SME, STEM, and the Future of Manufacturing
2015 Texas HTEC

Presented By
Wayne Mausbach March 6, 2015

EVERYONE YOU NEED TO MEET
EVERYTHING YOU NEED TO KNOW
EVERYTHING YOU NEED TO GROW
“Houston...We have a Problem”
Jim Lovell Apollo 13

- Baby Boomers Retiring
- Off-Shoring Jobs due to Bad Economics
- Lost interest in STEM Education
- Students not wanting “Dirty Jobs”
- Expense of Higher Education Prohibitive
“Since 1970 100 % of the 40% increase in real buying power was produced by the educated work force”

Jesse Thompson  Business Economist
Federal Reserve Bank of Dallas
“We have 3000 highly skilled Techicians here only 30 who are Engineers “

Mario Lozoya Director
The Future is Collaboration
NAM-Endorsed Skills Certification

Manufacturing Career Pathway Starts Here

The Employment and Training Administration convened a group of leading industry organizations to develop a comprehensive competency model framework for advanced manufacturing. The framework is designed to evolve along with changing skill requirements and maps to the Department of Labor’s Advanced Manufacturing Competency Model.
SME AT A GLANCE

Who is SME?

- Manufacturing practitioners
- Industry experts
- Academics
- Students
- Entrepreneurs (of all size companies)

All of us are working together to support the manufacturing community with vital services.
Student Membership $20
SME 2017 Strategic Plan

CORE VALUES:
✓ ACCOUNTABILITY
✓ COLLABORATION
✓ CUSTOMER FOCUS
✓ EXCELLENCE
✓ INNOVATION
✓ INTEGRITY
✓ PASSION

OUR STAKEHOLDERS:
We engage with stakeholders globally, including:
✓ Companies, Educators, Government and Communities
✓ Members, Students and Practitioners
✓ Current and Future Manufacturing Workforce

VISION
Enhance progress, prosperity and strong communities through manufacturing.

MISSION
Inspire, prepare and support our stakeholders in the advancement of manufacturing.

PURPOSE
Advance manufacturing and attract future generations.
LOCAL CHAPTERS

Get to know manufacturing professionals in your own backyard

- Social and professional networking
- Plant tours
- Technical presentations and training
- Youth and family programs
- Community involvement

- 168 Senior Chapters
- 165 Student Chapters
- 16 International Chapters

sme.org/chapters
TECHNICAL COMMUNITY NETWORK

A collaboration platform for PEOPLE, PROCESSES and IDEAS, designed to provide you with the most current information in your specialized area of interest within manufacturing

- Virtual and face-to-face meetings
- Producing technical content for SME programs and events
- Connect with peers and technical experts around the world

sme.org/tcn
Virtual Connection Points
EVERYTHING YOU NEED TO ... KNOW

- Manufacturing Content Channels – 22 channels of technology-specific content!!
- NEW! Mobile App for mobile device or iPad — available through iTunes.
- Free subscription to the industry-leading monthly publication, Manufacturing Engineering® magazine and its archived articles – a $120 value.
- A copy of each new Manufacturing Yearbook, such as Medical Manufacturing, Energy Manufacturing, Aerospace & Defense and Motorized Vehicle Manufacturing – a $25 value.
- The Digital Edition of Manufacturing Engineering® is an enhanced interactive magazine that replaces the online text-based version.
- SEARCH & BOOKMARK pages of the magazine on your computer desktop.
- CONNECT to the sources you’re most interested in.
WEBINARS

- Technology – specific webinars
- Participate from your desk or conference room
- All that is required is a phone and Internet connection
- Webinars are archived for future viewing by members
- A great way to distribute knowledge

sme.org/webinars
SME EVENTS

Please take a copy of the SME Events schedule

Also available online at: sme.org/events
INDUSTRY INITIATIVES

- Find out what people in the SME Industry Focus Areas are doing to connect with your peers and colleagues.
- Address crucial industry topics (i.e. Lean transformation, advanced materials and processes, and much more … ).
- Connect with key manufacturers, suppliers, industry groups and educators.
- Collaborate with technical experts, process and equipment suppliers, and other resources.
- Focus on creating technological advances and success within industries.
- Develop new learning opportunities.
- Dynamic events, strategic alliances and informative publications.

Aerospace & Defense  
Energy  
Motorized Vehicles  
Medical  
Workforce Development
Online Publications and e-Newsletters

AeroDef Manufacturing

Energy Manufacturing

Lean Directions

Quality in Manufacturing

SME Member Newsletter

Daily Executive Briefing

SME Speaks

From the Desk of… (from SME Volunteer Leaders)
SME's electronically archived technical quarterlies

- Subject matter of interest to all manufacturing and technology practitioners
- All from a technical perspective
- Each issue includes brief articles, product announcements and event listings
- A $400 annual value
Research

Connect to advances in fundamental and emerging technologies in material removal, material forming, and areas in manufacturing modeling, simulation, monitoring and control systems.

SME “Ask the Librarian” service is a $40,000 research database that is always at your fingertips - included FREE with membership!

Nonmembers have access to the Librarian services for a cost of $50 per question asked.

Associations
Books
Calculation & Conversion Tools
Dictionaries, Encyclopedias, Almanacs
Directories
Industry Standards and Specifications
Linda Hall Library
Manufacturing & Engineering Resources
Market Research
Salary Surveys
Software
Statistics
Government
National Technical Information Services
JOBS CONNECTION

- Employers search for highly qualified manufacturing professionals
- Job seekers post anonymous resumes
- SME members float to the top, especially those who are certified

ONLINE CAREER TOOLS

- One-on-One Career Coaching
- Ask the Career Expert
- Links, Articles, and Resources

Couple Jobs Connection with “Ask the Librarian” for a winning combination.
EVERYTHING YOU NEED TO ... GROW

Assess your manufacturing knowledge. 
Earn your CMfgT, CMfgE certification today!

Demonstrate and validate your Lean experience today! Find out more

TOOLINGU an SME company

Making the future. Together.
PROFESSIONAL CERTIFICATIONS

Earned by more than 36,000 people!

Members
Save $$$ Hundreds of Dollars in Discounts

sme.org/certification

Assess your manufacturing knowledge. Earn your CMfgT, CMfgE certification today!

Engineering Management Certification Fundamentals
Engineering Management Certification Professional
Certified Manufacturing Technologist (CMfgT)
Certified Manufacturing Engineer (CMfgE)
Six Sigma Certification
Lean Certification (Bronze, Silver, Gold)

Demonstrate and validate your Lean experience today! Find out more
MANUFACTURING KNOWLEDGE BASE

- Discounts on an extensive line of publications and videos
- Fundamentals to leading-edge emerging technologies
At the core of the new Manufacturing Knowledge Base Wiki is the nine-volume, encyclopedic-printed reference source, SME’s “Tool & Manufacturing Engineering Engineers’ Handbook.”

The TMEH provides comprehensive information on the most important manufacturing topics, featuring the combined knowledge of thousands of expert contributors and reviewers. And now that we’ve gone digital, you can be one of them!

SME members have the ability to create, edit and update content with an easy-to-use wiki format. This is your chance to contribute to what’s important to you and your industry!

See more at: www.sme.org/mfgknowledgebase
The Society of Manufacturing Engineers has a number of awards to honor your efforts and contributions throughout your career.

- International Honors Awards (7)
- College of Fellows (*membership required*)
- Honorary Membership
- Outstanding Young Manufacturing Engineer Award
- Award of Merit (*chapter award*)
- NAMRI/SME S.M. Wu Research Implementation Award
- Total Excellence in Electronics Manufacturing Award
- FFC Technical Paper Excellence Award
- Rapid Technologies & Additive Manufacturing Awards (2)
- J.H. "Jud" Hall Composites Manufacturing Award
- Presidents Award (*chapter award*)

sme.org/awards
SME Education Foundation
YOUTH AWARENESS OF MANUFACTURING

- SME provides information, tools and opportunities for students to learn about manufacturing and the exciting, satisfying, lucrative career opportunities it offers.

- The SME Education Foundation impacts more than 15,000 K-12 students each year.
Since 1998, the SME Education Foundation has provided more than $6.5 million dollars in financial aid through its various scholarship programs.

The Foundation awards scholarships to graduating high school seniors, current undergraduates and master’s or doctoral degree students pursuing degrees in manufacturing and related fields at two-year and four-year colleges.
Youth Programs

CareerMe.com
This exciting and innovative new resource, designed by the National Center for Manufacturing Education in partnership with the SME Education Foundation (SME-EF), is designed to encourage and provide young people in grades 11-14 with information they need on careers in advanced manufacturing.

CIM
Through the CIM program, the Foundation introduces high school students to exciting careers in manufacturing while engaging our industry partners and local SME chapter members.

National Robotics Challenge
The SME-Education Foundation (SME-EF) is proud to support the National Robotics Challenge where students demonstrate their engineering ingenuity and creativity encouraging them to pursue rewarding engineering careers.

Gateway Camps
A week long day camp for 6th - 8th graders, Gateway Academy is a project-based, hands-on curriculum designed by Project Lead The Way® to introduce middle school students to the fundamentals of science, technology, engineering and math.

PRIME (Partnership Response in Manufacturing Education)
The SME Education Foundation is committed to changing the future of manufacturing education and addressing the shortage of manufacturing and technical talent in the United States. Through PRIME, it is creating strong partnerships between organizations, businesses, and exemplary schools to provide a comprehensive community-based approach to manufacturing education. For details, go to: www.smeef.org/prime

ManufacturingIsCool.com
This award-winning, interactive website challenges and engages students in basic engineering and science principles, and provides interesting and useful educational resources for teachers. This fun and information-rich website was recently "re-engineered" (updated) and marketed around the country. The Foundation has received positive feedback from teachers, parents and students about its usefulness.
IT’S YOUR TIME ~ IT’S YOUR SME

It’s time to get involved …

✓ In Your Local SME Chapter
✓ In Your SME Technical Community
✓ In Your SME Education Foundation
✓ In Your Manufacturing Community

The future of MANUFACTURING depends on YOU and YOUR SME
Getting Involved in YOUR SME

- Learn from people in other industries; cross pollination can help solve problems
- Share your personal experiences and mentor others
- Provides alternate networking for employees within a common company, regardless of current level - through technical meetings and local plant tours
- Get firsthand exposure to new technology, processes and new career opportunities
- Through SME, your company reaps solutions and exposure for little or no cost
- Opportunity to gain enhanced professional competitiveness through your affiliation with SME
- Come in contact with people who can provide solutions
- Learn best practices from other people, chapters or companies
- Provides a safe environment to develop your business and personal skills

Leadership skills  |  Fundraising
---|---
Public speaking  |  Marketing
Finance  |  Human Resources
Project and Event Planning  |  Sales
SME is getting people to work together
Student Membership $ 20
SME connects all those who are passionate about making things that improve our world.

As a nonprofit organization, SME has served practitioners, companies, educators, government and communities across the manufacturing spectrum for more than 80 years.

Through its strategic areas of events, media, membership, training and development, and the SME Education Foundation, SME shares knowledge to advance manufacturing.

At SME, we are making the future. Together.
Questions?

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Thank you for your interest in SME!

sme.org/join i.sme.org
OUR HISTORY

THEN …

- Founded in 1932 with 33 members
- Formed by a group of tool engineers and master mechanics
- Mission: to collaborate on how to build the automobile
- Originally named the Society of Tool Engineers
- In 1933 renamed the American Society of Tool Engineers
- Became the Society of Manufacturing Engineers in 1969
- In June 2013 became known as SME

NOW …

- SME is the world's leading professional society supporting manufacturing education
- SME members promote an increased awareness of manufacturing engineering
- Keeps manufacturing professionals up to date on leading trends and technologies
- Influences more than half a million manufacturing practitioners and executives annually
- Members worldwide
- Supported by a network of hundreds of technical communities and chapters worldwide
- Members hail from diverse manufacturing industries
SME Members:

SME's new Manufacturing Knowledge Base Wiki is another way your SME membership helps you to **MEET | KNOW | GROW**!

- Participate in content development that is relevant to you, your job and your industry
- Connect online with other content experts to share, discuss and contribute knowledge
- Pass along your expertise to the next generation to build a stronger workforce
- Gain recognition as an expert contributor and open doors to publishing and career advancement
- See more at: [www.sme.org/mfgknowledgebase/](http://www.sme.org/mfgknowledgebase/)
Nonmembers:

Participation in the Manufacturing Knowledge Base Wiki is currently exclusively for SME members only.

- Discover how you can become an agent of change for the new Manufacturing Knowledge Base Wiki!
- Become a member and begin participating at: www.sme.org/join
- See more about the Wiki at: www.sme.org/mfgknowledgebase