



MANUFACTURING  
EXTENSION  
PARTNERSHIP™

# The Catalyst

HTR-MEP's Publication for Innovative Manufacturers



Number 4

Summer

## Partnership for Lean Innovation Is Revitalizing Ohio Manufacturers

Early in 2005, TechSolve, the MEP center for southern Ohio, teamed up with the University of Cincinnati to develop and pilot a new product development program for small and medium-sized manufacturers. Funded by a \$1.9 million grant from the State of Ohio, the Partnership for Lean Product Development and Innovation incorporates Lean manufacturing methods and tools to create new products and innovative ideas in less time and with a greater chance for success in the market.

“The lifeblood of small manufacturers is their ability to introduce new, innovative products and be first to market with them,” said Gary N. Conley, president of TechSolve. “We’re talking about significant benefits to companies in increased revenue and profit, enhanced brand equity, long-term growth and vitality.”

“Innovation requires an ability to effectively integrate the product development process. The Fortune 500 companies know how to do this. Our goal is to bring this approach to small and medium size business,” said Craig M. Vogel, director of UC’s Center for Design, Research and Innovation (CDRI).

CDRI provides a “high-touch, high-tech” Innovation Lab and physical resources such as rapid prototyping, 2-D and 3-D scanners, video conferencing and more that would otherwise be cost prohibitive for participating companies. TechSolve provides the Lean Innovation program framework and general oversight of the program.

While TechSolve and UC are leading the effort, the Partnership includes

a collaborative support network of product development thought leaders, service providers, and leading practitioners from major corporations such as Boeing, General Electric, Procter & Gamble and Ethicon Endo-Surgery.

### The Lean Innovation Program

The program developed by TechSolve and UC helps clients install a repeatable process that answers the two key questions for new product development success:

1. What do we develop to delight customers and defeat the competition?
2. How do we bring great product ideas to the market quickly and efficiently?

Over a 12 month period, Partnership experts coach company managers through the three principal phases of the Program: Assessment & Planning, Alignment and Implementation. Heavy emphasis is placed on the first phase because it sets the stage for everything to come.

- **Assessment** – An initial half day review of the company’s “Current State” is conducted by the coaching team.

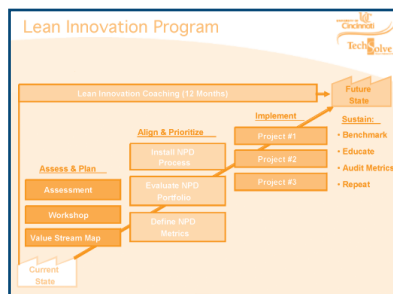
- **Workshop** – Key company managers attend a 2 day Lean Innovation Workshop. Day One focuses on business strategy, portfolio management, NPD process design and resource management. Day Two concentrates on innovation, including idea generation, observational customer research, the power of design, brainstorming and team-based action planning.

- **Value Stream Mapping** – The current and future NPD value streams are mapped out during meetings at the company. A roadmap for improvement of the process is developed by company managers and the coaching team.

In the “Align & Prioritize” phase, the updated NPD process is installed and the company’s new product portfolio is reviewed and prioritized.

Appropriate process metrics are developed to monitor performance of the process and facilitate on-going improvements.

In the final phase, client firms begin to implement specific projects applying tools and processes developed in the earlier stages of the program.



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**Mike Haugh,**  
MEP Managing Director

As I write this column, today's Wall Street Journal carries a front page article on the inroads being made by Chinese manufacturers into the global auto parts market. The article points out that these competitors are moving away from relying on low labor costs for comparative advantage and focusing on products which require higher levels of quality and innovation to produce.

It is hard to imagine a Finger Lakes manufacturer who is exempt from competing in this environment, either directly or indirectly through their OEM customers. Nor is China the only source of this threat to the status quo. Similar challenges come from India, Mexico, Brazil and even other parts of the U.S. as manufacturers worldwide struggle to find and maintain a competitive edge.

How can we meet these threats and thrive in an environment in which our competitors are becoming increasingly more sophisticated? First, we must get the basics right: Quality programs like ISO and Six Sigma are now assumed in well-run businesses. Lean Manufacturing techniques are essential to keeping costs low and delivery times short. Efficient IT systems are crucial to management in every functional area. However, all of these techniques have been adopted by our competitors. They are part of the basic ante to play in the game.

What can really set us apart and provide a lasting source of advantage is an Innovative Culture combined with the corporate processes that can harness it to produce a reliable stream of new products and processes.

For some manufacturers these skills have been required by the fast-changing nature of their markets. Producers of computers and fashion clothing come to mind. Most companies, however, begin by offering a few successful products or processes to their customers and make small modifications to their lines as opportunities present themselves. For these firms, real trouble arises when (1) their product

becomes obsolete, (2) someone knocks off their product at a cost they cannot meet or (3) their OEM customer no longer needs the process they offer at the price they must charge. Survival then demands they come up with a new offering quickly and often with limited financial resources. In effect they are entering an inherently risky game (new product development) with little knowledge of the rules and only enough money to place one bet. The results are predictable.

This issue of The Catalyst focuses on innovation in the form of new product development (NPD) processes. There is a description of the Lean Innovation training program developed by TechSolve, our sister MEP center in Ohio. We will be offering this service to Finger Lakes manufacturers later in the year. There is also an article on Victor-based manufacturer Ultimate Technology and their application of NPD techniques to add a successful product extension to their line. Also included in this issue are pieces on the Product Development Management Association (a local resource for firms interested in the field) and the recent seminar on Small Business Innovation Research grants (a government sponsored grant program that can take much of the financial risk out of developmental projects).

As always, we hope that the articles in this issue will stimulate ideas that you can put into practice in your company. Our MEP Project Managers can help you evaluate your needs for both tactical and strategic improvements. They can work with you to define projects that answer these needs, identify subject matter experts to execute the projects and obtain grant funding wherever possible. They can also connect you with resources that provide new technologies and needed research capabilities, such as RIT, the University of Rochester, Cornell's Center for Material Research and Ag Tech Park, the Space Alliance Technology Outreach Program and others.

*Mike Haugh*



If you are looking for Best Practices in new product development, you don't have to go further than Ultimate Technology Corporation. Ultimate Technology employs approximately 100 people in Victor and Cleveland, where they design, assemble and service "Point of Service" (POS) solutions for the retail industry.



Ultimate Technology is extremely disciplined in its business strategy and the product development process that flows from it. The company concentrates on mid-sized retail chains in the Specialty, Convenience and Hospitality markets. They focus on

providing a total solution to their customers that includes both hardware and services. Heavy emphasis is placed on listening to each customer to understand their real business issues, understanding their retail technology objectives and delivering an innovative solution that precisely meets those needs.

Under an earlier management team, Ultimate Technology's product development was primarily driven by specific customer requests. This system was not scalable to support the needs of Ultimate Technology as it grew into a larger company. In addition, the retail chains being targeted wanted to know that their provider of mission critical equipment utilized processes that ensured product reliability, support over time, and compatibility between older and newer products.

With the arrival of a new management team under President and CEO Sam Villanti, Ultimate Technology made two critical changes to its product innovation system. First, it installed the widely-used "Stage-Gate" development process which provides a disciplined roadmap to take new product ideas from the initial discovery stage, to market definition, physical development and final commercialization through a series of "gate" reviews and "go/kill" decision points. Working within this framework, the company set up cross-functional teams to guide products through the process. The disparate functional goals of these team members provide a healthy tension which ensures that product

designs incorporate all useful features without going overboard in any one area.

Ultimate Technology's new line of self-service kiosks is an excellent example of this process. For some time, the company had sold components to other manufacturers of free-standing kiosks. As a result, management could clearly see the market potential for these devices. Consideration was given to a strategy of more aggressively supplying these manufacturers, but such a move would not capitalize on Ultimate Technology's knowledge of the retail market or its close relationships with retailers.

Two customers provided the opportunity to develop specific products and gain experience in this arena before entering the kiosk market with a broad offering. CooperVision sought a kiosk that could be placed in over 3,000 optometrists' offices across North America to dispense sample contact lenses and simultaneously monitor the inventories of these lenses. At roughly the same time, Ultimate Technology's long-time customer Kerasotes Theatres, a Midwest chain with 643 screens, sought a novel means of dispensing tickets reserved over the Internet or purchased in theatre lobbies.

Ultimate Technology's teams began working with each customer to define their requirements and develop simple, reliable solutions based on modular assemblies of standard components. At this stage of the development process, Ultimate Technology's key competitive differentiator came into play – its intimate contact with customers and their needs. For example, to answer the question of field usability, the company shipped prototype units to theatres and watched as local theatre staffers unloaded the bulky kiosks, handled them, installed the units on walls and connected them to power supplies.

In January, CooperVision began deploying Ultimate Technology kiosks. The first theatre kiosks were installed in Kerasotes Theatres in April. With this experience, Ultimate Technology announced the KwikUse™ line of self-service kiosks in May and displayed them at the Retail Systems 2006 Expo in Chicago later that month. The new product line has a solid developmental foundation, based on a thorough understanding of the market and customer requirements. In addition, it utilizes the modular component design and open source technology that characterize all of Ultimate Technology's products and ensure the quality and cost effectiveness of its manufacturing and eventual servicing.

## HTR's Manufacturing Extension Partnership Center, Rochester Business Alliance & the U.S. Department of Commerce Export Assistance Center present:

### Growing Your International Business: Export Strategies for Manufacturing CEOs

September 20th, 2006: 8am to 12 Noon  
Continental Breakfast and light refreshments will be provided

#### Session Overview:

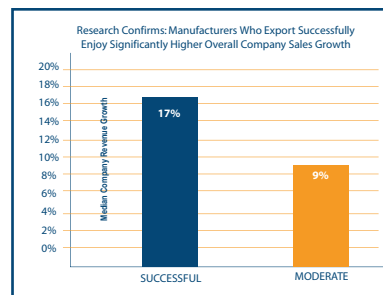
The program begins by sharing compelling new research on the strategic choices of successful exporters. As such, it is uniquely focused on CEO-level strategic issues and management challenges such as: commitment and mindset needed to achieve rapid growth, best practices employed by successful exporters, and strategic advantages to drive success.

Building on the strategic considerations, this program also introduces you to the challenges that successful exporters face, and the key operational concerns to address before beginning to export. Experts from regional assistance centers will present an overview of basic exporting concerns and resources needed. And to cement the details presented, local successful exporting companies will share their experiences in exporting—good and bad.

You'll gain valuable knowledge from the export research and expert speakers, as well as see actual examples of companies that are successfully growing globally. Don't miss this high-impact session!

#### Presenters Include:

- ☐ Melissa Kelly-McCabe, Clear Intent Strategy
- ☐ Bill Graff, Director, Economic Development and Trade, Rochester Business Alliance
- ☐ Specialists from the International Trade division of the U.S. Department of Commerce
- ☐ Local successful exporting CEOs



#### Session Agenda:

- 8:00 to 8:15am Registration, breakfast and networking
- 8:15 to 9:15am Export Strategies from a study of exporters: presentation by Melissa Kelly-McCabe
- 9:15 to 9:25am Break, refreshments
- 9:25 to 9:50am Video Session, Q&A period
- 9:50 to 10:05am Overview of Basic Export Activities, Operational Aspects, and Resources: Bill Graff
- 10:05 to 10:35am Overview of local Department of Commerce Assistance resources
- 10:35 to 10:45am Break, refreshments
- 10:45 to 11:30am Panel Discussion with Successful Export CEOs
- 11:30 to 12 noon Q&A with CEOs
- 12 noon Individual questions, networking, formal session ends

#### Registration:

- ☞ Cost of the seminar is \$50 per attendee for manufacturers located in Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates Counties.
- ☞ Current and previous HTR Clients are entitled to attend at the reduced rate of \$35
- ☞ Register online at [www.htr.org](http://www.htr.org)

#### Location:

Lennox Tech Enterprise Center  
150 Lucius Gordon Drive  
West Henrietta, NY 14586

For more information and to reserve space at this popular seminar, call Christopher Burns, HTR Marketing & Programs Manager, at 585-327-7929.

## Western NY PDMA: Focused on New Product Development and Product Management

Author: Mary Anne Shew, Publications Chair, WNYPDMA

The development and sale of products has been one of the engines driving quality of life and commerce since the first time humans completed a trade of goods. And now that the world is flat, as asserted by Thomas Friedman in his recent best seller, product research, development, manufacturing, assembly, distribution, and sales comprise a major force in today's global economy.

The leadership and staff of any modern product manufacturing company faces challenges unknown to their predecessors and must leave no stone unturned when locating resources to help. Fortunately, one of those resources for local companies is right here in their own back yard, the western New York chapter of the Product Development and Management Association. Since its inception in 1997, the mission of our chapter has been to enhance the capabilities and knowledge of those involved in the profession of new product development and product management in the western New York region.

To meet this goal, the chapter has conducted panel discussions, half- and full-day conferences, networking meetings, and joint events with organizations having similar missions such as High Tech Rochester and Digital Rochester. These meetings have provided a forum for the exchange of ideas and best practices, continuing education, and networking with others in similar fields. Topics have included global co-development, product innovation as a corporate value, partnering with the academic community, "skunk works" as a development strategy, and intellectual property concerns in product development. We have also produced quarterly newsletters containing articles of interest.

Our local chapter is also active in New Product Development Professional certification, conducting certification workshops to help people prepare for the exam and hosting the certification exams throughout the year.

As a chapter of the international PDMA, we are able to draw on numerous resources of that organization. The development of new products and services involves an integrated set of unique activities. PDMA is the only organization that focuses on addressing this challenge by providing opportunities for professional development, education, experience, networking and recognition. For members, these include access to a comprehensive body of knowledge online, attendance at the annual international conference, an online job bank, and numerous books and publications, including a widely regarded journal.

We at WNYPDMA strongly encourage you to visit our website, [www.wnypdma.org](http://www.wnypdma.org), to learn more about us and how we can help you continue to build the core competencies that will lead you to a successful future. Feel free to contact any of us on the board; we will be happy to meet with you for a cup of coffee and conversation.

Additionally, we will be hosting our first event of the 2006-2007 season on September 21st, and invite you to consider joining us for this season launch event. More information on date and location will be available shortly at [www.wnypdma.org](http://www.wnypdma.org).

## HTR Hosts Special Event on May 16th, 2006: Securing SBIR / STTR Funding

On May 16th, High Tech Rochester (HTR), High Tech Business Council (HTBC), Procurement Technical Assistance Center (PTAC), and Insyte Consulting teamed to present a high-impact educational workshop on how to acquire federal SBIR and STTR funds to support your company's R&D efforts. This great session covered the What, Where, When, and How of submitting a proposal to obtain federal funds!

As you work to grow your Rochester-based business, your capital strategy may well be one of the most significant challenges you face. As a local manufacturer, you probably already know that doing business with the government can be a great source of revenues in growing your business-- if you know how to go about it. But did you realize that over the past several years, Rochester area companies have received millions of

dollars to advance their research and development efforts? Two of the most significant government funding programs, the Small Business Innovation Research (SBIR) and Small Business Tech Transfer Program (STTR), provide millions of dollars annually to growing U.S. companies to fund high-risk research and development activities of particular interest to the U.S. Government. As a local manufacturer, your business can successfully compete for these dollars.

The workshop included information on:

- ✗ General program overview
- ✗ Information on the process for preparing an SBIR/STTR funding proposal
- ✗ Information on learning of funding opportunities... as they are announced
- ✗ Strategies for engaging local universities and research partners

## Partnership for Lean Innovation Is Revitalizing Ohio Manufacturers

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### The Goals

Based on industry studies and Partnership experience, three key goals have been identified for the program:

- Time-to-market is reduced by 50%
- New product success rates are increased by 50%
- First-to-market innovation is increased by 100%

### Results to Date

In May 2005, 11 southern Ohio manufacturers began the Lean Innovation journey. They included: Ferco Tech, General Tool Company, Hydro Systems, Hydro Tech, Planet Products, Precision Industrial Automation, Ransohoff, Richards Industries, Rotex, Setco and Xomox. These firms have now completed installation of their new NPD

processes and are implementing projects. Based on the positive experience of these firms, this summer another dozen Ohio companies are beginning their Assessment & Planning phase and Lean Innovation workshops are scheduled in South Carolina and Illinois.

If you are interested in finding out more about the Partnership for Lean Innovation and how your firm might take advantage of this ground-breaking program, contact Mike Haugh at (585) 327-7928.

## Ultimate Technology

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It is this kind of focused strategy and disciplined product development process that contributed to Ultimate Technology being ranked as the #1 POS system provider in an independent survey of North American retailers by RIS News which tracks advances in retail technology. In achieving this distinction, Ultimate Technology beat out industry stalwarts IBM, NCR, Fujitsu, Dell and Hewlett Packard for the top spot.

You can find out more about Ultimate Technology and its products at [www.UltimateTechnology.com](http://www.UltimateTechnology.com).

## HTR Hosts Special Event

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- ✗ Rochester-area success stories, and winning strategies shared by local SBIR funding winners
- ✗ Ample opportunity to ask questions and get answers from our panelists and experts, including a post-session one-on-one opportunity to ask agency-specific questions of the expert

Session speakers and panelists included:

- ▲ Jack McGowan, Professional Business Advisor with Insyte Consulting
- ▲ Paulette Birch, Program Manager, RBA, Procurement Technical Assistance Center (PTAC)
- ▲ Marjorie Zack, Director of Grants, Contracts and Intellectual Property, RIT
- ▲ Donna Chaudhuri, Associate Director, Bus. Dev., Cornell Biotechnology Center
- ▲ Jim Zavislan, Director, Center for Institute Ventures, UR

And representatives from the following Rochester-based SBIR/STTR grant winning firms:

- ASE Optics
- Impact Technologies
- Wakonda
- QED technologies

In total, 37 attendees joined us for this session, representing 33 companies. If you're considering exploring SBIR, or have identified a specific topic you'd like to pursue, please contact HTR's Rami Katz, Technology Commercialization Manager, at (585) 214-0596 to be connected to resources which can help you succeed.

## HTR is Designated Manufacturing and Technology Development Center for Finger Lakes Region

High Tech Rochester has been selected by the New York State Office of Science, Technology and Academic Research (NYSTAR) as the lead organization assisting small- and medium sized manufacturers and technology companies in the nine county Finger Lakes Region.

NYSTAR awarded \$9.2 million annual funding under the Regional Technology Development Center (RTDC) program to non-profit organizations in the State's 10 economic development regions. As the designated Finger Lakes RTDC for the coming five year period, High Tech Rochester will receive \$904,000 of State and federal funding in the first year. The award will continue operation of HTR's Manufacturing Extension Partnership Center and support HTR's technology commercialization and entrepreneurship initiatives. "We are extremely gratified that the State has recognized the impact of HTR's programs on the regional economy and chosen to continue its support for our work," said Peter Robinson, Chairman of HTR's Board of Directors.

"Since its inception, the RTDC initiative has provided special services to a range of businesses from new technology-based start-ups in need of basic business advice to mature manufacturing organizations in need of new technologies and methods to modernize their operations," said Dr. Russell W. Bessette, Executive Director of NYSTAR. "This program has helped both small and medium-sized manufacturing and technology-based businesses become more competitive as well as to help build the State's high-technology economy." The total credited economic impact of the RTDC program for the 5-year period ending in 2005 is \$1.56 billion. As a result of the RTDC program, 10,583 jobs have been created and retained in New York State.

HTR's Manufacturing Extension Partnership Center is part of a nationwide network of MEP centers coordinated by the U.S. Department of Commerce. Center consultants provide advanced operating methods and technologies to small- and medium-sized manufacturers to help them survive and grow in the face of rapid economic change. "We have been working with manufacturing clients throughout the Finger Lakes for almost 13 years," said Mike Haugh, MEP Center Director. "This commitment from the State will allow us to enhance our services and help more manufacturers build their businesses with effective management and new technologies." In parallel with the NYSTAR Award, Mr. Haugh has assumed additional responsibilities and has become HTR's RTDC Director.

At the Lennox Tech Enterprise Center, HTR has a team of experienced entrepreneurs who mentor startup companies, helping them avoid the pitfalls of early growth. HTR personnel are also focused on helping local companies commercialize new technologies developed in the region's top-flight educational institutions and commercial research laboratories.

Paul Wetenhall, President of HTR commented "The RTDC designation is a competitive process, and we believe that the initiatives HTR has undertaken to increase the impact of our efforts regionally, as well as the key regional partnerships we have created, was a distinguishing factor in our successful re-designation." Wetenhall notes that HTR is a key player in the \$15 million WIRED (Workforce Innovation in Regional Economic Development) initiative that is aligning 21 Finger Lakes organizations to transform the region's approach to entrepreneurship, innovation and worker training. "The work we are doing as a State RTDC meshes perfectly with and helps leverage the new projects HTR is helping create under the WIRED initiative."

## About HTR . . . the innovator's edge

High Tech Rochester (HTR) is a not-for-profit economic development organization that receives significant financial support from the New York State Office of Science, Technology and Academic Research (NYSTAR®), New York's high-technology economic development agency, and the National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership (MEP).

HTR is focused on regional economic development in the technology and high growth business sector, and assists the development of new and emerging businesses through its business incubator, the Lennox Tech Enterprise Center. Through its Manufacturing Extension Partnership, the organization improves the competitive position of small manufacturing firms. HTR, the innovator's edge, serves as NYSTAR's designated Regional Technology Development Center for the Finger Lakes region and one of nearly 350 MEP locations across the country. Learn more at [www.htr.org](http://www.htr.org).

## About MEP

The Manufacturing Extension Partnership (MEP) is a nationwide network of not-for-profit centers, funded by federal and state resources as well as client service fees. Center personnel offer a wide variety of consulting and training resources designed to improve the profitability, growth and survival of small and medium size U.S. manufacturers. In fiscal year 2003 (the most recent year for which figures are available), MEP clients created or retained over 50,000 jobs and increased or preserved over \$4.1 billion in sales. Learn more at [www.mep.nist.gov](http://www.mep.nist.gov).



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