



# THE SOLAE COMPANY

## USING REAL-TIME INFORMATION TO BOOST PLANT PRODUCTIVITY

### QUICK FACTS

#### Industry

Consumer products

#### Revenue

US\$1.2 billion

#### Employees

2,700

#### Headquarters

St. Louis

#### Web Site

www.solae.com

#### SAP® Solution and Services

SAP® Manufacturing Integration and Intelligence application

#### Implementation Partner

SAP Consulting

#### Key Challenges

- Improve plant productivity
- Increase yield of manufacturing plants
- Equip plant personnel with timely information to optimize manufacturing process parameters
- Combine cost information with manufacturing process data to determine value gained by making specific changes
- Provide all needed information to plant decision makers as quickly as possible

#### Implementation Best Practices

- Combined internal team with SAP Consulting to take best advantage of the expertise of each
- Involved business process experts in the implementation
- Followed site-by-site deployment plan

#### Financial and Strategic Benefits

- Recouped investment in 6 months
- Enabled completely informed decision making by equipping plant personnel to correlate the costs of making changes with the benefits
- Empowered the plant staff to make adjustments quickly
- Automated manual processes
- Improved consistency of the manufacturing process
- Reduced waste

#### Why SAP Was Selected

- Integration with the SAP® ERP application the company runs
- Potential for quick implementation
- Maturity of the software
- Robust functionality
- Availability of experienced internal SAP software implementation team
- Positive experiences with SAP products and services

#### Low Total Cost of Ownership

- Met all schedule and budget goals
- Completed first implementation in 4 months
- Honed expertise to reduce implementation time for a new site to less than 2 months
- Compressed 2-week training course into 1 week
- Learned to perform most new development internally

The Solae Company manufactures soy-based ingredients used in many food products. These ingredients add nutrition and health values to the end products. To maximize yield in its plants, which is extremely important, Solae needed real-time access to manufacturing process parameters along with related cost data. This required a link between plant systems and the company's SAP® ERP application, a need Solae met with the SAP Manufacturing Integration and Intelligence application – a key enabler in helping the firm save millions of dollars annually.

#### Operational Benefits

Key Performance Indicator	Impact
Plant productivity	+5% to +6%, exceeding goal of +1%
Manufacturing costs	-US\$5 million to -US\$6 million annually
First-pass yield quality	+3.5%
On-stream time (a measure of production rate)	+3.6%
Savings from improved landfill gas utilization	US\$2 million annually
Plant personnel productivity	Significantly improved



“SAP MII is a mature, stable product that can be implemented and learned quickly and does a great job of linking SAP software with plant floor applications.

I definitely recommend it.”

**Subbu Subramanian**, Director of Enterprise Applications, The Solae Company

Founded in 2004, The Solae Company is a joint venture between DuPont and Bunge Limited that provides a wide variety of nutritive ingredients based on soybeans. With more and more consumers discovering the many benefits of soy-based foods, the firm is growing quickly, with 14 manufacturing plants around the world in addition to its headquarters in St. Louis.

### Tracking Manufacturing Parameters Saves Costs and Improves Quality

As a process manufacturing-intensive company, the majority of Solae's costs are manufacturing related, and concern for product quality is paramount. Since many manufacturing costs are fixed, maximizing yield is critical for minimizing costs. Therefore the firm is keenly interested in exploiting any opportunity to maximize yield, cut manufacturing costs, or improve product quality. In particular Solae closely watches the many manufacturing process parameters that affect yield – temperature, humidity, liquid viscosity, acidity, and many more. If pH levels are off from ideal by just a small percentage, for example, protein content drops significantly.

Each plant is staffed by experts who monitor these parameters and continually make adjustments to optimize them. One of their key tools is a dashboard for tracking parameter status, originally implemented using a normal whiteboard – on the wall. Even tracking manually was effective, but over time Solae improved results by automating the process using laborato-

ry information management systems, process control systems, data historians, and manufacturing execution systems. Armed with the data they provide, plant personnel can detect off-the-mark parameters earlier than ever before and make decisions about changes sooner.

### Linking In Cost Information Greatly Aids Decision Making

Still, there was one component missing that was critical in the decision-making process – cost information. There is value associated with any improving adjustment to a manufacturing parameter, but there are costs as well. Without having the cost particulars readily available, plant personnel often faced difficulties deciding whether a change was worthwhile.

Solae had all the required cost information, but it was stored in the SAP® ERP application the firm uses to run its core business, not in the plant floor applications. Therefore the company began a search for software that would link them together – a search that led to the SAP Manufacturing Integration and Intelligence (SAP MII) application. “We looked at several applications and found that SAP MII was clearly the best for our needs,” says Subbu Subramanian, director of enterprise applications for Solae. “It’s a very mature, stable product that can be implemented quickly. Most importantly, it is tightly integrated with the SAP applications that hold the information we needed on the plant floor.”

Solae invited SAP Consulting, which had provided excellent service in the past, to help again by working closely with an internal team of dedicated SAP software professionals from DuPont. Together they brought one of Solae's plants into production with SAP MII in just four months, moved on to a second plant that took even less time, and then on to a third that proved quicker still at two months. The team plans to continue implementing SAP MII site by site until all of Solae's 14 plants are running the application.

### Plant Productivity Jumps 5% to 6%

Equipping plant floor decision makers with cost data has helped Solae use its manufacturing equipment and raw materials more effectively, thereby improving product quality while lowering costs. The benefits have proven even bigger than Solae expected. “We had set an overall plant productivity improvement goal of 1%, but in fact we're seeing 5% to 6%, which is outstanding,” reports Subramanian. “That translates into savings of US\$5 million to US\$6 million per year. SAP MII is a key technology enabler in allowing us to reap these savings.”

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