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Chad Christman
Quality Control Manager



Wonderware Industrial Application Server Gives Georgia-Pacific Monticello Plant More Flexibility and Control

The Georgia-Pacific plant at Monticello, Ga. is one of the market's leading producers of thin medium-density fiberboard - or Thin MDF. Each day, the plant produces more than 690,000 square feet of paneling in 42 different textures, patterns and finishes for home improvement outlets all over North America, including The Home Depot and Lowe's.

Since its introduction, MDF has become a critical ingredient in construction and home renovation projects. Easier to work with and less expensive than natural wood, MDF is used to make interior finishing pieces for construction projects, such as wall paneling, cabinet doors and crown moulding.

Challenged by the rigorous demands of the retail consumer market and having a need to update its industrial automation technology, Georgia-Pacific Monticello recently introduced a Production & Performance Management (P&PM) system from Wonderware to maintain its position as market leader.

The project, which has garnered industry acclaim from *Start* magazine, has helped the company reduce unscheduled downtime significantly and increase production capacity while maintaining the high quality standards of the final product.

"Since we've introduced the Wonderware system at the Monticello facility, we have been able to significantly reduce downtime," said Kurt Williams, the production superintendent at Monticello.

"In addition, we have been able to work on our cost structure and increase the plant's operating production capacity on an annual basis. But the feature I like the most about the Wonderware system has been the increase in the quality of the product we are able to produce."

Prior to installing the Wonderware P&PM system, Georgia-Pacific Monticello relied on a DOS-based legacy system from Rockwell Automation that required a Windows 98 platform, which was prone to crashes that would typically take individual systems down for four to five hours at a time. This had a very detrimental impact on the plant's productivity and efficiency.



Charles Fox, electrical superintendent, at an InTouch screen on the plant floor

Rather than settle for the replacement of this system with a newer HMI, managers at Monticello wanted to seize the opportunity to take another step forward, centralizing control and adding functionality that would drive new levels of flexibility and operational standards throughout the plant. The new system also had to eliminate islands of automation, incorporate object-oriented technology in a predictive maintenance-capable environment and offer an easier path to introducing process changes. It also had to make it easier to locate tags and easily integrate with the existing plant historian - an older version of Wonderware's IndustrialSQL Server software - as well as provide a foundation for future growth.

To meet all these goals, Georgia-Pacific Monticello chose the Wonderware Industrial Application Server, which is built on Wonderware's industry-leading ArchestrA industrial automation and information software architecture.

The Industrial Application Server is the core application development and supervisory control platform for Wonderware's P&PM solution; it provides a unified environment for visualization, plant history, device communications and automation-application integration.

"(The Wonderware) Industrial Application Server, with its distributed architecture, gives Georgia-Pacific Monticello the opportunity to control systems using thin-client technology, providing more flexibility and control than the old system, which was comprised of individual PCs running a single HMI," said Charles Fox, electrical superintendent at Georgia-Pacific Monticello.

The Industrial Application Server enables the use of standardized application objects for faster engineering.

Georgia-Pacific engineers can create objects and reuse the engineering and configuration of the objects and share them across plants. More importantly, the Industrial Application Server provides the ability to manage all system changes using a single InTouch template, enabling staff to cost-effectively manage the system interfaces and database over time.

Along with the Industrial Application Server, Georgia-Pacific deployed Wonderware's IndustrialSQL Server software, a comprehensive data historian that provides plant decision-makers immediate access to detailed, real-time plant information. This gives the company unprecedented access to the information needed to make critical decisions every day. The IndustrialSQL Server historian draws key data intelligence into Wonderware's P&PM solutions, delivering the data, both current and historical, enabling the detailed analysis and trending that forms the backbone of the overall solution.

Georgia-Pacific also is using other Wonderware automation solutions to assist with its P&PM efforts. Wonderware's InTouch HMI enables users to visualize information and use it to control industrial processes. Finally, ActiveFactory reporting and analysis software enhances the data collected and stored by the IndustrialSQL Server historian, enabling individuals at all levels of the organization to easily access plant and process data through simple point-and-click dialogues. Data is shared through Georgia-Pacific's wide area network, enabling authorized users to connect from their desks to view what is happening on the factory floor in real time.

It is access to this kind of historical data that has enabled Chad Christman, who heads Georgia-Pacific Monticello's quality control program, to radically improve the impact of his efforts on the plant's production processes.

Now Christman can examine historical data and perform a trend analysis. This enables him to look for factors within the manufacturing process that can be improved to increase efficiency and product quality.

The real-time feature of the P&PM system means that data is collected almost instantly, making it immediately accessible for analysis. In fact, Christman has been able to arrive at the office in the morning and quickly solve a problem experienced by the night shift.

"Before I had the P&PM system, I had to go back and sift through multiple databases to do data analysis and identify problems and trends," he said. "With the new P&PM system, it is quicker and easier to do this."

Better data means easier reporting

Simply having this kind of immediate access to reliable information has driven efficiency across the breadth of the plant's operations. Like any factory, Georgia-Pacific Monticello has stringent safety and environmental reporting requirements that must be met. The difference is, now the data collection for reports can be controlled through a centralized method using the P&PM system.

"Safety compliance and environmental compliance are two critical management challenges that we have to meet every day, and the Wonderware system has given us the data so that we can continuously monitor those areas for continuous improvement," Williams, the production superintendent, said.

Virtual collaborative development speeds deployment

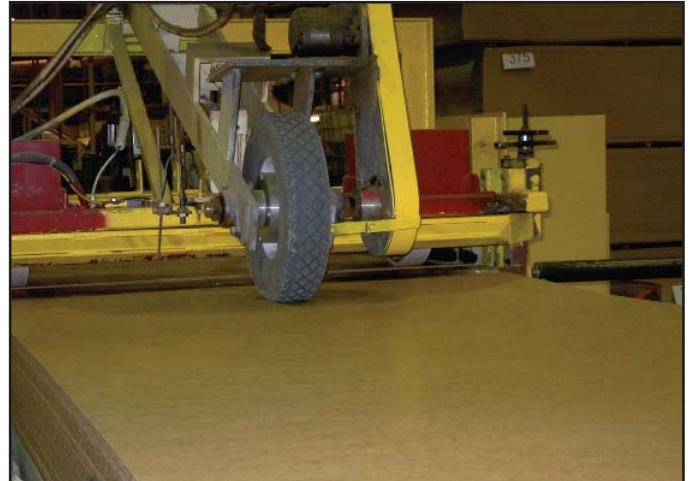
The rollout itself required almost six months and turned into a remarkable example of collaborative engineering, with teams from Georgia-Pacific Corp., Monticello; Wonderware; and InSource Solutions, Wonderware's integration partner, all participating online in a virtual community. This significantly cut down the time required for the project.

"One thing we really like about this product is that it can be collaboratively developed," said Fox, the electrical superintendent. "We were able to do this with InSource and Georgia-Pacific engineering. InSource was really dynamic about helping us and getting this thing off the ground. We were all able to collaborate in three teams, developing at one time using a virtual private network."

Williams has managed almost half a dozen plants around the country and said that the technology at Monticello is some of the most advanced and effective he has ever seen.

"When I come to work everyday, it is the very first thing I look at to assess how well we performed," Williams said. "Changing weather conditions can affect the process, and because you can go back and trend, you can go back and better understand what has happened to the process. You can then share that information with the people on the plant floor who are actually running the production, and they can use it as well."

Currently, the P&PM system has only been rolled out to the production lines on the MDF side of the plant. The next steps will see the finishing lines, where the rich textures and colors are added to the panels, integrated into the system. This will give managers easy control of



Final stage of medium-density fiber board (MDF) production at the Georgia-Pacific Monticello plant.

every aspect of the MDF production process.

Georgia-Pacific will also use InTouch and IndustrialSQL Server software to build a series of machine models that will monitor machine performance and machine variables. This will enable superior control and continue to drive the quality and efficiency benefits to unprecedented levels.

"I'm really excited about the Wonderware technology and what it's already doing for us," Fox said. "I think they are ahead of the curve. This is the type of application people in engineering and process control have been waiting for for a long time. We've always had to stumble through Visual Basic programs or things we've had to build on our own to get this kind of access to mission-critical data. Now we have a full-blown application in (the Wonderware) Industrial Application Server. We're really excited about the technology that's coming out and think Wonderware is right at the forefront of it."

Whether you are looking to give your home its own personal extreme makeover or just spruce up the basement a little, you'll be looking for the best-quality wood-paneling products available at the most competitive price point, and - with a little help from Wonderware - Georgia-Pacific's MDF will be one of the leading options.



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