



# Securing Defense-Critical Supply Chains

An action plan developed in response to  
President Biden's Executive Order 14017

February 2022



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## Foreword from the Deputy Secretary of Defense

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The Department of Defense (DoD) is aligning its priorities and capabilities to enhance our readiness. By modernizing our approach to supply chain resilience, DoD can deliver decisive advantages to our Warfighters in a dynamic threat landscape.

In an effort to improve supply chain resilience and protect against material shortages, President Joseph R. Biden Jr. signed Executive Order (E.O.) 14017, America's Supply Chains. In response to the EO, this report provides DoD's assessment of defense critical supply chains in order to improve our capacity to defend the Nation.

Our recommendations focus on how we can increase domestic production capacity and renew the sources of our economic security. We will continue investing in the production and manufacturing capabilities that will enable a modern, technology-enabled defense industrial base. Because we know that workers animate supply chains, we will foster development of an industrial workforce to ensure the right skillsets are available as needed to meet our requirements. We will also contribute to our national defense stockpile and utilize it to provide flexibility in the case of disruptions or emergencies.

This report reinforces our commitment to American values and underscores the importance of a free, open, and rules-based market. We will prioritize collaboration with our allies and partners to build a network of secure global supply chains. Further, we will safeguard global market integrity to ensure that industry can continue to provide superior products and services to our force.

Our plans include a strong commitment to cooperation with all who have a stake in our national security: our interagency collaborators, Congress, private industry, the American people, and our allies and international partners. By emphasizing teamwork, this report delivers a whole-of-Nation approach to national security and invites greater industrial collaboration with our friends across the globe.

Our work to build resilient, competitive, and sustainable supply chains will be a longterm campaign. Given the complexities of our defense supply chains, the plans in this report are bold and ambitious in their scope. We will continue to iterate on our approach. Our prioritization of expanded and new supply chain capabilities will help us face the challenges of the 21st century with fortitude.



**Dr. Kathleen H. Hicks**

United States Deputy  
Secretary of Defense





# Executive Summary

**T**he Department of Defense (DoD) requires healthy, resilient, diverse, and secure supply chains to ensure the development and sustainment of capabilities critical to national security. The ongoing COVID-19 pandemic highlighted vulnerabilities in complex global supply chains in very real ways to the public, government, and industry. Beyond COVID-19, supply chain disruptions have become more frequent and severe overall.

In order to strengthen the national industrial base during times of disruption, President Joseph R. Biden, Jr. signed Executive Order (E.O.) 14017, *America's Supply Chains*, on February 24, 2021. The E.O. calls for a comprehensive review of supply chains in critical sectors, including the defense industrial base (DIB). This report provides DoD's assessment of supply chains in the DIB and articulates the Department's plans to ensure security of supply for items vital to national security.

The national resolve to strengthen America's supply chains is not limited to the Executive Branch. Congress has demonstrated a commitment to renewing and strengthening U.S. manufacturing through the Bipartisan Infrastructure Law (BIL) and the House Armed Services Committee (HASC) critical supply chain task force. The DIB and related trade associations have outlined myriad actions and are actively engaging with government at all levels to build resiliency.<sup>1</sup> The DoD is committed to strengthening the industrial base and establishing a network of domestic and allied supply chains to meet national security needs.

Given the breadth and scale of defense supply chains, the one-year effort prioritized four areas in which critical vulnerabilities pose the most pressing threat to national security. These focus areas are:

- **Kinetic capabilities:** current missiles systems and advanced and developing missile capabilities, including hypersonic weapons technology, as well as directed energy weapons
- **Energy storage and batteries:** high-capacity batteries, with a particular focus on lithium batteries
- **Castings and forgings:** metals or composites developed into key parts and manufacturing tools through high-intensity processes
- **Microelectronics:** State-of-the-Practice (SOTP) and legacy microelectronics, as well as State-of-the-Art (SOTA) microelectronics

1. National Defense Industrial Association, *The Health and Readiness of the Defense Industrial Base*. February 2022. <https://safe.menlosecurity.com/doc/docview/viewer/docNCF7F14465DBf21220840d3330e2a40ffe2aa8a8a1606143d25262da1d46a8be6a685f2e24e7>.

This report also provides an update on the implementation of recommendations in DoD's Review of Critical Minerals and Materials, included in the 100-day response to E.O. 14017 published on June 8, 2021.<sup>2</sup>

Underpinning all four key focus areas are strategic enablers that are required for mission success. Fragility or gaps in these enablers create operational and strategic risk, and addressing the challenges in each is critical to building overall supply chain resilience. The strategic enablers are:

- **Workforce:** trade skills through doctoral-level engineering skills
- **Cyber posture:** industrial security, counterintelligence, and cybersecurity
- **Manufacturing:** current manufacturing practices, as well as advanced technology like additive manufacturing
- **Small business:** the role of key members of DoD supply chains

This report provides a strategic assessment of these focus areas and enablers, as well as the steps that can be taken to mitigate identified threats and vulnerabilities and build resilience.

Across all focus areas and enablers, the Department identified certain foundational recommendations to enhance and grow the industrial base. These cross-cutting recommendations underpin the sector specific recommendations outlined in subsequent sections of this report and are critical to the Department's overall ability to make strategic informed acquisition and sustainment decisions. These recommendations are:

- **Build domestic production capacity:** For those supply chains that are critical for national defense, the U.S. is committed to ensuring reliable production access within the defense industrial base, both domestic and allied.
- **Engage with partners and allies:** The U.S. is collaborating with its international partners and allies to develop policies and arrangements that strengthen our defense industrial bases and improve supply chain resilience.
- **Mitigate Foreign Ownership, Control, or Influence (FOCI) and safeguard markets:** The Department is committed to protecting its supply chains and the defense industrial base from adversarial FOCI by scaling efforts to identify and mitigate FOCI concerns.
- **Conduct data analysis:** DoD will continue to build on previous efforts to expand its visibility into supply chains by collecting and organizing key data.
- **Aggregate demand:** The Department will signal to industry what the likely total demand is across multiple programs, so industry can better anticipate number of orders from year to year.
- **Develop common standards:** To leverage commercial sector innovations, and to embed modernizing technologies in weapon systems, the DoD will work, where possible, to limit its use of military-unique requirements when developing performance requirements.
- **Update acquisition policies:** DoD should engage in efforts to develop a whole-of-government strategy and implementation plan to engage with industry and Congress to determine which policy and regulatory changes would encourage expansion of capabilities.

The above actions and sector specific recommendations will provide DoD with a strategic roadmap to renew the DIB and maintain its position as the world leader in innovation well into the 21st Century.

2. United States, White House, *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews Under Executive Order 14017*. June 2021.