services

- Manufacturing Execution (Production & Inventory, + Performance)
- System Platform
- InTouch HMI

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Customer Challenge
• Enable quality tracking
• Facilitate connectivity of plant operations to industrial automation devices, computers, and laboratory
• Reduce the total cost of ownership

The Solution
• MES Quality
• System Platform
• Historian

Customer Benefits
• Reduced quality traceability time from 4 hours to 1 minute
• Achieved production goal of 2,500 cans a minute (3 million cans a day)
• Attained “100% First-Time Quality”

The Results: Life is On with... ROI attained within 1 year

“We have comprehensive control of our manufacturing operations to ensure product quality and control”

Somchai Khwahan, Production Manager, F&N Dairies

For Food & Beverage

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Customer Challenge
• Improve plant technology while maintaining the product quality
• Upgrade path of automation as plant needs evolve

The Solution
• System Platform
• InTouch HMI
• Historian
• InBatch

Customer Benefits
• Ease of use allowing increased efficiency in operation
• Consistent control of the processes across all plants
• Reliable product quality due to automation
• Real-time information allowing preventive actions
• Rapid trouble-shooting of plant inefficiencies

The Results: Life is On with... Controlled recipe procedures & execution allowing more production batches

“With regards to metrics, what we’re seeing is consistency in throughput. We are able to tell when problematic areas arise and by having it automated, we are able to take preventive action in order to maintain consistent operation.”

Harry Crigler
Distillery Operations Manager

Beam Global Spirits and wine, USA
Jim Beam and Wonderware solutions, a perfect mix

Largest spirit company in the USA, founded in 1775

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Maple Leaf Foods, Canada
Improving Food quality and safety through automation

Customer Challenge
• Implement a standardized automation solution in all the production sites through a scale-up approach.
• Provide an efficient solution that needs limited energy and primary resources to produce a high quality product

The Solution
• Line Performance

Customer Benefits
• Standardized solution on each production site
• Real-time and instant data available for better maintenance reactivity, waste management and production
• Solution easy to understand by the business group
• Easy implementation and use of the solution
• Easy integration of MES with the current ERP (SAP)

The Results: Life is On with... An automated performance management solution

“Our approach is to design an automation system that is flexible enough to deal with day to day variance.”
Dave Eckart
Director of automation

Link to Video 1
Link to Video 2

Leading consumer protein company making high quality, innovative products. The company also operates in the refrigerated plant protein category. The company operates 25 sites in Canada and one in USA.
Customer Challenge
- Lack of changeover visibility
- Scheduling Errors
- Reliance on tribal knowledge
- Lack of forward-looking capacity utilization to be able to commit capacity to customers

The Solution
- Planet Together Advanced Planning and Scheduling (APS)

Customer Benefits
- 6% reduction on unit costs due to increased OEE
- $16M in annual saving
- Scheduling decisions are based on automation and company KPIs rather than intuition

The Results: Life is On with... More efficient supply chain

“Scheduling and Planning is one of the most overlooked opportunities in the manufacturing industry today. The impact goes well beyond the ability to drive results you can see in your P&L, but into your culture and how work gets done.”
Dean Dietrich
VP Operations
Graphics Packaging International

One of the world’s largest packaging manufacturers operating 30 plants in USA, Canada and Mexico
Agile Manufacturing
Transforming operations to improve flexibility and profitability

- **HMI and Data Integration**: IoT ready system platform for better collaboration and reduced TCO
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- **Industrial Information Management**: Transformation of your data into actionable knowledge and wisdom
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## EcoStruxure for Food & Beverage / CPG

### Agile manufacturing
- Boost manufacturing flexibility and efficiency
  - Manufacturing Operation Management
  - Industrial Information Management
  - Process Control System
  - HMI and data Integration
  - Process Automation
  - Packaging Automation

### Efficient facilities
- Safer, more available, and greener resources
  - Smart Building Management
  - Power Safety & Availability
  - Power Quality & efficiency
  - Renewable Energy & Microgrids
  - IT Infrastructure Management

### Resilient supply chain
- Manage complexity and reduce logistics costs
  - Agriculture Efficiency & Sustainability
  - Suppliers Management
  - Supply Chain Optimization
  - Cold Chain Monitoring
  - Product Information Management

### Food Safety & Traceability
- Ensure compliance and trust across the product life cycle
  - Food Defense
  - Cybersecurity Services
  - Digital Calibration
  - Raw material traceability
  - Production traceability
  - Product Identification & Tracking

### Energy & Sustainability
- Reduce footprint and meet sustainability goals
  - Sustainability Consulting
  - Energy Demand Services
  - Strategic Energy Sourcing
  - Enterprise data management
  - Energy as a Service

### Asset Performance
- Maximize return on capital expenditure
  - Assessment and Consulting
  - Enterprise Asset Management
  - Condition Monitoring
  - Predictive Analytics
  - Line & Process Optimization
  - Modernization services

### Workforce Empowerment
- Improve staff knowledge, productivity and collaboration
  - Operator Training Simulator
  - Augmented & Virtual Reality
  - Workflow Management
  - Staff Schedule Management
  - Operator Knowledge Sharing

### Digital Engineering
- Cut time, cost and risks of capital project engineering
  - Electrical CAD
  - Building Information Modelling
  - Integrated Engineering-Design
  - Digital Asset Visualization

### Food Defense
- Boost manufacturing flexibility and efficiency

### Cybersecurity Services
- Safer, more available, and greener resources

### Digital Calibration
- Manage complexity and reduce logistics costs

### Raw material traceability
- Ensure compliance and trust across the product life cycle

### Production traceability
- Reduce footprint and meet sustainability goals

### Product Identification & Tracking
- Maximize return on capital expenditure

### Assessment and Consulting
- Improve staff knowledge, productivity and collaboration

### Enterprise Asset Management
- Cut time, cost and risks of capital project engineering

### Condition Monitoring
- Ensure compliance and trust across the product life cycle

### Predictive Analytics
- Reduce footprint and meet sustainability goals

### Line & Process Optimization
- Maximize return on capital expenditure

### Modernization services
- Cut time, cost and risks of capital project engineering

### Operator Training Simulator
- Ensure compliance and trust across the product life cycle

### Augmented & Virtual Reality
- Reduce footprint and meet sustainability goals

### Workflow Management
- Maximize return on capital expenditure

### Staff Schedule Management
- Cut time, cost and risks of capital project engineering

### Operator Knowledge Sharing
- Ensure compliance and trust across the product life cycle

### Electrical CAD
- Reduce footprint and meet sustainability goals

### Building Information Modelling
- Maximize return on capital expenditure

### Integrated Engineering-Design
- Cut time, cost and risks of capital project engineering

### Digital Asset Visualization
- Ensure compliance and trust across the product life cycle
Let’s talk about EcoStruxure™ for Food & Beverage