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Consumer products and retail · Construction

Springfarm Architectural Mouldings

Molding company uses Preactor to significantly improve system reliability and production

Product

Manufacturing Operations Management

Business challenges

Ensure efficient customer delivery

Optimize production of over 40,000 product variants

Minimize machine downtime and material waste

Keys to success

Use Preactor to effectively manage schedules and provide feedback

Facilitate shop floor visibility

Enhance flexibility by enabling schedulers to intervene manually

Results

Improved system reliability so SAM can handle more volume

Minimized waste by managing the way in which cuts are made

Reduced the number of machines and job setups and focused on longer production runs

Scheduled each job in the most efficient order

Enhanced ability to provide management with instant performance data

Siemens PLM Software solution helps Springfarm Architectural Mouldings streamline scheduling process

A family business

Springfarm Architectural Mouldings Limited (SAM) crafts moisture and fire-resistant architectural products that are free from defects and knots, do not warp and are an excellent alternative to traditional timber. The company's range of low maintenance, cost-effective and stylish medium density fiberboard (MDF) moldings includes skirting and architrave, door linings and casings, window components, picture frames and external cladding. These are available in a

wide variety of profile designs and sizes and are delivered in a range of finishes, from unprimed, primed, fully finished or wrapped in real wood veneer, paper or polyvinyl chloride (PVC). SAM also offers customized products, resulting in the company having 40,000 different product variants.

A family-owned business founded in 1990, SAM supplies construction companies with bulk orders and serves the home improvement market through retail outlets. The company sells millions of meters of skirting and architrave each year, and every week between 20 to 30 truckloads leave its manufacturing and distribution facility in Antrim, north of Belfast, Northern Ireland, United Kingdom, where over 150 employees work in three shifts.



"We spend a lot of time on producing a very good schedule and we rely on Preactor to effectively manage the schedule and provide important feedback throughout the day."

Tim Patton
Information Communications
Technology Director
Springfarm Architectural
Mouldings



The competitive challenge to deliver quickly

"Our business challenge is that 80 percent of customers are on the UK mainland. We also have customers in continental Europe and have supplied customers in the U.S.," says Tim Patton, information communications technology (ICT) director, SAM. "We therefore need to be speedy and efficient in shipping products." Since 2005, the company has been using Preactor from the Siemens PLM Software Manufacturing Operations Management (MOM) portfolio of solutions to schedule an array of saws, moulders, paint lines and profile wrappers.

Raw materials arrive at the factory daily with trucks leaving for specific destinations. SAM holds a core range of stock and balances

customer priorities with delivery schedules and competing jobs so raw materials can be turned over daily. To achieve maximum efficiency, the company must manage a range of machines that work at different speeds, ensuring that all products meet their deadlines.

"We could not schedule the factory without Preactor," says Patton. "It understands each process and the constraints of each machine and puts each job on the planning board in the most efficient order."

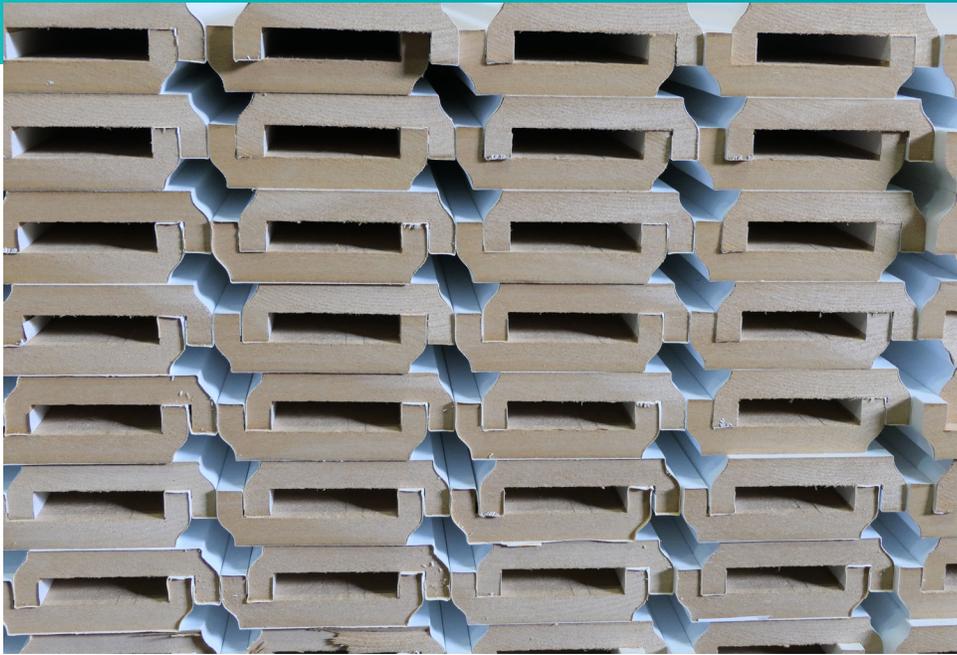
Scheduling with clarity and control

By 2015, SAM automated 40 percent of its scheduling and had a well-established link with its enterprise resource planning (ERP) system. "We were very happy users but over



"The upgrade to Preactor APS 400 gave us a massive improvement."

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time, some issues arose as the company grew and our needs evolved and production became more complex,” comments Patton.

The system became unstable, occasionally crashing overnight because of the way in which communications from the machines in the factory were processed one by one, creating a huge bottleneck. Because there was no downtime between shifts and the schedulers were extremely busy between 4 a.m. and 7 a.m., the possibility of a system crash was a huge concern.

“There is no system that can achieve a perfect schedule at the push of a button,” says Patton. “Much depends on the machines in use and the skill of their operators. On the molder, for example, one person feeds the machine and one catches the product as it emerges. The paint line process involves specific sequences of sanding, painting and packing according to the job. A scheduler must be able to respond to real-world scenarios and work around unexpected machine downtime as well as planned maintenance. We wanted more flexibility for schedulers to intervene manually so that we could gain an additional 15 percent throughput.”

Strengthening stability, expanding flexibility and minimizing waste

SAM had to address stability and the addition of intervention tools that would allow schedulers to go into the system and manipulate data. Kudos Solutions, a Siemens PLM Software partner that originally supplied the software, assisted with an upgrade to Preactor APS 400, spending two weeks onsite and writing customized code that collects data from the shop floor.

“The upgrade to Preactor APS 400 gave us a massive improvement, we are now well over our target of 75 percent automated scheduling,” says Patton. “The system is more reliable, it can handle more volume and support calls have reduced drastically.”

Optimizing scheduling became much easier for the three master schedulers, and the new code created by Kudos Solutions created a route of communication with machine operators, who gained greater visibility, a more efficient process and better support. Each machine operator follows the master schedules that are released at 7 a.m. for the day shift and 7 p.m. for the night shift. When a job is complete, the operator enters information, which is fed back to the master scheduler in the office who then has



a clear view on whether each of the 26 machines in the factory is ahead of or behind schedule.

To avoid non-productive machine setup time, Preactor is used to group similar activities and short runs of the same thickness or width of material. In this way, Preactor APS has enabled SAM to reduce machine setup time by an additional 5 percent. Preactor APS also helps SAM minimize waste by managing the way in which cuts are made, re-using trimmed boards and enabling schedulers to intervene manually when necessary.

Optimizing productivity

Preactor is the source of all production information. It tells the procurement manager the type and amount of raw material to order each week and is used by the logistics department for booking trucks according to the weight and volume of manufactured products moving through the factory.

Members of the senior management team meet every Monday and rely on critical data supplied by Preactor to review the previous week's performance. Key metrics include cubic meters produced for each machine and for the factory as a whole, as well as the total number of meters manufactured. The

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Solutions/Services

Preactor
www.siemens.com/mom

Customer's primary business

Founded in 1990, Springfarm Architectural Mouldings is a family business with over 150 employees in Northern Ireland and Lincolnshire, England. The company manufactures medium density fiberboard architectural moldings and supplies the construction industry and home improvement markets.
www.sammouldings.co.uk

Customer location

Belfast, Northern Ireland
United Kingdom

Solution Provider Partner

Kudos Solutions

software is also used to report on the cubic meters per 1,000 hours of operating time, machine utilization, total setup time per machine and engineering and fault downtime. All of this data can be measured by shift and week for further review.

"All of these metrics have targets set at the start of the year, and from the results we can see on a shift-by-shift basis how the factory is performing," says Patton. "The information we obtain from Preactor contributes significantly to decision making. For example, we are now in the process of reorganizing our factory to reduce the number of machines and job setups and can now focus on longer production runs."

Planning for the future

In December 2016, SAM acquired one of its competitors, Select Timber, with the intent of adding an additional manufacturing base in England with easy access to the London market. The new challenge for SAM will be to use Preactor to plan an integrated schedule across both sites.

"We are also looking at capacity planning," says Patton. "Our ERP system feeds Preactor, but we lack visibility between 7 a.m. and 7 p.m., so we want to use Preactor for MRP. We are also considering 24-hour, real-time scheduling. We spend a lot of time on producing a very good schedule and we rely on Preactor to effectively manage the schedule and provide important feedback throughout the day."

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