

THE POWER OF PI IN **food&beverage**



THE RIGHT DATA RIGHT NOW

OSIsoft™

discover the **POWER OF PI** in **FOOD & BEVERAGE**

**Harness the value of PI to improve
quality and efficiency**



The food and beverage industries are characterized by multiple plants with diverse information systems, stringent manufacturing conditions, thin operating margins, and increasing regulatory requirements. Driven by globalization, consolidation, and the need to reduce time-to-market, the complexity of the industry's manufacturing environment requires agility based on real-time information.

The competitive edge goes to those food & beverage companies which produce the highest quality products with the utmost safety, while maximizing enterprise-wide performance efficiencies.

To get that edge, innovative companies are turning to OSIsoft. With its food & beverage experience in real-time data and the PI System's technology leadership, OSIsoft helps companies capitalize on vast quantities of information, using it to attain real-time intelligence and to make sound business decisions quickly. The PI System enables companies to capture, aggregate and analyze current and historical process information and ERP data at multiple manufacturing locations, in real-time, from anywhere in the world.



Close the information gap between operations and decision-making

The PI System provides an accurate view of the plant environment at any given point of access to process information. Management can quickly analyze production performance of multiple manufacturing paths along with detailed individual equipment performance. The PI System delivers scalability, enabling plants to ramp up or down in size, without any degradation in performance.

The PI System closes information gaps by:

- Tracking plant and critical process parameters such as quality and production metrics
- Retrieving data from disparate sources and interfacing with multiple business systems
- Increasing reporting flexibility with easily configurable parameters
- Supplying vital performance data for the enterprise with speed and accuracy

Empower knowledge workers

Knowledge workers are empowered by the PI System's plant visualization displays on their desktops or handheld devices. Connecting enterprise-wide plant and business systems means authorized users can access process information horizontally across all company functions — anytime, anywhere.

Perform real-time analysis with integrated data

The PI System is the critical link that collects, stores and uniformly displays data from all processes within a plant's operation. As a result, quality assurance staff, operators, engineers and managers are able to view information simultaneously, enhancing communications and decisions enterprise-wide.

A process engineering manager at one of the leading food & beverage companies says "The average process engineer is responsible for \$2M in cost reduction annually. With the PI system, our engineers have been achieving more than twice that goal, multiplying their effectiveness."



OPTIMIZE PERFORMANCE

The PI System is currently in use by many of the world's leading food and beverage manufacturers. Here are a few examples of types of food and beverage facilities that have streamlined their business with the PI System from OSIsoft:

- Bulk foodstuffs
- Baked goods
- Dry packaged goods
- Refrigerated goods
- Roasted snacks
- Chocolate and confectionary
- Cheese and cream cheese
- Bulk liquid processing
- Fermentation and brewing
- Canning and bottling
- Fertilizer (bulk and packaged)

The industry is also using PI to optimize performance in auxiliary processes, including:

- Boiler house
- Wastewater treatment
- HVAC
- Warehouse
- IT Systems monitoring

quality



EXECUTIVES USE PI TO:

- Provide enterprise performance management across plant, financial and maintenance systems
- Review summaries of production quality and performance
- Benchmark between sites

QUALITY ASSURANCE, ENGINEERS AND OPERATIONS USE PI TO:

- Track key performance indicators in real-time
- Automate system performance monitoring and trending
- Improve process stability and capability
- Perform real-time troubleshooting
- Monitor remote production sites without leaving their office
- Prove FDA compliance with secure electronic recording including audit trails
- Automate the entry of production information into SAP
- Improve Overall Equipment Effectiveness (OEE)
- Transform the work force from data collectors to knowledge workers and problem solvers



Transform process data into actionable information

Companies are using the PI System to make significant improvements in operational safety by streamlining real-time access to process methods, quality and safety guidelines, recipe adherence, output targets and equipment utilization.

Data analysis is more efficient and comprehensive with the PI System's rapid data collection tools and intuitive graphic displays. There are no new or difficult applications to learn. Microsoft Excel combined with a PI System add-in makes analyses simple.

Remove information barriers for faster decision making

With the PI System decisions can be made immediately, not in hours, days or weeks, aligning manufacturing targets with production specifications. Operations management is enhanced by:

- Improving product quality
- Achieving product consistency across multiple shifts and site locations
- Optimizing yields and reducing scrap
- Monitoring critical process parameters and meeting targets
- Determining root cause and eliminating process exceptions

Meet regulatory compliance

Good Manufacturing Practice (GMP) ensures that production processes repeatedly conform to batch recipes and products meet stringent quality specifications. The PI System supports GMP by monitoring the entire production process from recipe download, to process template profiling, to automated batch reporting, and enforces logon security and audit trails for any manual data changes. The PI System is also validation-ready with supporting documentation to meet all FDA requirements.

The PI System realizes millions of dollars of value by creating:	The PI System provides rapid return on investment:
<i>Greater product consistency across all sites</i>	<i>Up to 80% reduction in off-specification product</i>
<i>Greater production output</i>	<i>Up to 25% improvement in production line speed & efficiency</i>
<i>Elevated product yields</i>	<i>Up to 17% increase in nominal batch yields</i>
<i>Reduced scrap and waste</i>	<i>Up to 90% reduction in raw material scrap and waste</i>

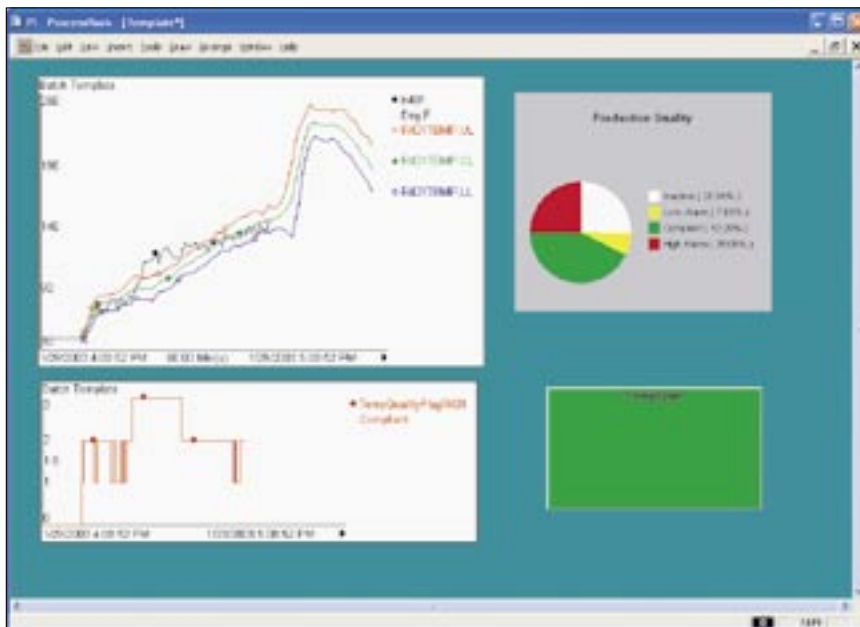
PI's new audit management database and tools support customer's electronic requirements for the FDA. OSIsoft demonstrates data continuity across systems upgrades and throughout any conversions.

The PI System helps meet FDA regulations by:

- Auditing all value, system configuration and user security changes
- Supplying tools to extract data in Microsoft compatible file formats
- Producing selected extracts of process & audit data to facilitate FDA audit requests
- Enforcing authorized access and password management to detect attempts to modify audit file data

Optimize performance

The PI System leverages OSIsoft's comprehensive food and beverage industry real-time experience, along with the latest plant technology. OSIsoft has developed an extensive set of interfaces to ensure connectivity and increased accuracy of information across the enterprise. By collecting and validating data from a wide variety of devices, then aggregating it so it may be easily viewed anywhere in manufacturing or across the enterprise, the PI System helps companies manage real-time transactions and achieve a competitive edge.



PI enhances batch/grade/lot analysis Production cycle times are monitored and process variability is measured with OSIsoft's batch products. These tools are used for identifying process bottle-necks and improving yield and Overall Equipment Effectiveness (OEE).



ONE OF THE TOP 10 FOOD & BEVERAGE COMPANIES

Goals:

- Improve management of production processes
- Integrate with logistics, planning, warehousing and general accounting
- Evaluate plant equipment utilization, materials consumed and produced

Requirements:

Interface with highly complex and diverse control and automation systems, and SAP.

Results:

The PI System delivered easy integration between the transaction based SAP R/3 business system and the real-time control systems. The PI System provided a flexible architecture, resulting in rapid implementation of customer functions.

“Implementing SAP’s R/3 provides many more benefits when you can utilize all of the modules and integrate them with your plant control systems.”

IT Manager



THE PI SYSTEM ADVANTAGE

What Makes the PI System Unique?

- Offers a common platform for connecting systems across sites globally
- Gives summaries for strategic decision-making
- Provides ease of use and speeds data retrieval
- Retains electronic records at original resolution
- Provides detailed monitoring and audit trails to meet FDA data requirements
- Delivers quantifiable results and high return on investment

Food and beverage companies report dramatic improvements in their operations. Here's how:

PI improves batch quality and plant safety. PI reduces production interruptions so plant quality standards are exceeded and safety is improved.

PI maintains critical process parameter targets. Combining real-time batch and statistical quality information with historical data, the PI System optimizes a plant's capacity. PI System information provides powerful decision making tools so staff are able to view, analyze and report on plant operations and manufactured products.

PI increases response and communication. PI lets users immediately identify and respond to potential process or equipment exceptions, as well as to evaluate the potential impact of various scenarios on quality, safety and the environment.

PI extends information accessibility. PI interfaces to various databases, lab, environmental and control systems to permit simultaneous data access for immediate graphical display, reporting and decision making.

PI reduces unscheduled downtime. Companies can combine real-time process information with predictive maintenance information to reduce unscheduled downtime.



Get a unified enterprise-wide status of food and beverage operations with PI ICE, OSIsoft's user configurable Web portal. With the ability to display and compare real-time information, you can more effectively monitor your global operations – anytime, anywhere.

precision

Why leading food and beverage companies prefer the PI System

The PI System is a proven, reliable software system with rapid payback.

With over two decades as a world class software provider and over 10,000 successful system installations, OSIsoft continues to lead the industry. Food and beverage customers typically achieve a return on their investment within three months of installation.

The PI System components are easy to install and customize. A typical PI System installation in food and beverage industries is usually accomplished in about a week, without interruption to current operations. Users can immediately begin creating customized displays, analyses and tailored reports.

The PI System provides data security. The PI System's comprehensive security enforces strict access controls. Multiple layers of security ensure that authority level is matched appropriately with user access permissions. PI's tamper proof security feature maintains an audit trail that identifies all system and data changes by user.

The PI System is scalable. The PI System easily expands an initial installation of 100 tags to an unlimited number of tags without sacrificing performance, regardless of system size.

The PI System offers specialized functionality. Components can easily be added to increase plant capabilities.

The PI System offers 350+ standard interfaces. Extensive interface connectivity is available to all common plant automation and information systems. PI serves as a common platform and data repository for third party applications.

OSIsoft products are Microsoft compliant. All products are designed in compliance with industry standards to compliment existing plant system investments.

The PI System's SAP R/3 gateway is SAP certified. OSIsoft is the industry's premier interface provider to SAP R/3's PP-PI (Production Planning - Process Industries), PM (Plant Maintenance) and QM (Quality Management) modules.

Discover the power of the PI System for yourself

Take a step into a more profitable future. Contact us today at foodbeverage@osisoft.com to learn more about the PI System in the food and beverage industries. You can find business rationales, technical data, presentations, testimonials, select customer lists and company background at www.osisoft.com.



WORLDWIDE SATISFACTION

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Efficiency



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