ALSACE LAIT, A FRENCH DAIRY, HAS CREATED A REPUTATION FOR HIGH-QUALITY PRODUCTS AND WORKS HARD TO MAINTAIN THAT REPUTATION.

Alsace Lait specializes in the production of fresh dairy products, including fresh milk, ultra-heat-treated milk (a longer-lasting milk that doesn't need refrigeration), cream, cheese and drinkable yogurts. The company’s commitment to quality has earned its private-label brands international renown with many total customers.

The reputation for quality starts in Alsace Lait’s production facilities, where the focus is on product quality and flexible manufacturing processes. This implies improved quality assurance and optimization with absolute integrity and consistency of product manufacture. Building the quality image for premium products is key to further develop customer loyalty and market share.

The flexibility of the production machinery and process equipment is also critical to satisfying customers’ palates. The ability to turn around new products in a quick fashion enables Alsace Lait to meet rising consumer expectations that call for new taste experiences.

Helping the company meet its quality commitment is Alsace Lait’s new manufacturing facility near Strasbourg, which was built after a fire destroyed the old one in 2000. The new facility features a state-of-the-art automated processing solution from APV, which was selected based on its ability to offer a unique combination of information technology, automation and process solutions. It focuses on delivering improved efficiency at every stage of the business. APV is a member of the Invensys Production Management family of brands.

Rebuilding the Business

FOLLOWING THE FIRE, ALSACE LAIT RESUMED MANUFACTURING...
A new production facility was needed, however, and the goal was to build it by the end of the year.

APV was selected to provide the process manufacturing solution. APV’s track record of combining its extensive process manufacturing solution. APV’s experience with seamless automation and vertical integration to process experience with the MES layer. Therefore, the APV system does not use programmable logic controllers, but four Intervisors Intelligent Integrators.

The Intelligent Integrator is a rugged industrial PC in a compact, electromagnetic-interference-protected metal housing that supports DIN rail mounting. It runs the Microsoft Windows NT operating system with Wonderware InControl™ and APV ACCUS ParaCore.

A list of both directly measurable and indirect advantages received from its new process automation system. The company believes that the indirect advantages are just as important as those that are easy to identify, because they contribute to its long-term viability in the marketplace. The directly measurable advantages include:

- Reduced material losses for raw milk, intermediate products and fruit concentrate, based on product tracking and associated detailed performance balances can be monitored and analyzed for months or years, allowing for short- and long-term process improvements.
- Wonderware InTrack™ is the cornerstone of the MES system. Its genealogy records provide a complete history of all materials consumed during a product’s manufacturing process. The production history adds other facets to the historical record, such as the machines used, shifts, users and their capabilities, quality records and links to continuous process data. All of this provides a complete picture of the manufacturing history of an individual lot, part or component.
- Wonderware InTouch™ for FactorySuite provides the visualization for a plant- and operator-centric manufacturing information system. Several InTouch clients (monitors) provide operator guidance for plant access, display of real-time and historical trends, alarming, recipe management, etcetera.

The control system represents a perfect illustration of the latest industry trend, which focuses on optimized production planning and management, et cetera. The implemented architecture ensures that real-time information is available from raw material to finished goods and delivered to the operators, process engineers, maintenance personnel and plant management. It enables them to make the right decisions quickly.

The production control and MES functions of Wonderware are complemented by two specialized APV software packages: CIP Expert and Maintenance OnLine. The former controls the operation of the CIP stations, and the latter provides for preventive maintenance. CIP Expert compares real-time cleaning data with historical trends, enabling the operator to adjust process parameters to improve performance. Maintenance OnLine allows for optimum utilization of installed equipment and ensures that resources are concentrated where the need is most critical.

Customer Advantages

NOW THAT THE NEW FACILITY IS UP AND RUNNING, PROCESSING 110 MILLION LITERS OF MILK ANNUALLY, ALSACE LAIT HAS COMPILED A LIST OF BOTH DIRECTLY MEASURABLE AND INDIRECT ADVANTAGES RECEIVED FROM ITS NEW PROCESS AUTOMATION SYSTEM. The company believes that the indirect advantages are just as important as those that are easy to identify, because they contribute to its long-term viability in the marketplace. The directly measurable advantages include:

- Reduced material losses for raw milk, intermediate products and fruit concentrate, based on product tracking and associated detailed performance balances;
- Better synchronization of production capacity with orders due to constant analysis of inventories, priority planning and inventory optimization;
- Reduced manufacturing costs based on improved availability of machinery and equipment caused by downtime analysis, preventive maintenance, reduced throughput time and CIP optimization.

Indirect advantages include:

- Automatic quality assurance based on complete history of all materials. This ensures integrity and consistency of products and enables long-term customer loyalty;
- Reliability of production tracking. Detailed customer information can be supplied to supermarkets as part of the extensive reporting capabilities. Appropriate reporting is also generated to reduce costs in conjunction with governmental requirements;
- The improved company-wide data quality allows for continuous optimization of processes and equipment.

The Alsace Lait installation underlies APV’s objective to design every element of the plant for efficiency. From a single valve to the systems that operate them, every component within the plant is focused on optimum performance to make the overall business more profitable for today’s markets and to maintain a sustainable competitive advantage well into the future.

The System Architecture

THE RESULT OF THE EARLY PROJECT COLLABORATION BETWEEN APV AND ALSACE LAIT IS A MES SYSTEM BUILT ON WONDERWARE® FACTORYSUITE®, WHICH PROVIDES A VARIETY OF SOFTWARE COMPONENTS. The IndustrialSQL Server™ real-time relational database acts as the backbone for all plant data including historical data on each product batch.

All information is available for production management and cost controlling. This allows efficient production cost analysis and optimized use of raw materials and energy resources. Downtime and production balances can be monitored and analyzed for months or years, allowing for short- and long-term process improvements.

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Ethernet TCP/IP is used to communicate between the Intelligent Integrators and the Wonderware supervisory system. Alsace Lait appreciates the advantages of the Intelligent Integrators compared to conventional PLCs. Some of the benefits include a universal industrial PC, reduced spare parts, simulation and training availability on the same unit, remote diagnostics and maintenance, seamless integration with FactorySuite and reduced maintenance costs. In addition, because of the system’s open architecture, third-party software can be added very easily.

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