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WHITE PAPER

ERP for Food and Beverage Industry Compliance

Manufacturers Leverage SYSPRO to Achieve Regulatory Compliance and Food Safety

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ERP for Food and Beverage Industry Compliance

Introduction

SYSPRO helps food processors address the unique challenges of the food industry. By providing solutions that help food manufacturers achieve regulatory compliance and efficiency and profitability goals and ensure food safety and customer satisfaction, SYSPRO enables food companies to predictably manage the obstacles of a mature industry and continue to grow and increase profitability.

Food manufacturers today must contend with greater dependence on fewer (but larger) customers, rising costs of raw materials, heightened consumer awareness of food safety, stringent government regulations and the threat of bioterrorism. Pricing competition among food retailers in mature markets along with the weakened worldwide economy have lowered company profit margins and resulted in rapid food industry consolidation. Large retailers are demanding increased visibility and better results from their supply chains, and food product recalls carry enormous consequences, in costs as well as in damage to brand equity. All of these industry pressures are forcing food manufacturers to introduce better food chain traceability and quality management.

As large operators and retailers gain more power, food manufacturers have less control over prices. Raising prices is no longer an option to fix falling profit margins. Manufacturers must either accept lower profit margins or increase efficiency and decrease costs. Cost management demands accurate, detailed cost analysis. The detailed information required for regulatory compliance can serve as a foundation for improved costing procedures by food manufacturers and result in greater profitability.

By understanding the business processes required for compliance, the challenge of compliance can become an opportunity for business gains. In the highly competitive food market, competitive gain is often tied to how well the business is managed. Compliance can be used to improve the management of the business.

The Industry

Critical issues facing the food industry include heightened levels of regulation in the form of quality, documentation and traceability, customer demands for variety and innovation, low profit margins and shelf life management. Consistent quality of raw materials cannot be guaranteed, necessitating dynamic recipes and variable processes. Forecasting in the final stages of production centers around packaging sizes.

Demand is driven by food consumption, which depends on population growth and demographics. Company profitability is dependent on efficient operations because products are commodities subject to intense price competition. Large companies have advantages in distribution operations.

Processed foods are marketed into three different channels: consumer, food service and food processing. Marketing for consumer products is often through food brokers, who place product with grocery chains. Local operators may sell directly to local chains. Food service and processing sales are handled by a sales force and wholesalers. Many processors produce private-label brands under contracts with local and regional retailers.

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Food Safety

Food safety is the primary concern of consumers, with Salmonella, E.coli, SARS, mad cow disease and genetically modified organisms cropping up around the world. More than 76 million illnesses are caused by food contamination every year in the United States alone.

Government food safety regulations are not confined only to aspects such as expiration dates and packaging, but also extend to traceability of the product throughout the entire supply chain, from raw materials through manufacturing to shipment and final store delivery. The capability to track (farm to fork) and trace (fork to farm) details per product or per lot is critical in the food industry. Tracking begins when raw materials are received.The date and time of receipt is recorded along with the product name, shipping data and lot number. For a manufacturer, consumption must be recorded to link the consumed material to the end product lot. This includes ingredients, packaging materials and all equipment that touches the product.

The operating personnel who are involved in the manufacturing or distribution process should also be tracked. The key people are those who receive the material and those who run the process since they have the greatest impact on the safety and security of the final product. For food manufacturers and distributors, shipping information must be recorded, including lot numbers and selected shipping details.

The ability to trace ingredients, parts and lots to the source is very important in the food industry as demonstrated by the recent contamination of pet food in the United States. More than 60 million cans of dog and cat food were recalled on March 16, 2007, by Menu Foods of Streetsville, Ontario, manufacturer of store brands for companies such as Wal-Mart, Kroger and Safeway, and for brand-name pet food companies, including Iams, PetCare and Science Diet.The company recalled gravystyle foods made from Dec. 3, 2006, to March 6, 2007, after hearing complaints that an unknown number of cats and dogs who ate the food had kidney failure, and about 15 died.

The contamination was traced to wheat gluten from a company in China.The Food and Drug Administration acted against wheat gluten from Xuzhou Anying Biologic Technology Development Co. in Wangdien, China.The pet food was determined to be tainted with the chemical melamine, which somehow became mixed with the wheat gluten at the Chinese company.

Regulatory Compliance

With the U.S. Food and Drug Administration (FDA) having authority over more than 80% of the U.S. food supply, the U.S. Bioterrorism Act of 2002 has more impact on the worldwide food industry than all other regulations combined.The Bioterrorism Act pertains to all companies that manufacture, process, pack, hold, transport, distribute, or receive regulated food products.

The Bioterrorism Act has significant impacts on food manufacturing operations:

- Food companies must establish and maintain a record of the source and destination of ingredients and products. This is called the "One-Up, One-Back Traceability" rule.
- Trace-Back: For all products intended for human consumption, the processor must maintain the source identity of all the ingredients contained in that product.
- Trace-Forward: For all ingredients received, the processor must be able to identify the diffusion of the ingredients in all intermediate and finished products.
- Processors are required to create tracking records at the time of processing.They must maintain the records for a minimum of two years and they must make the records available to the U.S. Food and Drug Administration (FDA) within four hours if requested.
- Food importers must notify the FDA at least one day before a shipment arrives in the United States, disclosing details on the shipment and the contents and estimated arrival time.

Regulatory compliance is not just about the regulations. Regulations focus on both minimizing risk through Hazard Analysis and Critical Control Point (HACCP), and responding to incidents through recalls. How aggressive a food company becomes in compliance efforts should be based on the risk level. of an incident. Categories that process or sell fresh product (for example, seafood, meats, fruits and vegetables, and dairy) are at higher risk of having an incident occur.

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Brand Protection

Food suppliers are expected to prove that they can consistently deliver high quality products to ensure they do not put their customers' brands at risk. In light of recent high-profile food contamination events in the news many food processors now find themselves measured on their ability to help customers protect their brand equity.

Historically, food processors have competed for business based on metrics such as price, product consistency and customer service. In today's highly competitive market, the processor that can demonstrate the most reliable means of brand protection can have a significant competitive advantage. The demands for brand protection begin at points closest to consumers in the food chain and then cascade back all the way to the food source. Every participant in the supply chain assumes the risks of poor quality control, regardless of which partner in the supply chain may cause a problem.

One of the ways that food processors are being tested for brand protection is through food safety audits and mock recalls. Many processors that supply the national retail chains are now conducting mock recalls on a quarterly basis. For a food processor, the cost of a failed mock recall can be catastrophic. Compared to the initial warnings that might be imposed by the FDA, a customer may switch to another supplier based on the failure of even one mock recall.

Automated Traceability

To address the brand protection and mock recall demands of customers, automated traceability systems have become a requirement for food processors up and down the food chain. For many food processors, their current challenge is to find a solution to traceability that is both cost-effective and a good fit for their current business operations. With an automated system for traceability, incoming materials, manufacturing operations, inventory management and customer shipments are all traced in a manner similar to that of established accounting systems.

In an accounting system, the general ledger (GL) serves as the central repository of all financial transactions. In automated traceability systems, the electronic batch record (EBR) serves as the central repository of all operational transactions. Automated operational systems are often linked directly to production lines and to inventory (through barcode and RFID systems) to streamline the flow of critical data directly into the electronic batch record. This reduces the risk of errors during data entry and also speeds the flow of information to support real-time visibility and analysis for company executives.

The advantages of an automated production tracking system are significant:

- **Instant Traceability**
  An automated traceability system provides end-to-end traceability for every action that can impact food, starting with orders placed with suppliers and ending with the receipt of finished goods by customers. At any point in the supply chain, a food processor is able to trace back to the source of all ingredients and trace forward to the disposition of all finished products.
- **Confidence**
  With instant traceability, food processors can gain the confidence of customers, auditors and regulatory inspectors. By establishing the confidence of these constituents, processors can establish a competitive advantage that can add real, measurable value to the business.
- **Improved Bottom-line Performance**
  With an integrated production tracking system, food processors have the ability to improve the financial performance of the company. Detailed visibility into product line costs and profitability, manufacturing efficiency, inventory spoilage and many other operational metrics can expose hidden opportunities for improvement.

Additionally, improvements in forecasting, scheduling and order fulfillment can have a positive impact on customer service. The same automated system that addresses the "overhead" requirement of traceability can also be used to improve bottom-line profitability and competitiveness.

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Barcoding

Compliance requires linking ingredients to end-items. This is best accomplished by real-time recording of lot numbers and the actual quantity consumed. Using bar coding, computer-based batch sheets generated by the ERP system will link consumption to end-items with accuracy.

Management should consider data-collection methods that lower the time and costs involved. Barcoding can strengthen regulatory compliance, improve manufacturing lot tracking and traceability, develop visibility into operations and streamline and automate many of the distribution processes.

Barcoding benefits include:

- Automated regulatory compliance and integration into the ERP
- Facilitation of target-product recall and minimized exposure
- Significant reduction in time required for a recall, from several hours to minutes
- Increased food safety through ingredient tracking
- Improved inventory accuracy
- Reduced manual recording
- Increased visibility and more accurate costing information
- Improved yields across manufacturing processes

The benefits of using barcoding for data collection are speed and accuracy. According to studies, entering barcode data is at least 100 times faster and more accurate than traditional manual keyboard entry, producing a dramatic increase in efficiency and productivity for any operation. When barcodes are used in the business process, procedures are automated to improve efficiency and increase productivity. As a result barcoding can yield tremendous return in a short period of time and often eliminates the need for additional warehouse staff.

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How SYSPRO can help

Food companies today must increase efficiencies, reduce costs and ensure compliance with food regulations across the entire supply chain. Companies using SYSPRO can react rapidly to changes in customer demand through access to real-time supply chain information. SYSPRO provides a totally integrated enterprise business solution that encompasses:

- CRM
- ERP
- Planning and Scheduling
- Business Analytics
- E-Commerce

SYSPRO can improve customer service levels with real-time visibility across the entire enterprise, on-time deliveries and quick response to change-orders. Flexible pricing options, plus the ability to manage promotions and deductions allows profit margins to be optimized. The ability to plan truck loads and routes further improves service and efficiency.

Fully integrated financials ensure that costs and expenses are accurately recorded to provide at-a-glance information of the bottom line. The ability to analyze your company information is the key to success. **SYSPRO Analytics** provides informed decision making, with the ability to slice and dice the data from all areas of your business. Easy manipulation of the views with drill down to detail provides the insight and flexibility required to run a successful business in a rapidly changing world.

Having the right product at the right time is particularly critical for the food industry. **SYSPRO Inventory Forecasting** is a powerful tool that helps plan for the right mix of products, while reducing inventory and facilitating optimum inventory levels. SYSPRO Inventory Forecasting is easy to use and flexible and has the ability to determine the best algorithm to use, per item; it takes the guess work out of forecasting.

SYSPRO manufacturing modules offer an array of features for estimating, master scheduling, factory scheduling, labor performance, costing, purchasing, receiving, backflushing, material verification and capacity and material planning. SYSPRO's powerful lot and serial tracking functionality provides the at-a-glance "source to sale" tracking required by the food industry. The SYSPRO manufacturing suite of applications enables manufacturers to keep finished goods in inventory at an absolute minimum and deliver efficiencies through maximizing throughput and resource utilization by leveling off production peaks and troughs.

Improved decision making is based on what's scheduled and what's running, capacity, resources, labor, work orders, overloads, skills, potential problems, set-up, tear down and pegging. SYSPRO enables a manufacturer to decide where to make the product with what resources, and to specify sequence scheduling thereby improving throughput. This functionality provides the ability to synchronize and integrate a variety of manufacturing techniques all within one fully integrated software system.

SYSPRO provides all the facilities to control both short and long production runs; however, since the batch size of a particular product can vary from a few units to several thousand units, SYSPRO will calculate the dynamic elapsed time of an operation or job. Environments include **assemble-to-order, blend-to-order** and **finish-to-order** through **make-to-order.**

SYSPRO Barcoding Solutions provide an integrated data collection solution for all inventory, warehouse management, sales, purchasing and work in progress transactions, reducing data entry time and increasing operational accuracy and eliminating the need to perform post-processing paperwork. SYSPRO Barcoding is a Web application which means it can operate on any piece of hardware utilizing Internet Explorer, such as a desktop PC, laptop computer, cell phone or a handheld barcode scanner. SYSPRO Barcoding enables realtime tracking of inventory from the time raw materials are received through all phases of manufacturing and distribution. Management always has an up-to-date record of inventory and work-in-progress. Barcode scanning also enables real-time shop floor data collection to track production and capture labor and overhead costs.

SYSPRO's **Lot Traceability** module as well as to other modules facilitates the ability of manufacturers to trace parts and lots. This is very important in the food industry to guarantee public safety and to comply with government standards. In addition to enabling users to trace items from their source to the current location while maintaining assurance certification and tracking expiration dates, the module enables one-to-one tracking between component serials/lots and parent item serials/lots. This gives manufacturers

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the ability to track which component serial numbers were used in the production of a particular parent serial number and which component lot numbers were used in the production of a particular parent lot. The module, also maintains a history of traceable items for accountability and customer service follow-up and keeps detailed notes about inspections.

SYSPRO **Electronic Signatures** enables manufacturers to secure transactions by authenticating the operator who is performing the transaction. This is useful for businesses that require Sarbanes-Oxley compliance or those who simply need to control who in the company is allowed to process various transactions. Electronic Signatures ensure the integrity of transactional activity within SYSPRO, logging who did what and when. Electronic Signatures can be configured against a list of key business processes on a transaction by transaction basis to provide security access, transaction logging and event triggering. Transaction logging enables users to generate an audit file of completed transactions. Event triggering enables users to send an email notification or run another application following the successful processing of a transaction.

Syspro offers you:

- **Design Control** - Extensive design control system allows you to manage incoming/receiving and in-process inspections, electronic digital signatures, materials and quality dispositions along with complaint tracking and non-conformance reporting
- **Document Control** - Maintain an accurate and up-to-date system with SYSPRO document control, engineering change controls, process instruction sheets, maintenance and repairs, as well as health and safety
- **Purchasing Control** - Manage your approved vendor list, inspections, work in process (WIP) and audit trails, as well as get insightful reporting on trend analysis, supplier performance and corrective actions
- **Traceability** - Comprehensive inventory management system enables better batch/lot and serial tracking, lot traceability, shelf life expiration monitoring, FIFO/LIFO, bar code identification, and more inventory and distribution control capabilities
- **Compliance & Regulations** - Facilitate compliance with recall processes, ISO compliance and other the stringent requirements of regulators domestically and abroad.

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SYSPRO a Partner you can Trust

About SYSPRO

SYSPRO software is an award-winning, best-of-breed Enterprise Resource Planning (ERP) software solution for cost-effective on-premise and cloud-based utilization. Industry analysts rank SYSPRO software among the finest, best-in-class enterprise resource planning solutions in the world. SYSPRO software's powerful features, simplicity of use, scalability, information visibility, analytic/reporting capabilities, business process and rapid deployment methodology are unmatched in its sector.

SYSPRO, formed in 1978, has earned the trust of thousands of companies globally. SYSPRO's ability to grow with its customers and its adherence to developing technology based on the needs of customers is why SYSPRO enjoys one of the highest customer retention rates in the industry.

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