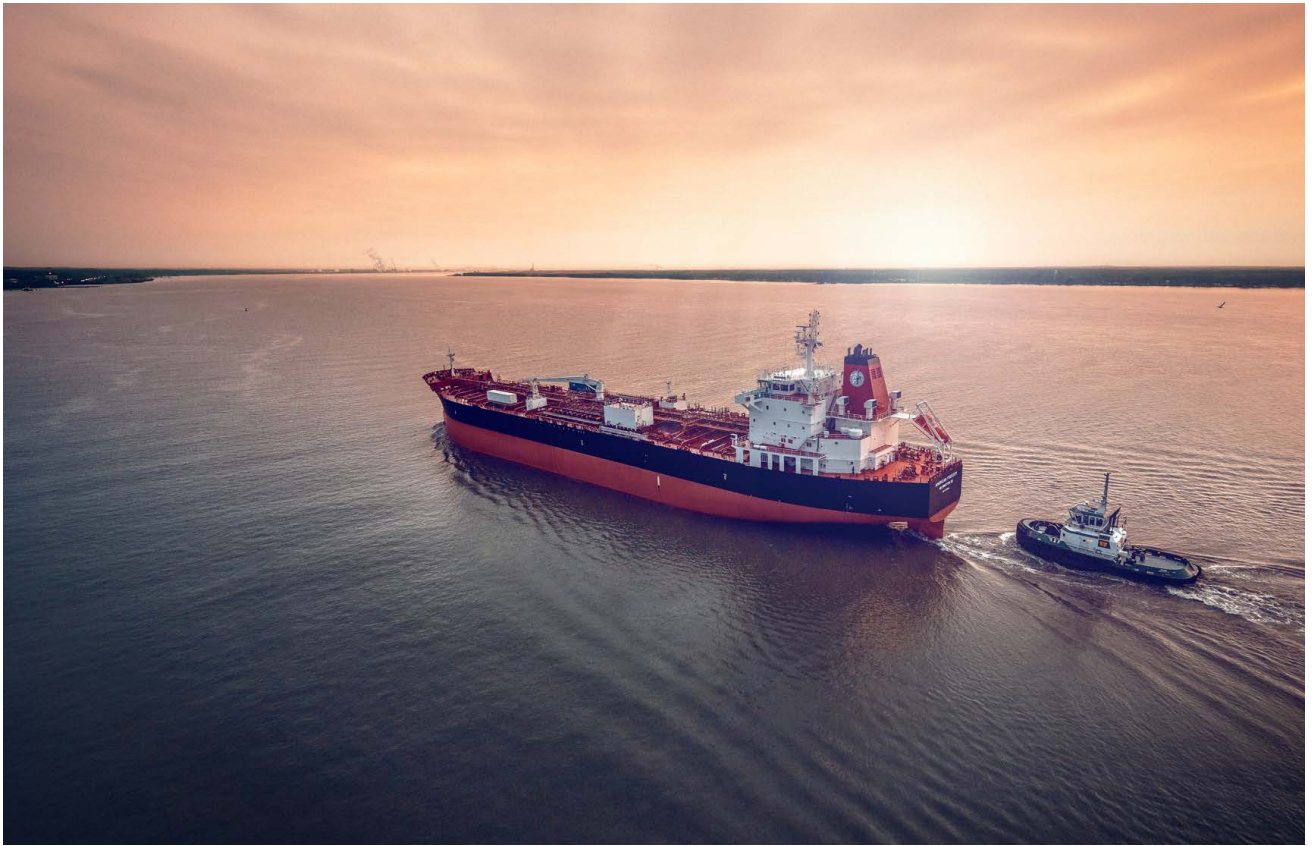


NATIONAL SECURITY CONTRIBUTIONS OF THE U.S. MARITIME INDUSTRY



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U.S.-flagged vessel *American Freedom*, built by Philly Shipyard, Inc. (Photo by Philly Shipyard, Inc.)

The U.S. Maritime Industrial Base

The United States has always been a maritime nation. Since its founding, Americans have taken to the sea for trade, to harvest the resources in America's waters and seabed, and to defend or advance the country's interests. A robust commercial maritime industry is essential to support these efforts, which enhance America's prosperity and security.

Today, the U.S. maritime industry employs hundreds of thousands of Americans across the country, from the Atlantic and Pacific coasts, the Gulf of Mexico, the Great Lakes, and the Mississippi, contributing hundreds of billions of dollars to the economy.¹ The industry includes U.S.-flagged fleets that engage in commerce, explore for energy, and fish in America's territorial waters and Exclusive Economic Zone (EEZ); the U.S.-flagged international fleet that transport U.S. commercial, military, and civilian cargoes around the world; and military and commercial shipbuilding and ship repair. The industry also includes Merchant Mariners who operate U.S. shipping fleets, and who would be called upon to move military personnel and material overseas during war or international crisis. The U.S. maritime industry is supported by an integrated set of U.S. government policies that include the Merchant Marine Act of 1920 (also called the Jones Act), the Maritime Security Program (MSP), and Cargo Preference requirements that mandate U.S. government cargoes be transported on U.S.-flagged ships. As the nation enters a new era of great power competition, a robust maritime industry, and the policies that support it, are increasingly important to the interests of the United States.

U.S. Domestic Fleet

Under the Jones Act, commerce between U.S. ports must be conducted by U.S.-built, owned, flagged, and crewed vessels. Most importantly for national security, this requirement ensures the mariners operating around America's coasts and on its inland waterways are U.S. citizens or permanent residents. This pool of U.S. mariners is also available to help crew the U.S. government-owned fleet of inactive ships in the Ready Reserve Force, which would be used to help move military equipment and supplies to support overseas operations.

By requiring that commercial ships operating between U.S. ports be U.S.-built, the Jones Act helps sustain the U.S. shipbuilding industry. Although most shipyards that build larger U.S. Navy and Coast Guard ships do not generally construct commercial vessels, the shipyards that build smaller ships for the government depend on orders for commercial Jones Act-compliant vessels to stay in business between Navy and Coast Guard contracts.

At present, the U.S. domestic fleet is comprised of 40,000 total vessels, 99 of which are large Jones Act-compliant vessels.^{ii,iii}



A U.S. domestic fleet oil tanker passes underneath the Coronado bridge in San Diego Bay. (Photo: General Dynamics NASSCO)

In 1789 Alexander Hamilton led an effort to pass regulations and laws that ensured trade between U.S. ports was conducted by U.S. vessels. This common-sense approach, referred to as cabotage, was steadily improved over time, with the Merchant Marine Act of 1920 (also known as the Jones Act) the latest version of the law. 91 UN member states, covering 80 percent of the coastlines of UN member states, have cabotage laws.^{xvii} Of these, 6 nations adopt explicit domestic build requirements, and others adopt a variety of indirect restrictions and incentives.



Barge and ship traffic transporting export cargo on the Mississippi River in the Port of New Orleans, New Orleans, LA on Sept. 9, 2005. USDA photo by Bob Nichols.



Dredger from Weeks Marine dredging a channel off Treasure Island, Florida
(Photo: Dredging Contractors of America)

A domestic dredging industry prevents the United States from depending on foreign companies to dredge its dozens of naval facilities, potentially opening up opportunities for sabotage or the depositing of underwater surveillance equipment.

Secures Waterways and Shipping Lanes

The United States has thousands of miles of internal waterways and coastline that support a wide range of economic activity, including transportation, fishing, and oil and gas extraction. Shipping and associated dredging are particularly important because they enable the movement of material at a lower cost than transportation by truck or train.

The requirement that ships in the domestic fleet be U.S.-flagged and operated by crews of U.S. citizens or permanent residents prevents foreign ships and mariners from operating routinely in close proximity to vulnerable infrastructure along U.S. inland waterways such as nuclear power plants, bridges.

Hundreds of foreign-flagged and crewed ships call on large U.S. ports every day and are essential to America's economy. The large ports that move international shipments, however, are designed and staffed to enforce immigration and customs requirements. Smaller ports along the U.S. coast and inland waterways are not generally equipped to enforce these regulations.

The Jones Act's requirements also apply to shipping between the contiguous United States and overseas territories and states, including Alaska, Hawaii, and Puerto Rico. Mandating that commercial ships moving between these areas be U.S.-flagged lessens the ability of potential adversaries to interfere with the integrity of states and territories' commercial links to the U.S. mainland. Also, some of the domestic fleet's ships may be useful to move military cargoes during crisis or conflict.

Often overlooked, the U.S. domestic fleet also includes American dredging, towing, and salvage fleets. Dredgers help maintain and expand more than 400 ports and 25,000 miles of navigation channels throughout the United States, which are relied upon by military and commercial users. A domestic dredging industry prevents the United States from depending on foreign companies to dredge its dozens of naval facilities, potentially opening up opportunities for sabotage or the depositing of underwater surveillance equipment. Commercial towing and salvage vessels help move commercial and naval vessels in and out of ports and help rescue ships and submarines in emergencies.

Strengthens Shipbuilding

The Jones Act's requirement that commercial vessels moving between U.S. ports be built in the United States helps sustain the shipyards the U.S. Navy and Coast Guard depend on for episodic construction of smaller ships and may improve the efficiency of the few shipyards that build both large commercial and military ships. The Jones Act's construction requirements also help ensure ship construction capacity is available in the United States to replace military cargo ships lost to wartime attrition.



NASSCO Shipyard San Diego builds both commercial and military vessels.
(Photo: General Dynamics NASSCO)

Provides Reserve of Merchant Mariners

The U.S. domestic fleet contributes to the pool of U.S. citizen or permanent resident Merchant Mariners. These mariners normally operate ships in the domestic fleet, and during contingencies a portion of them could be recruited to operate inactive U.S. government ships in the Military Sealift Command (MSC)'s Ready Reserve Force that support defense shipping during a crisis or conflict.

U.S. International Fleet

The U.S. international fleet, comprised of U.S.-flagged and U.S.-crewed oceangoing vessels, engages in commerce around the world alongside the fleets of foreign shipping companies. During emergencies, U.S. ships move military personnel and materiel to and from war zones and humanitarian aid to disaster areas. Today, the U.S.-flagged international fleet is comprised of 83 ocean-going vessels, considerably fewer than nearly 200 vessels at the end of the Cold War, though relatively similar in terms of total tonnage.^{iv,v}

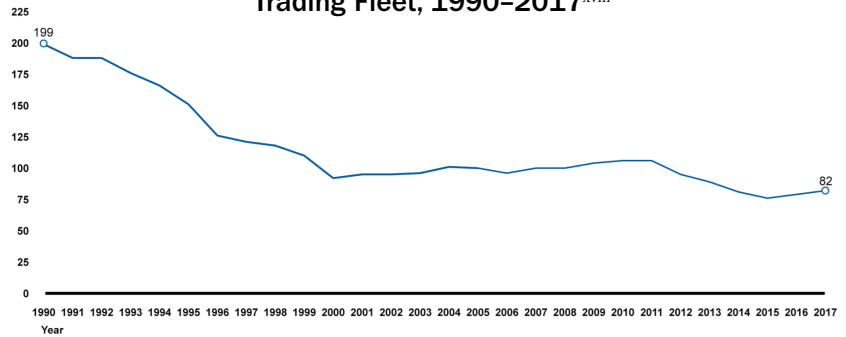
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To remain viable during periods outside of crisis and conflict, the international fleet engages in commercial trade, moving U.S. government and commercial cargo between the United States and overseas ports and bases. Under current U.S. Cargo preference regulations, all military cargo and 50 percent of U.S. government civilian cargo (including food aid and any cargo

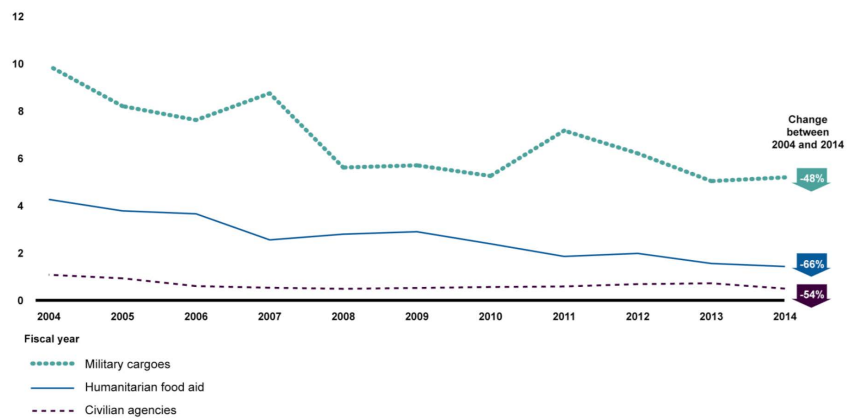
that is financed by the U.S. government, such as by the Export-Import Bank) are required to be transported on U.S.-flagged vessels, so long as a U.S. vessel is available and charges a reasonable rate.^{vi} The rates paid by the government to ship cargo on U.S.-flagged and crewed vessels are generally higher than what the government would pay a foreign shipper, which helps offset the higher cost of operating U.S.-flagged ships. U.S. government cargoes have decreased in volume by more than half since 2004, however, putting increasing strain on the profitability and viability of U.S.-flagged vessels and contributing to a decline in the size of the U.S. international fleet.

Most of the international fleet also participates in the Maritime Administration’s (MARAD) Maritime Security Program (MSP). In exchange for an annual stipend, companies participating in MSP ensure the Department of Defense (DoD) has access to 60 U.S.-flagged ships, an estimated 3 million square feet of sealift surge capacity, their intermodal logistics networks, and 2,400 additional mariners who can crew government cargo vessels of the Ready Reserve Force in the event of crisis or conflict. In combination with government Cargo Preference requirements, the MSP stipend helps offset the higher cost of operating U.S.-flagged ships compared to foreign-flagged ships that do not have the same safety, tax, labor costs, or regulatory requirements.

Size of U.S.-Flagged Oceangoing Internationally Trading Fleet, 1990–2017^{xviii}



Total U.S. Government Cargo, in Metric Tons, 2004–2014.^{xix}



Sustains Strategic Autonomy

The U.S. international fleet and government shipping reduces the Department of Defense’s reliance on foreign crews to supply U.S. forces during crisis or conflict. During Operation Desert Storm, where the United States relied heavily on chartering foreign vessels, the foreign crews of 13 foreign-flagged ships refused to go into a war zone and deliver their cargo. Not a single American crew refused.^{vii} In the event of a war with a great power, particularly a major economic and military power like China, a higher percentage of foreign vessels could refuse to carry U.S. cargo.

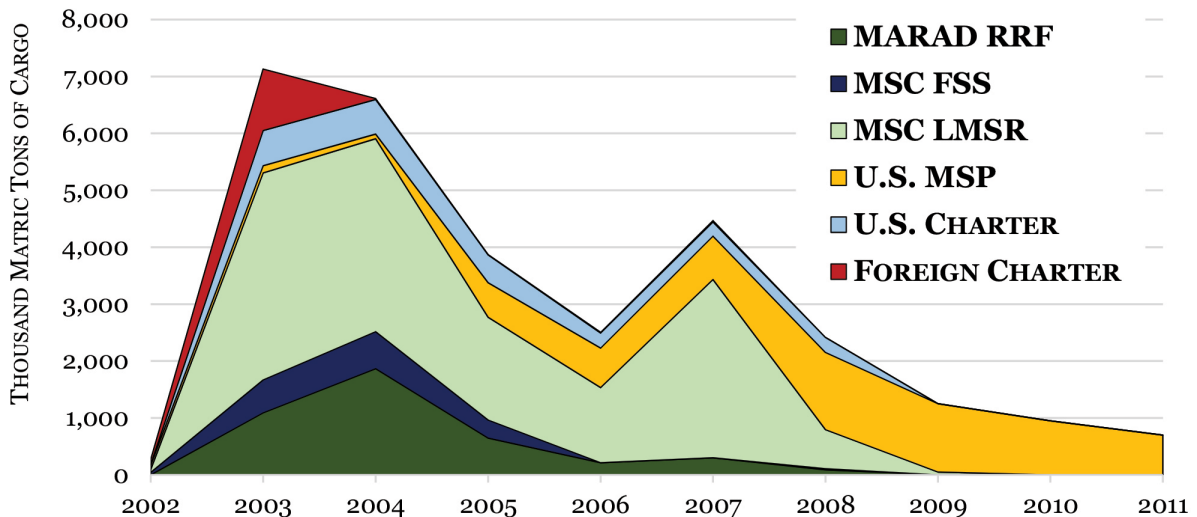
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The U.S.-flagged fleet is essential to America's ability to sustain military operations abroad, with over 90 percent of U.S. Transportation Command cargo traveling by sea.^{viii} The sealift fleet DoD will rely on during emergencies consists of the Maritime Sealift Command's Fast Sealift Ships (FSS) and Large Medium-Speed Roll-on/Roll-off Ships (LMSR), the MARAD Ready Reserve Force, U.S.-flagged ships in the MSP, other chartered U.S.-flagged ships, and chartered foreign-flagged ships. The U.S. international fleet provided substantial portions of the sealift required during the First Gulf War and moved the overwhelming majority of dry cargo for Operations Enduring Freedom and Iraqi Freedom from 2002 to 2011.



Tanks and military trucks onboard MSP-participating Liberty Maritime cargo ship (Photo: Liberty Maritime).

OEF/OIF DRY CARGO SEALIFT COMPOSITION 2002-2011



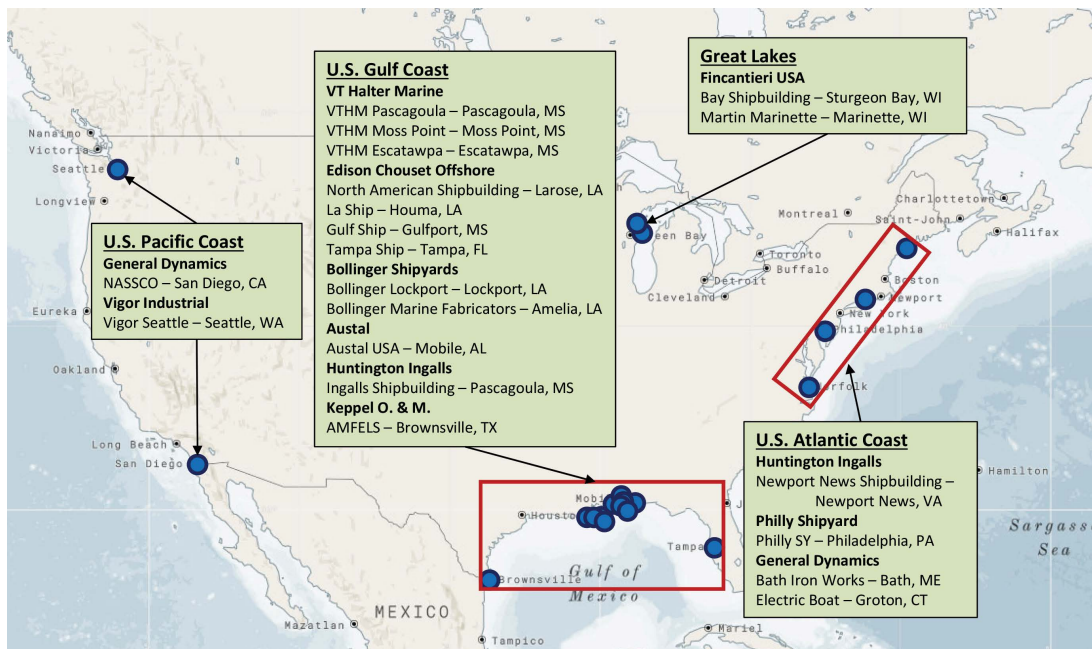
The MARAD Ready Reserve Force (RRF) consists of U.S. government-owned ships in reduced operating status (ROS); these ships require crews to get underway and deploy. MSC ships are U.S. government-owned. MSC Maritime Prepositioning Ships have crews assigned, while MSC Surge Fleet ships are in ROS and require crews to get underway and deploy. The U.S.-flag international fleet and foreign charter fleets are commercially-owned and operated; because they are actively operating these ships do not require additional crews to support surge shipping requirements.

U.S. Shipbuilding and Ship Repair

The U.S. shipbuilding and ship repair industry is a foundation of U.S. maritime power. It enables the United States to field and sustain the world's largest Navy, a Coast Guard that protects thousands of miles of U.S. coastline, and a domestic commercial fleet. The private and public shipbuilding and repair industry accounts for nearly 134,000 jobs nationwide, contributing an estimated \$60 billion to the U.S. economy annually.^{ix,x}

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Today, the U.S. shipbuilding industry includes approximately 125 active shipyards across the country. Of these, 20 are large shipbuilders capable of building deep-draft vessels like U.S. Navy surface combatants, aircraft carriers, amphibious warfare ships, and submarines, Coast Guard cutters, and large commercial ocean-going ships.^{xi}

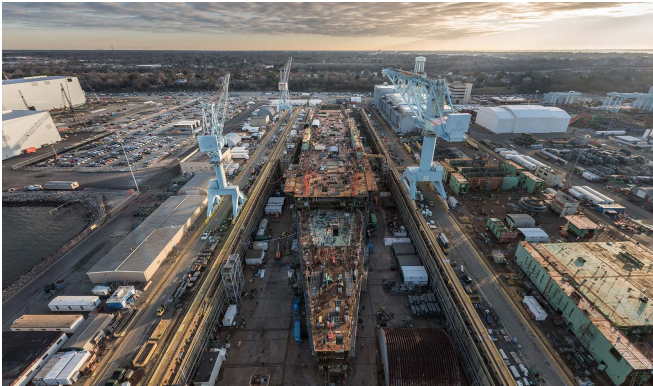


Map of U.S. Large Shipbuilders in 2018, data from shipbuildinghistory.com.^{xii}

U.S. Military and Government Shipbuilding

The military shipbuilding industrial base constructs the warships and support vessels that make up the Navy and furnish the Coast Guard with law enforcement, patrol, and rescue ships. With the reemergence of great power competition, the military shipbuilding sector will be essential for the United States to recapitalize and expand U.S. Naval and Coast Guard fleets.

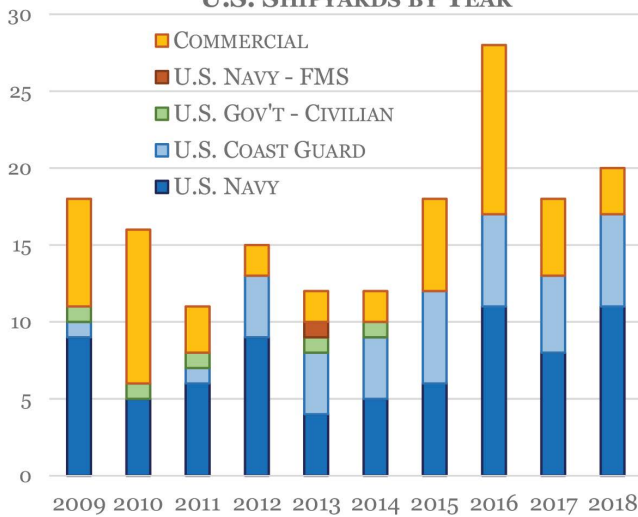
Military shipbuilding comprises a minority of the large shipbuilders (7 of the 20 large shipyards) but a majority of large shipbuilding orders.^{xiii} Over the past decade, the U.S. Navy accounted for 44 percent of deep-draft ocean vessels produced by U.S. shipyards; the Coast Guard accounted for another 22 percent.^{xiv}



USS *John F. Kennedy* (CVN-79) taking shape in HII Newport News Shipbuilding Dry Dock 12 in April 2018. (Photo: HII)

Shallow-draft government vessels—such as Navy Mk VI patrol boats and oceanographic survey ships, Coast Guard Fast Response Cutters and Offshore Patrol Vessels, and National Oceanographic and Atmospheric Agency (NOAA) research vessels—are constructed at smaller shipyards that also build commercial ships. These government ship classes are not built continuously and are generally only recapitalized after 20 to 30 years of service. Without the work that comes from the domestic shipping industry, these shipbuilders would not remain viable to build smaller government ships when needed.

DEEP-DRAFT VESSELS DELIVERED FROM U.S. SHIPYARDS BY YEAR



Deep-draft vessels delivered from U.S. shipyards between 2009–2018, data from shipbuildinghistory.com.²⁷

During the last decade, U.S. shipyards delivered more than 2,200 ships, boats, and ocean-going barges—including 168 large, ocean-going vessels—and more than 9,000 inland barges.

U.S. Commercial Shipbuilding

The U.S.-flagged commercial fleet provides the American government strategic autonomy by limiting the U.S. military’s dependence on foreign ships to transport personnel and material during crisis or conflict. Most of these large oceangoing ships are built overseas, but a robust commercial shipbuilding industry will be important to regenerate the U.S. shipping fleet during protracted conflicts that include wartime losses.

There are 13 large commercial shipbuilders in the United States and nearly a hundred minor shipyards that build smaller ships like offshore support vessels, tugboats, and ferries. As noted above, these minor shipyards are needed to build smaller Navy and Coast Guard ships, which are built sporadically and unlikely to support a domestic shipbuilding industry on their own. During the last decade, U.S. shipyards delivered more than 2,200 ships, boats, and ocean-going barges—including 168 large, ocean-going vessels—and more than 9,000 inland barges.

Outside of ships required to be U.S. built under the Jones Act, U.S. commercial shipbuilding faces steep challenges from shipbuilders in China, South Korea, and Japan. These heavily subsidized foreign competitors account for nearly 85 percent of the global shipping tonnage delivered annually.

U.S. Commercial and Government Ship Repair

The U.S. Navy's 150 surface combatants and 33 amphibious ships depend on commercial ship repair yards for regular maintenance and modernization, or to repair damage incurred from accidents or combat. These same repair yards also support commercial ship operators. A lack of repair capacity, such as the Navy is currently experiencing with the shortage of commercial dry docks, can increase bottlenecks and reduce the ability to get warships back to sea.^{xv}

The Navy's government shipyards at Pearl Harbor, Portsmouth, Norfolk, and Puget Sound complement commercial ship repair yards by conducting repair and overhaul of the Navy's nuclear-powered submarines and aircraft carriers. These shipyards, however, are not able to meet the current demand, and the Navy is sending some nuclear-powered ships to construction yards for overhaul, increasing stress on the commercial shipbuilding industry.^{xvi}

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The USS *Fitzgerald* in a Navy repair yard after its collision with a merchant vessel off Japan in 2017 (Photo: U.S. Navy)

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KEY TAKEAWAYS

- The U.S. maritime industry affords the United States the independence to trade, harvest the resources in America's waters and seabed, and defend or advance the country's interests.
- In an era of great power competition with China and Russia, the U.S. maritime industry's three main elements are increasingly important:
 - U.S. shipbuilding and repair
 - U.S. domestic fleet
 - U.S. international fleet
- The U.S. maritime industry is supported by a set of mutually-reinforcing U.S. government policies that help contribute to national security:
 - **Merchant Marine Act of 1920 (also called the Jones Act):** Under U.S. law, commerce between U.S. ports must be conducted on the U.S. domestic fleet of U.S.-built, owned, flagged, and crewed vessels. This law, which builds on earlier laws started in 1789, secures U.S. waterways and shipping lanes, strengthens the U.S. shipbuilding industry, and provides a reserve of U.S. Merchant Mariners for conflict or other contingencies.
 - **Maritime Security Program (MSP):** Through MSP, U.S.-flag commercial ships in international trade that are available to DoD in time of conflict or other contingencies receive a modest stipend. The stipend partially offsets the higher costs for these ships to meet U.S. maritime regulations. In exchange, DoD receives access to 60 U.S.-flag commercial ships, their crews, and their intermodal logistics networks during emergencies.
 - **Cargo Preference:** The U.S. government mandates that all military cargo and 50 percent of U.S. government civilian cargo be transported on U.S.-flagged ships. This helps protect sensitive cargo and provides a more predictable workload to ships operating under the U.S. flag.

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