



ANCHOR
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WHITE
PAPER



**OFFSHORE TO ONSHORE:
THE REALITIES OF RESHORING
AMERICAN MANUFACTURING FOR
SUPPLY CHAIN RESILIENCE 2024**

INTRODUCTION TO RESHORING

Most people have heard the word “offshoring”, meaning the movement of production and manufacturing capabilities to foreign nations. Recent government policies and shocks to supply chains for manufacturing companies have incentivized the “reshoring” of production capabilities. This means moving production and manufacturing back to the home nation. The manufacturing sector in the United States has steadily been rethinking its devotion to offshoring in the last few years. Many companies were faced with the critical weaknesses of offshore production when the world was disrupted by the COVID-19 pandemic. In response to critical shortages that hit nearly every part of the manufacturing sector, the government has passed new regulations and incentives that build upon earlier onshoring initiatives that date back to the 2008 financial crisis.

This is not a simple process. American manufacturing has been primarily offshored for a long time, and reshoring efforts from the last decade were only moderately effective at bringing jobs back to the United States. Supply chains need to be rebuilt within the U.S., and training the workforce for such an economy is no small task. Yet there are many benefits to reshoring, beyond just avoiding the pain of foreign supply chain disruptions.



CHALLENGES AND BENEFITS

This paper provides an overview of the key considerations for organizations looking to reshore their production lines. The topics discussed below will further delve into the overall challenges and benefits of reshoring American manufacturing.

CHALLENGES OF OFFSHORING

- Long Supply Chains
- Quality Control Issues
- Long Lead Times
- Intellectual Property Concerns
- Foreign Government Policy
- Onerous Import/Export Duties
- Geopolitical Risk
- Significant Transport Costs
- High Environmental Costs
- Government Disincentives

BENEFITS OF RESHORING

- Reduced Transport Costs
- Local Quality Control
- Faster Time to Market
- Flexible Production and Supply
- Resilience to Geopolitical Events
- Government Policies
- Overall Lower Costs of Ownership
- Government Incentives
- Lower Environmental Costs
- Supporting Local Communities

LEAD THE WAY
IN RESHORING:
ENHANCE YOUR
COMPANY'S RESILIENCE AND
MARKET AGILITY.

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COST CONSIDERATION: TOTAL COST OF OWNERSHIP

It is a common belief that companies will rationally seek out the most cost-effective solutions for their production lines, but that is not always true. It is an obvious but important fact that companies are not monolithic entities with perfect information. Companies are prone to overlooking costs that are less obvious and more difficult to analyze. Sometimes, the sum of these overlooked costs can be quite significant.

The total cost of ownership (TCO) is a holistic and truer way to analyze the actual costs and benefits of offshoring vs. reshoring manufacturing facilities. Understanding TCO requires a review of several critical costs that otherwise might be overlooked or minimized.

- **Hidden Labor Costs:** When looking at the perceived benefits of offshoring, companies often look at the lower wage costs and become blinded to numerous other costs. Several factors affect the total labor cost. The availability of skilled workers, the reliability of workers, the costs of hiring and firing, and the effects that those have on product quality can make labor costs much higher than they would appear if average wages were the only factor.
- **Transportation Costs:** Offshore manufacturing comes with an increase in total freight costs. Transportation becomes a significant burden on budgets, and that cost is not predictable or reliable. For mass manufacturing and heavy industries that make most of their sales within the United States, the costs of shipping everything from places like overseas to America are burdensome at best and crippling at worst. Shipping costs are also subject to the whims of global shipping companies, who can change shipping route costs much faster than manufacturers can relocate a factory. Even without considering the calculations of shipping companies, global shipping is a network that is prone to significant disruption. Recent attacks by Houthi rebels in Yemen have made traversing the Red Sea a dangerous prospect. This has made some shippers raise container fees as high as \$10,000, and many carriers are still expected to raise container costs to the West Coast of the U.S. above \$5,000. By comparison, intra-American transport costs are quite a bit less and are less vulnerable to global trends and events that can rapidly change transport prices.

- **Inventory Carrying Costs:** Inventory carrying cost is the sum of all costs of holding inventory before it is sold. These costs are quite stealthy, especially when the lead times of international shipping become a hindrance to rapidly responding to changes in sales volume. For years, the goal of mass manufacturing was the minimization of carrying costs through the pursuit of just-in-time (JIT) inventory. The devotion to JIT inventory management was a huge success until the COVID-19 pandemic exposed the serious flimsiness of that mode of production. Now, seeking to increase resilience to supply-chain shocks, many companies are maintaining sizeable inventory stocks once again. Offshore manufacturing requires retaining significant inventory precisely because lead times are so long. Reshoring manufacturing can reduce the overall cost of carrying inventory through shorter lead times, making the company more responsive to changes in demand or shakeups in the market landscape. In addition, minimizing inventory through shortening lead times for production reduces the possibility of lost inventory or products becoming obsolete on the warehouse floor.

- **Tariffs and Duties:** While the United States has devoted itself to a reduction in tariffs and duties in support of global trade, that is not guaranteed to always be the case. In 2019, the federal government put tariffs of up to 25% on steel from many countries and up to 50% on products like solar panels, which are only the most extreme examples of the wide-reaching tariffs on so many common products. Many firms pass these costs onto customers, but that isn't always a possibility for every company. Even without considering the potential for increasing protectionist policies in the United States, the consistent cost of import duties for nearly every product made overseas can completely negate any savings found elsewhere. Reshoring manufacturing eliminates the cost of tariffs and duties while benefiting from many domestic manufacturing incentives.

TOTAL COST OF OWNERSHIP:
THE HOLISTIC ANALYSIS OF ALL
DIRECT AND INDIRECT COSTS OF
OFFSHORING VERSUS RESHORING
MANUFACTURING (TCO).

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RISK MANAGEMENT/ SUPPLY CHAIN RESILIENCE

A resilient supply chain is defined by its capacity to resist and recover from unexpected shocks. Mitigation of supply chain disruption is an incredibly complex topic, and that is especially true for companies with long and complex supply chains. Fragile supply chains are those that cannot deal with shocks or rapid changes, while resilient supply chains are capable of moving fluidly with changes in the market and the world. The most resilient supply chains engage in forecasting, anticipation, and deep planning with multiple contingencies to respond to any event that may occur. Maintaining a resilient supply chain is all about risk management. This requires understanding the risks to supply chains and subsequently looking for solutions. Offshore manufacturing multiplies the risks to a company's supply chain and simultaneously makes analysis of the risks more difficult.

COVID-19

The COVID-19 pandemic [shattered global supply chains](#) as whole nations instituted far-reaching isolation policies that made most cities into ghost towns. For offshore manufacturing facilities, especially those in China, lockdown policies made it impossible to move products to markets in Europe and the United States. Bottlenecks in major ports during the COVID -19 pandemic, which made simply getting products off the boat a herculean task. The port of Los Angeles in 2021 was moved to 24/7 operation and still maintained backups of almost [60 container ships](#) anchored off the coast. This is compared to a usual backlog of only ~1 ship at any given time.



RESHORING STREAMLINES
RISK MANAGEMENT
AND BOOSTS RESPONSIVENESS
TO LOCAL DYNAMICS.

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LOCAL DISRUPTIONS

Most disruptions are smaller in scope than a global pandemic. While these smaller disruptions are not likely to affect every industry everywhere, they are still critical for those firms that are affected.

- Local natural disasters can make ports unusable or straits untraversable for a time.
- Geopolitical tensions can cause spikes in shipping costs due to increased risk on the part of shipping companies, and war can eliminate the viability of whole shipping routes.
- [Terrorism](#) is an ever-present risk, and commercial shipping vessels make easy and effective targets for even small and ill-equipped factions. Houthi rebels have been unperturbed in their efforts to shut down shipping in the Red Sea, despite the efforts of both the U.S. and U.K. This has resulted in an 80% drop in the [volume of freight moving](#) through the Red Sea, and only 45% of that volume has diverted around the Cape of Good Hope.

For companies with major markets in the United States, there is an obvious answer to eliminate all of these risks: reshore manufacturing.

Domestic American manufacturing benefits from a simple immunity to global supply chain disruptions when serving American markets. Localization of production means that companies can be responsive to local changes in markets and unaffected by problems occurring beyond America's shores. Even companies with international markets can benefit from reshoring some of their manufacturing, minimizing losses and costs associated with small local disruptions.

TECHNOLOGY AND AUTOMATION

The reshoring of American manufacturing is a prime opportunity for the integration of automation, advanced technology, digital labor, digital solutions, and optimization. Companies that are currently beginning the process of reshoring manufacturing are actually in a prime position to move forward with advanced automation technologies integrated into their reshored facilities from the very beginning.

Unfortunately, there is a massive skill gap in the United States. American manufacturing has been offshored for so long that previously skilled manufacturing workers have changed industries or aged out of the workforce, and the new workforce is not trained to accept a manufacturing-based economy. Persistent skill shortages could risk [\\$454 billion](#) in economic output by 2028, which would be a 17% loss to the entire manufacturing industry's GDP contribution. Addressing this gap can be done with technical and AI-powered tools to augment and supplement the missing human labor. [These changes](#) are expected to lead to a loss of 85 million jobs in the next couple of years, yet they could create as many as 97 million new jobs. These new jobs offer a chance for the American workforce to transition back into a manufacturing-based economy without needing to revert to the workforce of the 1970s.

Reshoring manufacturing with the inclusion of technology and automation can make production lines more adaptable and flexible than entirely human-based operations. These kinds of adaptations can present a daunting up-front cost for most companies, but the overall savings in optimized production can be recouped and provide savings for years in the future. Physical manufacturing solutions like collaborative robots (cobots) and entirely automated production lines can cost a lot, but AI tools and digital working tools that make office operations more efficient are much cheaper and provide significant savings in themselves. Even the inclusion of machine-learning algorithms to aid humans in semi-automated production lines can optimize human performance, making the overall process more efficient.

Previous technological innovations made offshoring easy, especially when the incentives of lower-wage countries promised very low production costs. However, the inclusion of technology can not only make reshoring production cheaper than offshore production, it can also make it significantly more efficient. Robotic production makes products more reliable and can increase consistency across entire production runs; cobots can make humans themselves more efficient by augmenting their workspaces with robotic assistants; and AI tools can make the learning process exponentially more efficient.

Overall, the introduction of automation tools, including the use of both physical robotics and digital labor tools like AI, can minimize the costs of reshoring production. The savings enabled by automation and technology, when considered alongside the other benefits of reshoring, make reshoring manufacturing a more cost-effective option than offshore manufacturing. It can also help to attract a more skilled workforce back into the manufacturing sector, which can help revitalize the entire sector.



AUTOMATION AND AI IN RESHORING NOT ONLY REDUCE COSTS BUT ALSO ENHANCE PRODUCTION EFFICIENCY AND WORKFORCE SKILLS, REVITALIZING THE ENTIRE MANUFACTURING SECTOR. ”

GOVERNMENT POLICIES AND INCENTIVES

INCENTIVE	POLICY	DESCRIPTION
TAX INCENTIVES	Domestic Production Activities Deduction	Tax deduction to provide tax relief for businesses that produce goods in the United States. It applies to construction, utility services, film and video, architecture, and personal property.
	Accelerated Depreciation	Allows businesses to deduct a larger portion of the cost of assets in the early years of ownership, helping businesses acquire property more easily.
	Research and Development Tax Credit	Dollar-for-dollar reduction in tax liability for expenses in the design, development, and/or improvement of products, processes, formulas, or software.
	Qualified Improvement Property	A deduction of up to \$1 million on improvements to the interior of buildings. Available for most depreciable property and includes most types of renovations.
	Others	Other incentives, such as the Qualified Advanced Energy Project Investment Credit and the Advanced Manufacturing Production Credit, are more industry-specific. A multitude of local and state incentives can also be applied.
GRANTS AND SUBSIDIES	Manufacturing Extension Partnership	A National Institute of Standards and Technology (NIST) led public-private partnerships in all 50 states and Puerto Rico to help small and medium-sized manufacturers acquire the resources needed to grow.
	Economic Development Administration	Bureau within the U.S. Department of Commerce dedicated to creating grants and programs supporting the development of domestic manufacturing and other domestic businesses.
	Partnerships for Innovation	U.S. National Science Foundation program offers researchers and innovators funding tracks for scale-up of technologies, demonstrations of commercial potential, and proof-of-concept research.
	Others	Smaller and more specific funding competitions and grant programs, such as the Domestic Manufacturing Conversion Grants, and many state and local programs, support manufacturing in many industries.
TARIFFS	Section 232 Tariffs	Section 232 of the Trade Expansion Act of 1962 gives the President of the United States broad power to impose tariffs in the pursuit of national security. This was the basis for many of the Trump administration's tariffs.
	Section 301 Tariffs	Section 301 of the Trade Act of 1974 grants the Office of the United States Trade Representative a range of authorities to enforce U.S. rights in trade agreements and to protect U.S. interests against foreign trade practices. Several rounds of the Trump administration's tariffs were based on this law.
BUY AMERICAN	Buy American Act of 1933	Requirement for Federal Agencies to procure domestic materials and products for projects that are for public use in the United States.
	Build America, Buy America Act, part of the Infrastructure Investment and Jobs Act of 2021	Established a domestic content procurement preference for all Federal financial aid obligated for infrastructure projects. All iron, steel, manufactured products, and construction materials used in covered projects must be produced in the United States.
WORKFORCE DEVELOPMENT PROGRAMS	Work Innovation and Opportunity Act of 2014	It helps job-seekers access employment, training, and support services to succeed in the labor market and match with employers looking for skilled workers.
	National Apprenticeship Act of 2023	\$3.85 billion investment over 5 years in increasing access to registered apprenticeship programs, youth apprenticeships, and pre-apprenticeships.

The following is not a comprehensive list of all government policies to incentivize domestic manufacturing.



ENVIRONMENTAL AND SOCIAL CONSIDERATIONS

Many of the [benefits](#) of reshoring manufacturing to the United States are also potential benefits for environmental pursuits. The environmental costs of international shipping are incredible. The fuels burned by giant container ships are heinously polluting. While there are fuel benefits for carrying more goods on a single ship, physics still demands that more energy be used to move more mass. Putting products on ships causes those ships to burn more fuel, meaning more pollution. This cost to the [environment](#) is externalized for most companies, but climate change is increasingly making those costs quite real for much of the world.

Moving manufacturing back to the United States makes supply chains shorter, meaning that transportation costs are minimized, especially for ocean shipping, which tends to be dirtier than any other form of transportation. In addition, companies with reshored manufacturing benefit from a reduced need to maintain large inventories, thus minimizing overproduction.

[Socially](#), reshored manufacturing invests in the future development of American industry and the revitalization of American communities. Many midwest and heartland communities were harmed by the offshoring of American manufacturing. The reshoring of that manufacturing promises to bring back the jobs that sustained communities and contribute to the overall reinvigoration of the United States. Community support of reshored manufacturing facilities means that companies benefit from a more loyal workforce and more integrated local communities.



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RESHORING ENHANCES
ADAPTIVE CAPABILITIES AND
MITIGATES THE SUBSTANTIAL
ENVIRONMENTAL TOLL OF
GLOBAL SHIPPING.

RESHORE WITH ANCHOR HARVEY

Reshoring American manufacturing is not only an imperative for America to rebuild its domestic manufacturing industry; it is simply a good business decision for many American companies reliant on offshore manufacturing. Reshoring manufacturing can mean a company gains the benefits of shorter supply chains, more versatile operations, resiliency against world events that disrupt global supply chains, the elimination of costs due to transportation and import duties, and the benefits of domestic manufacturing incentives.

The actual process of reshoring manufacturing is different for many different companies. It begins with an assessment of the costs and benefits associated with reshoring, including the potential costs of buying foreign products made by foreign firms. Setting up new facilities in the United States may seem costly, but the many incentives discussed here are made to help reduce and even eliminate the outsized costs associated with shifting production.

For manufacturing companies that utilize forged, machined, aluminum components, Anchor Harvey is a U.S.-based aluminum forging and machining company with a history of producing high-quality American-made products. If reshoring is in the future for your company, look to Anchor Harvey as your first choice for American aluminum component supply.



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