



Overview

Country: United States

Industry: Manufacturing

Customer Profile

Rochester Gauges, Inc., a manufacturer of durable, long lasting gauges, has a reputation for building quality, accuracy, and reliability into all of its products. Founded in 1959, Rochester Gauges is an inseparable part of the Low Pressure (LP) Gas industry history in the US.

Business Situation

In 2007, Rochester Gauges embarked on a Lean journey.

Solution

To support their commitment to the methodology, the company optimized its existing system by deploying Lean Enterprise for Microsoft Dynamics AX™ from Microsoft® Gold Certified Partner eBECS®.

Benefits

- Increased operational efficiency
- Customer order goes direct to production line
- ATP material and capacity checks at time of order
- Quality control built into process
- Eliminated waste

Gauge manufacturer supports Lean efforts with eBECS Lean Enterprise Solution based on Microsoft Dynamics AX

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Bill Battershell, Chief Financial Officer, Rochester Gauges, Inc.

Rochester Gauges, Inc., a privately-owned company based in Dallas, Texas, is a multi-national manufacturer of gauges with facilities in Dallas, Texas; Brussels, Belgium; and Mexico City, Mexico.

Rochester Gauges, Inc. optimized its existing Microsoft Dynamics AX 4.0 system to support Lean Manufacturing by selecting a Lean Enterprise module solution from eBECS. The solution enhances Rochester Gauges’ Lean program by making it easier for operations managers to eliminate inefficiency and to evaluate outcomes of kaizen events, customer service agents to perform ATP and capacity checks at sales order entry and to relay sales

orders directly to production, and production to perform quality inspections on the line. Since the implementation, Rochester Gauges:

- reduced order lead times 50% from 8 weeks to 4 weeks;
- dropped cycle times from an average of 9 days to less than one day;
- maintained 100% on-time to schedule without the use of buffer inventories during a 14% increase in production requirements; and
- decreased order time from days through the back office to minutes via a direct interface between customer service and the production line.



Situation

Lean thinking began at Rochester Gauges with the arrival of Brad Hoffman, former Rochester Gauges Director of Operations, now General Manager, Flowserve, Inc., in 2007; about one year after the company selected Microsoft Dynamics AX 4.0 in 2006 as its enterprise resource planning solution to replace an outdated platform, and one year before go-live in November 2008.

According to Hoffman, "Lean Manufacturing was not a consideration in the design and deployment of AX 4.0 at Rochester. Our business processes were essentially duplicated as they existed at the time of migration, including a batch-oriented supply chain and production process. Customer orders were confirmed on a basis of fixed sales order lead time strategy, regardless of capacity or material availability. As you might expect, the results of this type of approach included excessive inventories, inconsistent delivery, long lead times, and high labor and material costs."

Shortly after arrival, Hoffman trained a team to develop and deploy a kaizen process tailored to the unique needs of the company. The team completed 27 major kaizen events from 2007 to 2009. Hoffman recalls, "Our team deployed kaizen throughout 80% of the factory, resulting in a 67% reduction in manufacturing lead times; however, as the evidence of our kaizen events continued to accumulate, it became clear we needed to use Lean solutions in AX 4.0 as the standard version we deployed could not support our Lean Manufacturing efforts."



Simultaneously, a competitor began to offer one of the same products Rochester Gauges produced in one-half the time. Bill Battershell, Chief Financial Officer, at Rochester Gauges, stated, "The Company, at the time, was up against a wall. We needed to support Lean in AX 4.0 and a competitor was threatening one of our lines. This brought management to the table to address the issue and come up with a solution."

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Solution

Leadership at Rochester Gauges continued to deploy Lean principles throughout the value stream and began to investigate ways to support Lean Manufacturing within Microsoft Dynamics AX 4.0, realizing the threat posed by competition was an opportunity for growth and change. According to Hoffman, “We quickly realized the amount of rework necessary to re-write AX code to enable us to further deploy Lean. We needed an alternative and found the solution through eBECS.”

Rochester Gauges purchased the Lean Module for Microsoft Dynamics AX from eBECS. The Lean Module developed by eBECS provided Rochester Gauges with an agile, flexible, fully integrated business solution specifically geared to support Lean Manufacturing and the unique needs of the company.

The solution combines Lean and traditional manufacturing processes in one manufacturing model and provided the metrics Rochester Gauges needed to support kaizen processes - continuous improvement of its Lean efforts.

Within 6 months, Lean Enterprise by eBECS was integrated into Microsoft Dynamics AX 4.0 and released on one pilot line in the factory - the same line that was threatened by a competitor.

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Journey and Benefits

“eBECS added substantial expertise and value during implementation and on numerous occasions, the eBECS team spoke to many issues that came up during our pre- and post-implementation.”

Brad Hoffman, former Rochester Gauges Director of Operations, now General Manager, Flowserve, Inc.

Pre-Implementation

Rather than deploying across all lines, Rochester Gauges started by transforming one cell to a Lean cell - the same line that was threatened by a competitor. “We picked one line and made it our argument for change. With change, the single biggest challenge is the mindset of people. Commitment from the top is important in setting the tone. eBECS was able to speak to and in most cases overcome concerns voiced at Rochester Gauges. No one inside Rochester Gauges was going to be able to do that alone,” recalls Hoffman.

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At the forefront, Hoffman realized, “The Lean AX module makes you think differently about how to set up your supply chain.

The structure, discipline, and how the processes are set up for the people make it work.” Rochester Gauges reconfigured the shop floor to facilitate Lean manufacturing. “Our team focused on cycle reduction time and other things followed,” stated Hoffman.

Implementation

Lean Enterprise by eBECS was integrated into Microsoft Dynamics AX 4.0 and released on one pilot line in the factory. eBECS worked collaboratively with Rochester Gauges to support the company’s pre-defined objectives for implementation. “eBECS understood and to conveyed how to



Journey and Benefits *continued*

utilize AX as we defined it via our modifications, and help us through the process of bringing up Lean AX," stated Hoffman.

eBECS led in the architecture of the solution by taking Rochester Gauges through a fundamental shift: customer service enters the sales order, manufacturing makes it and performs immediate quality control, and planning manages exceptions only. eBECS accomplished this by:

- providing customer service visibility to material and capacity availability at the time of order entry,
- programing the system to generate an exception and table for unreasonable delivery time frames to allow for further investigation, and
- designing an interface between customer service and the production line to streamline the order process.

"eBECS understood and conveyed how to utilize AX as we defined it via our modifications, and help us through the process of bringing up Lean AX."

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Benefits

Lean Enterprise for Microsoft Dynamics AX helps Rochester Gauges differentiate itself from the competition through better customer collaboration and responsiveness. Since adopting Lean Methodology, Rochester Gauges has reduced lead times from 50% from 8 weeks to 4 weeks.



Battershell reflects, "Management was shocked at the reduction we experienced in production cycle lead times in our pilot cell. Our cycle time dropped from an average of 9 days before implementation to under one day and has never gone back up." Battershell continues, "When our lead times dropped to under one day, we eliminated our buffer finished goods inventory. We maintained our on-time to schedule at 100% without the use of buffer inventories. This was done during a period of time that our production requirements went up 14%."

"The way eBECS setup our AX Lean Order Schedule between our Customer Service and Production Cell is much of the reason why we are able to turn around orders as quickly as we are. eBECS optimized us so much; we're like a fast food restaurant in terms of service. A customer places an order and within a minute, customer service hands it off to the production line. We're so fast, in fact, that if a customer changes the order while on the line, production has already started it and must immediately adjust. In manufacturing, that's a very nice problem to have."

Bill Battershell, Chief Financial Officer, Rochester Gauges, Inc.

In terms of customer service, representatives can confirm a ship date to the customer in far less time than the standard lead time of 8 weeks. In addition, customer service can relay an order directly to the manufacturing floor within minutes - representing a 92% improvement in work order cycle time.

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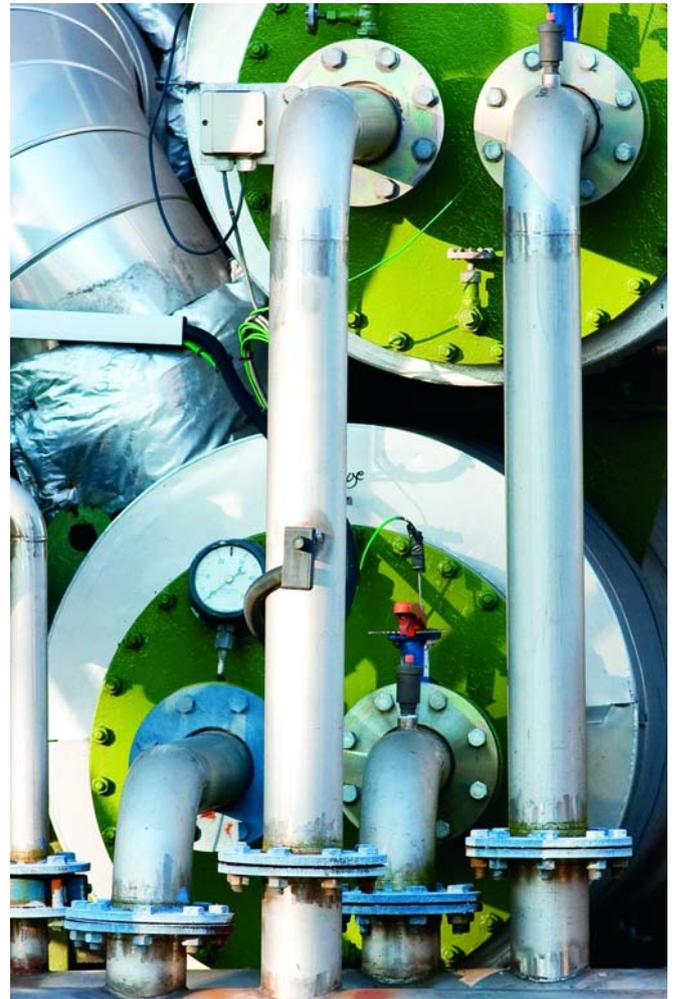
In terms of quality control, Rochester Gauges shifted from 100% end of line quality inspection to visual quality control at the time of production. Battershell states, "Because we produce so fast now and because people who make the product should be responsible for quality, we've redesigned the work flow with quality standard visual cues to allow person who makes the product to do quality inspection."

In terms of planning, production planning continues to yield improvements at Rochester Gauges as planners spend more time on value-added tasks, such as handling exceptions in customer demand. Increased visibility into customer demand also helps planners refine forecasts for products with long lead times; more accurate forecasts result in even lower inventory levels. Battershell comments, "We used the Lean software to level load the pilot cell. Our production variance from high to low went from over 100% before Lean to 23% after implementation."

"Our production system has been physically changed to incorporate kanbans throughout the supply chain and has been mirrored within the AX Lean Module. Our Lean production lines are now able to respond to a pre-defined range of order sizes within a matter of hours. And, we have the ability to explore other ways to reduce waste and cost."

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In addition, the Lean Enterprise solution supports the iterative process evaluations and incremental improvements that are part of the kaizen continuous improvement methodology. Rochester Gauges' continuous improvement team uses the metrics gathered through Lean Enterprise for Microsoft Dynamics AX to track progress and keep up momentum in the company's Lean efforts. Battershell adds, "Our production system has been physically changed to incorporate kanbans throughout the supply chain and has been mirrored within the AX Lean Module. Our Lean production lines are now able to respond to a pre-defined range of order sizes within a matter of hours. And, we have the ability to explore other ways to reduce waste and cost."



Post-Implementation

Rochester Gauges continues to use the one cell converted in collaboration with eBECS as a template for change. According to Battershell, "eBECS has been instrumental in delivering our Lean solution because they have Lean expertise, knowledge of gauge manufacturers, and are proficient in Microsoft Dynamics AX."

Battershell continues, "The transformation of everyone's thinking around here is amazing as far as the speed at which we've now been able to accelerate the deployment of Lean principles down the line. When we rolled this out, no one thought it would do what it did. The very next day, it popped down to the levels we are still experiencing. Management watched for months thinking levels would go up, but they never did." Battershell added, "We live Lean every day and are focused on further deploying throughout the entire supply chain. We put 7 cells on the system and we're taking it to every cell after we upgrade to AX 2012."



About Rochester Gauges

Rochester Gauges, Inc., a manufacturer of durable, long lasting gauges has a reputation for building quality, accuracy and reliability into all of its products.

Family owned and operated since its founding, Rochester Gauges is a leading manufacturer and exporter of Low Pressure (LP) Gauges, anhydrous ammonia (NH3) gauges and various types of plastic and industrial gauges. The company's products are sold to original equipment manufacturers (OEMs) and distributors in the following markets: Agricultural, Aircraft, Automotive, Refrigeration, Industrial, LP Gas, Marine, Heavy Truck, Off-Road, Construction, Locomotive, Petrochemicals, and Process Equipment.

Rochester Gauges is a multi-national Lean business with facilities in North America and Europe.

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About eBECS

eBECS is a specialist in the design and delivery of solutions for manufacturing, distribution and professional services.

eBECS delivers world class Lean and agile business solutions using Microsoft Dynamics AX and Dynamics CRM. Its solutions streamline and integrate processes, minimize waste, optimize the supply chain and manage demand-driven operations.

eBECS is a global company with a personal touch, and it takes enormous pride in its large reference-able customer base.

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About Microsoft Dynamics AX

Microsoft Dynamics AX is an integrated, adaptable business solution that is flexible and includes applications for the management of financial, customer relationship, supply chain, human resource, and projects; plus analytics.

Microsoft Dynamics AX is the first genuine Lean ERP solution that is true to the principles of Lean. The solution provides comprehensive Lean functionality from the simple use of kanbans through to sophisticated Lean Accounting concepts, yet at the same time allows it to co-exist and work with the traditional MRP world.

eBECS combines traditional manufacturing functions along with powerful Lean capabilities that deliver true performance improvements that can support and sustain a Lean enterprise.



eBECS is a specialist in the design and delivery of solutions for manufacturing, distribution and the extended supply chain using Microsoft Dynamics AX and CRM. For contact details please visit our website or email us.

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Offices in: United Kingdom | North America | Kingdom of Saudi Arabia | Jordan | China

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