

HOW PREMIER MANUFACTURING MAKES PROGRESS

CONTINUOUS PRODUCTION IMPROVEMENT WITH MANUVIS AND PROGRESS

Two plants. Three shifts a day. Seven days a week. That's a lot of employees punching the clock. In fact, Premier Manufacturing was spending \$3,000 a week just handling time cards. Already a leading manufacturer and supplier of fabricated wire products for the heating, ventilating and air conditioning industry, Premier wanted to better compete globally by improving efficiency in this and other areas on the shop floor. But getting insight into what was happening in production was time-consuming.

Premier knew what it needed to do: capture detailed production information to improve operational performance, enhance workforce utilization and analyze the production process to enable continuous improvement. To do the job, it selected infrastructure and development tools from Progress Software—including Progress® Sonic® ESB, Progress® Apama®, and Progress® OpenEdge®. Progress solutions helped Premier to develop far more insightful views into operations, reducing setup times, increasing labor efficiency—and saving nearly \$ 1million a year.



CHALLENGE

Enable continuous improvement by capturing detailed production information, enhancing workforce utilization, and analyzing the production process

SOLUTION

FactoryMRI, a manufacturing application built with several Progress products and developed by Progress Partner Manuvis

BENEFIT

*17% increase in machine capacity,
15% increase in production efficiency, close to \$1 million/year in cost savings*

UNDERSTANDING PRODUCTION

Previously, employees filled out production cards, which administrative personnel then keyed into systems. Management then reviewed this information to try to understand equipment utilization, setup time, labor productivity and production efficiency.

According to Dave Barna, CFO for Premier, “We were making business decisions based on limited information, and we wanted to improve our visibility into what was really happening on the shop floor. We figured out we were spending nearly \$3,000 a week just handling the cards—which were only providing us with minimal actionable information. We needed to develop better ways to gather information on production operations.”

For example, if management wanted to analyze the idle time of the machines, an analyst had to capture the data from the time cards and build a matrix to manually compare the utilization of each machine. So gaining insights into operations was a time-consuming process. Also, executives lacked the ability to swiftly drill into information to identify and correct inefficiencies.

Flexible access to information was a business imperative for maintaining the company’s advantage in the market. Barna explained, “The manufacturing industry in America faces stiff competition from overseas manufacturers, so we have to work harder at getting smarter to make ourselves more competitive. We view information as a means of capturing a competitive advantage that can help us reduce costs, better serve our customers, and maintain a healthier business.”

To capture data on activities throughout the production cycle, Premier evaluated various methods of data collection and analysis. “We briefly considered installing ruggedized PC workstations on the shop floor to collect data, but this traditional solution would merely shift the work to the production floor,” said Barna. “It would force production workers to enter data, which is something they may not be good at or may not like to do. Instead, we wanted to automatically capture information directly from our machinery that would support flexible statistical analysis of our production environment.”

REAL-TIME VISIBILITY, SIGNIFICANT SAVINGS

Premier searched for an off-the-shelf solution, but none met the company's demanding requirements. Barna realized that operator control station panels originally designed for controlling machinery could be converted into data collection systems. These panels attach to production machinery and have keypads so that operators can also enter or view information.

Premier adapted these hardened devices and wired them to production machines to capture the necessary information on everything from production output to temperatures, pressures and voltages. With this solution shop floor personnel could focus their time on operations without the distraction of manually filling out time cards.

But once the information was captured, it needed to be stored in a flexible repository. What's more, Premier needed powerful tools that could extract and massage the data to provide meaningful management information.

Manuvis, a Progress Application Partner, worked closely with Premier to develop applications for feeding production data into a centralized depository. Premier selected IT infrastructure based on Progress OpenEdge technology.

Barna explained, "Manuvis helped us design the database and leverage the Progress suite of software tools to capture and report on the information we needed to improve our business. Our infrastructure polls these devices and constantly collects data in real time." Premier also deployed Progress Sonic ESB to integrate shop floor data with its existing manufacturing resource planning and enterprise resource planning applications.

The company is using Progress Apama for complex event processing. "Business activity monitoring powered by Apama provides Premier a competitive advantage with real-time operational intelligence," explains David Scott, CEO of Manuvis. "Because Premier has real-time visibility into production resources and cycle times, it can more quickly respond to changing production requirements, output quality and urgent customer needs."

Apama's CEP and graphically rich dashboards enable business users and plant executives to monitor events, analyze time correlations

and act on information that delivers immediate operational impact. “By capturing production events directly from shop floor machines and processing information in real time, the solution is delivering a new level of visibility into its plant operations and significant savings,” says Scott.

Premier developed and deployed its application in just nine months. The Progress environment now provides around-the-clock reliability, supporting two plants that run three shifts a day, seven days a week throughout most of the year.

“We estimate that we are saving close to \$1 million annually with our Progress-based solution,” says Barna.

REDUCING LABOR, INCREASING PRODUCTIVITY

Progress tools allow Premier and Manuvis to develop entirely customized reports that deliver flexible views into operations. For example, Premier has reduced setup time for new production runs because management can now more accurately predict completion times. By knowing when a job will be completed, Premier can improve productivity and reduce setup time.

“In the past we were never sure on which shift a job would finish because we lacked hard data,” stated Barna. “Now we can very accurately predict completion times, and managers know when setup personnel are needed so transitions are smooth and efficient.” Premier has saved a total setup cost of 33% since using the Manuvis solution.

Premier took advantage of attrition to reduce two setup positions, saving over \$130,000 annually in labor costs. The ability to create flexible reports has provided many other major advantages. For example, Barna estimates that Premier has increased manufacturing capacity by 7% through this automation project. The reporting has also resulted in an estimated 15% increase in labor efficiency.

The new system also helped improve productivity by leveraging the company’s incentive pay system. According to Barna, “The reporting on productivity is used as a motivator so that employees can drive themselves to be as productive as possible. We’re able to look very carefully at idle times

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*Dave Barna
CFO
Premier*

and use that information to explain to employees how they can make more money by reducing idle time and increasing their productivity.”

For example, an employee reviewing a productivity report may realize that by eliminating a few minutes of downtime per shift he or she would earn a higher hourly wage. Because the system captures extensive volumes of real-time data, Premier is able to extract and analyze information stored in the OpenEdge repository to tailor reports to address virtually any aspect of the manufacturing process.

IMPROVING OPERATIONS

Management can now get the information needed to reduce cycle time, improve production efficiency and drive constant improvement. One major area of improvement is quality assurance. Premier measures defects in parts-per-million. It estimates that automation has helped to reduce defects by as much as 50%.

Premier has also leveraged information to improve its ability to get the job done right the first time. Barna estimates a 10% improvement in first-past yield and attributes this improvement to the automation project.

Customers benefit from more detailed information on product status and more accurate estimates of product delivery dates as well. Barna said, “Our customer service department can look at the status of a job through an easy-to-use Web interface. If a customer wants early delivery, our customer service rep can drill down into the production floor status to see whether this is possible. We are able to provide our customers with greater visibility into production so that we can become a more valuable supplier to them.”

Premier achieved these major accomplishments without any new hires and without the need of a database administrator. Barna added, “Now we leverage technology to improve our business. Our IT department has had no new hires—despite the fact that many aspects of our business are leveraging advanced reporting information.”

The workforce has also embraced the new technology because they get more immediate and measurable feedback on their performance. This

is complemented by incentive-based pay. Barna compares this interaction to a “video game.” “Workers realize that if they achieve a high score, there will be immediate rewards reflected in their paychecks. It took a while for people to understand and buy into what we were doing. Premier’s executives supported our technology initiatives early, but we had to avoid the idea of acting like a big brother. Shop floor workers understand that we are providing the information they needed to better succeed at their jobs and improve their earning potential. They also know that the company is maintaining its competitiveness in our market, helping to secure their ongoing employment.”

Premier is also planning to add support for handheld devices and to use bar coding technology for serial/lot tracking to improve traceability. “Our Progress products give Premier a competitive advantage because they allow us to continuously improve production, and they provide management with flexible access to the information needed to improve operations,” concluded Barna.

Manuvis is now marketing this software as the FactoryMRI suite of applications so that other manufacturers can similarly benefit from this creative approach to network monitoring and shop floor control.



MANUVIS

Manuvis is a leader in delivering innovative, real-time factory intelligence and performance management software solutions that help companies lower operating costs, improve customer service, and increase profitability. FactoryMRI has been designed and developed by a team of experienced manufacturing executives who needed a method to improve manufacturing operation's data collection and availability processes. Manuvis' 60+ years of industry experience and specialized business skills will solve operational challenges and help boost profitability.

PROGRESS SOFTWARE

Progress Software Corporation (NASDAQ: PRGS) is a global software company that enables enterprises to be operationally responsive to changing conditions and customer interactions as they occur. Our goal is to enable our customers to capitalize on new opportunities, drive greater efficiencies, and reduce risk. Progress offers a comprehensive portfolio of best-in-class infrastructure software spanning event-driven visibility and real-time response, open integration, data access and integration, and application development and management—all supporting on-premises and SaaS/cloud deployments. Progress maximizes the benefits of operational responsiveness while minimizing IT complexity and total cost of ownership.

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