



RECORD

National Tooling & Machining Association



VOICE OF THE \$40 BILLION CONTRACT METALWORKING INDUSTRY • www.ntma.org

Contents

Chairman's Corner	4
NTMA Member Offers Help to Be Part of \$430 Billion in Government Work! ..	5
2010 NTMA Regional Apprentice Contestants	6
Meet Your Team Leaders: Education Team	7
NTMA Member Named Rockford Illinois 2010 Manufacturer of the Year!	8
New Gerstner – NTMA Tool-Tech Series	10
Vector Series Model VB10C Thermal Fluid Filtration System from Liquid Process Systems	11
Members in the News	12
MSI Names Executive Director	13
The Biggest Constraint We Find Is ...	14
Plano Machine & Instrument Inc. Hosts NTMA Plant Managers Meeting in April	16
NIMS Student Summit	17
BLR: Business & Legal Resources	17
Best Management Practices for Your Contaminated Rags	19
West Coast Companies Wanting to Save Money on Shipping Have New 'Partner' in Southern California	20

The editorial content of the NTMA Record does not necessarily reflect the opinion of the National Tooling & Machining Association or its Chapter affiliates.

NTMA/PMA Members Go To Washington and Speak with One Voice!



The One Voice delegation paid a visit to Congressman Don Manzullo (R-IL). Left to right: Dustin Carlson, DMC Mold & Tool Corp.; Congressman Don Manzullo; Andrew Cutler, Eaton Corp.; Pat Walsh, Ehrhardt Tool & Machine; Bob Roseman, Ehrhardt Tool & Machine; Pat Bye, Energy Dynamics Inc.; John Razzano, Fulton Industries Inc.; Tom Busse, Rockford Toolcraft; Paul Bonin, Bertrand Products Inc.

More than 100 NTMA and PMA members gathered in Washington recently to represent the industry and educate and inform Congress about the issues affecting it. No matter who is elected, the One Voice legislative representatives from The Franklin Partnership must find ways to help them understand how Congress' decisions affect all of manufacturing.

Former Congresswoman Susan Molinari addressed attendees at the opening session of the Legislative Conference. Ms. Molinari gave an insider's view of the reality of how things happen in Washington. She took questions from the group about different pieces of legislation

and whether they might be passed. It was an interesting glimpse at how Congress looks at legislation and why they sometimes do what they do.



Former Congresswoman Susan Molinari spoke at the opening session of the Legislative Conference.

(Continued on page 3)

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(Continued from page 1)

The group then heard from Nicolle Lamb-Hale, assistant secretary for Manufacturing and Services. She explained some of the actions the White House has taken and their viewpoint on manufacturing in general. The group got to explain to her how some of the pending legislation will actually harm the industry. She pointed out different programs they have created to help small business and how the White House is working with members of One Voice to create a U.S. Manufacturing Policy.



PMA member Jim McGregor received a thank-you plaque from One Voice GAT Team Leader, NTMA member Zoi Romanchuk for his services as the first One Voice GAT Team Leader.

John Guzik and Omar Nashashibi from The Franklin Partnership briefed attendees on a series of issues and gave advice on how to tie the issues together to get the attention of their elected officials. The One Voice communications team at Bracewell and Giuliani Strategic Communications arranged for several members to be interviewed by national news media. They also arranged for members of both NTMA and PMA to speak with the Washington bureau chief of the Detroit News. A number of other reporters were briefed on the core issues for this year's fly-in, and arranged for both Bloomberg News and The Wall Street Journal to speak with One Voice members after the event. We expect more press coverage in the coming weeks on our Washington priority issues that are tied in to the upcoming Purchasing Fair, featuring our reshoring initiative. It was a full day preparing for

visits on the Hill to more than 100 elected officials.


NTMA Chairman Russ Reschke participated in a meeting in the office of the Speaker of the House to discuss one of the big topics, access to credit. While the White House has said it wants to put TARP money towards this problem, One Voice has proposed temporary rule changes to allow banks to loan money to credit-worthy companies. The banks are reporting that regulators are keeping them from extending lines of credit to



More than 100 NTMA and PMA members attended the 2010 One Voice Legislative Conference.

(Continued on page 4)

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(Continued from page 3)

manufacturing companies because of the financial fiasco during the last 24 months. While many members are reporting new work coming in, they're having problems getting the cash flow they need to keep the work moving through the company.

Other issues that were discussed were Currency Manipulation and Trade, a new Cap and Trade bill ready to be introduced, taxes, expansion of labor laws, workforce development and job training, and new regulations from the EPA and OSHA. They reminded everyone that all of these measures will have a direct affect on job creation and retention. That area is one that the White House is keenly aware of, so we needed to tie everything we can to that issue. If they hurt job creation,

they hurt their own cause! Participants also were reminded to invite elected officials to their companies when we go home and encourage other members to do the same. If the press is invited, then they're more likely to come.

Finally, all members can do a lot to help their industry by making sure they stay current on the issues and make sure their employees are registered to vote and informed on the same issues. On Election Day, make sure they have the time to vote and we can make a difference.

Issue papers will be posted on the One Voice website, www.metalworkingadvocate.org, so they can be downloaded and used at home.



Chairman's Corner

Russ Reschke, NTMA Chairman of the Board

The last time I went to Washington, D.C., to lobby Congress was 10 years ago, and for all the talk of change in that town, one thing is certainly different – the stakes are higher than ever. Along with more than 100 other metalworking company executives, this April I spent several days in our nation's capital speaking with leaders in both parties, trying to push them to support manufacturing in America.

At the Annual One Voice Legislative Conference, in partnership with the Precision Metalforming Association, members of the National Tooling and Machining Association held more than 100 meetings with members of Congress and their staff to press them on issues from health care, taxes and climate change, to access to credit, currency manipulation and job training. We also heard from the Assistant Secretary of Commerce for Manufacturing and Services on the Obama administration's plans for manufacturers.

I must admit, it is not easy taking so much time away from the plant (and the golf course) to travel to Washington. Before I arrived, I wondered whether any of this

would make a difference. Would anyone listen? Could I bring change to Washington? If nothing else, it was certainly a learning experience for me and I do believe we got through to a few key players.

One surprise was how many lawmakers understand that manufacturers like NTMA members are still facing challenges accessing timely and adequate credit. As the federal regulators squeeze the banks, they in turn put the pressure on their borrowers, leaving many of us without the capital we need to purchase our materials, invest in our businesses and fill job orders. And yes, since they are the party in charge, we met with several of the leading Democrats who set the agenda in Congress. I walked away hopeful that they recognized our problem and were willing to work with us to reach a quick solution.

Of all that I took away from my time in Washington, I recognized that even if they do not always agree with me, government officials need to hear my voice. If members of Congress only hear from union bosses, talking heads and hired guns, manufacturers will face even greater challenges due to government policies and burdens.



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This is why I was encouraged to see so many NTMA members take time away from their businesses and families to go to Washington. It gave us all an important opportunity to press our representatives and senators on the issues that matter most. Government policies impact every

stage of our business, from raw material processing to transportation, manufacturing, packaging and delivery of our products. These laws and regulations, many of them harmful and costly, come from somewhere, and that is Washington.

As manufacturers, we must continue to partner together and speak with one voice to be heard by our elected officials. It took me almost a decade to return to Washington, and it took a sense of urgency we have not felt in a long time, but the stakes couldn't be higher.

NTMA Member Offers Help to Be Part of \$430 Billion in Government Work!

Would you like a piece of \$430 billion the government will spend on defense supplies? Rochester member DoGovtBiz.com says they can help!

How, you ask? DoGovtBiz.Com offers two pathways to these opportunities. The first is designed for companies currently not registered to do business with the government. They help clients cut through the "red tape" from CCR registration through securing contracts, opportunities and eventual shipping of products. A complicated task made simple is the way one client puts it. Another said, "Getting set up for government work is a daunting task. Randy Mays and his CD package made this a simple step-by-step process. I would recommend these CD's to anyone interested in growing their business with the government."

The second pathway, for those already registered, is a simplified solicitation and bidding process. The DoGovtBiz.com staff identifies and pulls solicitations that meet their clients' capabilities. They then complete a thorough review that leads to a completed and highly organized solicitation package. Upon receipt, all the client has to do is review the drawings, prepare the bids and submit it.

Sounds simple? It is! As one satisfied client said, "It is a pleasure to work with DoGovtBiz.com and receive solicitations without having to deal with federal bureaucracy in finding the right work and getting specs and drawings. I rec-

ommend DoGovtBiz.com to partner with small manufacturers that want to participate in government work, but have neither the support staff nor time to search for contracts."

Randy Mays, president of DoGovtBiz.Com stresses that he cannot guarantee success with every bid, but he can guarantee the opportunity to bid.

DoGovtBiz.Com hears from shops across the country that the biggest benefit they can receive is the opportunity to "make chips!" "Give me some drawings," they say, "so I can quote them with the possibility of getting work. I need money to pay for my employees, my equipment and make a living. This is what I am interested in."

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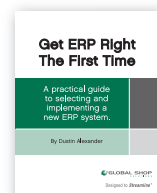
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2010 NTMA Regional Apprentice Contestants

Congratulations to the following National contestants on their winning performance in the NTMA Regional Apprentice Competitions! They will vie for the Best of the Best in the 38th Annual NTMA/NIMS National Apprentice Competition, hosted this year by the NTMA Indiana Chapter, held at the Ivy Tech State College in Indianapolis, Ind., on June 10-12, 2010.



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"Your return on investment is immediate as you leverage the vast knowledge that resides within the Association and apply it to your business."

"An advocate for our industry, NTMA leads the charge for precision manufacturing through networking, lobbying, education, procurement, advice and assistance, and focused cost savings programs."



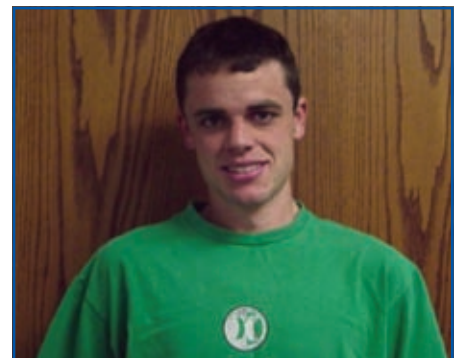
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Meet Your Team Leaders: Education Team



Herb Homeyer from Homeyer Tool and Die in Marthasville, Mo., was selected as 2010 Team Leader for the NTMA Education Team. The mission of the Education Team is "To increase the availability and skill level of human resources for U.S. precision custom manufacturers."

Herb started the company in 1990 when his wife, Lisa, came home from work one day to find him sitting on the porch swing. She knew right away that he was either hurt or had quit his job. Herb told her, "We're starting our own business. Do you want to go with me to the bank tomorrow?" They started out in a 12,400 sq. ft. building and now, 20 years later, they have two facilities. One is in Union, Mo., and the other in Marthasville, with a total of 38,000 sq. ft. and 45 employees.

Homeyer Tool and Die manufactures precision components and assemblies for laser, aerospace, truck trailer, high voltage electric transmission, food, military, medical, pharmaceutical and the automotive industries.

When asked what he believes he's done to be successful, Herb said, "I realize how important it is to get good people in management positions and delegate tasks for each position. I don't micro-manage, but let the people I have surrounding me know my expectations and follow through. This works in running anything from a meeting to a business."

He also learned how to listen and read about what is happening in the world and in business. "I listen to others

about what they are doing to effect change in a positive manner. Being active in the NTMA is an effective way to learn about what is being done nationwide, and watch the direction the business market is taking. A company can't remain in the status quo and expect to move forward and/or survive in today's competitive market. An effective leader is implementing changes to be ready for shifts in the market and its trends."

Herb said Homeyer Tool and Die can compete globally on parts with close tolerances because of Lean principles and automation.

Herb said he went to the college of "Hard Knocks" and realized the value of an education. He serves on an advisory board for his local high school and college machine tool programs. In the past he also served on the local Linn State College Advisory Board.

"I didn't start out my career planning to own my own business, but every job I had, I moved quickly into middle management. Eventually, I realized I needed to set out on my own."

Herb and Lisa started the company with a manual lathe and a Bridgeport mill. The first few years, his wife learned to deburr holes and did the book-keeping, while his son swept the floor and their daughter loaded parts into boxes. His dad also did some machining.

"I had a built-in support system.

We started out with a plan to have three employees after the third year and 5 by the fifth," he said.

He quickly discovered that customers determine a company's growth, the kinds of machines necessary and the number and type of employees needed to handle the work load. If a business doesn't adapt to its customers' needs, it won't grow. It is necessary to listen to what the customer wants, not what you think is best for the customer, he said.

Herb believes that owning a business also means you must give back to community groups looking for volunteers and financial help. Both as a company and as a family, they support local charities, schools and churches. Apart from business, Herb enjoys cooking and is considered an amateur gourmet chef by friends and family. He is a registered pit master with the Kansas City Barbeque Society (KCBS) and enjoys competing locally.

Herb Homeyer represents all that is good in our industry and the NTMA is proud to have him and Homeyer Tool and Die as members of the NTMA!



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NTMA Member Named Rockford Illinois 2010 Manufacturer of the Year!



Pat Bye (center) accepts the Manufacturer of the Year Award.

NTMA Member Energy Dynamics Inc. of the Rock River Valley Chapter of the NTMA was honored by the Rockford, Illinois Chamber of Commerce as the 2010 Manufacturer of

the Year. At an awards dinner, company President Pat Bye told a packed audience a little about how the company remained successful, even through the hard times of the last few years.

Pat said that even though 2009 was a tough year, EDI kept its eye on the long-term strategy. They maintained focus on Lean Manufacturing and continued to diversify the customers and markets served. By continuing the drive to minimize inventory and run smaller lots, EDI was able to pick up market share with existing customers, and add new customers in a down economy.

"We didn't just wake up and decide to focus on Lean and aerospace, we had a strategy that we embarked on starting in 2007 to diversify and differentiate using the power of Lean Manufacturing.

Last year we joined SEA, (Supplier Excellence Alliance) and NTMA to help us with our plans. NTMA has

provided a great method for networking in our industry, while SEA has helped us with our Lean focus and to continue gaining ground in the aerospace field." Energy Dynamics was able to keep most of their employees last year, and even conducted 38 hours of training per employee. They also executed their plan

to upgrade a mature ISO 9001 system to AS 9100.

The title, Manufacturer of the Year, is given to a company that used technology to remain competitive and grow. EDI runs parts in cells with minimal WIP, which frees up cash and increases flexibility. The machining company has grown because it has taken to heart the core principles of Lean by driving lot sizes down and having extremely short lead times. They routinely deliver in 5 days with minimal inventory, where a competitor might be at 4-6 weeks. They have adapted best practices from multiple areas, such as using NTMA's 6S audit form. In the case of SEA, they focused on the three key areas, Leadership/Culture, Workforce Development and Operation Excellence.



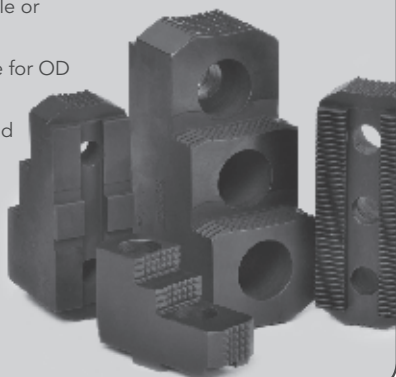
Pat Bye reminds ED team members that they've been successful on their Lean path by placing a tree where an older machine used to be.

Energy Dynamics also was recognized for its outreach efforts to increase the competitiveness of the Rockford area by working with RAEDC (Rockford Area Economic Development Council) and exposing other companies to SEA.

"In order for EDI to be competitive we need a vibrant supply base in the region, which means both suppliers and competitors," Bye said. "If we have to ship parts across the country for heat treating or plating, we won't be competitive. That is why we are trying to expose even our competitors to Lean, NTMA and SEA, because we need a vibrant supply base to support us!"

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Calendar of Events

**38th Annual NTMA/
NIMS National
Apprentice
Competition**
Indianapolis, Ind.
Hosted by Indiana
Chapter, NTMA
June 9-12, 2010

**13th ISTMA World
Conference**
Caesar's Windsor
Windsor, Ontario,
Canada
June 20-24, 2010

**Joint NTMA Fall
Conference & PMA
Annual Meeting**
Amelia Island
Plantation
Amelia Island, Fla.
October 6-10, 2010

**NTMA/PMA
Contract
Manufacturing
Purchasing Fair**
*Bringing Work Back to
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MGM Grand at
Foxwoods
Mashantucket, Conn.
October 29, 2010

**NTMA 2011 Annual
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(Super Meeting in
conjunction with AMT,
AMTDA & PMA)
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Vector Series Model VB10C Thermal Fluid Filtration System from Liquid Process Systems

Integrated continuous thermal fluid or hot oil filtration system lets plants run more efficiently – at less cost – for a fast ROI

A heat transfer fluid filtration system that filters contaminants down to 10 microns for enhanced plant efficiency and longer component life is available from Liquid Process Systems Inc.



The patented **Model VB10C Vector Series Heat Transfer Fluid Filtration System** from Liquid Process Systems filters contaminants down to 10 micron and keeps hot oil or thermal fluids clean for higher heat transfer efficiency and reduced maintenance downtime. The system is easy to integrate within a new or existing facility with minimal disturbance to plant operations. This photo shows VB10C installed at an asphalt plant.

Easy to integrate within any new or existing facility, the patented **Vector Series Model VB10C Thermal Fluid Filtration System** from Liquid Process Systems continuously filters contaminants on a side stream basis down to 10 microns. This keeps fluids clean for

higher heat transfer and plant efficiency, longer fluid life and minimum maintenance downtime. System flow and pressure available from the plant process is used to re-circulate hot oil or thermal fluid from the pump discharge through the filter. Clean fluid is then returned to the suction side of the pump.

Industries where this technology is applied include petro-chemical recycling and refineries, automotive, die casting, adhesives, sealants, food and supplement processing, manufactured wood, petroleum, chemical, pharmaceutical, institutional and resort textile operations, asphalt manufacturers and others. Systems are built to comply with strict ASME Section VIII, Division 1 pressure vessel specifications.

Vector system explained

The Vector Series Model VB10C system from Liquid Process Systems can handle up to 150 psig (10.5 bar) of pressure and temperature up to 650°F (345°C). Flow rate and cleaning capacity are up to 15 gallons/minute (114 liters/minute) or more than 900 gallons/hour (3,405 liters/hour). This is enough cleaning capacity to filter the entire volume of a smaller system several times in a typical day.

As a result, the useful life of the hot oil is increased since it is filtered and remains clean to last longer. Fouling and carbon sludge build-up are reduced, unscheduled maintenance is minimized and heat transfer efficiency is increased. With cleaner fluid, wear on moving parts, such as process pump mechanical seals, impellers and valves, is significantly reduced. In fact, filtering hot oil normally results in a three-fold increase in pump life, according to Liquid Process Systems.

"Not filtering the hot oil or thermal fluid at your plant could disrupt your operation at the most inconvenient time," noted Judy Shums, president of Liquid Process Systems. "Our system is customized for quick and easy installation in your plant with only a minimum time disruption. All we have to do is make the two inlet and outlet connections by choosing either threaded, socket weld or flanged. Investment is minimal and payback is quick, depending on total volume filtered. Disposable elements are cheap and easy to replace."

(Continued on page 12)

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(Continued from page 11)



A close-up of the patented Model VB10C Vector Series Heat Transfer Fluid Filtration System from Liquid Process Systems.

We wouldn't run our cars without an oil filter, Shums pointed out, so why run your plant without one? Contaminants that can cause havoc to any operation are easily and efficiently removed, she added.

The Vector Series Model VB10C from Liquid Process Systems uses

economical glass-fiber wound cartridges that have excellent dirt holding capacities, are easy to change and are disposable. Life of the filter element is approximately 6-10 weeks, depending on condition of the fluid. Regular filter change outs also can be scheduled if preferred by maintenance and operations personnel.

As an option, an electronic filter condition monitoring system also is available. It displays a flashing light or communicates directly with the plant's computer monitoring system to notify the plant operator when filter cartridge needs replacing or is completely clogged.

When the system is first installed, more frequent change outs of the filter can be expected, Shums said, but as the fluids become cleaner, change outs become much less frequent.

Fluid is drawn into the filter unit by tapping the existing piping that diverts a small percentage (usually about 10 percent) through the filter unit. The fluid is then cleaned and re-introduced downstream, or to the suction side of the existing recirculation pumping system.

About liquid process systems

Liquid Process Systems Inc. specializes in providing customized hot oil filtration systems, pumping systems, process water filtration and process heating and cooling equipment for more than 18 years in the U.S., Canada, Mexico, Central America, Europe, Australia and New Zealand.

Along with VECTOR series filtration systems, the company also provides a series of stand-alone SENTINEL filtration systems with pump and control panel for facilities where existing system flow and pressure are completely dedicated to heat users, leaving insufficient flow and pressure available for a filter housing only.

For more information on the VB10C Vector Series, contact Liquid Process Systems Inc., 1025-A Technology Drive, Indian Trail, N.C. USA 28079. Phone: 704-821-1115 or 888-786-1101, Fax: 704-821-1190 or e-mail: jshums@lps-filtration.com. Our website is www.lps-filtration.com.

Members in the News

St. Louis Chapter Welcomes New Members – K-D Machine & Tool



Left to Right: Chapter Chair Herb Homeyer presenting a membership plaque to K-D Machine & Tool's Cindy Doerr and Kevin Doerr.

Kevin Ahaus Appointed to Ivy Tech Board of Trustees

On March 18, 2010, the following announcement came from the Indiana Governor's Office: "Governor Mitch Daniels has appointed a new member to the Ivy Tech Community College State Board of Trustees. Kevin Ahaus is president of Richmond-based Ahaus Tool and Engineering Inc. The Ahaus family and company has hired and promoted the college's apprentices since the late 1970s. The Ahaus Machine Tool Lab has also been named after the family on the institution's Richmond Campus."

Kevin will be a valuable asset to the Ivy Tech Board of Trustees and will bring a real life insight into the work-

force and training requirements of the 21st century. Congratulations Kevin!

Jergens Inc. Recertifies to ISO 9001:2008

Jergens Inc. announced that both its TCD and ASG divisions were recertified to ISO 9001:2008, reinforcing the company's commitment to maintaining the highest possible quality standards. The new 2008 standard provides clarification of existing standards and requires more rigorous control of outsourced processes, quality system documentation, infrastructure oversight and management. Jergens' TCD Division designs and manufactures tooling and work-holding products, specialty fasteners and lifting products, while the ASG Division distributes and services tools used in light assembly.

The successful recertification at Jergens was the result of a coordinated

effort among all employees to continually improve its quality management system and provide exceptional customer service.

"Jergens has a history of exceeding product and service quality requirements, and our company-wide dedication to continuous improvement is an ongoing goal," said Sean Stapulionis, general manager. "We're proud that AQA International has approved us for this prestigious certification."

Founded in 1942 to help American manufacturers operate efficiently, Jergens Inc. is comprised of three distinct business units: Workholding Solutions, Lifting Solutions and Specialty Fasteners. Jergens Inc. is committed to helping its customers achieve leaner, more profitable manufacturing, and continues to add

products and engineered solutions for an integrated approach to "Manufacturing Efficiency." For more information, please contact Jergens Inc. at 15700 S. Waterloo Road, Cleveland, Ohio 44110-3898. Phone: 877-486-1454; Fax: 216-481-6193. On the Web: www.jergensinc.com. E-mail: info@jergensinc.com.

Joe Tenebria Announces WSM Technology

Joseph Tenebria, president/owner of Myers Precision Grinding Company Inc., a longtime member of the NTMA and longtime participant of Government Affairs, is proud to announce the new Northern Ohio Dealer for MC Machinery Systems, WSM Technology Inc. Tenebria, part-

nered with Blaise Buholzer, to create WSM Technology, which represents Mitsubishi EDM, Mitsubishi Waterjet, Encore and Roku-Roku for machinery sales and the Mitsubishi consumable line.

WSM Technology's consumable line offers a large variety of wire for all applications and materials. The wire is available in premium brass, economy brass and zinc coated. Wire sizes range from 0.002-0.014. WSM Technology also provides OEM diamond guides, carbides, nozzles, filters and resin programs.

Contact WSM Technology at 216-587-4882 or sales@wsotechnology.com for any machinery or consumable needs you might have.

MSI Names Executive Director



MSI, Metalworking Services Inc., is pleased to announce that Emily Lipovan was named as Executive Director. Ms. Lipovan joins MSI after two years as Executive Director of Western Reserve Community Development Corp. and brings extensive experience from non-profit and government positions she has held in the Greater Cleveland area.

MSI is jointly owned by the National Tooling and Machining Association (NTMA) and the Precision Metalforming Association (PMA) and was recently formed to provide association management services to major trade associations. MSI will start by providing those services to PMA and NTMA, as well as the Industrial Fasteners Institute (IFI). It will then expand to other associations.

"Trade associations have typically had their own individual staffs perform the support functions, creating many

areas of duplication" said MSI Board member Wayne Boeckman.

"We saw an opportunity to fill a niche and provide those same services to multiple associations more efficiently and at lower cost" added fellow Board member Ron Overton.

"We are very excited to have persuaded Emily Lipovan to join us as Executive Director to lead our organization and build it from the ground up," said Board Chairman Roy Sweatman.

"Emily brings the experience and enthusiasm we need to create an efficient management company," added Ralph Hardt, another MSI Board member.



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The Biggest Constraint We Find Is ...

Part 2

We have worked with companies around the globe and the constraint is always the same. It's how we think. In particular, it's how the business owner or leader of the company thinks. In Part 1, we discussed the efficiency mind-set and how focusing on efficiency can lead you astray. I made the case that efficiency is NOT a precursor to improved performance, but a by-product. In this installment I want to discuss another type of wrong thinking – the allocation mind-set.

You buy the same equipment as your competitors. You hire from the same labor pool. The only difference is how you think. Unfortunately, you and your competitors also think the same way. So you are left to compete in a market where, from your customers' perspective, you're all the same. So they make decisions mostly based on price.

Let me explain some of the common ways our thinking goes wrong, and the negative effect this wrong thinking can have on your business.

The allocation mindset is when we believe that in order to ensure we are going to make a profit, we have to allocate some portion of our overhead to "product cost." The idea is that if every product we sell absorbs some of our costs, then we will know at which point we are making money, and we can better ensure that we cover all our costs.

So when we calculate the "gross margin" (GM) of a product, it looks something like this:

Selling price:	\$100
-COGS:	-\$60

Gross Margin: \$40 (also called Gross Profit)

COGS (Cost of Goods Sold) typically include raw materials and the direct labor used to create the product or deliver the service. (Some companies might allocate more than direct labor, but this is the most common allocated cost.)

But if you think about it, direct labor really is NOT a variable cost, unless you pay piece rate. And this is true for both manufacturers and service providers (again unless you pay piece rate – which is very rare). You are

going to pay your employees this week whether you sell something or not.

It is this allocation of direct labor to COGS that is what I'm referring to as the "allocation mind-set." The amount of direct labor allocated to a product/service is usually based on annual volume assumptions and the estimated time a particular job will take.

This means that the allocation of direct labor costs to a job or opportunity influences your decisions:

- Which jobs/projects you take
- Which markets you go after
- Which customers get preferential treatment
- How much you charge

So far, you're probably thinking – yeah, that's what we do, what's the problem? The problem is that the allocations you do are based on a volume assumption and time estimates. Both of which we know one thing for sure about – they are wrong. The question is by how much and in which direction.

Not only will the amount you allocate be wrong, more importantly, it can lead you astray. The best way for me to demonstrate that is with an example.

Let's say that you have a customer who wants to give you more business. They are one of your best customers, and in exchange for the additional business they want a volume discount. The volume discount is reasonable and something you do all the time. The problem is that the way they want the product delivered, along with their low inventory requirements, will require you to do 3x as many set ups as you would normally do for that volume.

Using the allocation mind-set you would calculate the gross margin of this new business. And you would allocate the additional setup time to opportunity. Your COGS would include the cost of the additional setups.

Now, let's say that the result is that the gross margin percent is slightly NEGATIVE with these additional setups. What would you do? Pass on the additional business? Take the business, but give that customer lower priority and complain about that customer every time you run their job? What

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decision will you make with this cost allocation mind-set?

Who knows – since this isn't a real situation, but before you continue reading, please give it some thought. How do you generally feel about more setups, or about lower margin work?

If you're like most people, you would probably pass on the business or try to negotiate with your customer to take more products at once, so you could reduce the number of setups you need to do. And you might even find yourself saying, "The cost of those setups makes this business unattractive for us."

Let's challenge our thinking with Theory of Constraints and Throughput Accounting concepts. Let's challenge the allocation mindset. First, how much throughput would the additional volume generate? Throughput = Sales – Truly Variable Costs. Truly Variable Costs (TVCs) are all the costs you pay as a result of selling one more. Typical TVCs include raw materials, purchase parts, outside services, subcontracted services, freight and sales commission. The Theory of Constraints definition of TVCs does NOT include direct labor unless you pay piece rate. So when we calculate the "throughput" (T) of a product it looks something like this:

Selling price:	\$100
-TVCs:	-\$20
<hr/>	
Throughput:	\$80

Next, determine if you will need to increase your fixed costs (operating expenses) if you take this additional volume. Will you need to hire anyone or buy any equipment? If so, how much?

Let's say we do not need to hire anyone or buy any equipment. And if this is the case, we don't currently have an internal constraint. We most likely have a market constraint.

The way we recommend you think about this decision is by comparing the change in Throughput (ΔT) vs. the change in Operating Expense (ΔOE) as a result of this additional business. And if the ΔT is greater than the ΔOE , the difference goes to covering all your operating expenses and helping you make a profit.

The fact is that, in most cases, a setup doesn't cost ANYTHING (or they cost a little raw material to get the machine lined out). They do, however, take time. But it is imperative that you differentiate between cost and time. If additional setups would consume so much capacity that you would need to add equipment or people, then it would be reflected in the change in OE.

But to deliver that offer, you need to do more setups. Because YOU understand that set-ups do not cost anything, you are willing to do it. And your competitors are not! Which means you can make thinking differently pay off by taking market share.

I'm not saying that if $\Delta T > \Delta OE$ that you must take the business, but I am trying to get you to look at the real situation and understand the real bottom-line effect. In this example, we would potentially pass on business that would add incremental Throughput. If you do have a market constraint, then don't you need more business? Shouldn't you be trying to determine what you would need to offer your market to take market share, instead of trying to talk your customer out of doing more setups?

The allocation mind-set has you striving to reduce YOUR setups so that you can reduce YOUR costs. Notice that it's all about you. Not a good place to be if you have a market constraint.

Now imagine that it's not the customer coming to ask you to increase your set-ups, but instead you created a Mafia

Offer that better served your customers, needs by:

- Increasing availability of the right products
- Reducing overall inventory
- Reducing the amount of cash they have tied up in inventory

You can hear an example of such a mafia offer here: www.scienceofbusiness.com/free-stuff/free-videos-audios/video-player/videoid/20.aspx

So if you improve your operations by eliminating the efficiency mind-set we talked about in Part 1, and then challenge your thinking about allocations to create a great Mafia Offer – what would happen to your business? How much more money could you make?

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(Continued on page 16)

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(Continued from page 15)

www.MafiaOfferBootCamp.com will accomplish just that.

In Part 3 we will cover the cost mindset. If you have questions or comments on Part 2, please leave them here: <http://velocityschedulingssystem.wordpress.com>. You also can find previous parts there as well.

"Dr. Lisa" Lang is president of the Science of Business. She recently served as Dr.

Goldratt's Global Marketing Director, and is a member of the Board of TOCICO. She can be reached at DrLisa@ScienceofBusiness.com and 303-909-3343. Brad Stillahn is a business owner that successfully implemented TOC in his own business, exited his business on his terms, and is now helping other business owners do the same. Set up a TOC Advisory Board for your company! Brad can be reached at Brad@ScienceofBusiness.com and 303-886-9939.

Plano Machine & Instrument Inc. Hosts NTMA Plant Managers Meeting in April

Plano Machine & Instrument Inc. hosted the National Tooling & Machining Association's Plant Managers Networking Group (PMNG) meeting in Gainesville, Texas, on April 8-9.

The two teams met at 6 p.m. on April 8, 2010, at Plano Machine's East Highway 82 plant for a Texas-style BBQ dinner cooked by team member Billy Dennis, production manager for Plano Machine. The following morning, the teams met at Plano Machine's South I-35 plant for a plant tour, then held their business meeting at The Neu Ranch House in Gainesville.

NTMA Plant Manager Networking Groups enable plant managers, vice presidents and those in managerial positions to exchange information with their counterparts across the country.

The program exposes participants to different management styles and philosophies, new technologies, production challenges, human resource issues and other issues that team members decide to pursue. The current teams consist of managers from New Jersey, Indiana, Pennsylvania, Connecticut, Florida, Minnesota and Texas.

"You can't put a price on networking, especially with a group of industries in manufacturing," said Ervin Bean, operations manager for Plano Machine. "Not to mention all the friend-

ships created by having these meetings."

If you are interested in becoming a member of a future team, or would like more information, please contact James R. Grosmann, NTMA Marketing director, at jgrosmann@ntma.org.



(Front row, left to right) Thomas Toth, Toth Technologies; Ervin Bean, Plano Machine; Jim Stephens, Ahaus Tool & Engineering; Brian Prenovitz, Hamill Manufacturing (Back row, left to right) Tom Weiss, Gaum Inc.; Billy Dennis, Plano Machine; Paul Barrow, Sterling Engineering; Shannon Sweatman, Southern Manufacturing Technologies; Nathan Breitung, Ultra Machining Company; Gary Gessner, Gaum Inc.

Welcome New Members

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David A. Myers

Delltronics Inc.
Englewood, Colo.
Pat Bernal

Industrial Screen & Maintenance Inc.
Casper, Wyo.
Daniel Miner

I-Source Technical Services
Lake Forest, Calif.
Dora Tuza

Jagemann Stamping Company
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L & S Machine Company, LLC
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Rob DiNardi

Mass Machine Inc.
Westwood, Mass.
Peter Watson

Omni Machine Works Inc.
Covington, Ga.
Claudia Engelbracht

Prompt Machine Products Inc.
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Mark Wilkinson

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Bad Economy
+ Fewer Employees
+ More Overtime May Not
= Lower Costs

If you're not careful, you may get a little depressed when you think about keeping your company viable. You may feel like there aren't many alternatives left. At this point, you've probably already cut expenditures everywhere you can find room – from office supplies to advertising, incentive awards to insurance premiums. What's left when everything has been cut?

Some companies (maybe yours) turned to cutting payroll expenses. As things begin to ease up and more work comes in, adding staff seems like a risk. At the same time, though, there are more widgets to process, which means more work hours are required. But if the economy bounces a few times, as some predict, managers worry they will once again be in a position where they are forced to reduce staff. Better to ask (or require) employees to work overtime.

Hold up, says William Davis of Circadian, a company specializing in helping employers and employees deal

with the realities of 24-hour, 7-days-a-week operations. Regularly working overtime may not have the effect you seek and, in fact, it could have unintended consequences.

Circadian (www.circadian.com) is named for circadian rhythms, those functions in the body that regulate our

24-hour cycles, Davis explains. "There are 250 biological functions that have about a 24-hour cycle to them," he says. "They are controlled by the biological clock in the brain. A quick example—our core body temperature between about 3 a.m. and 5 a.m. is lower by about 2½ to 3 degrees than it is during the day."

(Continued on page 18)

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Fascinating stuff. But you might be wondering what it has to do with payroll costs. Davis segued into the topic. "In struggling economies it is very common that employers hesitate to add to their workforce," he said. "They believe they are saving money by using existing workers for overtime work instead. But they may not be. The difference in cost between overtime and hiring people is really the cost of benefits, and of training time to get them up to speed."

Cost Difference is the Benefits Package

Davis explained that, in most circumstances, overtime hours are compensated at 150 percent of straight time hours. "If you need 10 people to cover all of your work stations, and you only have 8, you need to either hire people or pay for overtime hours. Hiring somebody will cost you for the time, and for the benefit package.

"Quite often, the benefit package doesn't come to 50 percent of the hourly rate for an employee. If you take a look at the benefit package, and it comes to 38 percent for example, then it actually costs more to pay the overtime than it would to hire an employee.

"Even in cases where the benefit package does cost 50 percent of the pay rate, it doesn't save the organization much money to use overtime instead of hiring," Davis continued. "What it can cost the company in terms of fatigue—the safety, quality and productivity issues that can come with fatigue—can cost much more."

The Rule of 50

Davis says the 'Rule of 50' is important. This rule is about diminishing returns on overtime work. "I'm thinking of one study in particular that had to do with employees working in refineries," he says. "They're used to working some pretty long and hard hours. But even for

them, the studies show that after about 50 hours a week, you're not going to get a straight line productivity curve."

A machine, he explained, produces twice as much in 80 hours as it does in 40 hours. "But the human machine is not linear. After about 50 hours in a given week, people start to plateau, so you don't get as much bang for your buck by working people more than 50 hours a week."

Even more important might be the negative effects of too much work in a short period of time. A range of negative health effects are possible, and tired employees have a much greater potential for making critical errors. As technology has decreased the number of employees and increased the cost of equipment, the potential loss for a single bad decision, made in the middle of the night by an employee who is overtired, has grown considerably.

Davis cited an example: "Let's say there is a steel mill that used to employ 10,000 workers. Now they have 5,000 employees producing more than before because a lot of the work is being done using computerized systems. The employees are taking on more of a monitoring role because the processes are automated. The per-dollar value that is the responsibility of each employee has also exploded over the years. So now, if you have an employee who is essentially drunk with fatigue, makes the wrong decision at 3 o'clock in the morning after working 68 or 70 hours in a week, the cost to the company of that one employee's error is apt to be much greater than it would have been before."

So how much overtime is too much? Maybe your workload requires extra hours, but not enough to warrant another employee. "Our recommendation, from a health and safety standpoint, is to try not to exceed 7-10 percent more than the standard work week of 40-42 hours," Davis says.

Correct Levels Reduce Unnecessary OT

Some companies staff positions based on the assumption that all employees will be at work when they should be, every time, Davis said. That idea can lead to unnecessary overtime.

"Companies should conduct a staffing level analysis, looking at all the reasons an employee who is scheduled to be at work is not there. For example, if you consider vacation time, you might put that into the mix and decide that, for a 10-person work station you need to have 10.2 employees to cover it. That would take care of the regular work and the various reasons people aren't there.

"There is a floor level of staffing, and if you staff to that floor level, you can take care of any aberrations with overtime. Normally, you'll find there is a higher level of illness in the winter months, and vacations in the summer months. Do that kind of statistical analysis month by month for a couple of years, and you can establish the proper level of staffing."

What if your employees are used to working overtime, to the point where they consider overtime hours part of their regular pay? Davis said that, much like quitting smoking, don't go cold turkey. "We call it golden handcuffs," he says. "People get used to the additional money. If you hire people and reduce the amount of overtime to make things safer and more healthful for employees, they're going to be a little bit resentful. Try to gradually increase staffing and reduce the overtime."

"We often look for the short-term dollar," Davis summarizes. "We don't want to add to our payroll, but what is the real difference in cost? As we've discussed, hiring vs. overtime is about a wash when it comes to payroll costs. But when you talk about the errors that are associated with fatigue due to excessive amounts of overtime, the difference can be significant."

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Best Management Practices for Your Contaminated Rags

(Excerpted from BLR's Special Report, *Regulation and Guidance on Solvent-Contaminated Rags*.)

Many contaminated rag generators have implemented voluntary business practices that will reduce compliance headaches and costs. Reducing solvent wastes is an important element of pollution prevention programs nationwide. Businesses can save money and eliminate the use of solvents in certain processes, reduce the amount of solvents used and contaminated shop towels generated, and recycle leftover solvents.

Use Solvent Alternatives

Eliminate solvent wastes and the toxicity of used shop towels by finding an aqueous or semiaqueous cleaner to replace the solvent. Consider using solvents that are not chlorinated and have low volatile organic compound emissions; consult material safety data sheet information for toxicity and volatility data. State regulatory agencies and pollution prevention (P2) programs can offer information on solvent substitutes and alternatives.

Case Study

The Boeing Company had at one time used methyl ethyl ketone (MEK) as a surface preparation solvent for airplane parts prior to applying sealant and paint. Company workers applied the MEK using shop towels. The used shop towels were too toxic to launder, so they were discarded as hazardous waste. Boeing switched to terpene (derived from the peels of citrus fruit), a lower toxicity solvent, even though the solvent was 5x more expensive than MEK by volume. The company found that it could launder and reuse the wipe shop towels with the new cleaner. The reuse of these shop towels resulted in annual savings of \$750,000 in disposal, administrative, and compliance costs, more than enough to cover the cost of the company's annual use of the new cleaner.

Note: This example was derived from a case study compiled by the Institute for Local Self-Reliance's Carbohydrate Economy Clearinghouse, Factsheet 8.

Minimize Solvent Use

To reduce solvent use, use a container that delivers fresh solvent by hand-pumping or spraying the shop towels, instead of dipping or soaking them in buckets. The container should have a secure lid to prevent the operators from rinsing shop towels in the fresh solvent, and limit evaporation. An open container of solvent can evaporate at the rate of 1 gallon every 2 days in a dry environment.

Dirty shop towels can be wrung out over a waste solvent container. This

option might require that the shop towels be changed more frequently if the rinsing step is eliminated.

Minimize Shop Towel Use

Reduce the amount of contaminated shop towels generated by:

- Using a rag to its full absorbent capacity. Partially used shop towels should be stored separately and labeled for reuse prior to laundering.
- Implementing a rag reuse system to reduce unnecessary laundering. For example, use three containers marked "clean," "reusable," and "dirty" in the rag storage area to encourage workers to reuse shop towels.

Recycle Solvents

Generators who reuse and launder their own shop towels must remove all excess solvents from the shop towels prior to storing and laundering them. The excess solvents must then be managed as hazardous wastes. Businesses

(Continued on page 20)



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(Continued from page 19)

can recover spent solvents through the use of an outside recycler, or recycle solvents on-site using their own equipment.

Excess solvents can be removed by a gravity drain, a wringer, or a centrifugal extractor prior to shipping. Some states now require this solvent-removal step. Use caution in doing this, since the solvents used might be ignitable or flammable. Extractors must be explosion proof.

Reuse in two-stage cleaning. The recovered solvent can be reused for cleaning, reducing both the amount of solvent that must be purchased and air

emissions. Some specialty cleaning solvents can cost more than \$12 per gallon; recovery and reuse can save money. Often this “dirty” recovered solvent can be used, for example, to pre-clean very dirty ink-laden parts; clean solvent can be used for final cleaning.

Using solvent in two-stage cleaning can reduce new solvent usage by up to 50 percent and cost nothing to implement. Recovered solvent can also be used initially for parts washing, recaptured, then distilled for reuse or sent out for fuel blending.

Recovery through filtration and distillation. When used solvent becomes too dirty to use for any type of cleaning, distillation or filtration can be used to recover clean solvent from the dirty solvent. Small solvent stills to handle as little as 1 gallon can be purchased to recover solvent; all distillation equipment must be explosion proof.

Cleaning solvents can also be used in parts washer sinks; many of these are equipped with filters. Filter-type solvent sinks are also very good at extending the useful life of solvents.

West Coast Companies Wanting to Save Money on Shipping Have New ‘Partner’ in Southern California

Oberlin, Ohio-based freight management company PartnerShip opens Irvine, Calif., office

Small- and medium-sized West Coast businesses looking to cut their shipping costs have a new local resource with the April 1 opening of the Irvine, CA, office of PartnerShip LLC.

A leading freight management company based in Oberlin, OH, PartnerShip was founded in 1989 to help college bookstores save money on shipping textbooks and school supplies. PartnerShip has grown steadily into a nationwide freight management firm serving more than 16,500 businesses in industries such as sporting goods retailing, healthcare, heavy equipment dealers, music stores, etc.

Growth has been particularly strong lately given the difficult economy that has companies scrambling to cut costs wherever they can. “Since our services can save a company between 10%-40% on its annual shipping costs, we’ve experienced a surge in customers,” says **John Finucane**, PartnerShip’s President and Chief Operating Officer.

He notes the company has “been looking to expand operations physically to support our growing customer base throughout the West Coast. We chose Irvine for our first satellite office because of its proximity to John Wayne Airport, Los Angeles, San Diego, Las Vegas, and Phoenix. From this office we will quickly be able to support existing customers, as well as develop new business relationships in California and throughout the entire West Coast, providing the personalized service our current customers already enjoy.”

Leading the office, located at 2302 Martin Street, Suite 330, Irvine, is Tina Straw, director of business development and strategic accounts. Tina has 20 years of sales and marketing experience, with the past five years working in product and program management for PartnerShip. Also staffing the office are Senior Account Representatives Sarah Conklin and David Rehker, who transferred from Ohio earlier this month.

PartnerShip Vice President of Sales and Business Development **Brian Ferancy** notes that supporting PartnerShip’s large customer base in California and throughout the west will lead to future growth for the California office. “Based on growth projections, the Irvine office will expand to 10-15 full-time positions over the next 2-3 years or sooner.”

About PartnerShip

PartnerShip LLC is a leading freight management company that provides shipping solutions to small- and medium-sized businesses nationwide, enabling them to operate more efficiently and profitably in a “big business” world. PartnerShip leverages its relationships with over 16,500 customers to provide businesses of all sizes exceptional savings typically reserved for large-volume shippers. Based in Oberlin, OH, PartnerShip is a subsidiary of the National Association of College Stores (NACS), the professional trade association for the collegiate retailing industry.

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