

Alignment

Analysis

Collaboration

Competitiveness

Culture

Efficiency

Growth

Manufacturers
Resource Center



MRC

Manufacturing Success

MANUFACTURING SUCCESS

Implementation

Innovation

Leadership

Opportunities

Planning

Quality

Results

Strategy

Vision



In this year's annual report we celebrate *manufacturing excellence*, and the *vision* needed to achieve it long term. In an era when manufacturing is declining here in the United States, MRC's mission—to assist small- and mid-sized manufacturers in our five-county area to thrive in the competitive global marketplace—is more important than ever.

What typifies manufacturing excellence today? After much thought, MRC has defined it as the pursuit of business growth, and incorporation of Lean Manufacturing and Six Sigma principles to maintain high quality and competitiveness, while investing in plant assets, technological advances, enhanced marketing, and human capital development.

In 2004, MRC developed the Manufacturing Summit to celebrate the ongoing excellence of our regional manufacturers. In our 2007 annual summary, we showcase this year's four award winners. Although the industries are different, these companies share a common vision of excellence, and realize the skills and investments needed to grow and compete, now and in the future.

On top of this vision and training these companies add an understanding of the need to continuously maintain high quality in the eyes of their customers—with the use of ISO Registration, Lean Manufacturing training, and even, in some cases, internal Six Sigma Black Belt champions. With these tools in hand, they maintain their competitive edge by keeping processes lean and working to innovate and generate ideas.

Several of these companies have introduced new products or product line extensions through projects with our in-house Business Growth Services experts, or with Lehigh University's Integrated Product Development program. In addition, several of the top managers have utilized the Manufacturing Leadership Institute; our leadership program developed in partnership with Lehigh University's Iacocca Institute, to learn from experts in various business areas how to take their companies to the next level.

One notable common thread is the way their leadership approaches new ideas. The leaders of these four companies embrace management improvement methodologies, fine-tuning employees' skills and even investing in the development of improved communication styles. This effort has benefits internally for their workforce, and externally for their customers and our region. As clients of MRC, we take pride in their accomplishments and feel part of their success. —**Now that is *vision at work!***

CARDINAL SYSTEMS, INC.

Cardinal Systems, a manufacturer of custom outer shells for pools and spas, is a business with a solid reputation for quality products and superior service. In the past, Cardinal sold a great deal by word of mouth, but more recently they have found themselves facing a market with widespread consolidation and a rapidly shifting competitive landscape.

In response, the company partnered with MRC through a Business Growth Services project. Following an in-depth Market Assessment, MRC recommended that Cardinal put its core strengths to work in a new area. Expanding into a new industry enabled Cardinal to identify additional revenue possibilities and gave them opportunities to develop new strengths.

“As we move into new markets, we have to build a quality product and back it up with quality service,” says one representative from Cardinal. “It’s also important that we be able to market the new product. We’re great manufacturers, but we needed to improve our marketing.” Another member of the management team

agrees, saying Cardinal has learned to place more importance on marketing as part of its new strategy.

As the business grows, Cardinal has also drawn from its involvement in the Manufacturing Leadership Institute, a joint venture between the Iacocca Institute and MRC. That work, along with Lean projects, has enabled them to be much more agile, reducing inventory in some products by 30%. Another benefit is the development of an enhanced corporate culture, stressing participation and active involvement throughout all levels of the organization.

Cardinal says they are now working to grow the business rather than just run the business. That growth includes a number of additional projects with MRC: involvement in the CEO Forum and Business Innovation Growth Network (BIGNET), Value Stream Mapping, 5S, training courses, and a cost accounting project with the Delaware Valley IRC organization. Indeed, MRC is Cardinal’s go-to coordinator for a wide variety of programs and a hands-on coach for marketing direction and implementation.

“If you have any need,” Cardinal’s Director of Operations John Barnetsky sums up, “they’ll figure out a way to help you with it.”

Quality



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Implementation

EFFORT FOUNDRY

Effort Foundry uses carbon, stainless steel, and nickel-base high alloys to manufacture castings for a wide range of industries including petrochemical, power generation, material handling, food processing, commercial nuclear, and specialty machinery. In 2008 the company will celebrate its 35th anniversary, but today it openly speaks about the challenges it faced on its way to this milestone.

With excess capacity causing sluggish sales throughout their industry in recent years, Effort Foundry saw itself battling its competitors in a war of attrition. In the end, perseverance, a determination to succeed, and assistance from MRC helped this Northampton County-based enterprise to emerge on top. “I don’t think we would have made it without MRC’s assistance,” says CEO Charlie Hamburg. “They always seemed to find a way to get us the help we needed.”

One key initiative was ISO 9001 certification and implementation, which enabled Effort Foundry to introduce its products to high-profile customers in larger industries. The company knew its quality was sufficient,

but they needed the proof that ISO Certification offered. “MRC’s help with ISO was critical to being able to serve those markets,” says Effort Foundry President Bill Easterly.

Effort Foundry also turned to MRC for WEDnet training assistance in several vital areas, including: supervisor training, welder training including certification to ASME codes, OSHA safety requirement training, and shop floor training in acetylene torch. Recently, Effort began the journey to become fully Lean certified, having completed training in Value Stream Mapping and 5S. “They do more than hold our hands,” says Easterly. “MRC has the resources to teach, train, and continue to assist us with implementation as we progress into new areas that improve our efficiency, profitability, and service to our customers.”

Moreover, Easterly attributes much of the company’s recent sales growth to projects completed with MRC’s help. “We’ve increased sales significantly in the last few years,” he says, pointing to a 95% jump in revenue since 2005. “MRC supported us in a way that made that growth possible.”



PURITAN PRODUCTS, INC.

As a supplier of specialty and industrial chemicals to the hypercompetitive pharmaceutical, plastics, and semiconductor industries, Puritan Products has seen first hand the need to pay strict attention to customer needs. In fact, a unique characteristic of this Lehigh County business, which celebrated 20 years of operations in 2007, is its dedication to monitoring customer service.

“Our gain sharing metrics are tied to a variety of things,” says President and General Manager Lou DiRenzo. “Those include customer satisfaction and service. Everyone [at Puritan] understands the more we satisfy our customers, the more value we add.”

Following the departure of one of the company’s partners, however, strategic planning and other initiatives were in need of a renewed top-down focus. As part of its efforts to regain that focus, Puritan drew on lessons learned at the Manufacturing Leadership Institute, a joint venture between the Iacocca Institute and MRC.

“There were some alignment problems,” DiRenzo says. “The Manufacturing Leadership Institute program helped substantially. It really charged my batteries. I’d been focused on purely tactical issues before, and they helped me focus more on strategic matters.”

MRC also collaborated with Puritan on an ISO Registration effort. The company had low defect rates, but many customers were calling on suppliers to implement formal continuous improvement programs. ISO enabled Puritan to further improve quality and to win the confidence of new customers. Through ISO—and later Six Sigma, Lean, and others—Puritan has been able to improve profitability and cash position, and to increase inventory turns from six per year to 10.

DiRenzo says that MRC’s most significant contribution, however, is the full-service approach we take to assisting our clients. “They’ve been able to do all the legwork on grants that allowed us to afford things we wouldn’t have been able to without their involvement.”

By helping Puritan develop a newfound emphasis on leadership, DiRenzo says, MRC has contributed to measurable sales increases: 23% from 2005 to 2006, and an additional 10% between 2006 and 2007.

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Leadership

Competitiveness

TIMET

Based in Morgantown, PA, TIMET is one of the world's largest suppliers of high-purity titanium products. Most material from the Morgantown facility—produced in the form of round ingots and rectangular slabs—finds its way into aerospace applications with customers like General Electric, Rolls Royce, Boeing, and others.

In order to keep pace with rapid growth in the aerospace market, TIMET has made significant expansions to their electron beam melting capacity here in Pennsylvania. This includes construction of a new state-of-the-art electron beam furnace, with construction completing in early 2008. TIMET plans to add another electron beam furnace in 2009. Together, these two electron beam furnaces give TIMET the ability to melt an additional 17,000 metric tons of titanium per year, more than double the current capacity.

TIMET has worked hard to implement principles of Lean Manufacturing and Six Sigma in order to maximize throughput and enhance competitiveness. With help from MRC, TIMET is set to work increasing its knowledge of Lean and applying the lessons learned

to its production environment. Plant Manager Bill Cummings remembers the Lean Certification 1 program as an especially effective project.

“All of our management personnel went through the program,” he recalls. “We divided the employees into teams and each had projects to work on.” That approach allowed the team members to apply the new skills as they learned them. This reinforced the lessons and had a direct benefit on the operations at TIMET.

Through all of the improvements offered by Lean initiatives, Cummings says the most beneficial part of TIMET's involvement with MRC has been the training projects. Rather than a “point solution,” Cummings says that the strongly emphasized continuous skill development has enhanced the company's manufacturing philosophy. “Training has made TIMET better,” he says. “Our supervisors are better able to react to a changing environment, and to think on their feet in the face of change.”

With the aerospace market poised to continue its growth into the next decade, TIMET will be challenged to meet customer demand. The Berks County manufacturer will have ample opportunity to put these new skills to use. And with new projects on the horizon, including a Total Productive Maintenance initiative, MRC and TIMET are committed to making sure the region, as a whole, benefits from that market expansion.

MRC MISSION

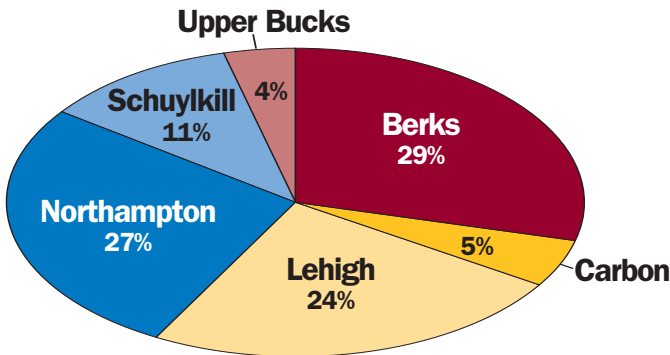
Mission

The mission of MRC is to drive regional economic development by serving as a trusted leader and advocate for small and mid-sized manufacturers and related industries and by delivering the cost-effective resources necessary for these companies to successfully compete and grow in a rapidly changing competitive environment.

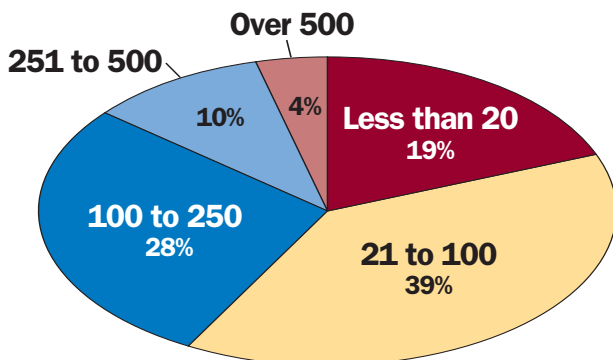
STATISTICS

Projects by Industry

Fabricated Metals	16%
Rubber/Plastics	13
Machinery	12
Chemicals	12
Electrical/Electronics	8
Primary Metals	6
Concrete/Stone/Glass	6
Textiles	5
Professional Instruments	5
Wood	4
Other	13
Total (429 projects)	100%



Clients (161) by County



Clients (161) by Employee Size

Projects by Type of Work Delivered

Business Growth Services	
Product Ideation, Design, & Development	9%
Sales Development & Customer Retention	8
Market Analysis & Development	6
Strategy Development & Mentoring	5
Total BGS	28%
Lean, Six Sigma and Quality	
Lean Training*	14%
Lean and Six Sigma Certifications	8
Plant & Process Improvements	4
Quality Improvements and Registrations	2
Total Lean	28%
Workforce Development & Growth	
Leadership Development	22%
Technical Product & Process Training	6
Total Workforce	28%
Other	
Information Systems & Technology	7%
Website Development & Enhancements	4
Human Resource & Personnel Documents	3
Financial Planning & Forecasting	2
Total Other	16%

* Training included Introduction to Lean, Lean Executive Overview, Value Stream Mapping, 5S, Set-up Reduction, Kaizen, Total Productive Maintenance, Cellular Manufacturing, Pull/Kanban, Statistical Process Control in both public and customer sites.

Note: MRC also administered almost 100 WEDnet training grants and assisted companies in identifying appropriate resources.

PRIMARY FUNDING SOURCES

Commonwealth of Pennsylvania Department of Community and Economic Development

United States Government, Department of Commerce, National Institute of Standards and Technology (NIST), Manufacturing Extension Partnership (MEP)

MRC STAFF

Jack Pfunder
Executive Director CEO

Angie Bove
Lean6 Training Coordinator

Ralph Burns
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Manufacturers
Resource Center



125 Goodman Drive
Bethlehem, PA 18015
800-343-6732
www.mrcpa.org

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