

ACHIEVING TRUE LOGISTICS RESILIENCY WITHIN THE UNITED STATES

The U.S. industrial base is unable to sustain its military in a prolonged conflict due to declining manufacturing, foreign reliance, and a fractured supply chain. Implementing a national strategy to integrate military and civilian logistics, enhance data-driven decisions, and establish leadership is crucial to ensure readiness and resilience against security threats.

The Case for Action

The U.S. industrial base cannot manufacture the required parts and components at the levels required to sustain the nation's military fleet during a protracted conflict against a near-peer competitor.

Decreases in key production capabilities, declines in manufacturing employment, and slow output growth within several manufacturing sectors have created considerable limitations that have negatively impacted the nation's defense-related manufacturing capabilities. Additionally, increases in the "offshoring" of manufacturing have resulted in unprecedented reliance by the United States on single-source, sole-source, and foreign resourcing options.

The lack of an industrial base that can consistently deliver the required defense-related manufacturing items at the speed of need has forced the United States to depend on obtaining sourcing options from potential adversaries like China. In 2022 alone, the United States imported over \$500 billion in goods and services from China. This included electronic equipment, plastics, organic chemicals, iron, steel, and pharmaceutical products. Each of these items would be needed to maintain the nation's military fleet during global operations. Should a potential conflict extend into the Indo-Pacific region, the nation's access to critical parts and components would be significantly diminished due to its heavy reliance on manufacturing from within this region.

The past few years of high operational tempo have taken a toll on the nation's military fleet. The pace of operations and continual stress on the fleet has significantly decreased the overall readiness of its aircraft, ships, armor, and radar systems. This has been complicated by the lack of available parts and components within the nation's manufacturing base and the fractured global supply chain that continues to recover from the effects of the COVID-19 pandemic. As a result,

"The longer a nation requires to bring its force to bear, the more time its enemies have to seize whatever objectives they consider desirable."

Thomas M. Kane,
*Military Logistics and
Strategic Performance*

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several actions intended to sustain the fleet, such as maintenance, structural upgrades, and inspections, have been deferred or delayed. The result has degraded the fleet's availability to meet global requirements.

Rectifying this readiness issue, to ensure the nation is fully prepared for a potential near-peer adversary conflict, will entail a massive manufacturing endeavor. Given its current manufacturing capability and capacity, the United States will not be able to produce the necessary parts and components in the required quantities to support both the initial operational surge and subsequent sustainment during a protracted conflict. This push for parts and components will stress the commercial manufacturing base, defense industrial base, domestic supply chain, and global supply chain to the brink of their capability. As a result, the United States will not be able to field its military forces in the manner needed to successfully prosecute a fight against a near-peer competitor that possesses the platforms, systems, and munitions of like parity.

Key Challenges and Opportunities

Ensuring the resiliency of the U.S. industrial base against security threats presents both challenges and opportunities. Mitigating these challenges and capitalizing on the opportunities will require a collaborative and enduring focus by industry and defense sectors across the United States.

The nation's military fleet is operationally stressed with key parts and components becoming worn.

After more than 20 years operating at a high tempo supporting global conflicts, the Department of Defense's military fleet is stressed. This has resulted in declines in the overall readiness of the military's aircraft, ships, and armor fleet. The United States Navy's estimated maintenance backlog totals nearly \$1.8 billion: \$1.7 billion for surface ships and nearly \$100 million for carriers. The United States Air Force identified its aircraft fleet's readiness rates to be 71%, with the B-1B Lancer bomber at 41% due to engine issues and availability. Getting the nation's critical warfighting assets back to the required level of readiness will take a herculean effort by the U.S. commercial industrial base, defense industrial base, and Department of Defense.

The U.S. commercial industrial base, defense industrial base, and Department of Defense lack access to data that allows for dynamic decision making.

The defense community lacks the ability to seamlessly share demand data in a manner that provides civilian industry a comprehensive status of the full manufacturing requirements. Military force projection, a fractured global supply chain, diminishing manufacturing capability, response to natural disasters, etc. will continue to drive demand for the nation's industrial base to provide critical resources. Without the ability to access comprehensive demand forecasting data, to help prioritize the allocation and distribution of limited assets, the United States will not be able to successfully respond to its national security challenges.

The U.S. industrial base is not able to conduct dynamic planning, resourcing, and sustainment to meet today's global operational needs.

The U.S. industrial base can no longer afford to suboptimize itself through stovepiped operations of its various components. Instead, the United States should take steps to more effectively plan and more efficiently operate as a complete logistical ecosystem. The nation should focus toward synchronizing these divergent parts in a way that allows for rapid collaboration to meet today's highly dynamic national security needs. More specifically, civilian and military logistics leaders should take a more strategic approach by recognizing that this critical enterprise is not an independent, self-sustaining system of systems but instead a truly complex adaptive system—a system that is fully embedded with national security and economic interdependencies that are also interwoven with military mobilization, operational sustainment, global supply chain, and industrial manufacturing demands and obligations. Through the integration of both defense and commercial industry logistical capabilities, the United States will be able to rapidly adjust to, and overcome, the unprecedented global supply chain and resourcing challenges that currently stand in the way of allowing the nation to meet substantive national security requirements.

The U.S. industrial base must be prepared to integrate and optimize the full arsenal of its resources, both military and civilian.

Strategic constraints, such as a fractured global supply chain, increasing cyber threats, and a constrained domestic industrial base with limited manufacturing capacity, mandate

the nation adopt a more proactive approach to overcome its manufacturing and resourcing constraints. In addition, the lack of integration and horizontal coordination between the Department of Defense and commercial industry continues to hamper the ability of the nation's industrial base to effectively plan for the resourcing of global military operations. Without proper coordination and the ability to conduct demand forecasting, demand for parts and components to support the military will quickly exceed the nation's manufacturing capability. Given the high pace at which military operations will be executed in the future, having fully integrated and complementary manufacturing capabilities before, during, and after conflicts to optimize resourcing demands will be pivotal. Doing so will ensure the overall readiness of the military fleet, the successful accomplishment of wartime operational requirements, and the enduring sustainment of military operations. The Department of Defense, inter-governmental agencies, and commercial industry must come together at the national level to more effectively optimize the U.S. industrial base and ensure sustained resiliency, whenever and wherever needed.

The current concept of “just-in-time” logistics used by the nation’s manufacturing base cannot meet current or future demands.

Crucial issues within the nation's manufacturing base, such as a high dependency on a fragile global supply chain, years of declining manufacturing capability throughout the United States, and significantly low military fleet readiness levels, must be addressed in a nationally focused, collaborative manner. Without definitive steps being taken, the Department of Defense will be forced to rely on more desperate steps, such as cannibalization of weapon systems, to quickly fulfill demands for parts and key components. This in turn will have a negative effect on overall fleet availability and the successful completion of global operations. In a near-peer conflict, having to rely heavily on “just-in-time” logistics, or worst yet cannibalization, to sustain the nation's military fleet is completely unacceptable and does not meet the primary near-peer competition imperative of speed and agility necessary for operational success.

Establishing and enforcing whole-of-nation prioritization is critical to addressing the enduring resourcing challenges.

The United States lacks an overall industrial base authoritative component that possesses both the power and authority to

effectively integrate manufacturing and resourcing demands for military forces and civilian industry. Without this entity, at the national level, to lead the prioritization and allocation decisions for the scarce resources coming from a highly fractured global supply chain, the United States will find itself unable to respond to its national security challenges in time to defeat a near-peer adversary.

Priorities for the Incoming Administration

MITRE recommends the incoming administration build on current efforts and prioritize the following.

Establish an interagency/public-private collaboration focused on national security readiness.

We recommend the incoming administration develop an interagency/public-private consortium focused on mitigating manufacturing challenges associated with military fleet sustainment and readiness. This initiative should evaluate the means of prioritizing Defense Department demands against commercial industry capabilities. This would allow for the identification of near- and long-term investments, which could mitigate manufacturing gaps. In addition, the consortium should evaluate workforce development requirements across the nation's manufacturing sectors. The intent is to develop a comprehensive manufacturing workforce construct that can meet future skill set requirements. The consortium should evaluate industrial base policies and procedures with a focus on ensuring the clear delineation of authorities for resource prioritization and allocation in support of national security and domestic supply chain demands.

Create a collaborative manufacturing framework for data-driven tools and analysis.

We recommend the incoming administration create a collaborative manufacturing framework for data-driven tools to close the gaps between industrial base capabilities and Department of Defense demand requirements. This framework should provide a clear assessment of inventory levels across the manufacturing enterprise. In addition, it should allow for analysis of the risk associated with global supply chain disruptions and inform manufacturing sectors of available options to meet national security demands. Through this framework, key decisions can be made regarding resource allocation and prioritization during global and domestic supply chain disruptions.

Clarify and strengthen roles and responsibilities of key defense and industrial base leaders and organizations.

The U.S. industrial base cannot effectively sustain its military fleet without more cohesive and coordinated leadership at the federal and commercial levels. Military logistics is currently under the purview of the Secretary of Defense but there is no single authority for the nation's industrial base. Instead, the industrial base roles, responsibilities, and authorities are shared across individual companies, the Commerce Department, and the Department of Transportation. We recommend the incoming administration take the following steps:

- Complete a comprehensive mapping and clarification of the current industrial base authorities, roles, and responsibilities across government offices and commercial manufacturing sectors.
- Expand or initiate authorities based on existing gaps identified from the mapping of the respective authorities, roles, and responsibilities.
- Analyze the current industrial base construct with a focus toward more effectively integrating the disparate parts to ensure it is able to lead the development and execution of more comprehensive logistics policies.

Implementation Considerations

Fully implementing the identified recommendations and successfully meeting the nation's industrial base challenges necessitates the development of a national manufacturing strategy, the cohesive collaboration of government and commercial stakeholders, and strong leadership from the Executive Office of the President.

National Strategy

For the incoming administration to achieve the objectives of integrating military and civilian logistics, enhancing data-driven manufacturing decisions, and establishing an effective and collaborative leadership construct to meet today's enduring security threats will require whole-of-nation solutions. The Department of Defense, inter-governmental agencies, and private industry should come together to more effectively optimize the nation's logistics networks to ensure sustained resiliency, whenever and wherever needed. To achieve this, the incoming administration should develop a comprehensive and enduring Logistics Grand Strategy within the first 100 days to convey a clear direction and the overall importance of this issue.

Timeline Considerations

The incoming administration should establish a clear timeline for the implementation of the recommendations. Within the first 100 days, the administration should initiate the interagency/public-private collaboration. By the anniversary of its first full year in office, the administration should have a fully operational collaboration platform, a national Logistics Grand Strategy, and a manufacturing framework for data-driven tools and analysis.

MITRE Resources and Support

MITRE, with its mission-driven teams and public-private partnerships, is uniquely positioned to support the incoming administration in enhancing the resiliency of the United States industrial base as it functions to meet national security requirements.

Expertise and Knowledge

MITRE brings a wealth of expertise in logistics, supply chain, national security, and data-driven decision making. Our teams can provide valuable insights and guidance in aligning policies, establishing effective regulatory frameworks, conducting comprehensive risk assessments, and facilitating effective collaboration operations. MITRE's unique standing as a non-profit organization serving the public interest equips it well to support whole-of-nation initiatives such as the development of new policies and strategic frameworks for the stakeholders involved in contested logistics operations.

Data-Driven Tools and Analysis

MITRE has extensive experience in developing and applying data-driven tools and analysis. We can assist in creating frameworks to conduct industrial base analysis, identify vulnerabilities, quantify risk, and strategically allocate resources. By leveraging commercial, government, and publicly accessible data sets, MITRE can promptly develop impact assessments in the aftermath of global supply chain disruptions.

Collaboration Facilitation

MITRE has a strong track record of facilitating collaboration among diverse stakeholders. We can support the incoming administration in establishing and managing the recommended interagency and public-private collaboration, ensuring a consistent experience for all stakeholders. We have a range of immersive capabilities to support such activities, including human-centered simulation and experimentation, rapid assembly of three-dimensional digital models for logistics chokepoints (e.g., ports), and Environmental Systems Research Institute geospatial tools and data layers.

About the Center for Data-Driven Policy

The Center for Data-Driven Policy, bolstered by the extensive expertise of MITRE's approximately 10,000 employees, provides impartial, evidence-based, and nonpartisan insights to inform government policy decisions. MITRE, which operates several federally funded research and development centers, is prohibited from lobbying. Furthermore, we do not develop products, have no owners or shareholders, and do not compete with industry. This unique position, combined with MITRE's unwavering commitment to scientific integrity and to work in the public interest, empowers the Center to conduct thorough policy analyses free from political or commercial pressures that could influence our decision-making process, technical findings, or policy recommendations. This ensures our approach and recommendations remain genuinely objective and data-driven.

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