Superior Metal Products, Inc.

Founded in 1966, Superior Metal Products, Inc. is a full-service metal fabricator offering a broad selection of tooled and fabricated metal products for customers in a wide variety of industries, including lawn and garden, HVAC, electrical, lubrication parts, and more. Located in Chuckey, Tennessee, the company also designs, builds and maintains the tooling necessary to fabricate many of its parts, which are distributed throughout the U.S.

Superior Metal Products' 40+ hydraulic, pneumatic, and mechanical presses and press brakes range in tonnage from 10 to 600 tons.

Progressive tooling and single station tools are designed and built in-house by highly skilled design engineers and tool makers.

In addition to manufacturing custom parts, Superior Metal Products also offers precision metal forming services, including metal stamping, sheet metal fabrication, laser cutting, welding, and tool and die. The company's management system conforms to ISO 9001:2008 standards, and is certified by UL-DQS Inc., which is part of the worldwide DQS-UL Group.

For years, Superior Metal Products ran the business with an early-version ERP software package with limited production management capabilities. As the company continued to grow, management recognized the need for better visibility of data and more robust shop floor controls. Their choice for an upgraded ERP system was Global Shop Solutions ERP software.

"Our previous ERP system had almost no visibility of data," recalls Bethany DiMaggio, Controller for Superior Metal Products. "We could build routers and jobs, but we couldn't see any work in progress. We couldn't do any forecasting, and the scheduling was weak."

"We selected Global Shop Solutions for its production management, forecasting and customization capabilities," she says. "In particular, we needed better inventory control and more visibility of data, and Global Shop Solutions gave it to us. Now, when customers call in about the status of a job, we can instantly find the information we need and respond accordingly."

Tracking WIP

The first big "win" for Superior Metal Products came in a vastly improved ability to track work in progress. Previously, work orders were written by hand, which meant they sometimes got lost or misplaced. It also made it difficult to keep track of the requirements for each job and the materials needed to meet those requirements.

"It's hard to track a job in progress if you can't find the work order," notes DiMaggio. "Now that we enter the work orders directly into Global Shop Solutions, we can tell at any point in time where a job is on the shop floor, where it's going next, and when it's due."

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The lack of accessible data in the old system caused other problems as well. Superior Metal Products makes a lot of multi-level parts. Plus, they only run some jobs once a year. When problems arose with those jobs, management had no way of identifying the cause or potential solutions until after the fact, which affected everything from job costing to on-time delivery rates.

"Suppose we planned to run 100 part per hour on a job but ended up only making 25 per hour," says DiMaggio. "Previously, we had no way of knowing what happened and why until after the job was closed and the parts were sold. Using the current work in progress screen, we can now see problems as they occur and react to them in real time. The ability to react with that kind of immediacy has been huge for us."

Going Mobile

Recently, Superior Metal Products began taking advantage of GS Mobile to simplify materials movement throughout the shop. According to Manufacturing Engineer Andrew Bowman, the ability to process material transactions from anywhere in the plant saves labor time and improves accuracy and traceability of parts.

Previously, operators handwrote move tags with the part numbers and quantities on them. Given the complexity of some customer part numbers, this frequently led to misplaced and misidentified parts. In addition, machine operators spent a lot of time away from their workstations placing the move tickets and parts in the appropriate staging area.

Now they use GS Mobile to print out a label and attach it to the parts. Using a tablet device mounted on his forklift, the material handler scans the label into the device and takes the parts to the next operation or staging area. Operators don't have to leave their stations, and the parts are accurately tracked through every step of the production process.

"Our main goal was to cut down on wasted time when technicians left their machines," says Bowman. "With GS Mobile, they can clock into a job and stay at their stations while our material handler handles the staging and movement of materials. It's faster and more efficient, and with the mobile scanners and tablets, we can scan and print labels anywhere in the plant."

"We also used to process bin-to-bin transactions on paper as well," he says. "We're starting to apply GS Mobile to this process as well, which should greatly reduce bin-to-bin transaction errors."

Sales Up, Inventory Down

Over the last 10 years, Superior Metal Products' sales have increased 40%. Yet, during that time inventory has decreased by 35%. According to DiMaggio, this remarkable feat is 100% attributable to Global Shop Solutions ERP software – and not just the robust Inventory application.

"Our ability to decrease inventory even as we grow the business runs across many modules," says DiMaggio. "From inventory and purchasing to shop floor control, it's the way all the modules work together that enables us to have more accurate inventory."

600-ton Verson stamping press with 48" x 108" bed at Superior Metal Products.

"For example, we buy to stock rather than to the order, which is more efficient for our production process," she says. "We can do this because the reorder points and safety stock fields within Global Shop Solutions allow us to maintain good inventory management. We can minimize finished goods inventory and still have superior on-time delivery performance."

Just-in-time delivery? Not a problem with Global Shop Solutions ERP software. In fact, two of Superior Metal Product's biggest customers don't even operate a parts warehouse. Instead, they run production based on the parts Superior Metal Products ships them each day.

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"We deliver to most of our customers just-in-time," says DiMaggio. "That means we have to be able to build just-in-time, and Global Shop Solutions allows us to do that. It also allows us to offer more competitive quoting because we have historical data that justifies tightening up our rates."

A GS Mobile tablet mounted on a fork truck at Superior Metal Products.

It Takes A Village

DiMaggio loves the flexibility within Global Shop Solutions ERP software. When customers call in with a last-minute material change, the system makes it easy to change the material requirement on the work order without disrupting the production process. But more than anything, she likes the ability to see all that's happening on the shop floor from one screen – Supply & Demand in the Inventory application.

"With Supply & Demand, we can see everything we want to know about what's going on in the plant," she says. "What inventory we have or don't have, what's on order, what's being built, where it's at, did it go to outside processing, how much do we have in safety stock – we can even see the router and the quotes with this one screen!"

DiMaggio also points to the Advanced Planning & Scheduling (APS) application as a key factor in the company's ability to adapt to changing shop floor conditions on the fly. With APS, planners can see capacity on equipment that is coming up and react to it beforehand, thereby reducing labor overtime. When they see a piece of equipment or workcenter is pegged out, they can build another hour into the day or move the operation to another compatible press that still has capacity.

"APS allows us to anticipate and react to situations before they happen," adds DiMaggio. "In the past, we always found ourselves in the midst of the storm before we knew it. Instead of preventing it we just had to deal with it. Now we can see bottlenecks coming and take action ahead of time."

"We're more accurate and competitive with our quotes," she concludes. "We're more profitable because we know our true costs, and we do a better job of meeting customer requirements when they want them. The only way we can consistently do that is to have good scheduling, good shop floor process and tight inventory management. Global Shop Solutions is like a village – all the modules working together get us to where we need to be."

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