

Client

Dixie Iron Works
diwmsi.com

Type of Business:

Producer of valves,
fittings, chokes,
manifolds, and pumps

Number of Locations: 2

Number of Employees:
230

AccountMate Users on System: 40

AccountMate Modules:

- Accounts Payable
- Accounts Receivable
- Bank Reconciliation
- General Ledger
- Inventory Control
- Payroll
- Purchase Order
- Sales Order

3rd Party Applications:

Manufacturing Conductor™

"The best of breed approach has made a dramatic difference for our firm. We obtained what we feel are the best possible packages in the scheduling, MES and accounting areas at a very reasonable price. The level of integration is, in my opinion, equal to a single solution approach."

– Gerard L. Danos,
President, Dixie Iron Works

Manufacturer Implements Best-of-Breed ERP Solution and Triples Profits Over Three Years Without Increasing Overhead

Dixie Iron Works, a manufacturer of valves, fittings, chokes, manifolds and pumps for the oil and gas industry, tripled its profits over three years after implementing a best-of-breed enterprise resources planning (ERP) solution based on AccountMate® financial software.

Rather than purchasing a single integrated ERP solution, Gerard Danos, President of Dixie Iron Works in Alice, Texas, decided to integrate three powerful software packages: an advanced planning and scheduling system, a manufacturing execution system and a financial accounting system. This made it possible for the firm to obtain complete visibility and control over its entire operations while spending considerably less than the cost of a comparable integrated solution.

The best-of-breed solution allowed the firm to identify bottlenecks and to find inexpensive solutions, making it possible for them to increase revenues 20% over a three-year period while their costs grew at a much lower rate.

In 2000, after witnessing unprecedented growth in its product lines, Dixie terminated their oil field repair operations of the company, bringing a laser-like focus on its high pressure plug valves, fittings, chokes, manifolds, and well service pumps for the oil and gas industry.

Because oil fields operate 24 hours a day, when something breaks, Dixie's customers put in a call, sometimes in the middle of the night, and expect the company to respond almost immediately. The problem the firm had in the past was that it was difficult to balance the many competing customer demands that it faced.

Each time the firm took on an emergency job, it had a tendency to move the delivery dates of many other jobs backwards. Inventory was high and profits were low, despite the fact that the firm was usually able to obtain a premium price because of its fast turnaround in emergencies and reputation for excellent quality.

The Challenge

Implementing the Theory of Constraints

Dixie's President, Gerard Danos, realized his company was struggling with managing its resources. Upon reading "The Goal" by Dr. Eli Goldratt, Danos realized that the "theory of constraints" described in the book was the answer to his business' problem.

The theory of constraints describes a manufacturing operation as a chain of interdependent resources and that the elements with the greatest load, relative to their capacity, constrain the performance of the others. By identifying and scheduling those constraints first, it is often possible to dramatically improve the throughput of a plant—with little or no impact on operating expenses.

At that time, Dixie was using a host-based manufacturing execution system and a DOS-based financial accounting system that couldn't communicate with each other. This meant that data had to be re-entered by hand from one system to the next and that reports were often out of date by the time they were printed. It was essentially impossible for Dixie to identify the constraints in their manufacturing system—much less to adjust scheduling to overcome them.

Danos began implementing a theory of constraints-based scheduling system. The first thing Danos did was look at integrated ERP solutions, but he quickly ran into problems.

"First of all, none of the systems I was able to find provided a thorough implementation of the theory of constraints in their planning and scheduling system," Danos said. "Second, the cost of the packages that came closest to providing what we needed were more than we could afford."

Danos then considered the option of building his own system with individual software components. He first identified a planning and scheduling system—Resonance™ from Thru-Put Technologies out of San Jose, California—which runs on the Windows operating system. “This package was key to our strategy because it implements the theory of constraints,” Danos said. “However, it seemed like an impossible task to integrate this system with our existing MES and accounting software.”

The Solution

The Best-of-Breed Approach

Danos talked to Linda Bryan of Tamlin Software Development in Dallas, Texas, the firm that installed and supported Dixie’s previous DOS-based accounting system. Bryan told Danos her firm could develop from scratch a manufacturing execution system to provide real-time shop floor management and interface with Resonance™.

She also found out what Dixie needed in a Windows-based accounting system, and recommended AccountMate®, from AccountMate Software.” AccountMate has an open architecture that makes it simple to integrate with other software packages,” Bryan said. “It was a natural fit.”

Bryan demonstrated to Danos the many powerful AccountMate features not available with his current accounting system, such as the ability to produce custom reports and to drill down from reports or tables to the underlying report simply by clicking on a line item. These features complemented Danos’ objective of implementing a theory of constraints system relying heavily on planning and analysis.

Danos soon decided that the best-of-breed approach would meet his needs better than any of the other packages he considered. To sweeten the deal, the total cost of the best-of-breed solution was among the lowest of his realistic alternatives.

Tamlin developed a software package called Manufacturing Conductor, which the firm now markets and supports commercially. The program was developed from scratch and competes aggressively in the market place. Bryan said that the development process was expedited by the use of a joint application development process. The process brought all of the decision-makers at Dixie together to fully define the requirements they had for each part of the program.

“AccountMate provided a powerful base for this installation,” Bryan said. “It offers every capability that you could ever imagine needing in a mid-sized manufacturing operation. In addition, AccountMate provides the source code and the program is constructed on a very modular basis, making it a relatively simple process to modify the code or even build your own modules from scratch.”

The Result

Immediate Throughputs Improvements

Danos noted immediate improvements once the new

solution was implemented. “This combination of software gave us the ability to quickly and accurately assess where

and when bottlenecks would occur,” Danos said. “We can now drill down to highlight which orders might be affected by new conditions and quickly remedy the situation,”

“No longer does our scheduler have to intervene, resolving conflicts job by job in a less than optimal manner. The scheduling software instead recalculates a solution for our bottlenecks. It suggests optimal overtime, allows alternate routings, minimizes changeover and shows the impact on throughput and delivery dates. With a few clicks of a mouse, we can now schedule our shop in 15 to 30 minutes.”

“In the past, we were often faced with the choice of turning down emergency orders or pushing the rest of our schedule backwards, either of which might antagonize important customers,” Danos continued. “Now, we simply enter the new job in our schedule and see how it shakes out. The program highlights the resources that have become constraints under the new scheduling parameters. Often, this makes it possible to handle the job without missing any dates through such means as relieving breaks, scheduling breaks or sub-contracting out small jobs on the bottleneck resources.”

The system also enabled Dixie to improve workflow through areas that were often constraints. “We noticed that one particular machine seemed to be a constraint on a regular basis,” Danos explained. “This machine was quite large and also took up a lot of floor space so buying a second one wasn’t a viable option. Instead, we carefully examined the work that flowed across the machine, looking for jobs that could be moved somewhere else. We realized that by spending only \$5000 and retrofitting an old drill press it would be able to handle about 25% of the work that currently flowed across that machine.”

Increasing Profits While Minimizing Overhead

“Besides helping us increase our throughput, the new best-of-breed approach also helped us keep a lid on our overhead expenses,” Danos said. “Because of the large amount of manual data entry and paper shuffling involved in our previous system, we generally had to add overhead people proportional to our level of sales. The new system, however, integrates so tightly that it has eliminated most of the manual work. For example, when an employee starts on a new operation, they swipe their badge in their local work center. That information goes to the MES for job costing purposes and flows straight through to AccountMate where it goes into payroll.

“Likewise, when we create a sales order, the materials that are required for building the parts automatically get entered into the purchasing module where they can be combined with other orders for volume purchases,” Danos explained. “The result is that we have been able to triple our sales without adding a single overhead person.”

“The best of breed approach has made a dramatic difference for our firm,” Danos said. “We obtained what we feel are the best possible packages in the scheduling, MES and

accounting areas at a very reasonable price. The level of integration is, in my opinion, equal to a single solution approach.”

“The effect on our business had been truly dramatic. We more than doubled our inventory turns to 12 per year and increased our due date performance to 65%. Over the preceding three years, we have increased sales by 20% and profits by 50% every year on a compounded basis. Last year, the oil field business took a real hit and our sales dropped but we feel we are much better positioned than our competitors to handle whatever comes. Based on our success, I highly recommend that anyone who can't find a single-source ERP system that fully meets their needs, consider a best-of-breed solution with components such as those used in this application.”

About Third Party Applications

Manufacturing Conductor™ is a shop floor control system that provides robust, cost-effective, real-time, "total" business management that links the shop floor with the back

office, optimizing business operations. tamlinsoftware.com

About Tamlin Software Developers, Inc.

Tamlin Software Developers, Inc. developed Manufacturing Conductor™ and has been providing Enterprise Resource Planning and Shop Floor Control solutions to small to midrange manufacturers and distributors since 1991. Tamlin can be reached at (214) 739-6576 or at www.tamlinsoftware.com.

About AccountMate

Founded in 1984, AccountMate develops and markets fully customizable business management software designed to meet the growing needs of small to medium-sized businesses. Systems range from single user versions to those that support over hundreds of users simultaneously. AccountMate software is available for local installations or cloud deployment. It is distributed exclusively through a worldwide channel of authorized solution providers. AccountMate can be reached at (800) 877-8896 or www.accountmate.com.

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