



CUSTOMER SUCCESS STORY

MFG Companies Reinforce Enterprise Business Systems with e2b & Sage 500

Molded Fiber Glass (MFG) has a long and storied history. MFG was founded in Ashtabula, Ohio in 1948 by Robert S. Morrison, a pioneer in fiber glass reinforced plastics (FRP). He made significant contributions and achieved accomplishments in the mass production of fiber glass techniques. MFG today remains a privately owned and managed company. Current President/CEO Richard S. Morrison is responsible for corporate headquarters and its sixteen subsidiaries in the United States and Mexico.

Chevy Corvette

In 1953, five years after the company started producing fiber glass reinforced plastic (FRP) products; MFG was selected by Chevrolet to make the world's first commercially successful FRP automobile body panels for the iconic Chevy Corvette. While Chevrolet only produced 300 Corvettes in 1953, the contract catapulted MFG onto the world's stage and served as the foundation for future growth.

MFG Boat Company

MFG kept on going. In 1954 MFG approached the Lyman Boat Company with a proposal to produce FRP boat hulls for the popular boat manufacturer. The Lyman Company turned down MFG's proposal so MFG started the MFG Boat Company in 1955, becoming one of the most successful boat manufacturers for several decades. MFG expanded its boat product line in 1965 by acquiring the Crestliner boat brand. MFG also produced the popular Gamefisher model row boat; which was one of the most popular boats sold through Sears, Roebuck and Co. The company eventually exited the boat manufacturing business.



Molded Fiber Glass Companies
A Distinguished International Composites Company

Company

Molded Fiber Glass

Website

www.moldedfiberglass.com/

Industry

Manufacturing

Locations

13 Strategically Located
Factories in North America

System Profile

Custom software development

Challenge

MFG is an innovator in fiber glass reinforced plastics (FRP) but was stuck using a patched together, unsupported ERP system that limited its ability to serve its diverse customers, suppliers, and employees.

Solution

MFG selected long-time partner e2b technologies to implement Sage 500 ERP with EDI for automotive and heavy truck customers and suppliers with integration to its existing shop floor system, human resources, and other business applications.



Product Diversity

Throughout the years, MFG remained a part of Americana by producing trays for Wonderbread, the Oscar Mayer Weinermobile, and a variety of other distinctive FRP products.

MFG is still blazing trails as an international leader in the field of composites manufacturing. The company operates 16 facilities throughout the United States and Mexico. MFG manufactures a diverse line of FRP products such as heavy truck and automobile components, residential bathroom stalls, interior and exterior mass transit bus, and train components. MFG also manufactures cafeteria trays, containers, satellite receiver station enclosures (called radomes), and beams and columns for the construction industry. Radomes are structural, weatherproof enclosures that protect a microwave or radar antenna from severe wind, snow, and ice. MFG radomes have been installed worldwide including an installation at the South Pole.

A few years ago, MFG entered the emerging wind energy sector and began a successful bid to win a profitable share in the business of making parts for the enormous turbines. All of the MFG entities and locations leverage the same management, finance, and marketing teams.

“Originally the company started out with just one location here in Ashtabula,” said Diane Cochran, Sage 500 ERP Project Manager. “Early on, our founder Bob Morrison sold Chevrolet on MFG building the fiber glass body of the Corvette. So they were originally built right here – the design and manufacture was based in Ashtabula.”

“Eventually we moved into supplying the heavy truck industry – and that really took off and started booming. And as it grew, we opened up another plant here in Ashtabula,” Cochran said. “But unfortunately, we kind of had all our eggs in one basket with automotive and heavy truck. After a while, though auto stayed pretty steady, the heavy truck segment took a big dive. Those were scary times for the business.”

Fortunately, between MFG's automotive products and its business manufacturing trays, they had steady business to see them through the lean times. “That was when upper management decided we really were going to diversify,” Cochran said. “We found customers who needed shower and bath enclosures for the construction industry, and that helped. Then we started making fireman's helmets and safety helmets. We probably have about 80% of the US market for fireman's helmets.”



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Results

MFG has standardized its business on a modern ERP platform; helping the company win several multi-million dollar contracts in the heavy truck and wind energy industries, while significantly improving the company's bottom line.

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-Diane Cochran
Molded Fiber Glass Companies



Although there was a steep decline in their heavy truck revenue, MFG never gave up on the segment. “We opened our North Carolina facility because most of Freightliner’s business is based around there. We saved a lot of shipping costs by molding all of the parts up here, and then sending them down to North Carolina where they we assembled them. The truck business was growing again.”

“And then, Bob Morrison turned the company over to his son, Richard Morrison,” Cochran explained, “And he wanted to break out and establish his own legacy. He saw wind energy as the opportunity to do so and today we are a leading manufacturer of nacelles (the bodies of the turbines), the blades, and the spinners – that is, the caps that go over the turbine's hub.”

An ERP Emergency

MFG's first ERP solution was a relatively early (and increasingly antiquated) system. “It was built for manufacturing,” Cochran said, “but it didn't really do everything we wanted.” Not only did it require heavy, complicated customization to meet many of MFG's requirements, it also lacked any depreciation, fixed asset management, human resources or payroll capabilities. It required heavy amounts of manual data entry and could only generate limited reports necessary for measuring how the business was doing and planning for its future. Then things got worse.

“About five years into it, the product just dropped off the map. You couldn't buy it, get any support for it, nothing,” Cochran said. “Further standardization of the implementation across MFG business units came to a virtual halt. We had to depend on our own IT staff to work the bugs out – and there were no more upgrades, and no more tech support at all on that system.”

“Our biggest fear was that one day the system was going to go down and we were going to be lost,” she said. “Because if it went down, no one was going to be able to figure it out. We had a lot of customizations to that system.”

MFG Chooses e2b teknologies

“The manager of IT has a long history in the field, and he knows a lot of experienced players. Out of everyone, he chose e2b, because he knew them as fellow veterans, and he thought highly of them. And it didn't hurt that they were just down the road,” Cochran said. e2b came to the table with the deepest available Sage 500 ERP development experience anywhere and extensive manufacturing and distribution experience. More than 90% of e2b customers are in either manufacturing or distribution, and most of these are larger companies with complex business and supply chain requirements.

The Freightliner Challenge

e2b and Sage 500 ERP held a specific critical advantage for MFG. e2b had expertise in both automotive supply chains and implementing electronic data interchange (EDI) functionality. One of MFG's key client's - Daimler's Freightliner division - was aggressively pushing out increasingly demanding just-in-time inventory requirements to their suppliers.



After failing to win a key piece of business with their long-time customer because they didn't have the EDI capabilities, MFG North Carolina knew they had to establish those capabilities, and quickly. e2b traveled to the site and launched a comprehensive analysis of MFG's North Carolina's business. "Freightliner said if we couldn't work ourselves into their system, they would have to pull millions and millions of dollars of business from us. That would have effectively shut down the North Carolina plant," Cochran said. "So we needed an integrated system at North Carolina," Cochran said, "And we needed it implemented fast. e2b was right there. They actually created an EDI interface for us in order to address the specific Freightliner requirements and they saved that business for us."

MFG also knew they wanted to select a world-class ERP system that could handle their multiple geographically dispersed locations, incredibly varied business operations, and a large employee count. Plus, they were gun shy of any software without a robust installed base and an unquestionably healthy company behind it. MFG chose Sage 500 ERP. In order to avoid risks that had compromised them on their old system, they also wanted to be able to establish a standardized installation across their business units with the fewest customizations to the ERP product as possible. They knew that in addition to having a robust and stable product from an incredibly well-established company, that Sage and e2b offered a wealth of well-supported third-party add-ons to provide extended functionality.

e2b immediately began an analysis of MFG's North Carolina's specific business requirements and simultaneously assessed the business at the company's corporate headquarters and other sites. After extensive site visits and meetings with Daimler Trucks, e2b and MFG's management determined that Sage 500 ERP was a good fit, and that the implementation for their North Carolina facility could serve as a model for a company-wide roll out.

Freightliner EDI

One of the critical needs MFG had was to integrate robust EDI capabilities into its new Sage 500 ERP installation. While many industrial sectors now use EDI, automotive and heavy truck industries still use a particularly complex and specific EDI supply chain requirements.

Freightliner relies on MFG to make large, critical assemblies for the cabs of their trucks. "We make interiors and exteriors for Freightliner trucks. And these parts can be heavily customized. It's almost like ordering a car, there are lots of options. A dealer may say he wants the blue interior with option A, and without option B," Cochran explained.

When the cabs from MFG arrive at Freightliner, they install whichever engine has been ordered to pair with that particular cab, and other mechanical parts and options to complete the order. Freightliner relies on receiving those cabs from MFG in a specific order so as they roll off the truck, they can put the right engine and the right parts all queued up and ready to install in each cab as it comes.

MFG receives the EDI formatted orders, which automatically trigger all the necessary events for the company to get that order out for delivery in the right sequence. "Freightliner line-sequences the orders so that they have all the parts they need for truck one ready when truck one comes off the truck. What North Carolina does," Cochran said, "is when we get the EDI order from Freightliner it puts it in the line sequence they need. And all of the parts needed for that order are automatically received in MAS 500 which calculates the costs. At the same time, that EDI message



works with our system to automatically generate purchase orders that are reviewed and go out to our vendors so we get our supplies in sequence, too. And when we get a truck, we send an advance shipment notification out to Freightliner. It's a huge circle and the supply chains have to be synched from beginning to end."

The importance of the EDI system working as closely to perfection as possible is paramount. "If you have series of trucks, and you run out of what you need for truck seven, then we can't move on. Everything just has to stop," Cochran said. "And if our shipment to Freightliner is held up, they would bill us by the minute for holding up their line. We just can't do that. It would be devastating. They have such tight standards because the impact on operation would be huge. So everyone from Freightliner to us to our suppliers all have to follow the same pattern, too. And it's all done through the EDI system that e2b designed, and it all feeds right into Sage 500. You just couldn't do all this by hand. There's no way anyone could oversee it without a sophisticated ERP solution and EDI."

Just-In-Time Salvation

MFG needed Sage 500 ERP and EDI up and running fast. e2b delivered. A standard installation of this size and scope normally takes about six months – without EDI or customizations. e2b delivered the whole package in about that same timeframe. And not only did e2b's quick and effective implementation of Sage 500 ERP and the EDI solution help MFG win them Daimler's next big Freightliner contract – it actually convinced Daimler to cancel a previous contract with another supplier awarding it to MFG.

"We were considering the possibility that we'd have to shut the North Carolina plant down. It would've meant 300 people or so would have been out of a job," Cochran said. "And of course MFG would have been out millions of dollars. e2b did a really amazing job. None of our other facilities are as complicated in their use of EDI as our North Carolina location. But we've worked with e2b implementing EDI in other locations that have contracts with automotive companies such as Daimler, Volvo and Peterbilt. All of our locations that work with auto companies are using EDI. Though none of our other facilities have to do line sequencing like North Carolina, EDI and Sage 500 ERP does automate scheduling, saving a tremendous amount of time in inputting sales orders. Before that our Ashtabula CSC facility was spending a lot of time because everything was manually entered. We were able to take what e2b did with us in North Carolina, simplify it, and it's been a godsend."

Improved Visibility & Efficiency

"Before, there was poor visibility into production costs, material requirements, and scheduling," says Diane. "If there was any problem in the GL it was like finding a needle in a haystack. With Sage 500 ERP, it's so visual and so many things came to the surface when we switched over. There were hidden costs that had historically been all lumped in one bucket. We suddenly found visibility where we never had that before."

In the past MFG didn't break out different manufacturing data. "We now have visibility into almost everything! Now we track our manufacturing separately using Sage 500 ERP," Cochran said. "In the past, we couldn't easily determine what was driving our variances. Now we set the bar and we know if we're over, under, and why. Now we can measure efficiencies. It helps with scheduling and purchasing. We have visibility on inventory, now. Purchasing is so much easier now. We can tell where it's being allocated and how much is going to be needed for the month. The forecasting is great, too."



Much of the system that used to require manual data input has been automated, reducing error. “It helped us in areas where people were manually putting in their data. Whenever you manually do anything, you have the risk of error. But now it's immediately apparent – if the inventory is going negative, you know there's a problem. And you can drill right down and see 'oh there's a problem.' And then you can fix it – immediately – in the same month.”

Before, Cochran said, “when they discovered there was a problem □ troubleshooting it could be time consuming and difficult. “Was it bad reporting, did someone ship the wrong part number – it was nearly impossible to drill down on the data or the transaction. Sage 500 ERP provides us the ability to drill down into a problem as soon as we detect it. We couldn't do that before.”

The ability to easily and accurately cost projects has also helped revolutionize MFG's efficiency. “Now we can calculate every penny that went into a work order and see where it came from. If you don't know how much something is costing, you can't really know how much money you're making on it. I mean, that's pretty basic.”

Virtually every MFG employee's time clock data is fed into Sage Abra for payroll calculations. “It's supporting 2000 employees or more,” Cochran said. An integration developed by e2b allows employees at their Op Alabama facility to use time clocks to clock in for payroll but also to sign in and out of production jobs. MFG also uses Sage FAS fixed assets to manage thousands of assets across its organization.

MFG has rolled out Sage 500 ERP with e2b and has the system installed at most of the 16 locations. “Most of our locations are using both the manufacturing and accounting side of the application.” Cochran said, “But each installation is tailored to fit what the location does. “One of our Alabama plants – the one making radomes, the protective coverings for satellite dishes, is fundamentally a job shop. You get a special order from the customer and then fabricate the job right from the drawing. And with radomes, each time it's a different, custom job.” Cochran explained that e2b provided a special work breakdown structure (WBS) report required for government customers and set up the system to maximize the utility of the quoting, estimating, and management of CAD drawings.

“Sage 500 ERP has been really helpful again in that situation because we never had a system that directly tied the CAD drawings to their work order. Now, we can instantly pull up the project drawing directly from the work order right there on the shop floor. That plant uses project accounting which handles all their estimates and pulls them into the bills of material – that's a unique use of the system at MFG.”

A New Frontier, Unique Challenges – Wind Energy

In 2007, MFG won a major contract with GE to supply parts for GE's wind energy turbine business. “The wind energy business is really picking up,” said Cochran. “We're already employing about 400 people at our plant in South Dakota – and it's on track to grow to employ about 800 employees at that South Dakota plant alone.”

In order to create the mammoth turbine blades GE requires – generally measuring more than 100 feet – MFG's physical plant in South Dakota is more than 300,000 square feet and located close to the wind farm where they are



installed. Now that MFG has become accustomed to closely tracking costs, one of the things they want to keep track of in South Dakota is labor costs on each blade – but in a building as large as this, that simple goal posed brand new problems.

Cochran explained, “e2b provided a way for people to log in and out of jobs right on the floor. Originally, if they were logged in working on one particular job and they needed to say they switched projects in the middle of the day, they would have to navigate that huge plant to go back to the clock and log out and log back in every time. So now people can log in and out of jobs on the floor – or even be logged into multiple jobs at once, if that's what they're doing. e2b was very effective and helpful; assisting us in finding creative ways to accurately capture those metrics in Sage 500 ERP.”

The Partnership

e2b's professionalism, thoroughness, and impeccable work ethic have won them a secure place in MFG's future. “I work with e2b almost daily,” Cochran said. “And I'm telling you, they're so responsive. I can send an email out at 9.30 at night and I'll get a response from somebody. Even when they're not at work, they're always monitoring what's going on. I mean, it might seem weird that we can have an emergency in the middle of the night, but you can. If things start shutting down, it doesn't matter what time it is. And they've always been there for me.”

“What I love about e2b is they know my business,” Cochran said. “I don't ever have to re-explain what I'm doing and what I'm talking about because they've been so deeply involved with our system and they've helped us work through our issues, they just know what I'm talking about. I don't have to recount the details to them.”

Cochran said that she finds the depth of expertise at e2b invaluable. “They have their EDI specialist, their programmers – and they know Sage 500 ERP inside and out. And they not only know my industry, but they really know MFG, too. They've visited all of our locations with me and they get it. They know we have a lot of different operations with different needs at each one and they've been able to meet them all.”

“For instance,” Cochran said, “e2b observed a practice unique to MFG's Florida plant. They open work orders at the start of the month and close them at the end of the month to capture variances, and then reopen them. It used to take them 4 or 5 hours to close all their work orders, and thanks to e2b, they can now do it all in about 10 or 15 minutes. The amount of time they've saved us – it's unbelievable. I'll just call them and tell them, this is what we're doing, isn't there some way to make it more efficient? And they know exactly what I mean. And they do it.”

MFG uses various products from the e2b 500 supply chain suite in its business. e2b 500 includes enhancements for distribution and manufacturing that extend the capabilities of Sage 500 ERP. For example, MFG uses the Enhanced Labor Entry module for rapid labor entry by shift. Additionally, MFG North Carolina makes extensive use of Sales Forecasting and Enhanced MRP for material requirements planning.

e2b software customizations and integrations are prevalent throughout the system including a sophisticated manufacturing execution system (MES) interface from MFG's Barcom system to Sage 500 ERP at the MFG North Carolina facility. e2b provides MFG with a fixed maintenance and support plan for these custom solutions. “We



really like the maintenance plans e2b offers,” Cochran said. “They allow us to budget and plan for system upgrades which means that we can take advantage of the latest features available in our ERP system when they are available.

“e2b is very special,” Cochran said. “They are much more than a supplier to MFG – they are a strategic partner and we know that our business can continue to grow and to adapt to the ever-changing needs of our customers, suppliers, and our business partners because we have them on our side.”