



National Center for Manufacturing Education



An NSF National Center of Excellence
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www.careerME.org

National Center for Manufacturing Education

ATECENTERS



GOAL: Increase the national impact of engineering and manufacturing technology reform.

- Proactively expand resources in the digital clearinghouse
- Expand the user base of faculty across the country
- Maintain pre-college outreach activities



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DETROIT — Michigan had a day of good news Friday, when two major companies said they'd picked spots in the economically depressed state for their manufacturing facilities.

General Electric says they'll hire 1,100 scientists, engineers and technologists in a new manufacturing technology and software development site in Van Buren Township, about 25 miles from Detroit. And General Motors said they picked a plant in Orion Township, about 40 miles north of Detroit, to make a subcompact and compact car.

The news is a bit of brightness in a state that's leading the country in unemployment with 14.1% of workers without jobs, housing foreclosures and general economic malaise. Wisconsin and Tennessee were also competing for GM's small car plant. Troy Clarke, president of GM North America, said he's confident GM will be able to produce a low-cost small car in Michigan. GM will be the only automaker to produce a subcompact car in the U.S. Typically, production of smaller vehicles has been in low-cost countries, because the cars haven't historically brought in much profit for the car companies.

GE CEO Jeff Immelt, too, says he's confident GE can produce low-cost products at a Michigan site. **For too long, companies have been outsourcing important skill sets to other countries, and some of that needs to start coming back to the U.S.**

"It's hard to point to a successful country that has completely eroded its manufacturing base," Immelt says. "I do think **it's important for the country to be more invested in manufacturing.**"

And Michigan makes sense because there are a lot of skilled precision workers with engineering and technical backgrounds looking for work, he says.



GM, GE pick Michigan for manufacturing facilities

Updated 7/2/2009 12:38 PM

By [Sharon Silke Carty](#), USA TODAY

AREA DEVELOPMENT HOMEPAGE -

According to the Center on Budget and Policy Priorities in Washington, D.C., 47 of the 50 U.S. states face “fiscal stress” in their fiscal year 2009 and/or fiscal year 2010 budgets. Minnesota is no exception: Its 2009 legislative session ended in May without a concrete plan on how to balance the remaining \$2.7 billion budget shortfall.

However, aside from the budget challenges, the state’s economy is poised to grow in both historically strong areas and emerging new ones. Its legion of companies has a long tradition of innovation, and **Minnesota is known for its steady work force and employers who continue to invest through “thick and thin” times.**

Minnesota is home to 19 Fortune 500 companies and ranks ninth among all states with these sought-after giant entities. The companies comprise diverse industries — from medical device manufacturing, financial services, and insurance to food products, retail, and transportation — and include such household names as Best Buy, Target, 3M and General Mills.

The state’s \$17.3 billion in 2008 export sales reveals a number of robust sectors. Computers and electronics comprised about 25 percent of those sales. Other top categories included machinery (\$2.9 billion); transportation equipment (\$2 billion); miscellaneous, including medical (\$2 billion); food (\$1.4 billion); and chemicals (\$1 billion).

Minnesota ranks third in the United States in wind energy production capacity and fourth in ethanol production. Its energy industries are increasingly taking “center stage” and attracting new investments. Moventas, a Finnish builder of gear boxes for wind-power turbines, recently selected Minnesota over several states competing for its U.S. facility. Production begins by year-end 2009 and will reach full capacity by 2011.



Minnesota: Emerging Industries Flourishing in Spite of Fiscal Challenges

June/July 09

By Lisa A. Bastian, CBC

Web portal attributes and content

- . . . National but customized to a state
- . . . Combination of created content and linked resources
- . . . Scholarship information
- . . . Degree programs
- . . . Manufacturing caveats – e.g. Made in Florida, career stories in manufacturing
- . . . Internship, co-op, job postings
- . . . Customized content that leverages local resources
- . . . Resources and programs at the middle and high school levels

Web portal metrics for success

- . . . Number of students, teachers impacted
- . . . Number of programs, projects
- . . . Testimonials, case studies, success stories
- . . . Industry participation, continuity

Spring 2008 Requirements:

Partnership with NCME and NSF to develop/link the necessary resources that will be disseminated via a newly developed **web portal**, customized for the pilot project, for the state of Ohio

- Heighten student interest in manufacturing careers
- Similar to website *www.nextgenmfg.org*
- Request: \$50,000

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to Reality . . .

Web Portal Features:

Interactive

Links to career examples

Adaptable by regions

Describes high skill levels

Links to degree programs

Allow for customized content

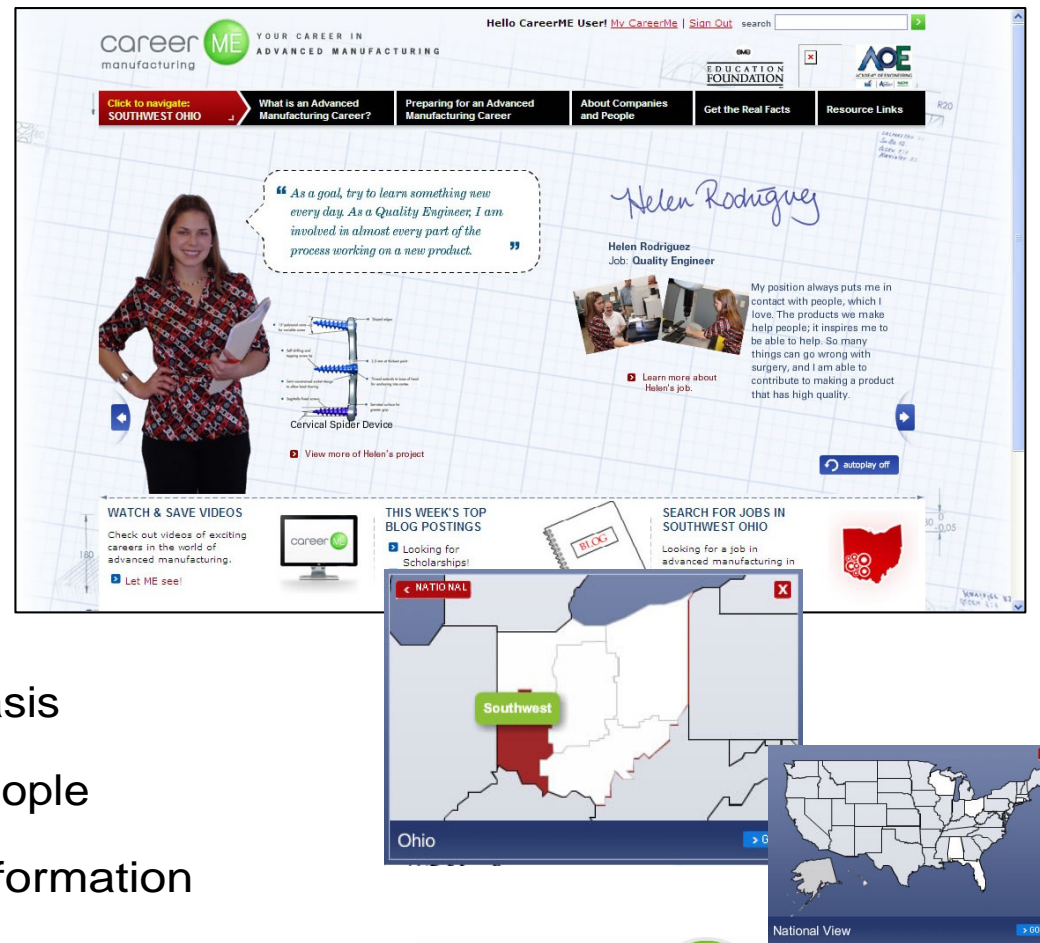
Leverage off local resources

Front Page with national emphasis

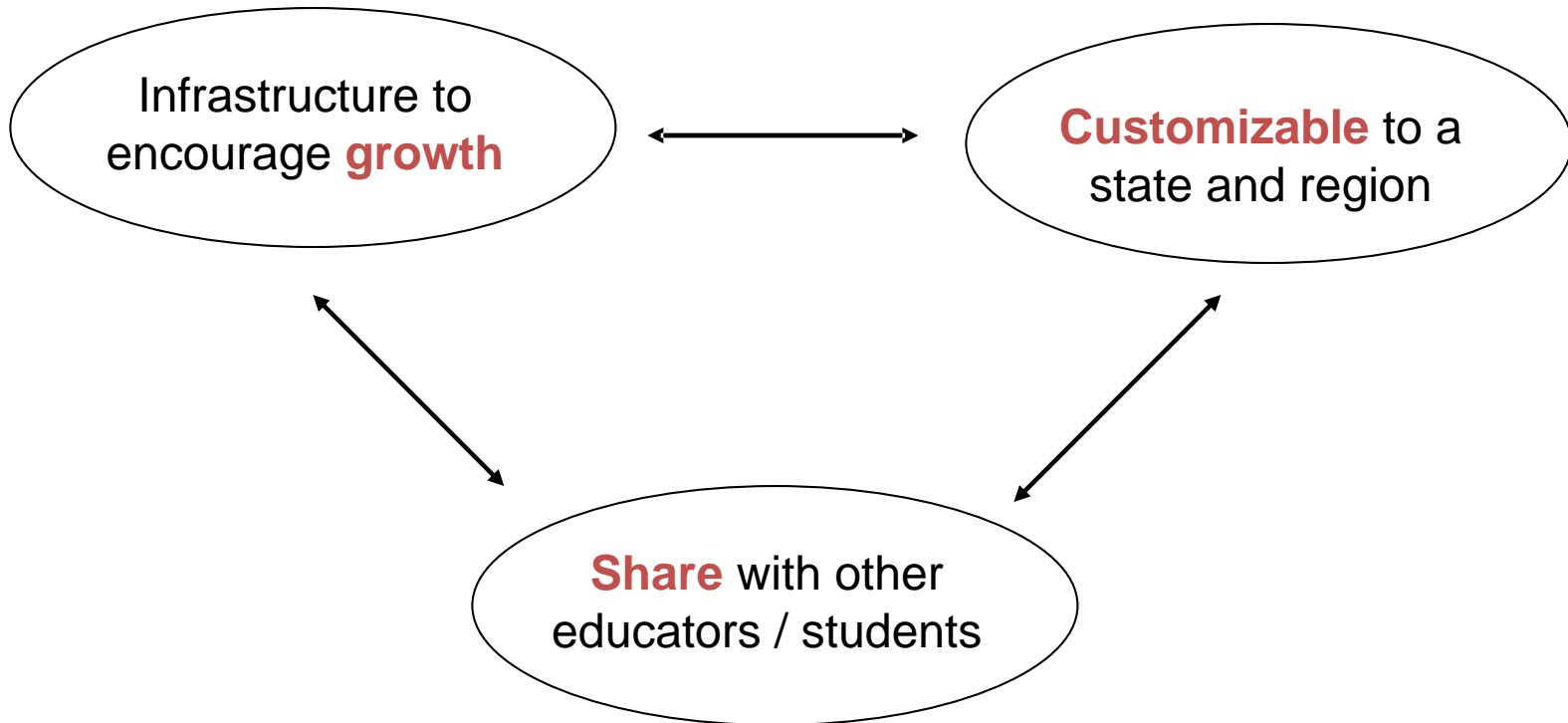
Appealing to technical savvy people

Flexibility to add all types of information

Interface with local manufacturing companies



Web Portal “Unwritten” Requirements:





Patterson Career Center PLTW Pre-Engineering Senior Class

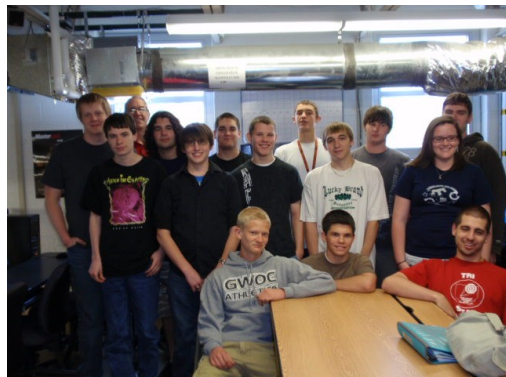
Centerville H.S. PLTW Pre-Engineering Senior Class



Not pictured:

Centerville H.S. Physics Class - Juniors & Seniors

PLTW Pre-Engineering Junior Class



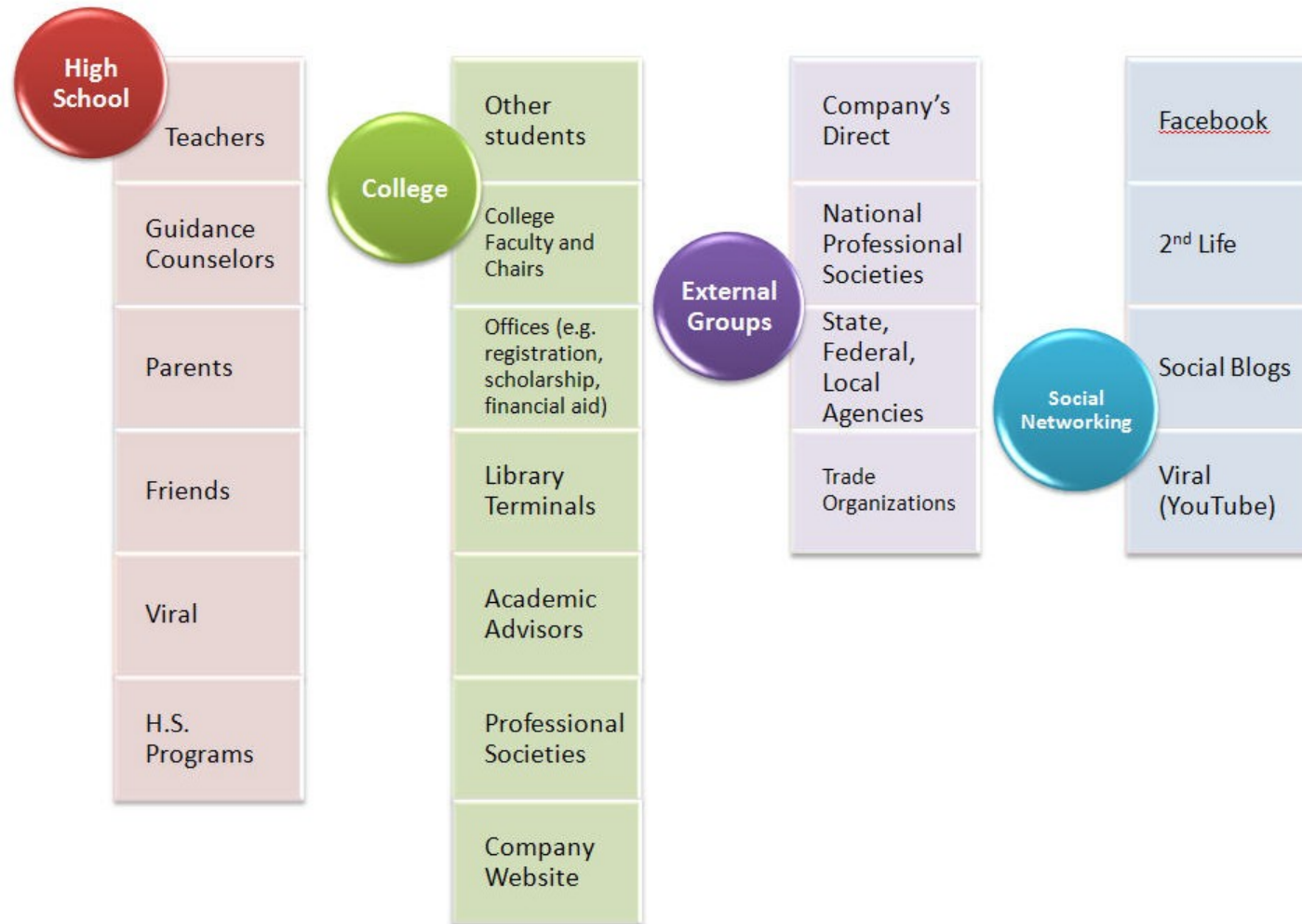
Kettering Fairmont H.S. PLTW Pre-Engineering Junior and Senior Classes



University of Dayton Manufacturing Engineering Technology Class (Sophomores)



Students are influenced by:



Career Awareness:

Advanced Manufacturing Jobs

- Career profiles w/ real jobs
- Companies who hire
- School programs to prepare
- Resources to help

Student AND Teacher:

Involvement and Ownership

Job shadowing

Class projects / competitions

Companies in the area

- What they do
- Products made
- Processes

Career Awareness:

Student AND Teacher:

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Connections & Relationships

www.careerME.org

Reason "to Click"



*What is
Advanced
Manufacturing*

http://www.careerme.org



www.careerME.org

Reason "to Click"



About
Companies and
Careers

<http://www.careerme.org>



www.careerME.org

Reason "to Click"


The screenshot shows the careerME.org website interface. At the top, the logo reads "career ME manufacturing" with the tagline "YOUR CAREER IN ADVANCED MANUFACTURING". A navigation bar includes links for "What is an Advanced Manufacturing Career?", "Preparing for an Advanced Manufacturing Career", "About Companies and People", "Get the Real Facts", and "Resource Links". The main content area features a sidebar with "REAL NEWS AND STORIES", "WATCH AND SAVE VIDEOS", and "QUICK FACTS ABOUT ADVANCED MANUFACTURING". The central focus is a detailed page for "PREPARING FOR AN ADVANCED MANUFACTURING CAREER DETAIL" at Miami University - Hamilton Campus, providing contact information for Ron Earley and a description of the Mechanical Engineering Technology program.


career ME manufacturing YOUR CAREER IN ADVANCED MANUFACTURING


Hello CareerME User! [My CareerMe](#) | [Sign Out](#) search

GMEDUCATION FOUNDATION lead theWay AOE

Click to navigate: **SOUTHWEST OHIO** | What is an Advanced Manufacturing Career? | **Preparing for an Advanced Manufacturing Career** | About Companies and People | Get the Real Facts | Resource Links

REAL NEWS AND STORIES
 [Tell ME more!](#)

WATCH AND SAVE VIDEOS
 [Let ME see more!](#)

QUICK FACTS ABOUT ADVANCED MANUFACTURING
 [Give ME more!](#)

PREPARING FOR AN ADVANCED MANUFACTURING CAREER DETAIL

Miami University - Hamilton Campus
1601 University Boulevard
Hamilton, OH 45011

Contact: Ron Earley, Engineering Technology Department
Email: earleyr@muohio.edu
Phone: 513-727-3250

Mechanical Engineering Technology students develop the ability to analyze, synthesize, and solve technical problems. This program provides a solid foundation of mathematics, physics, and computer applications. The program also provides breadth through required studies in economics, communications, and liberal arts. Our lab equipment is a diverse collection of manufactured or canned experiments and equipment built by students and technicians of the Department of Engineering Technology. Graduates work as Engineering Technicians within manufacturing related areas such as testing, analysis, design, and development of products. Graduates may also continue their education toward a Bachelor of Science in Applied Science degree.

Programs: [Mechanical Engineering Technology](#)

Degree(s): Associates

Courses: Computer Aided Manufacturing, Computer Numeric Control Machining, Computer-Aided Design

Course Categories: Automation, Programming

Accreditations: TAC/ABET

Scholarships: None Specified

Internships: None Specified

Co-ops: None Specified

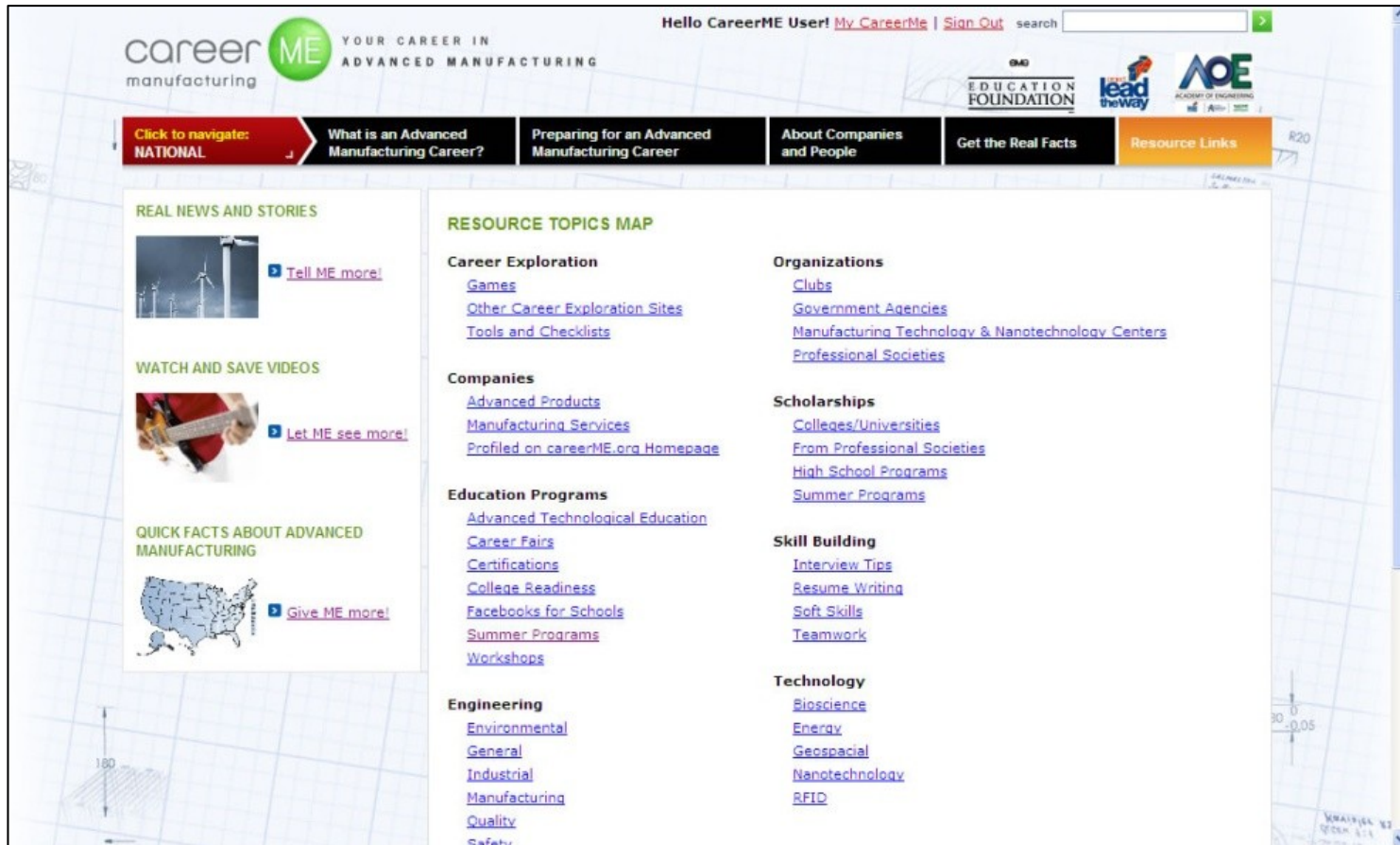
Preparing for
your career

<http://www.careerme.org>

career ME manufacturing YOUR CAREER IN ADVANCED MANUFACTURING

www.careerME.org

Reason “to Click”



*Stories & news,
technologies,
videos to explore*

*Resource links,
contact with
industry experts,
job connections*



A powerful tool:

Teachers to Students
Students to Students

(within a region, across the state . . . nation)

The screenshot displays the careerME.org website layout with the following sections:

- WATCH & SAVE VIDEOS:** Check out videos of exciting careers in the world of advanced manufacturing. [▶ Let ME see!](#)
- THIS WEEK'S TOP BLOG POSTINGS:**
 - ▶ Looking for Scholarships!
 - ▶ New Nano Programs
 - ▶ 2009 Best Salaries List[View SW Ohio CareerME Blog](#)
- SEARCH FOR JOBS IN SOUTHWEST OHIO:** Looking for a job in advanced manufacturing in SW Ohio?
 - ▶ Locate jobs now
 - ▶ Society of Manufacturing Engineers Job Connection
- STATISTICS:**
 - AVERAGE SALARY in Southwest Ohio:** \$60,000
 - 2009 TECH PREP SHOWCASE in Southwest Ohio:** Champion - Door Powered Generator; Centerville H.S.
 - MANUFACTURING HIRING RATE in Southwest Ohio:** 89%

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Logos for: EMG EDUCATION FOUNDATION, NATIONAL SCIENCE FOUNDATION, and NCMG.

www.careerME.org

Reason “to Click”

A powerful tool:

BASIC – Information / Awareness (useful passive)

INTERMEDIATE – Demand for regional involvement (active)

ADVANCED – Provide content (inter- active)

A powerful tool AND “one of a kind” tool:

- **Job Shadow Program – create a profile**

Communication, writing, organization skills

- **Connect with a Profile**

Bring the profile to the classroom

- ~~Social Networking~~

Class to Class / Industry to Class



www.careerME.org

Reason “to Click”

**Any question, information, how to get started,
connections with profiles ...**

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cell: 937- 672- 0735

or . . . click on the “contact” link at bottom of homepage