

Manufacturing Extension Partnership

Presentation on the Manufacturing Workforce Strategy

by

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Agenda

- Introduction
Gary Yakimov
- Manufacturing Institute Workforce Strategy
Emily Stover DeRocco
- State Examples
Texas – Ron Lehman
Washington – John Vicklund
Connecticut – Bonnie Del Conte
- Q&A

The Public Supports Manufacturing

Chart 5. Percentage of respondents who believe the manufacturing industry is very important to our

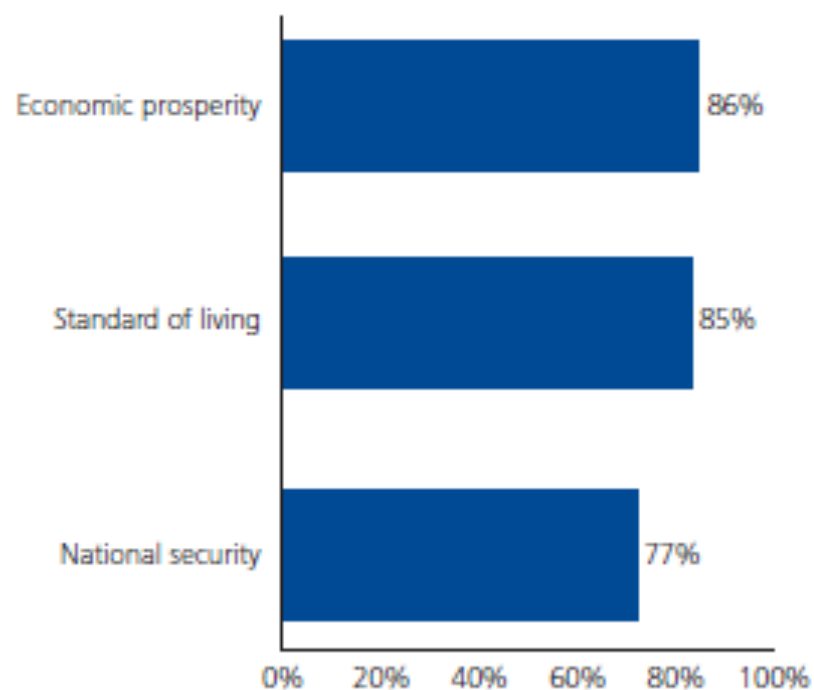


Chart 10. Ranking by respondents of the type of new industry facility they would support to create 1,000 new jobs in their community

Facility	Rank
Manufacturing facility	1
Energy production facility	2
Healthcare facility	3
Technology development center	4
Communications hub	5
Retail center	6
Financial institution	7

(Aggregate ranking of sectors by all respondents)

An Educated and Skilled Workforce

- In these tough economic times, business innovation is a strategic imperative.
- A highly skilled and educated workforce is the most critical element for innovation success.



The Skills Gap in Manufacturing



- 82% of manufacturers report a moderate-to-serious skills gap in skilled production.
- 74% of manufacturers report that this skills gap has negatively impacted their company's ability to expand operations.
- 69% of manufacturers expect the skills shortage in skilled production to worsen in the next 3-5 years



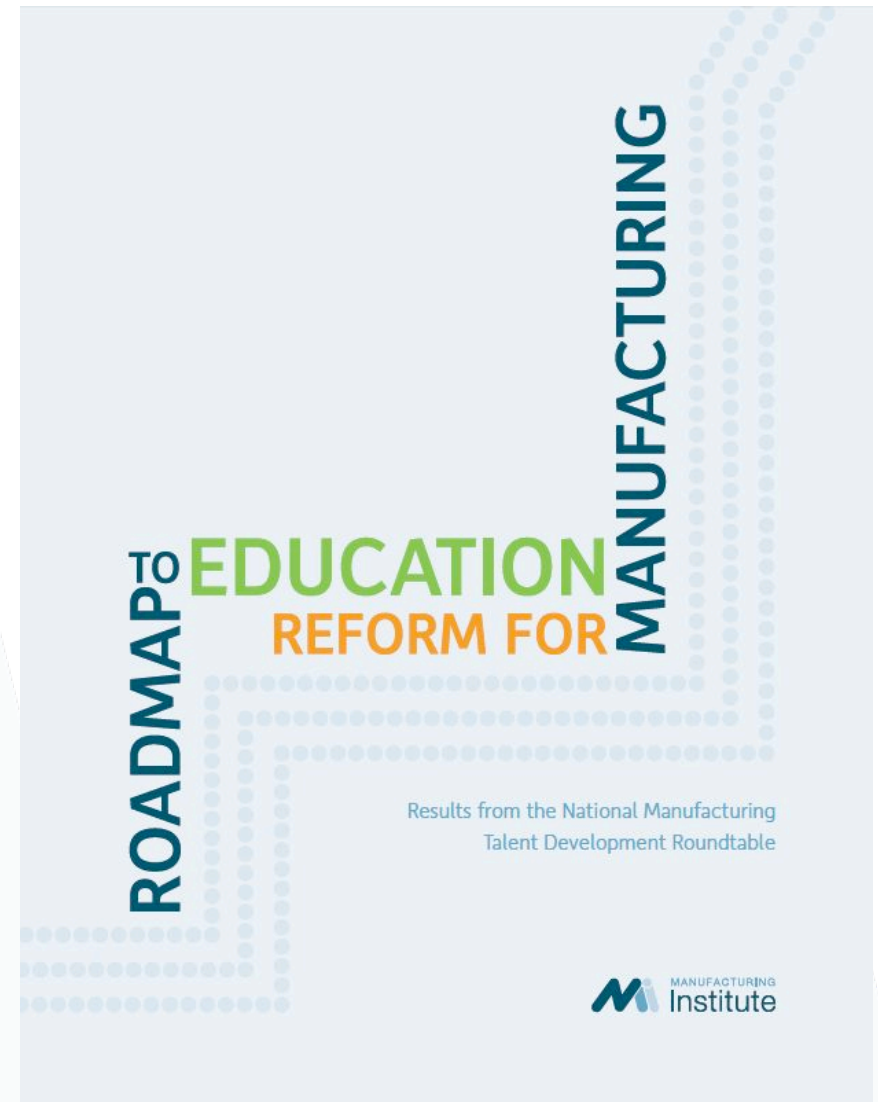
.... Growing the Talent

Educating and Training a Smart, Safe, and Sustainable Manufacturing Workforce

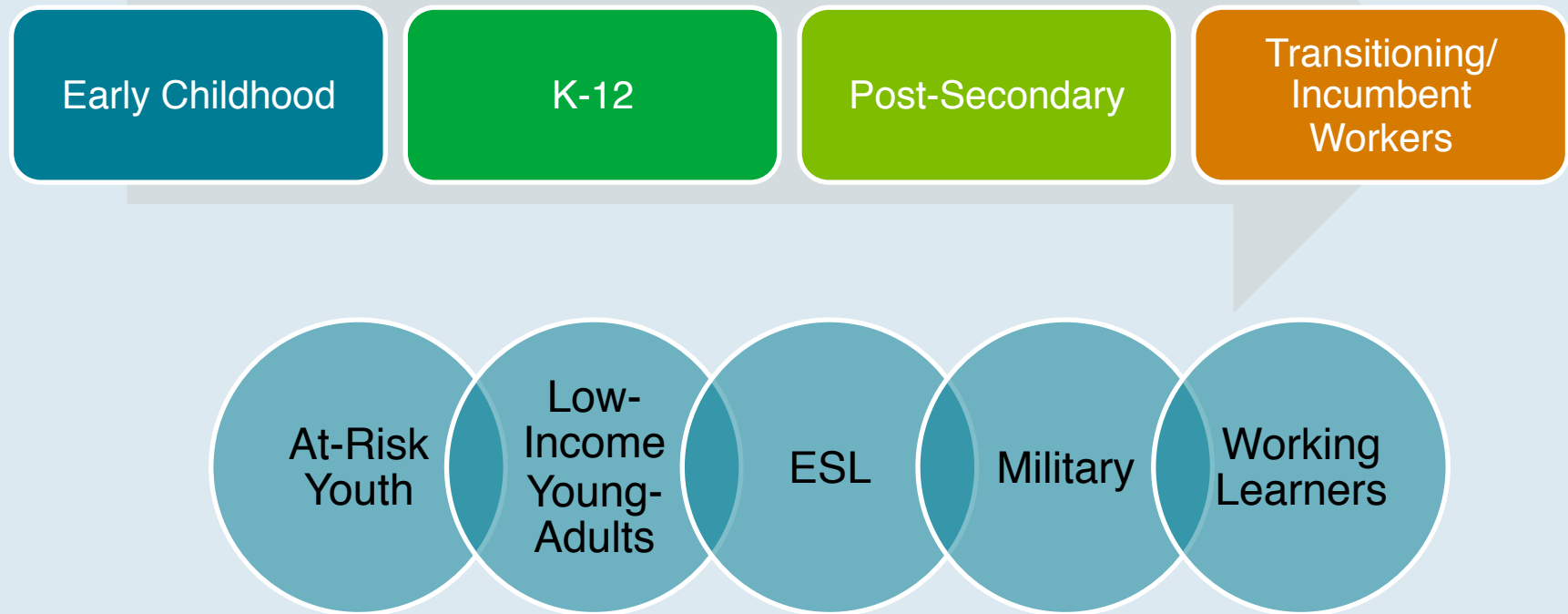
Roadmap to Education Reform for Manufacturing



- Manufacturers call for:
 - Competency-Based Education
 - Industry-Education Partnerships
 - Infusion of Technology
 - Application of Manufacturing Principles in Education
 - Expanding Successful Youth Programs



National Solutions and Customized Strategies



- Foundational skills in English language communication, reading, applied STEM, and workplace competencies such as teamwork, work ethic, integrity, and creativity are necessary for all individuals to pursue any career in manufacturing.

Facing the Reality of the 21st Century Manufacturing Workforce



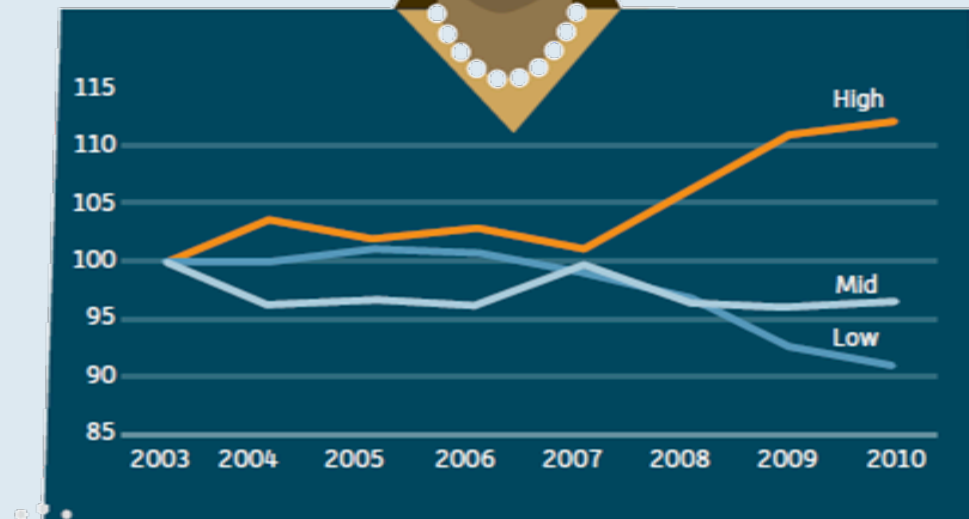
Demographics: We face boomer retirements coupled with a shrinking pipeline.

Technological advances in modern manufacturing require more advanced skill sets.

Major **deficits in our education system** limit production of a high quality and quantity workforce.



Manufacturing Employment
by Skill Group
2003 - 2010



High-skilled
jobs grew by
12%
between 2003
and 2010

A Million-Dollar Investment

“I advise each of my staff that every worker hired is a million-dollar investment for this company. I’m calculating that most hires are under 45 years old; we intend to keep them for at least 20 years, and our average annual salary/benefits package is \$55,000. In other words, we can’t afford to make a mistake—to hire someone without the right skills. Verifiable skills certification programs can make the difference between a good investment and a high-risk.”

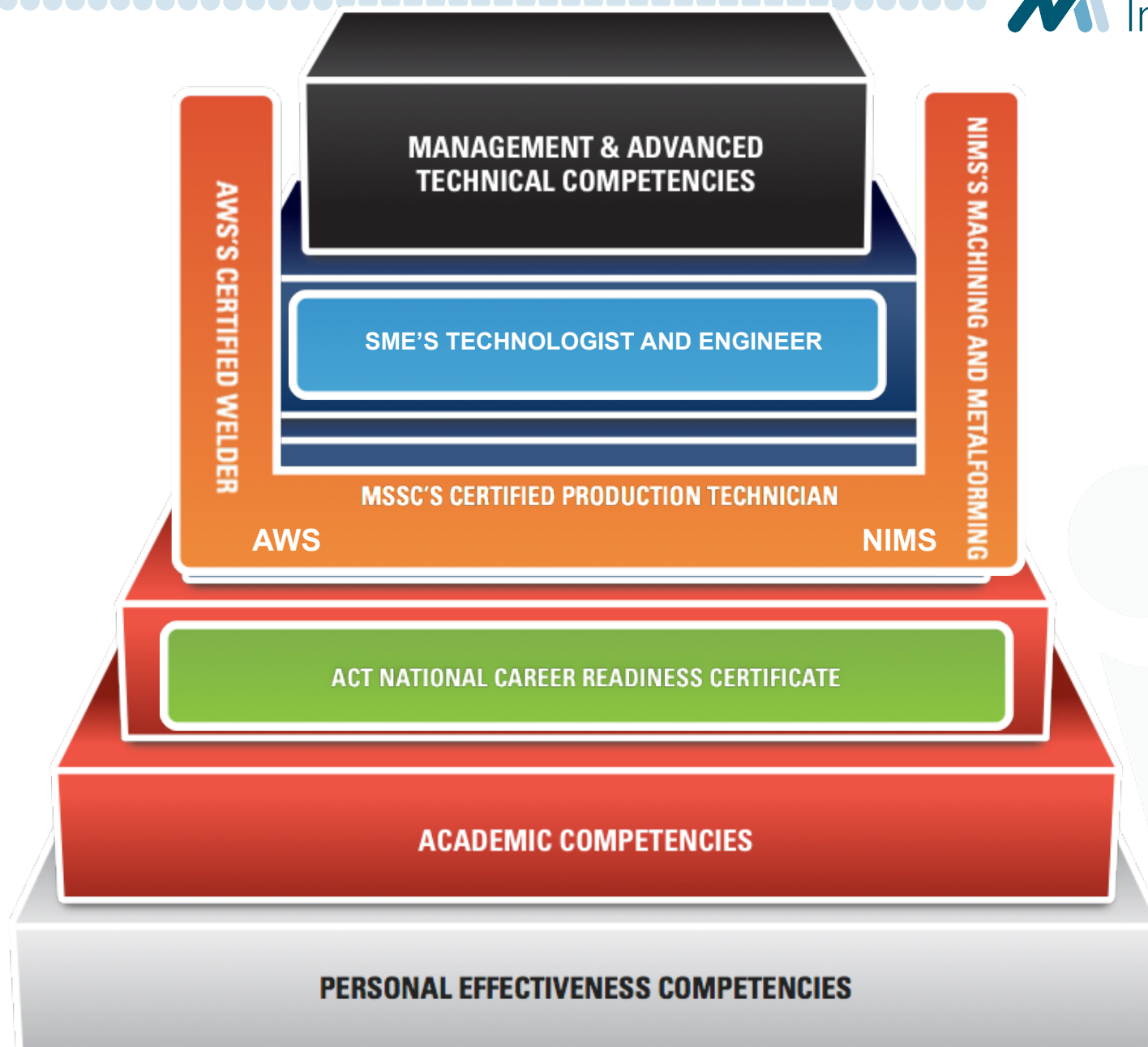
*Dennis Rohrs,
Human Resource Manager
Fort Wayne Metals, Inc.*

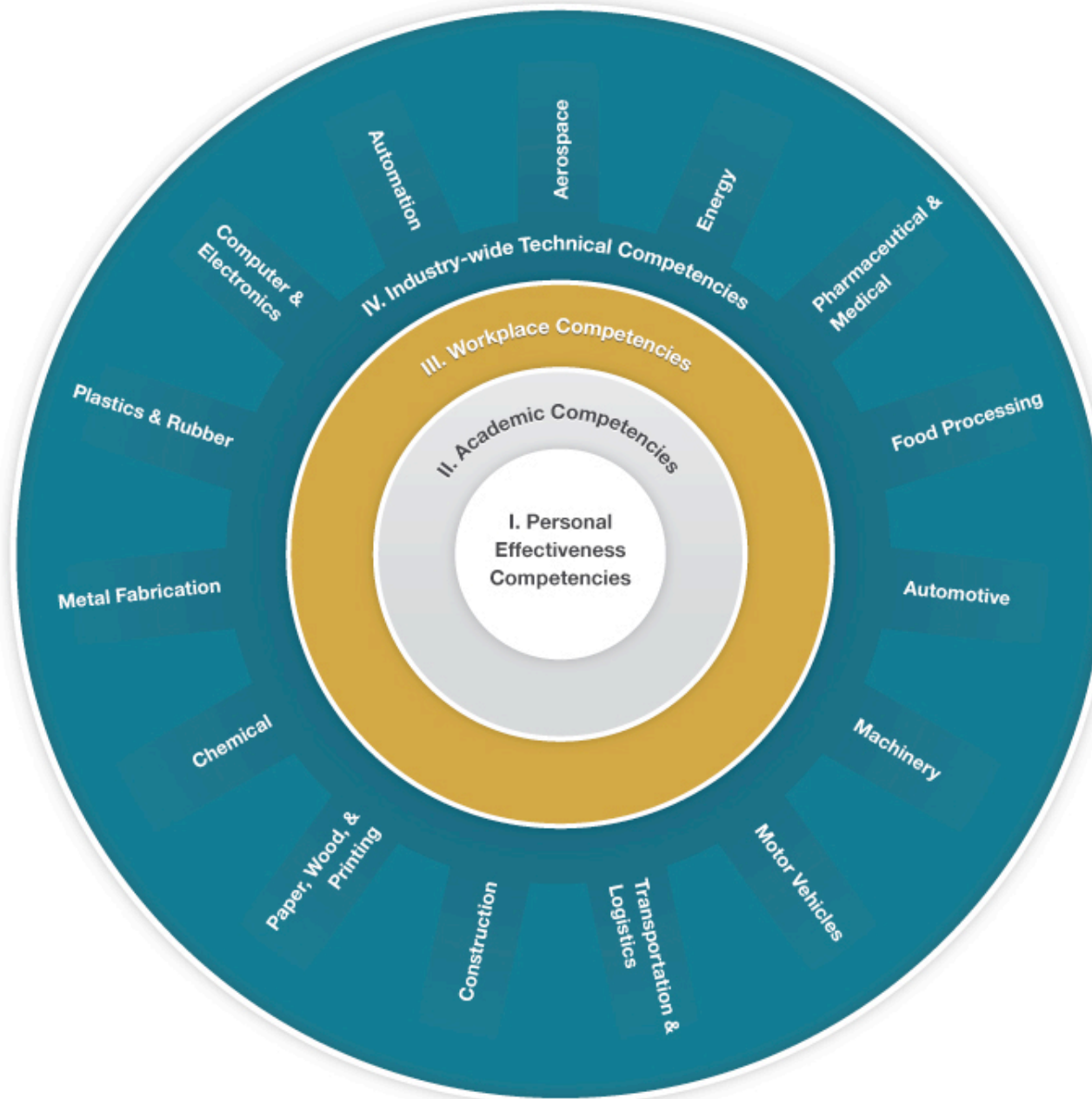
Building Pathways to Advanced Manufacturing Careers



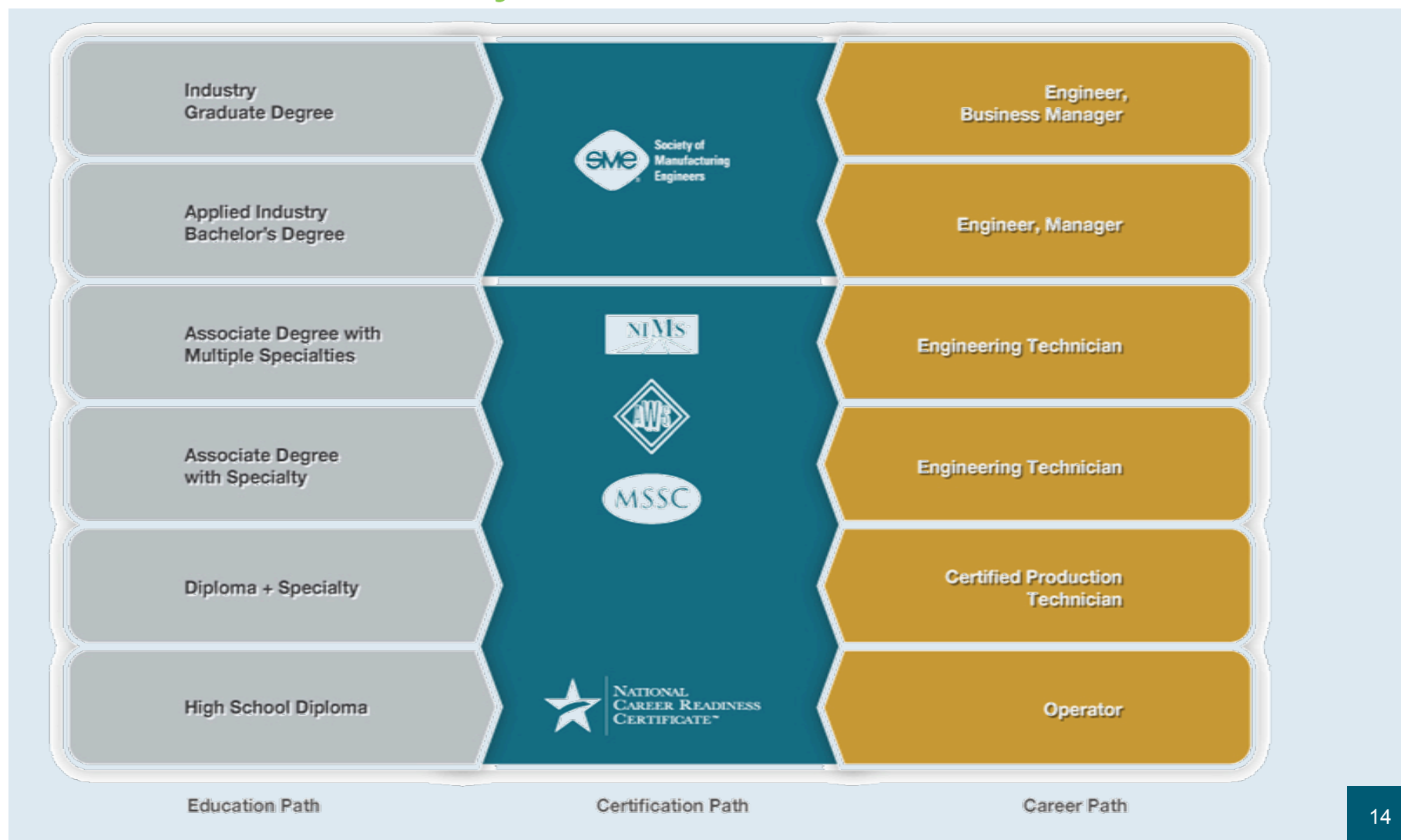
THE NATIONAL ASSOCIATION OF MANUFACTURERS ENDORSED
Skills Certification System
Producing a High-Performance Manufacturing Workforce

- Competency-based learning pathways that are standards-based, performance-based, and proficiency-based
- Nationally-portable, industry recognized credentials validating skills for high quality middle-class manufacturing jobs
- A “lifelong learning” approach: multiple points of re-entry into education and work leading to career and higher education advancement





Alignment of Education, Certification & Career Pathways

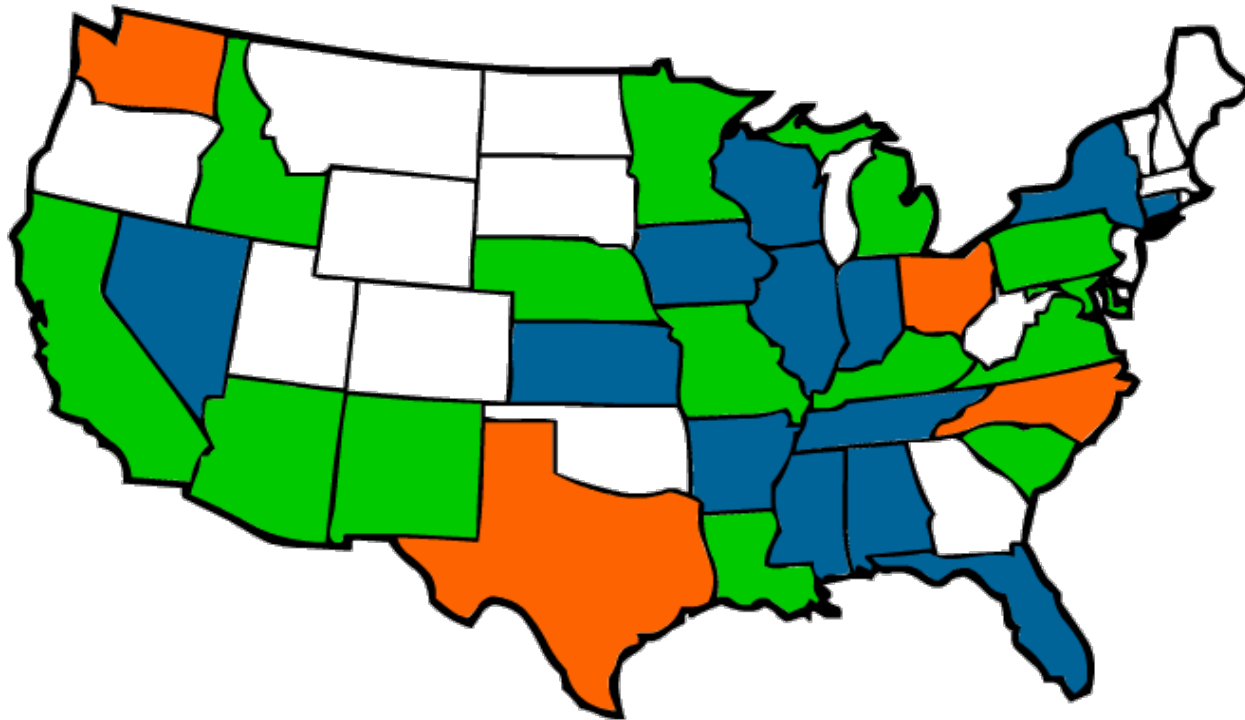


ALIGNING EDUCATION, CERTIFICATION AND CAREER PATHWAYS

Example of the welding pathway at Lorain County Community College

EDUCATION PATHWAY	CERTIFICATION PATHWAY	CAREER PATHWAY	EMPLOYER JOB TITLE/ WAGE RANGE
MASTERS AND PhD			
BACHELOR OF SCIENCE / ENGINEERING DISCIPLINE <ul style="list-style-type: none"> Ohio State University Cleveland State University 	<ul style="list-style-type: none"> SME Engineering Technologist AWS D1.1 Multiple Processes / CWI ASME Section 9 / API 1104 MSSCCPT NCRC 	<ul style="list-style-type: none"> Welding Engineer Welding Technologist \$35.68 / hour (17-2190)	<ul style="list-style-type: none"> Automation Welding Mgr. 10 – 15 years experience \$30.00 to \$48.00 / hour
ASSOCIATE IN APPLIED STEM/SCIENCE <ul style="list-style-type: none"> 66 Credit Hours / Two Years Full Time 23 Courses Day / Evening Curriculum 	<ul style="list-style-type: none"> AWS D1.1 Multiple Processes ASME Section 9 / API 1104 MSSCCPT NCRC 	<ul style="list-style-type: none"> Welding Technician Manufacturing Engineering Technician \$22.64 / hour (17-3026)	<ul style="list-style-type: none"> Welder / Fabricator 5 – 10 years experience \$18.00 to \$22.00 / hour
STEM DIPLOMA PROGRAM <ul style="list-style-type: none"> 37 Credit Hours / One Year Full Time 14 Courses Day/ Evening Curriculum 	<ul style="list-style-type: none"> AWS D1.1 Multiple Processes MSSC Safety NCRC 	<ul style="list-style-type: none"> Welder (Entry Level) Welder/Cutter/Solderer/Brazer \$15.84 / hour (51-4120)	<ul style="list-style-type: none"> Welder MIG/Repair 3 – 5 years experience \$13.00 to \$16.00 / hour
STEM CERTIFICATE PROGRAM <ul style="list-style-type: none"> 19 Credit Hours / One Year Part Time 8 Courses 	<ul style="list-style-type: none"> AWS D1.1 Multiple Processes NCRC 	<ul style="list-style-type: none"> Welder (Entry Level) \$15.84 / hour (51-4120)	<ul style="list-style-type: none"> MIG Welder/Entry Level 0 experience \$10.00 / hour
Applied STEM (High School) Dual Enrollment - Career Academy – Youth Development Programs	National Career Readiness Certificate Personal Effectiveness * Academic Competencies Workplace Competencies	Out of School/Low Skill Youth/Adults WIA/Career Centers – ESL/VESL - GED/ABE “Bridge” and Foundation Programs	Skilled Adults Retraining / Lay Offs – Continuing Education Company Specific Apprenticeship

Deployment and National Scope



States funded by the Gates Foundation for deployment (NC, OH, TX and WA)

States funded by Lumina Foundation for Education for planning statewide deployment (AL, AR, CT, FL, IL, IN, IA, KS, MS, NV, NY, TN, WI)

States with grassroots efforts advocating for deployment and/or Dream It. Do It. states (AZ, CA, ID, KY, LA, MD, MI, MN, MO, NE, NM, PA, SC, VA)

Goal to Credential **500,000** Manufacturing Workers by

2016

Dream!t Do!t®

Supplying the Pipeline

Exciting, Educating and Employing the Next Generation
Manufacturing Workforce

Models in Action



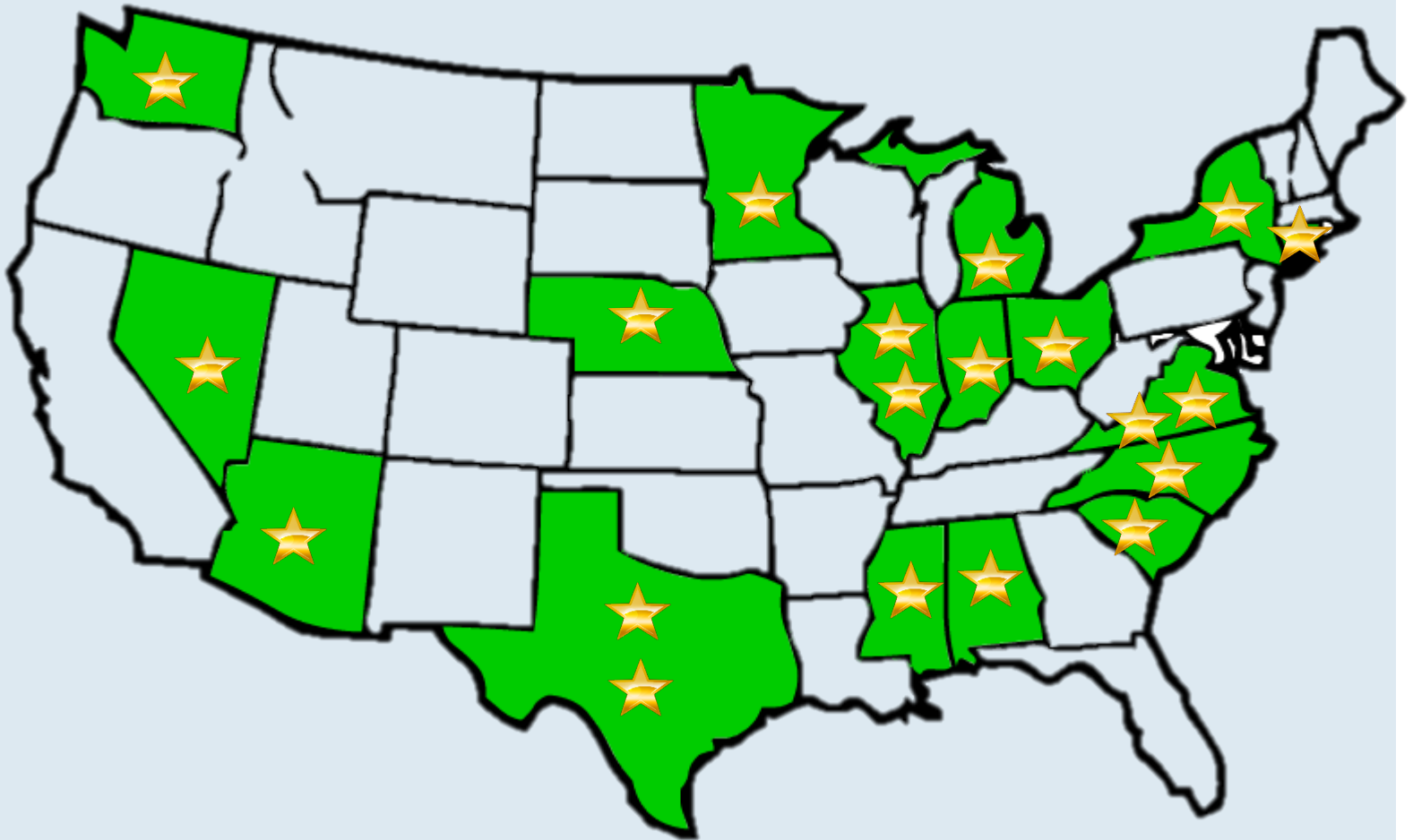
Developing Partnerships

- SkillsUSA
- FIRST Robotics
- The Maker Movement
- Project Lead the Way
- Jobs for America's Graduates
- FabLab



National Scope and Impact

Alabama
Arizona
Connecticut
Illinois
Indiana
Michigan
Minnesota
Mississippi
Nebraska
(reach to SD
and IA)
Nevada
New York
Ohio
South Carolina
Texas
Virginia
Washington



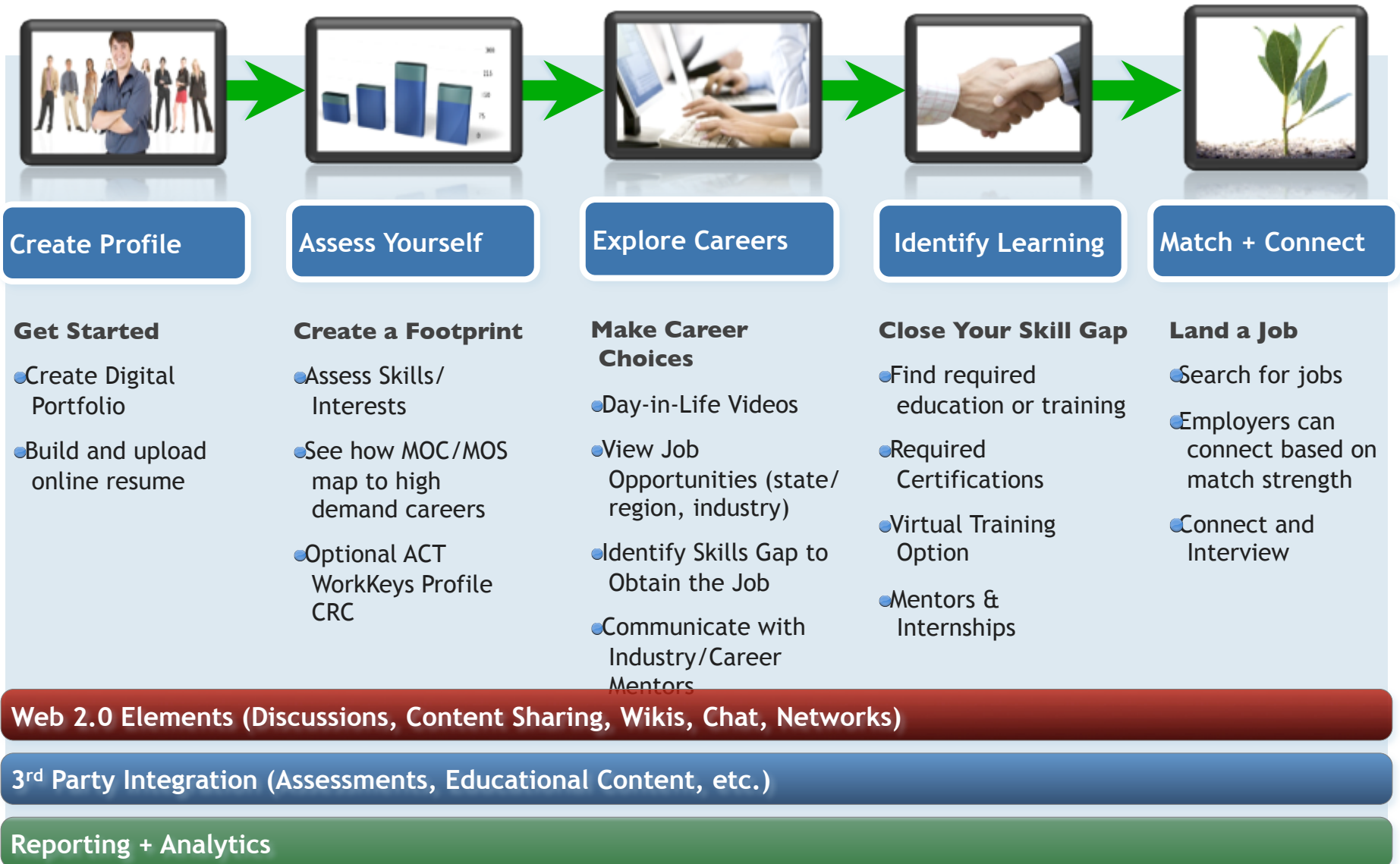
Comprehensive Talent Strategy





.... Coming Soon - Connecting the
Pipeline

U.S. Manufacturing Pipeline





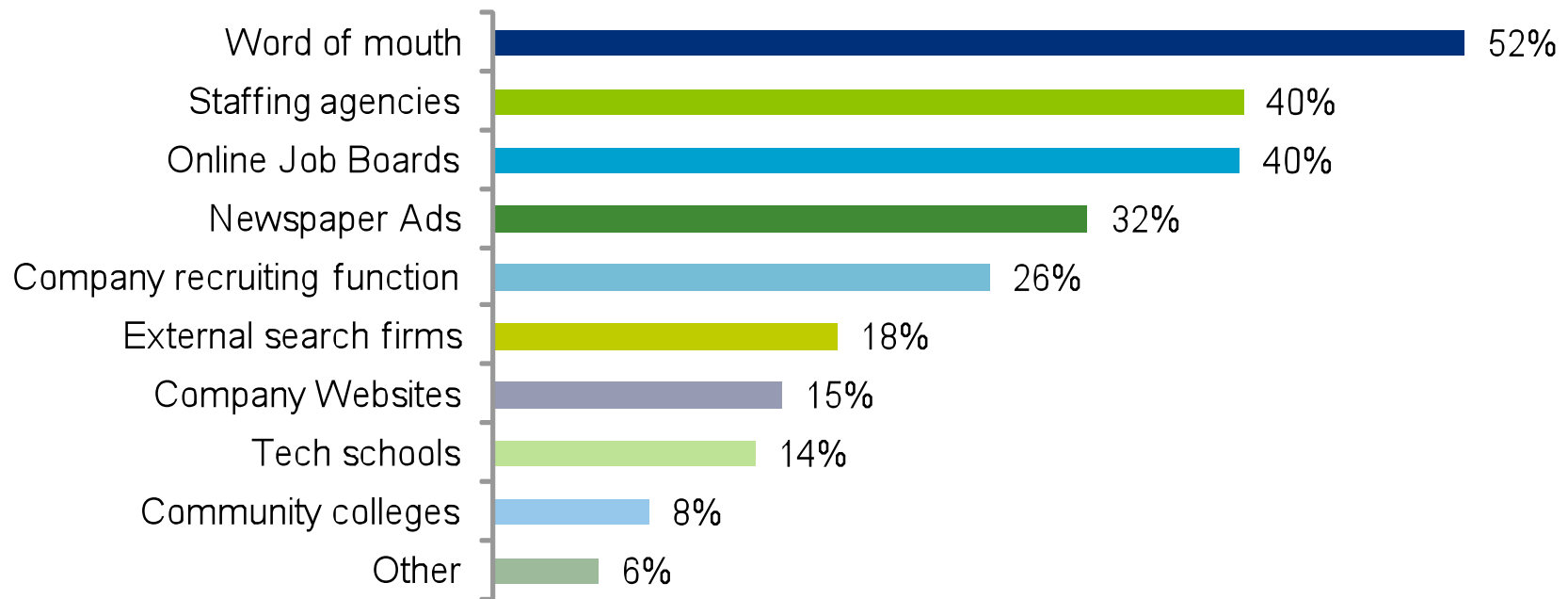
.... MEPs and the Manufacturing Workforce

MEPs can help take the guesswork out of hiring practices for manufacturers

Manufacturers Need New Workforce Strategies



Top sources for new employees



How can MEP Engage Employers?

- Discuss HR/hiring challenges with employers;
- Highlight certifications as a solution for hiring qualified workers;
- Connect them to community colleges and technical schools where employers can target job announcements to certification programs;
- Help manufacturers develop on-going relationships with those schools to develop steady, reliable pipeline of skilled workers.

Results for Manufacturers

- Fewer number of interviews before qualified hire;
- Reduced training time and costs for new hires;
- Greater immediate productivity from new hires;
- Reduced short-to-mid term turnover for lack of skills, work ethic, etc.

MEP's Opportunity



- Become part of state strategic leadership team focused on manufacturing education;
- Build demand for certified workers among manufacturers;
- Work with manufacturing champions to encourage schools and WIA system to focus on manufacturing education and embrace the skills certification system;
- **Provide the solution to manufacturing's greatest immediate challenge.**

State Examples

- Texas – Ron Lehman
- Washington – John Vicklund
- Connecticut – Bonnie Del Conte

Questions?