

# 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.



## Myth #2

Manufacturing is a poor career choice.



## Truth

Manufacturing is actually an excellent choice.



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 2<sup>nd</sup> 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.



## MANUFACTURING JOBS PROVIDE:

12M

Employment for over 12 million people, as the 5<sup>th</sup> 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

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**.

## 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 attracted 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.



"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



"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)

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

## 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 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.**

## 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. Meckstroth, PhD, Vice President and Chief Economist, MAPI Foundation, February 2016; Gray.com, Debunking Myths About U.S. Manufacturing, Myth-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.Thomsonet.com, 4 Myths About American Manufacturing, Team Thomas, 9/18/18; California'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 Cross, Adrian Wilmer, 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? Dispelling 4 Common Myths, 1/15/19; CNBC.com, Manufacturers to spend \$82.2 billion on spending in 2020 to attract and keep workers, 11/7/20; ManufacturingWorks.org, What Manufacturing Can Teach Us About How Automation Impacts Jobs, Kathleen Baker, 6/19/19; VoxEU.org/CEPR, Automation and Jobs: When Technology Steals Employment, James Bessen, 9/12/19; 2018 Deloitte and The Manufacturing Institute skills gap and future of work study, The Manufacturing Institute Training Survey, 1/17/20; MEP/NF FY2020 Impacts Overview, Nist.gov/mep/mep-national-network/mep-manufacturing-video; Nist.gov/mep/manufacturing-day; Nist.gov/mepsuccessories, Bringing Innovation to Rural Clothing Manufacturer, 2020; Nist.gov/mepsuccessories, Port Chilkoot Distillery Maximizes Energy Efficiency, 2020