

Advanced Manufacturing Meeting

January 25, 2006

Michigan's manufacturers will continue to face challenges as the global economy continues to expand.

Globalization:

- The new economy requires that firms within an industry work collaboratively, i.e., workforce issues
- Intellectual property vs. commodity
- Intellectual property cannot be off-shored
- Work globalization into community college curriculum
- Encourage bi-lingual teaching in K-12 schools
- Instill work ethic - "push to achieve"

Educational Services:

- Education is key; it needs to address skills shortages and gaps: There are both remedial and basic (soft) skills shortages, leaving today's workforce unprepared. Skills gaps include:
 - Project management and leadership skills - understanding of team concept - ability to know when to lead and when to follow – collaboration skills
 - Mindset committed to life-long learning – ability to adapt quickly to change
 - Basic problem solving – critical and systems thinking
 - Good old-fashioned savvy - entrepreneurial thinking
 - Manufacturing expertise – understanding of global issues – understanding of link between economics and business
 - Communication skills, including interpersonal skills
- Address remedial skills:
 - Workers must have a good grounding in the basics – reading, writing, and math applications in order to continuously train to keep up with changing technologies – usually every 5-10 years
- Life long learning as a concept (Incumbent and Dislocated Workers):
 - A continuous learning culture needs to be implemented.
 - In small and medium companies, training is the first thing to get cut, due to the "bottom line"
 - Cross training has also been effective.
 - Mentorships – younger generation teaches new skills to older workers, older workers instill their knowledge
 - Transferability of manufacturing skills into other industry sectors
- Apprenticeship curriculum:
 - Students are interests in projects
 - Students have a need to put intellectual and hand skills together
 - Mechanical and skilled trades need to be matched
 - If the foundation is laid for basic soft-skills, then anyone can learn the job
 - Apprenticeships should be used as a model for learning, not necessarily having to be "registered" apprenticeships

Culture:

- Change media perception, which concentrates on lay-offs and other negative, newsworthy items, rather than communicating the awareness of opportunities
- “Working-class” images need to change the perceptions of parents
- Change the image of community colleges as being lower status
 - High Schools focus on four year college prep and then “dump” lower skilled students into community college skills centers
- Change the stigma of manufacturing being dirty assembly line work, rust belt and old, to high tech and new
- Communities need to push to be pro-manufacturing

Industry:

- Workforce gaps include:
 - Lack of young people entering apprenticeship programs
 - No statewide strategy for workforce development
 - Community colleges are spending too much time (up to 55%) in providing remedial training
- Culture & Trends – (mergers, acquisitions, demographics, technology and productivity) manufacturing operates differently than 20 years ago and is transitioning into
 - Paperless
 - Lean & agile
 - Virtual rule
 - Acquisition vs. alliance
 - Flexibility and adaptability
 - Act globally
 - Focus on technology development not deployment
- Entrepreneurship Opportunities
 - We need to create jobs and the demand for employees by amending the state’s tax policy to encourage job creation

Policy:

- Communications and marketing strategy is needed
 - Aimed at students, parents, and educators
 - Encourage parents/students to embrace manufacturing jobs as good jobs
 - Adopt a “national image campaign” to use skilled workforce and the skill sets needed as a tool for expanding the economy, with a focus on parents, young people, educators
 - Pipeline - (school-to-work) model
- Federal & State Policy Changes:
 - Systemic changes to education by addressing skills shortages and other gaps through the K-12 educational system
 - Current education system replicates itself the way it was into the future.
 - General education is not on the same wavelength as the needs of today’s society
 - Legislative adoption of consistency in school curriculums throughout the state would be a start to this

- Allow professionals to teach without the requirement of having a “formal” teaching certificate

Final Thoughts:

- Measure output, not input
- Primary & secondary education system – support gaps
- Get education to focus on advanced manufacturing
- Communicate changes in the way we think, work, and act
- Be very thoughtful on state and federal policy and what you want
- Basic education
- Identify things that government can do to create vibrant healthy growing mfg economy, use of limited resources to make it happen
- Education is key – “hands-on skills, school to work – elements in society do not believe it is valuable
- Communication to educate constituencies