REGIONAL COLLABORATION: HOW ALL STAKEHOLDERS CAN WORK TOGETHER

ATE PI CONFERENCE

OCTOBER 22 2015
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Advanced to Advantageous: The Case for New England’s Manufacturing Revolution

by The New England Council & Deloitte Consulting LLP
PURPOSE

COMPREHENSIVE STUDY OF MANUFACTURING IN NEW ENGLAND

• INDUSTRY
• EDUCATORS
• GOVERNMENT
PERCENTAGE OF JOBS DUE TO FOREIGN DIRECT INVESTMENT

U.S. Average 4.9%

New England 6.5%

ME 6.2%

NH 7.4%

VT 4.7%

MA 6.6%

RI 6.6%

CT 7.3%
MANUFACTURING IS THRIVING IN NEW ENGLAND

Precision Machining
Aerospace and defense
Signal Processing, optics
Medical Devices and biotechnology
Semiconductors and complex electronics

GAME CHANGERS:
Digital Design
Additive Manufacturing
Internet of Things
% of manufacturing jobs that are advanced (2012)

New England (2012)

<table>
<thead>
<tr>
<th>Population</th>
<th>14,563,443</th>
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<tbody>
<tr>
<td>Total Jobs</td>
<td>9,069,884</td>
</tr>
<tr>
<td>Total Manufacturing Jobs</td>
<td>640,640</td>
</tr>
<tr>
<td>Total Advanced Manufacturing Jobs</td>
<td>376,517</td>
</tr>
<tr>
<td>% of manufacturing jobs that are advanced</td>
<td>58.77%</td>
</tr>
</tbody>
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Source: Bureau of Economic Analysis (2012); U.S. Census Bureau; Deloitte Analysis
1. Create Comprehensive Educational Pathways
2. Expand Industry Partnerships and Apprenticeship Model
3. Re-Branding the Industry – “Make It” a Better Brand ("maker revolution")
4. Secure an Advanced Manufacturing Institute for New England – NNMI
5. Support to Scale
6. Alignment of Policy with Industry
Recommendation #1: Creating Comprehensive Educational Pathways

- Assess current pipeline for community college transfers and transferability of credits; migrate to more flexible models of transferability where possible

- Assess placement of graduates in advanced manufacturing employment post-graduation and strengthen ties to local area employers

- Continue to sponsor capstone consultancies and student maker projects, house incubators and be the leaders for industry to academia innovation

- Scale adoption of problem-based learning methods to grow student capabilities and transferable skills

- Work with career services to strengthen intern and apprentice programs that lead to hiring
Panel Question #1

How can educators and industry work together to prepare workforce necessary for advanced manufacturing?

What specific pathways exist in your state?
Recommendation #2: Expand Industry Partnerships & Apprenticeships

- Seek industry input and feedback on learning capabilities necessary for success in advanced manufacturing careers

- Continue to expand and scale apprenticeship for credit and apprentice to hire programs

- Engage in cross-pollination and innovation collaboratives with other academic institutions
Panel Question #2

What new models are being developed for apprenticeships?
Recommendation #3: Re-branding the Industry: “Make It” a Better Brand

- Educate college career counselors and career services office staff with the employment opportunities in advanced manufacturing and how they relate to collegiate programs.

- Conduct outreach to manufacturing partnerships to connect students to internship opportunities.

- Promote advanced manufacturing in career fairs and campus recruiting events.
Panel Question #3

1. How is manufacturing being rebranded?
2. What are you doing regarding the Maker Movement
3. What about engaging Career Counselors and Parents
“Make It” a Better Brand

SAVE THE DATE FOR THE
1st GREATER HARTFORD MAKER FAIRE

Saturday, October 3, 2015 > 10 am–5 pm

The Maker Faire is a hands-on event for people of all ages interested in creating, making, building, innovating, tinkering, hacking, engineering, learning, designing, or connecting.

October 3, 2015
10 am–5 pm
Trinity Community College
Farmington, CT

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IN PARTNERSHIP WITH
CBIA
MakeHartford
MakerspaceCT
Recommendation #4: Secure an NNMI Advanced Manufacturing Institute for New England

- Increase collaborative dialogue with advanced manufacturing programs and incubators in neighboring institutions

- If an in-house collaboration initiative exists (i.e., apprenticeship model, industry partnership), document and make the model available to others with guidance on how to implement

- Identify an anchor institution that will represent the NNMI grant submission
Recommendation #5: Support to Scale

- Promote research / business incubators co-located with campuses
- Support applied research initiatives that connect academics with manufacturers for mutually beneficial collaboration and R&D support
- Share leading practices in innovation with other institutions to improve and differentiate offerings
- Share IP protection leading practices for early stage innovation and start-up companies
How can small manufacturing enterprises and entrepreneurs come to scale?

Research and Development Incentives
IP Assistance
Technical Assistance
Recommendation #6: Alignment of Policy With Industry

- Participate in cross-sector partnership discussions with industry and government regarding learning capabilities, maker and technical curriculum, internships and apprenticeship programs, and educational opportunities, which advanced students academically and professionally.

- Contribute perspectives on technical education and industry-relevant learning capabilities, as well as challenges to technical education to policymakers.
Panel Question #6

1. What are the challenges industry faces regarding State regulations and policy
2. How do they relate to small manufacturing companies

Are there government policies that can be changed or implemented that will help our community colleges with creating a 21st century workforce that will ensure that the US is globally competitive in advanced manufacturing?
Open Forum

QUESTIONS ???

DISCUSSION ????

Thank You!