

Industry Leader Reaps Exponential Efficiency Gains with Integrated Solution from QAD MFG/PRO

The Company: Global Leader in Engineered Sealing Systems

For decades, John Crane has sought to take sealing technology to new heights of performance. Established in 1917 as Crane Packing Company, the company today is a subsidiary of London-based Smiths Groups PLC—and is the acknowledged technology leader in engineered sealing systems and the world's largest manufacturer of mechanical seals and associated products. With a workforce of over 6,000 people in 47 countries, John Crane has an unrivalled global presence in the mechanical seals industry.

John Crane Americas represents about half of the John Crane global organization, responsible for business in the United States, Canada, Mexico, and all of Latin America. John Crane Americas is a market leader in these countries, producing more than 40 million seals a year, ranging in price from \$2 (e.g., an automotive seal) to \$50,000 (e.g., a seal for a natural gas pipeline).

The company serves multiple market sectors across the Americas. Approximately a third of its business is in the automotive and commercial products industries, where John Crane seals are used in everything from the water pumps in cars and trucks to the pumps in dishwashers and washing machines. The company also serves the industrial heartland—oil and gas, petrochemical, pulp and paper, hydroelectric—where John Crane seals help keep the economy's critical infrastructure up and running. Anywhere an industry uses a pump, chances are a John Crane seal is in place. John Crane Americas provides OEM pump manufacturers on the front end, but also does significant repair and replacement business on the back end.

Such a diversified and dynamic business has to accommodate various manufacturing and distribution processes—one of the reasons John Crane Americas turned to QAD.

The Challenge: Multiple Legacy Systems Foster Information Silos

In 1997, the core issue at John Crane Americas was that none of its business systems were Y2K compliant. The company had 22 different systems, including numerous

manufacturing systems, and even five different systems for bills of materials (BOMs).

“Our information was completely fragmented,” says Jim Novosel, vice president, information technology, at John Crane Americas. “There was massive duplication of data; it was difficult to obtain accurate data and reconcile data from different systems. Obviously, this led to inefficiencies across the enterprise and made business management a more difficult process.”

The company determined to go with a fully integrated system to meet the imminent demands of Y2K and create an infrastructure that would prepare the company for the years ahead in the new millennium. A cross functional team was assembled to assess the leading solution providers, and QAD MFG/PRO was selected over others including SAP, Baan, SSA, and Oracle as the enterprise solution that best fit John Crane's needs.

John Crane Americas has reduced total inventory by 20%, and improved inventory accuracy from 50 percent to 90+ percent in all facilities following the implementation of its QAD enterprise solution.

Bob Wasson, president, John Crane Americas

“QAD MFG/PRO is a very good product,” says Novosel. “It is much simpler than SAP, and is easy to train our people to use it. So much so, that now at John Crane Americas we speak QAD; it gives a common way to view, describe, analyze, and understand the processes that run our business. And with an organization as broad as ours, speaking and understanding the same language is clearly an operational advantage.”

The Solution: A Single, Integrated System

Bob Wasson, president, John Crane Americas and Jim Novosel assumed their positions with John Crane Ameri-

cas after the assessment team selected QAD MFG/PRO. They were charged with implementing the system.

“We started in July 1997 with General Ledger, then moved to Procurement, then continued to roll out modules, increasing in size and complexity as we went along,” says Novosel. By November of 1999, QAD MFG/PRO was live in 50 locations. Following the implementation, overall inventory (i.e., raw materials and finished goods) at John Crane Americas had been reduced by 20%!

John Crane Americas credits its QAD solution as key to improved profitability despite the challenging economic environment. With the improved efficiency of its entire supply chain, and a new enterprise system infrastructure in place, the world’s largest manufacturer of mechanical seals is strategically positioned for the future.

Bob Wasson, president, John Crane Americas

“Before we did the implementation, we did a complete physical inventory,” Novosel continues. “It showed that our method of tracking inventory was only about 50 percent accurate! It’s amazing that we were running the business at all with that kind of inventory accuracy. The new system enables us to do a better job of managing inventory. And we can verify that through QAD MFG/PRO’s cycle counting and physical inventory programs.”

According to Wasson, the implementation of QAD MFG/PRO quickly resulted in a dramatic positive change. “In less than two years after implementing the system, all locations had gone from that unacceptable inventory accuracy to accuracy in the upper 90 percentiles,” he says. “That’s an amazing turnaround.”

Wasson says that was just one of many turnarounds that came with implementing the QAD solution. “Integrating our systems empowered us to work on our processes,” he says. “We have better visibility into how our business works—a better understanding of our business—and from that a better capability to teach people how to do things correctly so that the business works more efficiently.”

In fact, improved efficiencies were measurable in a host of areas after the implementation of MFG/PRO. A good example is inventory shrink. The company regularly had unrecorded inventory losses, which it accrued for using a ‘relief factor,’ but, according to Wasson, at the end of the day, when physical inventories were taken, they would always come up short.

“All this changed with MFG/PRO,” says Wasson. “We were able to put in processes to accurately capture inventory transactions, recording ins and outs as well as variances.”

In John Crane Americas’ many branches, a good deal of outside machining is done for adaptive hardware to customize components for specific customer needs. “Before implementing MFG/PRO, we had a process that applied one standard rate for this,” says Wasson. “This proved very inaccurate. Annually, there was a \$2 million difference between the standard rate and the true costs of outside machining. With MFG/PRO, we are able to capture the true costs of this important part of the business.”

Perhaps the most critical performance issue John Crane Americas faced before integrating its systems was on time delivery to the branch network. “We didn’t have a

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distribution structure to support branches that would speed delivery,” says Wasson. “We were always expediting and fire fighting—very costly activities.”

The company’s central parts warehouse in Morton Grove, Illinois, is where branches principally draw product from,

but confidence in delivery from the warehouse had been so eroded that inventory had been built up, unnecessarily, at the branch level. With MFG/PRO in place, the company has been able to manage inventories to determine what components are needed where, and establish sensible safety stock levels. Order fulfillment cycles from the Central Parts Warehouse to the branches that averaged seven days are now down to a day.

... in the central parts warehouse, the environment was strengthened so that when orders dropped, they could ship the same day. The result was better collaboration across the enterprise, and more efficient control of stocks."

Bob Wasson, president, John Crane Americas

"Next-day service was really affected in two areas," notes Wasson. "At the branch level, we were able to institute processes to support them and eliminate the aggregation of excess inventory at these remote sites; and in the central parts warehouse, the environment was strengthened so that when orders dropped, they could ship the same day. The result was better collaboration across the enterprise, and more efficient control of stocks."

Prior to having the system in place, the stocking was more a matter of guesswork than real-time information. With over 10,000 core stocking items, there were needless duplicate stocking of items both at the branch levels and at the central warehouse. With the system in place, rules were established to determine the inventory that should be stocked at the branch and at the central parts warehouse, and the conditions dictating movement of inventory from the warehouse to the branches.

The Benefits: Integration Facilitates Efficiency and Quality

"Because of the infrastructure we've built with MFG/PRO, we've been able to maintain market share, improve customer confidence, and improve profitability despite having sales that are flat or slightly down. The system has clearly supported our strong competitive standing," says Wasson.

Highlights

Company

Company Name	John Crane Americas
Industry	Engineered sealing systems and mechanical seals
Products	Mechanical seals; seal support systems; packing; power transmission couplings, bearing isolators; lubrication systems

Solution

QAD Solutions	MFG/PRO eB2
Sites	50 manufacturing, distribution, and sales facilities in the U.S. 4 manufacturing, distribution, and sales sites in Argentina 8 manufacturing, distribution, and sales sites in Brazil 4 manufacturing, distribution, and sales sites in Columbia 1 maquiladora manufacturing site in Mexico 10 manufacturing, distribution, and sales sites in Mexico 1 manufacturing, distribution, and sales site in Puerto Rico 4 manufacturing, distribution sales sites in Venezuela
Implementation Time	Implemented MFG/PRO in July 1997; fifty U.S. sites online by November 1999
Platform	HP
Environment	UNIX and Oracle

Results

- **Reduced total inventory by 20%**
- **Reduced past-dues from four days to one-half day**
- **Lowered overall operating costs**
- **Improved visibility of the entire supply chain**
- **Improved inventory accuracy from 50 percent to 90+ percent in all facilities**
- **Order fulfillment cycle from central warehouse to branches reduced to one day from seven days**
- **Improved collaboration across enterprise**
- **Improved profitability during economic downturn**

“What we’ve gone through with the implementation of MFG/PRO has enhanced the whole business environment at John Crane Americas,” continues Wasson. “Now we’re on one infrastructure. We talk one language, and everyone understands it. The difference in information

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availability is huge—and getting better, more accurate information faster enables better decision making throughout the company.”

The company has embarked upon a Six Sigma program, with MFG/PRO as the system of record supplying the data necessary to drive this program. MFG/PRO is a means to drive process improvements in many areas. The Six Sigma process is data-driven, analytical, and statistical—and John Crane Americas is able to get all the data necessary to drive this program from MFG/PRO.

The new system also significantly improved the customer order fulfillment process where according to Wasson, past-due customer sales orders have been reduced to a half day from three to four days since the MFG/PRO implementation.

“All of this is done with a highly user-friendly environment,” says Novosel. “I’m very impressed with the new MFG/PRO user interface. By allowing access to multiple areas of the application at one point in time, it makes it easy to perform transactions without having to go in and out of a screen. Its browsing capabilities are excellent, and its ability to link to internal and external systems is very helpful to us.”

One of the major achievements for which Novosel credits MFG/PRO is the smooth transfer of the company’s automotive business to Mexico. “All of the U.S. business runs on a single MFG/PRO implementation at our Morton Grove headquarters, but when labor costs made it sensible to move the manufacturing for our automotive products to Mexico, we set up that business on another MFG/PRO system,” he says. “The transfer has been seamless, and really could serve as an example for how a company can use an enterprise system like MFG/PRO to effectively and efficiently establish a maquiladora operation to take advantage of less expensive labor and powerful tax benefits.”

The Future: Performance Made Solid

While the MFG/PRO infrastructure has helped John Crane Americas manage business in a difficult economy, Wasson and Novosel are particularly excited about what it will empower the company to do when the economy improves.

“Thanks to our QAD implementation, we’re perfectly positioned to leverage our investment when the economy takes off again,” says Wasson. “The infrastructure is solid, in place, and the processes are well developed to handle our future needs. The immediate need we faced at the turn of the century has resulted in a capability that will serve us years into the future.”

Story prepared by John Crane Americas in cooperation with QAD.



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QAD Inc.
6450 Via Real
Carpinteria, CA
93013 USA
Tel: +1 805 684 6614
Fax: +1 805 684 1890
www.qad.com

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