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

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

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

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

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

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Process Automation: Modicon ePAC and connected products
Open, scalable and tested architectures to meet your process control needs with proven components

Based on standard communications
- Ethernet IP, Modbus TCP, Profibus, Hart, ASi

Integrating field proven components
- Modicon Controllers (M580, M340)
- Automation Devices Motion and Drives (Starters, Altivar, TeSys, …)
- Power Management Devices (Protective Relays, Power Monitoring, Circuit Breakers, …)

Providing transparency from plant floor to top floor
Process Automation: Modicon ePAC
Control your process with more performance, transparency and flexibility

The solution

Apps, analytics, and services

Edge control

Connected products

Business Value

Transparency
Ready to use object libraries for System platform integration, optimized communications and native system diagnostics down to the device level

Performance
5 time faster cycle time, increased memory size, high availability, integrated safety, embedded cybersecurity

Flexibility & simplicity
On-line modifications, embedded communication switches, easy device integration on 100% standard Ethernet network, open field bus support

Learn more
Process Automation: Altivar Process
A drive acting as a sensor to provide contextual data to systems and operators

The solution

Apps, Analytics & Services

Edge Control

Connected Products

Business Value

Optimize asset utilization
Advanced motor control technology and unique decentralized application expertise (pump optimization, anti-cavitation, …)

Reduce downtime & maintain performance
Assets protection and predictive maintenance with drift detection

Optimize energy usage
Unique power measurement and state of the art harmonics mitigation capabilities

See the whole range
Process Automation: EcoStruxure™ Control Expert
A simplified automation lifecycle

The solution
- A common environment to design and deploy the entire automation architecture: multi-PAC systems including various types of automation assets
- Easy to use graphical/tree presentation
- Network consistency check
- Client-server model with central repository
- Out of box system diagnostic

Business Value
- Simplicity to design and deploy automation architecture
- Efficiency to maintain the system

Learn more
Process Automation: EcoStruxure Control Engineering

Bringing software engineering techniques to industrial automation

The solution
- Software-tool assisted approach to automate tasks that can no longer be efficiently carried out manually.
- 40 languages for 11 brands and 20 PLC models currently supported

Business Value
- Improve efficiency of program development and verification
- Fast and Automatic code conversion
- Prevent loss of intellectual property
- Facilitate troubleshooting with real time diagnostics

Connected Products
- Edge Control
- Apps, Analytics & Services

PLC program import
- With two defining features:
  1) IEC 61131-3 language
  2) PLC brand/format

- Supports all IEC 61131-3 languages
- Supports major PLC brands/formats

- Translation into a high-level, abstract language: GLIPS

- Verification: Automatic verification of conformity with programming rules
- Converter: Automatic conversion of a PLC program into another PLC format or C language
- Documentation: Automatic generation of documentation and workflow
- Monitoring: System level support for troubleshooting in operation

Learn more
Process Automation: Control Libraries
Multi-facet Device and Process Control Object Library

The solution
- Prepackaged know-how implementing both control and operation facets
- Complete set of Hybrid Batch Control & Device integration
- Control / Equipment Modules options:
  - Liquid Processing
  - Bulk Material handling
- Automatic synchronization of Object hierarchy into Aveva system platform
- Globally supported and maintained

Business Value
- Customizable Enterprise standard
- Reduced engineering effort
- Enhanced operation

Learn more
Australia’s leading producer of raw sugar, with an output of 2.5 million tons of sugar a year from its 8 mills

Wilmar Sugar
Simplifying control systems for improved safety

**Customer Challenges**
- Modernize the customer’s largest sugar mill, the Invicta Mill, which has been operating at its current site for 98 years
- Replace the Invicta Mill’s existing boiler control system equipment that was reaching its end of life
- Simplify systems
- Embed safety procedures

**The Solution**
As a long-time Schneider Electric customer, Wilmar chose an EcoStruxure Plant architecture with the Modicon M580 Safety PLCs and AVEVA’s Citect SCADA software for their new control systems.

**Customer Benefits**
- Simplified control systems into one interface
- Improved safety, efficiency and productivity with a solution architecture that is easy to use
- Installation of the M580 Safety PLCs has allowed Wilmar to increase factory automation, driving better efficiencies through improved operational performance
- No lost crush time, reduced crush rates or reprocessing of materials required
- Approx. 20% reduction in commissioning & start-up time through the use of dynamic simulation

**The Results: Life Is On with ... Zero** lost crush time & 20% faster start-up, setting a new benchmark for safety & reliability to be rolled out to additional plants

“We have been able to combine our automation, connectivity and software into one system which allows us real-time control and visibility.”
Russell Brown, General Manager for Asset Management
Wilmar Sugar

Link to Video
Link to Paper

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**For Food & Beverage**

**Apps, analytics, and services**
- AVEVA’s SimSci DYNSIM Dynamic Simulation
- Modicon M580 Safety & M340 PLCs
- AVEVA’s Citect SCADA

**Edge control**
- Trio radios
- TeSys MasterPact NW circuit breakers
- Magelis HMI

**Connected products**

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Customer Challenges
- Improve uptime
- Scalable & expandable solution
- More operational information
- Local support & expertise
- Process control optimization not possible
- Reliance on external resources, skills on obsolete equipment

The Solution
Complete EcoStruxure Plant solution, with integrated software and domain expertise, designed and delivered by highly experienced Master Alliance and Certified Wonderware partner system integrator.

Customer Benefits
- Enabled technology (simplified process optimization)
- Modern, high performance PLC system with high availability in RIO & Hot Standby
- Reduced downtime (site received most improved division award)
- Improved operational information thanks to new software standards
- Expert local support
- In-house first line support

The Results: Life Is On with...A reliable and flexible automation system that facilitates 20% increase in plant’s throughput
Customer Challenges
• To build the "world's best nutritional plant"
• Traceability of product manufacturing
• Process batching
• Drilling under the Mataura River to run MV supply cables (11kV to 33kV)
• Maintain power supply integrity

The Solution
• Full EcoStruxure solution for automation and power systems, with integrated software
• Delivered by OEM partner with knowledge to meet customer requirements for batching, traceability, and seamless dataflow across the complex manufacturing process
• Strong service support

Customer Benefits
• Ease and flexibility to increase product portfolio & volume to meet growing demand
• Reduced OPEX budgets compared to conventional systems
• 20% faster time to market
• Cleaner power
• More cost-effective power
• Connected & integrated facility

The Results: Life Is On with... 20% faster time to market

Link to story
### 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
Let’s talk about EcoStruxure™ for Food & Beverage