

## Performance Made Recognizable: U.S. Tsubaki Leverages QAD Solution to Achieve Award-Winning Performance

### The Company: Leading Supplier to The Automotive Industry

Wheeling, Ill.-based U.S. Tsubaki is a major producer and supplier of roller chain, engineering class chain and other drive components. The company is a subsidiary of Tsubakimoto Chain Co. of Japan, the world's leading chain and power transmission component manufacturer. U.S. Tsubaki consists of four divisions and a wholly owned subsidiary and has annual sales of more than \$150 million.

The company's reputation for quality is unmatched in the power transmission industry. Qualifying for the General Motors Supplier of the Year Award is a great honor for any manufacturer: Out of 30,000 suppliers, U.S. Tsubaki has won this prestigious award multiple times. While many companies would see this award as a pinnacle of performance, U.S. Tsubaki has made it a standard corporate objective.

Having an enterprise software solution based around manufacturing is part of the company's strategy in achieving that objective consistently, and U.S. Tsubaki chose QAD to fulfill that strategic role. The company's experience with QAD software solutions began in 1988, when it purchased Holyoke, Mass.-based Acme Chain Co., a manufacturer of roller chains.

### The Challenge: Integrating A Newly Acquired Asset And Its Systems

When purchased by U.S. Tsubaki, Acme was running its manufacturing resource planning (MRP) on an internally developed enterprise system that it felt would not continue to meet the requirements of a rapidly growing manufacturing organization. Additionally, Acme had been owned by a U.S. Tsubaki competitor that maintained the company's data on its system until a new solution was selected and put into place. To address its pressing need for a fully integrated enterprise solution, U.S. Tsubaki put together a cross-functional team of 12 employees representing executive, financial, manufacturing, engineering and purchasing functions. The team reviewed a wide range of enterprise solutions—assessing

features, functionality, and benefits—before narrowing the selection to two final prospects. In the end, the decision to go with QAD was unanimous.

“While MFG/PRO won the day on its technical merits, what we really bought into was the future of QAD,” explains Bob Engelmann, vice president, support operations at U.S. Tsubaki. “We saw and appreciated their vision—particularly how they thought about manufacturing. The idea of a core product around manufacturing appealed to us, and now it's a functional tool used to run our entire business.”

According to Engelmann, U.S. Tsubaki was motivated by the idea of development—of finding a solution that would help the company successfully address the new challenges it would face as it grew. “We knew we were on a homegrown system that would be difficult and expensive to expand,” he says. “We were looking for a product and company that would progress and keep on the cutting edge of IT development so we wouldn't have to serve that role.”

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At the time, U.S. Tsubaki was focused on improving inventory management, achieving better financial consolidation and reducing operating expenses. “We had four or five systems not talking to each other; it was a very dysfunctional situation,” Engelmann says. The company looked at some of the larger systems like SAP, but they were too complex—and too costly—for its needs.

Looking back, Engelmann says U.S. Tsubaki now knows that the ROI on its QAD software solution investment was huge. “Without QAD in place, the situation would have been very difficult to manage,” he explains. “We had safety

stocks that were outrageous because our inventory system couldn't track it, but with MFG/PRO we took control of the situation while our sales were growing rapidly."

### **The Solution: a Unified System For a Unified Company**

U.S. Tsubaki began by implementing QAD MFG/PRO just at the Acme acquisition facility, but by 1991 it had made the decision to run the QAD solution throughout the organization. After the initial implementation, U.S. Tsubaki installed QAD MFG/PRO at its Sandusky, Ohio, engineering chain plant in 1990; and after that initiative repeated the successes of the original one, the decision to go company-wide was made the following year.

"At that point we installed it at all our plants throughout the nation," says Englemann. "Then we began getting into the automotive timing system business, and we chose to use QAD from the get-go for that operation. In hindsight, that turned out to be an excellent choice, because the product is so strong in the automotive sector—and because that business has proven to be the fastest growing part of our enterprise."

Today U.S. Tsubaki is running QAD MFG/PRO across the enterprise, and has tailored its QAD solution to meet the needs of its multiple divisions. The company's automotive division—which manufactures balance drive systems and automotive timing systems for OEMs General Motors, Ford, Nissan, Honda and Toyota—relies on

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supply chain visibility to help reduce costs and improve supplier collaboration. Meanwhile, the industrial division has implemented QAD Advanced Inventory Management (QAD AIM) to optimize warehouse operations at its Wheeling, Ill., distribution center, a 60,000 square-foot warehouse that stocks approximately 10,000 stock

keeping units. Forty percent of the items at the facility find their way into kits that require workers to pick multiple items and assemble them prior to shipping.

Even before implementing the solution, U.S. Tsubaki was familiar with warehouse management systems (WMS) such as QAD AIM. "We had a previous system interfaced with MFG/PRO," says Englemann. "However, with this old system, some key information like the inventory was duplicated between MFG/PRO and the WMS. This used

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to cause significant synchronization issues and inventory accuracy problems. With AIM warehousing, we now have a fully integrated system and one single data repository for key warehouse data."

With QAD AIM, U.S. Tsubaki can streamline the receipt, stocking, picking and shipping of inventory. Put-away logic is used to find the best suitable locations for items not only based on capacity in random locations but also based on the popularity of the stock. For example, some fast-moving items have dedicated locations and a replenishment system in the bulk area. And with the system's batch-picking feature, the company is able to speed the picking of finished good items or kit components. Multiple orders can be picked at the same time and placed into plastic totes following a travel sequence before being packed together for shipping or assembly.

According to Englemann, QAD AIM has made a big difference on the warehouse floor. "AIM has brought us more discipline in our warehouse operations. Directed picking and put-away has given us a better organization and this has led as well to the reduction of the lead time to invoice."

Quicker stocking and shipping processes were only a few of the benefits the company experienced. "Another improvement we have seen from our AIM warehousing implementation was the reduced lead time to invoice. By the fact that we are no longer depending on dubious interfaces, we can invoice our customers straight after shipment," says Englemann.

## The Benefits: Award-Winning Performance

Engelmann cites a host of metrics substantiating U.S. Tsubaki's improvement since adopting its QAD enterprise system:

- The company has almost doubled sales since the enterprise-wide adoption of MFG/PRO; during that time its IT headcount has remained the same. As a percentage of sales, IT expenses have dropped significantly.
- Inventory accuracy has improved by 3 percent, which will lead to a reduction of safety stock in the future. The dollar value of inventory has been 99.2 percent to 99.8 percent since the implementation of QAD.
- Inventory turns have improved dramatically. Before QAD, U.S. Tsubaki averaged about two turns annually; now the company turns inventory 3.4 to 3.5 times per year.
- On the industrial and construction side of the business, end-of-month closing has decreased from 12 days to three days.
- Industrial delivery has improved more than five percentage points. Industrial on-time delivery has reached 93 percent.
- Since implementing its QAD solution, U.S. Tsubaki has delivered a record performance as General Motors Supplier of the Year.

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"From a business perspective, I've been impressed with the speed and quality of the QAD implementations," Engelmann continues. "MFG/PRO is an incredibly useful tool, but it's not complicated for the users to get to know it. We can move data in a short period of time, but the

## Highlights

### Company

<b>Company Name</b>	U.S. Tsubaki Inc.
<b>Industry</b>	Transportation; chain and power transmission components
<b>Products</b>	Roller chain, engineering class chain, other drive components

### Solutions

<b>QAD Solutions</b>	QAD MFG/PRO, QAD Advanced Inventory Management
<b>Platform</b>	HP
<b>Environment</b>	HP UX 11.0 Progress Database
<b>Number of sites</b>	11 manufacturing, sales and service facilities in North America
<b>Implementation Time</b>	Implemented MFG/PRO in 1988 at newly acquired Acme Chain operations; by 1991 had implemented across all U.S. Tsubaki sites.

### Results

- Accommodated significant (2X) growth without increasing headcount
- Reduced IT expenses significantly as a percentage of sales
- Improved inventory accuracy and tracking
- Increased annual inventory turns by 200 percent
- Significantly improved end-of-month closing
- Improved on-time delivery by 5 percent
- Improved and enhanced supply chain collaboration
- Streamlined warehouse operations

critical issue is training staff how to use the system. In the process of implementing any software package, the biggest stumbling block you're going to face is the people who have to use the applications. Even when training new users, we found that MFG/PRO is an easy tool to understand, yet it's extremely dynamic. I can't say enough about that aspect of MFG/PRO."

According to Engelmann, one of the most significant achievements for U.S. Tsubaki since the implementation of its QAD solution has been its record as General Motors Supplier of the Year. While GM has more than

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30,000 suppliers worldwide, less than 1 percent qualifies for the prestigious award given to recognize superior performance in quality, service, technology and price. In 2003, US Tsubaki was also awarded the Toyota Quality Award for delivery and quality.

Furthermore, all U.S. Tsubaki manufacturing operations are ISO 9001:2000 certified. The automotive division is ISO 14000 and QS 9000 certified, and the company’s Holyoke, Mass., plant is API 9000 certified.

“We are a Tier One manufacturer, and as such we buy quite a few components from Tier Two suppliers, but some of them can’t afford the technology—EDI, for example—that the supply chain demands,” says Engelmann. “But they have excellent quality, which is why we partner with them. Our QAD solution allows them to be electronically connected with us, which ensures that our supply chain performs in compliance with automotive company requirements without placing undue or unacceptable demands on our suppliers. This helps us continue to meet the exceptional standards we aspire to—and which our customers expect.”

### **The Future: Fine-Tuning The Vision**

In addition to setting its sights on another General Motors Supplier of the Year award, U.S. Tsubaki is contemplating adding new functionality to its QAD AIM system to further improve warehouse operations. In particular, the company would like to enhance the solution’s batch-picking feature so that workers can drop full totes and still continue their pick runs or skip a pick if the aisle that they need to access for an item is congested.

Additions in functionality such as these will help the company build further on its decade of success in using QAD solutions to manage manufacturing operations. And it looks like the U.S. operations aren’t the only ones benefiting—in the United Kingdom, U.S. Tsubaki’s sister automotive company has recently purchased QAD and begun its installation of the solution.

*Story prepared by U.S. Tsubaki in cooperation with QAD.*



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