Microbrewery numbers are surging, with merchants offering more microbrews on tap alongside traditional brands. Keeping those tap beers tasting like the brewer intended — at a correct carbonation level all the way to the bottom of the keg no matter how long it’s on tap — depends on a superior draft beer dispensing system.

Montana boasts the only company specializing in such beverage blender technology, using a mix of carbon dioxide (CO2) and nitrogen (N2). The correct blend of gases helps maintain taste and appearance in dispensed beer.

McDantim, Inc., in Helena, has specialized in on-site gas blending technology since 1986, continuing to innovate on its first patented blender for growing customer needs. Over 130,000 of its systems are pouring beer around the world today.

McDantim blenders can blend any two or three of the following gases: Argon, CO2, Helium, Hydrogen, Nitrogen and Oxygen with flow rates up to 4000 scfh [standard cu. ft. hour]. Its on-site blenders can be used not only in draft beer dispense but also in shielding gases for welding applications and food packaging.

Learn more about the blending panels at http://mcdantim.com/product-lines/beverage/.

Company President, Dan Fallon, who has run the family-owned business for more than 21 years, said the Trumix® blenders are a unique design approach to blending on-site that offers value to the entire gas management system. Innovations for customers include having blenders assembled in a practical installation panel with added controls, connectors and even leak detection systems. Each panel is a small wall-mounted unit that tucks neatly and safely out of the way, is easy to install and requires no electricity. It can be private labeled which has attracted new customers and is helping grow the business.

**Lean Helps Meet Growing Demand with Ease**

A unique blend of Lean Manufacturing principles across the McDantim organization helps it meet growing demand for its products with ease. The small crew of 19 achieved a record-breaking production month in August, with blender production up over 12 percent from a previous high in March, and no one knew they had broken a record until it was announced. Why — because order fulfillment didn’t feel and look all that taxing at the time, despite the fact that some of the management team were away at the McDantim sister company, BSL Gas Technologies Limited, in Rochester, Kent, England to review some of the stateside firm’s Lean applications.

“When we had our record month in August, Carie couldn’t believe it when she ran the numbers and had to check it three times!” Fallon said. Carie Kirk, Sales Director, handles sales orders and coordinates with the production department on scheduling and fulfilling orders.

“Doubling our output and hardly blinking an eye is impressive,” Kirk said. She was pleased to announce that the team did the same in September, just one item short of the record. “It was just as shocking,” she said.

Fallon credits the accomplishment to “the Lean effort started nearly nine years ago, after our first introduction in MMEC’s Lean ‘Buzz’ training simulation and to the implementation led by Production Manager Justin Trafton, who has been with the firm for 16 years.

Steve Herren, another longtime employee who now manages the ERP system and helps with quality and manufacturings operations, said the Lean effort started nearly nine years ago, after our first introduction in MMEC’s Lean ‘Buzz’ training simulation and to the implementation led by Production Manager Justin Trafton, who has been with the firm for 16 years.

**(continued on page 4)**
New Year Resolution: Have a Plan – Work the Plan

Much like succeeding with your New Year’s resolution for better personal health, your business health also has to target where it wants to get to and have a plan to get there. Shifting market conditions require more agility than ever before to remain competitive and must be part of that plan. Defense contractors are a case in point. In a recent Wall Street Journal article, the U.S. has noted a shift by defense companies, large and small, looking for ways to contend with lost business. Some are diversifying; some shedding unprofitable segments or closing plants. “To make up for dwindling opportunities in the U.S., companies also are looking to increase sales overseas, with emerging markets in Brazil and India appearing especially fruitful,” the Journal says.

They have a plan. They are working the plan. Key to navigating these changes in the marketplace, whether you are a defense contractor or not, is a proactive mindset for observing trends and taking steps to address them early-on. Another imperative in staying competitive today is to speed up the product development process and get into the marketplace more quickly. Here at MMEC we are preparing to launch new tools to help you do that with Lean Product Development, integrating the powerful waste-eliminating tools of Lean Manufacturing and Lean Office now being offered to help you align administrative, front office efforts with Lean production. Take advantage of these powerful tools as part of your strategy for growth.

Being proactive about your business health has an essential ingredient, and that is teamwork, tapping the strengths of and fostering growth in your employees. For many perhaps a change in your corporate culture is in order.

After all, how do you get your people into the game if they don’t know the game plan?

If you’ve tried an extensive strategic plan developed over days only to find it sits on shelf, you know that is not an agile answer. That is not helping you communicate with clarity every day.

MMEC has been grappling with these issues: how to be more agile and help our clients be the same. I am pleased to announce that we recently licensed a tool that’s very affordable to help guide you in strategic growth AND on a single sheet of paper, quickly and efficiently. It’s called the 1 Hour Plan for Growth. It was developed by a strong business champion, Joe Calhoon. We have beta tested this tool, and in just an hour or two it can help you define your game plan and prioritize and assign actions. Using it, you can now communicate mission, vision and real action plans with clarity, so your team knows where you’re going and how you expect to get there.

Please talk with one of our area field engineers and get started with the 1 Hour Plan for Growth today. This service is underwritten by the Montana Department of Commerce Business Resource Division.

To serve you well into the future, MMEC has also embarked on a comprehensive study of manufacturing in the state beginning with a series of focus groups across the state that will be followed by mail and phone queries. We hope that you will participate. Be watching for more. I would be happy to talk with any of you at any time.

Steve Holland, MMEC Director
Manufacturing Incentives & Tax Credits

Guest writer Jerry Spencer

If your company has invested time, money and resources in the advance- ment and improvement of your product or processes, then you likely qualify for the Federal R&D Tax Credit In- centive Program. Many firms are unaware of how to qualify; thus, the opportunity goes un- claimed. However, the Federal Research & Development Tax Credits can be an immediate source of cash flow for many small and mid-size companies. These credits can provide a significant reduc- tion to current and future year's federal and state tax liabilities.

The U.S. offers some of the world's richest R&D tax incentives, but as the pace of business accelerates and competition increases, owners may be more likely to overlook this source of cash because they lack the time, resources, or expertise needed to identify and manage R&D tax credit claims.

Although the existing program for R&D Tax Credits was not renewed by Congress in 2012, there is much confi- dence that the credits will be reinstated after the election. The R&D Tax Credits

Effectiveness of R&D Tax Credits

According to a recent report by Ernst & Young at http://www.investina-mericasfuture.org/PDFs/EY_R&D_Cred- it_Report_2011_09_16.pdf, the existing credit is estimated to have increased annual private research spending by $10 billion in the short-term and by $22 billion in the long-term (beyond the first several years), substantially higher than the credit's roughly $6 billion to $8 bil- lion annual revenue cost. Strengthening the credit by increasing the simplified credit from 14% to 20% is estimated to increase annual private research spend- ing by an additional $5 billion in the short-term and an additional $11 billion in the long-term.

Qualifying for R&D Tax Credits:

If your company is involved with or performs any of the following activities, and you have paid or will pay federal taxes, then your company may qualify for R&D Tax Credits:

- Manufacturing products
- Developing new, improved, or more reliable products / processes / formulas
- Developing prototypes or models (including computer generated models)
- Designing tools, jigs, molds, and dies
- Developing or applying for patents
- Certification testing
- Testing new concepts
- Development of new technology
- Trying new materials
- Adding new equipment
- Environmental testing
- Developing or improving production / manufacturing processes
- Developing, implementing or upgrad- ing systems and / or software
- Developing production control software
- Improving or building new manufactur- ing facilities
- Automating internal processes
- Paying outside consultants / contrac- tors to do any of the above stated activities

Hire a Professional

The R&D Tax Credit is a highly special- ized area. Several companies across the country offer specialists who prepare R&D Tax Credit documentation in conjunction with your CPA or tax adviso- r. It is similar to the relationship of a primary care physician and a specialist. While your current tax advisor is fully capable, he or she is not likely a specialist in the R&D Tax Credit area and often does not possess an engineering based background. These specialists are not in competition and are not looking to

(continued on page 10)
The Drip of Lean (cont. from cover)

customer/vendor relations, agrees. He credits the smooth flow during record production to the production board implemented by Trafton several months earlier. “During our top month, it didn’t seem stressful. It allowed us to know what to do every day even though Justin was in England for several weeks.”

Schedule and Work Order Board

The work order board works with a bi-weekly schedule and empowers workers to change what they’re working on when needed. The board organizes travelers (work orders) to respond to customer demand by date needed. While simple, it controls work in progress and standardizes lead time for filling orders while maintaining supply in the same way one-piece flow would do in a production line environment. The travelers stay with a job from start to finish.

Orders are hung on the board and can be sorted to scheduling clips at any time. Orders of 1-3 beverage panels go on a “build by next day” clip; 4-10 panels go to “build within one week”; larger orders to a clip with more lead time. Orders on pink travelers visually signal “BUILD NOW.”

The schedule plays a critical role in a flexi-schedule for McDantim workforce both daily and weekly. “Some workers work five eight-hour days, some four-tens, and some four nine-hour days plus a half-day,” Trafton explained. Some start very early in the morning. And while it does take planning, the flexi-schedule supports the culture McDantim values with respect for and empowerment of its employees.

“A Constant Drip of Involvement”

Todd Daniels, the MMEC Field Engineer in the Helena region, praises McDantim as a learning organization. “It is the constant drip of involvement with Lean that helped their people achieve what they’ve done. He has coached the company on Lean implementation over time and said the company’s managerial values and attitudes and its respect for its people enable it to sustain continuous improvement and the relentless elimination of waste, the basic tenet of Lean.

Trafton has a number of Lean initiatives in progress and said he has learned a great deal from Daniels including from tours arranged to West Paw Design and Gibson Guitar, two Bozeman companies that have adopted Lean Enterprise throughout their companies.

“I’m starting to implement what I saw,” he said. Readings in the books “Lean Transformation” (Henderson & Larco) and “The Goal” (Goldratt) helped him understand Lean as an ongoing, cultural thing. “I also got a lot from a ‘Meat & Potatoes of Lean’ session taught at Compete Smart by Bill Nicholson several years ago.”

Work Cells Improve Flow

McDantim’s production floor is taking on Lean’s more cell-like setup. One cell is dedicated for the most popular blender models with point-of-use-storage (POUS) set up in a very ergonomically.

The entire center of the room is where 90 percent of final assembly is done in 96 sq. ft. of table space. “This is the current state in the progression in this building since 2003, in space that was once the warehouse where we used to pick and kit parts to build the blenders,” Trafton noted.

Another cell is specially set up to calibrate blenders, a process that takes 30 minutes. He pointed out extra stations there that can kick in during high demand as an example of “flattening,” or leveling, the system. While currently set up with regulator stations along the far wall, it will eventually be integrated into the main assembly cell area to improve workflow.

Cross Training and Standardization

Production averages 25-30 units per day, a pace employees can handle easily. Workers move around working different stations which is both ergonomically sound and allows cross training — very important in Lean.

Standardization is a key aspect of Lean gains at McDantim. The controls on the beverage calibration panels have been standardized which helps workers rotate more effectively.

“It’s little things that add up to savings,” Trafton said. McDantim follows an “easy to use, easy to read” methodology for calibrating blenders. “It requires buying customized parts that cost a little more, but it mistake-proofs the process and makes it faster which offsets the cost.”

Automation of the ball bearing press is another simple, effective standardization. Done on the front end when the (continued on page 5)
The Drip of Lean (cont. from pg. 4)

blenders are first fitted with parts, a new press has made that process at least 25 percent faster. It is also more ergonomic for workers aren’t blowing out a shoulder to set the bearings — well worth the $5K investment. Another good investment has been two additional torque wrenches to cut setup time even more.

Making a Cash Flow Difference

“Lean has had a real impact from when sales were one-third of what they are today,” Fallon said. “Then we were carrying a $150K inventory. Now it is $300K but product lines have doubled, and sales have tripled.” McDantim currently turns inventory five or six times per year.

Herren ensures that inventory gets flipped seeing that parts orders using a Lean kanban work together. The kanban, a visual cue, is a card in the parts bin to signal a parts order is needed when high demand depletes a part sooner than expected.

With McDantim for eight years, Herren has observed the evolving Lean enterprise and how it impacts the company. “Lean has made operations completely different here on the whole,” Herren said. It is maximizing space usage, reducing inventory, enabling greater productivity, and now addressing sustainability in shipping and receiving.

The Journey Includes Material Handling

Building a Lean Enterprise is very doable and beneficial even for small companies. “Large manufacturers benefit from it,” Trafton said, “and HEY! we’re small, but we’re using the The Toyota System, too.”

Over the past year, Trafton and Herren have been scrutinizing both sides of the supply chain for savings and sustainable practices in materials handling. The company plans to grow its emphasis on reusable plastics in shipping and receiving.

“Dunnage [material to transport and protect] is a critical component in material handling applications,” Trafton noted. “We have begun using reusable packaging for the bulk of our CNC machined parts; with two tote sizes.”

Two shorter ones equate to one tall one. Both have the same footprint, so the cubed stack is standardized to fit inside the lip of a base and pallet cover. The completed unit is “seat-belted” tightly to keep the totes together to be moved safely by a pallet jack or a forklift.

Managing material handling intelligently includes working externally, getting vendors on board with reusable materials. McDantim created an instructional video for the machine shop to learn how to use the new packaging program. Trafton demonstrates the process at this YouTube link http://youtu.be/nHyiiSsh&dQ.

He refers to it as a closed loop system where the cubes and caps can be reused many times. This differs from an open system which requires a constant input of raw materials. The savings is significant. For instance, an open system that requires 10 lbs of materials to complete a 10-day cycle uses 365 lbs of material in a year. A closed loop system uses only 10 lbs for the entire year, according to a supplier website.

The Next Step

To drive sustainability and savings further, the team began a second phase of sustainable packaging, exploring receiving parts from its machine shop in reusable, stackable bins instead of cardboard boxes to reduce the amount of cardboard recycling. These bins can hold more weight in the same amount of space when receiving bulk small parts, creating even less waste.

The earlier packaging system in 3D has been changed the container volume for its chemical foam purchases from 13 gal. cubes to 55 gal. drums. The chemical is used to make a form-fitting cradle around shipped goods. The content is blown into a thin wrapper, rapidly expanding to warm foam that molds to the shape of the product being shipped. This keeps the item safe and secure during shipping. It reduces waste and reduces changeover from six times in three months to once in 3 months.

McDantim also added a simple plastic banding system to keep multiple cartons together. “It has made a night and day difference in quality and rework,” Trafton said. Together they “create the correct image of quality we want to portray for quality goods.”

(continued on page 11)
Montana’s Manufacturing Industry Outlook for Continued Improvement
Todd A. Morgan, Charles E. Keegan III, Steven W. Hayes, and Colin B. Sorenson
Manufacturing and Forest Products, Bureau of Business and Economic Research

Although the Great Recession officially ended in 2009, manufacturing in Montana continued declining through 2010. However, both 2011 and 2012 revealed growth for Montana manufacturers. With annual sales in excess of $13 billion during 2012 and employment topping 21,000 workers for the first time since the recession’s end, the state’s manufacturing sector is improving. Manufacturing continues to account for roughly 20 percent of Montana’s economic base and remains an important piece of Montana’s overall economy.

Total Montana manufacturing employment was about 20,411 workers in 2011, but is estimated to be over 21,250 for 2012. Six Montana counties boast more than 1,000 manufacturing employees, and worker earnings of manufacturing employees exceeded $100 million in three counties during 2011 (Table 1).

Virtually all sectors of Montana manufacturing lost employment during the recession but most have turned upward since 2010, with primary & fabricated metals and computers & electronics having the most rapid growth. After losing 2,500 jobs from 2006 to 2010, the wood, paper, & furniture sector has grown modestly in the last two years and remains the largest manufacturing sector in Montana with more than 4,200 workers (Table 2). Worker earnings among manufacturing sectors are highest in the chemicals, petroleum, & coal sector, which has seen growth in employment as well as earnings over the past several years.

More than 180 Montana manufacturing firms responded to BBER’s annual outlook survey, representing an 80 percent response rate from the state’s largest manufacturers. The general tone was one of improved conditions during 2012 compared to 2011. For example, 42 percent of firms reported increased profits during 2012, versus 40 percent indicating increased profits for 2011. While 34 percent of firms reported decreased profits in 2011, just 30 percent of firms reported lower profits in 2012. Other positive indicators during 2012: 24 percent of Montana manufacturers reported new product lines in 2012, and 40 percent reported making a major capital expenditure. Just 6 percent of manufacturers reported reducing capacity during 2012, and 80 percent indicated they did not curtail production during the year.

2013 OUTLOOK

The manufacturing outlook for Montana in 2013 is for continued improvements, with expectations of employment growth and increased worker earnings among many of the state’s manufacturing sectors.

National forecasts call for modest growth in the U.S. and global economies. Oil and gas development in Montana, North Dakota, and Canada will continue to positively impact Montana manufacturing, with increased business at existing manufacturers and several new facilities planned for 2013 and beyond.

Increasing reports of “re-shoring” — manufacturing jobs returning to the U.S. from overseas locations like China — are providing encouragement to domestic producers of goods as well as the U.S. labor force. Although statistics to support the anecdotal stories are difficult to come by, increasing evidence suggests several factors influencing manufacturing. Wages and benefits earned by Chinese and other foreign workers are reportedly increasing, narrowing the compensation disparities between American workers and their foreign competitors. Costs associated with energy, transportation of goods, logistics management, and customer service are also being recognized as important and frequently lower with domestic production.

Montana manufacturers who responded to the BBER’s annual survey continue to express optimism in their outlook for the coming year. More than 35 percent expected improved conditions for 2012, and more than 42 percent expect better conditions during 2013, compared to just 14 percent that expect worsening conditions for 2013. As in 2012, 90 percent of manufacturing respondents expect to keep their workforce at the same level or increase employment during 2013. Specifically, 25 percent expect employment to increase, 65 percent expect employment to remain the same as 2012, and less than 10 percent foresee a decline in employment during 2013 (Figure 1). When asked about their biggest concerns about 2013, however, most indicated the potential for a weakening of the economy and a number mentioned specifically the resolution of the national fiscal situation.
### Table 1
Montana Manufacturing Employment and Earnings by County, 2011

<table>
<thead>
<tr>
<th>County</th>
<th>2011 Manufacturing Employment</th>
<th>Percent of Total</th>
<th>2011 Manufacturing Earnings (Millions of 2011 $)</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellowstone</td>
<td>3,426</td>
<td>17%</td>
<td>$298</td>
<td>29%</td>
</tr>
<tr>
<td>Flathead</td>
<td>2,915</td>
<td>14%</td>
<td>$154</td>
<td>15%</td>
</tr>
<tr>
<td>Gallatin</td>
<td>2,702</td>
<td>13%</td>
<td>$123</td>
<td>12%</td>
</tr>
<tr>
<td>Missoula</td>
<td>2,131</td>
<td>10%</td>
<td>$94</td>
<td>9%</td>
</tr>
<tr>
<td>Ravalli</td>
<td>1,089</td>
<td>5%</td>
<td>$39</td>
<td>4%</td>
</tr>
<tr>
<td>Cascade</td>
<td>1,032</td>
<td>5%</td>
<td>$63</td>
<td>6%</td>
</tr>
<tr>
<td>Lewis and Clark</td>
<td>893</td>
<td>4%</td>
<td>$39</td>
<td>4%</td>
</tr>
<tr>
<td>Silver Bow</td>
<td>692</td>
<td>3%</td>
<td>$46</td>
<td>4%</td>
</tr>
<tr>
<td>Lake</td>
<td>610</td>
<td>3%</td>
<td>$20</td>
<td>2%</td>
</tr>
<tr>
<td>Lincoln</td>
<td>384</td>
<td>2%</td>
<td>$11</td>
<td>1%</td>
</tr>
<tr>
<td>Park</td>
<td>341</td>
<td>2%</td>
<td>$13</td>
<td>1%</td>
</tr>
<tr>
<td>Other Counties</td>
<td>4,196</td>
<td>21%</td>
<td>$140</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Montana total</strong></td>
<td><strong>20,411</strong></td>
<td><strong>100%</strong></td>
<td><strong>$1,041</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

### Table 2
Employment in Montana Manufacturing Sectors, 2010 and 2012

<table>
<thead>
<tr>
<th>Manufacturing Sector</th>
<th>2010</th>
<th>2012*</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood, paper &amp; furniture</td>
<td>4,223</td>
<td>4,255</td>
<td>1%</td>
</tr>
<tr>
<td>Food &amp; beverage</td>
<td>3,546</td>
<td>3,531</td>
<td>0%</td>
</tr>
<tr>
<td>Primary &amp; fabricated metals</td>
<td>2,059</td>
<td>2,730</td>
<td>33%</td>
</tr>
<tr>
<td>Chemicals, petroleum &amp; coal</td>
<td>2,085</td>
<td>2,180</td>
<td>5%</td>
</tr>
<tr>
<td>Machinery</td>
<td>1,167</td>
<td>1,350</td>
<td>16%</td>
</tr>
<tr>
<td>Nonmetallic minerals</td>
<td>938</td>
<td>960</td>
<td>2%</td>
</tr>
<tr>
<td>Textiles, clothing &amp; leather goods</td>
<td>774</td>
<td>845</td>
<td>9%</td>
</tr>
<tr>
<td>Computers, electronics &amp; appliances</td>
<td>640</td>
<td>785</td>
<td>23%</td>
</tr>
<tr>
<td>All other manufacturing</td>
<td>4,371</td>
<td>4,620</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19,803</strong></td>
<td><strong>21,256</strong></td>
<td><strong>7%</strong></td>
</tr>
</tbody>
</table>


### Figure 1
Employment Outlook for 2013 by Montana Manufacturing Sector

- More employees than 2012
- Fewer employees than 2012

Manufacturers Concerned About Health Care Costs

From a list of eight issues, health insurance cost was rated as the most important issue to Montana manufacturers, with 81 percent of respondents saying it was very important to their business and another 14 percent rating it somewhat important. Other important issues included worker compensation rates, the supply of qualified workers, and cost of energy. Foreign competition was ranked the least important of the eight issues, with 49 percent of respondents rating it as very unimportant; just 21 percent rating it as very important.

In light of the many ongoing and upcoming changes to health care in the U.S., several questions about health insurance costs were posed to survey participants this year. Almost 70 percent of respondents indicated that their firm’s health insurance costs increased during 2012, with just 5 percent saying costs decreased. Just 3 percent of respondents indicated they expected health insurance costs to go down in 2013, and 65 percent expected costs to increase.

When asked about the impact of health care reform on their business, about half said they expected a substantial impact involving increased costs, while the remainder expected no impact, generally because they employed fewer than 50 workers or were unsure of the impact.

Learn more about trends. Plan to attend the BBER Economic Outlook Seminars in 9 Montana cities. Lunch included. Presented by NorthWestern Energy & the Bureau of Business & Economic Development. For fee and more information go to [www.bber.umt.edu](http://www.bber.umt.edu) or call 406-243-5513.
Deborah Nash, you are **PURE GOLD**

MMEC Event and Media Specialist Deborah Nash was selected in December as one of 24 recipients from MSU campuses to receive the MSU Pure Gold award. As the detail oriented, driving force for coordinating the center’s training events, messaging, communications, and relationships at the local, state and national levels, Deborah ensures that MMEC clients and stakeholders stay informed. She also produces the largest training conference in Montana for manufacturers and their peers and allies — Compete Smart. In October, more than 270 participants enjoyed local plant tours, national speakers on topics relevant to manufacturing, choices from 26 breakout sessions, a 100 feet long wall of Montana manufactured products, and outstanding networking opportunities in this biennial event for which the hours to plan it are herculean. To quote exhibitor and attendee, Fred Miller of the Montana Safety and Health Bureau, “Deborah: Wow! Thanks for the opportunity to attend the 2012 Compete Smart conference - it was impressive! My only regret is that I have to wait two years to attend the next one!”

This Pure Gold Award nomination was submitted by former supervisor Bryant Higgs.

**Compete Smart Product Showcase Winners**

After seeing the 100-foot long Montana Product Showcase, a display of a wide variety of Montana-made products, at the Compete Smart Conference, in Missoula last fall, Clara Asmail, Senior Technical Advisor for NIST MEP* in Maryland, said she was “blown away. There is an energy behind this.” The conference and showcase reflects a unique system of support of companies that are thriving here ... “It is really unique.”

Many of the products shown were awarded as door prizes by the displaying firms. Winners of three items featured as Grand Prizes at the closing luncheon were Patricia Warner of Connector Technology, Inc., Kalispell; winning the Big Sky Carvers “Andy & Ashley” bear carving; Scott Ogeka of West Paw Design, Bozeman; The GrainMaker*; and Kurt Borga of Quality Time Montana LLC, Manhattan, the Schnee’s Boots. Rumor has it that winners of the grain mill and boots traded prizes again, just as at the 2010 event! Big Sky Carvers is located in Manhattan; the GrainMaker in Stevensville and Schnees in Bozeman. Other Montana companies that donated their products as prizes were 5 Sparrows, Kalispell; Air Design, Scobey; All American Pharmaceuticals, Billings; Alpine Touch Spice, Choteau; Becky’s Berries, Absarokee; Big Sky Woodcrafters, Laurel; Camas Creek Yarn, Kalispell; Cleanwaste, Belgrade; Counter Assault, Kalispell; Cream of the West LLC, Harlowton; Creative Sales Company, Kalispell; Enell, Havre; Granuds Lefse Shack, Ophiem; Heliproz, Billings; Hi-Country Snack Foods, Lincoln; Huckleberry Haven, Hungry Horse; Hunter Bay Coffee Roasters, Lolo; Kettle Care, Whitefish; Mystery Ranch, Bozeman; Mountain Meadow Herbs, Kalispell; Pasta Montana, Great Falls; Quake Industries, Manhattan; Red Ants Pants, White Sulphur Springs; Rocky Mountain Chocolate Factory, Great Falls; Spika Welding & Mfg, Lewistown; West Paw Design, Bozeman; and Wood’s Powr-Grip Co. Inc., Laurel. Many other firms displayed items manufactured and sold business-to-business.

To view scenes from the Compete Smart Product Showcase, go to [https://plus.google.com/photos/102537632101070101802/albums/5815211474992106113](https://plus.google.com/photos/102537632101070101802/albums/5815211474992106113)

*NIST MEP is the National Institute of Standards and Technology, Manufacturing Extension Partnership. MEP helps manufacturers to increase profits, and save time and money, and develop new customers, new products and new markets. The Montana Manufacturing Extension Center, which presented Compete Smart, with co-host NorthWestern Energy and other strategic partners, is an affiliate of MEP.*

**Compete Smart**

**Montana Manufacturing Conference**

Next Compete Smart on Oct 9-10 2014 in Billings MT, Save the Date!
Columbia Falls Anodizer Turns Lemons into Lemonade

When the Compete Smart Manufacturing Conference rolled around in October, it was bad timing, or so thought Craig Ruch, owner of DACK Coatings (now Armor Anodizing), an Exhibitor at the event. He has since rebranded his business in Columbia Falls.

“It was bad timing, and good timing,” Ruch said. He had just signed up when he learned that his business had sustained damage from a fire in an anodizing tank heater. The heater had been inadvertently left on over a weekend.

One to make lemonade when handed lemons, Ruch stayed the course and attended the conference. He is now very glad he did. He has not only put out some bids to prospective clients, he also met important vendors for his business. “That has been a real plus,” he said.

One of those vendors is Brad Reid of Diversified Plastics in Missoula. A chance encounter with Reid, who knows first hand the emotional and real costs of fire in a business, led to an arrangement with Diversified to build new, larger plastic tanks for Ruch’s anodizing business.

“Brad gave me a price right after Compete Smart. I was expecting to have to go out of state to get them,” Ruch said. Diversified came through and even delivered the tanks. “Brad and his team have been awesome; they treated me great.”

The shop is pretty much back to normal with a few upgrades. Armor’s business growth continues, especially processes for gun parts, a growing industry in the Flathead. In addition to enlarging the tanks, Ruch made sure mistake-proofing was added into the electrical box for the anodizing heaters. It now has a disconnect box with one lever and LED lights that display red for OFF and green for ON. The shut down process is now one step, not five, he said, making it an easier, visual task.

Ruch also has praise for a fellow exhibitor he met at Compete Smart, K Design Marketing. He sought their assistance during his rebranding which included a new logo and website. “They did a beautiful job in just a few weeks and were very reasonable,” he said, “I just love them and would highly recommend them to anyone.”

Ruch has also been working with Bill Nicholson at MMEC and Chris Parson at the Small Business Development Center to work up some figures on a breakeven analysis for adding equipment for an electroless nickel process that he will now add to his already diverse operation. “Businesses are going out of state for this, and I want to capture some of that here,” as well as provide quicker response time, he said. The analysis shows him what it would cost if an employee is added and other variables.

2013 Made in Montana Marketplace Set for March 22-23

The 2013 Made in Montana Marketplace, the premier venue where producers and buyers do business, is set for Friday, March 22, and Saturday, March 23, at the Mansfield Convention Center of the Great Falls Civic Center. The event is presented by the City of Great Falls and the Montana Department of Commerce.

The annual, two-day trade show connects wholesale buyers from across the region with the people who produce products that qualify for the Made in Montana program http://www.MadeInMontanaMarketplace.com. The Made in Montana Marketplace is a one-stop-shop for wholesale buyers looking for something authentically Montana,” said Dore Schwenden, Director of the Montana Department of Commerce. “It’s also a fantastic opportunity for Montana producers to interface with wholesale buyers, network with other producers and engage directly with the public.”

The Friday Marketplace exhibits will be open to wholesale buyers exclusively. Wholesale buyers represent department stores, grocery stores, gift shops and state and national park stores across the region. These buyers are recruited from across Montana, as well as nearby states and Canadian provinces.

On Saturday, the general public will have the opportunity to visit the Marketplace as a day to help promote the public recognition of Made in Montana products. Exhibitors showcase dozens of creations, from handcrafted furniture to gourmet snacks in 109 available booth spaces. Montana artisans, microbrewers and vintners also showcase their products at the Marketplace, according to Paul Llyd Davies, marketplace coordinator.

The Montana Department of Commerce and the Montana Department of Agriculture started the original Made in Montana Food & Gift Show in 1998. In 2004, funding for the show was cut. The Schweitzer Administration restored funding in 2005. In 2006, the City of Great Falls assumed production of the show, renaming it the Made in Montana Marketplace. The Department of Commerce remains a primary partner and sponsor. The Department of Agriculture and Montana Arts Council are contributing partners.
News from Manufacturing Neighbors Across Montana…

Agriculture grant helps food producers across the Flathead

With the help of a grant from Montana’s Growth Through Agriculture program [http://agr.mt.gov/agr/Programs/Development/GrantsLoans/GTA/], Great Northern Pasta [http://www.gnpasta.com/store/index.php] in Whitefish will start distributing its organic products across the region. In late November, the Agricultural Development Council announced 10 recipients of $286,085 worth of grants and loans. Great Northern Pasta will receive a $49,900 grant to assist with equipment and construction costs in order to expand the company’s facilities. Flathead Valley Community College, Kalispell Kreamery, the Lake County Community Development Corporation and the Mission Mountain Food Enterprise Center are also receiving grants from the state fund.

Source: Flathead Beacon

Energy storage firm Zinc Air expands workforce

Though Zinc Air’s [http://www.zincairinc.com/] first out-of-facility installations of its power-storage batteries are a few months away, the company has been expanding so fast it is housing some of its engineers in a trailer behind its Columbia Falls-area building. The company currently has 45 employees after hiring half a dozen — many from Montana State University — in the last month.

Source: Daily Interlake

Kalispell gun maker NEMO targets big revenues

NEMO Arms Inc. [http://nemoarms.com/], a relatively new Flathead Valley firearms manufacturer, has targeted $5 million to $10 million in sales for 2013. Retired U.S. Army Maj. Gen. Paul Vallely, president and chairman of the board for NEMO, bases his bright outlook on the positive reception so far for the company’s OMEN, a .300 Win Mag assault rifle, as well others such as its Battle Light 2.0….

Source: Daily Interlake

Butte’s MSE Sale to Tech Holdings Group Off

The sale of Butte’s MSE Technology Applications, Inc. [http://www.msetech.com/] to a Florida-based technology holdings group is off, according to a joint announcement from both companies Thursday. Global Technology Holdings, Inc. and the Montana Economic Revitalization and Development Institute - current owners of MSE - have mutually parted ways after it initially appeared they had a deal in place last month. A purchase agreement had been announced in early October.

Source: Montana Standard

Exports help local business expand - resources available to expand reach

It took a while for Lewistown’s Spika Welding and Manufacturing [http://www.spikawelding.com/] to find its product niche, said the company’s founder and owner, Tom Spika. Now that they have, the aviation maintenance platforms the company manufactures are being sold in several markets overseas. “Our sales continue to go up and we have the largest staff we’ve ever had,” said Spika, who has 36 to 40 employees. “We have two shifts, both on overtime to keep up with sales. And part of that is due to foreign sales.” Spika credits export training from MMSEC and US Commercial Service as well a trade mission experiences with providing the tools to undertake expanded exports…

Source: Great Falls Tribune

Replacing any existing relationship. They prepare the proper documentation and submit these to the CPA for incorporation in the company’s regular filings.

For more Resources & Reading, check out the following website for more information:

• R&D Credit Coalition - [http://www.investinamericasfuture.org/index.html]
• Wikipedia simple explanation of R&D Tax Credits - [http://en.wikipedia.org/wiki/Research_%26_Experimentation_Tax_Credit#Eligible_Expenses]
• One national service company (CORE Solutions Group) that provides R&D Tax Credit Reports - [http://www.coresolutionsgroup.net/rd-tax-credits/]
• A simplified illustration of the accounting involved - [http://www.investinamericasfuture.org/factsheet-9-24-03.html]

About the Author: Jerry Spencer is the recently appointed Regional representative for CORE Solutions. He has lived in Helena, MT since 1986 and has been a serial entrepreneur all that time. In 1999, Mr. Spencer arranged to sell the company he had founded with partner Bill Crane – Keep It Simple Systems, which manufactured solar chargers for portable computers. Jerry is also the founder of the Tidbits publication which can still be found in several Montana locations and is published in over 180 towns across the U.S. and Canada.
The Drip of Lean (cont. from pg. 5)

The shipping area itself has been the recipient a Lean revamp. Lean one-piece flow is used there. Adjustable metal racks have replaced bulky wooden shelving, so that make the work area less confining. The racks stay cleaner because they don’t collect dust like wooden shelves do. POUS and custom labeling storage has also improved work flow. Packing time has been cut from 15 minutes to less than five.

“It has improved morale in the shipping department and created more usable space,” said Mike Morris, who also does final inspection in the work area.

Lean Office Blends Efficiencies

This fall, MMEC’s Daniels engaged the McDantim team in a Lean Office project that will pave the way for more gains.

“We took most of the crew through Lean Office training. Typical of Lean adoption, we targeted one area and have begun looking at our repair and return program to standardize it on both the administrative and production side.” Trafton said. He values working with Daniels and MMEC. “Todd is interested and shows up to help us apply it. He’s not pushy.”

Daniels helped developed an electronic Value Stream Map (VSM) and spaghetti diagram of the RMA (return merchandise authorization) process. He also put together support slides for developing solutions and met with the RMA team to review the current state VSM and identify areas for improvement. The goal is achieving zero redo loops, reduced paperwork travel and reduced non-value added time in the target process.

“The evaluation showed that we were investing 1.5 hours more than we charged for each repair – a real time suck,” Trafton said, “so we are standardizing the work process and developed tiered fees,” for different product types. A technician was also freed up to take care of repairs. McDantim products have a 5 year warranty on parts and labor.

Kirk was involved in the training and can’t wait until they get the new process finished. “I handle a lot of that myself and see many redo loops just with me,” she said. “It will eliminate a lot of work” and free her up for handling growing sales orders.

“This is a story that can probably trace strong roots to training and events like our biennial Compete Smart Manufacturing Conference, where I’ve seen the McDantim team split up and go to different sessions then meet with each other at the end of the day to talk about what they’ve learned,” Daniels said. “They would often contact me afterwards to find out more.”

“Having a resource like MMEC in the state is vital to help bring us Lean tools we would never have learned about without MMEC and Todd. That’s the truth,” Trafton said as he pulled out his original 2002 Value Stream Map — early beginnings of its Lean Journey 10 years ago, almost to the day.

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Sticky note exercise explores current value stream for issues and redundancies.
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28th Annual Economic OUTLOOK Seminars for 2013 in 9 cities
Jan. 29, Helena; Jan 30, Great Falls; Feb 1, Missoula; Feb 5, Billings; Feb 6, Bozeman; Feb 7, Butte; Feb 15, Kalispell; March 12, Sidney; March 13, Miles City

Lean Manufacturing Workshop & Simulation January 31, Billings
MSU City College, 3803 Central Ave., Health Science Bldg, 1st floor
Learn, first hand, how to improve quality and delivery performance, reduce cycle time, eliminate hidden wastes, and significantly reduce work in process (WIP) for greater profitability. $195 per person, lunch included. https://www.etouches.com/53783

ISO 9001:2008 Internal Quality Auditor Training Workshop, Feb. 5-7
MMEC Conference Room, 2310 University Way, Bozeman; includes lunch
Course includes the purpose of internal audits, requirements of the ISO 9001:2008 standard, the audit plan, methods of conducting an audit (checklists, auditor conduct, & scheduling), non-conformance and corrective action. Hands-on audit experience, reporting & analysis included. Cost: $895 per person. https://www.etouches.com/54635

SafetyFestMT — Feb. 25-March 1, Hilton Garden Inn, Missoula
A free, high-quality safety conference includes as more than 70 classes taught by leading instructors; much of the training counts toward OSHA 10- and 30-hour certifications. Visit SafetyFestMT.com for more information and registration.

MMEC Exceptional Leadership – Feb. 26-27, 2013, Great Falls
A special focused 2-day leadership program at Meadow Lark Country Club, led by MMEC staff, is designed to enhance and strengthen the leadership skills at any level of supervision, from senior managers and officers to line supervisors. Before and after the training, structured discussions between the participants and their supervisors. Pre-register by Feb. 21 https://www.etouches.com/45203

Safety: It’s Up2Us – March 13-14, 2013, Billings Crowne Plaza