

# VITAL PLASTICS DELMIAWORKS ENABLES VITAL PLASTICS TO GAIN A 25% INCREASE IN REVENUE

Case Study



Vital Plastics relies on the DELMIAWorks ERP system to cut order processing time, improve decision-making, accurately define labor requirements, and quickly identify complex constraints.

## Challenge:

Vital Plastics' visibility and control gaps across manufacturing, accounting, and finance were slowing down the growth of its three successful businesses, including custom injection molding, contract assembly, and high-value manufacturing services.

## Solution:

The DELMIAWorks ERP system saves Vital Plastics valuable time by streamlining daily production scheduling and reporting across multiple assembly and manufacturing locations, providing a daily 360-degree view of shop floors and their impact on accounting and financial performance.

## Results:

- Doubled plant capacity, increasing the number of injection-molding machines from 30 to 60
- Achieved a 25% increase in revenue by improving company performance
- Saved 40 hours a week by processing orders with EDI
- Improved decision-making via 60-plus automated daily reports

Vital Plastics, a high-volume manufacturer, prides itself on providing superior custom injection molding, contract assembly, and high-value manufacturing services. Founded in 1994, the Wisconsin-based company employs more than 200 people and operates in nearly 70,000 square feet of climate-controlled manufacturing space utilizing 60 all-electric injection molding machines.

For years, Vital Plastics relied on QuickBooks for accounting and financials and a legacy Solarsoft enterprise resource planning (ERP) system to run manufacturing. However, integrating the two systems proved difficult, and then Solarsoft was discontinued—leaving Vital Plastics without the financial visibility and control it needed to grow.

To close the visibility and control gaps, Vital Plastics has standardized on the DELMIAWorks manufacturing ERP system from Dassault Systèmes. Since then, it has grown from 30 to 60 injection-molding machines and driven company performance improvements that have led to a 25% increase in revenue.

## IMPROVING SHOP FLOOR CONTROL AND VISIBILITY

Matt Fish, President of Vital Plastics, led the move to DELMIAWorks, noting, "I had implemented some previous ERP software packages for several different organizations in

several different industries, and instantly I saw how powerful DELMIAWorks is from a shop floor control perspective."

Today, Vital Plastics uses the DELMIAWorks ERP system to automatically deliver 60 reports generated with IQAlert to its engineering, production scheduling, and support teams at 5:00 a.m. every day.

"DELMIAWorks has revolutionized our business: how we think and how we manage," Fish observed. "The system has allowed us to come in alongside our employees and show them that the information can support them and helps make us a better company. Now the data drives our decisions."

## ENSURING ORDER ACCURACY WITH EDI

To help complete customer orders on time and as expected, Vital Plastics has implemented electronic data interchange (EDI) and now receives EDI files from customers daily. The company then uses the DELMIAWorks EDI Module to populate sales orders so inbound EDI orders can be scheduled for production with the DELMIAWorks manufacturing execution system (MES).

More than 80% of inbound orders and material purchases are now EDI-based, enabling Vital Plastics to save 40 hours each week, ensure order accuracy, and better plan production runs with minimal disruptions. The team also has more time for high-value activities, such as proactively scheduling customer orders.

**"The more we work with DELMIAWorks and SOLIDWORKS, the more opportunities we see to expand our business by offering a quality of service that our competitors can't match."**

— Jack Pollitt, Engineering Manager

## DRIVING STRONG ORDER PERFORMANCE

Vital Plastics strives to achieve perfect order performance. However, planning and scheduling production can be complex since many customers have unique requirements. To manage this complexity, the manufacturer relies on the Master Scheduler in DELMIAWorks' MES software.

"The DELMIAWorks Master Scheduler gives us all the information we need, so we can go ahead and schedule the jobs out to the work centers based on any constraints we have, whether they're material, time, or people," Fish notes. "With DELMIAWorks, we've also been able to create custom machine utilization reports, which have helped us on multiple fronts. We have been able to proactively purchase and replace machines that performed poorly or were over-capacity."

Reports on scrap, downtime, and how many 'operator' jobs are required during the week help us understand how many employees we have on staff and the number of temporary staff we need to deploy."

Another factor in maintaining near-perfect order performance is the ability to mine data from the DELMIAWorks system for ad hoc, real-time analysis of manufacturing constraints—often with just a few clicks.

"With DELMIAWorks, I can easily extract and mine data directly from the data tables pretty quickly, and we can react on the fly," Fish explains. "We've also created some tools internally to tailor the information to our needs and allow our Master Scheduler to more easily identify any conflicts or constraints."

### CLOSING KNOWLEDGE GAPS

Vital Plastics prioritizes product quality and its ISO 9001:2015 Quality System is the core of its business model. To balance this quality commitment with its lean manufacturing operation, Vital Plastics relies on DELMIAWorks to close the knowledge gaps between teams.

"We have one purchasing person and two scheduling people. With DELMIAWorks, they're able to handle their parts quickly. They schedule the jobs; all the material is there, and it just works," Fish says.

Vital Plastics also has 52-inch and 70-inch monitors on the production floor showing every work center and its current status, whether it's faster than cycle, running slow, or down. By providing the information where different employees are stationed, DELMIAWorks helps reduce changeovers and increases collaboration.

"DELMIAWorks lets us put information at the fingertips of the people that are running the presses and doing the job. As a result, they have fewer changeovers they've got to perform, and they have to work fewer overtime hours. We also get better quality parts and less scrap," Fish observes.

Meanwhile, Vital Plastics' ability to synchronize purchasing, receiving, master scheduling, and customer forecasting enables the manufacturer to excel at short-notice production runs for customers.

"Our service to our customers is pretty impressive. Working with the data from DELMIAWorks, we turn orders around very, very quickly—within a day or two, sometimes even on the same day," Fish notes.



Large monitors display work center performance in real-time throughout the shop floor.

### COLLABORATING WITH CUSTOMERS

Vital Plastics has also developed and implemented a two-stage design-for-manufacturing (DFM) process, capitalizing on SOLIDWORKS design and flow simulation software from Dassault Systèmes to provide customized products to customers.

"The first phase is what we call a mini-DFM during our quote. At that time, part models are evaluated, and a flow simulation is conducted to roughly determine cycle time," says Jack Pollitt, engineering manager at Vital Plastics, who leads the DFM initiative. "We use SOLIDWORKS Professional with the Plastics Premium Flow Simulation modules for this evaluation and to help customers visualize how part design tradeoffs, tooling concerns, and decisions on materials impact the final design."

Once a customer's purchase order has been received, Vital Plastics requires a full DFM. This deeper dive examines specific concerns about molding attributes, cosmetics, structural integrity, and other part characteristics. Once the customer signs off on the full DFM, Vital Plastics processes the purchase order and the tooling is ordered.

"We invite customers to participate in the tool design review process so they can see the work going on behind the scenes and understand what they are buying," Pollitt explains. "They appreciate the visibility, and it allows us to collaborate in reducing errors, keeping development costs low, and accelerating time to market."



DELMIAWorks puts information in the hands of the people that need it.

## ACHIEVING SUCCESS BY CONNECTING DESIGN, QUOTING AND PRODUCTION

Through SOLIDWORKS and DELMIAWorks, both part of the Dassault Systèmes Works family, Vital Plastics has improved its quoting and manufacturing processes. Every quote produced by the DELMIAWorks system now has a SOLIDWORKS design file attached to it, either provided by the customer or produced by Vital Plastics.

"We've been able to reduce our quote cycle times with SOLIDWORKS and DELMIAWorks, and having the option of simulating fill rates and seeing the impact on a given bill of material has been valuable in creating accurate quotes," Pollitt notes. By using SOLIDWORKS and DELMIAWorks together, the team can also run simulations to anticipate potential production run issues and improve part quality.

"We're closing more sales and growing customer loyalty by creating a superior experience—from quoting to product quality to delivery," Pollitt says. "The more we work with DELMIAWorks and SOLIDWORKS, the more opportunities we see to expand our business by offering a quality of service that our competitors can't match."

## Focus on Vital Plastics

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