

Reshoring and the Pandemic

BRINGING MANUFACTURING BACK TO AMERICA

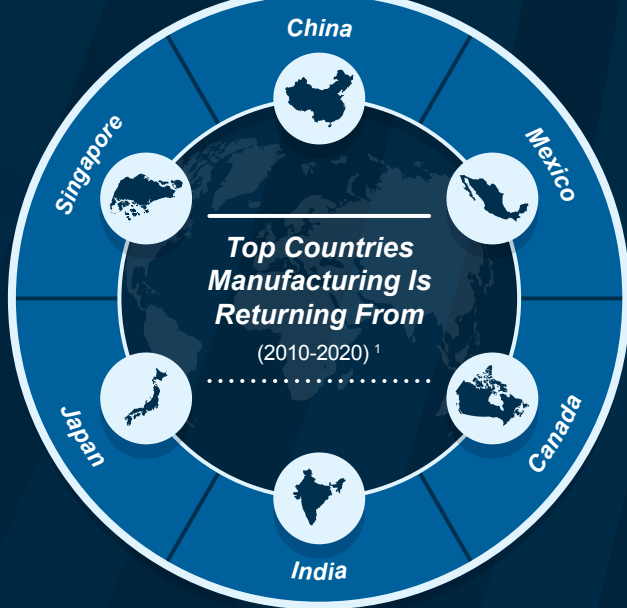
Where We Were Before the Pandemic

In the past decade (2010 – 2020), more than **1,000,000 jobs** were reshored back to the U.S.¹

Why manufacturers want to move away from offshoring (2010-2020) ¹		Why manufacturers want to move back (or invest in) the U.S.
Quality, rework and warranty	#1	Proximity to customers and markets
Freight cost	#2	Government incentives
Supply chain disruption, natural disaster risk and political instability	#3	Skilled workforce availability and training
Total cost	#4	Eco-system synergies
Tariffs	#5	Image and brand
Green considerations	#6	Impact on domestic economy
Delivery	#7	Infrastructure

Lean supply chain performance: the shorter the lead time, the less stock & raw materials needed on hand.²

Note that factors are very similar for domestic companies choosing to reshore and foreign companies choosing to invest in the U.S. Slight variation is seen in some instances. For example, companies choosing to reshore place more emphasis on brand ("Made in U.S.A." image) and impact on domestic economy. Foreign Direct Investment (FDI) decisions place more emphasis on government incentives and proximity to customers.¹



Top Industries Reshoring Back to the U.S.

(includes Foreign Domestic Investment (FDI) (2010-2020)¹

- Transportation equipment
- Computer and electronic products
- Electrical equipment, appliances & components
- Chemicals
- Plastic and rubber products
- Medical equipment and supplies
- Apparel and textiles



Pandemic Disruption

Our Reliance on Foreign Sources

U.S. Department of Health and Human Services figures show that **95% of surgical masks and 70% of tighter-fitting respirators, such as N95 masks, are made overseas.**³



According to the Federal Drug Administration (FDA), **nearly ¾ of active ingredient manufacturing facilities for medicines sold in the U.S. are located in other countries.**⁴



The pandemic affected 98% of global supply chains, according to an Everstream survey of supply chain professionals.⁵



Recognition of Supply Chain Risk



Awareness that medical gear was being made abroad spiked concerns and heightened comprehension of supply chain risk.⁶

- Moving the needle from 'cost-competitive' rationales to 'risk-competitive' rationales.
- Shifting to 'stakeholder capitalism' with stakeholders defined more broadly as shareholders, consumers, employees, and the state.⁷

Rethinking Supply Chains

70% of firms surveyed said they were likely to reshore in the coming years.



Thomas Industrial Survey March 2020⁸

62% expect less focus on Just-In-Time manufacturing models.

Foley and Lardner LLP survey¹

41% of companies have reshored at least a portion of manufacturing operations back to the U.S. within the past 3 years.

Kearney survey, March 2021, 120 U.S. manufacturing executives⁹

49% agreed that benefits of onshore production outweigh higher labor costs.

The MEP National Network™ Meets the Challenge During The Pandemic^{10, 11}

Realizing that most personal protective equipment (PPE) was made overseas, the MEP National Network, with MEP Centers in all 50 states and Puerto Rico, got involved, helping step up domestic production to meet our critical need. This exemplifies the important role the Network can play in helping companies develop national and local supply chains, which is of vital importance to reshoring efforts.



The Alaska Manufacturing Extension Partnership Center

- The Center helped match those in need of PPE with over 70 local manufacturers producing PPE, and helped transition a number of Alaska manufacturers to convert their operations to manufacture PPE.

CONNSTEP, the Connecticut Manufacturing Extension Partnership Center

- The Center developed a dedicated COVID-19 webpage for crucial material and resources for disaster loan and relief, labor and unemployment, workplace health and safety, and more. CONNSTEP created a separate website to match PPE manufacturers with the needs of healthcare workers and partnered with the state and its chief manufacturing officer to help facilitate the distribution.

The Ohio Manufacturing Extension Partnership Center

- The Center worked with the Ohio Hospital Association, the Ohio Manufacturers' Association, and JobsOhio to source and manufacture PPE. Ohio MEP coordinated an alliance with 19 manufacturers that quickly retooled to produce face shields to meet state and national demand and supported unique needs for testing booths.

The Future of Reshoring

Factors Accelerating Reshoring^{9, 12}

ECONOMIC POLICY

Executive Order 14005

Ensures the federal government invests taxpayer dollars in products "Made in America"

- Establishes substantial role for the Manufacturing Extension Partnership (MEP) in conducting supplier scouting to identify domestic suppliers that are able to "produce goods, products, and materials in the United States that meet federal procurement needs."

Executive Order 14017

Assessing and strengthening the resilience of supply chains

- Reviewing supply chain risk, reshoring, and developing domestic and alternative supply chains. Use of Defense Production Act to address supply of PPE, tests, and vaccines.

LABOR POLICY

National Apprenticeship Act

Could create nearly 1 million new apprenticeship opportunities



The Cost-Benefit Analysis

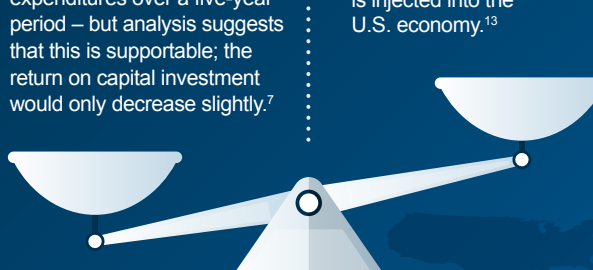
Reshoring will require investment:

If all foreign firms, including U.S. companies, were to reshore their manufacturing operations from China for products "not intended for consumption in China," they could face \$1 trillion in capital expenditures over a five-year period – but analysis suggests that this is supportable; the return on capital investment would only decrease slightly.⁷

BUT...

The opportunity is enormous:

If 83% of U.S. manufacturers contract with **only one new** domestic supplier in the next year, an estimated \$443 billion is injected into the U.S. economy.¹³



A coalition of 21 industry groups including the American Organizations, The Alliance for American Manufacturing, the American Iron and Steel Institute, and the American Steelworkers have called on the U.S. government to invest in domestic production of PPE.¹⁴

The American Medical Association (AMA) has called on the U.S. government to ramp up PPE production in the U.S., citing shortages.¹⁵

- More than 33% of 3,500 doctors responding to a 2020 AMA survey said acquiring PPE was very or extremely difficult.
- In small practices, that number was even greater: 41%.¹⁶

How the MEP National Network Can Help Reshoring Efforts

In support of Executive Orders 14005 and 14017 – to focus on manufacturing in America and establishing domestic suppliers – MEP Centers can help companies reshore their manufacturing operations by identifying domestic suppliers through **Supplier Scouting**.



MEP National Network Supplier Scouting Success Stories



By scouting and vetting local manufacturing suppliers for key components, **FASTLANE**, part of the Ohio MEP, helped the entrepreneurs behind Edge Cycling Technologies identify the suppliers to develop and produce their innovative, protective bicycle seat.¹⁷



By scouting and vetting providers of key technologies, **GENEDGE**, the Virginia MEP, helped Manphix Technologies – a developer and manufacturer of colorimetric chemical detection products – diversify beyond the defense market and grow production in a new product line.¹⁸



By scouting and vetting providers of crucial services necessary for production, **Manulcer's Edge**, the Colorado MEP, helped ConcealFab, provider of rooftop concealment (e.g., for antennas), reduce lead times, expand its supply chain, and improve workflow.¹⁹



www.nist.gov/mep/mep-national-network
1-800-MEP-4MFG

Sources: (1) Reshoring Initiative 2020 Data Report, Reshoring Initiative; (2) Lean Supply Chain Performance: Onshoring's Secret Weapon, Erickson, Industry Week, 4/2/2021; (3) How Decades of Offshoring Led to a Mask Shortage in a Pandemic, wired.com, 3/29/20; (4) What Would It Take To Bring More Pharmaceutical Manufacturing Back To The U.S., Lakin, npr.org, 4/24/20; (5) Everstream Analytics Annual Risk Report 2021, Everstream Analytics, March 2021; (6) American manufacturers pine for home as COVID disruptions, Trump tariffs shake up supplies, Braga, Money, (7) U.S. and European firms face \$1 trillion in costs to relocate their Chinese supply chains, BofA says, Smith, CNBC, 8/18/2020; (8) Global pandemic rolls 2020 Reshoring Index, shifting focus from reshoring to right-shoring, Van den Broeke, Eleaszer, Castano, and Sierraneta, Kearney; (9) Reshoring America: Can the Heartland Lead the Way?, Kotkin, Lind, and Shidder, Heartland Forward; (10) MEP National Network: Meeting the Challenge, https://www.nist.gov/system/files/documents/2020/07/08/MEP_NN%20Meeting%20the%20Challenge%202020.WEB.pdf; (11) https://www.usda.gov/wp-content/uploads/sites/101/2021/01/Ceasing_Unprofitable_Trends_That_Accelerate_Reshoring_Uphoff_Fortune_8/24/2020; (12) State of North American Manufacturing 2021 Annual Report, thomsonet.com; (13) Industry Group Coalition Supports Reshoring PPE Manufacturing, IW Staff, industryweek.com, 7/20/20; (14) New hope for fixing supply chain problems on PPE, tests, vaccines, O'Reilly, ama-assn.org, 1/29/21; (15) Amid PPE shortage, AMA collaboration offers supplier for doctors, O'Reilly, ama-assn.org, 4/13/21; (16) https://www.nist.gov/mep/successories/2020/edge-cycling-supplier-scouting; (17) https://www.nist.gov/mep/successories/2017/diversifying-beyond-defense-market; (18) https://www.nist.gov/mep/successories/2021/high-quality-product-right-time; (Additional) The Future of Manufacturing: Reshoring and the Global Supply Chain, Duff & Pralgo; The Reshoring Trend: infographic, Reshoring Initiative, 12/31/2014; Cost of Manufacturing Operations Around the Globe, KPMG/The Manufacturing Institute, 2020; 'I've Never Seen Anything Like This', Chaos Strikes Global Shipping - Goodman, Stevenson, Chokshi, and Corkery, The New York Times, 3/7/21; How to rebound stronger from COVID-19: Resilience in manufacturing and supply systems, World Economic Forum/Kearney, April 2020; Not Much Progress on PPE 'Reshoring', Fiore, Medpage Today, 9/25/2020; Rebuilding and Reshoring: Establishing Supply Chains by Increasing Competitiveness, Moser, Reshoring Initiative, 8/3/2020; Rebuilding and Reshoring: How Did Offshoring Get So Strong?, Moser, Reshoring Initiative, 8/17/2020; Reinvesting in the USA: A Case Study of Reshoring and Expanding in the United States, U.S. Department of Commerce/International Trade Administration, 2019; Reshoring & Sustainability: Beyond the Horizon, Reshoring Institute, 2/26/2020; Reshoring advanced manufacturing supply chains to generate good jobs, Fish and Spillane, Brookings Metropolitan Policy Program, July 2020; Reshoring is Creating Opportunities For North American Manufacturers, Hanno, Thomas, 8/20/2020; Strategic Reshoring: A Literature Review, Bolter and Robey, W.E. Upjohn Institute, 2020; Supply chains do the math on reshoring's pros and cons, Kaplan, Supply Chain Dive, 4/8/2021; The Resilient Economy: Integrating Competitiveness and Security, Transform 2020, Council on Competitiveness; Updated employment multipliers for the U.S. Economy, Bivens, Economic Policy Institute, 1/23/19