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Summer 2007

## The Graduate Redux: Cost Benefit Analysis Pays Off

Cost savings of nearly \$100,000 over five years is a manufacturer's dream. McClarin Plastics of Hanover, Pa. found a way to realize such savings by changing how it disposes of excess fiberglass resin used in production. Orange, fiberglass engine housing mounts are among the many products that McClarin manufactures. These mounts are used in producing aerial work platforms for JLG Industries, Inc., Shippensburg. Until recently, McClarin used cardboard sheets to capture the resin wastes or "chop" that are emitted during the fiberglass fabrication process. The annual cost for cardboard is approximately \$33,000. Additional material handling-related costs are incurred in the environmentally safe disposal of the resin wastes.

A team was formed to tackle the problem and propose a solution. In place of using cardboard sheets the team suggested a polyethylene or epoxy-based protective coating that would protect the floor of the fiberglass work area and make disposal of the excess resin a lot easier and less time consuming. A reduction in overhead costs and material costs would be substantial. The solution resulted in a projected cost savings that impressed McClarin's management. McClarin Plastics was pleased with the idea and plans to adopt it soon. The nine South Western High School students who thought

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## TBM Goes LEAN: Getting Better Across the Board



To Baird McIlvain, Norwegian Wood is more than a Beatles song title. Successor to a family lumber business which dates its founding to 1798, McIlvain now has operational control of TBM Hardwoods in Hanover, a company that specializes in supplying wood from all over the world to manufacturers throughout the Mid-Atlantic and New England.

Originally founded in Philadelphia, the family split the company into independently-owned units in 1955, with his grandfather moving the Pennsylvania portion to King of Prussia. In 1979 TBM acquired the Hanover location, which was then a custom kiln drying operation. Because of the transportation involved, and the proximity to domestic supplies of hardwoods in Virginia and West Virginia, it soon became apparent that a consolidation of the business to the Hanover location would make sense. Today, only a small office remains in the Philadelphia area, handles import transactions.

McIlvain worked in the buying end of the business, before returning to the Philadelphia area to get his MBA from Villanova. Now at 34, with experience on the operations end, he's been elevated to the position of President and COO. His father, Tom, holds the company chairmanship and continues to head up the firm's sales activities.

Hanover made an immediate impression on the younger McIlvain. Unlike the Philadelphia area, there is easy access to networking with any number of businesses that operate in similar fashion and encounter similar challenges. It was through conversations with a fellow local businessman that McIlvain learned about the resources available through MANTEC.

TBM isn't about 2 x 4s or plywood for construction. Its customers make high end products like boutique wide-plank flooring, best-grade kitchen cabinets or windows and doors. Even the famed Steinway pianos feature TBM woods, along with the products of other noted musical instrument makers. Naturally, quality is an essential component. As McIlvain points out, "We're buying the

cream of the log. From that point on, quality can only be lost by what we do to the product, so we have to use every resource we can find to maintain that level of quality."

It was that search for continuous improvement that brought McIlvain and TBM into MANTEC's LEAN Certification program in August 2006. According to McIlvain, "We'd been reading about the value of LEAN manufacturing and it seemed we were intuitively practicing many of its elements in isolation. What we needed was a roadmap that would enable us to tie it all together. We originally considered a private consulting firm, but past experience with experts like that made us wary. I didn't want bells and whistles, I wanted substance. Through my initial contacts, I got the impression that the people who deliver LEAN for MANTEC have real, practical experience. Plus MANTEC is able to expand my networking with others in this region who have been through varying levels of participation in their own LEAN programs. We appreciate the single point of contact MANTEC provides and the cost effective manner in which they deliver services."

McIlvain is quick to point out that his company was far from being in the throes of despair. Business is good. TBM boasts 80 employees who manage \$55m in sales of 15-16m board feet of lumber annually, half of it imported. But he could see a flattening of growth and the slow attrition of margins as his 15 direct competitors maneuvered in the market.

"Although we aren't a conventional shop floor manufacturing operation," remarked McIlvain, "We're still a business that flows plenty of material. From 30,000 feet, we could see a lot of non-value-adding activity. Our customers don't want to pay us to move the same board multiple times. That's doesn't add value for them. However, they are beginning to want additional services that do add value, like primary millwork, which saves them labor and waste. And that's what LEAN is all about for any type of business, understanding what's a value-adding activity and what's not. We want to train all of our managers to recognize this fundamental principle and, in so doing, make us stronger and more profitable."

Baird McIlvain doesn't seem to miss his big-city roots. He finds both the life style and the business style in the Hanover area very much to his liking. "I am impressed by the strong, creative business culture in this area and humbled by the accomplishments of the many companies who have already gone through multiple levels of quality improvement. MANTEC has been our window to that world. I'm not sure anyone else could give us the combination of services that MANTEC delivers."



# John's Corner - The Necessity of Competitive Advantage

John W. Lloyd, President & CEO



The world has become a much smaller place. Invisible barriers at our borders have come down. Transportation and communications flow rapidly around the planet. It is easier than ever for buyers to place their purchase orders overseas.

There was a time not so long ago when the threat of competition came from across the street, across town or across the state. Now we all see competition from far away lands where high quality products are produced at remarkably low prices.

This is a threat, and a serious one! But within threat lies opportunity. The dynamics of supply chains offer new value streams which can result in competitive advantage in the marketplace. Unique strategies are being employed through "insourcing." We've all read much about the outsourcing to other lands of materials, components, jobs, and factories. However, there is a growing trend toward insourcing back to domestic supply chains. We've all read much about the outsourcing to other lands of materials, components, jobs, and factories. However, there is a growing trend toward insourcing back to domestic supply chains.

Fighting toe-to-toe on price with offshore competition is a failed strategy. But opportunities exist through creative approaches to win work back within our borders. Customers now grasp the distinction between low pricing, and increased overall value and award contracts accordingly.

The challenge for every manufacturing company is to identify what makes it unique and to develop its value proposition. What can you offer your desired market better than

anyone else? Investor Warren Buffet has said that "sustainable competitive advantage" is the number one attribute in evaluating the strength of a company. Competitive advantage is defined as the unique skills, resources or attributes that competitors cannot effectively replicate. Winning strategies must be based on developing, solidifying, and exploiting your competitive advantage. Put simply, this is what will make it easy for customers to make the decision to buy from you rather than your competitor.

Competitive advantage can be built upon many factors. A local manufacturing company, SAY Plastics, Inc., developed its competitive advantage based on its close proximity to a major food company in need of plastic containers for packaging. Another company, Flinchbaugh Engineering, Inc., pioneered the concept of "line transfers" in which it persuades customers that it is in their best interest to outsource entire production lines into this supplier's facility.

All of us need to ask the question, "Why do our customers choose to do business with us?" What makes your company unique? Will you be able to sustain your competitive advantage over the test of time? Your ability to answer these strategic questions may determine your ability to compete in the challenging global economy.

## The Graduate Redux (continued from front page)

of the changes were equally excited!

The South Western High School Adventures In Technology (AIT) team of sophomores, juniors and seniors mirrors the very kind of cross-functional teams that progressive employers like McClarin Plastics field from within their own organizations to resolve challenges and to come up with new product and service ideas. "When students are allowed to be creative and inquisitive, it gets their attention. The Adventures in Technology and Introduction to Manufacturing programs put a unique real world spin on what is possible for their future," commented Lisa Dennis, School to Career Coordinator at South Western High School in Hanover, Pa. Research and comparative analysis, communications and presentation skills are some of the very tools such manufacturers need to boost performance and outpace the competition. Knowing that the brains and energy to use such tools might be available at a local high school in their very neighborhood could assure AIT continued employer support. Todd Kennedy, President of McClarin Plastics, Inc., Hanover, Pa., remarked that they are ready to work another project with AIT! "We're not doing this to find employees - we're involved with students because it is the right thing to do. It's good for the community and the economy."

Adventures in Technology (AIT) is a program that is "...an industry-focused business, education, and community partnership designed to increase the visibility of regional career opportunities... It brings visibility to careers in manufacturing, information technology, biomedical/biotechnology,

finance, and marketing by motivating high school students to participate in a problem-resolution activity with a local company." AIT demonstrates how much employers who are seeking to excel, really value innovative thinkers and problem solvers, a reliance that employers place on teamwork and collaboration. For students seeking to excel at a career that promises fulfillment and challenges, and who we hope decide to continue working in Pennsylvania, this is an important collaboration and effort between education and manufacturing.

The AIT program was developed by Catalyst Connection, MANTEC's sister Industrial Resource Center, located in the Pittsburgh area. AIT is being piloted to the South Central and Delaware Valley regions through a series of projects funded by the U.S. Department of Labor. MANTEC and the Delaware Valley Industrial Resource Center are coordinating these efforts. It is hoped that AIT will be adopted across the Commonwealth as both a career-awareness opportunity for promising Pennsylvania students and as a practical problem-solving resource for employers.



Students from South Western High School present their program to members of McClarin Plastics' management team.

## A Team Approach Helps Expansion at Dutchland, Inc.

Dutchland, Inc., located in Gap, Pa., is a manufacturing and construction company that specializes in designing, manufacturing, and constructing precast concrete products. Their specialty is wastewater treatment plants, water storage tanks, pump stations, and custom precast concrete products.

New equipment was needed for process improvement and to speed up Dutchland's production capabilities. The company also needed to improve production accuracy. New equipment was purchased, trained recruitments were needed to operate the machinery, in-house training was set up, and all this had to be done quickly.

MANTEC helped make it possible by coordinating with our partners to obtain the applications for funding and training for Dutchland. MANTEC's district manager Dave Fiegl and Mary Muktarian were instrumental in this project and orchestrated the project with several partners:

- Lancaster Economic Development Corporation to provide assistance with the facility expansion.
- Governor's Action Team who recommended a GAT package including Job Creation Tax Credits, Job Training Assistance, and MELF Funds for new equipment.
- The Lancaster County Career and Technology Center assistance with the WedNet application and award process.
- The Lancaster WIB filling 30 positions with job tested and job ready applicants and an Incumbent Worker Training grant training via the Metals Consortium.
- MANTEC for writing the CJT application and their three-year training plan.



(l to r): John Edgington, Mgr. of Manufacturing; Ruth Soto, Mgr. of Education and Training; Mary Muktarian, MANTEC; Stephen Grosh, VP Human Resources; Katie Kauffman, CEO; and Amos Lapp, Mgr. Quality Control

## Legislative Initiatives – Hill Day 2007

On March 7th and 8th, 33 Industrial Resource Center (IRC) representatives from across Pennsylvania and 16 manufacturers traveled to Washington, D.C. to share successes and the impact that the IRCs have on Pennsylvania manufacturing. This initiative is led by the Manufacturing Extension Partnership (MEP), based in Gaithersburg, Md. and orchestrated by the American Small Manufacturing Coalition. Legislators learned about the importance of the support provided to manufacturing and the request to continue congressional support as the national budget is developed.

MANTEC's President/CEO John W. Lloyd was joined by staff member Carol Morton Tebo, Director of Operations and client representatives Mr. Chris Tarsa, President of C.L. Sturkey located in Lebanon, Pa. and Mr. Dan Fisher, President of D.L. Martin located

in Mercersburg, Pa. "As a small manufacturer in a competitive world, I am not ashamed to admit we need help. Because of the programs offered through entities like MANTEC, Inc., we get assistance and guidance that allows us to compete globally and provide quality jobs locally," commented Chris Tarsa, President, C. L. Sturkey. "I left Washington with a greater appreciation of the growing need for organizations like MANTEC."

Some might say, why take the time to do this face-to-face effort? As one of the Legislative Directors stated, the IRC budget is so small in comparison to other special interests that it could be lost as a rounding off error in the national budgetary process. It is up to manufacturing to state its case and the IRC Network has developed an efficient mechanism to continue to bring focus upon the value manufacturing has in Pa.

## MANTEC And Clients Finished LEAN Journey

MANTEC staff members (l to r) - Peter Pasquariello, District Manager for the Capital Region; Carol Morton Tebo, SPHR, Director of Operations; Doug Keith, Financial Coordinator - completed their LEAN Manufacturing journey on March 22, 2007.

Client graduates include: Baird McIlvain, and Toby Hartlaub of TBM Hardwoods,

Hanover; Jack Plain, Buck Company, Lancaster; Tom Fritz, Jr. and Mathew Johnson, Fenner Drives, York; David Clouser, LASCO Bathware, Elizabethtown; Dale Greer, Quaker Plastic Corp., Mountville; Paul Watson, American Products, Inc., York; Theresa Castrenze, J. Walter Miller Co., Lancaster; Matt Hammel, Graham Packaging, York.



Details about the LEAN Certification Program Level 1 can be viewed online at <http://www.mantec.org/events.cfm>.

## Learning Factory Best Industry Sponsor Awarded Flinchbaugh-Kurtz Company

On May 3, 2007, manufacturers and PSU students met at Penn State University in State College to present industry projects, sponsored by the Learning Factory program. Flinchbaugh-Kurtz Company, Manchester, Pa. and employer of about 20, was awarded 2nd place out of approximately 20 entrants for spring 2007. Some competing companies included BAE Systems, Boeing, Ingersol Rand, and the US Government.

"The experience was fantastic and I would enthusiastically recommend this for other

companies who are willing to invest the time and effort needed for a successful project," remarked Kurt R. Weber, Owner/Executive V.P., Flinchbaugh-Kurtz Company.

The Learning Factory is a university-industry partnership where student projects are helping industrial clients and helping make a significant difference. The Learning Factory provides hands-on, real issues projects for students with manufacturers. To learn about Learning Factory visit [www.lf.psu.edu](http://www.lf.psu.edu).





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## RFID: LEMONS OR LEMONADE? (Part 3 of 3) By Rick Korchak

RFID Practice Area Coordinator National Institute of Standards and Technology Manufacturing Extension Partnership



This is the last of the three-part series about Radio Frequency Identification or RFID. It can be thought of as the next-generation

of bar coding and defined as a non-contact technology that can automatically capture data. RFID can be used to remotely identify, track, and communicate item and product information.



View complete RFID article online at <http://www.mantec.org> and select 'News' and then 'Press Releases'.

A first step to implementing RFID is to conduct a LEAN Manufacturing exercise called Value Stream Mapping in your organization. This is a process that traces the flow of a customer's order from start to finish and determines where the elimination of inefficient processes can save time, effort, and costs. It can help you to discover which bottlenecks in your plant to address and which constraints in your business process to consider resolving by applying RFID technology.

Some of the benefits of RFID that might be applicable in your business include:

- **Improving the Supply Chain:** OEMs are interested in RFID because it can help make the information that flows through the supply chain more efficient. Every manufacturer is both a supplier and a customer. Could your company benefit by working with your suppliers to implement RFID in your supply chain?
- **Tracking Assets and Equipment:** Retailers use

RFID to locate items to prevent stock-outs and to track inventory and shipping containers such as pallets or bins. Your company may be able to use the technology for tracking internal assets such as computers, expensive tooling, work-in-process or shipments to your customers.

- **Shipping and Receiving:** As long as you're being required to install an RFID system, you can increase the benefits by using the system to track incoming purchases. Perhaps you can offer an advanced order tracking information system to your customers as a way to distinguish your company from the competition.
- **Quality:** RFID tags can include a temperature, shock or pressure sensor that can help determine whether a product was kept in the right temperature range or received a strong impact. This could be appropriate for delicate electronic instruments, food products or overseas shipments.

- **Counterfeiting and Inventory Shrinkage:** RFID can be used for lifecycle identification of important or expensive products, and can help prevent counterfeit examples from being distributed for sale. This is especially important in the pharmaceutical and jewelry industries.

Your company may be affected by RFID as the mandates start to make their way through their respective supply chains. The best way to prepare is to learn as much as you can about this technology and how it might affect your business. A good place to start is by attending seminars, workshops and free online events that cover RFID basics. You can also take advantage of the resources provided

you and that accompanies this article.

If you are thinking about the idea of implementing RFID and would like assistance in determining the best 'next steps' for your business technology systems, call Scott Sipe at (717) 843-5054 x249 or email him at [sipesw@mantec.org](mailto:sipesw@mantec.org). You can also contact your regional District Manager for further information.

RFID is coming. Plan now.



Valuable web links to learn more about RFID. Also viewable on Resources on MANTEC's website, <http://www.mantec.org>

Internet resources for further reading:

- The Manufacturing Extension Partnership – <http://www.mep.nist.gov>
- RFID Journal – A major source of online information for RFID – <http://www.rfidjournal.com>
- RFID Basics by AIM Global, the Association for Automatic Identification and Mobility – <http://www.aimglobal.org/technologies/rfid/resources/papers/basicsmfg.htm>
- Video: RFID Basics by EPCGlobal, the trade association that has been setting the requirements for RFID tags, readers and systems – <http://www.epcglobalus.org/rfidvideo/>
- RFID Compliance Mandates by Zebra Technologies – [http://www.zebra.com/id/zebra/na/en/index/rfid/faqs/compliance\\_mandates.html](http://www.zebra.com/id/zebra/na/en/index/rfid/faqs/compliance_mandates.html)