REVITALIZING NATIONAL SECURITY SUPPLY CHAINS TO OVERCOME TODAY'S UNPRECEDENTED LOGISTICS CHALLENGES

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NATIONAL SECURITY SUPPLY CHAINS MUST BE REVAMPED

The U.S. and its allies must revamp their supply chain ecosystems. Today's military forces will demand unprecedented logistical support while conducting global operations against near-peer adversaries, significantly challenging the nation's industrial base. Weapon system readiness across military forces must include access to a sustained component supply at required levels inclusive of a buffer stock that meets unanticipated contingency requirements. Presently, supply levels are inadequate, which has resulted in a stressed pipeline for combat-ready material, the Defense Industrial Base (DIB), global supply chains, the commercial sector and the economies of allied countries.

The Commission on the National Defense Strategy scoped today's supply chain challenges in its July 2024 report to Congress:[i] "DOD faces a disconnect between its operational planning and its industrial planning." In the event of a protracted conflict, mobilizing U.S. industries requires government and industry partners to engage in detailed planning tailored to specific contingencies. Victory requires a sprawling logistics ecosystem to implement holistic U.S. and allied solutions. This endeavor must resiliently integrate the Department of Defense (DOD), Congress, inter-governmental agencies and commercial industries, as well as swiftly adapt at scale to resource warfighters with critical equipment and weapon systems.

World War II Industrial War Machine is Long Gone

The U.S. military is still arguably the most powerful in the world, but its industrial behemoth from World War II is in tatters. Michael Brown, former director of Defense Innovation Unit, highlighted:

> *"… the United States has low stockpiles of munitions, its ships and planes are older than China's, and its industrial base lacks the capacity to regenerate these assets. The U.S. supply of precision-strike missiles, for example, would last no more than a few weeks in a high-intensity conflict and would take years to replace. In war games that simulate a conflict in the Taiwan Strait, Washington runs out of key munitions within weeks. … China's annual shipbuilding capacity is also 26 million tons, or a staggering 370 times the United States' shipbuilding capacity of 70,000 tons. The United States does not even have enough industrywide capacity to make a single Ford-class aircraft carrier per year."*[ii]

Gone is the U.S. industrial base capacity. As an example, 143 aircraft carriers were manufactured between July 1939 and August 1945.[iii] Today the U.S. economy has grown a staggering 120,000 times larger since 1945.[iv] While an aircraft carrier constructed in 1945 was far less complex than the modern Ford class, it is unlikely that the current industrial base would be able to replicate the 1939 - 1945 production feat.

Lurking Logistics Challenges

The current national security supply chain is incapable of delivering required defense-related manufacturing items at speed, scale, and adaptation to continuously succeed in today's battlefield realities. Key components in the supply chain depend on foreign sources, especially Indo-Pacific; this is a dangerous military vulnerability. In 2024 alone, the U.S. imported nearly $500B in products from Asia (electronic equipment, plastics, organic chemicals, iron, steel, processed materials, and pharmaceuticals),[v] many of which are required to sustain the U.S. military. Should conflict envelop the Indo-Pacific region, lack of access to critical supplies will become a choke point. Countries like China have weaponized their dominance throughout supply chains for foundational warfighter needs.

Readiness—Gap in Parts Availability

Performing at a high operational tempo supporting global conflicts for more than 20 years, DOD's military fleet is stressed, resulting in declines in the overall readiness of military aircrafts, ships, and armor. The U.S. Navy estimated maintenance backlog totals to be nearly $1.8B, ~10% that is spent on sustainment. The U.S. Air Force (USAF) identified its aircraft fleet's readiness rates to be ~70%, with the B-1B Lancer bomber being at ~40% due to engine issues and availability.[vi]

The Commission on National Defense Strategy noted: "The U.S. DIB is unable to meet equipment, technology, and munitions needs of the U.S., allies and partners. … Addressing the shortfall will require increased investment, additional manufacturing and development capacity, joint and coproduction with allies, and additional flexibility in acquisition systems."[vii] Achieving the necessary readiness levels will require a sustained strategic focus—a phased, multi-year and whole-of-nation approach.

Sustaining the Fight—A Holistic National Challenge

The DIB sizes itself to meet demand. Over the past 30 years, certain segments of the industrial base have atrophied due to unstable demand and DOD budget reductions in critical areas (ie. Readiness levels, supply chain etc.). Lack of integration and efficient horizontal coordination between DOD and commercial industries also hampers the nation's industrial base and its ability to effectively plan to resource global military operations. Without exemplary coordination and the ability to conduct forecasting of mission-critical resources, material demands will continue to exceed manufacturing capacity. Given the fast pace of modern military operations, building fully integrated and complementary manufacturing capabilities before, during, and after conflicts to optimize resourcing demands will be critical. DOD, 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 logistical resiliency, whenever and wherever needed.

Need for a Digital Connection

The defense community lacks the ability to seamlessly share demand data in a manner that provides civilian industry with a comprehensive status of manufacturing requirements. The U.S. will not be able to successfully respond during pre-deployment, surge, deployment, sustainment, redeployment and reconstitution without access to comprehensive demand forecasting data to help prioritize allocation and distribution of limited assets. Multi-theater conflicts will place even greater demands on the nation's limited resources, propelling the need to swiftly prioritize resources to meet operational objectives.

Conclusion

Years of capability decline in the U.S.' manufacturing base, high dependency on a fragile global supply chain, and significantly low military fleet readiness levels require a top-down nationally focused review in a collaborative and multi-year manner. Heavy reliance on "just-in-time" logistics—or worse, cannibalization—to sustain the nation's military fleet is unacceptable. As learned during the COVID pandemic, the nation's supply chain must be extremely resilient, with multiple sources, products, and capabilities to surge and sustain as required. More importantly, meeting national and economic security imperatives requires a full and comprehensive status of manufacturing, delivery, and sustainment within today's global operating environment.

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RECOMMENDATIONS

Material Readiness Board (MRB)

The U.S. must establish an MRB comprised of senior representatives from throughout commercial industry, DOD, and governmental agencies.

The MRB should serve as the single-source authority focused toward mitigating manufacturing challenges associated with military readiness, weapon system sustainment, and operational effectiveness. The scale of the challenge is immense and will span years. The MRB should present prioritized mitigation plans and sequencing actions to close the most critical gaps first. These recommendations would be used as part of DOD's resourcing decisions.

The MRB should be responsible for:

- Prioritizing DOD demands compared to commercial industry capabilitiess
- Identifying required levels of strategic reserves for key components
- Prioritizing high-demand/low-availability resources deemed critical for military operations
- Identifying actions most critical to addressing manufacturing capabilities, capacity and access to materials to meet national security demands

The MRB should use the following approach to mitigate manufacturing challenges.

- Identify and integrate data analytics capability to help determine the required levels of manufacturing necessary to sustain strategic reserves and prepositioned stockpiles.
- Lead the development of a comprehensive manufacturing workforce construct that clearly identifies future skillset requirements.
- Evaluate DOD, industrial base policies and procedures with a focus on ensuring the clear delineation of authorities for resource procurement, manufacturing, prioritization and allocation in support of national security and domestic supply chain demands.

Initial Actions

- Identify classes of supply to support and sustain a high-intensity conflict for a duration of up to 1 year.
- Identify and build critical munitions and platforms list to enable derivation of long-lead material stockpile requirements (components and sub-assemblies) for continued production, as well as precursor materials (e.g. critical minerals).
- Charter and implement the MRB no later than December 30, 2025.
  - Implementation should include resourcing and staffing.
  - Present an initial evaluation no later than March 2026.

National Logistics and Manufacturing Strategy

The U.S. must take immediate steps to develop, and fully implement, a National Logistics and Manufacturing Strategy (NLMS). The strategy should serve as the cornerstone for the U.S.' whole-of-nation logistics and manufacturing for DOD, DIB and commercial industries with a focus toward enhancing overall resiliency, agility and maneuverability.

Initial Actions

- Draft the logistics plans, no later than March 31, 2026, to inform the FY2027 and 2028 budgets.
  - To ensure suggested plans are targeting the correct areas and using all levers of national power, the NLMS should be coordinated with the Department of Commerce (DOC), Department of Transportation, Department of Homeland Security, and any other relevant federal agencies.
- Deliver a feasibility analysis on U.S. manufacturing capability and capacity to produce equipment, materials and goods needed to meet national

security demands including economic mobilization for a two-theater major combat operation.

- The MRB should use the report to develop and prioritize mitigation recommendations.

Stockpiles in Support of Wartime Operational Capabilities

The U.S. must maintain a sufficient stockpile of inventory to fully support surge and sustainment operations. This will require additional appropriation by Congress for procurement of resources and investments to access rare earth and other critical minerals. Special emphasis must be placed on acquiring high-demand/low-availability assets that require long lead times. To ensure the utility of stockpiles, authorizations are needed for continuous asset rotation from within the stockpile inventory.

Initial Actions

- Develop resourcing plans to increase stockpiles to support one-year protracted conflict for critical items, including long lead items.
- Establish and fund a defense stockpile account addressing the highest- priority needs.

Forward Logistics and Prepositioning

As noted by the Center for a New American Security:

> *"Stockpiles enable more responsive production and diminish U.S. vulnerability to adversarial exploitation. Inventories and stockpiles, therefore, are an important component of bolstering deterrence."*[viii]

The U.S. must take steps to build up, disperse, conceal, and secure required prepositioned assets to ensure they are available for warfighters when needed. Establishing a forward logistics presence through the prepositioning of assets in theater will be essential to the U.S. achieving operational success. Reductions in forward basing options since the end of the Cold War has significantly impacted the nation's ability to forward deploy equipment around the globe in preparation for conflict. Forward logistics and prepositioning will help significantly counter this operational constraint for the warfighter.

Initial Action

- Update planning guidance on the location and allocation of preposition material in priority theaters (e.g. Indo-Pacific, Europe) to support a protracted one-year conflict.

Coalition Manufacturing Capabilities

The U.S. must establish partnerships to fill the burgeoning defense manufacturing gaps that currently exist. Noted decreases in the U.S.' production capabilities, declines in the manufacturing workforce, and slow growth within manufacturing sectors have resulted in significant vulnerabilities threatening the U.S.' DIB capabilities. The nation's allies and partners have the necessary capabilities and capacity to contribute to the current manufacturing demands. Unfortunately, current policy and regulatory restrictions hamstring the nation's ability to get essential assets into the warfighter's hands. Without support from allies and partners, the U.S. will not be able to fulfill the manufacturing requirements needed to successfully prosecute a near-peer adversarial conflict.

Initial Actions

- Identify munitions, platforms, and weapon systems that could be produced and/or co-produced under license, by specified allies (e.g. U.S. NATO and Indo-Pacific 4) while ensuring an appropriate level

of security and protection. A prioritized plan needs to be developed to begin co-production within the next year for critical raw materials, components, platforms and weapons systems.

- Identify capabilities, components, and materials most affected by over dependence on adversarial foreign sourcing, sole sources, or inadequate domestic capacity and identify opportunities to diversify.
- Develop recommendations-based Joint Strike Fighter program, AUKUS, and other approved co-production programs.
- Create and submit to Congress a framework to expedite the release procedure for export-controlled material. It is critical to pre-clear categories of materials for specific allies, delegation of authority to lowest possible level, or removal of duplicative or outmoded review procedures.

The Nation's Supply Chain Resiliency

Achieving true resiliency within the nation's supply chain will require additional investments, manufacturing and development capacity. The U.S. must not focus solely on new partnerships within the Commercial Industrial Base but include new entrants and a wide array of companies involved in sub-tier production, cybersecurity, and enabling services, as well. Additionally, designs for critical systems, such as high-demand/low-availability munitions, must be developed to allow for mass production. With the use of commercial electronics and modular designs, the U.S. and allies will be able to take full advantage of mass-producing key assets, such as drones, loitering munitions, autonomous munitions and missiles more rapidly and at lower costs. The U.S. must also incorporate comprehensive revisions and update regulatory assessments that prohibit commercial industries' access to critical manufacturing capabilities currently residing with allies and partner nations.

Initial Actions

- Identify production levels needed to meet surge and sustained operations demand for a high-intensity protracted conflict.
  - Consider different production timelines to include pre-conflict, during active operations, and reconstitution. The information should support decisions to request multi-year procurement for specific systems, weapons, components, or raw material.
  - Determine the manufacturing capability and capacity needed in the U.S. (e.g. sole source) or in combination with partners and allies to prevail in a protracted high-intensity conflict.
- Prioritize gaps by those that affect mission outcomes the most.
  - Establish an industrial base investment and incentive executive committee populated by PSAs, CJCS and Military Services to coordinate investments and incentives to ensure efforts to strengthen industrial capacity and capability of the U.S. are mutually re-enforcing and attractive to industry.
- Collaborate with other federal agencies with investment authorities (e.g. U.S. International Finance Corporation, Export Import Back, Department of Energy) to ensure that investments reflect national and economic security concerns and authorities are sequenced and reinforced.

Improve Inventory Management through Data Analysis

The U.S. must develop a collaborative manufacturing framework for data-driven analysis to help close gaps between industrial base capabilities and DOD demand requirements. This framework would help provide a clear assessment of inventory levels across the nation's

manufacturing enterprise. Additionally, it would allow for more comprehensive analysis of risks associated with global supply chain disruptions and inform manufacturing sectors of available options to meet national security demands. Through this framework, key national security and military operational decisions can be made regarding resource allocation and prioritization during global supply chain disruptions.

Initial Action

- Develop and implement a policy requiring DOD awardees to collect and provide information on their suppliers and to flow down the requirement to their sub-tier suppliers.
  - Develop in consultation with the commercial sectors and phased in over time starting with most critical weapon systems, missiles and munitions, and component parts.
  - Establish the appropriate data management processes and business system upgrades needed to collect, clean, integrate, maintain and protect sub-tier provider data to the lowest level. Provide a prioritized list of investments to DOD business management software and hardware to support the supplier data collection effort.

Multi-Year Procurement

The U.S. must revamp its defense acquisition process, which focuses on single-year buys, disincentivizing industry from making capital investments. Congress, in consultation with DOD, should adopt a multi-year procurement construct providing commercial industry greater flexibility to invest in manufacturing capabilities, such as facility capitalization and third-party financing. It will also allow commercial industry to more effectively meet DOD's operational demands while mitigating manufacturing challenges that limit inventory availability based on parts obsolescence, diminishing manufacturing support, and parts shortages. Without multi-year procurement, companies will be less likely to expand their capacity to meet production demands.

Initial Actions

- Establish a process to prioritize systems for multi-year procurement based on improved capacity and capability to meet demand and to meet established cost, schedule and performance metrics.
- Include a multiyear procurement authority request in the annual budget submission to Congress.

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