



TECHNOLOGY & INNOVATION IN MANUFACTURING EDUCATION **TIME center**

An NSF sponsored ATE center



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IT'S THE RIGHT TIME ...

In October, 2003 the National Science Foundation awarded a \$3 million grant to establish the Technology and Innovation in Manufacturing Education—TIME—Center. This four-year grant charges TIME Center's educational and business partners to develop initiatives that meet the educational needs of Maryland's manufacturers while improving the industry image.

TIME SPONSORS LEAN WORKSHOP FOR EDUCATORS

"I am better able to connect problem-solving and teamwork to real world applications. I will now be able to redirect lessons plans and units to point students to local industries."

"The workshop allows me to expose my students to manufacturing as a possible career choice because I know what is out there and have contacts for more information."

These are but two of the many positive and enthusiastic comments made by the 16 educators who attended the Lean Manufacturing Summer Workshop for Educators.

The four-day workshop provided participants with lean manufacturing concepts, including the technical and academic skills required in modern manufacturing. These learnings were reinforced through hands-on exercises and a tour of GM Powertrain, Baltimore Transmission. Each participant was given a simulation kit and reference material allowing them to recreate their new found learning with their students. The workshop culminated with teachers developing lesson plans and exercises around specific lean applications.

The 16 educators, representing 13 different middle and high schools from seven Maryland counties, included manufacturing, technical education and Project Lead The Way instructors, as well as instructors in the core disciplines of science, physics, and chemistry.

The TIME Center is a National Science Foundation funded Advanced Technology Education Center that, through its educational and business partners, is charged with developing initiatives that meet the education needs of Maryland's manufacturers and



improving the industry image. One such initiative is to provide professional development opportunities for teachers to update their skills and abilities and in turn, their instructional programs. The lesson plans developed as a result of the workshop will be made available to teachers statewide.

The TIME Center would like to especially recognize the support of the Maryland Technical Extension Service and GM Powertrain, Baltimore Transmission, for making the workshop a success. Dave Rizzardo and Ron Hawkins from the University of Maryland Technology Extension Service (MTES) were the lead instructors for the classroom training and simulations. They have extensive experience with Maryland manufacturers in training and deploying lean manufacturing principles and practices, and their hands-on experience helped the participants better understand the role that lean principles play in modern manufacturing environments. Likewise, the team from GM Powertrain brought theory to light with a comprehensive plant tour and detailed discussion of GM's quality systems and lean applications.

Additional information and photographs can be found at the RMI web-site

www.marylandmanufacturing.info.

DBED SUPPORTS MANUFACTURING TRAINING

The Department of Business and Economic Development has entered into an agreement with the TIME Center and its five partner colleges to assist Maryland manufacturers with the training necessary to improve the quality and productivity of their operations. Under the agreement, participating colleges may request reimbursement of 50% of the cost of training for an employee of a Maryland manufacturer up to a maximum of \$125 per trainee per course. The maximum funding for each College is \$10,000 for FY 2006.

"The Department of Business and Economic Development is pleased to partner with the TIME Center and Maryland community colleges to advance Maryland manufacturing," said Robert L. Hannon, DBED assistant secretary. "This unique partnership will identify manufacturing skill areas, develop appropriate curriculum and provide funding to help Maryland manufacturers better compete in today's global economy."

Under the agreement, training offered must be in one of the five identified skill areas targeted by the TIME Center and the curriculum must be approved by the TIME Center. On a quarterly basis, each college submits an invoice to DBED for reimbursement for eligible training cost for participants. Qualifying courses must be offered at either the standard per credit hour fee for credit courses or at market rates for non-credit courses.

According to Tim Sherman, Dean of Occupational Education, Wor-Wic Community College, "The agreement will allow us to expand our partnership with area manufacturers by increasing the number of workers who can take advantage of training. It will also improve the industry image to the public and potential students." The other four participating colleges are: Chesapeake College, the College of Southern Maryland, The Community College of Baltimore County, and Harford Community College.

IMT PROGRAM IN FINAL STAGES

The TIME Center anticipates roll-out of the Industrial Maintenance Technology (IMT) curriculum this upcoming academic year – Fall/Spring 2005-06. IMT was chosen as the first program area for curriculum development because our industry partners told us the technical skills developed in this program would generate the broadest positive impact for regional manufacturers. The program was targeted not just for high-impact content, but also for ease-of-use; courses are designed in a flexible, modular format that allows students and employers to “mix-and-match” to meet their unique training needs. IMT courses are available either as credit or continuing education learning experiences. In addition, courses can be delivered at any of the TIME Center’s five partner college campus locations or on-site, allowing the adaptation of materials to specific worksites and equipment, when required.

ED FANGMAN JOINS THE TIME CENTER

Ed Fangman has accepted the position of Director, TIME Center, School of Applied and Information Technology, Community College of Baltimore County. Ed will be responsible for the overall administration of the National Science Foundation TIME Center grant including supervising project staff, overseeing grant activities and serving as an interface with business, education and community stakeholders and partners.



Project Lead the Way Funded by TIME

For the second year, the TIME Center has provided funds to support training for four high school faculty for Project Lead The Way. PLTW is a statewide initiative of the Maryland State Department of Education to support the adoption of the PLTW curriculum at high school and middle schools. The PLTW is a strong, academically sound set of courses focusing on engineering and engineering technology.

Internships for Educators

The TIME Center Faculty Internships are in full force this summer with a record eight faculty members spending a total of 16 weeks learning about modern manufacturing. Faculty members from Baltimore County, Harford County, Howard County, the Lower Shore and the Upper Shore are interning at Vulcan Hart, BAI Industries, CS Boatworks, Atlas Container, idX, Sherwin-Williams, Unilever, and Kaydon Ring & Seal. The TIME Center would like to thank the manufacturers who volunteered their companies as internship sites—it’s a great way to get the positive word out about the career opportunities in Maryland manufacturing.

Manufacturing Teen Web Site

The Maryland Business Roundtable for Education (MBRT), in partnership with the TIME Center and the manufacturing industry, is developing a manufacturing section within its established teen career web site,

BeWhatIWantToBe.com. The project introduces high school students to exciting careers in manufacturing as exemplified by the employees in Maryland manufacturing. Through career profiles and student interaction, the site provides real-world motivation for studying career defining courses such as math, science, and technology education. Manufacturers interested in supporting the project, both financially and by identifying employees whose career stories serve as motivational examples for high school students, should contact Will Anderson at will@mbrt.org.

TIME Center Tapes Forums

The TIME Center, in its effort to provide up-to-date information on Maryland manufacturing, has underwritten the cost of videotaping two RMI forums held this spring. The first was an RMI/WTCI Inside Series visit to Teledyne, held April 14. The second, was a special RMI event titled Innovative Women in Manufacturing, held April 28. Both are available on RMI's web site at www.marylandmanufacturing.info. In addition, the Center also taped a site visit at Maryland Thermoform by Manufacturing students from Sollers Point Technical High School. All videotapes are available through the TIME Center.

Upcoming Events

- September 19 and 20 Regional Industry Advisory Committee meeting at the CCBC Hunt Valley Conference Center
- September 23 TIME Center Steering Committee meeting from 10:00 am to 12:00 noon at the Catonsville Campus of CCBC
- October RMI's Manufacturing Month Celebration (details to follow)
- October 5 thru 7 National Science Foundation Advanced Technology Education Principal Investigators Conference, Washington, D.C. (www.aacc.nche.edu)
- October 22 thru 25 National Council for Workforce Education Conference, San Antonio, TX (www.ncwe.org/conference)
- November 17 and 18 National Science Foundation Evaluation Conference, Washington, D.C.

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