

7 FOOD & BEVERAGE  
CONSUMER PACKAGED GOODS INDUSTRIES

i n v e n t a s y s<sup>TM</sup>



### 7 THE INVENSYS DIFFERENCE

Today's Food & Beverage and Consumer Packaged Goods (CPG) manufacturers face challenges throughout the supply chain; from prices and availability of incoming raw materials, through the many production processes and systems to finished goods. Invensys Industry Solutions, built on the open ArchestrA® software architecture, provide manufacturers with a scalable platform to enhance cross-company collaboration, quality enforcement, and effective asset management. Wonderware InTouch® HMI, SCADA, Manufacturing Execution Systems (MES) and reporting applications help enable manufacturers to create solutions that meet these manufacturing challenges:

- Manufacture consistent products, across different sites, across the world
- Meet stringent quality, regulatory and safety requirements
- Manage complex products and bring them to market quickly
- Maximize performance, productivity and efficiencies (leveraging existing systems)
- Provide fast and accurate production and process information
- Minimize waste throughout the manufacturing processes
- Respond to changing market demands, price pressures, rising costs of raw materials and volatile commodity costs

### 7 INDUSTRY-SPECIFIC PLATFORM BUILT FOR FOOD & BEVERAGE/CPG MANUFACTURING

#### Lower Total Cost of Ownership

Access to training, service and applications experience is available directly from the Wonderware world-class distribution or independent System Integrator channels, providing a competitive environment for software, SCADA and MES solutions. Sustainable software solutions are tightly integrated, but decoupled from the proprietary hardware devices offered by many vendors. This allows for commercially available, off-the-shelf computer hardware, software and support. Additionally, Invensys Operations Management is renowned for its unparalleled migration capabilities and award-winning training, with formal classroom instructor-lead courses offered to experience our technology first hand.

**With over 40,000 licenses in food & beverage/CPG industries, you can count on Invensys for your performance, quality and operations management needs.**

#### Unparalleled System Security

System security is a critical requirement for food & beverage manufacturing operations, particularly with the demands dictated by the FDA, USDA and other regulatory agencies. We offer a security model that can be managed and integrated with the IT department's Microsoft® Windows® Operating System security, while providing robust data level security. This model optimizes the management of security within the IT department while protecting SCADA and MES systems from cyber, internal or physical risks. We offer extensive knowledge on securing critical networked applications that coexist with other systems within an open infrastructure. Invensys Operations Management achieves the creation of securable applications, tools and architecture as well as best practices, deployment guidelines and prescriptive guidance for maintaining a secure environment, by collaborating with customers and other industry experts.



### **Collect, Analyze, and Report Critical Site Data**

The Wonderware Historian provides out-of-the-box ease of use and flexibility for defining how data is acquired, compressed, stored, archived and retrieved. All data, regardless of its source or time of entry, is fully integrated into a unified and robust information database. Once collected, data can be displayed in a variety of formats for operators, managers and analysts. Standard trending features aid data analysis and the report generation functions make it easy to create and automatically produce standard or custom reports on a periodic or demand basis.

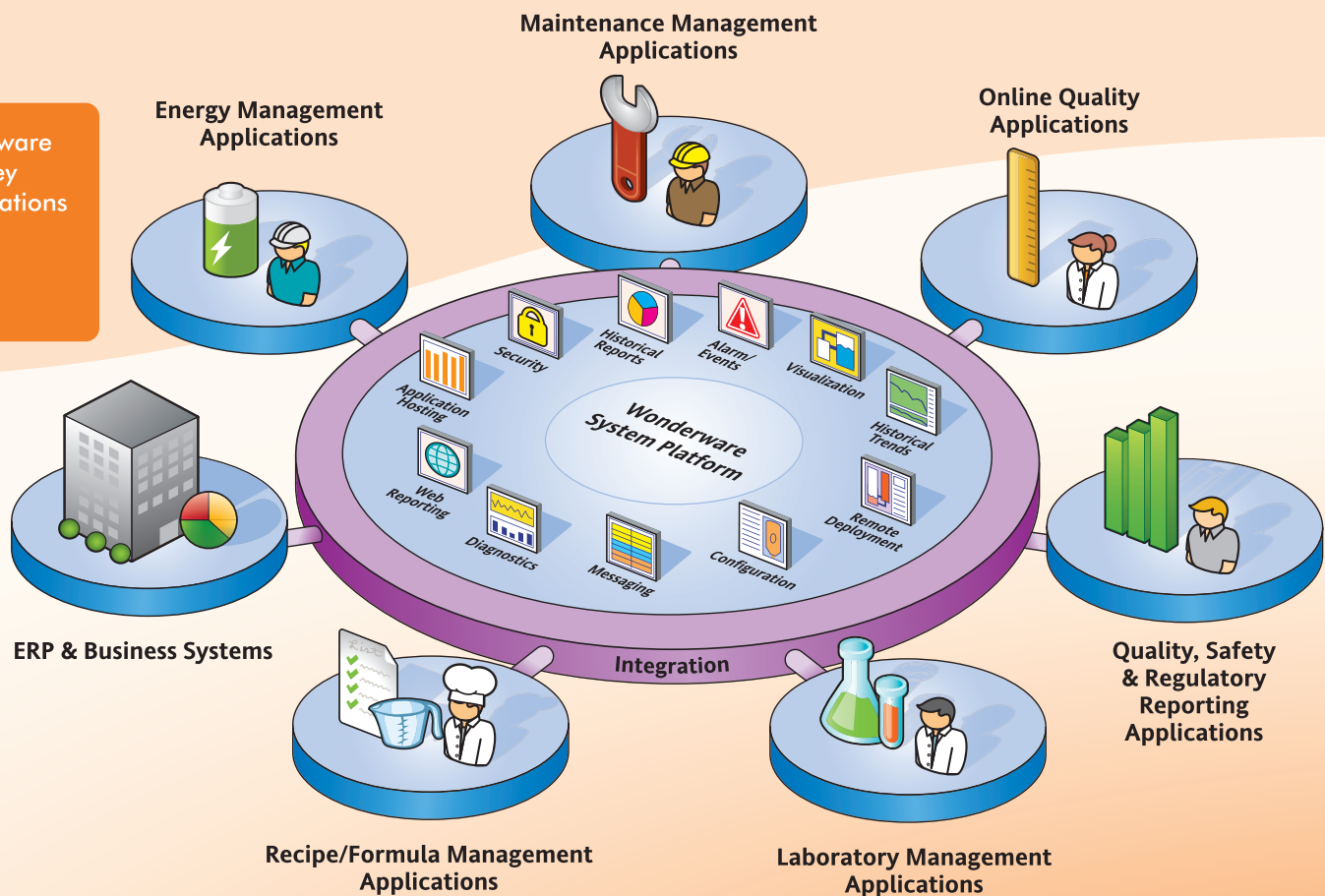
### **Performance Optimization and Data Analysis**

Our Industry Solutions for Food & Beverage/CPG offer many capabilities that can help corporations measure key performance indicators (KPIs), such as equipment performance, daily energy consumption and costs, efficiency calculations, operational costs and regulatory compliance. The ability to track these KPIs over the entire organization can significantly improve visibility into the profitability of the business. Data, alarms and events from all parts of the operation can be aggregated and transformed into useful information, enabling real-time decision making. This information can be displayed via web-based clients throughout an enterprise and used to optimize team performance.

#### **Functions and Capabilities**

- Easily integrates with multiple equipment manufacturers including assembly equipment, control systems and Packaging equipment
- Solid architecture provides common services based on ArchestrA technology
- Open, flexible systems based on industry standards such as ISA95
- Broad distribution channel provides more choices for maintenance services
- Flexible development environment offers advanced application-maintenance and reporting capabilities
- Robust IT-based security model

Wonderware software integrates with key third-party applications to provide a comprehensive solution.



## INTEGRATED REAL-TIME OPERATIONS MANAGEMENT

### Easy to Configure, Easy to Change

Invensys Operations Management provides a single, scalable, and unified software platform for integrating real-time information with all of your business critical operations applications in the food & beverage environment such as industrial automation, asset management and information management. It provides a common and strategic industrial application services platform on top of virtually any existing system.

### Worldwide Support

Invensys Operations Management engages a worldwide network of Distributors and Systems Integrators, including Certified Solutions Providers, Value-Added Resellers (VARs) and Original Equipment Manufacturers (OEMs) to provide local, personalized support. This gives you flexibility—in the way solutions are built, and in your choice of who implements and maintains your system.

### Maintain Product Quality, in Real-Time

With consumer demand for high product quality and consistency, and the need to reduce waste in all stages of production, Invensys Operations Management enables food & beverage/CPG manufacturers to monitor—in real time—the quality of its products and manufacturing processes. Confidence in the product quality increases, and operators can respond more quickly to issues that would otherwise result in greater losses or waste.

### **Laboratory Information Management Systems (LIMS)**

To support the requirement to test and measure many product samples in various stages of manufacture, LIMS are needed. These range from simple Excel or Access-based systems to proprietary systems to full LIMS applications. Invensys Operations Management brings third party LIMS, SCADA and MES data together, providing faster response time to potential quality problems.

### **Enterprise Resource Planning & Business System Integration**

Tight coordination between Enterprise Resource Planning, Supply Chain Management and other critical business systems with factory floor operations is required to handle today's rapidly changing consumer demands. To make the most of existing equipment and materials, and to maintain operational discipline, Invensys Operations Management integrates with business systems to facilitate interaction of production schedules and plans with factory floor manufacturing systems.

### **Integrated Equipment with Maintenance Management Systems**

Integrate actual equipment data with Maintenance Systems to avoid calendar-only scheduled maintenance. We provide the ability to get real-time data needed to generate work orders. This also coordinates efforts between operations and maintenance functions for better asset management.

### **Meet Reporting Demands**

Using real-time quality feedback, Wonderware software helps operators to meet quality requirements at all times. And with so much regulatory oversight, food & beverage manufacturers need information about the ingredients in each product (genealogy) and where and when those ingredients went (traceability). Wonderware software stores required data and makes it available for analysis, including traceability and genealogy reports—quickly and with a minimum of data manipulation. Even environmental requirements are accommodated with massive stores of process and environmental data.

### **Energy Management**

Increasing energy costs are driving the demand for energy optimization techniques, which improve manufacturing efficiencies to better meet production schedule and market demands. Wonderware software provides historical data for demand forecast needs and allows the easy analysis of operations data. Twenty-four hours a day, Wonderware software keeps track of starts and stops and overall usage, allowing schedule adjustments to match demand, and enables manufacturers to maintain the minimum power profile.

### **Manage Complex Recipes/Formulas**

Wonderware software integrates to Recipe or Formula Management Systems, downloading recipes and formulas and their associated equipment set-points, monitoring batch levels with statuses, then reporting any deviations from production plans.



## 7 THE INVENSYS APPROACH

### Quality, Safety and Regulatory Requirements

Food & beverage/CPG manufacturers are expected by both regulatory agencies and demanding customers to manufacture high quality products. Wonderware software helps ensure that products are manufactured according to specifications, in compliance with regulatory and quality standards. Likewise, the software helps the manufacturing processes run as designed, with monitoring, control and data archiving of manufacturing processes. When a potential safety or regulatory problem surfaces fast and accurate product traceability and genealogy are critical. Without it, recall costs can balloon, sometimes with devastating financial impact and damage to the corporate image, product brand and customer confidence. In additions, Wonderware MES software provides this traceability and genealogy, quickly and reliably.

The Wonderware System Platform guards against loss of historical process and product data, which could initiate enormous regulatory fines and penalties. If a network or server fails, Wonderware software collects, stores and later forwards critical data required to generate necessary regulatory reports. Wonderware software easily extracts data from equipment and transforms it into meaningful information, and long term data storage makes data available for reports.

### Growing Costs of Materials and Energy, with Commodity Volatility

Rising costs of raw materials and energy are straining food & beverage manufacturers. Margins are especially tight, so efficiency and productivity in all phases of the supply chain are important to remaining financially viable. Reducing costs in every area is a primary concern. And fluctuating commodity prices make streamlined operations imperative. Wonderware software monitors process variables in real time so that operators can use live data to identify losses—down to the particular station, machine, process or material that caused the problem.

### Business Factors

Food & beverage/CPG manufacturers face significant market pressure against increasing prices, but raw material prices continue to inflate. Manufacturers continuously seek ways to make the most of the equipment and systems that they have to offset rising material costs. So, finding ways to reduce operating costs (including engineering and maintenance costs) to remain more competitive is critical. Wonderware software saves countless hours of engineering time and associated costs by allowing customers to develop “standardized” engineering, objects and graphics that can be utilized again and again. Maximizing resources, while limiting expenditures, is another challenge manufacturers face. Wonderware software helps monitor, control and analyze product and process data to assist in the identification and reduction of losses and inefficiencies.

### Machine and System Diversity

Manufacturers today are facing an unprecedented complexity of systems, software and hardware. Many different types, technologies, makes and models of manufacturing equipment—some of it isolated from other equipment and business systems—make the tasks of manufacturing quite daunting. And global corporations often have multiple sites, sometimes the result of corporate acquisitions that must work together toward the same goals. Wonderware software coordinates manufacturing systems, reducing the need to replace equipment, and is installed cost effectively to provide more modern operations management systems that provide advanced control of manufacturing operations.

### Invensys Operations

#### Management Addresses the Needs of Food & Beverage/ CPG Manufacturers:

- Quality, Safety & Regulatory Requirements
- Growing Costs of Raw Materials and Energy
- Business Factors
- Machine & System Diversity
- Waste Management
- New Product Management
- Operational Discipline

## ➤ COMPREHENSIVE ECS, EMS, DMS AND SCADA SOLUTIONS

### Waste Management

Slim margins require a reduction of waste in the manufacturing processes. This waste takes the form of scrap, downgrades, rework, shrinkage or any issue that lowers yields. And waste in the form of 'giveaways', as in filling operations, must be minimized while meeting net content requirements. Wonderware software provides detailed information about processes and materials, granting greater real-time visibility and awareness of waste.

### Managing Numerous and Complex Products

Some food & beverage manufacturers sell to fast changing and varied markets, have thousands of products, or make complex products. Managing products along with their unique specifications creates a great deal of complexity. And ever-changing market and customer preferences make the addition of new products unavoidable. Managing new products, from the required business systems updates, to the manufacturing system changes required, and assimilation into existing manufacturing lines and processes is a central capability of Wonderware software. Manufacturing recipe or formula-based products adds significant complexity, too. Wonderware software simplifies these complexities while ensuring that the products are manufactured correctly.

### Waste Management

The flexibility to make many products across equipment, with fast changeovers between product runs, gives food & beverage manufacturers the ability to respond to market demands quickly. This flexibility increases inventory turns and decreases the need for "safety stocks." Automating changeovers reduces manual interactions and the possibility of mistakes. Wonderware software delivers on these needs. Companies that depend on product consistency require operational discipline, regardless of location or equipment—with set-point management, procedural enforcement, production tracking and inventory tracing. Wonderware software helps to improve production execution and control, allowing food & beverage manufacturers to achieve high product consistency. Increasing the amount and accuracy of production information gives great insight into the daily food & beverage operations. Wonderware software stores—and analyzes—massive amounts of data, transforming it into actionable information. Monitoring performance on equipment helps to identify and lift bottlenecks, increasing throughput, efficiencies and productivity. Wonderware software allows the detailed monitoring of equipment performance, including Overall Equipment Effectiveness (OEE) and downtime tracking.

## ➤ HERE'S WHAT WONDERWARE CUSTOMERS SAY ABOUT WONDERWARE SOLUTIONS

*"From an administrative perspective, we save a lot of time. From a user's perspective, we minimize frustration. That's the number one benefit."*

—Igor Valuyev, New Belgium Brewing Company

*"Wonderware software is critical to our ability to effectively respond to market pressures, and gives us the information we need when we need it. It supports our vision of the future."*

—Jørgen Greve, Arla Foods

*"Wonderware software enables us to run a much leaner manufacturing operation, and help us demonstrate our abilities to customers, giving them a greater level of confidence in our manufacturing operations."*

—Thom Iwancio, Amcor PET Packaging

*"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, Bean Global Spirits and Wine



**Invensys Operations Management**

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