

Forward Focus

Montana Manufacturing Extension Center

SPRING 2002

“Marathon” Leads to Long Life Products

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A specialized supplier search conducted by MMEC for Quality Products, Inc. in Missoula, led to the perfect material for increasing the longevity of its specialized dental office supply, the Marathon Sterilization Pouch. Looking for polypropylene manufacturers to meet highly specialized R&D criteria, the search became a hunt for a niche within a niche and turned up about a dozen companies. Ensuing conversations between Larry Larson at Quality Products and plastics manufacturers netted just the right supplier and ended an almost 10 year search.

Marathon Sterilization Pouches are primarily used by the dental industry to hold equipment while sterilizing it in a special heating unit called an autoclave. These pouches are designed to withstand 30 sessions in the autoclave meeting and/or exceeding all Food & Drug Administration 510(K) standards. After sterilization, the pouches maintain the sterility of

the equipment during handling and storage. Sterility is maintained until it is opened for use.



Larry Larson at the autoclave

While the name Marathon easily represents the pouch's durable, reusable, and recyclable features, it could well stand for the many years Larson, Tom Thompson, Kent Ferguson and others spent developing the product to perfection. Quality Products manufactures several lines of pouches.

While the product appears to be made of fairly simple components, the research & development (R&D) is innovative and has been evolving for

years. The pouches must meet the complicated and changing regulations that guide the manufacture of medical devices. Making them strong enough yet recyclable adds to the science behind them. And a handling difference by overseas customers in prepping equipment for sterilization created another hurdle in R&D.

The company has FDA 510(K) and CE Marking validation and sells in the U.S. and Europe.

Some of the R&D hurdles overcome by Quality Products over the years:

- Shrinkage in early materials;
- No comparative data available during initial FDA certification, so writing up testing standards became an added responsibility;
- Redesigns of closure to ensure sterility and maintain competitive edge;
- Several generations of changes, capital investment, and other obstacles for the custom-built

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New MMEC Website

Take a look! MMEC has a new, more interactive MMEC Web site
www.mtmanufacturingcenter.com.

It launched the first week of April and features photos from actual Montana manufacturing operations, information about how the MMEC program works, success stories, training events, and valuable links to additional resources. Even the

newsletter appears in a .pdf format for your future convenience.

Still under development is a searchable list of manufacturing books you can borrow from our bookshelf. Into the future, we are working on a passworded portal for communicating with clients, board members, and field staff. Check out the Website to see more.

INSIDE —



EXPANDED

TRAINING

OPPORTUNITIES

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Director's Comment... **The Best Investment**

*If you think
education is
expensive,
try ignorance."*

I saw this truism on a bumper sticker longer ago than I care to admit. In today's competitive manufacturing environment, there is a very real cost to ignorance.

Unqualified/untrained employees and hesitation to bring in outside help when needed are reasons identified for business failure in the early years, according to a recent "Smart Answers" article at www.business-week.com. But lack of training is found in businesses of any age and is always expensive. It can be recog-

nized in a number of ways including excess rework, high turnover, and low productivity from new hires.

I like to think of education as an investment. Investing in knowledge for businesses and employees comes in many forms including conferences, seminars and workshops for team leaders or skills and task oriented learning for employees in specialized jobs. It is also the simple sharing of information between people and business associates. Education is only expensive when it is not leveraged for value.

Training value is multiplied when information is shared between teams and departments to positively impact additional activities. You cannot expect success when adopting changes if you do not train and communicate along the way. Without it, you will not create a consistent quality program, successfully integrate new equipment into a production line, or even make any type of standardized system work effectively. In lean manufacturing classes taught by our engineers, a surprising number of participants remark that talking up and downstream in their processes doesn't happen. Few have regular staff meetings to see what went right, what went wrong, and

why. Yet it is a simple, cost effective method of educating workers and improving your operation. When information is shared, one person's idea can lead to more ideas about how to solve a problem or do something better.

Our biennial, statewide manufacturing conference *Compete Smart*, is planned for Missoula this year on October 3 and 4. It will be a blend of learning, sharing, and networking with fellow manufacturers and service providers. Our keynote speaker promises to be a refreshing surprise. I hope you will set aside some time to attend, get some new ideas, and build new contacts.

We are also developing expanded training opportunities with the help of funds from the Montana Department of Commerce and Dept. of Labor and Industry. Be watching for topics that can help your business. Meanwhile, take every opportunity to **Learn**. Share, so the information **Evolves**. **Act** to make what is learned meaningful. It is then that the costs of "education" become value...Become **Profit**.

Steve Holland
MMEC Director

Compete Smart is Coming this Fall

Are your limited resources being stretched more and more by customers asking for your product in extremely short lead-times while still meeting today's demanding quality standards?

Hear how you can meet and exceed these challenges at *Compete Smart*, Montana's statewide manufacturing conference coming this fall to Missoula. Our very special keynote speaker, and manager of a successful manufacturing firm, will help you make the break from conventional concepts and practices. He will use his experience meeting goals under

extreme time constraints and pursuing parts through steamy piles of junk to get you started tapping into

a resource you already have. He will help you create a high-energy environment for your operation and an atmosphere in which to flourish.

Here's what participants say about past Compete Smart conferences:

"Offered great insights... fresh... delightful presentations."

"You're speaker on Workforce Training Across the Globe was great! He was the best."

"Invaluable information in your CEO presentations. By far the best part of the conference."

Be watching for more about our keynote speaker and the Oct. 3-4 Compete Smart conference at the Doubletree Hotel. This is the third biennial manufacturing conference hosted by MMEC and other generous sponsors. Breakout sessions are being designed with you, the manufacturer, in mind.

Plan to attend and reserve Thursday and Friday, October 3rd and 4th on your calendar today.



Bringing Technology Transfer to Industry

Water quality monitoring for space-craft, software for restoring stream banks, and plug-and-play modules for the leading GIS software – these are some of the innovative Montana products that the MSU TechLink center has helped to develop through technology transfer.

In today's global economy, technology transfer is critical in maintaining a U.S. competitive advantage in technology innovation and deployment. Through its technology-transfer activities, TechLink contributes to both economic growth and competitive advantage in Montana and the region.

"Technology transfer" is usually defined as the process through which innovations developed by federal laboratories and universities are made available to private industry for licensing and commercialization. A technology transfer organization like TechLink helps to identify useful technology, brings it to the attention of private industry, and facilitates licensing agreements.

TechLink was established at MSU in 1996 with funding from NASA to increase NASA's technology transfer activities in Montana and the surrounding states. In 1999, the Department of Defense (DoD) also began funding TechLink to assist with technology transfer in the region. Both NASA and DoD are among the world's largest R&D organizations. Together these two agencies generate some 850 new patents per year on their technological innovations.

One of TechLink's primary activities is helping companies to license and commercialize technologies patent-

ed by DoD or NASA. Through these activities, the U.S. taxpayer gets a secondary "bang for the buck," as technologies originally developed for the country's defense or space missions are converted into new commercial products, helping the U.S. economy to maintain its competitive edge and fostering economic development. In addition, TechLink brokers joint R&D projects

federal Small Business Innovation Research (SBIR) grants and other federal R&D funding opportunities. To date, TechLink has helped Montana companies obtain nearly \$12 million for new technology development and commercialization.

Altogether, TechLink has brokered more than 140 federal/industry partnerships, primarily with compa-

nies in Montana, Idaho, Wyoming, North and South Dakota, Utah, Oregon, and Washington. Over a third of these projects involve Montana companies and many involve MSU researchers.

TechLink has also begun to assist MSU in technology transfer by evaluating MSU's invention disclosures, helping to strengthen patent claims, securing industry-sponsored research agreements, and marketing the university's patented and patent-pending technology.

Assistance Examples

TechLink works with start-ups and established companies alike, and may be able to help you.

Through TechLink assistance, Montana Microbiological Services, Inc. (MMS) of Bozeman, recently won a Phase I Small Business Innovation Research (SBIR) contract from NASA's Johnson Space Center. With this funding, MMS will evaluate the technical feasibility of an automated water-quality monitoring system that can detect microscopic contaminants in closed water systems like those on spacecraft. TechLink initially helped

TechLink...

(continued on page seven)



Photo courtesy of THI Riverworks & MSU TechLink

and facilities use agreements between companies and federal labs. These partnerships highly leverage the research capabilities of small companies and help them to gain access to world-class facilities and expertise.

A partnership with the Montana Manufacturing Extension Center is building another bridge to connect manufacturing needs to available technologies and testing facilities. An MMEC referral recently resulted in TechLink brokering an agreement between American Eagle Instruments, Inc. of Missoula, and the NASA Glenn Research Center to evaluate and rank non-stick properties of hand-held dental instruments.

TechLink recently expanded its services to help increase the success of Montana companies competing for

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LARRY YUNG
Manufacturer
Billings, MT

MMEC to Offer Distance Learning to Reach and Teach Manufacturers

MMEC is launching a six-week LEAP Manufacturing Management Video-conference Training Series beginning Friday, May 3.

The series will consist of two-hour videoconferenced workshops each Friday morning covering a variety of topics that MMEC has found to be particularly of interest to Montana manufacturers. The courses will be interactive and allow all participants to ask questions and participate in conversations related to the various topics. They are designed as short learning sessions to get you started evolving your management skills. As you identify the areas of your business where you can apply these skills, you can take actions that lead to increased productivity and profit.

The moderator for this videoconference series will be Kate Bryan with field engineers from MMEC presenting materials in their fields of expertise for each topic.

The actual videoconference will use Montana's distance learning resources (primarily METNET), coordinated through the Burns Telecommunications Center. METNET (Montana Educational Telecommunications NETwork) is the state's main videoconference network and has specially equipped sites in 13 Montana cities. This type of videoconferencing allows groups of people in vastly different places to communicate together by hearing and seeing one another in rooms outfitted with microphones, speakers, cameras, and projection equipment. The coordinated technology makes a very seamless method of communicating face to face over distances.

See the schedule below for the LEAP videoconference training on Friday mornings

beginning at 8:30 a.m. on May 3rd at eleven videoconference sites around the state.

THINK
ABOUT IT:

WORK
ETHIC...

IS IT JUST
WORKING
HARD?

OR
WORKING
SMART?

WHICH
ENVIRONMENT
DO YOU
MAKE HAPPEN?

Training Makes a

MMEC's expanded training program has a new look as we help you make the jump to continuous improvement and greater profitability. The new training program entitled "LEAP-Manufacturing Training," is being designed to help Montana manufacturers **Learn, Act, Evolve, and Profit**. All training courses will be designed to involve company management, team leaders and employees in gaining new concepts and concrete assessment tools for specific areas of your business. The courses and tools will help to identify/prioritize potential projects in your company to achieve greater profitability.

A variety of training will be available to all Montana manufacturers and in several formats. The very popular and powerful one-day Lean Manufacturing workshop/simulation "Play the Lean Game" will continue to be offered as part of the LEAP program, along with other manufacturing oriented workshops you have come to expect. Still in the plan-

LEAP Videoconference Series

Course Topics

Course Dates (Fridays)

BENCHMARKING YOUR BUSINESS THROUGH FINANCIAL RATIO ANALYSIS.	MAY 3RD
INTRO TO FINANCIAL MODELS THAT LEAD TO BETTER MANAGEMENT DECISIONS	MAY 10TH
NO CLASS	MAY 17TH
LEAN MANUFACTURING: GETTING STARTED WITH VALUE STREAM MAPPING	MAY 24TH
INCREASE THROUGHPUT WITH SETUP REDUCTION	MAY 31ST
NO CLASS	JUNE 7TH
PROJECT MANAGEMENT— TOOLS FOR POSITIVE RESULTS	JUNE 14TH
ENHANCING YOUR BOTTOM LINE WITH REPEATABLE QUALITY SYSTEMS	JUNE 21ST



Montana Dept. of Commerce

Montana Dept. of Labor & Industry

MONTANA'S WORKFORCE

TRAINING PROGRAM

UNDERWRITES THE

EXPANDED

LEAP

MANUFACTURING

TRAINING TO HELP

COMPANIES LIKE

YOURS SUCCEED.

Workshop to Understand & Use Financial Tools

Are you managing your business by gut instinct but wish you had some tools to manage or explain it better? Do you wish you knew how your business compared to the competi-

presented at a hard-hitting, intensive two-day workshop, **“Financial Management and Activity-Based Cost Accounting,”** to be held in **Kalispell** on **May 16 & 17**. The

course is sponsored by the SBA Small Business Development Center and the Montana Manufacturing Extension Center (MMEC).

Participants will explore and learn to understand the power behind the various financial aspects of their businesses and how to use them to advantage. For instance, some accounting and costing tools help you with information to lure investors or build banker confidence when seeking to obtain credit. Others can help you manage daily production output, inventory levels, cash levels, debt loads, accounts receivable, accounts payable, and collection.

Managing your company financial picture can help you set clear expectations for your employees and goals for your business. Plan to attend and learn more about tools that provide real data that you can literally take to the bank.

If you don't have a college business degree but want to better understand and use business principles and tools to improve your bottom line, this class is for you. Paddy Fleming and Al Deibert, MMEC field engineers, will help you learn to recognize and extract important financial data and understand the real costs of manufacturing your products. Price setting will become easier and more accountable, breakeven points will become clear. You will learn about real measures of your company activity, comparative data and solid financial information that you can build on. You'll be able to discuss your business in terms that financial managers and potential investors understand.

The workshop starts each morning at 8 a.m. and ends at 5 p.m. at the downtown WestCoast Kalispell Center Hotel (formerly Cavanaugh's). The cost is \$295 and includes materials, lunch and refreshments. For information or to register call Kalispell SBDC at 406-758-2801 or 406-758-2802. This course is partially underwritten by the Workforce Training Program of the Montana Dept. of Commerce and Dept. of Labor & Industry.

**STAY
TUNED**

A BROCHURE FOR THIS

FIRST LEAP

VIDEOCONFERENCE

SERIES WILL BE MAILED

TO ALL THE INDIVIDUALS

WHO RECEIVE THIS

NEWSLETTER. IT WILL

INCLUDE REGISTRATION

MATERIALS, AS WELL AS

MORE INFORMATION

ABOUT THE COURSE LOCATIONS, FEES, EASY REGIS-

TRATION OPTIONS, ETC.

FOR INFORMATION,

PLEASE CONTACT

MMEC'S TRAINING

DEVELOPMENT

ENGINEER,

KATE BRYAN AT

KBRYAN@COE.

MONTANA.EDU

OR CALL

406-994-3812.

Big LEAP Forward!

ning stages are grouped courses featuring a progression of learning and action steps that can lead to company certifications in specialized areas. For example, enrolling your people in value stream mapping and total productive maintenance as part of implementing Lean Manufacturing concepts learned in the simulation would lead to a Lean Manufacturing certification. Certifications of this kind can help build strong business to business relationships with suppliers and customers that are also on the Lean journey.

A new delivery method for some LEAP training offerings is currently in the works for both introductory level courses and phased delivery of more complex subjects. The first new LEAP training offerings in this new format will be a six-week Manufacturing Management Videoconference Training Series (see related article on distance learning). Prepare yourself and your employees to LEAP into the future as new course offerings develop.

tion or industry generally? Tools for these and other financial management skills for manufacturers will be

business. Plan to attend and learn more about tools that provide real data that you can literally take to the bank.

ISO Internal Auditor Training Coming

The ISO 9000/2000 Internal Auditor course is returning to Bozeman May 15-17. ILX Lightwave will host the important hands-on audit portion of this three-day LEAP course. Jeff Omelchuk, an expert in quality systems development and implementation, sourcing strategy, and supplier partnering, will conduct the workshop as part of the MMEC's new LEAP training program. Jeff is founder and principal of International Quality Associates, Inc., Beaverton, Oregon. MMEC field engineers Mark Shyne, Kreg Worrest and Todd Daniels will serve as Audit Coaches.

Participants will learn to interpret the ISO 9000/2000 requirements and adapt ISO 9000 to the 2000 updates. They will also develop reporting and follow-up skills as they perform a live audit in the real-world manufacturing operation at ILX.

Findings will be reported to company managers at a closing session on Friday. This internal auditor training is key to maintaining a successful audit program for ISO certification and is crucial for companies making the conversion to the updated ISO 9000/2000 standards.

A **FREE** one-hour overview of ISO 14000 standards will also be presented during the final day of the course. Anyone interested in attending this session can pre-register by calling the MMEC office at 406-994-3812.

Cost for the full course is \$795. Sessions will begin at 8 a.m. at the Bozeman Comfort Inn on North Seventh Avenue just south of the I-90 interchange. Lunches & refreshments will be provided. Dress is business casual. Call MMEC at 406-994-3812 or 800-637-4634 to register.

At Workforce Learning Academy...

Small Business Owners Can Find Employee Resources

The Bozeman Area Chamber of Commerce will present a Workforce 2020 Training Academy on May 30 at the Best Western GranTree Inn in Bozeman. The training academy will be the first of its kind in Montana, and, if successful, will be followed by similar Workforce 20/20 Academies throughout the state. The event developed through a partnership between The Montana Chamber of Commerce, Bozeman Job Service, Montana State University and the Bozeman Public Schools Adult Education program.

**FORWARD
FOCUS IS A
NEWSLETTER
FOR
MONTANA
MANUFACTUR-
ERS**
*PUBLISHED
QUARTERLY*
◆
**CHECK IT
OUT**

Feel free to call
MMEC about
manufacturing
topics or
issues that
concern you.
Call us at:
**1-800-MEP-
4MFG**

"The Workforce 2020 Program is a springboard to a vibrant economy," said Chamber President/CEO David R. Smith. "We want to define and create local solutions that effectively bridge the gap between the employers who need workers, the providers of workforce services, and the workers who need jobs and advancement opportunities."

Academy participants will receive a "toolkit" of community resources containing contacts and referrals to local offices of community, federal and state programs, training resources,

plus business and financial assistance. "Just a lot of resources to help businesses help their employees at little or no cost to them," according to Diane Letendre of the Montana Job Service in Bozeman.

Following the Academy, task forces will begin to work on specific issues, such as employee benefits and sound hiring practices.

Sponsorships for the Academy are being sought. Please contact David Smith at 406-586-5421.

Quality Products (continued from page one)

machine for full-scale manufacture and edge sealing process;

- Design strategies to meet the increased number of sterilizations and other regulatory changes imposed on dental practitioners.

One of the toughest barriers was created by a lubricant used on equipment in both domestic and overseas markets. The lubricant was breaking down into solvents in the sterilization process, according to Larson. The solvents were reacting with the see-through-film side of the bag, causing degradation and becoming invalid long before the FDA 510(K) testing had indicated, creating a new challenge for R&D.

Because being recyclable fit well with mandates in place in Europe, finding a solution was crucial to business expansion there. Just identifying the real problem, originally reported as "melting" took time and research. But the real obstacle became locating the highly specialized replacement material that would resist solvent interaction and meet the reusability standards the company set for its product.

Unable to find the materials to meet this R&D criteria, Larson called on the MMEC field office at the



Kreg Worrest demonstrates material found

University of Montana for help locating specialty suppliers of polypropylene materials. The ensuing search led to the perfect material for longevity and successful testing of

the product. The search, conducted by MMEC Field Engineer Kreg Worrest produced a target list from which Larson could begin negotiations for the correct composition plastic at a competitive price. Additionally the material had to be see-through and available in the correct size for the processing equipment. Part way through the supplier list, Larson talked with someone who knew just the right manufacturer and ended an almost 10 year search for the perfect material. "There would be no product today without finding this new film. I never would have found the source, without the help from MMEC. It was the savior of the project," Larson said.

MMEC also helped the company with vigilance procedures for handling customer feedback, failure mode analysis and labeling.

New product developments continue at Quality Products where Larson now serves as project management consultant, having recently sold his interest in the company. For information about the tough, dependable Marathon pouch, call 406-542-0950.

Manufacturing News

Columbia Falls Aluminum Co.

restarted the first of 120 pots on Potline 4 on Wednesday, March 14, after a 13-month shutdown. The CFAC pots had been shut down in late January 2001 about the same time all 10 aluminum smelters in the Pacific Northwest shut down last year because of soaring power prices, according to the Associated Press. CFAC is the first to resume production and flipped power on for 10 pots on Wednesday, the AP release said.

www.cfaluminum.com

Montana Power Company

the name that dominated Montana business for over one-hundred years, will be no more, according to a breaking news release from Big Sky Business Journal on March 13. As of that date, the company will conduct business under the name **NorthWestern**

Energy Co., the company that purchased MPC. NorthWestern Energy provides electricity and natural gas and energy-related services to more than 590,000 customers in Montana, South Dakota, and Nebraska. The change should be seamless for customers, according to its Chairman and CEO, Merle Lewis.

TechLink...

(continued from page three)

MMS to develop a cooperative R&D project with NASA Johnson Space Center to help gain insight into NASA's water-quality monitoring needs.

TechLink helped American Eagle Instruments, Inc., a manufacturer of hand-held dental instruments, to develop an agreement with NASA that may lead to improved dental instruments. NASA Glenn Research Center has unique surface-analysis capabilities. Through this agreement, researchers at NASA Glenn will examine different coatings on dental instruments. The goal is to determine the coatings to which

Wavelength Electronics, a photonics component manufacturer and **Strategix ID**, a product strategy firm, both of Bozeman, Montana, won the international Good Design Award for Wavelength's WLD3343 – Ultrastable Driver for Laser Diodes and the WTC3243 – Ultrastable Temperature Controller. The award-winning laser diode driver and temperature controller combine scalable functionality and aesthetic quality to create a brand image unique to Wavelength Electronics,

www.teamwavelength.com. Other component devices often sport basic black boxes and simple white lettering.

Strategix ID, www.strategixid.com, helped Wavelength incorporate subtle elements into its packaging to define their brand while satisfying their customers' thermal requirements. The product's die cast aluminum heat spreader mates seamlessly with the heatsink accessory with fins that curve in a pleasing "wave-like" pattern. A fan accessory mounts directly over the heatsink for improved thermal performance allowing the product to double its

output power. The design improvements eliminate the need to adapt mechanically mismatched heatsinks and fans. This year the Good Design Award was bestowed to only 100 of the world's most prestigious design firms and manufacturers using the same criteria that started the awards program in 1950. Award winning products will be displayed at the Chicago Athenaeum: Museum of Architecture and Design from March through early summer.

Red Oxx Manufacturing, maker of soft-sided luggage for hunters, travelers and outdoors people, has moved to a new facility one block north of its former North 13th Street address in Billings. The new facility doubles the space to 6,000 square feet, enlarging both the manufacturing operation and retail space for its gear, which also includes weight training accessories. In addition to the company's own line of bags, high-end luggage from Zero Halibuton and Briggs & Riley will be available. You'll find Red Oxx at the former Boots, Brims & Britches location, 310 North 13th.

www.redoxx.com

composite-resin cavity filling material is least likely to stick.

Trout Headwaters, Inc. (THI) of Livingston is developing advanced engineering software to design cost-effective natural approaches to river restoration and stream bank stabilization. TechLink partnered the company with the U.S. Army Corps of Engineers to demonstrate its "soft armor" approach, which stabilizes stream banks with natural vegetation instead of rip-rapping banks with stone and concrete blocks. As a result of this partnership, THI received a \$120,000 grant from the National Fish and Wildlife Foundation.

Visual Learning Systems (VLS) of Missoula developed a unique software product called Feature Analyst that helps researchers to rapidly extract geospatial information from satellite imagery. TechLink played a key role in the start-up of this company, initially helping VLS to develop cooperative R&D projects with NASA and DoD and subsequently helping it to obtain nearly \$1 million in SBIR and other funding from these two agencies.

For more information, contact TechLink at 406-994-7700 or see Web site www.montana.edu/teclink

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COMPETE SMART
MANUFACTURING
CONFERENCE
2002

- ◆ Network w/ other manufacturers
- ◆ Hear what world class companies do
- ◆ Choose tools that work
- ◆ Get energized
- ◆ Compete more effectively

October 3 & 4
in Missoula

Watch for details!
800-MEP-4MFG



Simms Fishing Products (manufacturer of premium fishing waders, wading boots, vests and technical clothing) hosted a Value Stream Mapping field training event at their plant in Bozeman on February 20-21. The training event was coordinated by the Montana Manufacturing Extension Center and involved a combination of morning classroom training for several companies followed by afternoon team-oriented onsite mapping exercises at the Simms manufacturing facility.

The training illustrated how mapping tools can be used for understanding a manufacturing company's current operations, as well for identifying opportunities for optimizing the flow and cost efficiency for a specific product or product line (the resulting value stream). As a part of the training, two teams of five indi-

viduals each, observed and analyzed Simms' Guide Weight Wader production process and created both a current and future state value stream map for the operation. Through this mapping process, the teams became familiar

with the manufacturing processes for the waders and worked as a team to develop ideas for process improvements.

The current state mapping exercise focused on understanding the value (and potential waste) associated with each step in the manufacturing process. The future state mapping exercise focused on making specific recommendations, based on lean manufacturing concepts, to alter the manufacturing operation to reduce cycle time, eliminate waste and minimize inventory carrying costs.

Simms, www.simmsfishing.com, sent three of its managers to the training: Tim Malyurek, Matt Bentle and Robert Gibson.

According to Gibson, Simms' Director of Operations, "We were very fortunate to host the training event at Simms. Developing a future state map for the Guide Weight Waders was extremely valuable, and the process generated many new ideas for improvement."

The training was led by Giselle Olney of the Nebraska Manufacturing Extension Center, part of the Manufacturing Extension Partnership network. She has over 25 years of working in and consulting with manufacturing facilities.

The two-day Value Stream Mapping training was partially underwritten by the Workforce Training Program of the Montana Dept. of Commerce and Dept. of Labor and Industry to help Montana manufacturers succeed.

Interested in a Future Value Stream Mapping Field Event? Plans are in the works to create multiple value stream mapping events around the state. If you are interested in attending such an event and/or hosting the field event at your plant, please talk with the field engineer in your area and/or email Kate Bryan at kbryan@coe.montana.edu.

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