

Manufacturing Myths – Debunked!

- THE TRUTHS ABOUT THE INDUSTRY TODAY -

Myth #1

U.S. manufacturing is in decline.



Truth

Employment, shipments, and exports are on the rise.



Manufacturing is 11% of the U.S. GDP when narrowly defined by government statistics including only the value-added of manufacturing facilities

Manufacturing is 1/3 of the U.S. economy when you include facilities AND everything they involve:

- Upstream raw materials
- Logistics
- Energy consumed by factories
- Downstream wholesale and retail distribution
- Corporate offices and R&D centers



U.S. is 2nd largest manufacturer in the world, responsible for 17% of world manufacturing activity.

Longest continuous post-war expansion of manufacturing employment took place between 2010 and 2019 (prior to pandemic), with modest but consistent gains.



Manufacturers' sales increased by 29% over the decade 2009 – 2019, and manufactured exports grew by 51% during the same period.



HOW THE MEP NATIONAL NETWORK HELPS

The MEP National Network™ contributes to the growth of U.S. manufacturing.



\$13 Billion



105,000 Jobs

In FY 2020 alone, the Network helped to generate **\$13 billion** in new and retained sales and create or retain more than **105,000 jobs**.



\$127 Billion



1.1M Jobs

Since its inception in 1988, the MEP National Network has helped generate over **\$127 billion** in new and retained sales and create or retain over **1.1 million jobs**.

Myth #2

Manufacturing is a poor career choice.



Truth

Manufacturing is actually an excellent choice.



MANUFACTURING JOBS PROVIDE:

12M

Employment for over 12 million people, as the 5th largest employment sector in the U.S.



Path to upward mobility, since more than 81% of jobs require no work experience for an entry-level position.



Manufacturing employs about 9% of the total workforce in the U.S. but almost 36% of all the engineers in the country.



More in benefits; earning 32% more in benefits per hour than employees in service industries.



7% more in salary than in service industries.

Salary Premiums paid to recruit qualified talent (as skilled machinists retire).



Stability, with lower turnover and higher tenure than overall private sector non-manufacturing jobs.

HOW THE MEP NATIONAL NETWORK HELPS



An event that showcases both modern manufacturing and the careers available, **Manufacturing Day** occurs the first Friday of every October and has grown up to **325,000+ attendees annually** across the 50 states and Puerto Rico. To facilitate industry growth, the **MEP National Network hosts, coordinates, and promotes events** for this occasion.

Myth #3

Automation will eliminate jobs.



Truth

Jobs are changing, and new skills will be needed along with traditional expertise.



AUTOMATION AND JOBS

“The evidence suggests structural unemployment will not increase due to automation.” (Information Technology & Innovation Foundation)

“These disparate findings suggest that the main impact of automation in the near future may be to cause a major reallocation of jobs.” (VoxEU.org/CEPR)



Automation helps the U.S. compete internationally, and the more successful it is, the more jobs will result.

Jobs Displaced by Automation:

75M

Net Gain

Job Growth in New Roles: (driven by new technology and automation)

133M

One projection from 2018* says that by 2022, 133 million new jobs (worldwide) will be created, more than offsetting the 75 million displaced.

*Pre-Covid projection of global non-agricultural employment based on World Economic Forum survey

Automation is changing the way manufacturing works:

Reduced Labor — Tasks being automated



- + Routine
- + Repetitive
- + Predictable

Increased Labor — Tasks that require humans



- + Problem Solving
- + Adaptability
- + Creative Thinking

Jobs are increasing in:



- + Data analytics
- + AI and machine learning specialists
- + Software and application development

AUTOMATION AND HUMAN SKILLS

“Many manufacturers today are turning toward automation to supplement the low-skilled jobs they cannot fill and instead focus their existing workers on jobs that are either higher skilled or require uniquely human skills.” (Deloitte and The Manufacturing Institute)

“Nearly 70% of manufacturers said they are creating or expanding training programs for their workforce.” (Manufacturing Institute)

HOW THE MEP NATIONAL NETWORK HELPS



The New Mexico Manufacturing Extension Partnership helped Navajo Spirit, a manufacturer of Native American-inspired clothing, **increase production and sales while creating jobs by integrating automation and retraining employees.**

Myth #4

Manufacturing is harmful to the environment.



Truth

In manufacturing, sustainability = profitability.



THE ADOPTION OF LEAN MANUFACTURING MEANS:

Higher efficiency

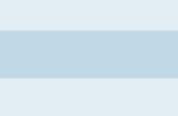


Cutting down on:

- Raw Material Consumption
- Energy Usage
- Waste
- Pollution

SUSTAINABILITY ALLOWS FOR:

Sustained success over time



Contributing positively to:

- Workforce: Keeping the workplace healthier
- Society: Reducing energy consumption
- Environment: Keeping air and water cleaner

Cost savings:

Intelligent lighting systems can save over 40% of energy

Energy management systems to optimize usage can save 30% of energy consumption.

HOW THE MEP NATIONAL NETWORK HELPS



The Alaska Manufacturing Extension Partnership Center helped Port Chilkoot Distillery make their plant more **eco-friendly, reducing waste and costs** at the same time.



www.nist.gov/mep/mep-national-network

1-800-MEP-4MFG

Sources: US Bureau of Economic Analysis; The Manufacturing Value Chain Is Much Bigger Than You Think!; Daniel J. Meckstoth, PhD, Vice President and Chief Economist, MAPI Foundation, February 2016; Gray.com; Debunking Myths About U.S. Manufacturing; Myths-Busting American Manufacturing; MAPI Foundation.org; 5/18/17; US Census Bureau, International Trade in Goods and Services; US Bureau of Labor Statistics, Current Employment Statistics, February 2021; Blog.Thomasnet.com; 4 Myths About American Manufacturing; Team Thomas; 9/19/18; Gallorini's Manufacturing Industries; Institute for Applied Economics; June 2014; Statista.com; Total employed persons in the United States in 2020, by industry; January 2021; US Bureau of Labor Statistics; Employer Costs for Employee Compensation; National Compensation Survey, 2020; US Bureau of Labor Statistics; Occupational Employment Statistics Survey; World Economic Forum.org; 4 Myths About Manufacturing in the Fourth Industrial Revolution; Ian Cronin, Adian Widmer, and Diego Hernandez Diaz; 2/4/19; California's Manufacturing Network; The 3 Biggest Myths About Advanced Robotics in Manufacturing; 2/13/18; Autonomous Manufacturing; What Is Industry 4.0? Dispensing 4 Common Myths; 11/11/19; CNBC.com; Manufacturers to spend \$2.2 billion on upgrading in 2020 to attract and keep workers; 1/17/20; KerkorianWorks.org; What Manufacturing Can Teach Us About How Automation Impacts Jobs; 6/18/19; Information Technology & Innovation Foundation; Robotics and the Future of Production and Work; Robert Altkorn; October 2018; KerkorianWorks.org; What Manufacturing Can Teach Us about How Automation Impacts Jobs; Kathleen Bolter; 6/18/19; VoxEU.org/CEPR; Automation and Jobs: When Technology Boosts Employment; James Bessens; 9/12/18; 2018 Deloitte and The Manufacturing Institute skills gap and future of work study; The Manufacturing Institute Training Survey; 1/17/20; MEPNW FY2020 Impacts Overview; Nist.gov/mep/mep-national-network/manufacturing-videos; Nist.gov/mep/manufacturing-day; Nist.gov/mep/successories; Bringing Innovation to Rural Clothing Manufacturer; 2020; Nist.gov/mep/successories; Port Chilkoot Distillery Maximizes Energy Efficiency; 2020