

## I ndustry Snapshots

- The manufacturing sector continues to account for 14% of U.S. GDP and 11% of total U.S. employment. Moreover, manufacturing firms fund 60% of the \$193 billion that the U.S. private sector invests annually in research and development. (U.S. Department of Commerce)
- Manufacturing salaries and benefits average \$54,000, higher than the average for the total private sector. Two factors in particular attract workers to manufacturing: higher pay and benefits, and opportunities for advanced education and training. (National Association of Manufacturers)
- A 2003 survey of U.S. manufacturing employers found that 80% of respondents said that they had a serious problem finding qualified candidates for the highly technical world of modern manufacturing. (National Association of Manufacturers)

# High Growth INDUSTRY PROFILE

## W orkforce Issues

### Training for Innovation

- Increasing the skills of incumbent workers for new manufacturing technologies and processes
- Developing training programs that fit employer needs and constraints
- Creating integrated training programs for a company's chain of suppliers

### Pipeline

- Improving the public image of the industry in order to generate interest in manufacturing careers
- Developing 21st century recruitment strategies
- Addressing demographic shifts, including the retirement of the Baby Boomers, integrating the foreign-born workforce, and utilizing displaced workers and other alternative labor pools
- Improving the basic employability skills of entry-level workers

### Capacity Building

- Finding qualified instructors
- Updating equipment for training
- Defining competencies and career ladders and lattices

## S kill Sets

(Source: *Manufacturing Skill Standards Council, High Performance Manufacturing, McGraw Hill, 2006*)

- Production workers set up, operate, and improve the manufacturing processes and schedules.
- Process Development workers develop, implement, and improve the manufacturing process.
- Quality Assurance workers ensure that the manufacturing system meets quality requirements as defined by the business and customers.
- Health, Safety, and Environmental Assurance workers ensure that the manufacturing system meets HS&E requirements.
- Maintenance, Installation, and Repair workers tend to the equipment on the manufacturing floor.
- Logistics and Inventory Control workers plan and control the movement and storage of materials and products in the manufacturing system.

## E TA in Action

The U.S. Department of Labor (DOL) has sought to understand and address the critical workforce needs of the advanced manufacturing industry. DOL held forums with employers, representatives from industry associations, and others associated with the advanced manufacturing industry to learn about their hiring and training needs and potential solutions to those challenges. In October 2004, U.S. Secretary of Labor Elaine L. Chao announced a series of investments totaling more than \$43 million to support comprehensive partnerships that include employers, educators, the public workforce system, and other entities. These innovative approaches address the following workforce needs of business while also effectively helping workers find good jobs with good wages and promising

career pathways in the advanced manufacturing industry:

- expanding the pipeline of youth;
- helping alternative labor pools gain industry-defined skills and competencies;
- developing alternative training strategies;
- developing tools and curricula for enhancing skill sets;
- enhancing the capacity of educational institutions;
- developing industry-defined career ladders and lattices;
- developing strategies to retain and retrain incumbent workers; and
- assisting transitioning individuals from declining industries to high growth industries.

## I nvestments

**Total Industry Investment is \$43,424,350**  
**Total Leveraged Resources are \$39,599,991**

**National Association of Manufacturers (national)**  
*"Dream It, Do It" Careers Campaign*  
Grant amount: \$498,520; Leveraged amount: \$1,075,000

**The Workplace, Inc. (CT)**  
*Advanced Skills for Southwest Connecticut's Manufacturers*  
Grant amount: \$2,000,000; Leveraged amount: \$1,890,283

**National Institute for Metalworking Skills (national)**  
*Competency-Based Apprenticeship System in the Metalworking Industry*  
Grant amount: \$1,956,700; Leveraged amount: \$1,720,000

**Illinois State University (IL, OH, TX, WY, PA, NC)**  
*Expanding the Advanced Manufacturing/Integrated Systems Technology Program*  
Grant amount: \$5,774,420; Leveraged amount: \$1,926,564

**National Institute for Metalworking Skills (national)**  
*Flexible Training Options for Metalworking*  
Grant amount: \$939,815; Leveraged amount: \$318,000

**St. Louis Workforce Investment Board (MO)**  
*Greater St. Louis Area Automotive Training Consortium*  
Grant amount: \$1,499,998; Leveraged amount: \$2,443,954

**Illinois Department of Commerce and Economic Opportunity (IL)**  
*Integrated Systems Technology Training for Dislocated Workers*  
Grant amount: \$4,796,248; Leveraged amount: \$8,470,867

**Ohio Department of Job and Family Service (OH)**  
*Integrated Systems Technology Training for Dislocated Workers*  
Grant amount: \$4,346,248; Leveraged amount: \$8,360,000

**Nebraska Central Community College (NE)**  
*Nebraska Mechatronics Education Center*  
Grant amount: \$1,639,403; Leveraged amount: \$1,410,928

**Pennsylvania Workforce Investment Board (PA)**  
*Pennsylvania Plastics Initiative*  
Grant amount: \$3,750,000; Leveraged amount: \$1,075,000

**Oregon Manufacturing Extension Partnership (OR, ID, WA, NV)**  
*Regional Lean Manufacturing Training for Value-Added Food Processors*  
Grant amount: \$3,199,709; Leveraged amount: \$2,043,110

**San Bernardino Community College District (CA)**  
*Skills Certification Project for Southern California*  
Grant amount: \$1,618,334; Leveraged amount: \$1,184,624

**Lower Rio Grande Valley Workforce Development Board (TX)**  
*South Texas Advanced Manufacturing Apprenticeship*  
Grant amount: \$2,000,000; Leveraged amount: \$2,000,000

**Delaware Valley Industrial Resource Center (PA)**  
*The Manufacturing Education Project*  
Grant amount: \$3,000,000; Leveraged amount: \$2,350,000

**Lancaster County Workforce Investment Board (PA)**  
*The Pennsylvania Advanced Manufacturing Collaborative*  
Grant amount: \$1,354,585; Leveraged amount: \$60,000

**Greater Peninsula Workforce Investment Board (VA)**  
*The SE Virginia Advanced Manufacturing Collaborative*  
Grant amount: \$1,965,000; Leveraged amount: \$1,965,000

**Henderson-Henderson County Chamber of Commerce (KY)**  
*Tri-County Industrial Training Consortium*  
Grant amount: \$2,991,840; Leveraged amount: \$1,306,631

## R esources

For additional background information about the industry and details on the grants, information about employment and training opportunities, and workforce development tools for employers, educators, and workforce professionals please refer to the following: [www.doleta.gov/BRG](http://www.doleta.gov/BRG), [www.careervoyages.gov](http://www.careervoyages.gov), [www.careeronestop.org](http://www.careeronestop.org), and [www.workforce3one.org](http://www.workforce3one.org).