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# ERP for Process Manufacturing

## Buyer's Guide

Technology Evaluation Center

# ERP for Process Manufacturing Buyer's Guide

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# Preface

## The Unique Requirements of Food and Beverage Manufacturers

Process manufacturers—especially those in the food and beverage industry—often face a high stakes situation when it comes to information: In this industry, a lack of visibility can translate directly to a public health risk—every food or beverage manufacturer's worst nightmare.

Many vendors of enterprise resource planning (ERP) solutions have spent countless hours trying to understand the nuances of the processing industry in order to develop products that better serve this diverse group. And besides the specific liabilities that come with the food market, food and beverage processors also face the same kind of risks that all other manufacturers do—the costly effects of downtime, for instance, and the need for measures that ensure safety and quality on a daily basis. However, factor in things like limited inventory shelf life, proper sequencing and recipe management, assessing raw material potency, and the need to minimize changeovers, and you have a complex list of requirements when it comes to selecting the right system for your food and beverage processing environment.

In order for manufacturers in the food and beverage industry to fully obtain the benefits they need from an ERP system, they must look closely at elements that factor in day-to-day concerns specific to their industry, including:

**Track & Trace:** Users need to be able to automate recalls if contamination is discovered early—being able to instantly pinpoint where specific ingredients were sourced from, and where shipped product is headed, can keep contaminated foods from becoming a public health risk. If contamination does become a public health risk before an outbreak is discovered, an ERP system should be able to help food manufacturers crunch the data to find out what contaminated lots have in common: whether they were processed on the same piece of equipment or include ingredients from a common supplier, for instance. This will help manufacturers determine which lots are most likely to be contaminated and therefore need to be recalled. It also helps fix problems so they don't recur.

**Data Mining:** Getting your ERP hooked up with as many internal systems as possible optimizes processes and energy use, and minimizes downtime by allowing for the planning of how and when each line can be used most efficiently. For instance, the right ERP features might help a food manufacturer plan cycles so food containing allergens is processed at the

end of the day, meaning that equipment doesn't need to be heavily washed down between product runs. The ERP system can help plan these cycles more efficiently by mining the production information on each lot and automatically creating more efficient production schedules.

**Reducing Costs:** Many food and beverage manufacturers operate with very low margins, and therefore reducing costs through process improvements on a per unit basis can yield significant gains. However, it's also important for manufacturers in this marketplace to keep customers in mind, and many features in modern ERP systems factor in close monitoring capabilities, to ensure yields are on track, labor is well allocated, and production shifts are planned in order to best maximize capacity.

**Compliance & Quality:** In a highly regulated industry, tracking requirements can be its own full-time job. Luckily, many ERP systems are now designed to help users meet new U.S. Food and Drug Administration (FDA) mandates including hazard analysis and critical control points (HACCP) planning, and other requirements mandated by the Food Safety Modernization Act. Compliance and quality often go hand-in-hand in the food industry, and features that limit liability often also improve the end product through consistent quality metrics and improved visibility.

Ultimately, businesses in the food and beverage industry are the same as in any other manufacturing industry vertical—they want to improve their efficiency without reducing the quality and delivery times their customers have come to rely on. As businesses in this space grow, it often becomes a necessity to find a software vendor to serve as a partner—one that can take on the tough job of identifying the unique requirements of this complex industry, and work to address the consistency, quality, and profitability of each individual manufacturer. Finding the right fit is important, and luckily many vendors of ERP solutions have set a great baseline that keeps the individual needs of the food and beverage industry in mind. Now it's just a matter of working out the details.

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# About This Guide

This buyer's guide provides an overview of the process manufacturing industry, including an in-depth look into the needs of process manufacturers, and then gives a detailed description of how an enterprise resource planning (ERP) software system can fulfill these needs. The guide also takes a broad look at major current information technology (IT) trends and their effect on the ERP market, and ERP solution trends specific to the manufacturing industry.

The ERP for process manufacturers buyer's guide also examines the general business challenges faced by process manufacturers, with an emphasis on the unique challenges of the food and beverage vertical, and offers tools for helping these organizations select the right software solution to address the challenges. It further presents a breakdown of ERP product functionality required by process manufacturers and details how a select list of vendors supports those requirements. Lastly, the guide presents a range of real-life case studies that highlight client successes in the process manufacturing sector, along with specialized solutions for food and beverage manufacturers, and thought leadership about relevant process manufacturing issues and challenges and the solutions vendors in this space are offering to address them.

# Process Manufacturing and ERP Solutions

## Process manufacturing defined

Process manufacturers are commonly concerned with tracking formulas and recipes, variable units of measure or bulk products, and product ingredients. Process manufacturing often results in a product, which once produced, cannot be broken back down into its component parts.

Processing manufacturing is defined by APICS, the Educational Society for Resource Management (formerly the American Production and Inventory Control Society), as "production that adds value by mixing, separating, forming, and/or performing chemical reactions. It may be done in either batch or continuous mode," as opposed to discrete manufacturing, which concerns itself with the tracking of parts, units, and bills of materials (BOMs). Like many definitions, this one can be adapted to meet the needs of marketers or others. But, when it comes to manufacturing, APICS is still one of the best sources for purist definitions in the manufacturing industry.

This guide also touches upon mixed-mode manufacturing, defined for the purposes of this guide as a combination of discrete and process manufacturing. (The term is sometimes used to refer to running one manufacturing mode in combination with another manufacturing mode, e.g., continuous make-to-stock [MTS] production lines along with engineer-to-order [ETO].)

Process manufacturing is performed by many different manufacturers, with the majority falling into the following broader vertical market segments: food and beverage, chemical, and pharmaceutical/biotech industries. While other vertical segments, such as nutraceuticals and cosmeceuticals also exist, this guide examines the needs of process manufacturing in general, with a closer look at the needs of the food and beverage industry.

When a process manufacturer is looking for a software solution that meets its needs, it is important to look for a vendor that has developed its solution for the process manufacturing industry from the ground up. Some vendor solutions were initially developed for the discrete manufacturing industry, and functionality specific to process manufacturing was subsequently added as an afterthought. Because the end product of process manufacturing

is created in such a different way from the end product of discrete or mixed-mode manufacturing, certain aspects of the manufacturing process must be treated from a process-specific perspective in the functionalities of a process manufacturing solution, such as formulation, routing, ingredients, unit of measure, and pricing.

Process manufacturers also need to look for vendor solutions that have strong references from customers in their particular industry—it is recommended not to be the first to use a system for a particular vertical market segment. For example, if a bakery is looking to purchase a solution, it should be able to call upon the experience of other bakeries using that solution. The case studies included in this guide provide the reader with solid customer references for process manufacturing solutions.

## Process manufacturing ERP systems

Process manufacturing ERP systems are built to support all business functions of an enterprise engaged in the process manufacturing industry. In other words, these types of ERP solutions provide functional support for financials, human capital management (HCM), process manufacturing, inventory management, purchasing management, quality management, and sales management. Today's ERP solutions also provide support for other business capabilities by providing reporting, business intelligence and analytics, document management, collaboration, workflow management, audit trails, and other functionality sets. These business capabilities provide a platform for a company to get the most out of an ERP solution, as they extend a system beyond transactional processing. A business normally doesn't just create a rush purchase order for a new supplier—it needs to document why the new supplier needs to be rushed through, the appropriate parties that need to be contacted via collaboration tools, and the workflow engines that need to support automatic approvals. These additional capabilities are often what set one ERP provider apart from another.

For the purposes of this buyer's guide, we consider an ERP application system to comprise a fully integrated solution that is provided by a single vendor. The entire solution may be made up of a number of modules; for example, the vendor has a financials module, a human resources (HR) module, and a manufacturing module that make up the entire solution. However, if the solution consists of a set of modules, it should appear to the end user as a single, integrated system.

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# ERP System Technology Trends

As an inherent part of a manifold and highly diversified ERP market, the process-oriented manufacturing ERP software market experiences similar changes and challenges at the macro level as its discrete and mixed-mode counterparts—and as the greater ERP market. These broad trends are described in this section of the buyer's guide, including trends in adoption of cloud solutions, subscription-based pricing, preconfigured vertical market solutions, BI and analytics availability, in-memory technology, mobility, and social media.

## Adoption of cloud ERP

Recent years have seen a spike in the acceptance of various business applications delivered through cloud computing technology. Although this type of technology is associated with definite advantages, such as lower costs over the short term, simplified internal hardware structure, and reduced need for IT staff, manufacturing businesses are lagging behind in terms of readiness to embrace cloud-based ERP.

There are good reasons for it, among them the uniqueness of manufacturing business processes and manufacturers' requirements for full control over their data and data management processes. Also, as ERP implementation in the manufacturing environment entails a longer, more complex process compared with other industries, and process manufacturers usually plan to use their systems over the long term, cloud-based applications don't seem to be the best option. Finally, many critical manufacturing processes are directly associated with a live and running ERP system, and these businesses can't afford to have their everyday operations dependent on the availability of an Internet connection. This is especially true for process-type manufacturers that rely on scheduled processes and those that are tracked on a second-by-second basis. Even a minor malfunction or Internet connection delay within a small system may cause the production of a large amount of scrap or even complete shutdown of a production line—for example, an oven malfunction at a bakery causing just one minute's delay could lead to products being burned and the whole oven load to be scrapped. Therefore, many manufacturing managers cannot fathom the idea that the company's critical processes and highly sensitive data can be maintained externally and still remain safe and secure from external threat. As such, this delivery method is not an immediate option for certain types of manufacturing companies. Nevertheless, more and more companies are taking a cloud-based computing approach—a trend that has the potential to change the landscape of business applications, including ERP solutions.

Of course, there is no single recipe for what constitutes the best option for a specific manufacturing company. Each business should define a strategy for making a decision about cloud computing, including a rigorous examination of the potential risks, benefits, and weaknesses of both cloud and non-cloud software delivery methods and an estimation of the company's own level of acceptance of those risks.

## Subscription-based software pricing model

Along with software delivery and hosting propositions, many manufacturing ERP software vendors have started offering a variety of pricing options for multiple software categories (ERP, CRM, financial applications, etc.). These include defined monthly payments, various software and hardware leasing options, and other options that can be applied to both hosted and on-premise solutions. Those pricing models are often confused with software-as-a-service (SaaS) and cloud computing options—and potential buyers should be aware of the differences between the many hosting and pricing structures when exploring different purchasing options. Software access pricing is indeed a matter of mutual agreement between a software vendor and a client, regardless of the type of software delivery. Cloud ERP vendors are certainly expected to provide pay-as-you-go pricing models, but it's important to realize that more flexible and financially attractive options are also often available for traditional on-premise or hosted solutions.

## Preconfigured vertical market solutions and implementation facilitation tools

ERP systems are extremely sophisticated and intricate software entities that organizations can't just acquire and start using overnight. As ERP implementations are mainly business projects rather than IT projects, a lion's share of the efforts and, consequently, costs of ERP adoption belong to the business side—for example, business process changes and master data preparation. However, a system's deployment and its fine-tuning to certain business processes and practices is still a significant part of a software solution purchasing deal. These processes are often interchangeable, so it's difficult to draw a line between system-related and business-related tasks—some areas require a change to the system setup while others require optimization of processes to accommodate the software. Sometimes clients need to modify both in parallel.

ERP vendors have developed multiple strategies to facilitate this process. One such strategy is the development of specific variations (via different sets of add-ons or preconfigurations) of a solution for different narrow vertical industry segments. For instance, in the ERP for

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discrete manufacturing space, solutions are designed or preconfigured specifically for automobile, electronics, aerospace, and many other verticals. Vendors of ERP for process types of manufacturing often offer solutions for pharmaceutical businesses, food and beverage companies, chemicals, oil and gas, and so on. Software solutions, although similar to one another, vary in multiple ways within those verticals owing to different product types and different compliance and item auditing requirements, among other reasons. Such vertically focused solutions are typically predefined for a specific niche market and require significantly less effort for implementation from both vendors and their clients. The advantages of vertical solutions are obvious: they allow for leveraging vendors' expertise, provide better compliance levels, have embedded best manufacturing practices, and reduce implementation time and complexity. Finally, industry vertical solutions speak the customer's language, including vertical-specific terminology, and require less or, ideally, no customization in comparison to generic solutions.

Another type of often-seen implementation instrument involves specific implementation strategies and methodologies for more rapid and effective deployment of systems. Those tools can include implementation project management methodologies, various types of utility applications, quick system configurations, and personalization packages. Availability (or lack of availability) of such instruments and methods that are useful for both sides of manufacturing ERP software implementation projects—software vendors and their clients—can be an additional and very strong argument in favor (or against) purchasing a specific software product.

## Availability of BI and analytics as a standard option

BI and other data analysis and data visualization instruments have become useful tools for performing company-wide analytics activities. Consequently, more and more manufacturing ERP software packages available today are offering BI, dashboards, and key performance indicator (KPI) modules or tools as a standard embedded feature or as a separate package, either from the same vendor or through the support of the vendor's partner. Oftentimes, this option is less expensive, and, therefore, more affordable to businesses, specifically for small and medium organizations.

Gone are the days when manufacturing ERP users needed to send a request to their IT department to create specific reports in order to see some aspects of their ERP data, as today's ERP software allows for much easier ways to retrieve the required information for analysis. The capabilities that can be afforded to users by BI and other analytics tools embedded in ERP solutions depend on a number of factors, such as the vendor's ability and desire to provide clients with such instruments, the vendor's targeted clientele, and the

availability of the vendor's resources. Nevertheless, the overall trend is to simplify the user experience in retrieving and analyzing ERP data, and more ERP packages should be able to offer this capability in the future. This is definitely good news for ERP users, as out-of-the-box availability of analytical tools allows for easy conversion of raw data into business decisions, and makes it possible for smaller companies to have access to these instruments without the additional expense of standalone BI and other applications.

## In-memory technology

Another trend that deserves serious consideration is the rare but increasing availability of in-memory technology–based ERP software. ERP vendors and clients are widely recognizing and realizing the enormous potential in being able to quickly manipulate and analyze huge amounts of data, and the resulting trend toward in-memory technology will likely continue reshaping the current ERP software landscape over the next few years.

In-memory technology allows for capturing and analyzing data on a single in-memory platform with data operation speeds exceeding those of all known existing business solutions by hundreds to several thousand fold. This allows users to perform business transactions that usually take hours in just seconds, or practically in real time. The truth is that the peerless performance of transactions will not only speed up the usual processes, but will also allow organizations to rethink and reinvent how they conduct their business. Many routine business processes and procedures, which companies have been habitually performing for years, could be heavily modified or even bypassed altogether.

For instance, traditional material requirements planning (MRP) calculation processes, which typically run overnight at thousands of manufacturing facilities, can now be performed within seconds or minutes, depending on the data volume. This will afford manufacturers real-time planning procedures, and, thus has the potential to make batch-based planning and batch manufacturing entirely obsolete. This technology is powerful enough to trace and plan for a single inventory unit or a single manufactured item, and to modify manufacturing plans on the fly. It will inevitably have a huge long-term impact on the entire ERP industry and on other business software industries, as well as on the ways these systems are used.

## Mobility

The rapid expansion and global acceptance of various mobile devices that complement or even replace traditional office hardware have altered the way organizations conduct their business processes. In response, nearly all ERP vendors today offer mobile access to their systems and are constantly developing new mobility-friendly features and functions, from

It's difficult to draw a line between system-related and business-related tasks.

security and user-interface design to reporting and data analysis. Today's manufacturing ERP systems are typically capable of being supported on a variety of devices (smartphones, tablets, industrial data entry devices, barcode scanners, etc.) and technology platforms (iOS, Android, Microsoft).

The ongoing development of manufacturing ERP software for mobile devices has also brought customers various degrees of capabilities, with the evolution of limited reporting to full-scale access to systems created for mobile devices. However, owing to necessary restrictions in accessing a company's information for safety and security reasons, certain limitations and security rules have to be created and strictly followed. This is particularly true with the advent of the recent "bring your own device" (BYOD) trend—whereby users bring their own personal mobile devices to the workplace and then use them to access corporate tools and systems to conduct their work functions. Manufacturing companies that use ERP software therefore need to implement the necessary precautions to allow employees to conduct their functions efficiently while ensuring security of the organization's sensitive financial and accounting information.

## Social media and digital marketing

The growing interest in social media and social communication tools has had an impact throughout the business software realm, including manufacturing ERP applications. In recent years, ERP vendors have taken steps toward social relationship enablement of their systems by acquiring social media software vendors, making strategic alliances with them, or developing their own social media applications. As a result, some vendors now offer social collaboration solutions and networks integrated within their core applications. These solutions and networks are mainly used to communicate with other departments and to facilitate company-wide collaborative business processes such as corporate planning, project management, and purchasing approval procedures.

# Trends in ERP Solutions for the Manufacturing Industry

Here at TEC we have observed a number of trends across manufacturing-focused ERP applications in recent years. These include the blurring of boundaries between ERP tiers, the increasing flexibility of ERP systems, the embedding of lean manufacturing principles, and the enhancement of user experience.

## Blurring boundaries between tiers of ERP

In the software industry, at least in the manufacturing ERP segment, there is an implicit understanding of what is meant by Tier 1, 2, and 3 vendors—large multinational enterprises are typically the clients of Tier 1 ERP vendors, medium-sized ones generally use Tier 2 systems, and, finally, small businesses tend to consider Tier 3 solutions for their operations. But in reality, the situation is much more complex. The lines between tiers are being blurred owing to how ERP systems have historically developed and naturally evolved. Tier 1 vendors have been making a serious downmarket push toward significantly smaller clients: they now offer simplified versions of larger products and versions for narrow market niches; they have developed lower-level functionality packages; they have moved to providing flexibility in pricing, maintenance, and support fees; and they now offer new and more affordable ways for software delivery. At the same time, the much more crowded Tier 2 vendor segment has started to serve midmarket companies as well as push upmarket with ERP products that are increasingly powerful, scalable, and suitable for larger companies. While these solutions have a bit less functionality, they are far more flexible, affordable, easier to implement, and more user friendly than Tier 1 solutions are generally—and have thus become a solid alternative to Tier 1 solutions, even for larger enterprises. SaaS and cloud computing initiatives are blurring the lines even more. Adding to the confusion is the fact that even global companies often mix Tier 1, Tier 2, and Tier 3 solutions. And finally, at the small- and mid-market levels, it's not an uncommon situation for companies that are expanding quickly or expecting explosive market growth in the near future to start small (i.e., with respect to implementation—few licenses, simplified functionality, etc.) with a Tier 1 system rather than use a Tier 2 or Tier 3 system and try to scale it. Such situations also challenge generally accepted tier distinctions and introduce more uncertainty into the conventional understanding of software tiers and their clients.

## Increasing level of ERP flexibility

Over the last several years, there has been a trend to increase the flexibility of manufacturing ERP software via a more user-friendly layer of the user interface that allows for multiple ways of setting and modifying business processes without touching the system's code. Unlike the applications of earlier years, where the algorithms of procedures and business processes were mainly hard coded, today's software systems are designed to permit functional users who are unfamiliar with programming to modify or even design the way their daily routine processes are supposed to be performed, to customize the user interface to make it more convenient and effective, to build their own business flow and finely tune required alerts and notifications, and to create and modify various reports and other BI tools.

Having witnessed many enterprise software demonstration sessions, TEC analysts can attest that the majority of ERP vendors offer such functional capabilities in one way or another, minimizing the need for expensive and complex vendor or third-party modifications and customizations. Some vendors deliberately do not offer specific minor functionality options as standard features—leaving those up to the end user to decide to create them on his/her own thanks to a simple and visual setup and the system's configuration processes. All this leads to shorter implementation time and reduced overall complexity, and the creation of a more comfortable user experience.

## Embedding lean manufacturing principles into ERP

The pure lean manufacturing model does not necessarily imply extensive use of ERP software, at least when it comes to manufacturing planning, execution, and accounting processes. From the lean manufacturing perspective, ERP software itself is a non–value-adding necessity, but it would be incorrect to say that ERP software and lean cannot coexist at all. Reality dictates that companies still require a centralized information, inventory, and order tracking system that would include all aspects of the company's activities.

The majority of manufacturing ERP software applications are typically built on principles that are pretty far from lean management: for example, batch-based manufacturing, MRP planning, inventory management standards, and traditional costing and accounting. However, more and more ERP software vendors are currently developing solutions for lean manufacturing, or at least are offering some elements of it, the most well-known being Kanban.

The concept of lean encompasses continual improvement wherein an organization constantly strives for more efficiency, which translates into increased profit. Each organization must define how to approach lean according to its own internal capability balanced with the requirements of its customers and the practical reality of dealing with and coordinating a multitude of suppliers—to create a smooth and efficient supply chain. While many manufacturing ERP vendors offer lean manufacturing techniques embedded in their solutions to a lesser or greater degree, it is entirely up to the organization to decide whether to subsume ERP lean considerations.

## Optimizing user experience

For years, ERP software for manufacturing was known for its tenuous usability, owing to its overall complexity and difficulty in providing an appropriate technical instrument to support desired interface features. The past decade has seen a dramatic evolution of the ERP software industry, with the emergence of new technologies and tools, as well as a new ERP development philosophy, arising from the advent of Web-based applications and cloud computing. And many ERP software vendors really do a good job of optimizing the user experience, introducing interface and other human-software interaction tools as well as improvements on a regular basis as part of a systematic enhancement roadmap. It is indisputable that today's ERP systems are incomparably better than those of say 10 to 15 years ago.

The major tectonic changes were in the form of more recognizable and conventional Microsoft Windows–like interfaces, more logical and usually simplified navigation, more predominant use of Web-based user interfaces, new abilities for customizing screens, forms, and fields, as well as significantly more graphical capabilities and other visual and intuitive elements for data representation.

And the latest fashion of Web design, common to cloud-based software, along with social media graphics standards, will certainly influence the ERP software interface paradigm in the near future.

# Process Manufacturing Business Challenges

Process manufacturers face a number of significant business challenges. These companies are being pushed every day to find new ways to reduce costs, increase productivity and efficiency, and improve profit margins. At the same time, process manufacturers must find ways to train and retain employees, react to market forces, respond to ever-growing regulatory changes, manage global supply chains, and most of all grow their sales and customer base.

The main business challenges facing process manufacturers include human capital management (HCM), mergers and acquisitions, outsourcing and re-sourcing, regulatory pressures, globalization of markets, and green manufacturing.

## HCM

Though we are well into the 21st century—a time when robotics, automation, and information communication technology play a larger and more important role in business than ever before, businesses cannot lose sight of their most valuable and expensive resource—their people. The process manufacturing industry is not at the top of most people's career lists. So, a process manufacturer must excel at identifying, acquiring, and retaining talent if it is to succeed in its business objectives. This is in addition to handling all the basic HR functions, such as time tracking, payroll, and insurance plans.

These days, people need to track and record their time and expenses almost down to the second. A manufacturer needs to know how much time a person is spending on each component of a company's output. People need to be hired, trained, motivated, and compensated appropriately for the work they perform. The manufacturer is also responsible for monitoring the health and safety of its workforce and ensuring that both the company and its workforce are in compliance with all the applicable employment codes and regulations.

Process manufacturing ERP systems offer varying levels of functional support for helping a company manage its people. The vendor product comparison chart provided in this buyer's guide lists the capabilities provided by ERP vendors in the areas of personnel management,

payroll/benefits, health and safety, and training. TEC considers these capabilities to be basic HCM capabilities of an ERP system. The chart provides a high-level view of the level of functionality provided by different ERP solutions for process manufacturing.

HCM is certainly a very large and broad solution space. TEC's online evaluation centers feature individual functionality models for not only the broader HR market, but also the more focused markets served by learning management, talent management, recruitment and staffing, and incentive and compensation management. Manufacturing system vendors may only provide limited HR functionality to support manufacturing operations and rely on a third-party or partner tool to provide the richer HCM functionality. When looking at a manufacturing ERP solution, the HCM support needed and provided by a vendor is an area that needs more attention than most businesses realize and should not be taken for granted.

## Mergers and acquisitions

Mergers, de-mergers, and acquisitions on scales large and small are a common occurrence in today's business environment. Large multinational companies are not the only ones having to deal with the challenges associated with corporate restructurings.

We see large companies like Philip Morris first completely absorbing Kraft/General Foods and then splitting the conglomerate back into multiple entities. Then years later, the separate Kraft organization is further broken into parts to better realize the value of these individual parts of the company. One might ask what causes the corporate financial wizards to determine first that a company can be more valuable, competitive, and profitable as a larger entity, but then years later realize that the opposite reasoning needs to be applied.

In reality, the merger and acquisition problems faced by the larger companies are really not that much different than the problems faced by smaller companies when they re-organize departments, divisions, and other parts of their organization. When one part of a company is merged into or moved out of another part of a company, many of the same problems faced by large company mergers must be addressed to effect the proposed organizational restructuring. For example, all the costs, sales, assets, and personnel associated with one business entity must be rolled up into another business entity. The corporate financial wizards might even ask for a simple "what-if" report to see what the organizational changes might look like under multiple scenarios—and yes, they want it by the end of the week.

ERP systems can provide a business with the tools needed to effect organizational changes both big and small. Modern ERP architectures have been and continue to be developed to meet the challenges associated with organizational changes. At the core, the ERP system needs to have a flexible data model and architecture that can change with the company.

Business owners have enough problems running the business itself. The ERP system purchased to help run that business shouldn't be another problem.

The financial underpinnings of the system need to have flexible charts of accounts; the system should enable entire departments or divisions to be dropped or moved, and carry with them all the associated history. And, this should be something that can be done by end users of the system—i.e., it should not require a small army of technical resources. So, even if you're a company that isn't thinking about mergers or acquisitions, you should still look for an ERP solution that provides flexible organizational change capabilities.

## Outsourcing and re-sourcing

A number of factors affecting the global market are making companies rethink their outsourcing strategies and look to "re-source" those operations. The devastating earthquake and subsequent tsunami that hit Japan in March 2011 brought painfully into focus the problems associated with a long, extended outsourced network in the manufacturing chain. Also, the rising standard of living in the developing world, coupled with wage stagnation in the developed world, has narrowed the gap between offshore and onshore manufacturing. What we are seeing is that after years of moving toward ways to outsource manufacturing operations, businesses are now also looking for ways to "re-source" some operations.

At the same time, companies are still outsourcing a large variety of tasks and operations that keep the business running. These tasks range from cleaning the facilities to specialized production. Many companies need to manage contract workers and contract manufacturing, and sometimes even outsource entire lines of products to another manufacturing operation.

For a company to succeed in handling whatever market factors affect its decision to outsource or re-source a particular operation, its chosen ERP system needs to have strong purchasing management capabilities (we'll talk about globalization in a later section). The chosen ERP solution needs to provide ratings and profiles for suppliers, and manage quotes, requisitions, purchase orders (include repeat and blanket orders), and the subsequent receipt of goods and services.

## Regulatory pressures

Most process manufacturers don't need to be reminded of the burden that regulatory compliance imposes on their business. All United States–domiciled public companies share the burden of Sarbanes-Oxley (SOX) compliance. SOX-type laws on corporate accountability have been enacted by the largest-developed economies, including Japan, Germany, France, and the developing economies of India and Turkey. The pharmaceutical and biotechnology sectors must ensure that they comply with all applicable regulations,

such as the Food and Drug Administration (FDA) in the United States, the European Medicines Agency (EMA) in the European Union, Health Canada in Canada, etc. Food and beverage manufacturers are not far behind with respect to the long list of agencies and rules that regulates their operations. Providing a full list of all such entities would require a full-length guide in and of itself.

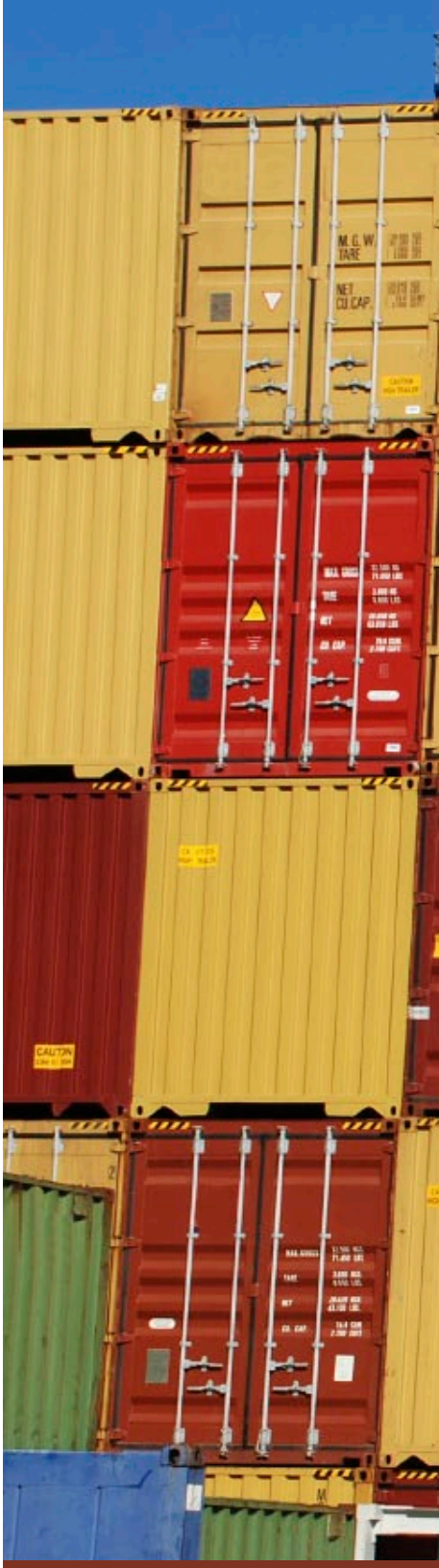
Fortunately for process manufacturers, ERP vendors have, as they say, been there and done that. ERP systems are critical to ensuring that the individual corporate policies developed do indeed comply with the correct regulations. These ERP systems need to have extensive security and auditing capabilities, workflow management, built-in or easily integrated document management capabilities, and very robust reporting and analytics capabilities. These capabilities are broken out in the "Business Platform Capabilities" section of the vendor product comparison chart included in this guide.

In addition to the business platform capabilities, process manufacturing ERP solutions should provide quality and regulatory support out of the box. For example, an ERP solution for a process manufacturer should have capabilities to support quality sampling and testing during product receipt, batch approval, and lot disposition. Material Safety Data Sheets (MSDSs) are carried through with the product from cradle to grave. A well-designed system architecture can also enforce the security associated with a certain user, so that this user can't perform a function if he or she is not properly trained for it.

A good corporate governance policy that harmonizes the various regulatory policies across an organization, along with the proper system policies and processes in place, will go a long way to ensuring that a company is able to comply with the most stringent regulatory compliance requirements.

## Globalization of markets and supply chains

Even though a company might operate in only one country with one official language, the nature of the global economy and diverse workforces requires that companies be able to do business in other languages and buy/sell goods in other currencies. Those of us who live outside of the United States often take for granted the fact that we live and work in a multilingual and multicurrency world. However, it is surprising to see the number of ERP manufacturing systems that do not build their solutions with multiple languages and currencies in mind. This may, of course, be because a large number of the top solutions available in the marketplace have come out of the United States. But, even solutions that originated in the European Union were built initially around a single language and/or currency. Multiple language and currency support is often added later by a vendor, almost as an afterthought.



If a solution consists of a set of modules, it should appear to the end user as a single, integrated system.

The vendor product comparison chart prepared for this guide shows which solutions provide multicurrency, multilingual, and multinational support. The need for strong multi-anything support within an ERP system is something that needs to be looked at in detail before a process manufacturer makes a final purchasing decision. Any vendor solution that requires significant effort to do something as simple as putting employee screen labels in Spanish instead of English, or producing packing slips in French for individual customers, should not be at the top of a company's shortlist of ERP solution candidates.

## Green and sustainable manufacturing

Companies are becoming "greener" and moving toward more sustainable manufacturing practices for a number of reasons. They are being pressured by their customers and suppliers to meet certain environmental standards so that their products are chosen for being more environmentally conscious. Governments are also offering incentives (in the form of tax credits) for sustainable manufacturing. By providing a single, end-to-end view of all the resources and operations of an organization—from the paper purchased for copiers to the amount of electricity and gas used to run an operation, and even the carbon footprint of all raw materials used—an ERP system is really the only way for an organization to be able to truly become greener and more sustainable.

How can a company align with the US Department of Commerce's definition of sustainable manufacturing—"the creation of manufactured products that use processes that are non-polluting, conserve energy and natural resources, and are economically sound and safe for employees, communities, and consumers"—if it isn't able to monitor and track business processes or track safety during those processes? Again, an ERP system can help a company to be greener and to move toward sustainable manufacturing if it is implemented and used correctly.

# Food and Beverage Industry Unique Challenges

There are more bakeries, beverage makers, and food producers selling products in the marketplace today than there are pharmaceutical or biotech companies. In fact, the food and beverage segment makes up the largest single customer base within the process manufacturing market. The overall market for food and beverages is more diverse and dynamic in comparison to other process markets, and as a result the capabilities introduced for food and beverage are often on the leading edge for the entire process manufacturing industry.

The food and beverage industry faces a number of challenges that other process manufacturers do not have to manage as acutely. And consumer sentiment and global market pressures can have a more immediate impact on food and beverage manufacturers than on pharmaceutical companies or other business verticals within the process space. The challenges facing the food and beverage industry that we will cover in this section of the guide are cost and margin pressures; food safety; consumer preferences; and sustainable manufacturing.

Additionally, the product comparison chart **(page 29)** lists a number of system capabilities that are of particular importance to the majority of food and beverage manufacturers. For example, co-product and by-product management, batch scalability, and reverse BOM support are generally more important to food and beverage manufacturers than pharmaceutical manufacturers. Requiring flexible and dynamic packaging options (to support retail and store brands) is an issue that a biotech manufacturer doesn't commonly have to manage.

The food and beverage industry is divided into a number of sub-industries or sub-verticals, including but not limited to: dairy, meat, and meat products manufacturing; beverage manufacturing; sugar and confectionery products; retail and commercial bakeries; food and beverage wholesalers, distributors, and retail; food preparation and packaging; and grocery and food specialty stores.

# Cost and margin pressure—squeezed on all sides

The food and beverage industry generally has very low profit margins. Those in the industry are constantly struggling to sustain a reasonable level of profitability. Input costs can suddenly rise by 5 or even 20 percent because of sudden and often unpredictable events, such as a spring freeze that occurs 5,000 kilometers away, or an unexpected increase in packaging costs. At the same time, retailers, under pressure from both consumers and competitors, want food and beverage companies to provide more for less, including lower prices and faster product delivery. For example, a large retailer on whom a food and beverage company relies for 30 percent of its sales may try to force that company to take a 3 percent price cut with the promise of keeping the retailer's business.

In 2012, KPMG LLP published its "Food and Beverage Industry Outlook Survey." In that survey, KPMG asked executive respondents to rank their "top-five threats to profit margins" and their "top growth barriers." The top-two threats to profit margins identified in the survey results were:

1. costs of inputs or merchandise, and
2. discounting and other sales incentives.

Similarly, the top-two growth barriers were:

1. pricing pressures, and
2. volatile commodity/input prices.

To properly manage these cost and pricing concerns, food and beverage companies need be able to proactively manage all aspects of their procurement, inventory, and sales. A company's procurement management, inventory management, and sales management needs to be tightly synchronized and finely tuned to effectively monitor and rapidly adapt to changing market conditions.

The procurement processes for food and beverage manufacturers have taken on a renewed sense of urgency owing to large spikes in global commodity prices over the past years. Managing the supply chain has always been very important. (TEC's 2012 SCM Buyer's Guide discusses these solutions in great detail and also has a special report on global trade management.) Interestingly, in the food and beverage industry, large and midsized companies are looking to hedge their commodity costs. Most of the Tier-1 ERP vendors have commodity hedging packages that integrate with their solutions; for example, SAP and Oracle both work with Triple Point software, and a number of other third-party solutions for commodity hedging are now available for midsized businesses (e.g., Triple Point Technology's Commodity XL and Eka's Eka.Agriculture solutions).

Companies are being pushed every day to find new ways to reduce costs, increase productivity and efficiency, and improve profit margins.

When it comes to inventory, food and beverage industry players need to do more than simply rotate inventory based on rudimentary first expired, first out (FEFO) algorithms. The system they use needs to completely manage the shelf-life of their products, including the ability to incorporate shelf-life into the equation when generating manufacturing requirements and planning those requirements. When receiving products, the system should only process a payment for products that completely match the specifications given to a supplier based on a number of criteria, not just receipt of undamaged products. The good news is that software providers such as Microsoft have recognized the need for these inventory capabilities, and provide for them in their solutions (e.g., R2 of Microsoft Dynamics AX).

## Food safety

Food safety continues to rank as the top concern for manufacturers in the food and beverage industry. In Food Processing's "2013 Manufacturing Trends Survey," food safety was ranked number one out of a list of 10 preselected major concerns. In this survey, 59 percent of the respondents ranked it as their number one concern, even higher than in 2011, when 53 percent of the survey's respondents chose it as their top concern. This was 32 percent higher than the second-ranked concern—cost control. Labor, inspections/certifications, sourcing and materials, and automation were chosen as the third through sixth top concerns by food and beverage manufacturers.

The food and beverage industry has been charged with managing and tracking the safety of its products "from farm to fork," and governments around the world have responded primarily by putting in place more regulations, further constraining already cost-constrained producers. These days, with ingredients often coming from many different countries for the production of a single product, the regulatory procedure for each product can be time consuming and complex. For example, to make something as simple as Mom's British Jam in Canada—using sugar from the United States, strawberries from Quebec, and a dash of Mom's secret British seasoning from just outside of Dorchester, a company must implement HACCP (Hazard Analysis and Critical Control Points) under ISO 22000 with certifications using either Safe Quality Food (SQF), FSSC 22000, or the British Retail Consortium (BRC), and be able to answer to the Canadian Food Inspection Agency. Moreover, the company has to understand the impact of the *Food Safety Modernization Act*. Although the ISO 22000 was developed by the International Organization for Standardization, national, regional, and local regulations are nowhere near being harmonized.

Process manufacturing ERP software solutions are built to help companies manage the safety and quality of their products. An ERP system built for the food and beverage industry must also have capabilities to manage product recalls, including complete tracking and

tracing of all ingredients used in the process. This functionality must be able to track all ingredients back through the supply chain, referencing the supplier's raw goods down to the source item name and lot. Lot- and even sub-lot–specific tests need to be captured to ensure the end product is free of pathogens or contaminants. Other product attributes important to the food industry include whether the product contains any allergenic ingredients. An ERP software solution for the food and beverage industry must enable this tracking, whether those capabilities are built into the system or provided out of the box. Allergenic ingredient tracking shouldn't be handled by a flexible field that is tacked onto the end of the BOM. This capability needs to be part of the underlying logic used across the modules of an ERP solution.

There are ERP add-on or companion solutions that can be employed to help meet the farm-to-fork safety tracking challenges. One company that provides such a solution is aptly named SafetyChain. Other solutions designed to handle all or parts of the food safety chain requirements include EtQ's Enterprise Quality Management System, uniPoint's Enterprise Quality Management system, and online start-ups such as safefood360. These solutions can help augment or fill gaps that an ERP solution may not have or in cases where it is cost prohibitive to implement a full ERP solution simply to solve food safety problems. These software solutions are an option for those food and beverage manufacturers that are looking for food safety packages but don't need to implement a full process manufacturing ERP suite.

## Consumer trust, dietary preferences, and health needs

Consumer dietary preferences for food and beverage products can change for any number of reasons. Some preferences may be short-lived fads while others turn into long-term trends that the industry must adapt to.

The trust a consumer has in a product or brand is, for the most part, one of the things that a manufacturer can control. Consumer trust in a product is directly tied to how safe a product is, and we've discussed how an ERP system can manage product safety issues. But, the trust in a brand goes beyond producing a safe product.

A product's brand must be monitored and nurtured over years, even generations. The ERP system's support level for customer relationship management (CRM) capabilities is critical to managing a brand. Most ERP providers will provide support for classic CRM capabilities—such as customer contact tracking, marketing campaign management, customer issue, and

Software capabilities introduced for food and beverage manufacturing are often on the leading edge for the entire process manufacturing industry.

case management—as part of their solutions. Today, CRM solutions integrated with ERP solutions should also have the ability to properly manage a customer's entire experience, including social media capabilities and multichannel campaigns. The recent TEC 2013 CRM Buyer's Guide provides guidance on purchasing software in this dynamic market space.

In our modern, prepackaged, fast-food world, the consumer is often looking to get back to more natural or healthier food sources by eating natural or organic products. While there is not a published, agreed-upon definition of what a "natural" product is, governmental bodies have given guidance on what it means for a product to be organic. It is one thing for a company to say that it would like to create organic or natural product lines, but entirely another to be able to prove that they are delivering 100 percent organic products. To prove this claim, the producer needs to ensure that all the ingredients used in the final product are in fact organic, and all equipment used in the manufacturing process has been specified solely or in-part for organic production. It's not good enough to have organic lettuce that runs through a manufacturing line that is used for both non-organic and organic lettuce. That manufacturing line needs to be cleaned for the organic line before switching over to the organic product. To plan and manage these additional requirements, an ERP system must provide a manufacturer with robust shop floor control in combination with batch control and tracking.

Finally, the food and beverage industry is beginning to be pressured to help manage the health of the consumers who purchase their products. It is not a question of if, but rather when producers will be forced to produce individual products or manage a "fleet" of products to comply with dietary guidelines set by governmental agencies. The beverage producers, bottlers, and retailers in New York City recently dodged a bullet when a state judge blocked a proposed ban on large sugary drinks. Mayor Bloomberg has vowed to appeal the decision. In the near future, governments may look to control the diabetes and obesity epidemics by forcing food and beverage producers to not only provide product nutritional labeling, but also limit the fat or sugar content in either individual products or lines of products. Initially, the legislation may be similar to automobile fleet requirements for fuel efficiency, but in some cases, it may become as restrictive as regulations for liquor or tobacco products. Even the corner cupcake and ice-cream shop will not be immune. A food and beverage company that is not able to manage such legislation—it's inevitable—will be at a great disadvantage in comparison to a competitor that has seen the legislative writing on the wall.

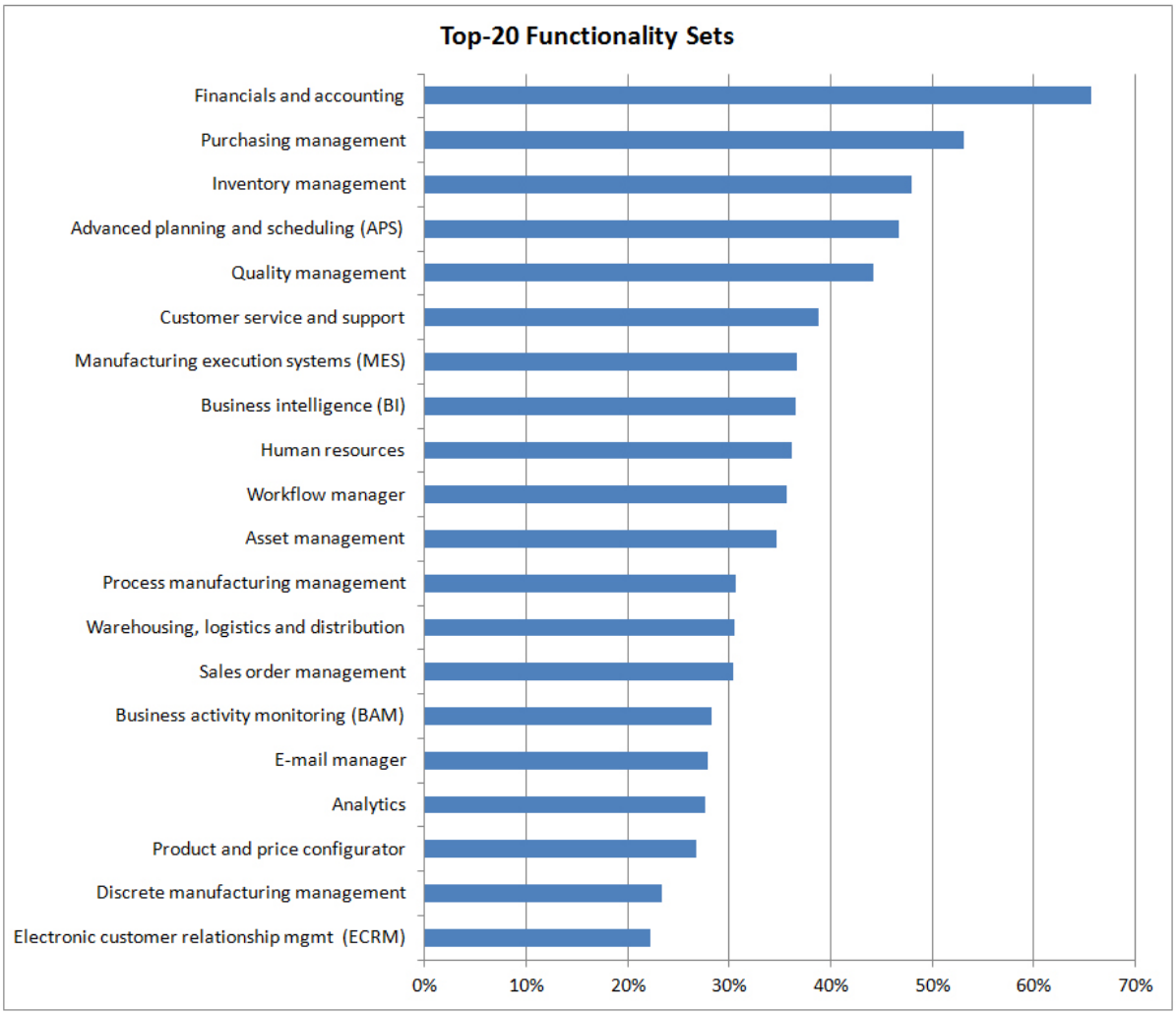
# TEC Market Insight for Process Manufacturing ERP Selection Projects

Over the course of the last two calendar years, the proprietary TEC Advisor tool was used to complete more than 1,500 evaluations of ERP for process manufacturing software solutions. The graph on the next page shows the top 20 high-level functional requirements chosen most frequently by users performing these evaluation projects.

Reviewing this peer data is an important part of the early stages of process ERP selection projects. Analyzing what your peers and competitors are looking for can help you understand trends in the process ERP software space, and potentially discover newer process ERP functionality that you did not know was available.

Once you discover the general shape of the process ERP landscape, you can start to ask questions about what makes certain solutions and features so popular, and whether the processes those features support would be appropriate for your organization.

That information can help you rationalize the need for a process ERP solution, define your company's unique process ERP software requirements, set the scope of your selection project, and determine the appropriate stakeholders.




According to TEC data, the most requested high-level process ERP functional area is financials and accounting, with more than two-thirds (66%) of the selection projects for process ERP requiring this core back-office functionality. Purchasing management is needed by 53% of the projects. Inventory management, advanced planning and scheduling (APS), and quality management each is selected more than 40% of the time.

What stands out in these higher tiers of requested functionality is that over the course of 2011 and 2012, business platform capabilities—for example, business intelligence, a workflow manager, and analytics—were selected as a required functionality more than process manufacturing management. This means that business users continue to look for not just core transactional ERP functionality in their software, but also expect more sophisticated technology from their ERP system provider.

Another interesting choice stands out in the chart: even during a process ERP selection project, 23% of the respondents are also looking for discrete manufacturing management capabilities to be delivered by their ERP system.

# Conclusion

The business of manufacturing is very complex in and of itself, and the number and complexity of business pressures facing process manufacturers seem to grow every year. Business owners have enough problems running the business itself—so the ERP system purchased to help run that business shouldn't be another problem!

In this buyer's guide, we've examined how process manufacturing ERP systems can help your company address process manufacturing-specific problems and pressures. We've also delved deeper and looked at some challenges of one vertical of the process manufacturing field: the food and beverage industry. The overview of the process manufacturing industry and ERP solutions catering to these manufacturers, the case studies of how ERP solutions have successfully addressed the needs of specific process manufacturers, and the vendor product comparison chart of specific software functionality afforded by different ERP process manufacturing solutions on the market today can be considered as a starting point for a process manufacturer undertaking an ERP selection process. For instance, the comparison chart in this guide shows only some 50 summary functional criteria, while the TEC research model for process manufacturing has nearly 3,500 detailed functional criteria used to rate and select a process manufacturing ERP solution.

When you evaluate solutions, you need to perform due diligence to ensure that the solution you purchase will meet the specific needs of your organization. We invite you to use TEC Advisor, TEC's software evaluation tool, to compare a select number of the vendors discussed in this guide, and perform your own detailed analysis of potential process manufacturing ERP solutions for your organization.

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The following product comparison offers a high-level view of ERP functionality and level of support provided by a vendor. The vendors themselves have indicated the level of support provided. When looking to purchase an ERP solution, you will need to review the product in more depth to determine whether the functionality it provides in any zone is applicable to or sufficient for your requirements.

| | | BatchMaster Software<br>BatchMaster Enterprise 8.35 | Deacom<br>DEACOM 15 | Epicor<br>Tropos 4 | Food Decision Software Inc.<br>WinFDS 10 |
|---|---|---|---|---|---|
| | **Functionality** | | | | |
| Financials | Accounting—GL, AP, AR, cash management | S | S | A | S |
| | Fixed assets | S | S | A | S |
| | Cost accounting | S | S | S | S |
| | Budgeting | S | S | P | S |
| Human Resources | Personnel management, employee self-service | A | P | A | NS |
| | Payroll/Benefits | A | A | A | NS |
| | Health and safety | A | NS | A | NS |
| | Training | A | NS | A | NS |
| Process Manufacturing Management | Formulas, recipes, and routings | S | S | S | S |
| | Process batch control and tracking | S | S | S | S |
| | Process manufacturing costing | S | S | S | S |
| | Product costing | S | S | S | S |
| | Shop floor control | S | S | S | NS |
| | Production planning and scheduling | S | S | S | S |
| Inventory Management | Inventory management and processing | S | S | S | S |
| | Locations and lot control, including lot inheritance | S | S | S | S |
| | Forecasting | S | S | P | S |
| | Reservations and allocations | S | S | S | S |
| Purchasing Management | Supplier ratings and profiles | P | S | S | S |
| | Requisitions and quotations | S | S | S | NS |
| | Purchase order management | S | S | S | S |
| | Vendor contracts and agreements | P | S | S | NS |
| | Receipts of procurement | S | S | S | NS |
| Quality and Regulatory Compliance | Quality management | S | S | S | P |
| | Regulatory compliance (FDA, EU, etc.) | S | S | S | S |
| Sales Management | Sales order management, pricing | S | S | S | S |
| | Available-to-promise (ATP) | S | S | S | S |
| | Customer service and returned goods handling | S | S | S | S |
| | Customer relationship management (CRM) | S | S | S | P |
| Food and Beverage Capabilities | Co-product and by-product management | S | S | S | S |
| | Reverse BOM | S | S | S | S |
| | Flexible packaging options (per SKU) | S | S | S | S |
| | Scalable batches and flexible UOM | S | S | S | S |
| | Batch attributes management | S | S | S | S |
| | Catch weight | S | S | S | S |
| | Yield and grade management | S | S | S | S |
| | Potency management | S | S | S | P |
| | Shelf-life management | S | S | S | S |
| Business Platform Capabilities | Document management | P | S | P | S |
| | Workflow and business process management | S | S | S | NS |
| | Reporting and analysis | S | S | S | S |
| | Business intelligence and analytics | P | S | S | P |
| | Bar-coding and RFID | S | S | S | S |
| | Mobile | S | S | S | A |
| | Audit history and trails | S | S | S | S |
| Globalization and Localization | Multicurrency capabilities | S | S | M | S |
| | Multicompany support | S | S | M | S |
| | Multilanguage support | S | S | P | P |
| Delivery Mode | On premises | S | S | S | S |
| | Hosted | S | S | A | S |
| | Cloud-based | S | NS | NS | S |

S Supported | P Partially supported "out of the box" | A Supported via partner's add-on or solution | M Supported via modification or customization | NS Not supported

AP: accounts payable; AR: accounts receivable; BOM: bill of materials; EU: European Union; FDA: Food and Drug Administratin; GL: general ledger; RFID: radio frequency identification; SKU: stock-keeping unit; UOM: units of measurement.

| | | IFS<br>IFS Applications 8 | Infor<br>M3 13.1 | IQMS<br>EnterpriseIQ | JustFoodERP<br>JF12.02 | Microsoft<br>Microsoft Dynamics AX |
|---|---|---|---|---|---|---|
| | **Functionality** | | | | | |
| Financials | Accounting—GL, AP, AR, cash management | S | S | S | S | S |
| | Fixed assets | S | S | S | S | S |
| | Cost accounting | S | S | S | S | S |
| | Budgeting | S | S | S | S | S |
| Human Resources | Personnel management, employee self-service | S | S | S | S | S |
| | Payroll/Benefits | P | S | S | A | S |
| | Health and safety | S | S | P | S | P |
| | Training | S | S | S | S | P |
| Process Manufacturing Management | Formulas, recipes, and routings | S | S | S | S | S |
| | Process batch control and tracking | S | S | S | S | S |
| | Process manufacturing costing | S | S | S | S | S |
| | Product costing | S | S | S | S | S |
| | Shop floor control | S | S | S | S | S |
| | Production planning and scheduling | S | S | S | S | S |
| Inventory Management | Inventory management and processing | S | S | S | S | S |
| | Locations and lot control, including lot inheritance | S | S | S | S | S |
| | Forecasting | S | S | S | S | S |
| | Reservations and allocations | S | S | S | S | S |
| Purchasing Management | Supplier ratings and profiles | S | S | S | S | P |
| | Requisitions and quotations | S | S | S | S | S |
| | Purchase order management | S | S | S | S | S |
| | Vendor contracts and agreements | S | S | S | S | S |
| | Receipts of procurement | S | S | S | S | S |
| Quality and Regulatory Compliance | Quality management | S | S | S | S | S |
| | Regulatory compliance (FDA, EU, etc.) | S | P | S | S | S |
| Sales Management | Sales order management, pricing | S | S | S | S | S |
| | Available-to-promise (ATP) | S | S | S | S | S |
| | Customer service and returned goods handling | S | S | S | S | S |
| | Customer relationship management (CRM) | S | P | S | S | S |
| Food and Beverage Capabilities | Co-product and by-product management | P | S | S | S | S |
| | Reverse BOM | S | S | S | M | S |
| | Flexible packaging options (per SKU) | S | S | S | S | S |
| | Scalable batches and flexible UOM | S | S | S | S | S |
| | Batch attributes management | P | S | S | S | S |
| | Catch weight | S | S | NS | S | S |
| | Yield and grade management | P | S | S | S | S |
| | Potency management | M | S | NS | M | S |
| | Shelf-life management | S | S | S | S | S |
| Business Platform Capabilities | Document management | S | S | S | S | S |
| | Workflow and business process management | S | S | S | S | S |
| | Reporting and analysis | S | S | S | S | S |
| | Business intelligence and analytics | S | S | S | S | S |
| | Bar-coding and RFID | A | P | S | S | S |
| | Mobile | S | S | S | S | S |
| | Audit history and trails | S | S | S | S | S |
| Globalization and Localization | Multicurrency capabilities | S | S | S | S | S |
| | Multicompany support | S | S | S | S | S |
| | Multilanguage support | S | S | S | S | S |
| Delivery Mode | On premises | S | S | S | S | S |
| | Hosted | S | A | NS | S | S |
| | Cloud-based | S | NS | S | S | P |

S Supported | P Partially supported "out of the box" | A Supported via partner's add-on or solution | M Supported via modification or customization | NS Not supported

AP: accounts payable; AR: accounts receivable; BOM: bill of materials; EU: European Union; FDA: Food and Drug Administratin; GL: general ledger; RFID: radio frequency identification; SKU: stock-keeping unit; UOM: units of measurement.

| | | Minotaur Software<br>Minotaur Business System 7 | ProcessPro<br>ProcessPro Premier 10.3 | Ramco Systems<br>ERP on Cloud 5.x | Sage<br>Sage ERP X3 6.5 |
|---|---|---|---|---|---|
| | **Functionality** | | | | |
| Financials | Accounting—GL, AP, AR, cash management | S | S | S | S |
| | Fixed assets | S | S | S | S |
| | Cost accounting | S | S | S | S |
| | Budgeting | S | S | S | S |
| Human Resources | Personnel management, employee self-service | M | A | S | A |
| | Payroll/Benefits | S | A | S | A |
| | Health and safety | M | A | P | A |
| | Training | M | A | S | A |
| Process Manufacturing Management | Formulas, recipes, and routings | S | S | S | S |
| | Process batch control and tracking | S | S | S | S |
| | Process manufacturing costing | S | S | S | S |
| | Product costing | S | S | S | S |
| | Shop floor control | S | S | S | S |
| | Production planning and scheduling | S | S | S | A |
| Inventory Management | Inventory management and processing | S | S | S | S |
| | Locations and lot control, including lot inheritance | S | S | S | S |
| | Forecasting | M | S | P | A |
| | Reservations and allocations | S | S | S | S |
| Purchasing Management | Supplier ratings and profiles | P | S | S | S |
| | Requisitions and quotations | S | S | S | S |
| | Purchase order management | S | S | S | S |
| | Vendor contracts and agreements | P | S | S | S |
| | Receipts of procurement | S | S | S | S |
| Quality and Regulatory Compliance | Quality management | S | S | S | S |
| | Regulatory compliance (FDA, EU, etc.) | P | S | P | S |
| Sales Management | Sales order management, pricing | S | S | S | S |
| | Available-to-promise (ATP) | S | S | S | S |
| | Customer service and returned goods handling | S | S | S | S |
| | Customer relationship management (CRM) | S | S | S | S |
| Food and Beverage Capabilities | Co-product and by-product management | S | S | S | S |
| | Reverse BOM | S | P | S | S |
| | Flexible packaging options (per SKU) | S | S | S | S |
| | Scalable batches and flexible UOM | S | S | S | S |
| | Batch attributes management | S | S | S | S |
| | Catch weight | S | M | S | S |
| | Yield and grade management | S | S | S | P |
| | Potency management | M | M | S | S |
| | Shelf-life management | S | S | S | S |
| Business Platform Capabilities | Document management | S | S | A | S |
| | Workflow and business process management | S | S | S | S |
| | Reporting and analysis | S | S | S | S |
| | Business intelligence and analytics | S | S | S | S |
| | Bar-coding and RFID | P | S | A | S |
| | Mobile | A | S | S | A |
| | Audit history and trails | S | S | S | S |
| Globalization and Localization | Multicurrency capabilities | S | S | S | S |
| | Multicompany support | S | S | S | S |
| | Multilanguage support | P | NS | A | S |
| Delivery Mode | On premises | S | S | S | S |
| | Hosted | A | S | NS | S |
| | Cloud-based | P | S | S | S |

S Supported | P Partially supported "out of the box" | A Supported via partner's add-on or solution | M Supported via modification or customization | NS Not supported

AP: accounts payable; AR: accounts receivable; BOM: bill of materials; EU: European Union; FDA: Food and Drug Administratin; GL: general ledger; RFID: radio frequency identification; SKU: stock-keeping unit; UOM: units of measurement.

| | | SAP<br>SAP ERP | SYSPRO<br>SYSPRO 7.0 | Technology Group International<br>Enterprise 21 ERP 8.1 | TOTVS<br>TOTVS Protheus |
|---|---|---|---|---|---|
| | **Functionality** | | | | |
| Financials | Accounting—GL, AP, AR, cash management | S | S | S | S |
| | Fixed assets | S | S | P | S |
| | Cost accounting | S | S | S | S |
| | Budgeting | S | S | S | P |
| Human Resources | Personnel management, employee self-service | S | A | A | S |
| | Payroll/Benefits | S | A | A | S |
| | Health and safety | S | A | A | S |
| | Training | S | A | S | S |
| Process Manufacturing Management | Formulas, recipes, and routings | S | S | S | S |
| | Process batch control and tracking | S | S | S | S |
| | Process manufacturing costing | S | S | S | P |
| | Product costing | S | S | S | S |
| | Shop floor control | S | S | S | S |
| | Production planning and scheduling | S | S | S | P |
| Inventory Management | Inventory management and processing | S | S | S | S |
| | Locations and lot control, including lot inheritance | S | S | S | S |
| | Forecasting | S | S | S | S |
| | Reservations and allocations | S | S | S | S |
| Purchasing Management | Supplier ratings and profiles | S | S | S | S |
| | Requisitions and quotations | S | S | S | S |
| | Purchase order management | S | S | S | S |
| | Vendor contracts and agreements | S | S | S | S |
| | Receipts of procurement | S | S | S | S |
| Quality and Regulatory Compliance | Quality management | S | S | S | S |
| | Regulatory compliance (FDA, EU, etc.) | S | S | S | M |
| Sales Management | Sales order management, pricing | S | S | S | S |
| | Available-to-promise (ATP) | S | S | S | S |
| | Customer service and returned goods handling | S | S | S | S |
| | Customer relationship management (CRM) | S | S | S | S |
| Food and Beverage Capabilities | Co-product and by-product management | S | S | S | M |
| | Reverse BOM | S | S | S | S |
| | Flexible packaging options (per SKU) | S | S | S | S |
| | Scalable batches and flexible UOM | S | S | S | S |
| | Batch attributes management | S | S | S | M |
| | Catch weight | S | S | S | S |
| | Yield and grade management | S | S | S | NS |
| | Potency management | S | S | S | S |
| | Shelf-life management | S | S | S | S |
| Business Platform Capabilities | Document management | S | P | S | A |
| | Workflow and business process management | S | S | S | M |
| | Reporting and analysis | S | S | S | NS |
| | Business intelligence and analytics | S | S | S | P |
| | Bar-coding and RFID | S | S | S | S |
| | Mobile | S | S | S | NS |
| | Audit history and trails | S | S | S | NS |
| Globalization and Localization | Multicurrency capabilities | S | S | S | S |
| | Multicompany support | S | S | S | S |
| | Multilanguage support | S | S | S | S |
| Delivery Mode | On premises | S | S | S | S |
| | Hosted | S | S | A | S |
| | Cloud-based | S | S | NS | P |

S Supported | P Partially supported "out of the box" | A Supported via partner's add-on or solution | M Supported via modification or customization | NS Not supported

AP: accounts payable; AR: accounts receivable; BOM: bill of materials; EU: European Union; FDA: Food and Drug Administratin; GL: general ledger; RFID: radio frequency identification; SKU: stock-keeping unit; UOM: units of measurement.

# TEC Resources for Process Manufacturing

## Special Reports

TEC 2013 ERP Market Survey Report: What Organizations Want in Enterprise Resource Planning Software

## Articles

Usability Still a Problem for ERP Users

Project Management Isn't Enough for Your ERP Implementation

Tier 1 vs. Tier 2 vs. Tier 3 ERP: What's the Difference, Anyway?

Enterprise Software: What to Expect When You're Expanding

Should You Keep or Replace Your Legacy ERP Software? Here's How to Decide

Cloud ERP for Manufacturing: 6 Considerations

A Portrait of the Enterprise Software User in the Pharmaceutical Industry

## Vendor Notes

Glovia: Glovia Confirms the Potential of Its G2 ERP at User Conference

Microsoft: Microsoft Convergence 2013 Observations (From Afar)

NetSuite: NetSuite and eWinery Clink Their Glasses

Oracle: Oracle Enhances JD Edwards EnterpriseOne at Its Partner Summit

SYSPRO: Taking a Quantum Leap or Simply Becoming Smarter?

## Software Evaluation Tools

*ERP Request for Proposal (RFP) Templates*

Get a detailed, customizable enterprise software feature list for your Process ERP software evaluation.

Process Enterprise Resource Planning (Process ERP) RFP Template

ERP for Manufacturing, SMB (ERP for SMB) RFP Template

*Software Evaluation Reports*

Get a side-by-side comparison of ERP software solutions for manufacturing.

Process Manufacturing (ERP) Software Evaluation Report

*In-depth Software Evaluation*

Use TEC's online software evaluation system, TEC Advisor, to see how Process Manufacturing ERP software solutions address your company's unique business requirements. Start your online evaluation now.

# TEC Helps San Carlos Select New ERP Solution

## Company

La Sociedad Agricola e Industrial San Carlos is one of the three largest sugar cane plantations and sugar mills in Ecuador—exploiting 23,000 hectares of sugar cane. In operation since 1897, the company has over 3,500 employees and annual revenues topping $100 million USD.

## Challenge

By Ecuadorian standards, San Carlos is a large and complex organization. It has a number of sister companies, including a distillery, a paper mill, and a recycling plant. The company also manages other facilities such as a hospital, guest housing, and supermarkets.

Management began looking for an enterprise resource planning (ERP) platform that could support all of these organizations. The plan was to implement the new system in the company's sugar mill before rolling it out across the organization.

As part of the selection process, San Carlos needed to map its varied business models and processes onto one comprehensive software feature list that it could send to vendors and use as a basis for comparing different solutions—an exercise the San Carlos selection team had estimated would take about a year.

To get expert help with its ERP selection and speed up the mapping process, San Carlos turned to Technology Evaluation Centers (TEC).

## Requirements

The single platform needed to support the following elements:

- Industry-specific operational functionality for agriculture and process manufacturing
- Standard and extended ERP back-office functionality, such as financials, purchasing, inventory, human resources, fleet management and maintenance, project management, and quality management

> "TEC built a great rapport with our executives, which helped us get buy-in from stakeholders and gave our selection project real momentum."
>
> – Andres Arosemena,
> ERP Project Manager, San Carlos

- Support for multiple companies
- Support for international financial reporting standards (IFRS) now adopted in Ecuador
- Integration with the company's existing payroll system

San Carlos estimated that the system would need to support 400 users.

## Project

San Carlos had already hired PricewaterhouseCoopers to document its business processes. Now the company needed to translate those processes into a set of functional and technical requirements that software vendors would be able to understand—and respond to accurately.

So TEC built a custom requirement set that included standard ERP functionality as well as industry-specific features and functions for agriculture and process manufacturing. The requirement set also included functionality that was applicable to San Carlos' sister companies.

Following discussions with the project management team, TEC helped the company complete a long list of solutions and issued requests for information (RFIs) to collect vendor responses. Unfortunately, those responses revealed that no single vendor would be able to deliver all of the company's requirements in an integrated solution.

So on TEC's advice, San Carlos began looking for an integrator that could combine best-of-breed solutions into a unified platform that would provide everything the company needed—and eventually settled on a short list of three.

From there, San Carlos continued to evaluate and compare the short-listed integrators using the TEC Advisor online evaluation and selection system and TEC's selection methodology. TEC helped San Carlos develop a process for more in-depth evaluations—including reference checks and scripted demonstrations. Scores from those activities were added to the TEC Advisor evaluation.

Comparing solutions with TEC Advisor allowed San Carlos to pinpoint each solution's strengths and weaknesses—giving the company a very good idea of what it would get and how each solution would address its needs. This gave the company a huge advantage during negotiations and subsequent implementation.

> "TEC's project delivery group was instrumental in providing guidance both on- and off-site."
>
> – Andres Arosemena,
> ERP Project Manager, San Carlos

## Result

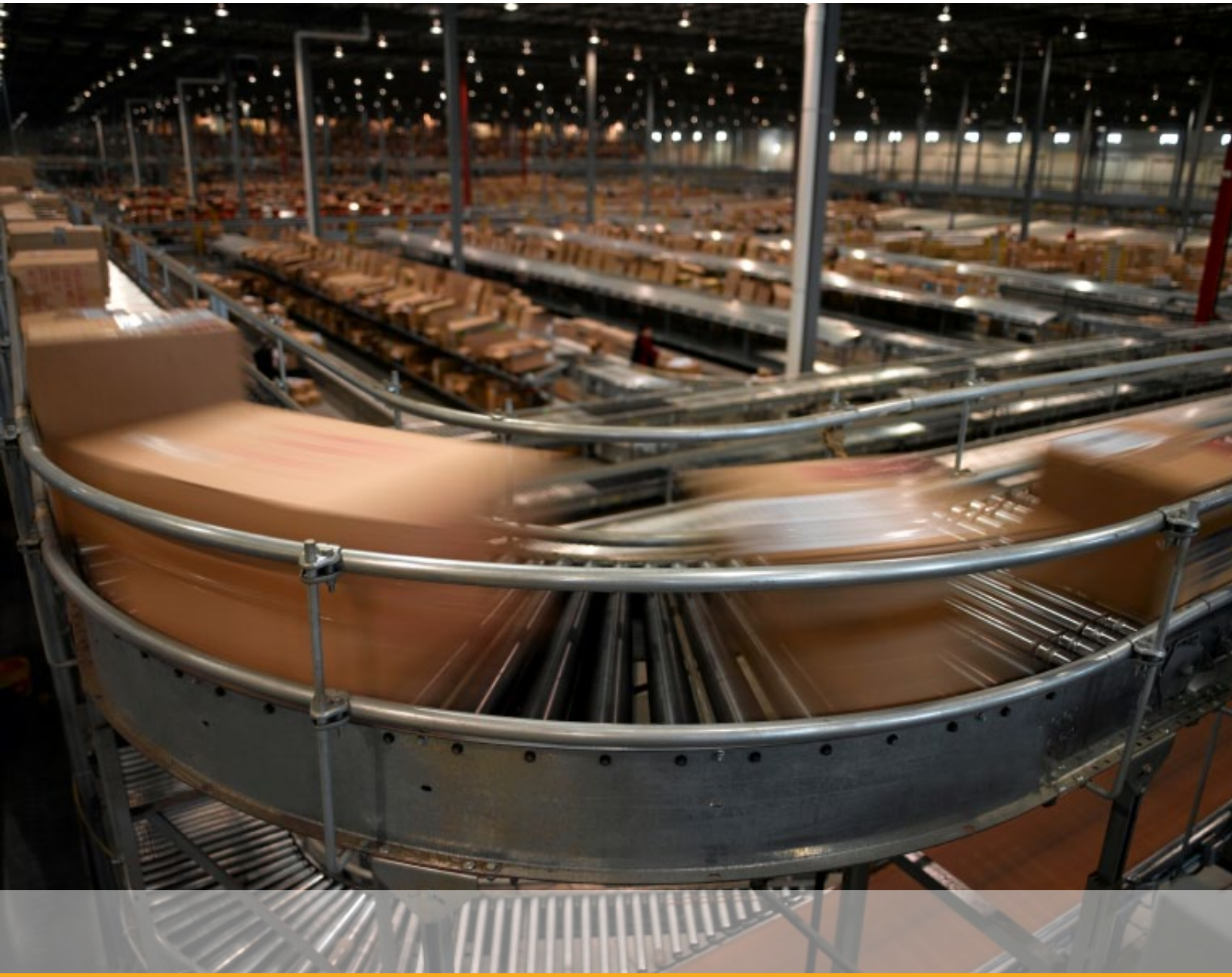
With TEC's help, San Carlos was able to select the winning solution in just six months—less than half the time the selection team had originally budgeted.

Asked about the benefits of working with TEC, the San Carlos team cited fast requirements gathering, help defining the scope to the project, and the TEC Advisor evaluation and selection system—which was instrumental for analyzing and presenting results at every stage of the project.

The San Carlos team also identified expert help with negotiation as a major benefit of working with TEC since it helped them pinpoint potential cost savings in areas they might not have considered.

In the end, the selection project was so successful that San Carlos turned to TEC again for help with the implementation—from an initial review of the statement of work, to overseeing the implementation methodology and planning, to onsite support before and during the switchover to the new system.

> "TEC provided expert advice throughout the negotiation and helped us identify costs savings that we would not have considered initially."
>
> – Andres Arosemena,
> ERP Project Manager, San Carlos



# Casebook

Case Study

# Deacom Customer Success Story

## D.G. Yuengling & Son—Brewing Up Efficiency

*Based in Pottsville, Pennsylvania, D.G. Yuengling & Son, America's oldest brewery, has been family owned and operated since 1829. Yuengling produces about 2.5 million barrels of beer annually, operating two Pennsylvania facilities and a brewery in Tampa, Florida. Principal beer brands include Traditional Lager, Light Lager, Yuengling Premium Beer, Yuengling Premium Light Beer, Original Black & Tan, Dark-Brewed Porter, and Lord Chesterfield Ale.*

### Situation

Over the past 10 years, Yuengling has experienced such rapid growth that it has had to make significant changes to key systems in order to keep up with demand. Yuengling recognized that the disparate, outdated enterprise resource planning (ERP) systems in place at its facilities in Pennsylvania and Florida were hindering the company's ability to successfully expand its distribution. These incompatible systems were causing duplication of processes, limitations to data access, and an inability to generate effective and accurate reports. Significant manual data entry was required, resulting in a high risk of human error and a lack of confidence in the company's data. In addition, the systems were used primarily for accounting, order entry, and invoicing, and did not incorporate the operations side of the business, sales and marketing, point of sale, or gift-shop sales.

Yuengling recognized its need for a centralized system that would integrate all departments across each brewery. Streamlining its processes for greater efficiency across plants and having simple, standardized functions to effectively cross-train employees were high on the company's list of priorities.

In addition, Yuengling required cross-facility invoicing functionality to ensure correct financial reporting, and a high level of security to allow all users access to the same system while also restricting their level of visibility.

## Selection

An internal team of senior executives, information technology (IT) professionals, and representatives from various departments within Yuengling evaluated the company's requirements and narrowed the prospective vendor list to Microsoft Dynamics NAV and DEACOM ERP. After a thorough qualifying process, the team determined that Microsoft Dynamics NAV did not have the process manufacturing functionality the company needed without a large degree of customization. Deacom, the only ERP on the market to offer all required functionality for process manufacturing companies without third-party bolt-ons and customizations, stood out due to its simplicity and ease of use. As many of the Yuengling users were not accustomed to using ERP regularly, these were important requirements. In addition, Yuengling placed high value on the working relationship with its ERP provider and felt that Deacom's business model and commitment to simplicity lent itself to high-quality implementation and ongoing support.

## Implementation

Yuengling looked to Deacom to provide an experienced perspective on how to streamline system variances between facilities. Deacom's decision to stagger the implementations per department helped manage the workload for the client. When the level of complexity of the company's cross-facility transactions presented challenges, the Deacom team promptly addressed the issues and worked closely with the users at both facilities to help them through the transition.

From a development point of view, Deacom's core principle is that all users have the same code base and no customizations. For Yuengling, this meant that the company was able to take advantage of enhancements put in place for other companies in different industries to improve their processes, and that Deacom worked closely with the team to enhance the base code of Deacom to fit Yuengling's unique processes. This is one way Deacom improves the solution without creating bloated, cumbersome software.

"We look at each implementation as a way to increase our customer's best practices and for us to also improve our best practices for future implementations. I think with Yuengling we did a lot of both," said Deacom implementation manager Todd Shilhanek. Wendy Yuengling-Baker, Yuengling's administrator, said, "Despite the numerous issues a significant overhaul of processes could present, the implementation went very smoothly. We had no major issues during the go-live phase or on Day 1. Deacom implementation specialists were on-site in both our Pennsylvania and Florida locations, which helped tremendously with the transition."

"Despite the numerous issues a significant overhaul of processes could present, the implementation went very smoothly. We had no major issues during the go-live phase or on Day 1. Deacom implementation specialists were on-site in both our Pennsylvania and Florida locations, which helped tremendously with the transition."

Wendy Yuengling-Baker,
Administrator, D.G. Yuengling & Son

# Customer Satisfaction

With DEACOM ERP in place, Yuengling has had significantly better tracking of data required for reporting. The system has the capability to capture information at a level which was previously unattainable. "DEACOM has simplified our business reporting processes, particularly for state reports that we are required to submit on a monthly basis." said Yuengling-Baker. "Additionally, the EDI [electronic data interchange] import process, used for order services, gift-shop Web orders, and point-of-sale Web orders, has eliminated the need for manual data entry."

> "We were doing a lot of manual work. DEACOM has made it easier for our employees to ensure only the best-quality beer is being distributed, while also increasing productivity."
>
> Wendy Yuengling-Baker,
> Administrator, D.G. Yuengling & Son

## About Deacom, Inc.

Deacom, Inc., is the producer of an ERP software solution for process manufacturing companies that manufacture adhesives, sealants, chemicals, lubricants, cosmetics, food, beverage, pharmaceuticals, nutraceuticals, paints, and coatings. For the past 19 years, Deacom has offered the best process control for highly complex, highly regulated industries by providing a single, scalable ERP solution built on a strong technology foundation, specifically for process manufacturers. Deacom provides freedom from bolt-ons and customizations and a powerful and simple to use software solution developed, implemented, and supported by a single ERP partner. By making complex issues simple, Deacom helps streamline manufacturing business processes to maximize productivity and profitability. To learn more visit www.deacom.com or contact us at info@deacom.com.

deacom®
complexity made simple

Case Study

# Epicor Customer Success Story

## Epicor Tropos Solution Key ERP Ingredient for New Bloomer Candy Company

New Bloomer Candy Company is a chocolate manufacturer and distributor based in Zanesville, Ohio. For more than a century, customers have enjoyed the superior taste of New Bloomer Candy Company's milk chocolates, which are blended in precise detail from family recipes. Today, the company not only produces the same delicious milk chocolates that everyone has come to expect, but also has expanded into other product areas such as dark chocolate, gummies, hard candies, and sugar-free candies. The offerings are as endless as they are delicious.

The relentless pursuit of chocolate perfection has always been New Bloomer Candy Company's goal. To continue this tradition, New Bloomer Candy Company wanted to find the right enterprise resource planning (ERP) software solution to replace its outdated legacy system. Epicor® Tropos for process manufacturing was the key ERP ingredient to carry on the company's highly coveted family recipes and candy-making processes.

### Requirements and Software Selection

New Bloomer Candy Company controller, Michael Montgomery, explains about the legacy system that had been in place for more than 20 years: "It was a glorified bookkeeping machine. The system was weak and needed to be replaced."

A thorough evaluation of 51 potential ERP vendors revealed many requirements for the new software solution:

- Real-time information
- Recipe management
- Bill of materials
- Sales management
- Lot traceability
- Inventory management
- Integrated financial applications

Epicor Tropos was selected owing to its full suite of specialized functionality to fit the operations of food service companies, from manufacturing to distribution. Designed specifically for process manufacturing, Epicor Tropos provides recipe-based production, materials traceability, and regulatory compliance for New Bloomer Candy Company, in addition to the traditional ERP functionalities to gain business efficiency and cost savings, and enhance customer service.

"The Epicor Tropos ERP platform and their expertise in the food and beverage industry were a real plus to New Bloomer Candy Company," says Jerry Nolder, chief executive officer (CEO). "Epicor Tropos enables big ERP capabilities for a small candy manufacturer like us, and gives New Bloomer Candy Company a competitive edge over similar candy companies."

In addition to the functionality within the system, Epicor demonstrated excellent customer support. "We are a small candy manufacturer and we felt comfortable that Epicor would give us the support and attention we needed to help us get up and running on the system," adds Montgomery.

> "The Epicor Tropos ERP platform and their expertise in the food and beverage industry were a real plus to New Bloomer Candy Company."
>
> Jerry Nolder, CEO,
> New Bloomer Candy Company

## Epicor Delivers

With Epicor Tropos, New Bloomer Candy Company gains the following:

- Out-of-the-box comprehensive solution that integrates core ERP functions with touch screen–enabled shop floor–data collection and mobile barcode scanning of inventory
- Built-in functionality including forecasting, capacity planning, drag-and-drop production scheduling, and quality
- Easy identification of potential stock shortages
- ERP solution designed from the ground up to meet the demands of process manufacturers, without the need for customized bolt-on or add-on products

"We have all the tools to watch our company through our ERP system," says Montgomery.

## Notable Benefits

Epicor Tropos allowed New Bloomer Candy Company to establish a powerful lot control and traceability system with its suppliers. "Before Epicor Tropos, we didn't have the ability to trace forward or backwards if we had a product recall," says Montgomery. Epicor Tropos delivers full visibility of ingredients from origin to the final customer, which keeps New Bloomer Candy Company ahead of regulatory requirements and keeps it covered should an audit or potentially damaging product recall be required.

Job costing was the next big improvement. In the food service industry, there are many expenses to consider: labor, raw materials, packaging, and overhead, among others. Epicor Tropos tracks all of these components to ensure correct costing so New Bloomer Candy Company's sales prices are correct and generate a positive gross profit for the company.

> "Epicor Tropos has given us the ability to really control how our business is run."
>
> Michael Montgomery, Controller, New Bloomer Candy Company

## Empowering Users

New Bloomer Candy Company went live on the system in September 2011 and appointed 20 users within the organization—everyone from the CEO to manufacturing and production has access to the system. By delivering a 360-degree view of the company, Epicor Tropos has inspired employees to learn all facets of the organization beyond their job-specific duties.

"We're a better organization because our staff knows more about the company and has a better understanding of the whole process," says Montgomery. This understanding has empowered employees to take ownership of their work and pride in what they're doing.

Additionally, having one source of information allows staff to spend less time looking for information and more time doing something constructive with it, all of which makes their jobs easier and more valuable. Access to real-time, accurate information also enables the company to be more productive, freeing employees to track work orders, monitor production, and run reports without having to ask others for assistance; and, more importantly, they can trust the information is current and up to date.

## Return on Investment

Epicor Tropos has exceeded New Bloomer Candy Company's expectations and has proven to be a good, user-friendly system. According to Montgomery, the biggest return on the software investment is getting people to trust the system. "The super users on our legacy system doubted the new ERP solution, but now they believe that the information they're seeing is trustworthy. They look at the numbers and go off the numbers, which proves the system is working."

New Bloomer Candy Company estimates it has recovered more than half of its investment since implementation based on the tools the system has given to drive efficiencies across all areas of the organization. "Epicor Tropos has given us the ability to really control how our business is run," says Montgomery. "So far we're using about 50 percent of the system's capabilities to manage order entry, picking, invoicing, purchase orders, and work orders. Epicor Tropos has all the bells and whistles that we need, and we look forward to taking advantage of what the other half can help us accomplish."

"Epicor has been very supportive during our transition. The product is great and so is the service. I can see we'll be great partners for years to come," concludes Montgomery.

## Company Facts

- Location: Zanesville, Ohio
- Industry: Chocolate manufacturer and distributor
- Web site: www.bloomercandy.com

## Success Highlights

**Challenges**

- Replace legacy system with an ERP solution designed for food and process manufacturers without the need for customized bolt-on or add-on products
- Required an ERP solution to support recipe-based production, in addition to the traditional ERP functionalities to ensure the highest quality and value to its customers

**Solution**

- Epicor Tropos ERP

**Benefits**

- End-to-end supply chain management
- Top-to-shop floor visibility
- Improved purchasing and job costing
- Established a powerful lot control and traceability system with its suppliers

## About Epicor Software Corporation

Epicor Software Corporation is a global leader delivering inspired business software solutions to the manufacturing, distribution, retail, and services industries. With over 40 years of experience serving small, midmarket, and larger enterprises, Epicor has more than 20,000 customers in over 150 countries. Epicor enterprise resource planning (ERP), retail management software, supply chain management (SCM), and human capital management (HCM) enable companies to drive increased efficiency and improve profitability. With a history of innovation, industry expertise and passion for excellence, Epicor provides the single point of accountability that local, regional, and global businesses demand. The company's headquarters is located in Dublin, California, with offices and affiliates worldwide. For more information, visit www.epicor.com.

Thought Leadership

# Why Food & Beverage Manufacturers Should Avoid Generic ERP Systems

It's 7:00 am and you've just arrived at the office. You haven't even had time to grab your morning coffee, and chaos is already at your door.

- There's a potential issue with the flour and sugar used in your bakery and you have to figure out which batches are affected.
- Production is stopped because the overstock on a key ingredient is spoiled and needs to be replaced.
- You're behind schedule because your team is having a hard time setting up a complex recipe and production process because the bill of materials (BOM) isn't set up to handle formulations and recipes.

Do any of these problems sound familiar to you? It would be so much easier if everyone had access to the right information at the right time, with a simple push of a button.

You might have all sorts of reasons for needing a new business system. But with so many options, how do you make the right choice?

If you're trying to decide whether a generic enterprise resource planning (ERP) or an industry-specific solution will do, you're not alone. Here are some tips to help you decide.

## Before You Begin

Before you begin evaluating vendors and solutions, decide what's most important for your business, and build a requirements list. Outline your key manufacturing processes and then compare them against the capabilities of generic ERPs. Map internal processes as they are, and map how processes are expected to be after the implementation of an ERP.

You'll find that almost all generic ERP applications have modules or applications to handle the non-manufacturing areas of your business. However, these systems usually lack certain key functionality required to handle manufacturing processes, especially those of food and beverage makers.

Yes, you can try to customize a generic ERP application. But this is time consuming and costly to implement and maintain. You will also have to account for the vendor's ability to integrate with your existing systems.

## Industry-specific ERP vs. Generic ERP

When an ERP application is developed specifically for your industry it is better equipped to handle your manufacturing process with little to no customization. This means faster, more affordable implementation and maintenance.

An industry-specific ERP application typically offers deeper functionality than a generic ERP package. For example, a blender's workbench for distilleries or maturation management tools for cheese and dairy producers can help you manage inventory that changes value and identity over time.

## What about Generic ERP with Vertical Extensions?

Generic ERP systems may have partners that provide front-end packages that target various industry verticals.

Consider how well the front-end package can integrate with the generic ERP and your existing systems. Multiple systems can mean complex synchronization, and the interface usually requires ongoing maintenance. Disparate systems are often left unused because the effort and resources required for integration end up costing far more than anticipated.

Consider the industry expertise and experience of the partner that provides the front-end packages. Does the team work in your industry full time? Is there a strong user base? If not, who will be responsible for the cost of maintenance and development of the applications?

Dealing with multiple software vendors can sometimes be a headache. When issues arise, who will be responsible for resolving your issue? What happens if the vendors end their partnership?

# Unique Requirements for Your Industry

As a manufacturer in the food and beverage sector, you have unique requirements. To meet these requirements, three must-have integrated capabilities you'll need are outlined here:

## Traceability

Farm-to-fork traceability is critical for meeting stringent food safety and legislative mandates, so determine how well the candidate ERP systems will handle it. Determine which systems offer full visibility along the entire supply and distribution chain to the final customer.

Pinpointing potential issues immediately—instead of in weeks or months—with the ability to trace an unlimited number of points along the supply chain can help your business avoid massive financial devastation due to complete recalls, lost inventory, and liable actions.

## Day-to-day Materials Management

While some materials, such as packaging, have a long or indefinite shelf-life, other key ingredients can spoil or cause production problems if not used at their peak. You can reduce materials consumption, produce less waste, and extend shelf-life if your ERP system supports day-to-day materials management.

The ability to accurately forecast and report production, consumption, and fulfillment translates to a capacity to adjust inventories and material orders to optimal levels. Carrying less inventory, and placing more frequent material orders can mean significantly less carrying cost.

With accurate materials planning, ingredient throughput improves and often increases end product shelf-life. Reduce the likelihood of spoilage with rapid turnover of raw ingredients, and deliver higher-quality products to your customers.

## Recipe-based Materials Management

Most ERP systems have been built for discrete manufacturing of engineered products. But, food and beverage manufacturers require recipe-based materials management to stay on target for "day one for day one" order and delivery processing.

Recipe-based materials management improves quality with streamlined planning and production activities, especially when data capture extends all the way back to the field. With the ability to plan for multiple product attributes and grades, and retailer-specific packing and catch-weight labeling, you can boost customer service levels while beefing up item-specific traceability.

An ERP with recipe-based materials management can create BOMs optimized for formulations and recipes, and multiple units of measure. Production processes and product setups then become easier. Even difficult formulations can be accurately represented and traced.

# Conclusion

An integrated ERP system specific to your industry will be better equipped to handle your food and beverage manufacturing requirements than a generic ERP. Industry-specific solutions can be installed faster, and be less expensive to implement and maintain. Although generic ERP vendors may have software partners who offer front-end packages that target industry verticals, you should consider the issues of working with multiple vendors. Finally, to meet the unique requirements of your industry, you may find that the capabilities you need are only available in industry-specific ERP solutions.

## About Epicor Software Corporation

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EPICOR®
Business Inspired™

Case Study

# IFS Customer Success Story

## Heaven Hill Streamlines Order-to-delivery with IFS Applications™

### About Heaven Hill Distilleries, Inc.

Heaven Hill Distilleries, Inc., of Bardstown, Kentucky, is the largest independent, family-owned marketer and producer of distilled spirits in the United States. The company is the second-largest holder of Kentucky bourbon in the world, with more than 650,000 barrels aging at any given time. Heaven Hill's diversified portfolio includes such well-known names as The Christian Brothers® Brandy, Evan Williams® Kentucky Straight Bourbon Whiskey, Whaler's Rum, Burnett's® Gin and Vodka, and Dubonnet® Aperitif. The company's newest brand is HPNOTIQ® Liqueur, a drink that combines vodka, cognac, and fruit juices.

### Benefits

- Reduction of finished goods inventory by up to 20 percent
- Reduction of customer order lead time by 30 percent

### Software

- IFS Manufacturing™
- IFS Distribution™
- IFS Financials™
- IFS Business Performance™
- IFS Document Management™
- Business Modeler™
- IFS eLearning™

### Hardware

Two Dell® PowerEdge® 6600 servers

Heaven Hill Distilleries, a family-owned company with Depression-era roots, brought its information technology (IT) system into the 21st century. By investing in an integrated business system from IFS, the company achieved a variety of efficiencies, including dramatic reductions in both finished goods inventory and lead times on customer orders.

## Outgrowing the Old System

After evaluating its business processes, Heaven Hill realized it needed a better IT system.

"Our company had outgrown our old system—it was so customized that it could only be supported by one guy, our IT manager," said Allan Latts, Heaven Hill's director of corporate planning. "We believed that, with the growth the company has had, we needed a new platform to support both our current operations, and, most importantly, our future growth plans."

As they examined the existing system, Latts and the evaluation team realized that it was weak in several areas: material requirements planning (MRP); production, planning, and scheduling; and materials management.

"We did not have a standard costing system in place, nor did we have a system where we automatically tracked raw materials. That was all done manually," Latts said. "The system primarily operated from order entry and accounting through finished goods inventory management. We wanted to take advantage of the new tools that are available in a state-of-the-art enterprise resource planning (ERP) system, both to make our processes more efficient and to automate some of our manual processes."

## Finding an Integrated Solution

Spirit production is, at first glance, a combination of process (distilling) and discrete (bottling) manufacturing. But unlike refining, the process side is more batch oriented than continuous. In evaluating an ERP system, Latts discovered many vendors didn't see that differentiation clearly.

"As we were considering the different companies, everybody talked about us being process and needing to have a solution that was designed for a process industry," Latts says. "But when we really dug into it, we found that we were using more structures, routing, and shop orders, instead of recipes and process-related functions."

> "One of the areas that was attractive to us was the broad range of functionality that IFS provided. IFS had MRP, standard costing, inventory management, and accounting—everything that we were looking to implement. We liked that we could buy just the modules that we needed, and at a later time, when we're ready, we can buy additional modules."
>
> Allan Latts, Director of Corporate Planning, Heaven Hill Distilleries

To perform its vendor selection, Heaven Hill created a questionnaire highlighting its requirements and sent it to several software providers. In addition, Deloitte & Touche consultants helped to evaluate systems. From the vendors' responses, Heaven Hill selected companies to present demos. Heaven Hill then selected IFS, citing several reasons.

"One of the areas that was attractive to us was the broad range of functionality that IFS provided," Latts says. "IFS had MRP, standard costing, inventory management, and accounting—everything that we were looking to implement. We liked that we could buy just the modules that we needed, and at a later time, when we're ready, we can buy additional modules. We also were very impressed with the user interface and the level of technology that IFS used."

## Implementing the Solution

From selection through implementation, the teams at IFS, Deloitte & Touche, and Heaven Hill cooperated to get the system up and running. Latts credits the successful implementation to the time key people at Heaven Hill spent focusing on the project. Through the implementation of the IFS system, the company discovered how it needed to change its processes so it could achieve the gains and efficiencies it wanted.

## Realizing Tangible Payback

After a year of experience, Heaven Hill has realized tangible payback from its new system. The company's finished goods inventory has gone down significantly—as much as 20 percent—and MRP is helping decision makers anticipate what to run and when to run it.

"In the United States, we can legally sell only to distributors, not to retail stores or bars," Latts said. "We provide a broad mix of stock-keeping unit (SKU) offerings to these customers, and we have reduced the order lead time that we require from them by 30 percent as a result of the improved planning and operational capabilities that the new system provides us."

Heaven Hill is the second-largest holder of Kentucky bourbon in the world, with more than 650,000 barrels aging at any given time. The company produces hundreds of brands and thousands of SKUs.

"Our problem is a matter of making time on the line—balancing inventory, changeovers, and the capacity that our lines have so we get everything done on time," Latts said.

Using the capabilities of its IFS system, Heaven Hill has been able to fine-tune scheduling. The software helps the company optimize what it needs to run and in what sequence. Heaven Hill juggles several different bottle shapes, all types of spirits, and hundreds of different labels. The company can now develop reports that use several different variables to schedule shop orders in the optimum sequence so that changeovers are minimized.

## Discovering New Possibilities

Over time, Heaven Hill users have found some functionality they didn't expect.

"When we were doing training for the go-live, we just focused on the plain vanilla aspects of the system," Latts said. "Once you dig into it more, you learn more about what is available."

For example, the company recently started to use IFS' available-to-promise capability. With this function, inventory or planned production information is available immediately after entering an order. This enables Heaven Hill to notify the customer on the front end if it will have a problem shipping the order on time.

"We are just beginning to realize all the benefits that come from having a state-of-the-art ERP system," Latts said. "As we grow as a business and become even more sophisticated, we are glad to know IFS has the capabilities to grow with us, helping make our company more efficient."

> "We are just beginning to realize all the benefits that come from having a state-of-the-art ERP system."
>
> Allan Latts,
> Director of Corporate Planning,
> Heaven Hill Distilleries

### About IFS

IFS, a global enterprise applications company, provides software solutions that enable organizations to become more agile. Founded in 1983, IFS pioneered component-based enterprise resources planning (ERP) and enterprise asset management (EAM) software with IFS Applications. IFS' component architecture provides solutions that are easier to implement, run, and upgrade, and that give companies the flexibility to respond quickly to change. As aftermarket service becomes more important to American industry, IFS has added functionality for field service management including powerful enterprise mobility tools. One area of strength for IFS Applications has historically been mixed-mode manufacturing, and food and beverage manufacturers are by definition mixed mode as they start in process mode and then package their products into discrete items. Food and beverage manufacturers also enjoy the powerful quality control and traceability functionality that make IFS Applications excellent tools for risk management and brand protection.

Case Study

# Infor Customer Success Story

## Kemin Gains Worldwide Efficiencies with Infor M3

The nutritional and health needs of the world are becoming more and more complex, while the challenges of providing safe, nutritious products continue to increase. Kemin Industries Inc. (Kemin) is right at the forefront, serving as an ingredient expert in animal feed, human food, dietary supplements, personal care products, and pet foods, while also developing customer-specific nutritional solutions that are used to preserve or enhance existing products. The company's global operations in more than 90 countries include customers whose products range from pet food, agrifoods, and human food to personal care products. At the top of Kemin's priority list is the compelling need to maintain food safety and an ability to track product lots quickly and accurately.

### Consolidating Five Systems to One Gives Kemin Competitive Edge

"Lot traceability is extremely important to a business as highly regulated and quality-control focused as ours," said Dan Heiderscheit, worldwide information technology (IT) senior vice president of Kemin. "If you don't follow the safety guidelines, you can potentially go out of business."

In addition to lot traceability, Kemin needs to deliver products to customers on time and keep costs under control. Having immediate access to information and operating efficiently are crucial to running a successful operation.

### Background and Business Challenge

Kemin has grown from a small entrepreneurial effort that started in the early 1960s to a global company, serving a customer base that impacts 80 percent of global food production capabilities. The company potentially touches the lives of more than 1.8 billion people throughout the world every day through its products and services.

With 1,800 employees worldwide, Kemin is headquartered in Des Moines, Iowa, with manufacturing facilities in China, Singapore, India, South Africa, Belgium, Italy, Brazil, and the United States.

Kemin initially sought an enterprise business solution to consolidate information, enhance collaboration, and improve visibility across all of its manufacturing, distribution, customer service, and research and development operations.

Kemin had been using a Lawson (purchased by Infor in 2012) solution for about 7 years in one of its divisions. Based on the success with this product, Kemin made the decision to move all its operations to a single solution.

> "Infor provides us with the integrated, scalable information infrastructure we need to drive efficiencies at both the management and operational levels."
>
> Dan Heiderscheit,
> Worldwide IT Senior Vice President,
> Kemin Industries Inc.

## Implementation

Kemin's worldwide implementation to one Infor M3 solution took slightly more than 3 years. During that time, there were seven separate go-lives across the globe.

The implementation process Kemin followed included active participation with key process owners from each department within the company's 10 business units.

"We gained buy-in from the president, through the executive team, down through all of the IT, finance, purchasing, operations, quality control, customer service, and logistics teams from around the world," said Heiderscheit.

Kemin initially spent 6 months putting the worldwide configuration together, then used a train-the-trainer strategy and varied the process from in-person training, to video conferencing, to online training that tracked learning progress. Once everyone was trained and systems were in place, two system tests were conducted by running orders from the past week. Then the go-live would occur.

What Kemin found was that it typically took 9 months for each go-live, followed by a month spent making sure everything was working smoothly. Each implementation brought additional refinements. "Through each rollout, we were able to do more on our own as we learned more," said Heiderscheit.

Kemin chose to implement a majority of the Infor M3 products at the same time, while integrating with existing financial consolidation, customer relationship management, forecasting, and label-printing tools that the company already used. Most of these integrations occurred via data transfers through existing middleware.

## The Solution

Since the system-wide Infor M3 implementation, Kemin has consolidated five systems into one. The company has 10 manufacturing locations and another 12 locations around the globe using Infor products.

"We have everybody around the world on one system, so we can very quickly pull data together," said Heiderscheit. "We also have continuous lot tracking between business units. From a financial standpoint, we have one system pull for data for worldwide consolidation and we're cutting down the number of days to close our books. Also, formulas for various products located throughout the world can be used at one location."

Kemin is also able to respond more quickly to customer requests because of the links created between business units. For global customers, Kemin has assigned item numbers and customer numbers to track orders, which enhances customer service responsiveness.

"Infor provides us with the integrated, scalable information infrastructure we need to drive efficiencies at both the management and operational levels. With a global system, we can standardize our business processes, procedures, and terminology, and enable information to flow to the right people at the right time, so they can make timely, informed decisions," said Heiderscheit.

All of this combined helps Kemin move higher-quality products throughout its entire supply chain.

"In our world, we—and all of our competitors—are trying to convince customers that we can add the most value so they in turn can add value to their customers," said Heiderscheit. "Our ability to function efficiently enables us to do just that."

## Business Outcomes

Overall, 80 percent of the established goals that Kemin outlined were achieved.

Key goals included:

- Improved lot tracing for recalls: The US Food and Drug Administration requires companies such as Kemin to respond to a recall in 4 hours. Since the Infor M3 go-live, Kemin can respond in 30 minutes.
- Cutting the month-end close cycle in half: The company has accomplished that goal and is now pushing to reduce the cycle even more.

> "From a financial standpoint, we have one system pull for data for worldwide consolidation and we're cutting down the number of days to close our books. Also, formulas for various products located throughout the world can be used at one location."
>
> Dan Heiderscheit,
> Worldwide IT Senior Vice President,
> Kemin Industries Inc.

- Greater efficiencies: The same number of staff is now able to accomplish even more than before the installation.
- Better disaster recovery time: A backup system is in place that will have Kemin up and running within 15 minutes of the original system going down.
- Faster response to special requests: Before the implementation, it would have taken weeks to change an existing invoice. Kemin now can make the change in a week.

"Within a year of the implementation, we have achieved 80 percent of our established goals," said Heiderscheit. "The 20 percent that we did not accomplish was achieved with process issues that were corrected rather than system issues over the next 6 months."

## About Infor

Infor is fundamentally changing the way information is published and consumed in the enterprise, helping 70,000 customers in 194 countries improve operations, drive growth, and quickly adapt to changes in business demands. Infor offers deep industry-specific applications and suites, engineered for speed, and with an innovative user experience design that is simple, transparent, and elegant. Infor provides flexible deployment options that give customers a choice to run their businesses in the cloud, on-premises, or both. To learn more about Infor, please visit www.infor.com.

# The Future of Controlling Costs in Food & Beverage Manufacturing

The food and beverage industry is a high-volume, fast-moving, low-margin business. In addition to its market dynamics, there is an inherent complexity to trying to control costs in an environment where many ingredient costs are rising as an impact of the drought much of the world experienced in 2012 and is continuing in some regions in 2013.

Making a profit in this industry through cost control is all about waste—minimizing waste. Waste in the food and beverage industry can be caused by a number of different factors such as lost sales, forecast inaccuracies, production downtime, yield losses, inferior product quality, and aging stock. To overcome this, you need to understand the different components that need to be in place in order to help you gain control of costs and waste.

## Focus on What You Can Control

Plant and supply chain managers have to track and control production costs on a continuous basis. This effort requires advanced product cost calculation models to define all cost drivers at a fairly granular level. These models include the costs for different kinds of raw materials and packaging materials as well as for energy, water, setting up and running the production line, paying the workers, and all the other cost elements.

Today managers have to work on a fairly sophisticated level to be able to meet the predicted levels of cost, price, and margin on a continuous basis. What are the actuals on a daily or weekly basis so that you know that you are on track? If you slip off track, what do you need to do to get back? Should you adjust your production processes or adjust recipes, or was the cause inadequate raw material quality? To implement corrective actions in a timely way, you need to receive alerts and notifications on a regular basis. You have to capture mounds of data in order to properly capture actual costs and precisely allocate them to specific products.

Data capture tools such as sensors may feed that data directly into the enterprise management system; mobile tools used by receiving or production personnel may cover other parts of the process. Ideally, the mobility solution is integrated with your enterprise management system so that you have real-time data.

## Yielding Better Results

All food and beverage manufacturers involved in processing and converting raw materials strive to maximize yield. While the goal is to approach 100%, in practice there are always some losses in line or variations.

But yield is not the only explanation for variances in production. Results cannot be monitored and explained by a pure ratio between input and output, but may depend on a number of factors. Improved output might be due to having, for instance, a certain fat content or a certain grade or composition. Also in many food production processes, you are mixing different ingredients or different grades of the same ingredients. Depending on the availability of material as well as its characteristics and costs, you may mix in different proportions to reach a proper end product. Variations due to changes in input are normally defined as mix variances. Most production processes need to be analyzed both from a yield and mix variance perspective.

The ability to analyze various grades or attributes in the raw materials can help you explain ups and downs in the yield. Yield means different things for different industries and segments. In dairy, for instance, it is crucial to measure and monitor the butterfat content in order to control the process and understand the yield and value from the raw milk provided by the farmer. In a livestock environment, what would normally concern a processor is the ratio between input (the number and weight of whole chickens) and output (e.g., the parts such as legs, wings, breasts, and offal). Here, you strive to maximize the ratio of the most valuable parts such as the breast. In the case of grain, fruit, and vegetables, processors strive to minimize by-products such as peel, bran, seeds, and so on.

When looking for a software solution to guide your business, the ability to factor in grades and attributes is important to the overall costing concept. Additionally, all batches or lots need to be able to be associated with a number of different attributes. You should be able to base product costing and evaluation on the weight of attributes or characteristics. If you have similar materials or products where a higher or lower fat content (or sugar or protein content, or any combination of defined attributes) makes a difference, you need to be able to use that data to allocate or define costs. Capturing that information is crucial because it will help you explain and control your production process, and thus maximize yield.

## Know Your Actual Costs

Historically, backflushing techniques were used to account for quantities consumed in production. Backflushing automatically withdraws ingredients based on your recipe and correspondingly reduces the on-hand quantities recorded in the enterprise management system. The use of standard quantities was meant to compensate for the fact that there was no way to capture real-time data.

What we see more frequently today is real-time production monitoring. Producers are trying to measure what is actually consumed in the process, whether it ends up in the product or as scrap, by using electronic devices to capture the inputs. Integral and mobile data capture tools make important contributions to ensure a high level of accuracy; product monitoring is inherently more accurate than backflushing. Ingredients and raw materials still account for most of the product cost. You have to be very precise in how you handle ingredients and measure consumption; the degree of precision determines whether you make or lose percentage points on your final production costs.

Certain food categories and industry segments measure inventory by catch weight (also called variable weight). At the manufacturing or wholesale level, for example, you normally keep track of hard cheeses by "eaches" or "pieces"—the number of wheels produced or shipped—and that is how you count them in your warehouse or in production. Let's say a wheel of hard cheese averages 10 kilos; however, due to normal variability, an "each" can vary up or down by half a kilo. Despite the weight variance, they are all good cheeses. An "each" is normally cut into smaller wedges for retail sale, and the end consumer pays a price per wedge based on its actual weight in pounds or kilos.

To address this, your enterprise management systems cannot just track stock-keeping units (SKUs). You need to be able to track different units of measure in parallel. This means that if, for example, the "piece" is a 9.7-kilo wheel, you can assign the purchase price, sales price, retail price, and allocate costs through the supply chain on the basis of 9.7 kilos, as the weight in kilos (or pounds) is really the driver behind internal cost control and revenues. You can also evaluate yield in production based on the weight rather than the "piece" unit, which gives you the ability to compare and evaluate the number of raw material kilos or pounds consumed versus the number of kilos or pounds of end products.

## Best Practices for Business Intelligence

Important as it is to capture data from the production process and goods received, in order to derive value from the data, you need to be able to analyze it using sophisticated order costing and variance models on a timely basis.

Many of our customers today run their analytics on a daily basis or make a fairly advanced analysis of key indicators. The best practice we see is to feed back to operations such information as planned costs versus actual, planned production versus actual, how much they normally should have consumed in terms of labor, time, costs, and quantities versus actual, throughput, and downtimes, and utilization rates of key resources. Such feedback enables them to adjust and optimize operations on a daily basis. Food and beverage manufacturers that are really on top of their performance do this continuously.

Our experiences tell us that you need a well thought-out process from financial budgeting all the way down to daily operations inside a production plant. A modern enterprise management system with integrated costing and yield management capabilities is all but essential—but not sufficient. It is also vital to motivate and enable the organization to collect the detailed and timely data necessary to understand which products and customers make you money and which lose you money, which processes are eating into your margin, and which can be improved to contribute more on the revenue side. That level of insight requires the use of analytics to extract business intelligence from the data you accumulate every working day and serves all decision makers and plant-level personnel with necessary information to continuously improve operations.

## About Infor

Infor is fundamentally changing the way information is published and consumed in the enterprise, helping 70,000 customers in 194 countries improve operations, drive growth, and quickly adapt to changes in business demands. Infor offers deep industry-specific applications and suites, engineered for speed, and with an innovative user experience design that is simple, transparent, and elegant. Infor provides flexible deployment options that give customers a choice to run their businesses in the cloud, on-premises, or both. To learn more about Infor, please visit www.infor.com.



infor™

Case Study

# IQMS Customer Success Story

## Network Polymers and IQMS: A Mixture for Success

Network Polymers, Inc. is a leading provider of thermoplastic resins and alloys such as ABS, ASA, and polycarbonates. Together with its Diamond Polymer brand of resins and alloys that boast enduring performance properties, Network Polymers offers a solution to nearly every plastic processor's need. From impact-, weather-, and age-resistant resins to medical-grade products, such as non-halogen flame retardant, antimicrobial, and sterilizable grade, Network Polymers supplies its customers with some of the best materials on the market today. This dedication to quality and service has grown Network Polymers into the fourth-largest producer of ABS and ASA in North America, but this growth did not come without a fair share of growing pains.

### A Compound Problem

Before investing in IQMS' manufacturing enterprise resource planning (ERP) software, EnterpriseIQ, Network Polymers was struggling to run its business through five different programs: Microsoft Dynamics SL, Vicinity Manufacturing, Microsoft FRx, Microsoft Forecaster, and Microsoft Excel. Noticeably problematic was the customization necessary to interface these five disparate systems, causing procedural issues and preventing system updates. Digging deeper, Network Polymers realized it lacked the critical tools necessary for future success, particularly in the areas of enterprise-wide data transparency and accurate inventory tracking:

- The combination of Network Polymers' multiple business systems had created a one-way data exchange scenario, so daily manual interactions (complete with natural human entry error) were inevitable. Reporting was difficult due to data segregation, and critical information regarding quality-control holds was not clearly visible, resulting in bad production runs and costly shipping errors. Any accurate figures Network Polymers was able to obtain were dated. Without real-time information, employees felt uninformed and decision making was inefficient and untimely.

- One of Network Polymers' most fundamental challenges lay in the lack of integration between its inventory program and its manufacturing module that handled bills of materials (BOMs) and formulations. Without that integration, Network Polymers had few material requirements planning (MRP) capabilities and no cost accounting. Additionally, physical inventory at Network Polymers was a laborious process, taking 5 to 7 days to count, double check counts, manually enter data, analyze variances, and create adjustment batches. Production reporting was only allowed at the end of the run and coupled with the delayed delivery of data meant good product often did not appear in the system, limiting the shipping department with poor visibility into the status of finished goods.

## Finding a New Formula for the Future

When the decision was made to start searching for a new ERP vendor, Network Polymers knew what it wanted. The ideal ERP software solution would be one total system—a combined ERP and manufacturing execution system (MES) solution—with no third-party add-ons or bolted-together programs. This comprehensive system would streamline processes from order entry through shipping, and would offer a complete financial package with cost accounting.

Network Polymers hoped that a comprehensive system with an integrated, real-time database would increase company-wide communication and provide all users with the same information. Ideally, Network Polymers hoped to eliminate debates about what the "real" data was, make decisions more rapidly and confidently, and eliminate the majority of time-consuming meetings.

To begin the new ERP partner process, Network Polymers formed an ERP implementation team consisting of specific department leaders, each held accountable for selecting the solution that they felt was the best fit. Together, the team reviewed online demonstrations of more than a dozen ERP solutions. Everyone was allowed a say, and the vote narrowed it down to two or three viable solutions.

After the ERP finalists conducted on-site visits, the choice was clear: EnterpriseIQ from IQMS had all the elements that Network Polymers desired, plus more! EnterpriseIQ was a complete, integrated system with no third-party add-on solutions, it offered features specific to the compounding industry, and it was affordable. As an unforeseen bonus, EnterpriseIQ allowed Network Polymers to develop improved procedures to work with the system, rather than customizing a system to work with its outdated processes.

> "Network Polymers desired a comprehensive system with an integrated, real-time database to increase company-wide communication and to provide all users with the same accurate information."

# Blending EnterpriseIQ and Network Polymers Together

Network Polymers began implementation of IQMS in September of 2010. In addition to scrubbing five systems and learning a new one, Network Polymers was revising its operations and procedures to become a more efficient company. On January 3, 2011, only 4 short months after installation, Network Polymers went live with EnterpriseIQ.

"Immediately after implementation, it was chaos," said Scott Arnopolin, director of supply chain and technology at Network Polymers. "Like many other companies experience, change is difficult at Network Polymers."

But despite some initial stumbles as the company experienced a learning curve, overall results were positive. Inventory location visibility and up-to-the-minute, on-hand accuracy immediately increased, as well as the ability to track box-by-box production as it was occurring. Network Polymers began tweaking and optimizing its new procedures, while enjoying the benefits of a transparent production schedule.

Three months later delivered a much brighter prognosis for Network Polymers, with better data, better decision-making capabilities, and improved inventory management. At the 6-month mark, Network Polymers' entire production staff agreed to embrace the use of scanners. This new technology allowed employees to allocate materials to jobs for less downtime and increased material control, as well as delivered Network Polymers' first successful physical inventory as daily procedures became more routine.

For greater shop floor control, Network Polymers invested in IQMS' RealTime™ Production Monitoring module. Completely integrated with EnterpriseIQ, RealTime™ Production Monitoring tracks all aspects of production (total parts created, production time, downtime, rejects, and parts remaining) immediately as goods are being made. Through this enhanced shop floor monitoring, Network Polymers began experiencing increased inventory turns, more proactive decision making, and more accurate inventory levels due to transparent, up-to-the-minute material movements and disposition.

As procedures became more routine, Network Polymers' employees discovered a new level of efficiency by following EnterpriseIQ's natural system flow, rather than attempting to customize the software to fit its old ways. The customer service department began moving toward a paperless environment—eliminating folders and storing all information in the system. Additionally, the company saw an increase in reporting requests from employees who desired more data analysis to become better at their jobs.

## What a Difference a Year Makes

Improvements at Network Polymers continued over the course of the remaining year. When the company looked back in review, the benefits gained from day one were clear: Every problem challenging Network Polymers in the past was solved. With its new integrated, real-time solution, Network Polymers' time is now spent analyzing data, rather than wasted double checking that the data is accurate before it can be evaluated. This increase in better and more timely decision making has resulted in improved productivity of its employees with fewer meetings, more individual analysis, and greater accountability.

In fact, employees are 50 percent more productive and efficient in their day-to-day responsibilities than before because they no longer need to track down information through individuals or paperwork—all the information they need is in one central place, right at their fingertips. Network Polymers has also reduced its paper usage and retention by more than 50 percent across the board, and continues to move toward becoming a completely paperless operation.

Network Polymers is experiencing the joy of a complete financial package with better cost accounting and more efficient invoicing and purchasing order (PO) options. The company has decreased the time it takes to create PO requisitions and enjoys how the system tracks its PO requests versus its old, file-based paper system.

A night-and-day change in the visibility and traceability of flagged, non-confirming materials also occurred at Network Polymers. Across the shop floor, Network Polymers significantly reduced the risk of using non-conforming raw materials in production, and non-allocatable inventory locations have prevented its shipping department from accidentally sending a potentially flawed finished good out the door.

Second only to more timely and improved decision making, Network Polymers' other top improvement was seen in the area of inventory management. As a result of increased visibility into inventory locations and transactions, EnterpriseIQ virtually eliminated Network Polymers' overstock of raw materials, reduced on-hand inventory, and provided better control over just-in-time deliveries. More importantly, inventory turns have increased by at least 25 percent in three major feedstocks: styrene acrylonitrile (SAN) increased from six turns per year to more than 12, ABS rubber from about 10 turns per year to almost 12, and ASA Rubber went from 6.4 to 6.7 turns.

Network Polymers decided to invest in IQMS' warehouse management system (WMS) and through the use of barcodes and handheld scanners, physical inventory time decreased from 5 to 7 days to just 1.5 days (a 75 percent savings of time), with the greatest inventory

> "Every problem challenging Network Polymers in the past was solved, and due to greater enterprise-wide visibility, employees became 50 percent more productive and efficient in their day-to-day responsibilities."

accuracy results ever. Network Polymers can also now completely cycle count its entire plant in 2 to 3 days, rather than 2 to 3 weeks. In addition to assisting with physical inventory, the WMS module has increased manufacturing production run efficiency due to increased inventory location accuracy, resulting in less time spent running around looking for raw materials.

"The WMS module, along with barcoding and scanners, has increased our efficiency in the plant beyond our expectations. Materials are where the inventory module shows that they are, which allows us to spend less time scurrying around our plant looking for materials moved outside of the system," said Arnopolin. "Shipping and receiving materials is a breeze, as well utilizing the barcodes and scanners. We have not missed a shipment, nor have we mis-shipped a product, since going live with EnterpriseIQ!"

Finally, Network Polymers has become increasingly more proactive in material ordering because greater visibility into inventory levels allows for better control of raw material flow. Network Polymers now has a superior ability to increase, expedite, decrease, and de-expedite raw materials than ever before. Inventory levels are much more manageable, as they have been reduced from more than 11 million pounds to an average of 6 million pounds due to MRP and accuracy of the data.

"We are still finding new ways to benefit from the system as well as ways the system can be improved for us," said Arnopolin. "The system has eliminated most of the manual processes and calculations we deal with, saving us time and allowing us to spend that time addressing more critical issues."

## Looking Forward

Network Polymers was already on the path to becoming a more integrated team, rather than a company of individual contributors, before it implemented EnterpriseIQ. But Network Polymers does attribute advancement in company culture, in the areas of continuous improvement, accountability, and workplace pride, to EnterpriseIQ. The company can now focus on being more proactive and accountable, rather than primarily reactive. Personal satisfaction in working for Network Polymers has also increased since partnering with IQMS.

"We are a customer service–orientated company and always willing to do whatever it takes to attain 100 percent customer satisfaction," said Arnopolin. "With this philosophy comes great challenges to get the job done right the first time. EnterpriseIQ allows us to proactively satisfy the customers' requirements while giving us the flexibility to break our "norm" in order to exceed expedited requests."

"The company can now focus on being more proactive and accountable, rather than primarily reactive."

"We are happy about our successes over the past 3 to 4 years, but we are very excited about the future improvements and successes we will conquer over the next 3 years," continued Arnopolin. "If you are a manufacturer of products using bills of materials or formulas and are looking for a complete A-Z ERP solution, IQMS' EnterpriseIQ is your answer."

## Software

The EnterpriseIQ ERP and MES software system includes the following:

- Customer Relationship Management
- Document Control
- Expense Tracking
- Fixed Assets
- Forecast
- Preventative Maintenance
- Project Manager
- RealTime™ Production Monitoring
- ShopData
- Spreadsheet Server
- Statistical Process Control
- Warehouse Management System

## Return on Investment

- Employees are 50 percent more productive due to more accurate, easy-to-access data
- Has not missed a shipment, or mis-shipped a product, since going live with EnterpriseIQ
- Eliminated overstock of raw materials
- Reduced inventory levels from 11 million pounds to an average of 6 million pounds
- Increased inventory turns by 25 percent for three major feedstocks
- Decreased yearly physical inventory from 5 to 7 days to only 1.5 days (a 75 percent time savings)
- Can completely cycle count the entire plant in 2 to 3 days, rather than 2 to 3 weeks
- Reduced paper by 50 percent across the organization

## About IQMS

Since 1989, IQMS has been designing and developing manufacturing ERP software for the repetitive, process, and discrete industries. Today, IQMS provides a comprehensive real-time MES and manufacturing ERP software solution to the automotive, medical, packaging, consumer goods, and other manufacturing markets. The innovative, single-database enterprise software solution, EnterpriseIQ, offers a scalable system designed to adeptly grow with the client and complete business functionality, including accounting, quality control, supply chain, CRM, and eBusiness. With offices across North America, Europe, and Asia, IQMS serves manufacturers around the world.

IQMS

Case Study

# JustFoodERP Customer Success Story

## Leading Snack Food Manufacturer Selects JustFoodERP to Meet Regulatory Compliance

Seattle-based snack food manufacturer Sahale Snacks is well known for its exotic ingredients, all-natural approach to processing, and specialized certification (gluten-free, kosher, soon-to-be non-GMO [genetically modified organisms]) with products distributed to 4,000+ locations across the U.S., including Costco, Starbucks, and leading health food stores, hotels, and spas. All of these factors led the company to choose an enterprise resource planning (ERP) system that meets the strict compliance and production regulations required of its growing business.

> "As our industry changes, such as new regulations coming in for food, we need an ERP system that can make the needed changes . . . JustFoodERP can."
>
> Eric Eddings, CEO, Sahale Snacks

### The Challenges

Company expansion was a key motivation for investing in an ERP system, says Eric Edding, chief executive officer (CEO), Sahale Snacks. "We needed more sophisticated tools to effectively pass information from one department to another, and we needed an ERP system that could help us meet new food industry regulations." Specifically, some of the challenges the food manufacturer faced, and which its new ERP system had to meet, included the following:

- Product Formulation: Quick changeup in product lines, e.g., gluten free, kosher.
- Allergen Tracking: Six nuts (all on the high-priority allergen list in the U.S.) contained in Sahale products require close records and tracking throughout the manufacturing process.
- Food Safety Compliance: Government regulations and customer pressures for superlative traceability forwards and backwards on the supply chain and effective product recalls.
- Integrated Electronic Data Interchange: EDI requirements by mass merchandisers for order processing, and invoice and purchase order creation.

- Costing Data Visibility: Food scientists testing recipes and employees dedicated to process improvement needed real-time data to determine which blends are most cost-effective.
- Material Requirements Planning (MRP)/Manufacturing Executive System (MES): Sahale Snacks needed manufacturing-friendly scheduling tools to replace the siloed systems and spreadsheets across the company. Planning software needed to be able to accommodate both batch and continuous manufacturing product lines with automated ovens and packaging machines.

## The Solution

A core team at Sahale Snacks of 10 employees, with the chief financial officer (CFO) as their executive sponsor, spent a year researching various ERP systems, narrowing it down to JustFoodERP and three others—all of which went to the Seattle manufacturer to demonstrate their software.

Sahale's criteria included finding an ERP partner with experience with food companies, specifically batch production, says Lindsay Palmer, supply chain coordinator, Sahale Snacks, and "enough solidity that we knew they'd stay with us as we grew. . . JustFoodERP uses a product roadmap that is so compatible with where we're going as a company."

JustFoodERP is powered by the powerful Microsoft Dynamics platform—the world's fastest-growing ERP—with food industry–specific functionality built on top, and an implementation services and support team comprising professionals from the food industry.

The JustFoodERP system used by Sahale Snacks so far has encompassed manufacturing, inventory management, sales (including EDI, commissions, and rebates), purchasing, materials management, financials, reporting, and warehouse management, including JF Floor, which is a module based on the Web services capability of JustFoodERP (at a fraction of the regular license cost) to manage bin level inventory transactions through radio frequency and mobile devices.

## The Benefits

Sahale Snacks has seen improvements in its business processes as a result of the JustFoodERP system, with corporate-wide transparency and visibility of data resulting in notable improvements, says Palmer. "For the first time, we are able to objectively look at certain business processes and determine if we were efficient or inefficient."

As well, product traceability and recalls are easier than ever with the JustFoodERP system. With the click of a single button, the recall process is completed in minutes. "Before, we just had a few employees who were specialized in food recall, but we like to go on vacation, too," notes Palmer. "Now anyone in the company can type in the lot number and push the button!"

Sahale is also having all its products' nutritional information entered into the JustFoodERP system, replacing some 50 spreadsheets. Palmer and other decision makers at the company are "very excited about the management reporting aspects of the system."

"I would recommend JustFoodERP," says Palmer. "It's very user friendly, yet flexible enough to handle the intricacies that food processors have to deal with. We made the correct decision to partner with JustFoodERP."

> "I would recommend JustFoodERP; it's very user friendly, yet flexible enough to handle the intricacies that food processors have to deal with. We made the correct decision to partner with JustFoodERP."
>
> Lindsay Palmer, Supply Chain Coordinator, Sahale Snacks

## About JustFoodERP

JustFoodERP delivers software and services to food and beverage manufacturers and distributors to help them lower costs, improve food safety, and manage compliance to keep customers successful. We do this by matching up the best software technology with the best business processes. Our food industry experts have built a product roadmap that takes you where you want to grow. For more information, visit www.justfooderp.com and on Twitter @justfooderp.

justfoodERP

Case Study

# Sage Customer Success Story

## Alloy Polymers Finds Formula for Success in Sage ERP X3

### Customer
Alloy Polymers, Inc.

### Industry
Process Manufacturing

### Location
Richmond, Virginia

### Number of Locations
5

### System
Sage ERP X3

### Challenge
Alloy Polymers required a process manufacturing solution that fit its unique compounding operation and offered a relatively low total cost of ownership.

### Solution
Alloy Polymers chose Sage ERP X3 as its flexible, customizable, and scalable process manufacturing and accounting solution.

### Results
Automated data collection delivers better control over materials and real-time information. Easily customized, Sage ERP X3 is also straightforward to update.

Founded in 1982, Alloy Polymers, Inc. is a market leader in the thermoplastics industry, specializing in value-added compounding services and solutions. Chemical and plastics processing companies across a broad range of industries trust Alloy Polymers to produce products that meet their unique specifications. The company has four American plants and one in India generating a compounding capacity in excess of half a billion pounds annually. To manage its accounting and manufacturing operations at a consistently high level, Alloy Polymers relies on Sage ERP X3.

## A Scalable Solution

Sage ERP X3 was implemented several years ago, when Alloy Polymers had just two production facilities. "The company wanted a manufacturing and financial application that we could customize, that was quick to implement, and that was both scalable and the right size for our operations," recalls Anne Robinson, director of information technology (IT) at Alloy Polymers. "It needed to be cost-effective to implement and to maintain. Sage ERP X3 meets all the requirements."

## A Unique Business Model

As a compound manufacturer, Alloy Polymers produces products to each client's unique specifications. Its production model is different from many process manufacturers in that Alloy Polymers does not manage the formulas or supply the raw ingredients; instead, its customers do. Many enterprise resource planning (ERP) applications do not offer the flexibility needed to manage this production model effectively and efficiently. "Sage ERP X3 is a very flexible and adaptable application. We have been able to tailor it to fit the way we operate," explains Robinson. "We don't have raw material costs as a typical process manufacturer would, and we don't generate purchase orders to suppliers for those materials. And we don't forecast our demand—our orders drive our production schedule." Among the ways Alloy Polymers was able to customize Sage ERP X3 to meet its needs was through the development of forms associated with each batch produced. "We are able to produce documentation for our customers at a very granular level," Robinson says. "From manufacturing details, lot numbers, and testing results to packaging and shipping instructions, we can include the specific data we want. We can tailor the forms for each client and adapt them as necessary to changing requirements."

## Trouble-free Updates

Since its initial implementation, Alloy Polymers has successfully completed two major upgrades of its Sage ERP X3 software. Robinson credits the Sage development team for smoothing the transitions. "The development team at Sage is excellent. They planned the project thoroughly, migrated our modified code to the new version, and tested it before they took us live," she says. "It was well planned and well executed from start to finish."

Each new release brings an enhanced feature set that Alloy Polymers puts to good use. "One of the newer features is a live feed and graph of our work orders," Robinson says. "We can see the status, the quantity completed, the materials used and remaining, and more. It is obvious that Sage is investing heavily in Sage ERP X3, as the new releases include valuable new capabilities."

"The development team at Sage is excellent. They planned the project thoroughly, migrated our modified code to the new version, and tested it before they took us live. It was well planned and well executed from start to finish."

Anne Robinson,
IT Director, Alloy Polymers

## Automated Data Collection Enhances Control

Alloy Polymers makes full use of the automated data collection functionality in Sage ERP X3 to track orders and the associated materials as they move throughout the warehouse and shop floor. "Nothing moves without being scanned. We maintain tight control of every order and every ingredient in our warehouse. This control is even more important to us considering the materials belong to our customers," explains Robinson. "The real-time nature of Sage ERP X3 means we always have accurate data available to our customer service, accounting, and manufacturing departments."

> "The real-time nature of Sage ERP X3 means we always have accurate data available to our customer service, accounting, and manufacturing departments."
>
> Anne Robinson,
> IT Director, Alloy Polymers

## Reporting Power

Robinson praises the reporting power of Sage ERP X3. "Initially, we had our Sage team create many of our more complex reports, but now, we have the training and knowledge to generate our own. And we can provide those reports to our staff members based on their role. Each person has access to only the reports their security clearance allows," she adds. "It is an attractive, user-friendly interface, and our staff makes good use of it."

Sage ERP X3 matches Alloy Polymers' workflow and is easy to customize and straightforward to update. For Alloy Polymers it is a formula for success. "We have come to depend on Sage ERP X3. It is a driving force in our operation," concludes Robinson.

### About Sage

Sage is a world-leading supplier of accounting and business management software to start-up, small, and midsized businesses. Our purpose is to help our customers run their businesses more effectively—helping them gain greater insight into their business activities and providing them with lasting benefits by automating their business processes. Our applications cover a wide range of business requirements, including accounting, customer relationship management, contact management, human resources, warehouse management, and specialized products for specific industries.

Sage ERP X3 is the smart choice for companies that need to streamline operations but can't afford and don't want a complex ERP solution. It offers the flexibility, scalability, and functionality you need to manage a competitive business in regional and global markets within a singular software design.

Case Study

# Sage Customer Success Story

## Sage ERP X3 Has Garland Industries Covered

### Customer
Garland Industries, Inc.

### Industry
Manufacturing

### Location
Cleveland, Ohio

### Number of Locations
8

### System
Sage ERP X3

### Challenge
Garland Industries' homegrown Informix application lacked the integration capabilities and the business intelligence tools the company needed to effectively manage its large operation.

### Solution
Sage ERP X3 was selected from a field of 15 business management systems. Its ease of use and value proposition made Sage ERP X3 the stand-out winner.

### Results
Business intelligence gives the company actionable data that can be shared easily across the enterprise. Development tools accommodate unique processing. Manufacturing tasks are streamlined, saving resources and improving accuracy.

Garland Industries, Inc., a leading manufacturer and distributor of high-performance roofing and flooring solutions for commercial, industrial, and public properties comprises 11 separate companies. With eight offices in the United States, Canada, and Great Britain, and more than 500 employees, Garland Industries is a dynamic and highly successful company. As an employee-owned operation, its commitment to service both before and after the sale is unmatched. When the time came for the company to replace its aging business software, it sought a product backed by a company with the same reputation for excellence as Garland Industries. Only one business management solution met its high standards—Sage ERP X3.

## Sage ERP X3 Selected from a Field of 15

The company's homegrown Informix application simply did not offer the integration options, quick data access, and reporting capabilities Garland Industries needed to stay on top of its growth and expansion. "We were looking for true business intelligence," recalls Bruce Emrick, director of information technology (IT) for Garland Industries. "We needed a way to effectively analyze our data and workflow to improve our business processes."

An outside consultant was hired to help Garland Industries sort through its enterprise resource planning (ERP) options. From a field of 15, the decision was narrowed to just two: Microsoft Dynamics NAV and Sage ERP X3. The company ultimately selected Sage ERP X3. "The local Sage representative is outstanding. We felt they really understood what we were looking for," Emrick explains. "And Sage ERP X3 seems more intuitive and easy to use. In addition, the product is a better fit on price—we saw a quick return on investment and a long-term value in Sage ERP X3."

> "With Sage ERP X3, we get the visibility we were missing. Instead of waiting for a report to tell us what already has happened, we receive up-to-the-minute information while it is still actionable."
>
> Bruce Emrick,
> Director of IT, Garland Industries, Inc.

## Rapid Implementation

Garland Industries is in the process of rolling out Sage ERP X3 to each of its 11 companies. The four largest companies now are live on Sage ERP X3, with other companies following quickly. Each successive implementation has been faster and easier than the one prior. "Most recently we converted our Canadian company to Sage ERP X3," Emrick says. "It required only minimal man-hours and was accomplished quickly. And we were able to accommodate the unique processing they required easily."

## Low IT Overhead

Emrick praises what he refers to as the *low–IT overhead nature* of Sage ERP X3. "I can't say enough about the reliability of Sage ERP X3. It is a solid product that requires very few IT resources to maintain."

## Support for Process Manufacturing

Garland Industries' process manufacturing is similar to that of chemical manufacturers; its various roofing products and coatings are made from formulas of rubber, sand, and asphalt. While the company maintains a base stock level of its most popular products, other production is in response to orders. The material requirements planning (MRP) function within Sage ERP X3 has proven to be a tremendous time saver.

"MRP allows us to see the entire scope," says Dan Healey, Garland Industries' plant manager. "Before I would have to look at every single order. Now, I can break down demand by dates and products. I also can track where our products are sent."

Computers in the warehouse enable staff to record manufacturing data in real time, driving efficiency throughout the organization. "We know precisely what inventory we have available at any time," Emrick says. "There is no longer a delay in recording activity on our work orders."

> "I can't say enough about the reliability of Sage ERP X3. It is a solid product that requires very few IT resources to maintain."
>
> Bruce Emrick,
> Director of IT, Garland Industries, Inc.

## Streamlining MSDS Production

The versatile software interfaces with The Wercs®, an automated material safety data sheet (MSDS) authoring application. "Previously, updating our Material Safety Data Sheets was an entirely manual and time-consuming process," says Healey. "In fact, we had one full-time person updating MSDSs on a daily basis. Now it is done automatically, and we print the correct sheet when we need it."

"We have been able to keep our labor costs down, even as we have expanded," Emrick says. "The software has freed up so much time that we used to spend performing tasks manually."

## Driving Data to Those Who Need It

The company has hundreds of sales representatives throughout North America, and all need access to their open orders, commission reports, and territory sales figures. Before Sage ERP X3, it was a struggle to provide this information. Reports were compiled and then sent by e-mail to the representatives—most were out of date almost from the moment they were sent.

Using the Web Service Connections component of Sage ERP X3, the company is able to put this vital data directly into the hands of the representatives. Over the Internet, representatives now can place orders, view their commission reports, check on open orders, and monitor customer invoices. The real-time update of data ensures that the representatives have the most current information.

"With Sage ERP X3, we get the visibility we were missing," concludes Emrick. "Instead of waiting for a report to tell us what already has happened, we receive up-to-the-minute information while it is still actionable."

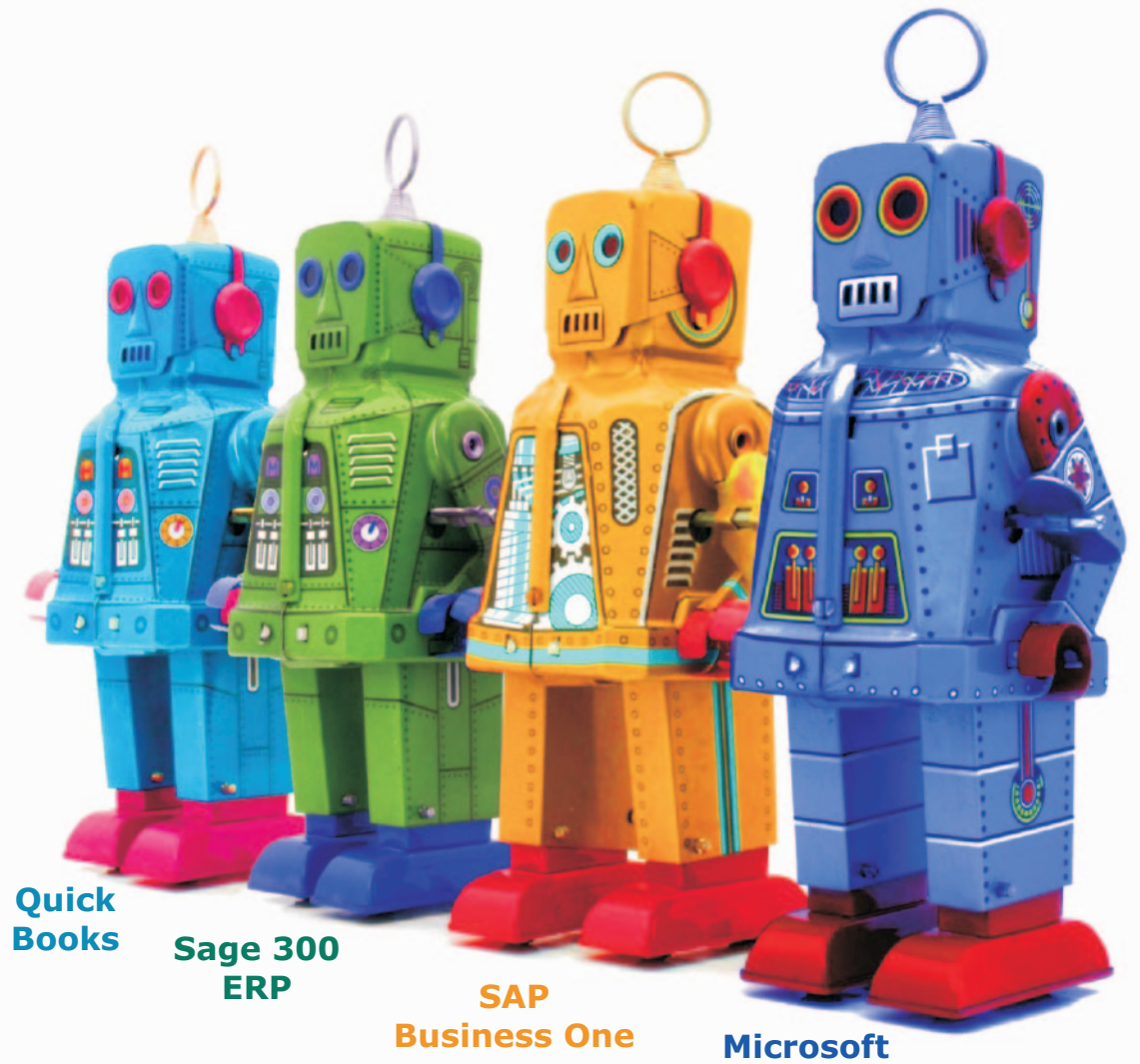
## About Sage

Sage is a world-leading supplier of accounting and business management software to start-up, small, and midsized businesses. Our purpose is to help our customers run their businesses more effectively—helping them gain greater insight into their business activities and providing them with lasting benefits by automating their business processes. Our applications cover a wide range of business requirements, including accounting, customer relationship management, contact management, human resources, warehouse management, and specialized products for specific industries.

Sage ERP X3 is the smart choice for companies that need to streamline operations but can't afford and don't want a complex ERP solution. It offers the flexibility, scalability, and functionality you need to manage a competitive business in regional and global markets within a singular software design.

# BATCHMASTER®

## Powers Process Manufacturing





Many of today's leading financial ERP packages rely on BatchMaster Manufacturing to meet the needs of SMB recipe-based manufacturers. Our modular ERP solution is available as a comprehensive ERP package or as a set of industry specific manufacturing modules that are embedded within these ERP platforms.

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BATCHMASTER®
ERP Software for Process / Batch Manufacturers

Case Study

# SAP Customer Success Story

## Achieving Powerful End-to-end Processes in the Supply Chain

### Quick Facts

#### Company

- Name: Humana Milchunion Unternehmensgruppe
- Headquarters: Everswinkel, Germany
- Industry: Consumer products—food companies
- Products and services: Milk-based products, cheese, yogurt, desserts, spreads, ice cream, baby food, health products, and specialty products for industry
- Revenue: About €2.2 billion
- Employees: About 2,800
- Web site: www.humana-unternehmensgruppe.com
- Partner: IGZ Ingenieurgesellschaft für logistische Informationssysteme mbH

#### Challenges and Opportunities

- Standardize information technology (IT) landscape and processes and implement standard IT solution for production and logistics operations at company's 12 sites
- Map the supply chain end to end

#### Objectives

- Adapt processes to growing customer requirements in logistics
- Accumulate SAP® software skills within the company

#### SAP Solutions and Services

- SAP Extended Warehouse Management (SAP EWM) application, including the material flow system (MFS) component
- SAP Manufacturing Integration and Intelligence application

## Implementation Highlights

- Minimized disruption to ongoing logistics, warehouse, and production operations during implementation
- Conducted training using simulation
- Performed cross-location knowledge transfer

## Why SAP

- Powerful software package that enables integrated processes
- Uniform standards regardless of the specifics of the individual plants and warehouses
- Powerful interfaces to the SAP ERP application
- Control of material flow using the MFS component of SAP EWM
- Investment protection

## Benefits

- Greater transparency for stocks and processes
- Reduction of the customer complaint rate to almost zero
- Higher inventory accuracy, minimal inventory differences
- Straightforward and fast batch traceability
- Fully integrated processes
- Improved knowledge transfer and standardized terminology across all sites

## Existing Environment

- SAP ERP

> "With the software from SAP, we implemented a standard to roll out to all existing and future sites that enables us to react flexibly to the growing requirements in production and logistics."

Bernd Wöstenkötter, Head of IT,
Humana Milchunion Unternehmensgruppe

Dairy giant Humana Milchunion Unternehmensgruppe modernized its IT landscape over the past several years. A key step in the transformation was implementing the SAP Extended Warehouse Management (SAP EWM) application and the SAP Manufacturing Integration and Intelligence (SAP MII) application for its production and logistics operations. The company now benefits from standardized supply chain software across all its sites and greater transparency of its stock and processes. The complaint rate and inventory differences were reduced to a minimum as well.

Freshness is what counts, but is hard to guarantee when you process more than three billion kilograms of milk every year. Humana does both. Its assortment ranges from milk-based foods—including cheese, yogurts, desserts, spreads, ice cream, and baby food—to health products and specialty products for industry. The company is number two in the German milk market and one of the leading milk-processing companies worldwide.

Logistics operations have got to be efficient for such huge quantities to be processed promptly and shipped. That's why Humana decided at the end of 2008 to completely revamp its IT processes in logistics. "We had been observing for some time that ever-greater requirements were being placed on logistics—even though the processes are apparently familiar," says Bernd Wöstenkötter, head of IT at Humana. "For example, the information on the individual pallets is becoming increasingly detailed, and the accompanying data streams are, too."

## Standardized Processes across All Sites

These growing requirements stretched the previous logistics solutions at the 12 production sites to the limit. And the heterogeneous IT landscape only made matters worse. "We had nearly as many solutions as sites, including many custom developments," says Dr. Bodo Wittig, head of the SAP Customer Competence Center location in the central IT department at Humana. "The solutions were outdated and couldn't be enhanced anymore, so they no longer met new requirements. We had come to the limit of what was technically feasible at almost all our sites."

The implementation of a new solution for Humana's production and logistics operations represented an important step toward the complete redesign of the company's IT landscape. The modernization had already started in 2005 when the SAP ERP application was implemented as Humana's central business management solution. "Our goal then was to implement standard software and, at the same time, to take a look at our processes and standardize them across all our sites and business units," Wöstenkötter explains.

In 2007 the decision makers at Humana started looking around for new supply chain execution software. During their research, they encountered the SAP EWM application at an SAP information event for warehouse and transport management. They then decided on SAP EWM in March 2008 after visiting an SAP customer who was using the application. Next, Humana brought in SAP partner IGZ Ingenieurgesellschaft für logistische Informationssysteme mbH—specialists in logistics projects headquartered in Falkenberg, Germany—as external consultants.

> "We used to have to take account of the differences in the various solutions at the individual sites... Today, changes are implemented in a uniform way, and communication has also become easier. Throughout the company, we speak the same language when it comes to the supply chain."
>
> - Dr. Bodo Wittig, Head of SAP Customer Competence Center Location, Central IT Department, Humana Milchunion Unternehmensgruppe

# Dovetailed Production and Flow of Goods

In order to integrate production with the flow of goods, the Humana management decided to implement the SAP MII application." The goal was to integrate the entire supply chain—from production supply through processing and waste disposal," Wittig continues. "SAP MII was our solution of choice because it enables the production plants and processes at the various locations to be closely integrated."

Together the two applications provided the basis for smooth production and logistics operations without a permanent connection to SAP ERP. This was important because production and logistics at Humana are round-the-clock activities; they run even after staff at headquarters has gone home for the day. A further vital criterion influencing the software choice was long-term commitment. As Wöstenkötter stresses, "SAP has been active in the industry with its products for a long time and will be there tomorrow." Yet at the heart of the decision lay the close integration the two applications supported. Wöstenkötter explains, "With SAP EWM and SAP MII, we got a powerful package that allowed us to develop standard processes we can roll out to all our sites, regardless of the specifics of the individual plants and warehouses. That was the key factor in our decision. And we can roll out to new sites quickly in the future."

Another reason to choose the software was the MFS component contained in SAP EWM, which enabled Humana to integrate and control material flow. Finally, ease of integration was important and, not least, the fact that SAP EWM and SAP MII have powerful interfaces to SAP ERP.

After the deployment analysis and final presentation, Humana finally opted for SAP EWM in combination with SAP MII in the summer of 2008. The project kicked off in January 2009 with the implementation of the two applications at the Coesfeld site in western Germany. The challenge here was confining test operations to a tight three-weekend time frame, because disruption to production and logistics had to be kept to a minimum at the site. For that reason, after the prototyping phase in spring 2009, the experts from IGZ deployed a custom-built simulation to run through all the processes in storage and production. "The simulation was a crucial factor in our being able to complete the project at Coesfeld within nine months—along with the support of the IGZ experts, the commitment of our project team, and the integration and performance features of the software," Wittig adds.

## More Exact Inventory Management, Nearly Zero Complaint Rate

In October 2009 SAP EWM and SAP MII went live in Coesfeld. Since then, Humana has been enjoying a host of benefits. "Across the board, the quality of our work has improved even more," says project lead Stefan Heitsiek. "For example, we managed to further reduce the number of complaints due to incorrect picking and quantities—although the rate was low before anyway. Since the implementation, our complaint rate has dropped to virtually zero."

This makes inventory management even more accurate, because both the stock and the processes in the plant, in the warehouse, and for the logistics operations are now much more transparent. "If, for example, we ascertain that a pallet of butter has been put on the loading ramp instead of a pallet of yogurt, we can now trace precisely the point at which the error was made and ensure that the same mistake won't happen again." As far as inventory differences are concerned, Humana also made progress, as Heitsiek explains, "Since implementing SAP EWM, the differences are in the region of one tenth of a percent and so are negligible." Because the inventory is now highly accurate, Humana plans to phase out periodic inventories in the medium term, which will reduce pressure on operations.

> "With SAP EWM and SAP MII, we got a powerful package that allowed us to develop standard processes we can roll out to all our sites, regardless of the specifics of the individual plants and warehouses. That was the key factor."
>
> Dr. Bodo Wittig,
> Head of SAP Customer Competence Center Location, Central IT Department, Humana Milchunion Unternehmensgruppe

## Seamless Supply Chain

The greater transparency in terms of stock and processes brings advantages for traceability. "We can trace individual batches faster and more easily," Heitsiek says. "Although we don't need to do this every day, it is important for us. It gives us extra security when a government tax audit takes place." Thanks to SAP EWM and SAP MII, Humana now has a comprehensively integrated supply chain—from the supplier and the plant to the warehouse and the customer.

Another great benefit of the implementation is that Humana now has standardized supply chain software across all its sites. "We used to have to take account of the differences in the various solutions at the individual sites, for example, if we made changes to SAP ERP," Wittig explains. "Today, changes are implemented in a uniform way, and communication has also become easier. Throughout the company, we speak the same language when it comes to the supply chain."

# Ease of Company-wide Knowledge Transfers

Another gain is that knowledge transfer has been made easier throughout the company, which reduces the need for training. "We can now use the experience we have gathered at one site for the other sites," Wittig says. "We run standardized training courses in which everyone benefits from the skills of the others." Humana was able to use this approach with great success due to the fact that SAP EWM and SAP MII were implemented successively. The employees at the sites that were yet to be integrated had the opportunity to use the solutions in a day-to-day situation at the locations that were already live—training at its most effective and in real time.

According to the decision makers, Humana has met the goals it set for itself with the implementation of SAP EWM and SAP MII. By 2012 all 12 sites are slated to be integrated. "With SAP software, we have implemented a standard that enables us to react flexibly to the increasing demands in the supply chain. In the future, we want to intensively use the expertise we have gained," Wöstenkötter says. "The SAP implementation is therefore an important step in safeguarding the sustainability of the company."

## About SAP

Founded in 1972 in Walldorf, Germany, SAP is an international provider of business software and is one of the world's largest independent software manufacturers. SAP has more than 183,000 customers in over 120 countries and employs 55,000 people at locations in more than 50 countries.

Case Study

# SAP Customer Success Story

## ACH Food Companies: Transforming from a Commercial to a Consumer-branded Business

Famous food brands from ACH Food Companies Inc.—like Mazola, Spice Islands, and Durkee—are in nearly every pantry in America, yet have you heard of this company? That's because, historically, ACH Food Companies served the commercial side of the food industry. Transforming itself into a consumer-branded business required an integrated suite of applications from SAP.

### Company
ACH Food Companies Inc.

### Employees
1,000

### Headquarters
Cordova, Tennessee

### Revenue
$1 billion (USD)

### Industry
Consumer products—food

### Web Site
www.achfoods.com

### Products and Services
Manufacturer of food products, including cooking oils, corn starch, and spices

### Partner
Deloitte Consulting LLP

## Business Transformation

### The company's top objectives

- Transition from commercial-focused firm to consumer-branded business
- Support acquisitions-based strategic growth plan
- Significantly improve business processes, including forecasting, planning, profitability analysis, and new-product development

### The resolution

- Replaced legacy system with an integrated suite of highly dependable applications
- Performed a customer valuation assessment with SAP to set performance targets
- Initiated a dual-wave implementation of SAP® Business Suite software

### The key benefits

- Improved information consistency with one source of the truth
- Increased speed and flexibility in assimilating acquisitions
- Enhanced or added new processes, such as customer and product profitability analysis

## Choosing the Way Forward

If you have names like Mazola, Argo, Spice Islands, and Durkee sitting in your pantry, then you should also know the name of the leading mid-market manufacturer of consumer-branded products who brought them to you—ACH Food Companies Inc.—but you probably don't. "We like to say we're the company nobody's heard about," says Donnie Steward, the quiet company's chief information officer (CIO), "but most pantries are filled with our products."

There is a good reason you may not have heard of ACH Food Companies, even though its products are so familiar to us all. Today, ACH Food Companies is an American subsidiary of Associated British Foods. Historically, however—especially from 1952 to 1995, when ACH Food Companies was part of the Kraft Foods/Anderson Clayton spin-off—it served the commercial side of the food industry almost exclusively.

Over time, ACH Food Companies evolved a legacy system to support its commercial business. "By 2006, our application landscape was filled with point-to-point interfaces and a hodgepodge of poorly integrated applications," explains Steward. "We were in high acquisition mode. But bringing in an acquisition and integrating it into our landscape was extremely difficult."

Its legacy system was preventing ACH Food Companies from achieving its growth objectives and becoming the consumer-branded company it wanted to be—an organization centered on process orientation and continuous improvement.

## Starting Over Without Starting Over

That important search led to SAP. "The future support for our legacy software was in doubt, and we didn't want to bet on futures. In SAP, we found a stable, mature product that made our future course clear and certain to us," says Steward.

> "The future support for our legacy software was in doubt, and we didn't want to bet on futures. In SAP, we found a stable, mature product that made our future course clear and certain to us."
>
> Donnie Steward,
> CIO, ACH Food Companies Inc.

Because SAP applications are integrated, the software enforces one set of master and transactional data. "The ability to enable application integration across all modules was the kind of consumer-branded process support we were seeking," says Steward. "In addition, the software offered something else we were lacking, and that's process orientation. We needed it to help force the breakdown of the functional silos that had taken hold."

ACH Food Companies was also attracted to the industry-specific enterprise resource planning (ERP) software for consumer food products that SAP had developed with Deloitte, ACH Food Companies' longtime implementation partner. "We felt that this solution, based on best practices for our industry, would allow us to hit the ground running and shorten the blueprint phase," observes Steward.

By 2007, Steward knew that to grow in the consumer market, ACH Food Companies had to move to an integrated suite of applications—and fast. A dual-wave implementation began shortly thereafter, starting with the SAP ERP application and followed by the SAP Manufacturing solution, SAP Product Lifecycle Management and SAP Recipe Management applications, and the SAP Advanced Planning & Optimization component.

> "We no longer wanted to live in functional silos. We needed one source of truth. Those factors led us to start the search for a new platform to support our consumer-branded business goals."
>
> Donnie Steward,
> CIO, ACH Food Companies Inc

## Targeting the Benefits of Business Transformation

The "Wave 1" implementation of SAP ERP was completed in 2008. "That year we divested our commercial business completely to become solely a consumer-branded firm," says Steward. "The implementation of SAP ERP made that divestiture very smooth and simple for us."

The "Wave 2" implementation was achieved in 2011. Both implementations benefited from the customer valuation assessment, which defined clear improvement targets. "We knew where we were going," says Steward. As a result, ACH Food Companies is profiting from a growing list of tangible and intangible business benefits. "We achieved a 20% reduction in our finished goods inventory," reports Steward. "We've shortened our new product initiation throughout all internal business processes and supporting systems from eight weeks to just two. And we've identified numerous operational efficiencies that we achieved through Wave 1, and more that we expect to achieve as Wave 2 is fully completed."

## Key Benefits

20% reduction in finished goods inventory

75% less time for internal new product initiation

25% reduction of close process, from 8 days to 6

## Continuing Improvements to Spice Up the Future

The value management approach ACH Food Companies followed, including benchmarking and the value assessment, is rewarding the company, today and tomorrow. "With our SAP implementations," says Steward, "we've set the stage in terms of the future and where we want this company to be. For example, we're looking at one set of numbers—one version of truth. We have a common terminology across the business and have issued our first set of company-wide cross-functional key performance indicators (KPIs). We have visibility of total inventory across the organization, and for the first time, we have customer and product profitability analysis and reporting. In the past, when we had to get to those numbers and analyses, it took an extraordinary amount of time." Steward concludes, "These are just a few of the things we've achieved already, and they set the foundation for what we will achieve tomorrow, including plans we have for budgeting, forecasting, and transportation."

> "We evaluated a number of vendors and their applications and determined that SAP was the best fit, with its long history of support for our industry."
>
> Donnie Steward,
> CIO, ACH Food Companies Inc.

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SAP Gold Partner

Illumiti

Case Study

# SYSPRO Customer Success Story

## SYSPRO Helps Vanns Spices Enhance Efficiency and Tighten Controls

> "Prior to our SYSPRO implementation, we had huge inventory variances, but now our inventory has been optimized to efficient levels. SYSPRO has also been instrumental in our ability to compete."

Mick Whitlock, President,
Vanns Spices

## At a Glance

### Company

Vanns Spices

### Industry

Food and Beverage

- Manufacturing

### The Challenge

- Outdated software
- Requirement for lot tracking functionality
- Inventory tracking
- Need to integrate manufacturing and customer service software

### Solution & Services

- SYSPRO Financials
- Bill of Materials
- Customer Relationship Management Enterprise Edition
- Factory Documentation
- Inventory
- Lot Traceability
- Office Automation & Messaging
- Material Requirements Planning
- SQL Manager

### The Benefits

- Accurate lot tracking and costing
- Custom-shop-type manufacturing
- Stringent inventory controls
- Fully integrated solution
- Superior reporting capability
- Greater competitive edge
- Enhanced procurement capability
- Improved manufacturing

## The Company

Vanns Spices Ltd. manufactures spices, spice blends, heirloom beans, grains and rice, and flavorings. While the family-owned company, based in Baltimore, Maryland, sells products under the Vanns label, the majority of the firm's business is directed at developing and producing private-label spice lines for markets, restaurants, and Web sites. Vanns, in fact, has blended private spice products for specialty food retailers in major gourmet markets such as Washington, D.C., New York, and San Francisco. The company has also created a variety of mustards, barbecue rubs, and blends for condiments, salad dressings, marinades, and sauces for high-profile TV chefs and cookbook authors, including Martha Stewart, Graham Kerr, Julie Sahni, Steven Raichlen, and Michael Chiarello.

Vanns acquires spices from around the globe as well as from importers in the United States. The company then processes and blends the spices at the firm's Baltimore manufacturing facility where strict quality controls are enforced. According to Vanns president Mick Whitlock, the company not only is very selective about the products it buys, but also utilizes natural forms of sterilization, such as steam and heat. "We do not employ any chemical sterilizing or irradiation, which can affect the flavors of the spices," he says.

## The Challenge

The company produces all private-label spice blends to order. "Though we have several large customers for which we maintain inventories, it would be extremely difficult for us to stock items, particularly with the various packaging requirements of 80 private-label customers," says Whitlock. "Our customers tell us how many of each spice or blend they want, and we then produce the desired labels and fill the packaging to order."

Vanns installed SYSPRO enterprise resource planning (ERP) software in May 2009. The company had been using WINMAN software, which was not only dated, but also unable to produce required reports. "For example," notes Whitlock, "a requirement of our supermarket customers is that we have the ability to do lot tracking. Though we make over 2,000 blends of spices, with SYSPRO Lot Tracking we can tell which spice went into which blends. In fact, we can trace the origin of every grain of spice and into which blend it went—even into which bottle and onto which customer's shelf."

## The Solution

SYSPRO easily enables the custom-shop-type manufacturing necessary to fill the numerous spice blends and private-label order variations. "In addition to various spices and spice blends, some customers want glass bottles with red caps, some want glass bottles with green caps, and there are others that want plastic bottles with green caps. However, using the SYSPRO inventory future free report and trial-kitting functionalities, we can easily determine if we have the inventory on hand sufficient to fill the order and, if not, what we must order," Whitlock says.

SYSPRO is also responsible for the stringent inventory controls now in place at Vanns, says Whitlock. "Prior to our SYSPRO implementation, we had huge inventory variances, but now our inventory has been optimized to efficient levels." He pauses, stating, "I wouldn't say that we've reduced our inventory, but we have better control of it. We're not out of product. In the past we were often short of product. Now, we're getting the alarms and the information that we need in order to do things in a timely manner. Our previous software didn't allow us to do that, and it was very cumbersome even to get an inventory report. We sort of did it by 'touch and feel' before . . . now, we're doing it in black and white."

Whitlock discusses the other reasons why SYSPRO ERP was Vanns' choice. While the easy part, he says, would have been to upgrade the firm's incumbent software, the realization was that it would still fail to fulfill all the company's software requirements. "Plus," says Whitlock, "we wanted to tie our manufacturing software into customer service software, so the SYSPRO CRM [Customer Relationship Management] software was as attractive as were the other SYSPRO features, such as lot tracking. SYSPRO software seemed a perfect fit all the way around from accounting to manufacturing to traceability features."

## The Result

The company's choice of SYSPRO software has been validated many times over, says Whitlock. "The software's reporting functionality, linked into Crystal reports, is phenomenal," he says. "I can now show our board what products we sell the most of . . . which products are our most profitable, and so on. The reports give us an in-depth picture of our company at any point in time."

Whitlock notes that the SYSPRO software has also been instrumental in Vanns' ability to compete. "We now know the exact costs of our products. In the past, we could only do estimates. We're able to efficiently analyze the costs of our materials—which fluctuates so much in this business. Commodities may be $4 a pound one month and $8 a pound the next month."

"SYSPRO has also enabled efficiencies in our purchasing. We're able to determine rising product prices, so we'll buy more of that particular item, i.e., buy three months' worth of the product rather than two months' worth. The software enables us to determine how much we'll save by buying greater quantities and how much inventory we'll need to have, which also ties right in with our cash flow picture telling us whether we have the cash flow to do that sort of thing. The software does that instantaneously. Again, we have a real-time picture of what's going on in the company."

Are there yet other ways that SYSPRO has added to the efficiencies of Vanns' operations? "We do have more efficient manufacturing now, and while a great deal is due to SYSPRO, we've also added quite a bit of new machinery," says Whitlock. "However, since implementing SYSPRO, we actually have fewer employees and we have more sales, so that in itself is indicative of the wisdom of our selection of SYSPRO."

## About SYSPRO

SYSPRO is an independent vendor of enterprise business software and services. The company is operational in over 60 countries, across six continents, with over 1,500 channel partners. Backed by a dedicated and professional team, SYSPRO provides world-class software solutions to customers across a broad spectrum of industries.



SYSPRO™
Simplifying your Success

Case Study

# Plex Customer Success Story

## Groeb Farms Cuts Processing Time by 600-plus Hours Annually, Reduces BRC Mock Recall Time by 75 Percent

### At a Glance

- A growing honey, peanut butter, and molasses processor launches Plex Cloud ERP, primarily to support requirements of BRC certification.
- Management achieves full visibility across all processing operations and locations.
- Streamlined functions drive an annualized savings of 608 hours of processing time.
- Groeb Farms' first mock recall took only 30 minutes, 75 percent faster than its previous time standard.

### About Groeb Farms

Groeb Farms, Inc. is the world's largest industrial and foodservice processor of honey.

In addition to producing and selling tens of millions of pounds of honey each year, the company also processes and distributes peanut butter and molasses. Groeb Farms products are used for retail consumption and as ingredients in salad dressings, sauces, snacks, bread, cookies, crackers, beverages, meat, and other food products. The company is headquartered in Onsted, Michigan, with locations in Belleview, Florida, and San Bernardino, California (Miller's American Honey).

Originally a family-owned company founded in 1973, Groeb Farms was sold to private equity firm Horizon Partners in 2007. Business has grown significantly over the last few years, as Groeb Farms expanded into the retail market with the acquisition of Miller's American Honey.

Groeb Farms had never used an enterprise resource planning (ERP) system or a formal food safety management system (FSMS), but with its growth and new market opportunities, management realized it was no longer feasible to use paper spreadsheets and manual processes to manage product quality, inventory, supply chain communications, and other aspects of its processing operations. It needed a solution that would standardize reporting, streamline processes, improve communications, and enable the sharing of best practices across the enterprise.

These improvements would also allow the honey processor to achieve an important strategic goal: obtaining and maintaining British Retail Consortium (BRC) Certification.

## Single-source Solution

Groeb Farms selected Plex as its cloud ERP solution. Management knew the single-source solution would meet its pressing needs to improve quality processes; streamline operations; and manage mock recalls, traceability, reporting, and audits. Plex provides an integrated FSMS, comprehensive manufacturing operations management (MOM)/plant floor control; instant one-up/ one-back traceability and recall management; real-time production visibility; and other traditional ERP functions such as accounting, production planning, and more.

The implementation went smoothly. Each Groeb Farms location assigned a point person to team up with Plex Systems to prepare for the "go-live." All Plex functions were launched in all locations on the same day with virtually no business disruption.

Today, Groeb Farms uses Plex across all areas of its processing enterprise. The company relies on the system's advanced functionality to manage production, supply chain communications, purchasing, inventory, quality, traceability, testing, human resources (HR), and more.

Because Plex is cloud based, all data can be accessed and shared anytime, from anywhere with Internet access. Management can view what is going on at all locations, at all times.

"Never before did we have the ability to access and share information across our locations," said Groeb Farms supply chain analyst Kelli Groeb-Peters. "Now, we can all see what's happening in any of our facilities—regardless of whether we're based in Michigan, California, or Florida."

> "Before Plex, it would have taken us at least 30 days to produce a set of skills assessment reports, but we were able to get everything done in about a week. We would not have been able to deliver the requested reports by the BRC's deadline without Plex."
>
> Kelli Groeb-Peters,
> Supply Chain Analyst,
> Groeb Farms

## Time Savings for BRC Audits and Mock Recalls

Groeb Farms achieved BRC certification for its Onsted location shortly after the company selected Plex as its new ERP solution. At the time, this made the site one of only about 500 plants in the United States to achieve this milestone and one of only 67 BRC-certified U.S. sites in Category 11 (low-acid/high-acid foods in cans/glass/plastic). The company also obtained BRC certification for its Belleview, Florida site.

Plex streamlines Groeb Farms' BRC audits in several ways. For example, to prepare for the audits, employees don't have to create or print any paper reports. An employee in the Quality department clicks on a Plex screen, accesses the "BRC Audit Information: Compliance" menu, and easily creates links to all the required data. The employee or auditor can click on a category or section of audit information to see backup details. Because the BRC-required documentation is accurate, complete, and well organized, management and the BRC auditor are able to review it very quickly.

Groeb Farms experiences similar efficiencies in its mock recalls. For example, after launching Plex, it completed its first mock recall in just 30 minutes—75 percent faster than its previous time standard.

As the company works to obtain BRC certification for its San Bernardino, California facility, it will continue to benefit from efficient steps for audits and recalls.

> "Never before did we have the ability to access and share information across our locations. Now, we can all see what's happening in any of our facilities—regardless of whether we're based in Michigan, California, or Florida."
>
> Kelli Groeb-Peters,
> Supply Chain Analyst,
> Groeb Farms

## Operational Efficiencies

Automation, improved visibility, and streamlined processes shorten the time it takes Groeb Farms employees to perform many plant-floor functions.

Inventory management is a prime example. Before launching Plex, Groeb Farms tracked inventory manually. Records were maintained on paper spreadsheets. Employees conducted regular physical inventories where they manually counted raw materials, intermediate inventory, and finished goods, then reconciled those counts with Receiving and Shipping. The process was time-consuming, resource-intensive, and cumbersome.

Plex replaced this process with a completely automated inventory-tracking process that saves resources and provides a true picture of inventory at all phases of production.

"Plex allowed us to really get our arms around inventory," explained Groeb-Peters. "At any time, we can view actual amounts of raw ingredients, work-in-process, and finished goods. The system tracks the origins of each lot of raw inventory, its location, and its stage in processing."

Since launching Plex, Groeb Farms has achieved an annualized processing-time savings of 608 hours. This includes time savings in daily inventory consumption, processing daily receipts, managing inter-plant transfers, and verifying on-hand inventory.

## Training Records Improve HR Decision Making

Groeb Farms uses Plex to maintain training records and assessment scores for all employees. To comply with BRC requirements, management must ensure that employees participate in certain training programs and achieve certain scores on assessments. The company must be ready to provide detailed and up-to-date training records upon request.

Groeb-Peters reflects on how easy it was to respond to the BRC's first request for a detailed skills assessment report.

"Before Plex, it would have taken us at least 30 days to produce a set of skills assessment reports, but we were able to get everything done in about a week," explained Groeb-Peters. "We would not have been able to deliver the requested reports by the BRC's deadline without Plex."

## Foundation for Growth

Groeb Farms is pleased with the increased efficiencies and visibility that Plex has introduced across its entire enterprise.

Improved, more timely information has allowed the company to manage BRC compliance, standardize processes, and broaden its application of best practices. Operations are streamlined and efficient, creating a solid foundation for the enterprise as it plans for continued growth.

> "At any time, we can view actual amounts of raw ingredients, work-in-process, and finished goods. The system tracks the origins of each lot of raw inventory, its location, and its stage in processing."
>
> Kelli Groeb-Peters,
> Supply Chain Analyst,
> Groeb Farms

## About Plex

Plex Systems Inc. is the developer of the Plex Food Safety Management System (FSMS), a software-as-a-service (SaaS)/cloud ERP solution serving the food and beverage industry. Plex FSMS offers industry-leading features for virtually every department within a processor and/or manufacturer, including manufacturing operations management (MOM)/plant-floor control; instant traceability and recall management; electronic HACCP with integrated SPC; and enterprise resource planning (ERP) for finance and management. Plex FSMS's comprehensive functional coverage delivers a complete view of enterprise operations, enabling management to run its business at maximum efficiency. Founded in 1995, Plex Systems is headquartered in Troy, Michigan, with customers around the globe. Plex Systems and Plex are trademarks of Plex Systems, Inc. More information is available at www.plex.com.

> "While every technology deployment comes with its own unique set of challenges, the TEC process was more efficient from the perspective of both cost and time."
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> —Bob Lloyd, Manager, Business and Logistics Solutions, Flakeboard Ltd.

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selectionservices@tec-centers.com
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## Resource Directory

### Food Manufacturing

www.foodmanufacturing.com

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### Manufacturing Business Technology

www.MBTmag.com

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# Vendor Directory

# Vendor Directory

| Vendor | Solution | Web site |
|---|---|---|
| **3i Infotech** | Orion | www.3i-infotech.com |
| **ABAS Software** | abas Business Software | www.abas.de |
| **ACCEO Solutions (formerly GFI Solutions)** | Scoopsoft | www.acceo.com |
| **Advanta Sistemas de Información** | Advanta Total Model Business | www.advanta-tmb.com |
| **AFS Technologies** | AFS ERP | www.afsi.com |
| **Apprise Software** | Apprise | www.apprise.com |
| **Apptricity** | Apptricity | www.apptricity.com |
| **Aptean** | Ross ERP | www.aptean.com |
| **BatchMaster Software** | BatchMaster Enterprise | www.batchmaster.com |
| **Blue Link** | Blue Link Elite | www.bluelinkerp.com |
| **CSB-System** | CSB businessware | www.csb-system.com |
| **Datacor** | Chempax | www.datacorinc.com |
| **Deacom** | DEACOM ERP | www.deacom.com |
| **Edgewater Fullscope** | PI for Microsoft Dynamics AX | www.fullscope.com |
| **Epicor** | Tropos | www.epicor.com |
| **Escape Velocity Systems** | O2 Process Manufacturing | www.evs-sw.com |
| **EtQ** | EtQ Food Safety Management | www.etq.com |
| **Exel Computer Systems** | EFACS E/8 | www.exel.co.uk |
| **FactoryMaster** | FactoryMaster | www.factorymaster.com |
| **Food Decision Software** | WinFDS | www.fooddecisionsoftware.com |
| **Food Connex** | Food Connex | www.foodconnex.com |
| **Glovia International** | glovia G2 | www.glovia.com |
| **IFS** | IFS Applications | www.ifsworld.com |
| **Infor** | Infor M3 | www.infor.com |
| **Innov8** | ProcessWare ERP | www.innov8cs.com |
| **Invistics** | MachSix | www.invistics.com |
| **IQMS** | EnterpriseIQ | www.iqms.com |
| **JAAS Systems** | JAAS Advanced Manufacturing Software | www.jaas.net |
| **Jeeves Information Systems** | Jeeves Universal | www.jeeves.se |
| **JustFoodERP** | JustFoodERP | www.justfooderp.com |
| **Kepler** | eKepler ERP | www.ekepler.com |
| **Manufacturing Information Systems, Inc.** | MISys Manufacturing | www.misysinc.com |
| **Microsoft** | Dynamics AX | www.microsoft.com/dynamics |
| **Minotaur Software** | Minotaur ERP | www.minotaursoftware.com |
| **NEC** | FlexProcess | www.nec.com |
| **Newgrand** | URP | www.newgrand.cn |

# Vendor Directory

| Vendor | Solution | Web site |
|---|---|---|
| **Oracle** | E-Business Suite | www.oracle.com/us/products /applications/ebusiness |
| **Oracle** | JD Edwards EnterpriseOne | www.oracle.com/us/products /applications/jd-edwards-enterpriseone |
| **Parity** | Parity Food Enterprise | www.paritycorp.com |
| **Plex Systems** | Plex Manufacturing Cloud | www.plex.com |
| **ProcessPro Software** | ProcessPro Premier | www.processproerp.com |
| **Progressive Scale and Software Solutions** | Provision Processing System | www.scaleprogrammers.com |
| **Pronto Software** | Pronto Xi Dimensions | www.pronto-software.com |
| **QAD** | QAD Enterprise Applications | www.qad.com |
| **Ramco** | ERP on Cloud | www.ramco.com |
| **SafetyChain Software** | SafetyChain for Food | www.safetychain.com |
| **Sage** | Sage ERP X3 | www.sage.com |
| **SAP** | SAP Business All-in-One | www54.sap.com/solution/sme/software /erp/all-in-one/index.html |
| **SAP** | SAP ERP | www54.sap.com/pc/bp/erp.html |
| **Seradex** | Seradex ERP | www.seradex.com |
| **Synergix Technologies** | TaskHub | www.synergixtech.com |
| **SYSPRO** | SYSPRO ERP | www.syspro.com |
| **Tamlin Software** | Food Manufacturing Conductor | www.tamlinsoftware.com |
| **Technology Group International** | Enterprise 21 | www.tgiltd.com |
| **TOTVS S/A** | TOTVS Protheus | www.totvs.com |
| **Tuppas** | Tuppas | www.tuppas.com |
| **Universal Business Systems** | Synergy ERP | www.ubsys.com |
| **VAI (Vormittag Associates, Inc.)** | S2K Enterprise | www.vai.net |
| **Vigilistics** | vEMI Suite | www.vigilistics.com |
| **Vicinity Manufacturing** | Vicinity | www.vicinitymanufacturing.com |
| **Xantel** | AMAPS+PLUS | www.xantel.com |
| **Yonyou (formerly UFIDA)** | U8 | www.yonyou.com |

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# ERP for Process Manufacturing Buyer's Guide

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