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# The Catalyst

HTR-MEP's Publication for Innovative Manufacturers



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## Cornell JumpStart Program Provides R&D Facilities to Small NY Companies

By David Jung, Industrial Programs Manager, CCMR

Today's small and medium-sized manufacturers are faced with a highly competitive, international marketplace. Many of these firms are responding by improving and developing products featuring innovative materials and material processes. However, the expense of world class R&D equipment and skills can be out-of-reach for these companies. Increasingly, Finger Lakes manufacturers are "outsourcing" this activity to the Cornell Center for Materials Research. CCMR has an array of research, test and analysis, and technical capabilities that are only available in large, high-tech companies. All of these capabilities are available to companies selected to participate in CCMR's JumpStart program.

### About CCMR

CCMR is part of the U.S. national network of about 30 centers for Materials Research Science and Engineering Centers (MRSECs) funded by the National Science Foundation. The center's mission is to advance, explore, and exploit the forefront of the science and engineering of advanced materials. The unifying theme of its research is the study of materials purposefully structured at the nanoscale (near atomic dimensions). Within that realm are included device and thin film technology, MEMS and nanoscale fabrication and the

development of photonic materials, crystals, and structures with specific photonic properties and functions. CCMR's membership includes over 100 Cornell faculty members, with a broad range of expertise, who together conduct more than \$80 million in funded basic materials research that will impact future industries and markets. The Center also manages and makes available \$18 million worth of materials research facilities.

### Finger Lakes JumpStart Success Stories

Since 2005, CCMR and the New York State Office of Technology and Academic Research (NYSTAR), have used Cornell's JumpStart program to help 15 New York State companies. In the Rochester area alone, seven companies have received support through this program.

Two prime examples of companies that have looked to Cornell for lab and research capabilities are AirFlow Catalyst Systems and Wakonda Technologies. Referring to a fall 2005 project to evaluate catalytic materials, Henry Gysling, Director of Technology for AirFlow Catalyst Systems, said, "We came to the conclusion that we are not going to find a better institution to deal with than Cornell. They have the expertise, they have the instrumentation, and they have the willingness to work with

small companies to really help us understand our problems and identify what we need to do to improve our products. It's been a really valuable interaction."

Les Fritzeimer, President of Wakonda Technologies, a spring 2006 participant, found that CCMR resources made all the difference as he began building his new company. "The benefits of a CCMR partnership can go an awfully long way if you look at the value it brings early on, accelerating your growth into the marketplace. I have leveraged \$5,000 worth of JumpStart matching support into \$200,000 worth of federal money in the course of about 6 months. I'm now looking to leverage that into about a million dollars of funding for next year," stated Fritzeimer.

### Keys to JumpStart's Effectiveness

In addition to providing grant funding (see below), the JumpStart

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**Mike Haugh,  
Director**

The Finger Lakes MEP team has just returned from the 2007 MEP National Conference in Orlando. As with all well-run industry conferences, this was an excellent opportunity for us to learn new skills, get updated on the latest thinking about manufacturing issues and, most importantly, network with experienced people who deliver our services in new ways.

To give you a sense for the size and breadth of the national MEP organization, there were over 650 MEP consultants and staffers at the meeting from all 50 states and Puerto Rico. The conference itself offered 89 sessions ranging from tactical training (Lean certification and 5-axis machining), through strategic growth topics (an exciting new product development system that you will hear more about shortly) to macroeconomic updates (“Emerging Technologies: Biotechnology Opportunities”).

All of this ultimately benefits the Finger Lakes community of small and mid-size manufacturers. The MEP Project Managers you work with came back armed with knowledge of world class best practices in those areas most critical to your survival and growth. They also returned with new connections to professionals across the country who are available as resources to fill any gaps that may exist in our knowledge or that of our local consulting partners.

Does all this knowledge really yield results for our manufacturing clients? Many of you have participated in our quarterly surveys of client impacts arising from the projects we have done together. The national results for projects completed in 2005 have just been released and show the following:

### **FY 2005\* Client impacts as a direct result of MEP activities**

Increased and Retained Sales	\$6.25 billion
Cost Savings	\$1.30 billion
New Client Investment in Modernization	\$2.25 billion
Jobs Created	17,453
Jobs Retained	35,766

*\* Impacts on 4,726 clients contacted by independent survey firm during FY2006*

Not a bad return on the \$105 million that we taxpayers invested in the national MEP system last year!

These results from past projects are very rewarding, but what specific problem areas do we need to address going forward? In his conference session entitled “Is There a Future for American Manufacturing”, Dr. Edward Hill of Cleveland State University helped define the future needs of manufacturers and, thus, the focus of MEP services. Here are extracts from three of his key slides:

### **The Irony of Firm Strategy**

- Large firms are vertically disintegrating by outsourcing and reaching globally, especially if they have slow growth products
- **Three primary forces drive large manufacturer supply chain decisions**
  - Production/acquisition cost
  - New market opportunities
  - Product innovation
- Small and mid-sized enterprises (SMEs) in the supply chain need to become more vertically integrated, focused on providing solutions and superior customer experience
- Firms need to own their intellectual property or have proprietary knowledge

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## Five Categories of Companies:

### 1. Product innovators -

Grow the top line of their income statement without blowing up their cost structure. Can manage continuous product innovation and own intellectual property or have proprietary knowledge.

### 2. Process innovators & global competitors -

Manage the middle of their cash statements and ride their product catalogs. Have deployed IT to tighten their value chain. Developing global supply chain.

### 3. Lifestyle firms -

Goal is not growth but owner's control and earning target income. Are not profit maximizers. Frequently have no intellectual property or proprietary competitive advantage.

### 4. One-trick ponies -

Commodity business dependent on a single business or production relationship.

### 5. Dead and dying companies -

Job shops in auction markets.

## Four Challenges to Companies:

1. Deliver top-line revenue growth without blowing up costs.
2. How does innovation take place in small to mid-sized closely held firms?
3. What is the correct finance structure to support innovation? Venture and angel capital is not right for most SMEs.
4. How do you use best management practices to anticipate skilled labor shortages?

Just to relieve the suspense - Dr. Hill concluded that there is a bright future for American SMEs who have the skills and support network to meet these challenges. Generally, these include the category 1 and 2 firms above and those category 3 companies who can make the needed changes. Category 4 businesses are at great risk of failure without major transformation.

If you want to be successful as a product innovator or process innovator and global competitor, call me to discuss how the expertise of our team can help your business.

*Mike Haugh*

## ISO at Han-Tek: It Was The Right Thing To Do

"We didn't seek ISO certification because of customer pressure," relates Jon Tobin, President of HAN-TEK, Inc. "If fact, none of our customers at the time had even requested it. We did it because we knew it was the right thing to do for the company."

HAN-TEK is a material handling specialist of a unique kind with expertise in four primary markets: Automation Systems, Robots, Conveyor and Crane Systems. Due to this expertise, much of their work is on a large scale such as the work they did last year for the New York Power Authority to modernize two 275-ton gantry cranes at the Long Sault Control Dam in Massena, part of the St. Lawrence-FDR Power Project.

The Long Sault Dam is used to control St. Lawrence water levels for the Moses-Saunders Power Dam, four miles downstream, on the rare occasions when the outflow of Lake Ontario exceeds the capacity of the Moses-Saunders turbine/generator units. HAN-TEK designed, engineered,

manufactured and installed electrical and mechanical upgrades to the 50-year-old cranes that operate a series of gates on the Long Sault, a 2,960-foot curving dam.

As HAN-TEK was trying to expand further into its specialty markets, Tobin realized that due to the nature of "One-Off", "Make-to-Order" products where each and every one is different from the last, it is very difficult to develop any sort of consistencies in its processes. He was concerned about how the company could gain efficiencies particularly in the areas of Engineering, Purchasing and Material Handling, and there is always the complication of long lead-time, specialty components especially for the Robotics and Automation Systems.

Tobin instinctively knew that formal Quality Management Systems (QMS) are generally known to help standardize various operations, reduce costs and eliminate wasted effort. So the company embarked on an intense ISO 9000 implementation effort through the auspices of High

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## Dick Krause – National MEP “Innovator of the Year”

With great pride, the HTR-MEP team watched as Project Manager Dick Krause received the “Innovator of the Year” award from Roger Kilmer, Director of the MEP system, at the 2007 National Conference. This award is given annually to “MEP center individuals or groups who have developed modern practices to help renovate America’s industrial base and further the MEP system. Nominees have taken strides toward realizing the MEP strategic objectives by practicing innovative techniques within the Center or delivering innovative services to manufacturers.”

Dick’s award recognizes his work in developing HTR’s “Green Supplier” initiative. Under this program, HTR consultants provide clients with comprehensive assessments of their operations, focusing on opportunities to improve productivity and reduce waste in all its forms. These assessments are particularly cost effective because the U.S. EPA underwrites a significant portion of their cost in order to encourage waste reduction and efficient use of resources. In a unique contribution to this program, Dick has paired the assessment with a grant from New York’s Environmental Services Unit that helps pay for the cost of implementing projects arising from the assessments.



Pictured above are (l to r): Roger Kilmer - MEP National Director, Dick Krause, Mike Haugh – Managing Director HTR-MEP and John Engler – President, National Association of Manufacturers and ex Governor of Michigan

Assisted by Lorna Middelw of the Rochester Green Business Network and other HTR Project Managers, Dick has initiated assessments at 14 Finger Lakes region manufacturers. Implementation projects associated with these assessments are projected to save clients over \$2 million annually and greatly reduce environmental impacts in such areas as waste disposal, power generation and water treatment.

## New York State Announces ADVANCE-NY Training Grants

Up to \$12 million is available statewide through the NY Department of Labor’s new #25-M ADVANCE-NY training grant program. These funds can be used by businesses to train new and incumbent workers in specific occupational skills needed by the business or industry and that directly lead to increased wages and career growth. Applicants must demonstrate that training will result in workers’ acquisition of transferable occupational skills, industry-recognized certification or credentials and higher wages (trainee wages must be increased within six months after the end date of the contract).

Each business can receive up to \$50,000 per rolling 12 month period to a lifetime maximum of \$100,000. There is no minimum award amount. There is currently no deadline for submitting applications. You should allow 8-12 weeks from submission of your application before receiving notification of an award. Companies employing over 100 people in New York State must pay a cash match of at least 25% of the instructional costs.

For more information on this or other training programs, contact Mike Sisson, HTR-MEP Project Manager, at (585) 327-7935 or Michael.Sisson@htr.org.

## It Was The Right Thing To Do

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Tech Rochester. A companywide orientation helped to galvanize the entire workforce and in less than a year, with Tobin’s commitment and leadership and every employee’s contribution, a fully and appropriately documented system was created and implemented and subsequently registered.

HAN-TEK has had its Quality Management System in place for almost three years. Due to their ongoing commitment

to the system, they have passed every surveillance audit thus far. According to Tobin, the most significant benefit of their QMS has been an ability to move projects through their respective processes more quickly and efficiently. In addition, the company has gone from approximately \$7 million three years ago to almost \$12 million in 2006 with an increase in their workforce from 37 to 43 employees.

Visit HAN-TEK at their web site: [www.han-tek.com](http://www.han-tek.com).

# Selling to China & Sourcing from China A Special Seminar in Two Parts

Please join us on June 21st for a special two-part seminar covering doing business with China. Facilitating this session will be Heidi Hu Ames, founder and president of Myland USA, who has been successfully connecting companies in the Greater Rochester Region to China for 15 years.

Thursday June 21st, 2007  
7:45 am to 12 noon

Lennox Tech Enterprise Center, Multimedia Center  
150 Lucius Gordon Drive, Suite 100, West Henrietta, New York 14586

**Registration:** Call Kathy Goforth at (585) 327-7921  
**Fee:** \$25 to attend either session, or \$40 to attend both sessions.

## Segment 1

### Selling to China 8 am to 10 am

#### Topics to be covered will include:

- Assessing the Chinese Market
- Short cuts to developing distribution channels
- Selling & servicing of your products/technology/service
- How to secure payments
- Staying in control of your China team
- Cultural guidance
- Building the right team to be successful in China

## Segment 2

### Sourcing from China 10:30 am to 12 noon

#### Topics to be covered will include:

- Identifying and qualifying suppliers
- Becoming part of the value stream
- Building the supply chain and building strategic partners
- IP protection
- Logistics
- OEM – having components made to your specs
- PO Management
- Quality
- Culture differences and its importance
- Building the right team

### Distinguished Presenters & Panel Guests include:

- **Erin Cole**, *Department of U.S. Commerce*
- **Charlie Goodwin**, *International Business Roundtable*
- **Tom Chiavetta**, *Mengel Metzger Barr*
- **Elaine Lyons**, *Citizen's Bank*
- **Jim Wigton**, *Supply Chain Services*
- **Michael Perotto**, *Evolution Funeral Products*  
Local firm to share success stories in China

### Who should attend:

Executives of companies who intend to sell their products, technology or services to China; and/or companies who intend to source OEM parts, components or finished goods from China.

### What to expect:

In addition to a general overview of the dynamics of selling to and/or sourcing from China, attendees will hear from a variety of experts—including government assistance, legal, finance, logistics—about the considerations and resources available to assist with doing business with China. Attendees will also hear from a local firm that has enjoyed success by leveraging the connection with China.

program addresses the difficulties and uncertainties that companies face when seeking to work with a large university:

- Who will we call at the university and will they be interested in working with us? Will a busy faculty member really be interested in our project?
- We can't afford university-based R&D, and we're too busy already!
- Can our "real world" problem or issue be effectively addressed by a university research group?

Initially, companies selected for the program meet with a CCMR team that has small business and industrial experience. This team finds the right contacts and arranges meetings with center faculty members or experimental facility personnel aligned with the company's need. Next, the program's matching funds, are applied for a defined one-semester "get-to-know-you" period. This allows both parties to engage around a focused effort that requires only a small initial commitment of resources, yet also provide the basis for future collaboration and long-term benefits. Finally, program staff helps to coordinate the flow of project activity from initial planning and resource allocation to arranging periodic meetings of project participants.

## Apply for Up to \$5K in Matching Funds

The JumpStart application process is simple: Twice each year, companies are encouraged to submit brief applications via the CCMR website ([www.ccmr.cornell.edu](http://www.ccmr.cornell.edu)). These are reviewed by a diverse board of economic development professionals, faculty and Cornell outreach leaders. Once selected, CCMR and the company form the team described above and move ahead with the project. CCMR/NYSTAR grants of up to \$5,000 are matched by equal amounts of cash and in-kind support from the company to fund projects of up to \$15,000 total value. Project funding pays for resources such as faculty and their research staff, facilities, services, and materials. This year, applications will be accepted from June 18 thru July 20 for fall 2007 projects and again in the fall for spring 2008. (To be eligible, companies must be headquartered or have a facility in New York State. Small companies employing a total of 100 or fewer persons, including any parent companies or subsidiaries, are given preference.)

## Making Contact

CCMR Industrial Programs Manager David Jung ([dj59@ccmr.cornell.edu](mailto:dj59@ccmr.cornell.edu)) encourages companies to contact him and get to know CCMR. "Companies come to us with very specific interests and needs. We in turn look to the broad interdisciplinary faculty and facilities resources of CCMR to find a potential match with what each company is looking for," says Jung. "We can guide you through the process of making that connection, doing what we can to make your company more competitive.

Locally, firms are encouraged to contact Mike Sisson, HTR-MEP Project Manager, at (585) 327-7935 or Michael. [Sisson@htr.org](mailto:Sisson@htr.org). Mike will be happy to chat with you about program specifics, offer examples of other local companies who have successfully partnered with CCMR, and answer any additional questions you may have.



Cornell University  
Cornell Center for Materials Research



## HTR-MEP Welcomes Two New Project Managers to the Team!

HTR-MEP recently added two new Project Managers to our team of manufacturing experts. John Steele and Ed Sullivan are profiled in detail below. We invite you to call them and explore ways that HTR-MEP's services can improve the competitive position of your company.



John Steele



Ed Sullivan

**John Steele** spent his early career in sales and new product development with several companies in the Syracuse area. He joined Bausch & Lomb in 1987 in the Thin Film Technology Division, which later became Applied Coatings, Inc. Here John developed domestic and international customer relationships, designed and implemented business and marketing strategies and managed product development projects. John holds a B.S degree in Management and Economics from Indiana University of Pennsylvania and an MBA in Industrial Marketing from the University of Pittsburgh. His experience significantly enhances our ability to assess and work with clients in the critical areas of sales, marketing and product management. In the product development arena, his skills are particularly useful in identification of opportunities, market research and product definition. John can be reached at (585) 327-5906 or at [John.Steele@htr.org](mailto:John.Steele@htr.org).

**Ed Sullivan** joins HTR-MEP from NexPress and Kodak with a background in electrical engineering ranging from General Supervisor of circuit board assembly to Chief Engineer for electrical integration of new products. In addition to shop floor experience and team leadership roles in a number of areas, Ed has worked extensively with smaller manufacturers in the NexPress and Kodak supply chains. As part of this work, he managed the startup and supplier certification processes for new products and ensured that these suppliers complied with the new European RoHS regulations. Ed holds a B.S in Electrical Engineering from RIT and is the co-author of three patents. His skills add greatly to our ability to assess and manage shop floor projects, develop supply chain opportunities with regional OEM's, assist in RoHS compliance and other sustainability issues and help clients in their new product development efforts. You can reach Ed at (585) 327-7933 or e-mail him at [Ed.Sullivan@htr.org](mailto:Ed.Sullivan@htr.org).

## Funding, Assistance and Business Opportunities for Manufacturers and Growing Firms

**On March 21st, HTR-MEP's Rich Gizzi** provided an executive-level overview of the variety of local, regional, state and federal funding, assistance and business opportunities available to area firms. Rich took attendees through an extensive list of sources - both local and internet-based. For each, he explained the opportunities available and how companies can access them. Attendees received a hardcopy of the presentation, including a comprehensive spreadsheet with contact information and other useful details regarding the programs that he discussed.

For more details on the variety of assistance sources available to manufacturers in our region, please contact Rich Gizzi at (585) 327-7934.





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### About HTR

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 is one of nearly 350 MEP locations across the country. Learn more at [www.htr.org](http://www.htr.org) or by calling (585) 327-7921.

### 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 2005, MEP clients created or retained over 53,000 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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MEP | Affiliate



NYSTAR Designated Regional  
Technology Development Center