DELMIA

SPEED GROUP
INNOVATIVE MONOFILAMENTS

SPEED

Case Study

Challenge:
To satisfy changing customer buying habits and deal with increased competition, Speed Group, leading extruded synthetic monofilament manufacturer, needed to improve flexibility and production efficiency by adapting its business model to fulfill smaller, more frequent orders from its customers.

Solution:
The company uses Dassault Systèmes' DELMIA Ortems solutions to help optimize its production and balance resources as a function of incoming customer demands.

Results:
Through better production planning, Speed has increased productivity allowing it to commit to delivery dates with confidence while reducing stock, waste and costs.

DASSAULT SYSTEMES

"In the past we were manufacturers that did not know how to sell a half pallet [...] We needed to transition to a model that would allow us to manufacture products specifically tailored for a particular customer in the desired quantity [...] ready to be delivered to the store shelf"

— Jean Kasapyan, industrial director, Speed Group

INNOVATIVE AGRICULTURAL APPLICATIONS

French-based Speed Group, global manufacturer of extruded synthetic monofilaments, produces and markets monofilaments primarily aimed at agricultural applications such as trellising, vineyards, or fencing. "We transform polyamide granules and other plastic raw materials into monofilaments through extrusion," Jean Kasapyan, industrial director, Speed Group said. "We master the entire integrated process from purchasing the raw materials to shipping the finished product to the customer. We even design and build the extrusion equipment used here in France and in our production facilities in the US, Chili, Morocco and South Africa. We sell to OEMs, to wholesalers or professionals in the landscaping business, and to retailers that sell to private consumers (B to C)."

Whereas wholesalers were for years a major revenue source for Speed, changes in customer buying habits and increased competition have modified the way Speed does business. In effect, these wholesalers no longer commit to ordering huge quantities and running up their inventory; they prefer ordering only what they can sell right away. Thus, Speed realized it could fulfill smaller and more frequent orders itself if it reengineered its business model by taking on the entire process from sales, production, packaging, and labeling all the way to picking and shipping. This just-in-time model proved to be more economically advantageous. "In the past we were manufacturers that did not know how to sell a half pallet; we were organized to produce in tons and let our customers deal with selling to their end-clients. We needed to transition to a model that would allow us to manufacture products specifically tailored for a particular customer in the desired quantity, with their brand logo and packaging, ready to be delivered to the store shelf" Kasapyan said.

Fine-tuning production with precise forecasting

Organizing production in a climate-sensitive business environment is another one of Speed's major challenges. "Grass only grows six months out of the year," Kasapyan said. "If we wait to launch production of a wire brush cutter when we receive an order, which is most probably in February, we would basically have six months to produce all our customers' annual needs, which is impossible except if we buy equipment to do the job that then remains idle for the rest of the year. It's not a viable solution. We found that by more closely working with our sales force and increasing the accuracy of our forecasts, it would help us fine-tune and optimize production by grouping orders from different regions for like-colored or same-shape monofilaments," he said.

Kasapyan illustrated his point with some numbers. "We have 2,800 product references for approximately 100 clients. This means we handle 400 references each day and, for example, produce 8,500,000 items each year in France, which are then shipped all over Europe. In total, we have 23 extrusion machines around the world each producing 350 Kg of monofilaments. This represents less than one day of production per machine, which is a considerable amount of manufacturing orders processed in one day, and which can lead to bottlenecks," Kasapyan said.

"With these quantities, there was room for improvement by, for example, grouping manufacturing orders and having them processed by a machine that is not occupied 100% We, therefore, chose Dassault Systèmes' DELMIA Ortems Production Scheduler in 2013 to manage our extrusion process, which is considered the Achilles heel of our entire operation. All our downstream operations like packaging and labeling depend on having a finished product ready to go. In only 8 days, Production Scheduler was up and running, primarily because there was literally no customization, unlike other competitive solutions we looked at. We use it out of the box and not once have we regretted our decision. Only certain interfaces between DELMIA and our ERP solution were developed by our team with Dassault Systèmes' help. Thanks to Production Scheduler, we better anticipate and plan production, which has lowered our costs because we have less waste and reduced stock," he said.

"DELMIA has helped us reduce our stock by **27%**, increase our productivity by **18%** and reduce waste by **35%**."

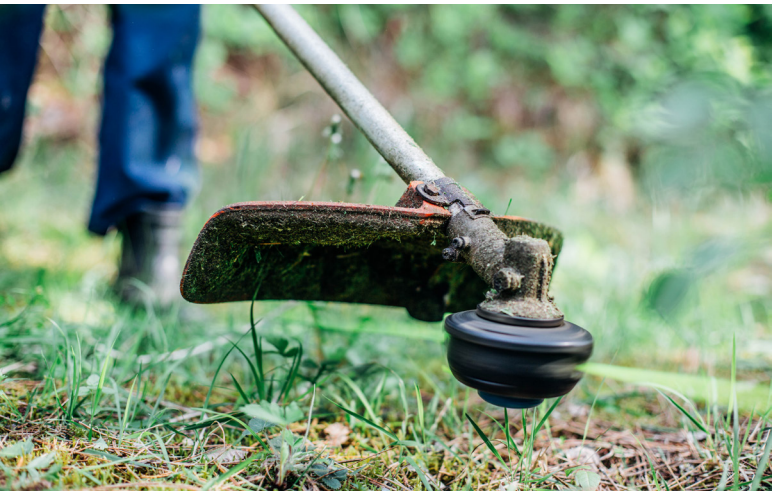
— Jean Kasapyan, industrial director, Speed Group

For years we had a dedicated full-time resource to manually manage our production relying only on her expertise and spread sheets to do the job. Unfortunately, this person has since left so we modeled our set-up times, profile and material matrices in Production Scheduler, allowing us to use this technology to optimally manage the extrusion process in our French installation.

In effect, waste was a major issue for Speed. "In the past when we extruded a red monofilament and right after produced a yellow one, the result in between was neither red nor yellow. So the intermediate fibers had to be thrown away.

Thanks to DELMIA, we reduced our stock and waste by 27% and 35% respectively.

"In the six years since we implemented the DELMIA solution, we were able to transfer two of our large capacity production lines from France to our new factories in the US and Chili while still ending up improving our productivity at our French installation by 20%. All this was possible simply by grouping our orders and optimizing our production flows," Kasapyan said.



INTELLIGENT RESOURCE MANAGEMENT

Now that the company optimized its main extrusion line, the question that remained was how to commit to a customer delivery date with confidence? How to make sure there are sufficient resources available to satisfy peaks in customer orders? "Today, we regularly have 2,500 order lines in production with 1 order line per end-product, and to verify that we are able to deliver when we say so, we cannot turn to our ERP solution because it's not able to provide us with our plants' workloads," Kasapyan said.

"So we implemented Manufacturing Planner from DELMIA to organize our production as a function of our customers' orders and desired delivery dates, in other words what, when and where we can produce the product. The entire integrated process is managed with DELMIA Ortems Manufacturing Planner, which provides us with dashboards that help us make decisions on how we should attribute resources in order to meet delivery commitments. The solution is for now only used in our French plant but without it, I would have to dedicate a full-time resource to manage this activity, a resource that can be put to better use elsewhere," Kasapyan said.

For the time being, DELMIA has enabled Speed to centralize production information in its French installation and to make measureable productivity gains. "We have entered 80% of our know-how into the system and obtained a 18% gain in productivity," Kasapyan said.

"The most important lesson we've learned during these past six years is the importance of not underestimating the change brought on by a project of this nature. Those whose job it is to handle this activity are the first to be resistant to the change brought on by using a system such as DELMIA. This is why it is important to associate these experts every step of the way to help define the objectives, identify what needs to be analyzed, and to enter the right data with the right degree of granularity in the system so that the results are pertinent. In doing so, they see that even though this changes their way of working, that a system like this will free them from tedious tasks and help them gain time overall. It can only increase the odds of success," he said.

For the future, diversification is Speed's recipe for sustainability. For example, in an agricultural sector that has experienced repeated dry spells over the years, demand for brush cutters has waned, requiring Speed to come up with other uses for its plastic fibers.

"We've come up with new business opportunities in the sports industry," Kasapyan said.

"In effect, after three years of research and development, we have produced a new type of monofilament used in tennis rackets that have been adopted by world ATP-ranked champions."

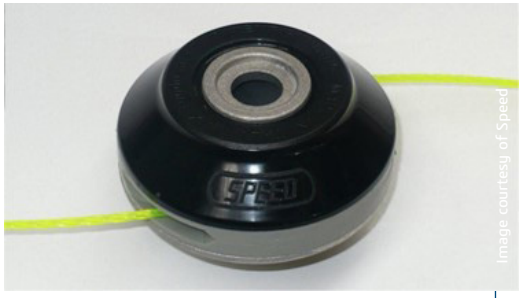


Image courtesy of Speed

Polyamide granules and plastic raw materials are transformed into monofilaments through extrusion machines

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— Jean Kasapyan, industrial director, Speed Group

Focus on Speed Group
Global manufacturer of extruded synthetic monofilaments.

Products: Fibers designed for agricultural applications such as trellising, support lines for shade screens, vineyards, greenhouses or fencing

Employees: 96 employees (France), 60 (USA), 15 (Chili), 27 (Morocco), 15 (South Africa)

Headquarters: Arnas, France

For more information
www.speed-france.fr

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