



# Pathways to Competency-Based Credentials in Manufacturing

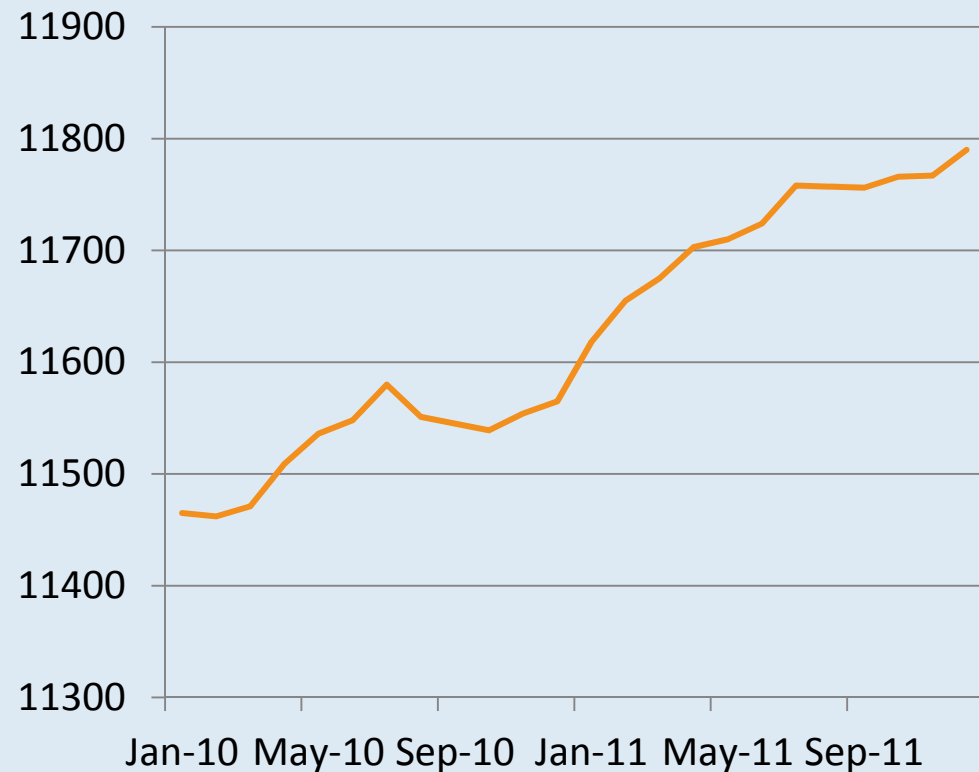
## *The NAM-Endorsed Skills Certification System*

*Brent Weil*  
*Senior Director for Education and Workforce*  
*The Manufacturing Institute*  
*March 20, 2012*

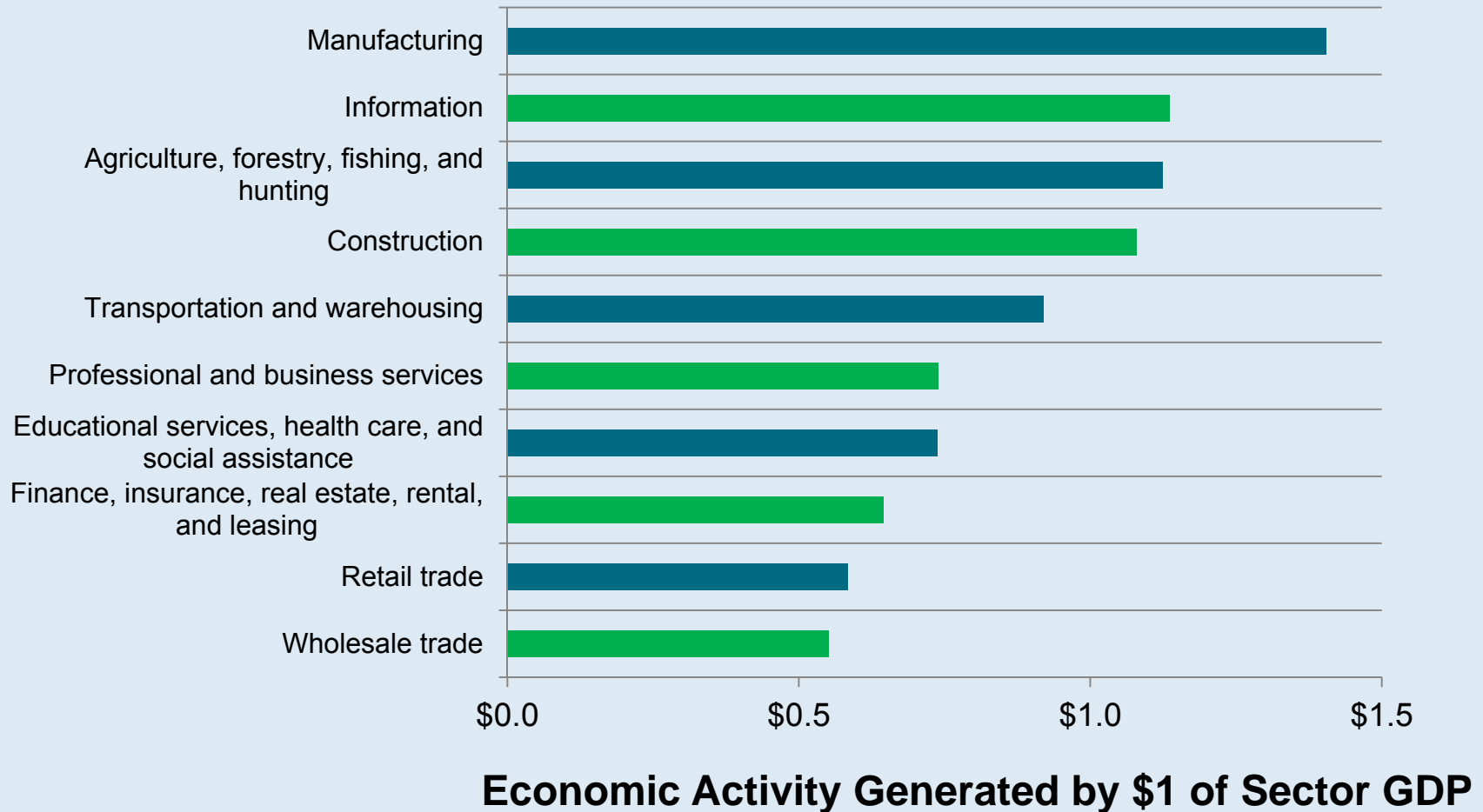
# A Renaissance in Manufacturing?

- Over 300,000 jobs added in the last two years.
- Major consulting firms issue reports predicting a return of manufacturing from Asia.

Manufacturing Jobs in U.S. (000s)



# Manufacturing's Multiplier Effect



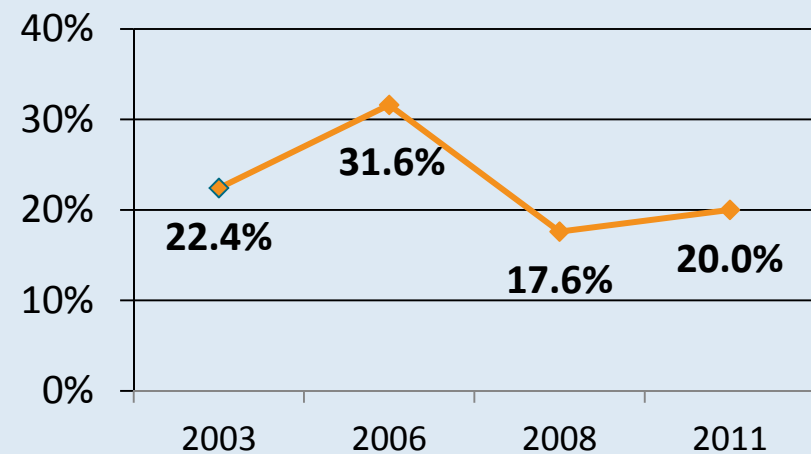
Source: U.S. Bureau of Economic Analysis, 2007 Annual Input-Output Tables

# Structural Cost of Manufacturing



- U.S. Manufacturers face a 20% cost burden over competitors from our largest trading partners.
- Corporate tax rates make up over half that burden as other countries have reduced rates.

Structural Cost Burden For U.S. Manufacturers



	U.S.	Canada	Mexico	Japan	China	Germany	U.K.	Korea	Taiwan	France
1997	40%	44%	34%	51%	33%	57%	31%	30%	25%	36%
2010	40%	31%	30%	40%	25%	29%	28%	24%	17%	33%

## Unwavering Commitment - Unfortunate Disconnect

- 86 % believe America's manufacturing base is —important or —very important to their standard of living;
- If they could create 1,000 new jobs in their community with any new facility, they ranked manufacturing at the top of the list;
- 79 % say a strong manufacturing base should be a national priority;

But... 1/3 of parents would encourage their child to go into manufacturing

The lack of qualified workers is impacting growth and recovery.....



**Unwavering commitment**  
The public's view of the manufacturing industry today



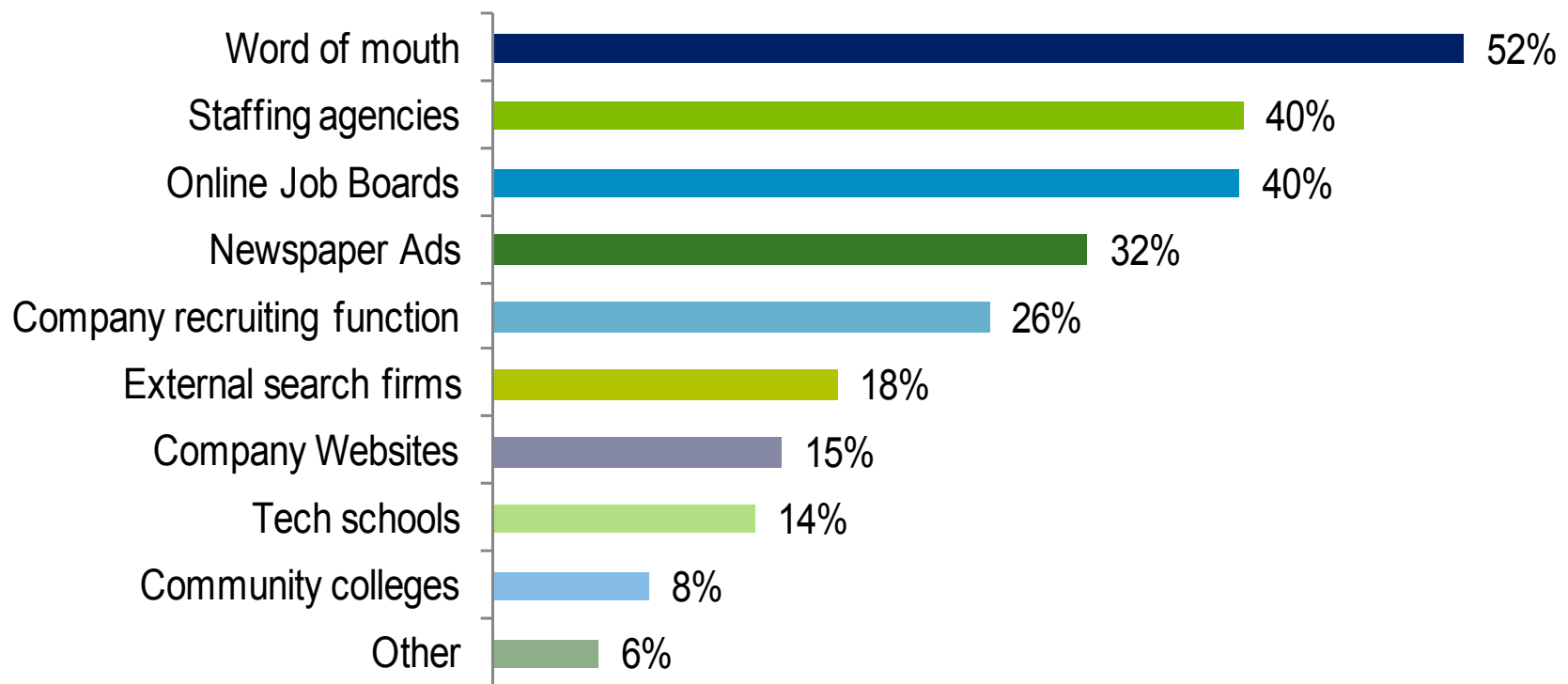
2011 annual index  
Sponsored by Deloitte and The Manufacturing Institute

# The Skills Gap in Manufacturing

- 82% of manufacturers report a moderate or 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.
- 5% of all jobs in manufacturing unfilled due to lack of qualified workers.

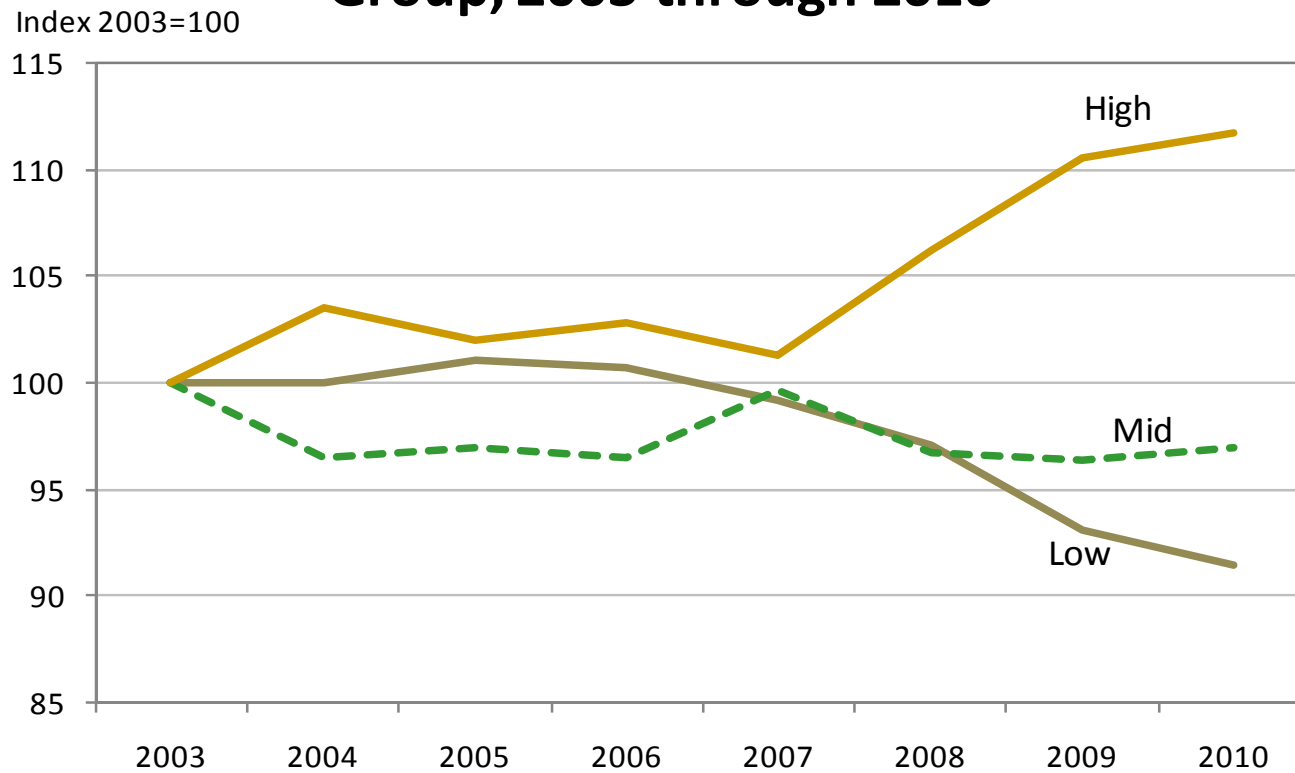
# Manufacturers Need New Workforce Strategies

## Top sources for new employees



# Manufacturing Jobs Require Higher Skills

## Manufacturing Employment by Skill Group, 2003 through 2010



Sources: Chmura Economics & Analytics and Current Population Survey.



# 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.*



MANUFACTURING

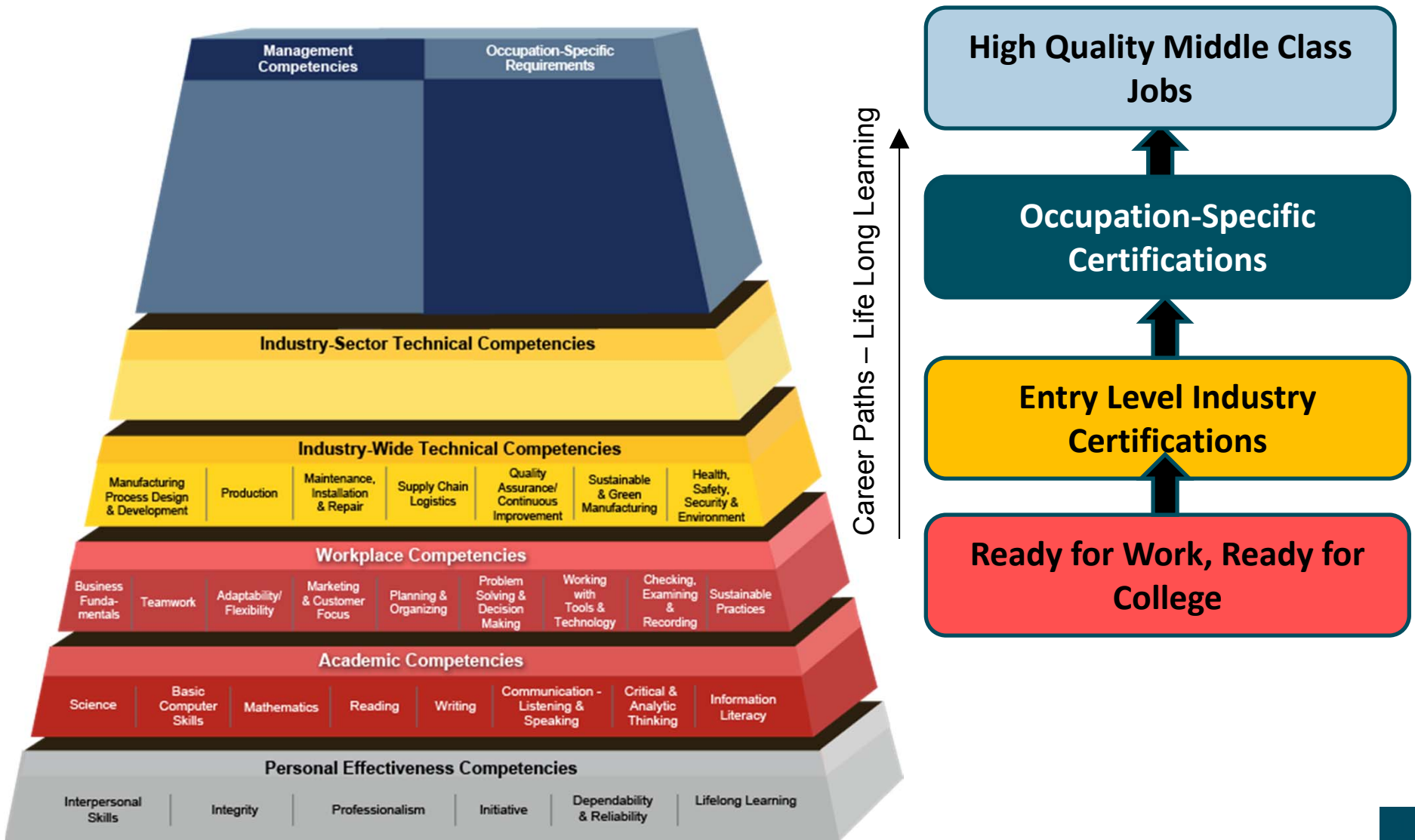
Institute

*Skills Certification System*



***PROVIDING COMPETENCY-BASED, CUSTOMIZED  
EDUCATION AND TRAINING FOR THE MANUFACTURING  
WORKFORCE...TODAY AND TOMORROW***

# Advanced Manufacturing Competency Model





# The NAM-Endorsed Manufacturing Skills Certification System



- Aligned to the Manufacturing Competency Model
- Nationally Portable
- Third-Party Validated (ISO/ANSI Preferred)
- Industry-Driven
- Data Based and Supported

# Validating Skills with National Certifications

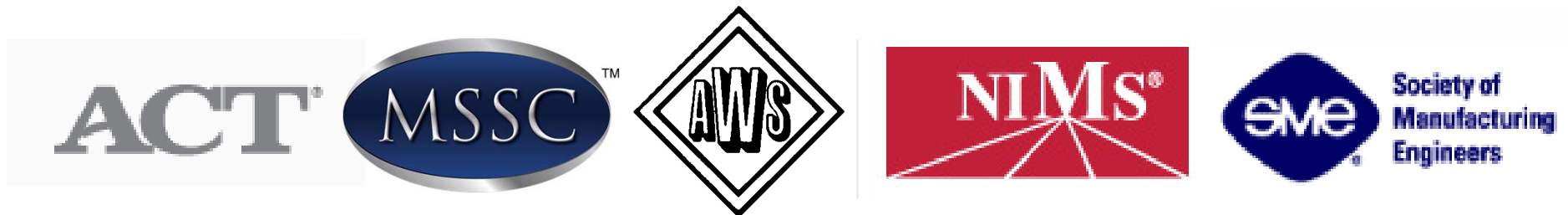
- **Academic & Workplace Competencies** (Reading & Writing, Applied Math; Locating Information)
  - National Career Readiness Certificate (ACT)
- **Production** (Safety, Quality Practices & Measurement, Manufacturing Processes & Production)
  - Certified Production Technician (MSSC)
- **Welding**
  - American Welding Society
- **Machining & Metalforming – CNC**
  - National Institute for Metalworking Skills
- **Technology & Engineering**
  - Society of Manufacturing Engineers



THE NATIONAL ASSOCIATION OF MANUFACTURERS ENDORSED  
**Skills Certification System**

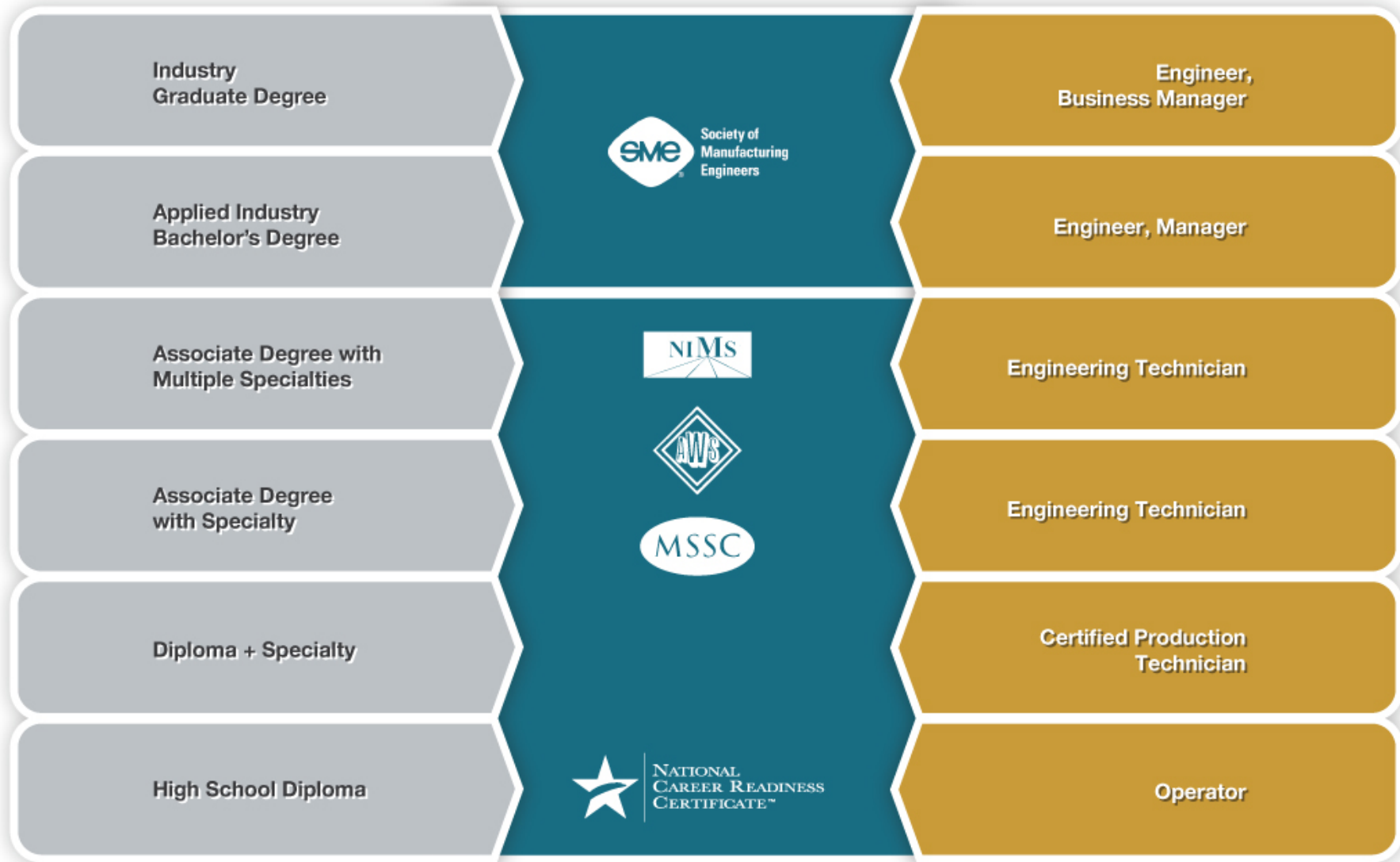
*Producing a High-Performance Manufacturing Workforce*

**Founding Partners**



**Partners**





Education Path

Certification Path

Career Path



# Models

*“If you look at how community colleges are organized... developmental education sits in one silo while non-credit workforce training sits in another silo. To achieve real solutions, we have to be much more integrated in how we deploy these assets.*

*Roderick Nunn,  
Vice Chancellor, St. Louis Community  
College*

- High school to community college
- ABE/bridge programs to credit certificate/diploma/degree
- Continuing education to for-credit
- Community college integration into current for-credit programs of study
- Pre-apprenticeship to apprenticeship
- Community college to four-year institutions

# Modeling the Skilled Production Pathway In Kentucky

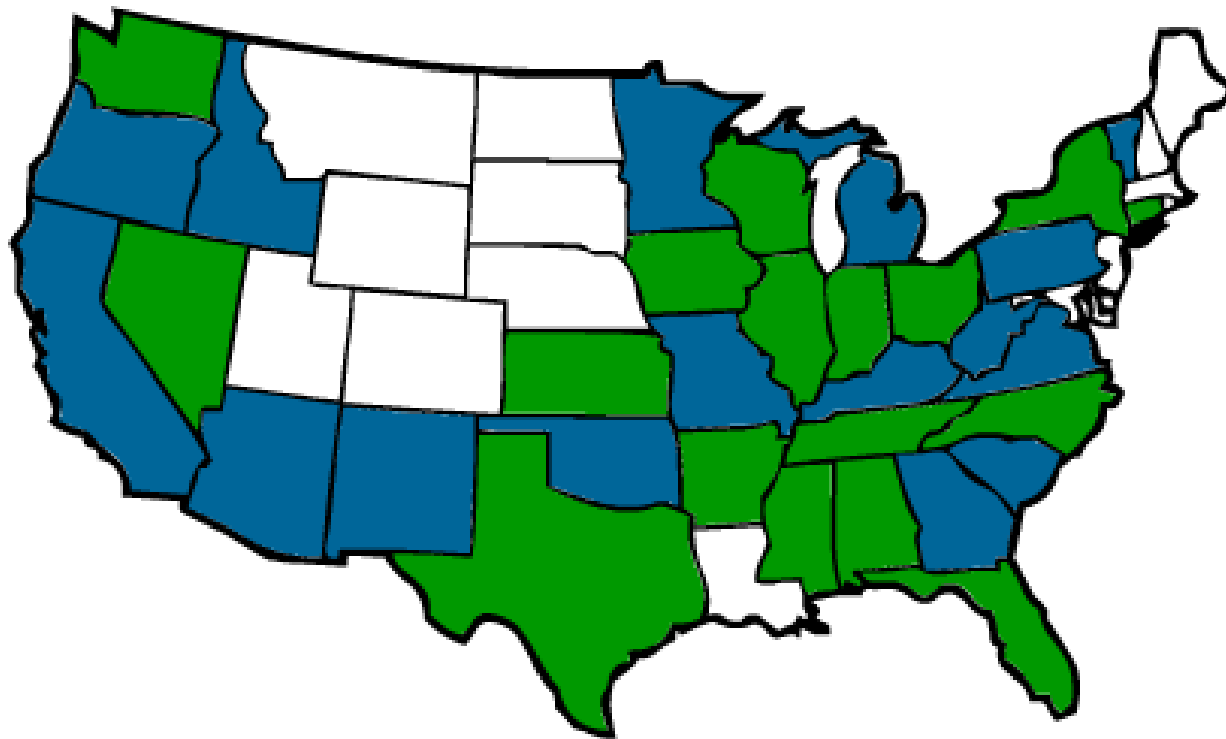


**RIGHT  
SKILLS  
NOW**

FOR MANUFACTURING

- Accelerated program first deployed in machining
- Designed to meet specific, immediate demand
- Grounded in the certifications to meet immediate need (basic skills and production)
- Supports dislocated workers and transitioning military
- Links to education to build the pathway

# Deployment and National Scope



States with national philanthropic funding for deployment



States with grassroots efforts and strategic partnerships advocating for deployment



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

**2016**





ALAMO  
COLLEGES

## Certification Pathway Leads To Toyota Job Opportunity

**Class:** ATMA Senior Graduate 2012

**Internship 2010-2011:** Toyota Motor Manufacturing, Texas

**College Certificates:** Marketable Skills Award; OSHA Safety Card; Level 1 – Certificate

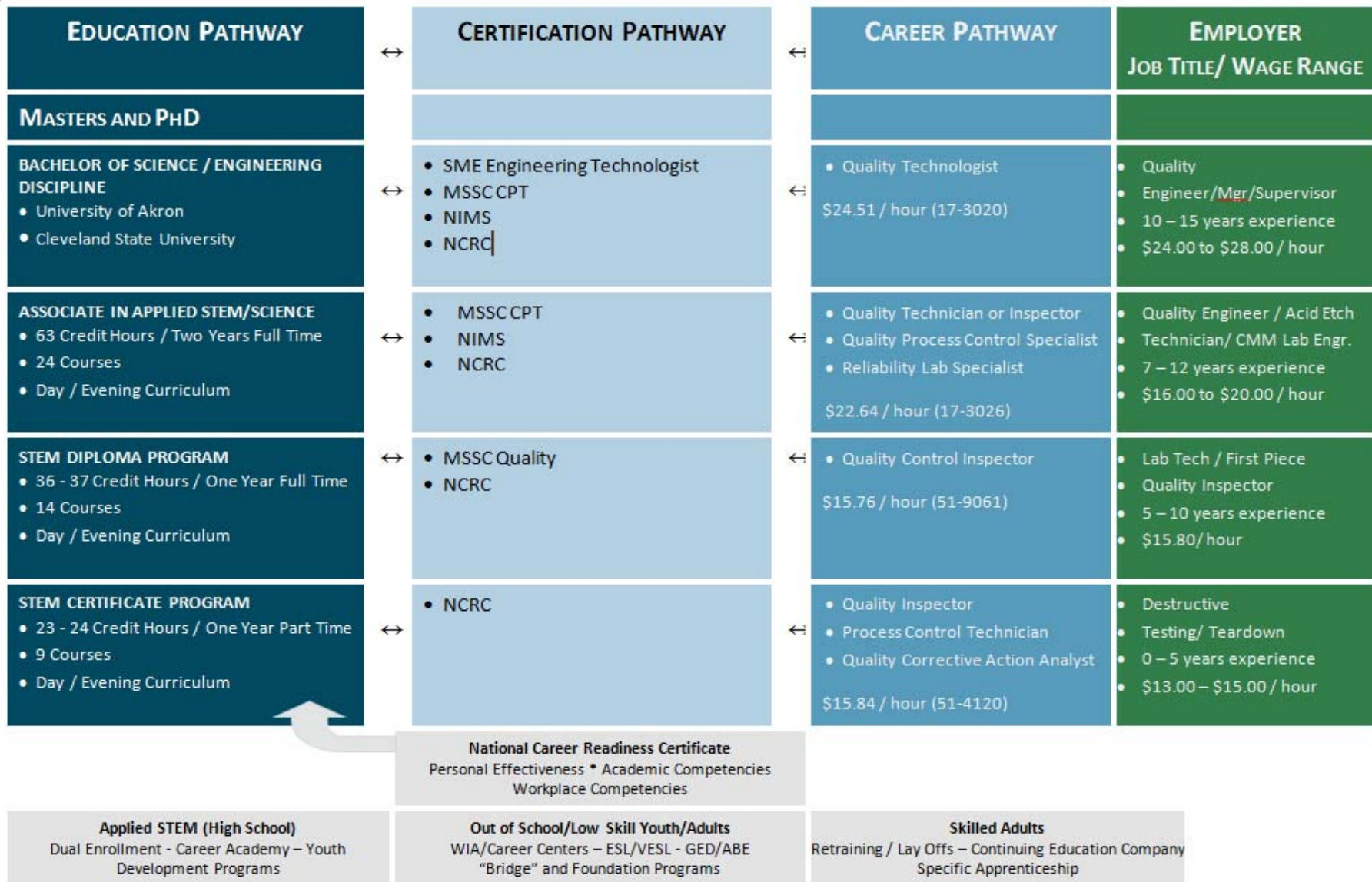
**Certifications:** Safety, Quality Practices & Measurement, Manufacturing Processes & Production.



**Jacob Wagner , Toyota Features AMA Trainee, January 2012.**

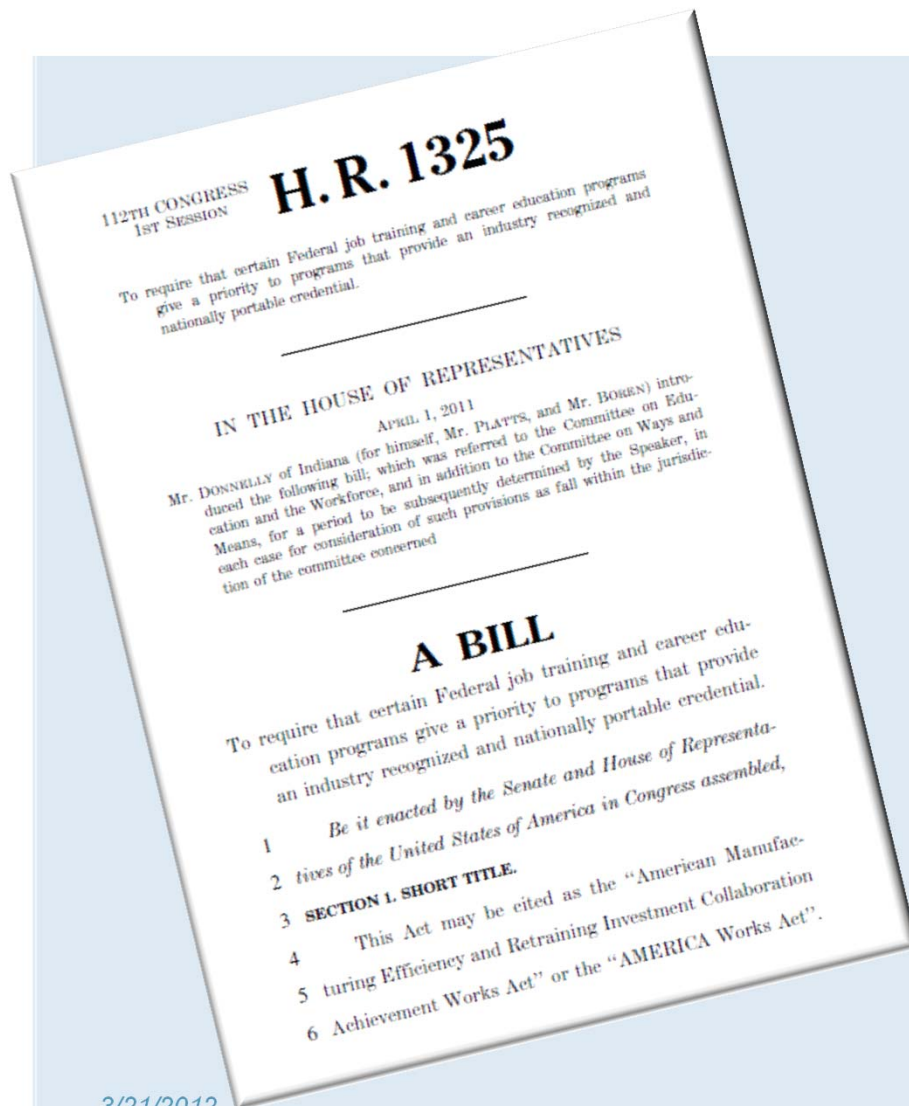
## ALIGNING EDUCATION, CERTIFICATION AND CAREER PATHWAYS

*For the Quality Assurance Industry at Lorain County Community College*



Produced with support from  
*Key Links*

# Championing National Legislation



3/21/2012

## America Works

To require that certain Federal job training and career education programs give a priority to programs that provide an industry recognized and nationally portable credential.

# A “Win-Win” Scenario



# Contacts



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