National Defense Industrial Strategy Implementation Plan for FY2025

DEPARTMENT OF DEFENSE

2024

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Foreword

The National Defense Industrial Strategy Implementation Plan (NDIS-IP) represents a critical step forward in ensuring America's continued technological and military superiority in an era of intensifying strategic competition. This plan translates the vision and objectives outlined in the National Defense Industrial Strategy into concrete actions and initiatives that will strengthen and modernize our defense industrial base. The NDIS-IP incorporates feedback received through our broad engagement with industry, academia, partners, and other stakeholders across various government and industry forums.

In today's complex and rapidly evolving security environment, maintaining a robust, resilient, and innovative defense industrial ecosystem is more important than ever. The NDIS-IP lays out the Department's priorities for executing the NDIS in FY 2025 and how the Department of Defense (DoD) will work with industry, the interagency, and our allies and partners to mitigate risk to national security and capitalize on emerging opportunities. The NDIS-IP focuses on actions to advance the four strategic priorities identified in the NDIS: institutionalizing supply chain resilience, developing the workforce of the future, maximizing flexibility in acquisition, and bolstering economic deterrence.

By executing the NDIS-IP, the DoD will enhance our ability to produce and sustain the advanced capabilities our warfighters need to deter aggression and prevail in conflict. We will foster a more agile, resilient, and competitive defense industrial base that can rapidly adapt to evolving threats and technological change. Our aim is not merely to maintain America's edge, but to sharpen it and lay the foundation for continued U.S. leadership in critical technologies and capabilities that will define the battlespace of the future.

Most importantly, this implementation plan will serve as a guiding framework for resourcing decisions and investments in the coming years. It will inform our budget priorities, shape our research and development focus areas, and drive our engagement with industry. By aligning our resources and investments with the strategic imperatives outlined in this plan, the DoD will build and maintain the robust and responsive defense industrial base our nation requires.

We encourage all stakeholders — from federal agencies to state and local governments, from private industry to our global allies and partners, and from academia to national research centers and labs — to engage with this plan and join us in this vital endeavor. By working together, we can ensure the U.S. defense industrial base remains the security cornerstone of the United States and our allies and partners for generations to come.

Dr. William A. LaPlante
Under Secretary of Defense for
Acquisition and Sustainment

Table of Contents

Executive Summary 1

Introduction 4

Risk Mitigation Framework 7

NDIS Implementation Initiatives 10

- Overview 10
- Implementation Initiative #1: Indo-Pacific Deterrence 12
- Implementation Initiative #2: Production and Supply Chains 19
- Implementation Initiative #3: Allied and Partner Industrial Collaboration 35
- Implementation Initiative #4: Capabilities and Infrastructure Modernization 42
- Implementation Initiative #5: New Capabilities Using Flexible Pathways 50
- Implementation Initiative #6: Intellectual Property and Data Analysis 58

DoD FY 2024-2025 Investments in Defense Industrial Capacity and Resilience 65

- Missiles and Munitions Production 66
- Submarine Industrial Base Investments 67
- The Defense Production Act Title III 68
- Industrial Base Analysis and Sustainment 69
- Office of Strategic Capital 71
- Rapid Integrated Scalable Enterprise 71
- Accelerate The Procurement and Fielding of Innovative Technologies Program 72
- Defense-Wide Manufacturing Science and Technology 72
- The Warstopper Program 75
- The Replicator Initiative 75
- CHIPS / Microelectronics 76

Next Steps 78

Appendix 80

- 2024 NDIS Interim Implementation Report 80
- Additional FY2024 NDIS Highlights 84
- Acronyms 86

Executive Summary

The Department of Defense (DoD) released its first **National Defense Industrial Strategy** (NDIS) in January 2024. The NDIS articulates the Department's bold vision and associated priorities over the next three to five years to achieve a defense industrial ecosystem that is "dynamic, responsive, state-of-the art, resilient, and a deterrent to our adversaries."[1] The NDIS outlines the vision for ensuring the Department can continue this support and produce at a pace and scale needed to meet the ever-growing demands we face now and into the future.

Following the **NDIS Interim Implementation Report**, the FY2025 NDIS Implementation Plan (NDIS-IP) details the ongoing and planned actions taken by DoD to achieve the vision set forth in the NDIS and to address key challenges to the U.S. industrial base. Our commercial and organic defense industrial bases , skilled manufacturing workforce, and American ingenuity produce high-end systems and products that provide our Armed Forces with a competitive advantage. The NDIS-IP prescribes the necessary steps to align future investments in industrial capacity and resilience across the Military Services and the Office of the Secretary of Defense.

The NDIS-IP also outlines the risks the defense industrial ecosystem will face if we do not take the actions necessary to achieve the mission set forth in the NDIS and articulates the risk mitigation necessary for successful execution. This report highlights unclassified portions of the Risk Mitigation Framework. A forthcoming NDIS-IP Classified Annex will detail these vulnerabilities and articulate the necessary steps — including performance and outcome metrics — DoD is instituting to strengthen our national technology and industrial base.

Additionally, the NDIS-IP details current and future investments and programs that will fuel DoD's implementation efforts and accelerate the speed by which we achieve our desired outcomes. Key programs supporting the industrial base include the Defense Production Act (DPA), Industrial Base Analysis and Sustainment (IBAS), Rapid Integrated Scalable Enterprise (RISE), Accelerate the Procurement and Fielding of Innovative Technologies (APFIT), the Defense Logistics Agency's Warstopper Program, the Office of Strategic Capital, the Defense Innovation Unit's Replicator initiative, the DoD Manufacturing Technology Program (MTP), Submarine Industrial Base investments, and increased production and multi-year procurement of missiles and munitions.

While the NDIS-IP does not intend to capture every action taken by DoD to shore up our industrial capabilities and address strategic priorities,this document does outline the top six cross-cutting implementation initiatives identified by DoD senior leadership to drive significant progress, mitigate key risks to the defense mission, and unify DoD's efforts within a single framework for directing investments, resources, and cross-functional collaboration. These six implementation initiatives will produce a focused, coordinated effort that drives the NDIS to fruition.

[1] 2024 National Defense Industrial Strategy, January 12, 2024. (Page 10).

Table 1. Six NDIS-IP Implementation Initiatives Achieving NDIS Priorities

Implementation Initiative 1 Indo-Pacific Deterrence	**Implementation Initiative 2** Production and Supply Chains
Implementation Initiative 3 Allied and Partner Industrial Collaboration	**Implementation Initiative 4** Capabilities and Infrastructure Modernization
Implementation Initiative 5 New Capabilities Using Flexible Pathways	**Implementation Initiative 6** IP and Data Analysis

Given the significant scope and breadth of these initiatives, DoD will require the support and cooperation of Congress, industry, international allies, partners, and agencies of the U.S. government ("the interagency"). Through continuous investments and knowledge and resource-sharing amongst our allies and stakeholders, the NDIS-IP will forge a shared future that will benefit all who participate in shaping it.

This is an action plan to achieve a 21st century defense industrial base. By addressing critical gaps, fostering innovation, and enhancing collaboration, we are confident the initiatives set forth will strengthen our national security and drive the defense industry forward into a new era of technological advancement and resilience.

SECTION

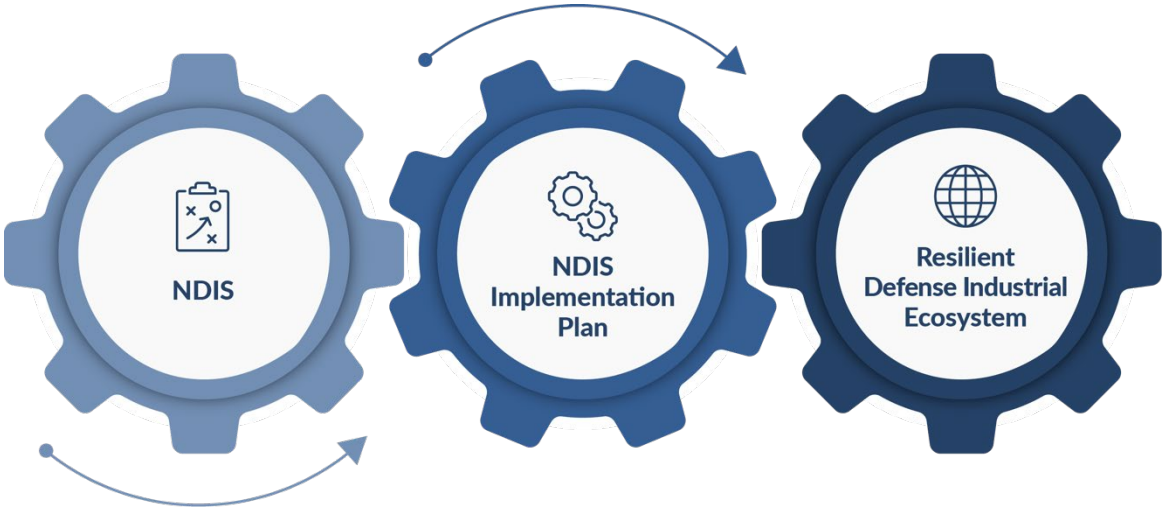
01

Introduction

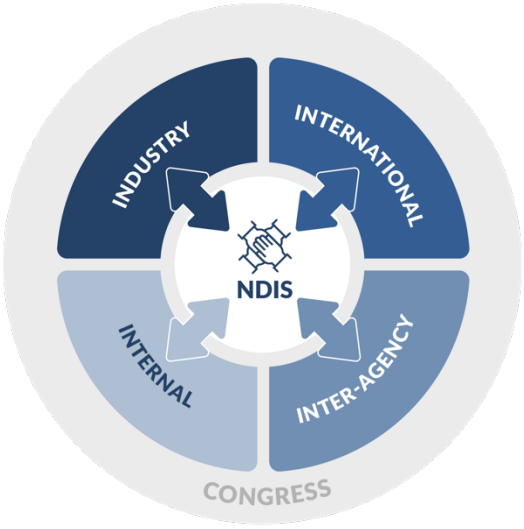
Introduction

The 2023 National Defense Industrial Strategy (NDIS) outlines the challenges and vulnerabilities in the defense industrial base, four strategic priorities, and twenty-five associated actions for building a more resilient defense industrial ecosystem and ensuring the necessary industry and global collaboration to mitigate the risk of inaction to our national security. This implementation plan (NDIS-IP) is the next step toward realizing our shared vision of developing a more resilient defense industrial ecosystem. It aligns with the strategic vision of the NDIS by addressing consequential risks in critical areas and presenting six key initiatives to mitigate risks in the near-, medium-, and long-term and make the strategy real.

Figure 1. The NDIS-IP will achieve outcomes and enable a diverse, dynamic, and resilient defense industrial ecosystem.



Successful implementation of the strategy requires continued coordinated action across the DoD and its diverse network of **internal, industry, international, and interagency stakeholders**. Each partner plays a crucial role in advancing the shared vision, and ongoing engagement with these groups is key to achieving mutually beneficial outcomes. **Congressional support** is particularly essential, as it provides the policy guidance, resources, and legislative framework necessary to enable effective public-private partnerships, promote technological advancements, and secure supply chains. By fostering collaboration between Congress and the DoD, the defense industrial base can enhance national defense capabilities while contributing to broader economic growth. Internal DoD partners, including the Office of the Secretary of Defense, Military Services, Joint Staff, and Combatant Commands, ensure a unified approach through policy alignment and optimal resource utilization. Their contributions to talent management, risk identification, and resiliency planning strengthen the defense industrial ecosystem and ensure preparedness for disruptions.



Industry, ranging from defense primes to mid-tier to small businesses and new defense technology firms, form a foundational pillar in the success of the NDIS-IP. By

delivering advanced technologies, accelerating R&D, and collaborating on production capacity, they are vital to meeting DoD's objectives. Industry engagement, with timely government support, can shorten the time from concept to deployment, driving both mission effectiveness and economic growth. International partnerships, particularly within North America, Europe, and the Pacific enhance global supply chain security and open new markets for U.S. defense products, creating jobs and encouraging economic activity. These alliances promote diplomatic relationships and collaborative security efforts. Similarly, interagency partnerships within the U.S. government combine military, economic, diplomatic, and intelligence resources, improving decision-making and enabling efficient use of assets. Such partnerships are critical to ensuring the resilience and adaptability of the defense industrial ecosystem.

The DoD will update the NDIS-IP annually and include DoD's progress in reports to stakeholders, including Congress, along with the Industrial Capabilities Report. The NDIS-IP will also track output performance metrics.

The DoD's commitment to achieving the NDIS vision through partnership and continuous investment is accurately conveyed by our increased investment in defense industrial capacity and resilience. In fiscal year 2024 (FY 2024), DoD injected $74.6 billion toward modernization of the defense industrial ecosystem in critical areas. These critical investments are also evident in the President's FY25 Budget Request (FY25 PBR). While the FY24 budget and FY25 budget request are clear signals of the Department's prioritization of the NDIS vision, additional investment will be required in future budget cycles for the modernization and expansion objectives detailed in the strategy.

The DoD works tirelessly to ensure our Armed Forces are equipped to meet the next generation of threats. We will not achieve this vision alone. To be successful, we will require the coordinated action, cooperation, and dedication from our industry, allied, and interagency partners and continued support from Congress to make investments needed to achieve a modernized defense industrial base.

SECTION
02

Risk Mitigation Framework

Risk Mitigation Framework

The NDIS identifies specific actions across four strategic priorities: *resilient supply chains, workforce readiness, flexible acquisition,* and *economic deterrence*. It also explores the risks of not making the generational changes necessary to make our industrial base more resilient. These **"Risks of Inaction"** underpin the national security threat of not addressing challenges in the defense industrial base and not emphasizing the urgent need for a major shift in mindset on industrial issues and call for a generational change. The Department must weigh both the risks of action—such as partnering with allies and innovating—and the **risks of inaction**, which include failing to achieve desired outcomes. The six implementation initiatives provide the framework for what specific industries and sectors are key in understanding how DoD evaluates risks and tradeoffs. For this document, the NDIS risks of inaction have been modified to fit the implementation initiatives and further guide implementation.

The DoD will evaluate each activity according to the driving question: How does this activity buy down risk to national security and the defense industrial ecosystem? The unclassified NDIS-IP describes key measures and milestones, as well as risks of inaction, for the six implementation initiatives. In addition, partners will periodically update DoD on their efforts to mitigate risk. These updates, as well as the Department's success in mitigating risks, will be measured periodically to ensure transparency. A forthcoming Classified Annex will provide performance and outcome metrics for how the modified NDIS "Risks of Inaction" manifest in the Military Services and how DoD continues to mitigate those risks.

Accordingly, the NDIS-IP risk mitigation framework aligns each risk mitigation activity (i.e., tasks aligned to the implementation initiatives) to a standardized timeline. "**Immediate**" actions and mitigation efforts will address impacts within the next two years. "**Medium-Term**" actions and mitigation efforts will address impacts within the next three to four years. "**Long-Term**" actions and mitigation efforts will address impacts in five or more years.

Table 2. Standard Timeline for Mapping Risk Mitigation Activities

Immediate 0-2 years	Medium-Term 3-4 years	Long-Term 5+ years
(FY24, 25, 26)	(FY27 and 28)	(FY29 and beyond)

The NDIS Risk Management Framework assesses the extent to which any DoD activity "buys down" or reduces risk. For each initiative, the Department identifies efforts led by DoD components to mitigate the risk. These mitigation efforts are tied to key classified milestones and measures, allowing leadership to track progress and understand the residual risk after implementation.

The “Risks of Inaction” identified in the NDIS correspond to the six initiatives that will guide implementation:

Table 3: The Six Implementation Initiative of the NDIS-IP with Corresponding Risks

Implementation Initiative 1

Indo-Pacific Deterrence

- Inability to compete globally results in a decrease in DIB exports and market share
- Supply and material shortfalls result in the inability to meet the pacing challenge and production requirements
- Fragile supply lines result in the inability to meet production requirements

Implementation Initiative 2

Production and Supply Chains

- Inability to successfully onshore critical manufacturing results in production disruption
- Limited spare capacity results in supply chains unable to surge and respond to shocks

Implementation Initiative 3

Allied and Partner Industrial Collaboration

- Over-customization results in high costs and lengthy development times
- Economic conditions result in increased cost and economic vulnerabilities

Implementation Initiative 4

Capabilities and Infrastructure Modernization

- Reduced worker productivity decreases productivity throughout the supply chain
- Sustainment and logistics challenges result in the inability to sustain necessary platforms and material

Implementation Initiative 5

New Capabilities Using Flexible Pathways

- Lack of skilled workforce results in limited innovation
- Increased technological risk results in critical technology production being disrupted
- Mismatch between acquisition strategy/pathway and outcome to be achieved

Implementation Initiative 6

Intellectual Property and Data Analysis

- IP theft and adversarial capital IP control results in loss of critical IP
- Degraded technological edge, innovation, and quality results in loss of technological advantages
- Loss of trust and reputation results in degradation of security commitments

SECTION

03

NDIS Implementation Initiatives

NDIS Implementation Initiatives

Overview

While outlining a strategy is key, implementation is essential for mission success. The DoD aims to incentivize the development of a modernized, resilient defense industrial ecosystem that has ***resilient supply chains***, a ***ready workforce***, leverages, as appropriate, the Department's ***flexible acquisition*** policies, and promotes ***economic deterrence*** for the United States and its close allies and partners. After engagement and study with key players in the U.S. industrial base, including both traditional and non-traditional companies, Department leadership determined that the following six initiatives needed senior leadership's focused attention. These six cross-cutting areas are not the sole responsibility of any one Department component, but instead require work across the Department enterprise to drive results.

Figure 2. Six NDIS Implementation Initiatives and their Lines of Effort

		Risk Mitigation Timeframe	Risks of Inaction to U.S. National Security and Defense Industrial Ecosystem
1: Indo-Pacific Deterrence			
LOE 1.1	Supplementing Key Munitions and Missiles	Long-Term (5+ years)	• Inability to compete globally • Inability to meet pacing challenge • Fragile supply chains
LOE 1.2	Submarine Industrial Base	Long-Term (5+ years)	
2: Production and Supply Chains			
LOE 2.1	Assessing Supply Chain Risk Vulnerabilities	Immediate (0-2 years)	• Inability to onshore critical manufacturing • Increased technological risk • Supply and material shortfalls • Limited spare capacity
LOE 2.2	Onshoring Critical Production Capacity	Long-Term (5+ years)	
LOE 2.3	Industrial Cybersecurity	Immediate (0-2 years)	
LOE 2.4	Adversarial Capital	Medium-Term (3-4 years)	
LOE 2.5	Stockpiling	Long-Term (5+ years)	
LOE 2.6	Maritime Economic Deterrence	Medium-Term (3-4 years)	
3: Allied and Partner Industrial Collaboration			
LOE 3.1	Strengthening AUKUS Trilateral Security Partnership	Medium-Term (3-4 years)	• Reduced operational effectiveness • Increased costs and reduced defense budget • Diminished industrial base resilience • Weakened industrial ecosystem
LOE 3.2	Co-development and Co-production of Priority Defense Systems	Medium-Term (3-4 years)	
LOE 3.3	Facilitating International Industrial Collaboration	Medium-Term (3-4 years)	
4: Capabilities and Infrastructure Modernization			
LOE 4.1	Nuclear Modernization	Long-Term (5+ years)	• High cost and lengthy development times • Critical economic, supply chain, and infrastructure vulnerabilities • Reduced productivity throughout supply chain • Sustainment and logistics challenges
LOE 4.2	Organic Industrial Base	Long-Term (5+ years)	
LOE 4.3	Improving Maintenance, Repair, Overhaul, and Upgrade (MRO&U)	Medium-Term (3-4 years)	

5: New Capabilities Using Flexible Pathways			
LOE 5.1	Replicator Initiative	Immediate (0-2 years)	• Limited innovation • Technological obsolescence • Limited scale
LOE 5.2	Rapid Defense Experimentation Reserve	Immediate (0-2 years)	
LOE 5.3	Flexible Acquisition Pathways	Immediate (0-2 years)	
6: Intellectual Property and Data Analysis			
LOE 6.1	Intellectual Property Coordination	Long-Term (5+ years)	• IP theft and adversarial capital IP control • Degraded technological edge, innovation and quality • Loss of trust and reputation
LOE 6.2	Deliver Capabilities for Enterprise Business and Joint Warfighting Impact	Long-Term (5+ years)	
LOE 6.3	Advance the Data, Analytics, and AI Ecosystem	Medium-Term (3-4 years)	

This section outlines the core tasks, responsible components, budget cuts, key risks, risk mitigation framework, and performance and outcomes metrics for each implementation initiative.

The Department is committed to providing clear direction on the Department's priorities for defense industrial capacity building and resilience to allies and partners, industry, Congress, and the interagency.

There are three important caveats in the reading of this document and the FY 2025 investment plans. (1) This is an unclassified document; however, the Department classifies many of the current implementation tasks. DoD offices minimized the classification of information to provide the fullest possible picture to industry and implementation partners. This document notes where information remains classified and will be further detailed in a separate Classified Annex. (2) It is important to note that this document includes activities already accounted for in FY 2025 or previous budgets. The Department does not publish programs or activities that are pre-decisional. Though the NDIS was under development in the FY 2024 and FY 2025 budget cycles, the NDIS did not fully materialize until after the Department completed the FY 2025 budget. Since the FY 2026 budget is still being developed, future updates to the NDIS-IP will have new programs and initiatives developed specifically for the implementation of the NDIS. (3) This implementation plan provides clarity on funding numbers using FY 2025 and the future year's defense program (FYDP) numbers to give an estimate of program budgets. However, every year when the President and Congress enact a new budget, the FYDP numbers will need to be revised.

1 Implementation Initiative #1: Indo-Pacific Deterrence

Figure 3. NDIS Implementation Initiative 1 and its Lines of Effort

Aim: To build a defense industrial base ecosystem to enhance integrated deterrence in the Indo-Pacific				
Lines of Effort		**Risk Mitigation Timeframe**	**Risks of Inaction to U.S. National Security and Defense Industrial Ecosystem**	**Outcome Metrics[2]**
LOE 1.1	Supplementing Key Munitions and Missiles	Long-Term (5+ years)	• Inability to compete globally results in a decrease in DIB exports and market share • Supply and material shortfalls result in the inability to meet the pacing challenge and production requirements • Fragile supply lines result in the inability to meet production requirements	• Percent of global DIB market share • Defense Export Revenue • Number of Export License • Aggregate lead times, • Inventory levels • Demand forecasting, procurement timelines • Supplier numbers (size of DIB) • Financial health • Supply chain visibility (less disruptions) • Supplier diversity, supplier reliability
LOE 1.2	Submarine Industrial Base	Long-Term (5+ years)		

Fair and effective market mechanisms that bolster the U.S. allied, and partner defense industries and overall economic stability are critical in supporting broader integrated deterrence within the Indo-Pacific region. Robust economic activity supports increased and growing military capabilities and capacities, meaningfully contributing to economic deterrence. By focusing on capabilities in the Indo-Pacific, the U.S. also sends a strong message of reassurance to our regional partners, enhancing integrated deterrence. These resilient, interconnected, larger markets increase U.S. and our allies' self-sufficiency and interoperability. This collaboration and interoperability in the defense industrial ecosystem further strengthens economic deterrence by compounding potential aggressors' fears of losing access to U.S. and like-minded allied and partner markets, technologies, and innovations.

Additionally, U.S. investments in the Indo-Pacific defense industrial ecosystem help to reassure regional partners of continued U.S. commitment while increased military capabilities and capacities from allied and partner collaboration strengthen military deterrence. The overall effect of increased regional market integration, investments, and greater military capability and capacity strengthens integrated deterrence and promotes a free and open Indo-Pacific. The promise of collaborative and complementary investments in theater-relevant capabilities, leveraging the strength of our network for mutual benefit, brings optimism and hope for a more secure future. The initial focus will center on key munitions and missiles, as well as submarine production, two vital aspects of Indo-Pacific integrated deterrence.

This initiative supports the following NDIS Priorities: Resilient Supply Chains, Workforce Readiness, Flexible Acquisition, and Economic Deterrence.

[2] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

2024 HIGHLIGHT | Partnership for Indo-Pacific Industrial Resilience As part of efforts to reinforce U.S. and allied and partner commitment to strengthening defense industrial cooperation in the Indo-Pacific, thirteen nations have agreed to establish a multinational forum, the **Partnership for Indo-Pacific Industrial Resilience (PIPIR)**, to exchange information to facilitate the creation of international industrial cooperation projects, identify and remove barriers to cooperative activity, and share lessons learned and best practices on industrial cooperation. PIPIR is aimed at strengthening defense industrial resilience to promote continued regional security, economic security, and prosperity in the Indo-Pacific region. It serves as a platform to accelerate DIB cooperation by reducing barriers to production, creating new sustainment hubs, and addressing supply chain constraints. The members have endorsed a Core Vision Statement and are pursuing four workstreams: Sustainment; Production; Supply Chain Resilience; and Policy and Optimization.

Line of Effort 1.1: Supplementing Key Munitions and Missiles

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

U.S. material support to Ukraine has revealed challenges in maintaining, reconstituting, and increasing production of U.S. munitions stockpiles. Failure to maintain, and potentially increase, these stockpiles risk operational capability and force readiness. DoD requires increased capacity to ensure sufficient production of new, advanced munitions.

Army Depot Modernization: The U.S. Army is executing a wide variety of modernization and production increases within its arsenals and depots. These efforts will substantially increase future capacity, efficiency, and capability in both ammunition production and maintenance activities, while significantly enhancing the ability to rapidly adapt to and institute future changes in technology and warfighter requirements.

Expanding the Munitions Industrial Base: The Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSD(A&S)) established the Joint Production Accelerator Cell (JPAC) to identify, analyze, and address challenges associated with ramping munitions production and develop innovative pathways to meet surging global demand. OUSD(A&S) is leveraging the production workstream in the **newly established Partnership for Indo-Pacific Resilience** to work with allies and partners to identify new opportunities to enhance munitions production and supply chains for munitions components.

Furthermore, OUSD(A&S) has undertaken multiple initiatives to supplement key munitions and missiles by focusing on increasing capacity and capabilities across the munitions industrial base, diversifying the defense industrial vendor base, and modernizing production techniques. First, at the behest of the Nuclear Weapons Council, Office of the Assistant Secretary of Defense, Industrial Base Policy (OASD(IBP)) is working with other DoD offices to incentivize vendor participation in the nuclear defense industrial base and mitigate the risks inherent in a fragile industry dependent on single and sole source suppliers. Second, the AUKUS Hypersonics Subworking Group will help increase the capability and capacity of partner nations and create redundancy in suppliers as the critical technologies required begin to ramp up to full production. The conventional hypersonics and nuclear industrial bases are starting to converge due to similar advanced material requirements for nuclear weapon modernization and next-generation hypersonic missile performance. By maintaining these efforts, DoD can ensure that progress made in one sector of the industrial base will support, rather than compete with, the other.

Responsible Organizations:

Department of the Army, OUSD(A&S)

Desired Outcomes:

The desired outcome of this LOE is increased production of critical munitions at speed and scale. This includes reduced production lead times and improved material responsiveness for crisis events.

Modernizing the Army's depots and arsenals will enhance critical infrastructure and production machinery longevity and resilience while increasing innovation and expansion into other production lines. The benefits will include reduced facility maintenance costs, lessened downtime for repairing broken machinery, and increased productivity with lower long-term costs associated with inefficiencies within current program operations.

OUSD(A&S) supports warfighter needs by expanding global munitions production capacity, reducing manufacturing lead times, improving resiliency, and enhancing surge capability. These efforts will improve alignment between production capacity and the Total Munitions Requirements and Military Services' procurement plans, facilitate a better understanding of production requirements, and foster OUSD(A&S) organizational support and global demand driven by allies and partners.

Finally, AUKUS hypersonic efforts are designed to increase the number of vendors across the three partner countries to increase redundancy in supplies for key hypersonic components.

LOE 1.1: Supplementing Key Munitions and Missiles		
Task	**Performance Metric(s)[3]**	**Estimated Completion**
• Expanding global munitions production capacity, reducing manufacturing lead times, improving resiliency, and enhancing surge capability	• Increased production of critical munitions at speed and scale • Reduced production lead times and improved material responsiveness for crisis events	FY 2029 and beyond
• AUKUS: increase the number of vendors across the three partner countries	• Increase redundancy in supplies for key hypersonic components	FY 2029 and beyond

Risk Mitigation & Challenges:

Modernizing Army ammunition plants and depots reduces risk by ensuring supply of critical material and components (both ammunition and maintenance), while ensuring infrastructure is updated to modern standards. Investing in modernization prepares for future material requirements by enabling rapid adaptation to emerging warfighter requirements including increased maintenance and ammunition production requirements. These Army modernization efforts further mitigate risk by reducing facility downtime and maintenance costs.

OUSD(A&S) will ensure the Department maximizes its ability to identify production limitations for critical munitions and support action for resolution. JPAC's analysis will better inform key decision-makers and leadership on challenges presented by operational requirements, supply, and material shortfalls, limited spare capacity, and fragile supply lines. This improved understanding will facilitate senior-level decisions that support our Indo-Pacific operational requirements, with specific focus on the global defense industrial ecosystem, enhancing both economic and integrated deterrence.

[3] Details regarding LOE 1.1 metrics are forthcoming in the NDIS-IP Classified Annex

The principal challenges to these efforts are the funding impacts of Continuing Resolutions, lost buying-power resulting from inflation, and unforeseen challenges and potential necessary trade-offs to the Army's top-line and JPAC's budgets.

While the Department must act immediately to realize investments in the munitions industrial base, the timeframe for implementing these actions to mitigate the risks identified in the NDIS is **5+ years.**

Estimated Resources:

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Army Ammunition	$644.0M	$863.0M	$1,290.0M	$672.0M	$678.0M
Army Depots	$432.0M	$919.0M*	$386.0M	$348.0M	$288.0M
JPAC**	$5.0M	$5.5M	$6.1M	$6.7M	$7.3M

*Note: FY 2026 and outyears may change as the Department builds the proposed FY 2026 budget.

**Additional Requests:

- Additional $1.5M per FY (other)
- Additional $1.0M per FY for Operations and Maintenance (O&M)
- Funding supports all JPAC initiatives

2024 HIGHLIGHT | New Manufacturing Facility

Saab **will build a new manufacturing facility and center for innovation** for weapon systems to enhance U.S. munitions production capacity and strengthen the global supply chain. The site, which will be located in Grayling, Michigan, will support final assembly and integration of weapon systems for the U.S. military, including precision fires systems and close combat weapons.

Line of Effort 1.2: Submarine Industrial Base

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

The submarine industrial base (SIB) is increasingly strained as the Navy accelerates production of the Columbia class and increases production of Virginia class submarines to two per year beginning in FY 2026. Achieving these construction goals will be commensurate with sustaining in-service submarines and supporting U.S. international commitments under the AUKUS partnership. Consisting of public shipyards and two prime shipbuilders, General Dynamics Electric Boat (GDEB) and Huntington Ingalls Newport News Shipbuilding (HII-NNS), the SIB, along with more than 16,000 suppliers across the country, supports the combination of new-construction submarines and ship-sustainment.

A healthy SIB is vital to meeting our national defense requirements. Accordingly, the Navy SIB effort is a generational investment to ensure resiliency and productivity in the workforce and supply chains. SIB efforts will reinvigorate capability and capacity across six encompassing activities: (1) technology opportunities, (2) strategic sourcing, (3) supplier development, (4) workforce development, (5) infrastructure investment, and (6) oversight.

Responsible Organization:

Department of the Navy (DON)

Desired Outcomes:

SIB investments are designed to increase operational availability. This end state will be realized through the Navy's production goal of one Columbia class and two Virginia class submarines per year. This meets AUKUS commitments and will improve maintenance and modernization support for nuclear submarines. To meet these goals, the Navy will increase capacities and capabilities of prime shipbuilders, public facilities, and the supporting supply system to include standing up additional sources of supply, implementation of advanced manufacturing technologies, and outsourcing of critical activities.

Chief among these efforts to increase capacity and shipbuilding capabilities is the **ground-breaking on the HII-NNS Submarine Manufacturing Facility in 2024**. Another success is the Navy's Additive Manufacturing Center of Excellence which has successfully printed over twenty critical submarine components, following installation on in-service submarines. Other efforts include current and future investment in improved training solutions at local, regional, state, and national levels. This includes substantial workforce additions—9,700 new personnel hired—across GDEB and HII-NNS alone, with more increases across the greater industrial base. To strengthen the supplier base, in FY 2023 the Navy invested in over 100 supplier development projects across more than twenty-four states, including twenty-six unique projects to support critical material suppliers, sixteen investments into single and sole-source suppliers, and projects targeting suppliers of approximately 191 parts and materials needed for Columbia class and Virginia class construction.

LOE 1.2: Submarine Industrial Base		
Task	**Performance Metric(s)[4]**	**Estimated Completion**
• Meet the Navy's production goal of one Columbia class and two Virginia class submarines per year	• Increase operational availability	FY 2029 and beyond
• AUKUS: increase the number of vendors across the three partner countries	• Increase redundancy in supplies for key hypersonic components	FY 2029 and beyond

Risk Mitigation & Challenges:

The Navy's SIB investments will mitigate the risks associated with submarine production and sustainment by investing across the spectrum of SIB activities with a specific focus on supplier development, workforce development, industry protection, and strategic outsourcing and technology.

By pulling together existing expertise and centers of excellence (in concert with other initiatives such as the Maritime Economic Deterrence Executive Council - see LOE 2.6), the Navy will develop a comprehensive strategy to address the challenges that face the SIB. This strategy will directly address the risks of inaction, which include increased costs, a weakened industrial ecosystem, and degraded technological advantages, innovation, and quality.

The Navy's leadership role in improving the overall capability and capacity of the defense industrial base to meet naval warfighting needs is critical. However, mitigation of the challenges facing the industrial sector requires a coordinated and integrated approach across DoD and the interagency. DoD advocacy in

[4] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

interagency dialogue, critical intelligence sharing, and cross-departmental engagement on data strategies and critical investments will be critical to overall success.

The timeframe for these actions to mitigate the risks identified in the NDIS is **5+ years**.

Submarine Industrial Base - Key Effort Funding[5]

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Submarine Industrial Base	**$1,954.0M**	**$3,287.0M**	**$2,381.0M**	**$1,705.0M**	**TBD**

In FY 2023-FY 2028, funding is split across strategic outsourcing ($1,214M), supplier development ($1,723M), shipyard infrastructure ($733M), workforce development ($511M), government oversight ($116M), and technology opportunities ($1,449M). These investment efforts will support improvements in SIB execution to support the Navy's plan of serial production of one Columbia class plus two Virginia class starting in FY 2026.

2024 HIGHLIGHT | Submarine Industrial Base Workforce – Michigan Maritime Manufacturing

OASD(IBP) collaborated with the U.S. Navy, to establish the Michigan Maritime Manufacturing Initiative (M3), a federal, state and local partnership to help rebuild the maritime industrial base workforce. M3 will focus initially on submarine production skillsets before it expands to other types of ships.

Over the next three years, OASD(IBP) intends to provide over $30 million in funding to introduce multiple lines of effort in the Great Lakes area including: Project MFG, ACENet, ACEready and Manufacturing and Engineering Education Reimagined for All. These programs will enable DoD to leverage the same specialized skills that workers in this region have applied in the auto industry for over a century to make up significant deficits in the SIB.

Future Directions for Indo-Pacific Deterrence: The Partnership for Indo-Pacific Industrial Resilience

The Partnership for Indo-Pacific Industrial Resilience (PIPIR) is a multilateral initiative aimed at strengthening the defense industrial base across the Indo-Pacific region. This partnership involves collaboration among the U.S. and its allies to address common acquisition and sustainment challenges, such as co-development, co-production, and co-sustainment of defense technologies.

Going forward, PIPIR will be a key mechanism for coordinating Indo-Pacific production and sustainment of military technologies with partners. PIPIR will continue to serve as a forum for exchanging information to facilitate the creation of international industrial cooperation projects, identify and remove barriers to cooperative activity, and share best practices and lessons learned to identify emerging opportunities to enhance regional industrial resilience. By fostering closer ties and cooperation, the partnership will continue to bolster the collective defense capabilities and ensure a more robust and responsive industrial base to respond to future crises.

[5] From August 19, 2024 USN unclassified submissions to the Industrial Base Council. This is a PB-25 profile, DON is currently discussing POM26 profile. Numbers include additional OSD IBAS funding.

PIPIR will be a critical factor in the future of deterrence in the Indo-Pacific, focusing on strengthening production of defense capabilities, promoting economic resilience through robust supply chains, and enhancing forward sustainment in the region. One of its key priorities is enhancing the defense industrial capabilities of allied nations in the region. By fostering closer collaboration in the development and production of military technologies, such as missiles, uncrewed systems, and advanced manufacturing capabilities, PIPIR will enable Indo-Pacific nations to collectively improve their military readiness. This will serve as a deterrent by ensuring that the region's defense posture remains strong and well-coordinated, discouraging potential adversaries from exploiting weaknesses. Moreover, PIPIR will strengthen economic and strategic deterrence by fostering deeper economic ties and industrial collaboration across the region. By increasing the economic interdependence of Indo-Pacific nations, the partnership will make any disruption to regional stability costlier and riskier for potential adversaries. A robust network of industrial and economic relationships can act as a strategic buffer, deterring conflicts that would threaten vital economic interests and regional prosperity.

2 Implementation Initiative #2: Production and Supply Chains

Figure 4. NDIS Implementation Initiative 2 and its Lines of Effort

Aim: To manage defense production supply chains and reduce dependence on foreign sources of concern				
Lines of Effort		**Risk Mitigation Timeframe**	**Risks of Inaction to U.S. National Security and Defense Industrial Ecosystem**	**Outcome Metrics[6]**
LOE 2.1	Assessing Supply Chain Risk Vulnerabilities	Medium-Term (3-4 years)	• Inability to successfully onshore critical manufacturing results in production disruption • Limited spare capacity results in the supply chain being unable to surge and respond to shocks	• Reduced dependence on foreign suppliers, domestic R&D investment, reduced frequency of supply chain disruptions • Technical maturity, insertion, obsolescence & DIB cyber events • Aggregate lead times, inventory levels, demand forecasting, procurement timelines • Percent of global DIB market share, defense export revenue, number of export licenses, supplier numbers (size of DIB), financial health, supply chain visibility (less disruptions), supplier diversity, supplier reliability • Adoption of advanced manufacturing, size of skilled workforce, number of new entrants to DIB • Production capacity, size of skilled workforce, supplier numbers (size of DIB), financial health, supply chain visibility (less disruptions), supplier diversity, supplier reliability
LOE 2.2	Onshoring Critical Production Capacity	Medium-Term (3-4 years)		
LOE 2.3	Industrial Cybersecurity	Immediate (0-2 years)		
LOE 2.4	Adversarial Capital	Medium-Term (3-4 years)		
LOE 2.5	Stockpiling	Long-Term (5+ years)		
LOE 2.6	Maritime Economic Deterrence	Long-Term (5+ years)		

Securely producing the defense products, services, and technologies needed now and in the future at sufficient speed, scale, and cost requires a host of measures to mitigate or eliminate critical supply chain vulnerabilities, particularly single or sole sourcing and supply chains linked to adversarial actions. The most urgent of these measures address supply chain visibility, on-shoring and "friend-shoring," sole sourcing, cyber security, and bulwarks against sourcing materials and capital from adversaries. Ultimately, the Department aims to support robust inventory management and stockpiling of critical materials and minerals.

This initiative supports NDIS Priorities: Resilient Supply Chains, Workforce Readiness, Flexible Acquisition, and Economic Deterrence.

[6] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

2024 HIGHLIGHT | Increased Production Investments – GE Aerospace

In March 2024, GE Aerospace **announced investments of $650 million to increase production and support of its commercial and defense customers**. The 2024 investment plan calls for nearly $450 million to go toward new machines, inspection equipment, building upgrades, and new test cells and safety enhancements at twenty-two facilities across fourteen states. For example, $30 million was designated for a production site in Lynn, Massachusetts, for investment in engine assembly and testing that supports the production of U.S. and allied military helicopter and fighter jet engines.

Line of Effort 2.1: Assessing Supply Chain Risk Vulnerabilities

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

To shore up vital supply chains and build resilience in critical technology sectors and manufacturing strength, the United States must gain robust situational awareness of vulnerabilities.

The Department is using supply chain risk identification programs – including those underway prior to the NDIS and new, complementary ones – to create a robust defense supply chain vulnerability risk assessment capability. To this end, the Office of the Secretary of Defense (OSD) and the Military Services are collaborating in a variety of different ways with commercial suppliers, other government agencies, allies, and strategic partners.

Department-Wide Supply Chain Risk Assessment Tools: The Department is developing and expanding the use of tools to illuminate supply chain adversarial influence on and risks to DoD supply chains. For example, OUSD(A&S)'s Industrial Base Assessment Tool (IBAT) promotes visibility of vulnerabilities in the supply chain. This enhanced visibility enables both the DoD and the commercial industrial sector to respond accordingly. IBAT can track multiple variables all the way from finished product back to component materials. In addition, OASD(IBP) developed a prioritization methodology to narrow the scope of the DoD's efforts to high-risk industries. Such scoping of efforts enables DoD to maximize FY 2024 funds.

DoD's Supply Chain Risk Management Threat Analysis Center (SCRM-TAC) plays an integral role in the assessment and articulation of foreign intelligence entity threats to defense supply chains. SCRM-TAC produces all-source counterintelligence threat assessments that enable DoD to make safer mission-critical acquisitions. Additionally, the Department seeks to mitigate risks to the defense industrial base by providing timely and objectively defined entity vetting, foreign ownership, control, or influence (FOCI) mitigation, integrated personnel, physical and cyber security compliance, and oversight against adversarial actions eroding national security capabilities.

Creating Security Classification Guidelines: The Department is updating a security classification guide (SCG) to standardize the way critical technologies and components are controlled. An SCG is a collection of precise decisions and comprehensive guidance regarding the control of a specific system, plan, program, mission, or project. It reduces the risk associated with adversaries' targeting of defense supply chains identified during data analytic activities. Beginning with the battery sector, the SCG aims to protect information on aggregate supply chain vulnerability from adversaries and establish clear guidance on how to similarly protect other critical areas identified within the **2022 Securing Defense Critical Supply Chains report**.

Updating Military Specifications: Adherence to well-managed Military Specifications (MilSpecs) – the Department's weapon and platform standards that yield standardization and interoperability – make supply chain visibility and assessment easier to implement and maintain. To enhance standardization and interoperability, the Military Services are working towards updating MilSpecs. Such standards include different defense systems used across U.S. and allied and partner Military Services. From a defense industrial base perspective, standardization and interoperability enable dynamic, efficient, and scalable contracting, production, stockpiling, and provisioning. For example, the Department seeks to establish standard MilSpecs for batteries used in DoD systems, which can be utilized across multiple weapons systems and platforms. Reviewing and appropriately updating these specifications balances the goals of preventing them from becoming outdated and integrating key advances. MilSpecs are vital to identifying suitable substitutes for legacy capabilities so that these important capabilities are not lost.

Understanding the Qualification Process as Barrier to Entry: The OASD(IBP), with support from the Department of Commerce, is developing a study on barriers to entry to the defense industrial base. The study is tasked to identify the major qualification costs and the associated barriers to entry for industry in critical defense sectors and develop policy and qualification standard changes aimed at improving industry collaboration and industrial base production. Progress updates and outcomes of the study will be briefed to the OUSD(A&S)-led Industrial Base Council. A successful survey will provide justification for the U.S. government to create legal and policy conditions that facilitate new entrants into defense production and services. This effort will help assess supply chain risk vulnerabilities.

Tracking Army Assets: OUSD(R&E) also tackles economic deterrence in support of the Army Material Command (AMC). MxD, a manufacturing institute focused on digital manufacturing and cybersecurity, is working with AMC to develop proof of concept, pilot, and follow-on minimum viable product to track Army assets through the Presidential Drawdown Authority (PDA) and Foreign Military Sales (FMS) process. The final product will integrate with existing DoD and enterprise resource planning systems to transition capability back to smart warehousing outcomes and enable enterprise-wide tracking of all military assets.

Responsible Organizations:

U.S. Army, OUSD(A&S), OUSD(I&S)

Desired Outcomes:

The combination of supply chain assessment and threat detection capabilities aims to thwart the sourcing of counterfeit or substandard items of any kind. This is particularly true for sourcing from adversaries, which could foster system failures while leaving unsecure computing "backdoors" that could serve as hostile intelligence pathways into DoD systems. Furthermore, verifiable identification and prevention of sole-source dependence, particularly involving adversary-produced materials and parts, is essential to mitigating production vulnerabilities. Supply chain assessment enables better identification of foreign intelligence and insider threats to DoD capabilities, the industrial base, and defense-related supply chains. This ultimately strengthens the U.S. ability to identify, deny, and disrupt adversarial foreign intelligence and insider threats to national security-related supply chains.

Beyond these protective goals, deep supply chain situational awareness can enable alternatives and dramatically shorten production lead times and improve material responsiveness for crisis events. This will ensure that the domestic industrial base can produce weapons at the capacity needed for future warfighting needs.

The intended outcomes of the barriers to entry study center on policy changes that improve industry participation in critical defense supply chains and increase industrial base production. Measurements of success include a better understanding of which contracting vehicles are preferable and enable small businesses to enter the industrial base ecosystem. This will include identifying the ideal contracting timelines for small businesses and qualification costs to entry. Additional outcomes include viable policy

changes and proposals such as reductions in qualification costs through changes to the Federal Acquisition Regulation (FAR) costing requirements, accounting and pricing methodologies, and more equitable contracting opportunities for small businesses.

LOE 2.1 Assessing Supply Chain Risk Vulnerabilities		
Task	**Performance Metric(s)[7]**	**Estimated Completion**
• Department-Wide Supply Chain Risk Assessment Tools • Qualification Process as Barrier to Entry	• Modifications to DoD contracting/Request for Proposals requirements (e.g., for relevant experience, solicitation response periods, evaluation criteria) • Shortening contracting timelines and providing clear demand via multi-year procurements • Improving communication of government business practices to small businesses	FY 2026

Risk Mitigation and Challenges:

Investigations have confirmed that adversarial infiltration into defense-critical supply chains is substantial. Some essential capabilities remain dependent on prohibited adversarial suppliers. DoD supply chain vulnerability, threat detection, and situational awareness capabilities are presently uneven and far from comprehensive, either in policy or action. Reducing reliance on adversaries for critical materials and improving defense production supply chains is essential to maintain the United States' position as a technology leader. The challenges to remediating vulnerabilities in supply chain situational awareness include committed resources, execution, comprehensiveness, leadership focus, and clear recognition of the perils of not robustly addressing the gap.

Publication of an SCG may create unanticipated costs or pose risks to the efficiency of certain DoD operations such as analysis or procurement. Minimizing these impacts is vital to the success of the effort in balancing information security needs with present operations.

The timeframe for these actions to mitigate the risks identified in the NDIS is **0-2 years**.

Estimated Resources:

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
IBAT (funded through Joint Munitions MilSpecs)	**$1.0M**	**$11.0M**	**$10.0M**	**$4.0M**	**$4.0M**

Line of Effort 2.2: Onshoring Critical Production Capacity

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

Since the end of the Cold War, considerable portions of U.S. civilian manufacturing and some of the U.S. defense sector's sub-tier supply chain have moved offshore, driven by lower labor costs and advantageous

[7] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

access to certain resources. Over time, distortionary, unfair international trade practices and outright trade agreement violations amplified these offshoring trends. Such practices include illegal subsidies, currency manipulation, dumping practices, failure to enforce environmental regulation, cyber espionage, and predatory investments and acquisitions from adversaries. The domination of critical markets and important industrial sectors by adversaries negatively affects U.S. control of commodity pricing, as well as access to materials in strategically critical areas. Defense industrial base consolidation and contraction compounded these efforts as did the decades' long focus on counterterrorism rather than near-peer conflicts. The result is significantly increased risk and cost to U.S. and allied defense supply chains.

Developing Prohibited Sourcing Policy: To ensure that the United States on-shores or friend-shores critical parts and materials, the Department has developed a Prohibited Sourcing Policy, which calls for OUSD(A&S) and the Military Services to identify adversarial sourcing risks and propose policy adjustments to further reduce the risk of adversarial sourcing, particularly relating to the People's Republic of China and the Russian Federation. This will require planning on how to transition sourcing away from covered nations where applicable, and for non-applicable instances, develop risk mitigation plans; identify relevant gaps in policies, authorities, and processes; and update existing or new contractual requirements, policies, monitoring, and enforcement processes to ensure future sourcing remains free of parts and components from adversarial nations. The new Prohibited Sourcing Policy will be available to the public in FY 2025. Additionally, the Department is establishing prohibited sourcing parameters in the Defense Federal Acquisition Regulation Supplement (DFARS) to reinforce this policy.[8]

Revitalizing Domestic Manufacturing of Critical Materials: To onshore critical production capacity, the U.S. must revitalize domestic manufacturing strength. The Department is already increasing investments to expand domestic capacity and capabilities of critical materials through Army and DPA Title III programs and plans to materially expand these efforts. Diversifying supply chains through domestic investment will bolster resilience in the most critical supply chains, which currently rely partially on sources outside of the United States.

Investing in Modern Production Infrastructure, Workforce, and Process Improvements: Investments in modern production infrastructure and process improvements, in both public and private ventures, will result in greater output and efficiencies and increase the share of critical defense production capabilities in U.S. and allied nations. Furthermore, the Military Services will coordinate and improve production capabilities for critical military components. For example, the Army is the manager for conventional ammunition and is responsible for acquiring ammunition for the U.S. Armed Services. A planned ammunition industrial base modernization effort addresses manufacturing safety and readiness to meet current and future requirements. This modernization effort will include updating production processes and incorporating best practices from private industry. The investment in this task addresses and closes systemic capability gaps, improves efficiency, increases speed, reduces costs, and increases production flexibility, providing for a more robust and agile industrial base. Additionally, the Department of the Air Force is working to onshore chip manufacturing (these details are only available in the NDIS-IP Classified Annex).

Moreover, the Department will prepare the workforce for the technological innovation required for onshoring critical production by investing in recruitment and upskilling programs. This preparation involves determining the personal and professional growth needs of existing and prospective workers and matching them to career pathway opportunities while destigmatizing industrial careers through socialization and internship programs. By building the pool of talent and increasing incentives for new and veteran workers to join the industrial base, the DoD aims to incentivize companies in critical sectors to initiate or restart operations within the United States.

[8] DFARS is a set of regulations that apply to all of DoD's contracts and subcontracts.

The Department will also leverage the Manpower & Reserve Affairs (M&RA) program, which allows DoD to identify in-sourcing options for the industrial base workforce rather than relying strictly on outsourcing. Over 200,000 Service members transition out of the military each year. With better long-term workforce strategies many of these personnel could be leveraged against critical industrial base-related manpower deficiencies. This strategy mitigates some of the workforce deficiencies by moving individual planning well left of the transition moment.

Disruptive innovation can often create opportunities for new companies and industries to eclipse the old. In this light, innovation can play an outsized role in onshoring critical industrial capability and capacity. DoD organizations like the Defense Innovation Unit (DIU) speed up the development and production of emerging technologies and products, such as autonomous systems, artificial intelligence, and advanced materials, that can serve the needs of both the military and the civilian economy. They do so by fostering collaboration between typically nontraditional companies and established contractors, research institutions, and government agencies for focused problem-solving with clearly defined objectives and addressing pain points that can limit integration and scale. Going forward, the Department will seek opportunities to expand these efforts. Since many defense technologies require extended research, development, and testing timelines, the DoD will also consider longer program durations to accommodate the unique, lengthy, and costly challenges of defense innovation and post-program support, such as access to follow-up funding, business development opportunities, and continued mentorship.

Across the federal government, the interagency is undertaking efforts to curb distortionary and unfair international trade practices and outright trade agreement violations, particularly by our adversaries. The Department aims to better enforce policies and better execute programs that redress adversarial trade practices that unfairly harm domestic production, supply chains, and critical or innovative technologies, all of which are vital to successful onshoring.

Responsible Organizations:

OUSD(P&R); OUSD(A&S); Department of the Army

Desired Outcomes:

Onshoring of critical industries will ensure healthy, sustainable, reliable, scalable domestic industrial capabilities, capacities, and supply chains.

LOE 2.2 Onshoring Critical Production Capacity		
Task	**Performance Metric(s)[9]**	**Estimated Completion**
• Revitalizing Domestic Manufacturing of Critical Materials	• Increase DPA investments in production and critical materials • New domestic sourcing • Enhanced supply chain security • Secured domestic source raw material availability • Expanded domestic source product	FY 2029 and beyond

Risk Mitigation:

Failure to bolster critical domestic industrial production and associated supply lines risks shortfalls in supply and material in future conflicts. These risks will manifest as the inability to produce at scale, to produce needed defense articles within relevant timeframes, and reduced defense industrial effects supporting

[9] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

integrated deterrence. The combination of these risks will have an adverse effect on our ability to guarantee our own security and the security of our treaty partners and diminish the ability of our partners to sustain or contribute to security.

Improving domestic and allied defense production capacity is dependent on several different factors. Material sources must be dependable and supported by investments in secure domestic critical materials and the availability of upstream raw materials. The defense industrial base must be modernized; this is supported by efforts such as the Army's OIB Ammunition Modernization program, which increases productivity and flexibility, reduces costs, decreases unexpected downtime, and adds capacity and capability. Additionally, a capable workforce that meets industrial base labor requirements, predictable Congressional appropriations that mitigate inflation and modernize execution, and Congressional reauthorization of the Defense Production Act in FY 2025 all improve production capacity.

The timeframe for these actions to mitigate the risks identified in the NDIS is **5+ years.**

Estimated Resources:

Resourcing for onshoring critical production capabilities requires inputs from many sources—including resourcing from streams covered in other lines of effort— including the DPA, IBAS, and Office of Strategic Capital (OSC) programs.

2024 HIGHLIGHT | Radford Army Ammunition Plant Modernization

The Radford Army Ammunition Plant is undergoing a $400 million modernization investment to expand its nitrocellulose production capacity. This project aims to restore the organic industrial base for domestic production of priority chemicals, mitigating the risks associated with procuring energetics from external sources.

2024 HIGHLIGHT | DPA Title III and IBAS Awards for Critical Materials

OASD(IBP)'s Manufacturing Capability Expansion and Investment Prioritization (MCEIP) Office issued multiple awards totaling $285.7 million in areas such as domestic mining and production of lithium, including **$11.8 million to Lithium Nevada Corporation**, to expand the graphite and critical chemical supply chains, and critical chemicals. These investments represent the continuation of DoD's five-year investment plan to secure supply chains for minerals and materials critical to the defense and commercial sectors.

Line of Effort 2.3: Industrial Cybersecurity

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

Numerous state and non-state actors have come to see cyberspace means as a powerful force multiplier. U.S. adversaries seek to use malicious cyber capabilities to achieve asymmetric advantages, targeting U.S. critical infrastructure, undermining U.S. economic security, and degrading U.S. military superiority. Hostile cyber-attacks pose an outsized danger to defense industry intellectual property and supply chains. Secure, reliable defense technology research and development and industrial base production is simply not possible without robust industrial cybersecurity.

Creating Architecture for DIB Cyber Risk: As directed by the President in National Security Memorandum 22, the Department serves as the Sector Risk Management Agency for all threats and

hazards to the defense industrial base (DIB). In this role, the Department interfaces with industry, monitors and prioritizes threats, oversees incident management, and provides technical assistance, among other duties. Cybersecurity is one such area of collaboration with the DIB. The Department's industry-related cybersecurity initiatives include the Defense Industrial Base Cybersecurity Program, the DoD Cyber Crime Center's DoD-DIB Collaborative Information Sharing Environment, the National Security Agency's Cybersecurity Collaboration Center, and the Enduring Security Framework. The Defense Industrial Base Cybersecurity Program alone sustains a voluntary partnership with over 1,000 companies and has shared roughly 600,0000 cyber threat incident indicators since its establishment in 2008.

In March 2024, DoD **published the Defense Industrial Base Cybersecurity Strategy**. The DIB Cybersecurity Executive Steering Group (ESG), chaired by the DoD CIO, led this effort. The DIB Cybersecurity ESG also leads the effort to develop the DIB Cybersecurity Strategy Implementation Plan (anticipated FY 2025). This plan will detail activities and tasks, with assigned responsibilities across the Department, that improve the cybersecurity posture of the defense industrial base.

In partnership with the Department of Commerce's National Telecommunications and Information Administration (NTIA), the **DoD's FutureG Office sponsored a 5G Challenge** to advance the maturity of critical Open Radio Access Network (Open RAN) technologies for open, modular, and interoperable 5G. Open specifications allow operators to test and verify associated security controls rather than trusting their RAN vendor to adequately protect non-standard interfaces. Security issues can be addressed much more efficiently in virtualized, cloud-enabled environments than with traditional deployments. Open RAN makes it possible to automate many tasks now done manually, improving operational visibility and configuration management. Additionally, Open RAN enhances vendor competition, reduces vendor lock-in and other supply chain risks, and enhances energy efficiency optimization.

The Naval Postgraduate School and the Department are working closely together to advance next-generation 5G wireless network capabilities. The project, entitled Active-Duty Open-Source Development, seeks to enhance military wireless communication and data transport capabilities. 5G presents new horizons in battlefield communications, providing communications resiliency in an impacted environment.

Additionally, DoD CIO developed the Cybersecurity Maturity Model Certification (CMMC) program to reinforce the importance of defense industrial cybersecurity for safeguarding the information that support and enable our warfighters. The Cybersecurity Maturity Model Certification (CMMC) program is aligned to DoD's information security requirements for DIB partners. It is designed to enforce protection of sensitive unclassified information that is shared by the Department with its contractors and subcontractors. The program provides the Department increased assurance that contractors and subcontractors are meeting the cybersecurity requirements that apply to acquisition programs and systems that process controlled unclassified information.

OUSD(I&S) will issue or revise policies to enable balancing requirements for information safeguarding and sharing at all levels of the supply chain. This office will also reduce the range of defense industrial base attacks through intel-driven cybersecurity. The National Security Agency DIB Cybersecurity program directly partners with the defense industrial ecosystem to improve the cybersecurity of defense contractors. The NSA's Cybersecurity Collaboration Center shares threat intelligence with industry, enabling them to protect their networks, and provides direct cybersecurity support to more than 1,000 DoD contractors.

Responsible Organizations:

DoD CIO; OUSD(R&E); OUSD(I&S)

Desired Outcomes:

The primary desired outcome is to foster a defense industrial ecosystem, including for-profit and government-owned, that is adequately shielded from adversarial cyber-attack. It can securely research and

develop technologies that confer and sustain enduring advantage and ensure that production operates without cyber disruption. Foreign intelligence and insider threats to DoD capabilities, the industrial base, and defense-related supply chains will be identified, and hostile intelligence will be denied and disrupted. Underpinning this strategic approach will be an approved DIB Cybersecurity Strategy Implementation Plan in FY 2025 that guides DoD execution. Successfully executing this LOE will enable the DoD to build upon and improve the coordination of regulations, policies, requirements, programs, services, pilots, public-private efforts, and interagency initiatives to combat the varied and evolving cyber threats facing the defense industrial base.

Additionally, successfully executing this LOE will result in a refinement of Open RAN architecture components and development of a formal approach to compliance testing to Open RAN standards. Specific results include the formation of the first North American testing facility (Open Testing and Integration Center) certified by the O-RAN Alliance and increasing market competitiveness of the contest participants, driving more rigor into the 5G industrial base. The FutureG Office provided the first demonstrations of mobile handoff between multi-vendor Open RAN base stations, showing the way forward to new multi-vendor RAN deployment models. Improving the Department's cyber posture will also incentivize experimentation of new off-set technologies, leading to an increase in the number of suppliers doing business with the Department.

Finally, through security policy revision in this LOE, the Department seeks to maintain consistent and efficient data sharing and safeguarding of national security information. This will increase accountability for security and counterintelligence to inform defensive actions and operations.

LOE 2.3 Industrial Cybersecurity		
Task	**Performance Metric(s)[10]**	**Estimated Completion**
• Creating Architecture for DIB Cyber Risk	• Formation of the first North American testing facility (Open Testing and Integration Center) certified by the O-RAN Alliance • Increasing market competitiveness of 5G industrial base • Cybersecurity Maturity Model Certification standards established	FY 2029 and beyond

Risk Mitigation & Challenges:

This LOE will bolster the cybersecurity posture of contractors and comprehensively result in a strategy to orchestrate DoD's responsibilities for defense industrial base cybersecurity. The sheer number of stakeholders and the complex intricacies of working within the DoD cybersecurity environment alone present a challenge. To mitigate this risk, DoD employs a multi-pronged approach that delineates the roles and responsibilities for cybersecurity across a diverse array of components.

Interagency Collaboration: The 5G Challenge represents an interagency collaboration effort to spur and promote domestic technology innovation on a key technology enabler (Open RAN) that may help deliver market-based interoperable and secure 5G and FutureG networks, unbeholden to single, untrusted vendor networks. The 5G Challenge provided financial incentives for the development, experimentation, and interoperability testing of Open RAN-based new technologies. By doing so, the 5G Challenge addresses reluctance by the domestic telecommunications industry to invest scarce R&D resources on immature technology, unsupported by capital expenditure models. The 5G Challenge provided a funded, coherent

[10] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

framework for competition-based technology development designed to spur the development of interoperable Open RAN-based technologies and solutions.

Information-Sharing with Industry: By enabling classified information sharing with the national security industrial base, OUSD(I&S) can mitigate foreign ownership, control, or influence (e.g., FOCI) risks while enhancing and systemizing standards for industry to safeguard classified information. This will generate greater efficiencies by both reducing supply chain vulnerabilities and facilitating innovation.

The timeframe for these actions to mitigate risks identified in the NDIS is **0-2 years**.

Estimated Resources:

Resources to produce the DIB Cybersecurity Strategy Implementation Plan are part of the DIB Operations programmatic budget.

Line of Effort 2.4: Adversarial Capital

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

Adversarial capital consists of strategic investments in key U.S. and allied defense industries to harvest critical technologies, gain access to pioneering innovation and research and development efforts, leverage opaque reporting structures, and capitalize on dual-use technologies that may be used to close the gap in the U.S. military's comparative advantage. Weaponizing financial capital and is an important tactic of our adversaries. The goal of adversarial capital is to gain access to, influence over, or even control of pioneering innovation and research and development efforts, often involving financially struggling companies. Adversarial capital surreptitiously bypasses national security review by leveraging opaque private-public reporting and transaction review structures to mask the ultimate beneficiaries of ownership. Worse, adversarial capital is difficult to counter because adversaries employ sophisticated techniques and strategies and continually adapt tactics to stay ahead of detection and regulations. When it succeeds, adversarial capital leapfrogs years of painstaking research and development, foils intellectual property protection, and results in adversaries gaining at the expense of U.S. national security.

Ultimately, this LOE supports NDIS economic deterrence and resilient supply chain priorities by strengthening actions that protect U.S. technological prowess, shoring up future capacity to innovate and modernize defense critical supply chains. This LOE aims to create a robust and comprehensive defense against adversarial capital to safeguard national security and prevent critical technologies from falling into the hands of potential adversaries. While DoD plays a vital role in identifying the need and the challenges associated with adversarial capital, often it falls to other government agencies, commercial industry, and allies to holistically coordinate and enforce programs that combat adversarial capital.

The OUSD(A&S)'s Office of Global Investment and Economic Security (GIES) safeguards DoD interests from adversarial foreign investment and transaction risks, at home and abroad, by analyzing risks and delivering mitigation proposals that resolve national security concerns to decision-makers. GIES represents and participates in two key interagency organizations whose vital roles are to detect and help thwart adversarial capital: (1) the Committee on Foreign Investment in the United States (CFIUS), chaired by the Department of Treasury, that reviews foreign investments in, and mergers involving, U.S. companies critical to national security, and (2) the Committee for the Assessment of Foreign Participation in the United States Telecommunications Services Sector (Team Telecom), chaired by the Department of Justice, and specific to the U.S. telecommunications and networking infrastructure sector. Importantly, the Foreign Investment Risk Review Modernization Act of 2018 significantly expanded CFIUS and granted it power to review a broader range of transactions and investments. CFIUS has expanded jurisdiction to include additional regulations based on military installation proximity. The Department recognizes that GIES's anti-adversarial capital programs must be adequately resourced to fulfill its portion of these interagency missions.

DoD, through the Defense Technology Security Administration (DTSA), supports implementation of other important regulatory bulwarks, including: (1) export administration regulations administered by the Bureau of Industry and Security at the U.S. Department of Commerce, that control the export and transfer of dual-use items including commodities, technologies, and software to foreign countries or foreign nationals; and (2) International Traffic in Arms Regulations (ITAR), administered by the Directorate of Defense Trade Controls at the U.S. Department of State, that control the export and import of defense-related articles, services, and related technical data.

The aim of OUSD(R&E)'s Joint Acquisition Protection and Exploitation Cell (JAPEC) is to delineate technologies critical to current acquisition programs. DoD established JAPEC to integrate existing acquisition, intelligence, law enforcement, and counterintelligence data, analysis, processes, and tools to deter, deny, and disrupt adversaries that threaten U.S. military advantage by accessing unclassified Controlled Technical Information (CTI) in DoD's most critical programs and technologies. JAPEC was established to supplement and proactively mitigate gaps in the reactive reporting regulation Protecting Controlled Unclassified Information in Non-federal Information Systems and Organizations (in effect January 2018). When a military branch identifies a technology as CTI (primarily in the acquisition process), JAPEC shares this information with the JAPEC stakeholder community, providing all involved organizations with situational awareness and ultimately raising the Department's ability to thwart adversary campaigns.

The Office of Small Business Programs (OSBP) is piloting and working to expand a FOCI Deterrence and Mitigation Program (FDMP). The FDMP consists of an education and awareness component, a mitigation response framework of techniques and processes to assist DoD agencies and the small business community in mitigating FOCI risks, and the congressionally directed commercial tool due diligence demonstration program. The FOCI education and awareness component consists of educational modules provided on Project Spectrum and OSBP outreach and training events for APEX Accelerators, DoD small business professionals, and other stakeholders. The FOCI risk mitigation response framework provides a roadmap of techniques and processes designed to assist DoD agencies and small businesses in mitigating identified FOCI risks, particularly those discovered during DoD due diligence reviews. The Commercial Tool Due Diligence Demonstration Program is designed to assess and demonstrate the effectiveness of commercial tools in identifying, deterring, and mitigating FOCI risks. By directly linking the tool demonstrations to national security priorities, the commercial tool demonstration program addresses the increasing threat posed by adversarial foreign investments and influence over domestic companies, especially within the defense industrial base.

Responsible Organizations:

OUSD(A&S), OUSD(R&E)

Desired Outcomes:

Successful interventions will shield the United States' most innovative small businesses from increasing attempts by foreign actors to influence or disrupt business operations using adversarial capital. Specifically, this LOE will establish effective mechanisms to counter disguised ownership and persistent, adaptive efforts by adversaries.

LOE 2.4 Adversarial Capital		
Task	**Performance Metric(s)[11]**	**Estimated Completion**
• Adversarial Capital	• Protected critical technologies from adversarial threat	FY 2028

Risk Mitigation & Challenges:

Challenges include nimbly coordinating stakeholder involvement in tackling legal, policy, or fiscal challenges associated with severing U.S. vulnerabilities to adversarial capital in key sectors and empowering the Department to assist and advise stakeholders as appropriate.

Existing mechanisms that provide measures against publicly disclosed investments include CFIUS and Team Telecom authorities, the Department of Commerce's Information and Communications Technology and Services "transactions" program, and the Department of Treasury's Outbound Investment Security Program. Although each of these authorities are powerful tools for economic security, these authorities, however, do not fully defend against the influx of adversarial capital exploiting our open economy and targeting the defense industrial and technological innovation ecosystems.

The timeframe for these actions to mitigate risks identified in the NDIS is **3-4 years**.

Estimated Resources[12]:

DoD will use existing operational and programmatic budgets for GIES and JAPEC for FY 2025 but plans to budget for adversarial capital in future budget cycles.

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
FOCI Deterrence and Mitigation Program	**N/A**	**$9.0M**	**$8.0M**	**$9.2M**	**$10.2M**

Line of Effort 2.5: Stockpiling

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

Stockpiling is a core element of DoD's vision for creating more resilient supply chains. Stockpiles range from inputs for defense production – including strategic minerals, critical chemicals, critical parts, and technology components – to finished goods, including broad sets of weapons and other munitions, medical supplies, and other hardware and supplies. These inventories act as shock absorbers for the supply chain and help to mitigate near-term risks, including from unanticipated demand spikes or supply chain disruptions. However, recent geopolitical events revealed that our national stockpiles are inadequate and that replenishing existing stockpiles needs urgent attention. To mitigate vulnerabilities in the supply chain, the Department is embracing an expanded approach to stockpile and inventory planning.

[11] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.
[12] Budget of the U.S. Government Fiscal Year 2025

Working with industry, DoD is expanding existing and establishing new stockpiles of the critical parts, finished goods, and commodities needed to meet production requirements for conducting sustained campaigns against adversaries.

Stockpiling Critical Mineral and Components: The DoD is actively identifying stockpiling requirements for critical minerals and components necessary to continue production in cases where international conflict or crisis may inhibit normal functioning of the supply chain. Considerations range from demand forecasting (e.g., war game exercises) to risk assessment (e.g., threat analysis, impact assessment) to supply chain coordination (e.g., supplier reliability, lead times, tracking, logistics), and budgeting and funding.

The DoD has refocused on munitions production after years of under-investment. The U.S. Army's multibillion-dollar initiative to boost domestic 155mm artillery munition production is an example of stockpiling efforts to promote critical supply chain resiliency for U.S. and allied defense needs. There are a host of other similar initiatives happening to boost munitions production, such as the Munitions Campus Pilot Project that was launched through MCEIP in September 2023.[13] The expectation is that these production increases must exceed merely replenishing stocks sent to Ukraine or staged elsewhere. This enhancement involves expanding existing munitions stockpiles and facilities while also building new ones. This approach helps to smooth production and stabilize the demand signal, which, together with multi-year contracts, can help to overcome defense companies' reluctance to expand production capacity. Further, given the complexity of many advanced munitions, drawing from greatly expanded stockpiles may be a better solution than creating the ability to quickly ramp up production at a moment's notice.

Supporting the National Defense Stockpile: Rebuilding strategic and critical materials stockpiles includes those materials that support military and essential civilian industry, are vital to U.S. economic and national security, and are not found or produced in the United States in quantities to meet our needs. Like many other supply chains, much of the strategic and critical materials sector has moved offshore for reasons discussed in previous sections. The target stock levels for strategic and critical materials depend on mineral extraction, recycling, and materials science infrastructure and supply base. The U.S. government presently recognizes some 50 minerals as critical, necessitating the stockpile to be equipped for potential wartime scenarios and the subsequent replacement of military resources. It is worth noting that during the Cold War, the U.S. National Defense Stockpile managed some 92 critical materials.

The Strategic and Critical Materials Stock Piling Act (50 U.S.C. § 98, *et seq.*) directs the establishment of a Strategic and Critical Materials Board of Directors. Implementation of the board requires decisions on its organization and the skills required of its members. The law provides the directive that nine members of the board be designated from the interagency and Congress, with another four required designees of the ASD(IBP) and an additional seven optional designees. OASD(IBP) is preparing a list of potential board designees and preparing the charter and membership balance plan required for the establishment of the board in Q1 FY 2025.

Expanding stockpile facilities is a necessary addition to the overall requirement to increase defense stockpiles. The current National Defense Stockpile is held in only six depots with most already reaching capacity. In contrast, during the Cold War, the U.S. managed roughly 100 critical materials depots. Expansion to these levels is not necessary, but the Department is considering expanding storage infrastructure in future years.

[13] US Department of Defense, September 2023. *DoD Establishes Munitions Campus Pilot to Lower Barriers for Emerging Industry.* [Press release]. **DOD Establishes Munitions Campus Pilot to Lower Barriers for Emerging Industry > U.S. Department of Defense > Release**

Responsible Organization:

OUSD(A&S)

Desired Outcomes:

To cope with prolonged conflicts, protracted lead times in scaled production capacity, and unpredictable market fluctuations (e.g., delays in domestic raw materials output), it is imperative that our various stockpiles hold adequate reserves of both inputs toward defense production and finished goods ready in sufficient quantities for the warfighter. This is particularly true for areas that had been long neglected, including, but not limited to, stocks of strategic and critical materials and munitions.

LOE 2.5 Stockpiling		
Task	**Performance Metric(s)**	**Estimated Completion**
• Stockpiling Critical Mineral and Components	• Satisfactory supply of 50 critical minerals for potential war time scenarios	FY 2028

Risk Mitigation & Challenges:

If the Department fails to adequately revitalize critical stockpiles, the United States and its allies and partners risk shortfalls in supply and material in future conflicts. These risks will manifest as the inability of the defense industry to produce needed defense articles at scale within the timeframes needed to support integrated deterrence. These risks will have a direct adverse impact on our ability to guarantee our own security and that of our treaty partners, and on the ability of our partners to sustain or contribute to collective security objectives.

Challenges include but are not limited to, potential insufficient speed of execution, funding disruption and shortfalls, disrupted access to critical materials, commodity price volatility, insufficient infrastructure expansion, and even potential oversight failure and unaddressed authority and policy gaps.

The timeframe for these actions to mitigate the risks identified in the NDIS is **5+ years**.

Estimated Resources:

Strategic and Critical Materials Board of Directors:

$668k in additional annual funding for the board is anticipated, though this effort is still currently unfunded.

Line of Effort 2.6: Maritime Economic Deterrence

As highlighted in the NDIS *economic deterrence* strategic pillar, fair and effective market mechanisms support a resilient maritime defense industrial ecosystem among the U.S. and our partners and allies. Maritime economic deterrence involves strategic actions taken by nations to safeguard their economic interests and maintain stability in the maritime regions. Maritime economic deterrence focuses on mitigating adversarial foreign investment risks, innovation and technology protection, supply chain integrity initiatives, and the coordination and protection of research efforts across the government and private sector.

Launching the Maritime Economic Deterrence Executive Council: Acknowledging that economic deterrence takes a coordinated approach, the Department of the Navy has activities underway to increase its capacity to identify and address foreign investments, protect and leverage critical technology, invest in critical infrastructure, and mitigate supply chain risks through its **Maritime Economic Deterrence Executive**

Council (MEDEC). MEDEC integrates assessments of foreign investment, critical technology, supply chain, industrial base, and critical infrastructure to improve economic security across the Navy.

Responsible Organizations:

Department of the Navy (DON)

Desired Outcomes:

This LOE will align foreign investment, critical technology, supply chain, industrial base, and critical infrastructure to address economic deterrence across the Navy. The MEDEC team will develop a cohesive Navy strategy inclusive of policy, resourcing, organizational, and offensive recommendations by the end of 2024 to address economic security and deterrence issues.

LOE 2.6 Maritime Economic Deterrence		
Task	**Performance Metric(s)[14]**	**Estimated Completion**
• Maritime Economic Deterrence Council	• Increased protection for advanced technologies supply chain participants	FY 2027

Risk Mitigation & Challenges:

By coalescing existing expertise and centers of excellence across the Navy, MEDEC will develop a comprehensive strategy for maritime economic deterrence. Failure to achieve these goals could lead to higher costs, shrinking defense budgets, a weakened industrial ecosystem, and a loss of technological superiority, innovation, and quality.

The timeframe for these actions to mitigate the risks identified in the NDIS is **3-4 years.**

Estimated Resources:

MEDEC leverages existing Navy funding to support CFIUS, the Technology Protection Program, Supply Chain Improvement, and Critical Infrastructure Protection.

2024 HIGHLIGHT | Lockheed Martin's Upgrade for Navy's MH-60R Helicopters

Lockheed Martin, in partnership with Intel and its Altera semiconductor manufacturing firm, is developing an advanced upgrade for the Navy's MH-60R helicopters. This collaboration has potential applications extending beyond the MH-60R to other platforms. Lockheed Martin noted that this effort aligns with the goals of the CHIPS and Science Act and DoD's push to accelerate the adoption of new microelectronics technologies.

Future Directions for Production and Supply Chains: Supply Chain Visibility

Supply chain visibility will be a major component of DoD efforts to improve production and supply chains. At a program level, supply chain visibility provides oversight to end-product fielding timelines that impact military readiness across the enterprise. For supply chain visibility to work, there must be trust and collaboration between the company and its customer, as the solution hinges on the ability to partner with

[14] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

vendors to track supply movement. An end-to-end supply chain visibility solution aims to reduce supply chain risks, improve lead times, and identify problems in product security, quality, and shortage along the chain. The visibility allows for improved lead times, more evenly distributed sourcing and risks, more efficient shipping routes, better understanding of diminishing manufacturing sources and materiel shortages, and a better understanding of security and quality risks.

Supply chain visibility is essential for military services to ensure operational readiness and strategic advantage. It allows the DoD to track and monitor the flow of materials and products, identifying potential disruptions and managing risks effectively. This transparency helps maintain the continuity of operations, optimize resources, and enhance the resilience and responsiveness of military logistics networks.

Military services are taking significant steps to improve supply chain visibility by adopting advanced technologies, enhancing data sharing, and strengthening collaboration with industry. They are increasingly leveraging tools like artificial intelligence (AI), machine learning (ML), and blockchain to monitor the movement of materials and components in real time, improve inventory management, and provide predictive analytics. These technologies help identify potential disruptions and optimize supply chain flows. Additionally, the military services are investing in cloud-based platforms and digital twin technologies to create real-time situational awareness of supply chain activities. Digital twins simulate different supply chain scenarios, enabling the military to identify potential bottlenecks and develop contingency plans, while cloud-based platforms facilitate data sharing between military branches and suppliers for better coordination. The use of radio-frequency identification (RFID) tags and Internet of Things (IoT) sensors is also being expanded to accurately track equipment, parts, and supplies, providing real-time data on the location and condition of assets. As digitalization increases, military services are prioritizing cybersecurity by implementing robust protocols and tools to protect sensitive data from cyber threats. Strengthening public-private partnerships with defense contractors and suppliers has become another key strategy, allowing for better coordination, streamlined logistics, and improved transparency across the supply chain.

3 Implementation Initiative #3: Allied and Partner Industrial Collaboration

Figure 5. NDIS Implementation Initiative 3 and its Lines of Effort

Aim: To enable and promote closer coordination with allies and partners to build economic deterrence, manage industrial capacity, and enable interoperability and interchangeability				
Lines of Effort		**Risk Mitigation Timeframe**	**Risks of Inaction to U.S. National Security and Defense Industrial Ecosystem**	**Outcome Metrics[15]**
LOE 3.1	Strengthening AUKUS Trilateral Security Partnership	Medium-Term (3-4 years)	• Over-customization results in high costs and lengthy development times • Economic conditions result in increased cost and economic vulnerabilities	• Reduced operational effectiveness: system reliability, availability, performance, interoperability • Frequency of supply chain disruptions, DIB cyber events, workforce mobility
LOE 3.2	Co-development and Co-production of Priority Defense Systems	Medium-Term (3-4 years)		
LOE 3.3	Facilitating International Industrial Collaboration	Medium-Term (3-4 years)		

Working with allies and partners to create market mechanisms that support a resilient defense industrial ecosystem in the U.S. is crucial to achieving economic deterrence. Now more than ever, the United States and her allies and partners must work together to spur more dynamic production and capabilities and build a modernized defense industrial ecosystem that can surge when necessary.

This initiative supports NDIS Priorities: Economic Deterrence and Resilient Supply Chains.

2024 HIGHLIGHT | United States & Republic of Korea Security of Supply Agreement

The United States and Republic of Korea signed a Security of Supply Agreement (SOSA) in response to global developments, and in order to promote supply chain resiliency. SOSAs are an important mechanism for the DoD to strengthen interoperability and cooperation with our defense trade partners. This agreement aims to enhance cooperation between the two nations by ensuring a reliable supply of defense materials and technology, providing a framework for a stable defense supply chain, and strengthening both countries' defense postures. The DoD has SOSAs in place with 19 nations.

[15] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

Line of Effort 3.1: Strengthening the AUKUS Trilateral Security Partnership

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

AUKUS is a trilateral security partnership for the Indo-Pacific region among Australia, the United Kingdom, and the United States, guided by a shared commitment to the international rules-based order. AUKUS is focused on the development and delivery of advanced capabilities to the AUKUS warfighters and is broken into two Pillars. Pillar I concerns Australia's acquisition of a conventionally-armed, nuclear-powered submarine capability (SSN). The delivery of the submarine capability is through the "Optimal Pathway," which outlines a plan to deliver up to five U.S. Virginia class submarines, in addition to SSN (AUKUS) at a later date. The U.S has announced an intended investment of $11.4 billion in the SIB across five years to increase the production rate of Virginia class submarines as quickly as possible.

Pillar II is focused on the delivery of advanced warfighting capabilities to promote security and stability in the Indo-Pacific region, in addition to creating an enabling ecosystem which will facilitate deep industrial base cooperation and collaboration and support joint co-production and co-development. Initial technology focus areas concern cyber capabilities, artificial intelligence, quantum technologies, and additional undersea capabilities.

Responsible Organizations:

OUSD(P), OUSD(I&S), OUSD(R&E)

Desired Outcomes:

OUSD(R&E) will increase cooperative defense capability development activities with existing and new allies and partners.

The Principal Director for Advanced Materials is currently working to develop a roadmap and strategy for the Advanced Materials Critical Technology Area (CTA). The strategy will define opportunities that meet current strategic and technical challenges in Advanced Materials including those related to the industrial base and supply chain. The strategy also involves increasing engagements with international allies, focusing discussions on S&T areas of mutual interest, supporting future standards development, and opportunities for collaboration.

LOE 3.1 Strengthening AUKUS Trilateral Security Partnership		
Task	**Performance Metric(s)[16]**	**Estimated Completion**
• Engage with Australia, the United Kingdom, Canada, and New Zealand, through the US-UK Stocktake and the Technical Cooperation Program (TTCP)	• Increase cooperative defense capability development activities with existing and new allies and partners	FY 2025
• Develop joint capabilities to further enhance interoperability among the participating nations with a focus on cyber capabilities, artificial intelligence, quantum technologies, and additional undersea capabilities	• Develop a roadmap and strategy for the Advanced Materials Critical Technology Area (CTA) which will create defense opportunities that meet current strategic and technical challenges	FY 2029 and beyond

[16] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

Risk Mitigation & Challenges:

The increase in cooperative defense capability with existing and new allies and partners will in turn increase our ability to boost resiliency of our supply chains, and boost manufacturing capacity.

The timeframe for these actions to mitigate risks identified in the NDIS is **0-2 and 5 years and beyond**.

Estimated Resources:

OUSD(R&E) will use existing operational and programmatic funds to advance the AUKUS initiative.

Line of Effort 3.2: Co-Development and Co-Production of Priority Defense Systems

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

The NDIS underscores production diplomacy as a key aspect of bolstering the defense ecosystem. Co-development and co-production of major defense platforms and critical weapons systems with partners and allies is key to that effort. Utilizing global production capabilities to manufacture U.S. and foreign products domestically and in allied and partner nations is integral to building a modernized, resilient defense industrial ecosystem and to enabling interoperability and interchangeability. A prime example of integrating domestic and foreign munitions production capabilities is the **decision to manufacture Guided Multiple Launch Rocket System (GMLRS) munitions in Australia under Australia's Guided Weapons and Explosive Ordinance enterprise**.

Co-Development. Through the DoD ManTech Program, OUSD(R&E) launched nine DoD Manufacturing Innovation Institutes (MIIs) – public-private partnerships designed to overcome the challenges faced by U.S. manufacturing innovators in a variety of technology areas. DoD's strategic commitment of $954 million has resulted in roughly $2 billion of committed non-federal cost share and over $1.2 billion of committed federal project work. Any intellectual property created is shared among the institute members with, for example, a non-exclusive royalty-free license for research or experimentation and other licensing requirements for the commercialization of intellectual property.[17]

Co-Production. In FY 2025, OUSD(A&S) will engage allies and partners to expand global munitions production capacity. OUSD(A&S) underpins these production diplomacy efforts with JPAC's in-depth analysis and assessment of munitions supply chains, production constraints, business conditions, and market stressors. The Department will work across the interagency and with allies, partners, and industry stakeholders to assess and develop pathways for co-production of critical munitions.

Key lines of effort to advance co-development and co-production include collaboration with Australia on the Guided Weapons and Explosive Ordnance (GWEO) Enterprise and with Nordic allies through the Ukraine Defense Contract Group – National Armaments Directors (UDCG NAD) Production Working Group to expand energetics manufacturing capacity. In addition, JPAC designed and initiated a long-term analytic effort, alongside Federally Funded Research and Development Center (FFRDC) researchers, to assess the co-production of anti-ship and anti-air capabilities in the EUCOM and PACOM theaters.

Alongside JPAC, the OASD(IBP) directorate of Policy Analysis & Transition (PA&T) is conducting a study on Advanced Manufacturing capabilities focusing on identifying existing advanced manufacturing international agreements and associated limitations, with the intent to develop additional agreements in rapid

[17] U.S. Department of Defense Manufacturing Technology Program. (2024). Office of the Under Secretary of Defense, Research and Engineering (OUSD(R&E)).

succession. This study is a part of the Deputy Secretary of Defense's leadership in ensuring that rapidly advancing solutions support the joint and coalition fight and maximize the full spectrum of Integrated Deterrence.

Responsible Organizations:

OUSD(A&S), OUSD(R&E)

Desired Outcomes:

Below are co-production arrangements established to meet the demand of the U.S. government, allies, and partners for critical munitions. They aim to support key weapon systems, increase surge production capacity for critical munitions, reduce lead times for new orders of key weapon systems, establish new techniques to fund or incentivize the expansion of surge capacity, and standardize surge readiness assessments. These efforts are also intended to strengthen overall manufacturing capabilities.

LOE 3.2 Co-Development and Co-Production of Priority Defense Systems		
Task	**Performance Metric(s)[18]**	**Estimated Completion**
• DoD MII(s) public-private partnership	• Increase IP sharing through non-exclusive royalty free license	FY 2025
• Engage with allies and partners to expand global munitions production	• Bolster the defense ecosystem, provide enhanced strategic deterrence, and increase global production capacity for critical munitions	FY 2025
• Collaboration with Australia on Guided Weapons and Explosive Ordnance Enterprise (GWEO)	• Bolster defense ecosystem and reduce lead times and increase surge production for critical munitions	FY 2025
• Collaboration with Nordic allies through the UDGC NAD Production Working Group	• Bolster defense ecosystem and reduce lead times and increase surge production for critical munitions	FY 2025
• Assessment on co-production of anti-ship and anti-air capabilities in USEUCOM and INDOPACOM	• Bolster defense ecosystem and reduce lead times and increase surge production for critical munitions	FY 2026
• Advanced Manufacturing capability study, identifying international agreements, and lack thereof	• Develop additional agreements where needed	FY 2025

Risk Mitigation & Challenges:

Engaging allies and partners to expand global production will result in enhanced coordination not only with them, but also with industry stakeholders, and the U.S. government interagency in the development, assessment, and growth of pathways for bilateral and multilateral co-production of critical weapon systems. These efforts will ultimately bolster the defense ecosystem, provide enhanced strategic deterrence, and increase global production capacity for critical munitions, thereby reducing the following risks identified in the NDIS: supply and material shortfalls, limited spare capacity, and fragile supply lines.

The timeframe for these actions to mitigate risks identified in the NDIS is **0-2 years.**

[18] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

Estimated Resources:

OUSD(A&S) JPAC*

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
$5.0M	$5.5M	$6.1M	$6.7M	$7.3M

Additional Requests:
Additional $1.5M per FY (other)
Additional $1.0M per FY for O&M
*Funding supports all JPAC initiatives

2024 HIGHLIGHT | United States & Japan Industrial Base Cooperative Efforts

The United States and Japan have a history of robust defense cooperation in the area of co-development and co-production of advanced technologies, including advanced missile defense capabilities such as the Glide Phase Interceptor (GPI). There are several ongoing initiatives to expand mutually beneficial defense development and production opportunities with Japan to meet demand for advanced systems, address timely procurement and readiness requirements, and deter aggression in the Indo-Pacific.

Line of Effort 3.3: Facilitating International Industrial Collaboration

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

Alleviating FMS Bottlenecks: Accelerating the responsiveness of the FMS system, in cooperation with allies and partners, is important as we work to alleviate bottlenecks. Alleviating bottlenecks in the FMS process requires a multi-faceted approach. Key strategies include streamlining the approval process, enhancing interagency coordination, and modernizing information systems. This will improve communication and transparency with both foreign buyers and domestic manufacturers and reduce delays caused by misunderstandings and/or incomplete information.

The Secretary of Defense establishes requirements and implements programs to transfer defense articles and services to eligible foreign countries and international organizations. Within the DoD, principle responsible agencies for these requirements and programs are the Defense Security Cooperation Agency (DSCA), the Joint Staff, security cooperation organizations, and the Military Departments (MILDEPs). The Office of the Under Secretary of Defense for Policy OUSD(P) serves as the principal staff assistant and advisor to the Secretary of Defense on these matters. DSCA administers the FMS program, a critical tool used to achieve U.S. foreign policy objectives.

To advance the FMS bottleneck effort, the Secretary of Defense established a FMS Tiger Team (TT) which identified key pressure points that can delay progression of a specific case throughout the security cooperation case lifecycle – both inside and outside of the Department. As a result, the Department established an enduring governance board, the Continuing Process Improvement Board (CPIB) to oversee FMS system improvement.

In addition, the Defense Technology Security Information (DTSA) protects the U.S. military's critical technological advantages by controlling and limiting the transfer of information and technology that - in the wrong hands - could prove potentially detrimental to U.S. National Security interests. DTSA pays particular attention to transfers that could result in the proliferation of weapons of mass destruction and their means of delivery, as well as conventional weapons and dual-use technology that could erode the U.S. warfighter's

technological advantage. DTSA's role in FMS involves evaluating the risk associated with transferring defense technologies to foreign governments and ensuring that appropriate safeguards are in place.

Responsible Organizations:

OUSD(P); OUSD(A&S)

Desired Outcomes:

Streamline the FMS system and limit the touch points along the end-to-end acquisition and sustainment pipeline.

LOE 3.3 Facilitating International Industrial Collaboration		
Task	**Performance Metric(s)[19]**	**Estimated Completion**
• Alleviating bottlenecks in Foreign Military Sales through FMS Tiger Team (TT) Continuing Process Improvement Board	• Streamline the FMS system and limit the touch points along the end-to-end acquisition and sustainment pipeline	FY 2026

2024 HIGHLIGHT | Establishment of the Ukraine Industrial Base Support Working Group

Under the auspices of the Ukraine Defense Contact Group (UDCG), National Armament Directors established the Ukraine Industrial Base Support Working Group to coordinate efforts to advance a robust Ukrainian industrial base that provides material for urgent needs, contributing to Ukraine's long-term security and economic resilience. Their work focuses on identifying sources to alleviate a shortage of milling equipment for ammunition production, facilitating partnerships supporting co-production or co-sustainment between Ukrainian industry and U.S. or international companies, and identifying and troubleshooting policy and regulatory issues impeding industrial cooperation.

Risk Mitigation & Challenges:

Improving the FMS system through the CPIB will foster compatibility between the U.S. and its foreign allies and partner nations during critical land, sea, and air strategic operations.

The timeframe for these actions to mitigate risks identified in the NDIS is **0-2 years.**

Estimated Resources:

There is no annual funding source solely for OUSD(P), FMS TT, and CPIB initiatives.

Future Directions for Allied and Partner Industrial Collaboration: Mobilization

Key priorities going forward will expand beyond the FMS process. Defense industrial mobilization will increasingly become a key priority for allied and partner industrial collaboration due to evolving geopolitical threats, technological advancements, and the changing nature of warfare. Rising geopolitical tensions, particularly in regions like Eastern Europe and the Indo-Pacific, have prompted nations to focus on strengthening defense capabilities. Industrial collaboration will be essential in ensuring that allies can rapidly mobilize to deter or respond to threats. The vulnerabilities exposed by recent global events, such as

[19] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

the COVID-19 pandemic and the war in Ukraine, have underscored the need for resilient supply chains. By working together, countries can secure and scale the production of critical defense equipment during crises.

As joint missions become more common, standardization and interoperability of equipment and systems are vital. Collaborative efforts will focus on developing standardized technologies to enable seamless coordination between allied forces. The rise of emerging technologies—such as artificial intelligence, autonomous systems, and space-based capabilities—further necessitates cooperation among defense industries to mobilize and share cutting-edge innovations. These partnerships not only enhance technological advantages but also spread the costs and risks of developing complex defense systems, making them more efficient and sustainable.

The ability to respond quickly and scale production will be increasingly important in future conflicts. Industrial collaboration will ensure that nations can rapidly ramp up production of critical assets like munitions and drones for deployment. Strengthened industrial collaboration also serves as a deterrent, signaling to adversaries that allies can quickly mobilize their collective defense capabilities when needed.

4 Implementation Initiative #4: Capabilities and Infrastructure Modernization

Figure 6. NDIS Implementation Initiative 4 and its Lines of Effort

Aim: To modernize critical capabilities and infrastructure				
Lines of Effort		**Risk Mitigation Timeframe**	**Risks of Inaction to U.S. National Security and Defense Industrial Ecosystem**	**Outcome Metrics[20]**
LOE 4.1	Nuclear Modernization	Long-Term (5+ years)	• Reduced worker productivity decreases productivity throughout the supply chain • Sustainment and logistics challenges result in the inability to sustain necessary platforms and material	• Time, schedule, performance • Meeting system reliability, availability, performance, interoperability requirements • Sustainment costs, downtimes, readiness levels, MRO capacity • Lead times, on-time delivery, quality
LOE 4.2	Organic Industrial Base	Long-Term (5+ years)		
LOE 4.3	Improving Maintenance, Repair, Overhaul, and Upgrade	Medium-Term (3-4 years)		

To achieve resilient supply chains and dynamic production, there needs to be adaptability, responsiveness, and scalability in the DIB. This will ensure that the DIB can securely produce the products, services, and technologies needed now and in the future at speed, scale, and cost. In addition to this, we also need acquisition strategies that strive for dynamic capabilities while balancing efficiency, maintainability, customization, and standardization in defense platforms and support systems. Engaging with allies and partners on these efforts ensure that in times of potential surge demand is met. For example, critical infrastructure like the nuclear enterprise and DoD's depots and arsenals that comprise the organic industrial base are vital links in defense critical supply chains. Modernizing public and private critical capabilities and infrastructure bolsters U.S., ally, and partner defense industries, their underlying commercial industries, overall economic deterrence, and military capabilities and capacities.

This initiative supports NDIS Priorities: Resilient Supply Chains and Flexible Acquisition.

2024 HIGHLIGHT | New Advanced Electronics Manufacturing & Testing Facility

Northrop Grumman **began construction on a $200 million advanced electronics manufacturing and testing facility in Waynesboro, Virginia**, which is expected to open in 2025 and start production in 2026. The planned 315,000 square-foot facility will create an estimated 300 engineering and manufacturing jobs over the next five years. The facility will increase capacity to manufacture and test advanced electronics and mission solutions to meet the needs of our national defense industrial base.

[20] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

Line of Effort 4.1: Nuclear Modernization

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

The DoD is committed to modernizing the U.S. nuclear enterprise. This includes the aircraft, missiles, and other platforms required for delivering nuclear capability. The Department of Energy is responsible for the infrastructure required to build nuclear weapons. The DoD is undertaking an extensive, multifaceted effort to sustain aging systems and weapons and modernize across the spectrum of U.S. nuclear weapons capabilities. The nuclear modernization budget includes the new stealth bomber (B-21 Raider), updates to submarine-launched missiles, new strategic submarines, updates to existing gravity bombs, updates to the existing Cold War nuclear command-and-control network, F-35 modifications, cruise missiles, and new intercontinental ballistic missiles (ICBMs).

Current manufacturing technology for conventional warhead materials cannot be applied to high-density reactive material (HDRM) - a new class of warhead materials that provides significant performance enhancements. OUSD(R&E)'s Manufacturing Science and Technology Program (MSTP) invested in a project to modernize reactive material munitions manufacturing, which will help diversify our supplier base by developing a new method of automation to optimize the manufacturing of reactive materials. These efforts will also ensure the safe handling of combustible metal powers while preserving the chemical and mechanical properties of the reactive materials that lead to the warhead's enhanced performance.

Additionally, the Detroit-based MII, Leading Innovations for Tomorrow (LIFT) launched a project, sponsored by the MSTP, to develop a pilot line to produce electrochemical separators for DoD energy systems. This project will help secure the supply chain of a critical components to energy systems, lower costs, and create an enduring research tool for separators.

OUSD(A&S) conducts periodic in-progress reviews of nuclear modernization efforts. These reviews will cover all major nuclear modernization programs to oversee and manage the modernization and sustainment of the Nuclear Triad. The Nuclear Triad consists of land-based ICBMs, submarine-launched ballistic missiles, and strategic aircraft equipped with nuclear payloads. The compilation of platforms and weapons serve as the backbone of America's national security. In-progress reviews facilitate discussions between the Department and necessary stakeholders covering programmatic risks and enable the Department to actively manage programs and mitigate emerging risks.

All other Nuclear Modernization LOE activities and metrics will be detailed in the NDIS-IP Classified Annex.

Responsible Organizations:

OUSD(R&E), OUSD(A&S), Air Force

Desired Outcomes:

As a result of these efforts, the Department will diversify its supplier base by developing a new method of automation to optimize the manufacturing of reactive materials and ensure the safe handling of combustible metal powers while preserving the warhead's enhanced performance. Additionally, DoD will secure the supply chain of critical components to energy systems, lower costs, and create an enduring research tool for separators.

LOE 4.1 Nuclear Modernization		
Task	**Performance Metric(s)[21]**	**Estimated Completion**
• Manufacturing Science and Technology Program investment in project to modernize reactive material munitions manufacturing.	• Diversified supplier base. • Develop a new method of automation to optimize the manufacturing of reactive materials.	FY 2025
• Leading Innovations for Tomorrow (LIFT), project to develop a pilot line to produce electrochemical separators for DoD energy systems.	• Secure the supply chain of a critical components to energy systems, lower costs, and create an enduring research tool for separators.	FY 2025
• Periodic in-progress reviews of nuclear modernization efforts.	• Facilitate discussions between the Department and necessary stakeholders covering programmatic risks and enable the Department to actively manage programs and mitigate emerging risks.	FY 2025

Risk Mitigation & Challenges:

The Department's nuclear modernization efforts are key to ensuring the immediate and long-term viability of our nuclear deterrent, which extends from the U.S. to our treaty allies. These efforts specifically reduce risk by ensuring that all elements of the Nuclear Triad maintain the requisite weapons, delivery, command and control, and support requirements to maintain this critical strategic capability through broadening and bolstering the entire nuclear support enterprise.

The timeframe for these actions to mitigate risks identified in the NDIS is **5 years and beyond.**

Estimated Resources:

Estimated resources for this LOE are classified.

Line of Effort 4.2: Organic Industrial Base

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

The NDIS specifically highlights the organic industrial base (OIB), the network of government-owned industrial facilities overseen by the DoD. These facilities ensure that the weapons systems and equipment built by the commercial defense industrial base stay operational for decades. OIB includes arsenals, ammunition plants, overhaul maintenance facilities, and shipyards. Building a resilient defense industrial ecosystem will ultimately require a robust, modernized OIB.

The **Army's OIB Modernization Implementation Plan** consists of a 15-year approach to modernize and support enduring and to "sunset" legacy systems, including a total of $9.5 billion in funding through FY 2023-2028[22]. It includes five LOEs which address facilities, tooling and processes, workforce, network, cyber, and energy and the environment.

The Army is currently investing in facility modernization, reducing obsolescence risk, and fortifying the munitions enterprise. They are tackling this goal in four areas: ammunition, Army depots, manufacturing

[21] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.
[22] U.S Department of the Army. (2024). Office of the Secretary of Defense (OSD).

investment for acquisition, and workforce readiness. Some key projects from the ammunition effort include increasing RDX (an explosive chemical compound) production, modernizing RDX infrastructure and production upgrades, and increasing nitrocellulose production. Nitrocellulose is used in explosives and was the basis for many propellants in firearms and artillery guns from the mid-19th century to the middle of the 20th century. Overall, in support of modernizing Army depots, there are approximately ten projects underway across ten different depot sites that address facility expansion, vehicle paint and prep shops, and maintenance facilities.

The Army is also working to gain acquisition leverage with investments to field modern platforms, expand capacity, and advance industrial base capabilities to implement risk mitigation strategies that ensure production capacities meet required aggregate demand. This effort includes modernizing M1 Abrams production and casting and forging production.

Army OIB Workforce Development: To ensure that the OIB network can function at full capacity, the Army is currently working on modernizing the OIB workforce. By modernizing its workforce personnel, it will be better equipped to capitalize on technological advancements such as robotics, artificial intelligence, human-machine interfaces, and data analytics.

Air Force OIB Modernization: In addition to the Army's efforts, the Air Force has an OIB construction flexible acquisition initiative, which allows for construction on OIB facilities administered by private contractors and on OIB facilities not wholly operated by private contractors.

Through the OUSD(R&E) ManTech program, the MIIs launched an OIB Modernization project call that will offer up to $2.5 million to five MII-member winners.[23] These contracts include projects related to robotic non-contact 3D inspection replacing tank ammunition, extended reality, artificial intelligence-assisted paint masking, maskless robotic painting with real-time control, closed-loop technical data exchange, and cybersecure data compliance for integrated sensors and shop floor digitization.

Responsible Organizations:

Department of the Army, Department of the Air Force

Desired Outcomes:

The Army OIB modernization and workforce training programs will enhance critical infrastructure and production machinery longevity and resilience while increasing innovation and expansion into other production lines. The benefits will include reduced facility maintenance costs, lessened downtime for repairing broken machinery, and increased productivity with lower long-term costs associated with inefficiencies within current program operations.

Additionally, the Air Force construction initiative will speed facility development and construction times.

[23] U.S. Department of Defense Manufacturing Technology Program. (2024). Office of the Under Secretary of Defense, Research and Engineering (OUSD(R&E)).

LOE 4.2 Organic Industrial Base		
Task	**Performance Metric(s)[24]**	**Estimated Completion**
Army: • Modernizing RDX PBX N3 infrastructure and production upgrades • Increasing nitrocellulose production • Modernizing M1 Abrams production • Modernizing casting and forging production	• Enhance critical infrastructure and production machinery longevity and resilience while increasing innovation and expansion into other production lines.	FY 2029 and beyond
Air Force: OIB construction flexible acquisition initiative	• Speed of facility development and construction times	FY 2029 and beyond
ManTech: Manufacturing Innovation Institutes (MIIs) launch an OIB Modernization project call.	• Better address dual-use applications that are responsive to the specific needs of the DoD and the domestic manufacturing industry	FY2029 and beyond

Risk Mitigation & Challenges:

Failure to modernize the OIB risks operational capability and force readiness. Efforts to modernize Army and Air Force OIBs reduce these risks by ensuring robust support for critical research and development, upgraded and expanded materials and munitions production, and enhanced depot-level maintenance capacity and capabilities. Modernization also ensures future capabilities are easier to integrate. Finally, modernizing Army and Air Force depots, ammunition plants, and arsenals further mitigates risk by ensuring equipment and infrastructure updates and providing required capabilities while facilitating integration of future capabilities. The opportunities offered by modernization reduce risk by better adapting to new and emerging threat environments.

Estimated Resources[25]:

Army Ammunition OIB Modernization

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
N/A	$875.0M	$1,291.0M	$671.0M	$676.0M

Note: FY 2027 and outyears may change as part of POM27 build

Army Depot OIB Modernization

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
N/A	$815.0M	$297.0M	$299.0M	$306.0M

Note: FY 2027 and outyears may change as part of POM27 build

Army Manufacturing Investment for Acquisition

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
N/A	$106.0M	$78.0M	$347.0M	$368.0M

Note: FY 2027 and outyears may change as part of POM27 build

[24] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.
[25] National Security Supplemental Appropriations Act, 2024.

Army OIB Workforce Readiness

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Up to $2.5M	Up to $5M	N/A	N/A	N/A

Note: FY 2026 and outyears may change as part of POM26 build

The Department of the Army intends to invest $4.5 billion over the next 15 years to modernize its OIB capabilities.

The timeframe for these actions to mitigate risk identified in the NDIS is **5 years and beyond.**

Line of Effort 4.3: Improving Maintenance, Repair, Overhaul, and Upgrade

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

Production is not the only contributor to deterrence and industrial resilience. Once systems are manufactured and fielded, the Department expends resources on maintaining, repairing, overhauling, and upgrading systems. Known as Maintenance, Repair, Overhaul and Upgrade (MRO&U), DoD MRO&U programs allow existing systems to be maintained, modified, and improved. In May 2024, the DoD announced the Regional Sustainment Framework (RSF) as a blueprint aimed for empowering a globally connected, distributed, and resilient maintenance, repair, overhaul, and upgrade (MRO&U) ecosystem. The RSF is intended to bring existing and potential weapon system MRO&U capability and capacity closer to the forward point of need, and to augment traditional strategies to improve readiness.

RSF implementation requires stakeholders to prioritize sustainment efforts for critical platforms, identify gaps in regional support solutions, and establish conditions to support contingency planning and execution. Targeted weapons systems will be selected based on relevance to operational plans, a comprehensive review of FMS cases and international cooperative programs, the potential for MRO&U collaboration with industry, allies, and -international partners, along with other criteria such as strategic importance, international relevance, maintenance needs, retrograde considerations, and international industry capacity. The priority for implementation of the RSF aligns with the NDS. Therefore, initial focus will be on projects within the Indo-Pacific, with follow-on projects in the European theater.

Additionally, the Navy works in concert with their Wartime Acquisition and Sustainment Support Program (WASSP) to identify opportunities to leverage industrial mobilization authorities to prepare for industrial responses in the event of conflict. The WASSP has executed numerous tabletop exercises that have pulled in both industry, Allies, and international partners to identify opportunities to improve maintenance, readiness, and overhaul capacity over long distances, develop procurement plans to surge production and enable forward deployed battle damage repair with a particular focus on contested logistics.

Alongside the above efforts, Marine Corps Logistics Command, in collaboration with the Marine Expeditionary Force and Australia, is actively engaged in developing an INDOPACOM MRO&U Pathway Project. This initiative is part of the DoD RSF concept. Additionally, the Marine Corps has been assigned to spearhead the Regional PRC-117G Multi-Band Radio Hub for the Joint Force project. This will be facilitated through the utilization of L3Harris and the Supply Chain Management Center's Logistics Integrated Support contract.

Responsible Organization:

OUSD(A&S)

Desired Outcomes:

RSF aligns with the NDS and underpins the Department's efforts to develop distributed MRO&U capabilities closer to the point of need by collaborating with allies and partners, including the U.S. and international defense industrial bases. RSF has three primary goals: (1) prevail in a contested logistics environment, (2) enhance military readiness, and (3) strengthen regional partnerships.

2024 HIGHLIGHT | Launching the Regional Sustainment Framework (RSF)

DoD announced the RSF in March 2024, which aims to optimize regional maintenance, repair and overhaul by aligning the U.S., its international partners, and industry in a more closely linked collaborative network to drive enhanced coordination for Warfighter readiness capabilities. Under the RSF, the Office of the Assistant Secretary of Defense for Sustainment leads a coordinated effort allies and the Military Services to develop regional sustainment centers near areas of need. This effort aims to eliminate the time and expense of shipping equipment back to the U.S. for repairs and engage global partners to bring critical maintenance, repair, and overhaul capabilities closer to the frontline.

LOE 4.3 Improving Maintenance, Repair, Overhaul, and Upgrade		
Task	**Performance Metric(s)[26]**	**Estimated Completion**
• Regional Sustainment Framework	• Prevail in a contested logistics environment • Enhance military readiness • Strengthen regional partnerships	FY 2028
• Wartime Acquisition and Sustainment Support Program	• Identify opportunities to leverage industrial mobilization authorities to prepare for industrial responses in the event of conflict	FY 2028
• Develop an INDOPACOM Maintenance, Repair, and Overhaul Pathway Project	• Improvement and modernization of existing systems within the region	FY 2028

Risk Mitigation & Challenges:

Inadequate attention to MRO&U risks reducing productivity and increases logistics challenges. Ultimately, production and sustainment co-exist as part of a continuum in supply chain resilience.

The timeframe for these actions to mitigate risks identified in the NDIS is **3-4 years**.

Estimated Resources:

Existing budgets from OUSD(A&S). Additional resources projected in the FY 2026 budget build.

[26] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

Future Directions for Capabilities and Infrastructure Modernization: Defense Production Act and Industrial Base Analysis and Sustainment

The Defense Production Act plays a crucial role in shaping national defense preparedness programs and enhancing the domestic industrial base. As we look to the future, reauthorizing and reinventing DPA will be essential. DPA, which is up for reauthorization in 2025, needs procedural and policy changes to better fulfill its existing mission. At the same time, it should address macro-level challenges faced by the defense industrial base, including aging, undersized, and fragile infrastructure.

Strengthening defense-related production infrastructure, both military-unique and dual-purpose commercial, is vital. Additionally, DPA efforts should focus on bringing 21st-century technology into the defense sector more rapidly, investing in workforce development, materials, and skilled workers. Supply chain resilience is another priority, especially given recent waivers authorizing the use of the DPA to secure critical supply chains. Lastly, investment in modernization, particularly in the organic industrial base, is crucial for our national security and defense capabilities in the 21st century.

Similarly, there are examples within the IBAS program that are poised to play a pivotal role in modernizing defense capabilities and infrastructure. In January 2024, the DoD awarded two contracts totaling $49 million through the IBAS program to Micross Components and the government of Osceola County, Florida. These contracts aim to revitalize advanced packaging capabilities and capacity for semiconductors used in defense applications. The focus is on low-volume/high-mix production of secure 2.5 and/or 3D advanced packaging solutions. By bolstering semiconductor manufacturing ecosystems in the U.S., the DoD aims to support weapon system development, enhance manufacturing partners' capabilities, and sustain critical manufacturing in the future.

These awards, which focus on low-volume/high-mix production of secure 2.5 and/or 3D advanced packaging solutions, include options for further expanding the advanced packaging ecosystem and associated technologies. They are part of DoD's Re-shore Ecosystem for Secure Heterogeneous Advanced Packaged Electronics (RESHAPE) efforts, and directly support the NDIS strategic priority of building resilient supply chains.

RESHAPE is an advanced packaging manufacturing capability initiative to revitalize a critical packaging manufacturing ecosystem in the U.S. for use across the DIB and commercial markets. The effort focuses on multi-supplier "back-end-of-line" processes for 300mm wafer diameter capabilities. It is aimed at pure play, low-volume, high-mix, and secure manufacturing capabilities that all DIB-supporting companies can design into for their next generation applications. This ensures access and availability to a U.S. microelectronics ecosystem that enables a secure, comprehensive component, and reliable system integration.[27]

IBAS is an integral part of fortifying the U.S. defense industrial base, ensuring readiness, innovation, and resilience in the face of evolving security challenges.

[27] Press Release, January 24, 2024. "DOD Awards $49 Million to Improve Advanced Semiconductor Packaging Capabilities". https://www.defense.gov/News/Releases/Release/Article/3655035/dod-awards-49-million-to-improve-advanced-semiconductor-packaging-capabilities/

5 Implementation Initiative #5: New Capabilities Using Flexible Pathways

Figure 7. NDIS Implementation Initiative 5 and its Lines of Effort

Aim: To enable more flexible pathways to rapidly scale and field new and critical capabilities				
Lines of Effort		**Risk Mitigation Timeframe**	**Risks of Inaction to U.S. National Security and Defense Industrial Ecosystem**	**Outcome Metrics[28]**
LOE 5.1	Replicator Initiative	Immediate (0-2 years)	• Lack of skilled workforce results in limited innovation • Increased technological risk results in critical technology production being disrupted • Mismatch between acquisition strategy/pathway and outcome to be achieved	• R&D investment, • Number of DIB patents, • Technological diversity • Technical maturity • Technical insertion • Technical obsolescence • DIB cyber events
LOE 5.2	Rapid Defense Experimentation Reserve (RDER)	Immediate (0-2 years)		
LOE 5.3	Flexible Acquisition Pathways	Immediate (0-2 years)		

The NDIS highlights the importance of fielding new capabilities and adopting commercial-off-the-shelf technologies more readily. Under the *flexible acquisition* priority, the Department aims to better deploy its acquisition authorities. This implementation initiative is designed to highlight and encourage the exercise of existing acquisition pathways that rapidly deliver dynamic capabilities to the warfighter while balancing efficiency, maintainability, customization, and standardization in defense platforms and support systems. Efforts related to this initiative will reduce development times and costs as well as increase scalability.

The Department is continuing to pivot from a program-centric to a portfolio-centric model at the enterprise level. It is connecting A&S Integrated Acquisition Portfolio Reviews (IAPRs), Joint Staff Capability Portfolio Reviews (CPMRs), and R&E Technology Modernization Transition Reviews (TMTRs). Across the Department, Program Executive Officers (PEOs) and Service Acquisition Executives (SAEs) are transitioning from hundreds of stove-piped systems in favor of dynamic portfolios with integrated suites of capabilities. In addition, the Competitive Advantage Pathfinders, or CAPs, initiative, is bringing the resourcing, requirements, and acquisition communities together to remove barriers that delay the delivery of capability at speed and production at scale.

Acquisition program managers are increasingly leveraging the Adaptive Acquisition Framework, especially the Middle Tier of Acquisition (MTA) authority to accelerate development and fielding of technologies in five years or less. Over the life of this relatively new authority, about 40% of MTAs were contracted to small businesses, and about 44% used Other Transaction Authorities as the contracting mechanism.

This initiative supports NDIS Strategic Priority: Flexible Acquisition.

[28] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

Line of Effort 5.1: Replicator Initiative

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

Replicator is a DoD-wide process that accelerates the delivery of innovative capabilities to warfighters at speed and scale. The first iteration of Replicator (Replicator 1), announced in August 2023, will deliver all-domain attritable autonomous systems (ADA2) to warfighters at a scale of multiple thousands across multiple warfighting domains within 18-24 months, or by August 2025. The DoD is creating a new meaning of "state of the art" with the use of ADA2 systems, which are less expensive, put fewer people in the line of fire, and can be changed, updated, or upgraded with greatly reduced lead times. The second iteration of Replicator (Replicator 2), announced in September 2024, will focus on overcoming challenges faced in the areas of production capacity, technology innovation, authorities, policies, open system architecture and system integration, and force structure. Replicator 2 will tackle the warfighter priority of countering the threat posed by small uncrewed aerial systems (C-sUAS).

To complement the Replicator Initiative, the Department intends to commission various projects, studies, and white paper reviews to identify vendors who can accelerate solid rocket motor production. The DoD will evaluate proposals from the Defense Industrial Base Consortium (DIBC) that OUSD(A&S) will establish by Q2 FY 2025.

Responsible Organizations:

DIU, OUSD(R&E), OUSD(A&S)

Desired Outcomes:

The goal of the Replicator initiative is to create a repeatable process by which the DoD can quickly field innovative capabilities in large quantities. Replicator aims to leverage emerging technologies, particularly autonomous systems and adjacent enablers like artificial intelligence and human-machine interfaces, to achieve several strategic objectives: increased operational capability, technological superiority, and cost effectiveness.

Primary among these objectives is an increase in operational capability by deploying unprecedented numbers of autonomous systems to enhance force capabilities and provide an advantage on the battlefield. By focusing on these objectives, the Replicator initiative intends to provide exceptional systems adaptability. This expedient integration of available, new technology will allow for increased battlefield flexibility and produce real-time warfighter advantage through swift and effective adjustment to battlefield conditions.

Second, the Replicator initiative also seeks to achieve and maintain technological superiority through continuous development of cutting-edge technologies, such as artificial intelligence and robotics. Lastly, technological advantage will be reinforced by accelerated development and fielding of battlefield systems to establish and maintain the advantage against adversary forces.

The Replicator initiative's key objective is cost-effectiveness. It will reduce the costs associated with human-operated systems by using autonomous systems for routine and dangerous tasks. The Replicator Initiative will develop scalable solutions that can be deployed in large numbers, capitalizing on economies of scale.

All these initiatives seek to enhance our nation's deterrence posture. By exhibiting the ability to rapidly field large quantities of technically advanced systems at reduced cost, while demonstrating agility in both technical upgrades and battlefield adaptability, these programs will rapidly improve operational capabilities. As a result, the United States will deliver a strong deterrence message to our adversaries while simultaneously reassuring our allies and partners.

LOE 5.1: Replicator Initiative		
Task	**Performance Metric(s)[29]**	**Estimated Completion**
• Deployment of unprecedented numbers of autonomous systems	• Increased operational capability • Enhanced force capabilities and advantage on the battlefield	FY 2026
• Foster technological advantages: development of cutting-edge technologies, such as artificial intelligence and robotics	• Reduce costs and risks associated with human-operated systems by using autonomous systems for routine and dangerous tasks	FY 2029 and beyond

Risk Mitigation & Challenges:

The NDIS highlights DoD's reliance on increasingly exquisite systems as a challenge to supply chain resilience. While modifications are often necessary to accommodate operational needs, customizations make it ever more difficult for the DoD to acquire commercial off-the-shelf capabilities and to work with the emerging ecosystem of innovative defense technology startups. As a monopoly "customer" for increasingly exquisite weapons systems, the Department must improve its relationship and role with the defense industrial base. In conducting studies and research to identify new methods and vendors for rapid development and production initiatives, DoD will improve its performance through activities to foster more effective procurement. The Replicator Initiative is an example of this mindset of reducing risk using existing technology and rapidly adapting technologies to battlefield use. This mitigates national security risk by reducing development time and cost and by providing capable systems, at scale and speed, to the warfighter.

Through development of effective, coordinated OUSD(A&S) and OUSD(R&E) strategies for energetics and batteries, the Department enables more effective, efficient, and properly funded prototyping while removing a variety of barriers to implementation from industry. These efforts all contribute to strengthening the defense industrial ecosystem and supply chains while driving increases in related industrial capability and capacity—directly translating to more systems being delivered, more quickly to the warfighter.

Implementing the Replicator Initiative will not be without challenges. Rapidly scaling the production of autonomous systems to meet the DoD's needs requires efficient manufacturing processes and supply chain management, which can be difficult to establish and maintain. Integration with existing systems is an additional challenge to ensure that new technologies (payloads, human-machine interfaces, artificial intelligence, software) can be integrated with existing platforms. It will also be critical to develop the necessary workforce skills and expertise to operate and maintain advanced autonomous systems.

If DPA Title III does not receive the funding required to support DIBC and JETO, their efforts to strengthen the SRM industrial base could face significant challenges and potentially not be executed.

The risk mitigation these actions to mitigate risks identified in the NDIS is **0-2 years.**

Estimated Resources:

Replicator is not a program of record with its own line of funding but rather an effort to accelerate the acquisition and fielding of technologies in development or production. The Replicator Initiative was awarded $200 million in the 2024 National Defense Authorization Act.

[29] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

OASD(IBP) established the DIBC and JETO after the FY 2025 budget was completed. DPA Title III, in support of DIBC and JETO efforts, is advertising multiple awards of $5-75 million over the course of the next five years. Final funding appropriations for FY 2026 and the FYDP are not yet determined.

Line of Effort 5.2: Rapid Defense Experimentation Reserve (RDER)

Note: These are selected actions highlighting major initiatives. Please see the Classified Annex for a complete list.

The NDIS draws the link between production, DoD acquisition practices, and the warfighter. The United States must fully support the Joint Force – the five military services plus combatant commands – to ensure the nation's defense. The RDER initiative takes prototypes offered by the military services and combatant commands, verifies their production readiness and operational utility, and pushes the most promising applications to full production.

RDER will bring three benefits to the DoD: (1) RDER will enable the Department to bring new capabilities to the Joint Force, transitioning systems and approaches more quickly; (2) RDER will better align current experimentation efforts to the Joint Warfighting Concept (JWC); and (3) RDER will leverage end-to-end mission analysis and experimentation to capitalize quickly on innovative ideas.

Overall, the RDER initiative aims to transform the way the DoD approaches technology development and deployment, making it more responsive to the fast-paced nature of modern warfare and ensuring that the U.S. military remains equipped to handle a wide range of current and future challenges.

Responsible Organization:

OUSD(R&E)

Desired Outcomes:

RDER will facilitate rapid modernization by focusing prototyping and experimentation efforts on joint missions. It will drive efforts to compete with peer and near-peer adversaries through the development of capabilities that support the JWC, including command and control, logistics, and other capabilities that will drive information advantage.

RDER will accelerate innovation to speed up the process of bringing cutting-edge technologies from concept to operational use, reducing the time it takes for new capabilities to reach the field. As an initiative that promotes enhanced capability, RDER will enable the DoD to develop and deploy new capabilities that address current and emerging threats, ensuring that the military is postured to address a wide range of threats.

RDER will also foster a more agile, flexible, and responsive defense innovation ecosystem that can quickly adapt to changing technological landscapes and threat environments. This initiative also seeks to reduce costs associated with technology development and procurement by identifying and implementing more effective and efficient solutions through experimentation and iteration.

Overall, the RDER initiative seeks to transform how the DoD develops and deploys technology, making the process faster, more efficient, and more aligned with the rapidly evolving nature of modern warfare.

LOE 5.2: Rapid Defense Experimentation Reserve (RDER)		
Task	**Performance Metric(s)[30]**	**Estimated Completion**
• Facilitate rapid modernization by focusing prototyping and experimentation efforts on joint missions	• Reduced time needed to bring cutting-edge technologies from concept to operational use • Reducing the time it takes for new capabilities to reach the field	FY 2026
• Foster a more agile, flexible, and responsive defense innovation ecosystem that can quickly adapt to changing technological landscapes and threat environments	• Reduce costs associated with technology development and procurement by identifying and implementing more effective and efficient solutions through experimentation and iteration	FY 2029 and beyond

Risk Mitigation & Challenges:

Implementing RDER comes with several challenges common to adopting new technologies, similar to those challenges anticipated with implementing the Replicator Initiative. These challenges include bureaucratic hurdles, resource allocation, security concerns, and cultural resistance. Further, RDER is dependent upon collaboration between the DoD, industry, academia, allies, and partners to leverage a broader range of expertise and resources in the experimentation process. Interoperability is also a potential challenge in terms of integrating new technologies with existing systems and legacy architectures and ensuring success across the Military Services.

The risk mitigation for these actions to mitigate risks identified in the NDIS is **0-2 years.**

Estimated Resources:

For FY 2025, the DoD's budget proposal included a request for approximately $687 million to support RDER efforts. This increase in funding indicates an expanded focus on experimentation and the integration of emerging technologies into military operations. However, fielding the systems with FY 2025 funding is dependent on Congress passing defense appropriations.

FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
$687.0M	N/A	N/A	N/A	N/A

Line of Effort 5.3: Flexible Acquisition Pathways

The military services and OSD have worked together to accelerate the development and fielding of new technologies. Streamlining the acquisition process is critical to the Department's success. Other Transaction Authorities (OTAs) are a contracting authority that enables greater flexibility and speed, and can help nontraditional defense contractors, academic institutions, and small business more easily engage with DoD and military services. OTAs are designed to be more streamlined than traditional contracting methods which allows new technologies to be fielded faster. The DoD is also increasing a focus on acquiring commercial capabilities from cloud services to satellite imagery. The Military Services and Defense Agencies established multiple commercial offices to identify and connect industry offerings with DoD operational needs by leveraging tools like Commercial Solutions Openings to solicit vendors.

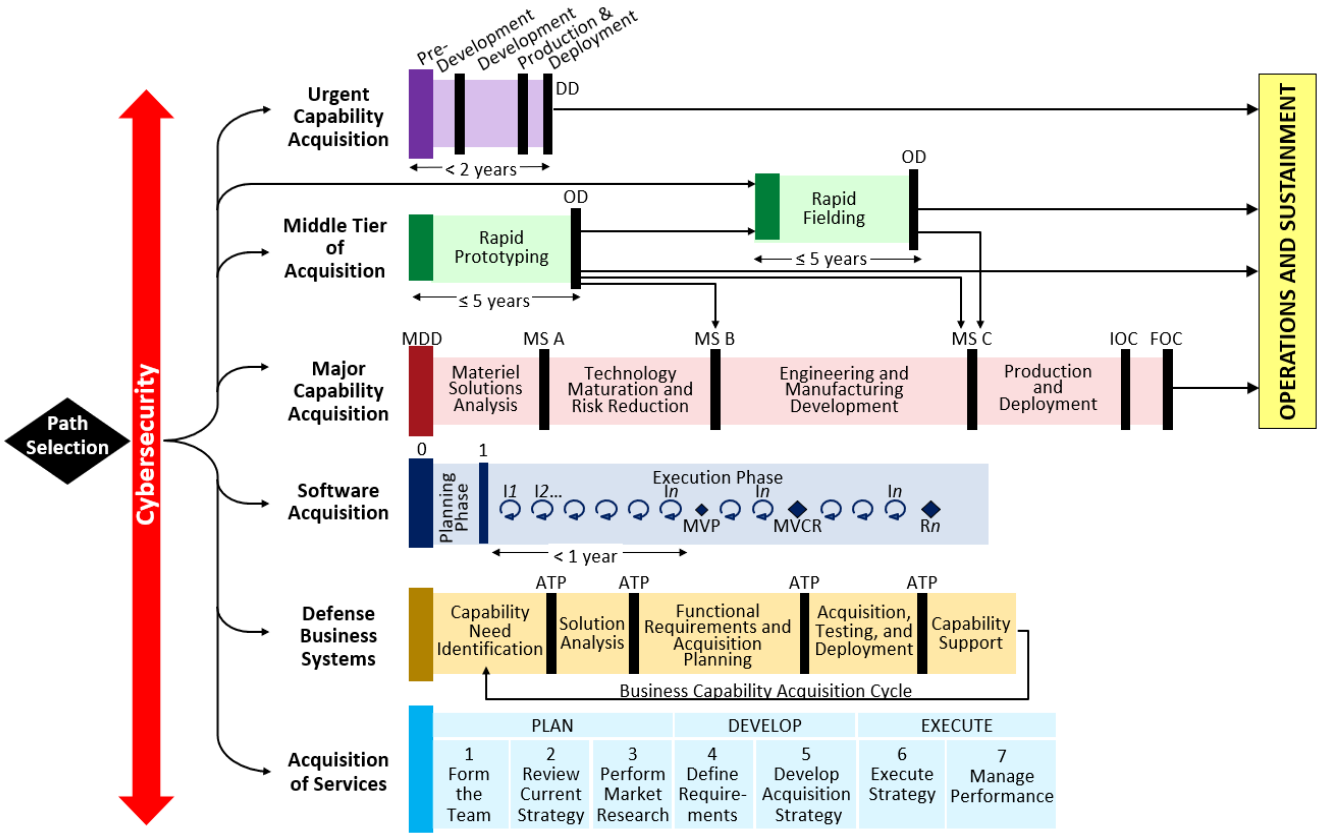
[30] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

The DoD established the MTA pathway to rapidly prototype or produce capabilities. The rapid prototyping path provides for the use of innovative technologies to develop fieldable prototypes, demonstrate new capabilities, and meet emerging military needs. The respective prototype can then be demonstrated in an operational environment and provide for a residual operational capability within five years. The rapid fielding path similarly provides for the use of proven technologies to field production quantities of new or upgraded systems with minimal development. MTA programs leverage a streamlined requirements process within the military services to gain approval in less than six months. MTA enables accelerated learning and iterative solutions with both industry and operators as an alternative to spending years in upfront analysis like more traditional acquisition programs.

DoD also established a new Software Acquisition Pathway to apply modern software development practices to defense acquisitions, to include active collaboration between industry developers and operational users for rapid and iterative capability deliveries. It harnesses Developer Security Operations (DevSecOps) practices to enable continuous integration and continuous delivery of software, while leveraging the latest commercial services and pipelines.

Not all programs are appropriate for the MTA or Software Acquisition Pathway. The Adaptive Acquisition Framework in Figure 8 below illustrates the set of multiple flexible acquisition pathways that enable the workforce to tailor acquisition strategies and deliver better solutions faster.

Figure 8. Adaptive Acquisition Framework



2024 HIGHLIGHT | Defense Industrial Base Consortium Other Transaction Agreement

The Defense Industrial Base Consortium Other Transaction Agreement (DIBC OTA) is a vehicle that helps enable more rapid execution of Defense Production Act funding and can also allow for other federal agencies with similar investments to invest in projects awarded by DoD separately or jointly. It features free membership to allow DoD to work more expeditiously with small, non-traditional, and large businesses. The inaugural DIBC Symposium took place in September 2024, with over 500 attendees. Government subject matter experts shared insights into their strategic roadmaps and investment plans for five critical sectors: strategic and critical materials, kinetic capabilities, energy storage and batteries, castings and forgings, and microelectronics. Going forward, the Department will use the DIBC as a mechanism to share white papers and investment roadmaps with private investors to help them make buying and investment decisions that support defense industrial resilience.

Desired Outcomes:

The primary desired outcome of this LOE is to streamline the acquisition process, which is critical to the Department's success. Flexible acquisition authorities and pathways, such as OTAs and MTAs can reduce bureaucratic hurdles and enhance the speed and flexibility of contracting, allowing the DoD to engage more effectively with nontraditional defense contractors, academic institutions, and small businesses. By facilitating rapid prototyping and fielding of mature technologies, these streamlined processes ensure that innovative solutions may be developed and delivered much faster than through more traditional approaches. This also helps broaden the defense industrial base, ultimately enhancing DoD's ability to maintain a technological edge and respond swiftly to emerging challenges.

LOE 5.3: Flexible Acquisition Pathways		
Task	**Performance Metric(s)[31]**	**Estimated Completion**
• Scale the number of companies involved in the defense industrial base • Increase use of flexible acquisition and contracting processes to accelerate deliveries of capability to operations	• Number of companies receiving contract awards or agreements with the DoD across key segments of DIB (e.g., traditional, mid-size, small businesses, NDCs) • Time from an approved requirement to Initial Operational Capability or initial delivery of capabilities to an operational command	• Continuous

Risk Mitigation & Challenges:

Risk mitigation in Flexible Acquisition Pathways involves several strategies to ensure the successful development and deployment fielding of new technologies capabilities. As mentioned in Figure 8 above, the AAF provides a structured approach to managing risks across different acquisition pathways. It includes specific guidelines for identifying, analyzing, and mitigating risks at various stages of the acquisition process.

Acquisition policies encourages delegation of decision making to the lowest level possible practicable that to promotes rapid action. Decision authorities for all but a handful of the DoD's largest acquisition programs are within the Services and Agencies. Smaller programs were delegated to portfolio level Program Acquisition Executives.

[31] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

In addition, program managers across the Department customize their risk management approaches to fit the specific characteristics and life-cycle phases of their acquisition programs. Acquisition policy directs program managers to "tailor-in" the processes, reviews, and documents unique to their program, pending decision authority approval. Streamlined and simplified approvals allow stakeholders to focus attention on specific program needs, without sacrificing rigor and discipline. This proactive approach accelerates and focuses the acquisition processes and ultimately, delivery of capabilities.

Estimated Resources:

The resources to iterate and scale on flexible acquisition pathways are distributed across acquisition headquarters organizations and hundreds of programs that employ them. There's no specific budget line for this effort.

Future Directions for New Capabilities Using Flexible Pathways

For the DoD to rapidly and effectively harness the critical technology areas for defense, it must continue to leverage and expand upon the flexible acquisition pathways and agreements. The technology areas include microelectronics; quantum science; future-generation wireless technology; advanced materials; trusted artificial intelligence and autonomy; integrated network systems-of-systems; microelectronics; space technology; advanced computing and software; human-machine interfaces; hypersonics; and integrated sensing and cyber. Efforts are underway to explore expanding upon the software acquisition pathway to effectively acquire artificial intelligence capabilities.

6 Implementation Initiative #6: Intellectual Property and Data Analysis

Figure 9. NDIS Implementation Initiative 6 and its Lines of Effort

Aim: To strengthen intellectual property and data and analysis to support decision making				
Lines of Effort		**Risk Mitigation Timeframe**	**Risks of Inaction to U.S. National Security and Defense Industrial Ecosystem**	**Outcome Metrics[32]**
LOE 6.1	Intellectual Property Coordination	Long-Term (5+ years)	• IP theft and adversarial capital IP control results in loss of critical IP • Degraded technological edge, innovation, and quality results in loss of technological advantages • Loss of trust and reputation results in degradation of security commitments	• Percent of global DIB market share • Defense export revenue, • Number of export licenses • Technological insertion rate, divestment, technology lifecycle • Dependence on foreign suppliers • Domestic R&D investment • Frequency of supply chain disruptions
LOE 6.2	Deliver Capabilities for Enterprise Business and Joint Warfighting Impact	Long-Term (5+ years)		
LOE 6.3	Advance the Data, Analytics, and AI Ecosystem	Medium-Term (3-4 years)		

As highlighted in the NDIS, intellectual property is critical to modern warfighting capabilities, including sustainment efforts. The Department has a compelling interest in integrating intellectual property (IP) planning fully into acquisition and product support strategies to prevent overleveraging of privately controlled proprietary technology and undermining return on government investment. However, DoD and industry at times struggle to balance competing needs. Ultimately, the goal is to improve warfighting capability through effective data management and deployment of intellectual property resources.

To execute this initiative, DoD strives to facilitate a competitive environment to the maximum extent possible and to leverage its market power. DoD will more systematically encourage vendors to develop competitive business models and provide corresponding offers that better balance both parties' interests in ensuring return on their technology investments while promoting and enhancing DoD options for increased competition throughout the lifecycle of acquisition and sustainment programs. Consideration of long-term effects on cost, competition, and affordability will ultimately drive decisions to acquire necessary IP and license rights.

This initiative supports NDIS Priorities: Resilient Supply Chains and Flexible Acquisition.

Line of Effort 6.1: Intellectual Property Coordination

The NDIS highlights the tensions and the necessity of IP coordination. IP coordination facilitates cohesion and consistency across the DoD to determine the IP deliverables and rights necessary for operation, maintenance, modernization, and sustainment.

[32] Details regarding metrics for the NDIS-IP are forthcoming in the classified NDIS-IP annex.

Execution of this LOE will be conducted through three broad efforts: policy adjustment, development, and execution, including advocacy for tailored legislation, industry engagement, and continuous education within the acquisition field to ensure efficient execution, understanding, and feedback.

OUSD(A&S) will advocate for clear, effective, and flexible IP acquisition laws, policies, and regulations. This will include supporting policy updates across the Department to ensure IP imperatives are appropriately integrated across DoD interests with specific focus upon patent data rights.

Recognizing that IP considerations must involve extensive and transparent collaboration with industry, OUSD(A&S) will create opportunities to foster balanced communication and relationships founded upon industry and government's mutual needs to remain innovative and sustainable. This entails building clear and consistent communication detailing that IP is both a ***necessary commodity*** for program lifecycle product support and a ***necessary investment*** in industry for future innovation.

In coordination with Defense Acquisition University (DAU), OUSD(A&S) will provide the acquisition workforce with cross-functional and comprehensive IP training and education. This effort will ensure access to cross-functional resources and tools to plan and execute IP best practices.

Responsible Organizations:

OUSD(A&S), DAU

LOE 6.1 Intellectual Property Coordination		
Task	**Performance Metric(s)[33]**	**Estimated Completion**
• Provide the acquisition workforce with cross-functional and comprehensive Intellectual Property (IP) training and education.	• Increase workforce ability to effectively plan and execute IP strategies that improve on-demand access to data with the necessary license rights • Increase workforce ability to develop business and IP strategies and integrate them with open systems architectures to achieve Modular Open Systems Approaches (MOSA) in critical programs	FY 2029 and beyond
• Advocate for clear, effective, and flexible Intellectual Policy (IP) acquisition laws, policy, and regulations.	• Enhanced regulatory authorities that provide clear and consistent application of IP policy and statute for the workforce • Effective proposed legislation regarding intellectual property	FY 2029 and beyond

Desired Outcomes:

As called for in the NDIS, DoD aims to enhance the competitive environment to the maximum extent possible. DoD will leverage its market power to incentivize vendors to enter into agreements that encourage the competitor to develop business models and provide corresponding offers that better balance both parties' interests in ensuring return on their technology investments.

A key desired outcome will be enhanced legal and regulatory authorities that provide clear and consistent application of IP policy and statute for the workforce. Enhanced efforts to tailor development, planning, and execution of IP strategies that improve on-demand access to data with the necessary license rights will be

[33] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

complemented by improved legal and regulatory actions increasing the workforce's ability to develop business and IP strategies will further strengthen the initiative. The acquisition workforce will ultimately be able to integrate IP strategies with open systems architectures to achieve Modular Open Systems Approaches in critical programs.

The DoD will improve communications and transparency with industry in program planning while fostering an environment and culture during execution that allows for improved on-demand access to data with the necessary license rights.

Risk Mitigation & Challenges:

The above-listed activities mitigate national security and defense industrial risk by ensuring consistency across law, policy, and regulation for IP across the Department. DoD will create a trusting relationship between industry and government through public meetings to discuss regulatory changes and open forums regarding legislative proposals.

However, the risks are not just between the DoD and industry. The Department recognizes that the greatest risk of failure is within the DoD. DoD will mitigate the internal risk by educating and empowering the acquisition workforce with proper resources, direction, and the education and training necessary to develop and execute IP agreements that enable open architectures, flexible acquisitions, and specially negotiated licenses to balance government-industry interests. A robust and healthy public-private, continuous acquisition dialogue will enhance and sustain interest-based and agile long-term business arrangements while providing further opportunities to address emergent challenges.

The timeframe for these actions to mitigate risks identified in the NDIS is 5+ years.

Estimated Resources:

Resourcing for intellectual property will come from various budget streams across the DoD and OUSD(A&S).

Line of Effort 6.2: Deliver Capabilities for Enterprise Business and Joint Warfighting Impact

A core theme of the NDIS is the partnership and collaboration between the Department and industry to deliver capabilities to the warfighter. OUSD(A&S) will drive transparent engagement and collaboration with industry and create opportunities to foster balanced communication and relationships founded on the understanding of industry and government's mutual need to remain innovative and sustainable. The DoD will build clear and consistent messaging that conveys that IP must be approached as both a necessary commodity for program lifecycle product support and a necessary investment in industry for future innovation. OUSD(A&S) will pursue this task through existing forums, and support for other industry and professional events.

OUSD(A&S) will promote the DoD's adoption of open systems architectures and virtual modeling methodologies across critical programs. These techniques use large language models and other data analytics methods to effectively use data to gain data-driven insights into the health of programs and the industrial base in order to make effective program decisions.

Responsible Organization:

OUSD(A&S)

LOE 6.2 Deliver Capabilities for Enterprise Business and Joint Warfighting Impact		
Task	**Performance Metric(s)[34]**	**Estimated Completion**
• Ensure access to cross-functional resources and tools to plan and execute IP best practices.	• Progress will be measured in terms of an increase workforce ability to effectively plan and execute IP strategies that improve on-demand access to data with the necessary license rights • Increase workforce ability to develop business and IP strategies and integrate them with open systems architectures to achieve MOSA in critical programs	FY 2029 and beyond

Desired Outcomes:

This LOE will build a culture of trust between government and industry, facilitated by interest-based approaches that effectively plan and execute IP strategies and improve on-demand access to data with the necessary license rights.

Risk Mitigation & Challenges:

The current state within the Department presents a challenge in successfully delivering IP capabilities to the enterprise. Barriers to implementation primarily stem from the relative size of the federated IP cadre and the scale of the acquisition workforce. Reaching the entire workforce to communicate guidance and best practices requires years of consistent enforcement from leadership to instill new institutional knowledge and behavior that will ultimately change the culture surrounding IP.

The timeframe for these actions to mitigate risk identified in the NDIS is **5+ years**.

Estimated Resources:

Resourcing for this effort will come from various budget streams across the DoD and OUSD(A&S).

Line of Effort 6.3: Advance the Data, Analytics, and AI Ecosystem

Effective data management and analysis can be a force multiplier. Building on the NDIS, the Department strives to better leverage data, analytics, and artificial intelligence (AI) to improve planning and sub-tier visibility in the defense industrial ecosystem. Ultimately, the Department aims to swiftly use new and emerging analytic tools to improve decision-making. OUSD(A&S) will ensure access to cross-functional resources and tools to plan and execute IP best practices. The IP Cadre provides guidance and support directly to programs through job aids, desk references, best practices, automated tools, and other resources to ensure the workforce can execute the Department's intent related to IP. Additionally, the IP Cadre serves as a cross-functional team of experts to directly advise programs primarily through peer reviews. The IP Cadre hosted the first-ever DoD IP Forum from December 6-8, 2023, in Arlington, Virginia. The forum focused on engagement between the DoD acquisition workforce and industry to address key IP challenges, including early IP planning and strategies for DoD lifecycle needs and negotiation of tailored licenses.

Further, OUSD(A&S) will enhance business analytics and warfighting capabilities with data, analytics, and artificial intelligence technologies for improved decision advantage and outcomes. OUSD(A&S) will support

[34] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

the DoD artificial intelligence hierarchy by advancing the data, analytics, and artificial intelligence ecosystem.

The DoD will likewise advance acquisition data analytics with a range of activities to accelerate the use of data analytics to support all aspects of acquisition decision-making and to identify more bottlenecks with improved sub-tier visibility.

The DoD and the services will also work to implement the **2023 DoD Cyber Strategy**, which establishes how the Department will operate in and through cyberspace to protect the American people and advance the defense priorities of the United States.

DoD leaders face increasingly advanced threats from global adversaries. To make faster and smarter decisions to combat these challenges, they have to ensure ready access to data and analytics in a highly complex enterprise environment. In 2019, the Department completed design and deployment of ADVANA—a common platform designed for mission owners, analysts, and data scientists to simplify more than 3,000 business systems. ADVANA – a combination of the words "Advancing Analytics" – is the DoD multi-domain, enterprise-wide data, analytics, and artificial intelligence (AI) platform that provides military and civilian decision makers, analysts, and builders at all levels unprecedented access to authoritative enterprise data and structured analytics in a scalable, reliable, and secure environment. From finance and contracts to logistics and readiness, this system drives informed decision making across the organization through common data models, natural language discovery, and self-service analytics.

Responsible Organization:

OUSD(A&S)

LOE 6.3 Advance the Data, Analytics, and AI Ecosystem		
Task	**Performance Metric(s)[35]**	**Estimated Completion**
• Advance acquisition data analytics	• Increase in number of bottlenecks identified with improved sub-tier visibility • Increase in adoption of virtual modeling methodologies across critical programs • Increase in adoption of open systems architectures across critical programs • Increase in draft legislation targeting defense acquisition reform	FY 2029 and beyond

Desired Outcomes:

The DoD aims to increase adoption of virtual modeling methodologies across critical programs and open systems architectures across critical programs. Additionally, the Department intends to support the drafting of legislation that targets defense acquisition reform.

Risk Mitigation & Challenges:

Barriers to implementation primarily stem from the relative size of the federated IP Cadre and the scale of the acquisition workforce. The primary mechanism to improve IP data deliverables and rights to meet NDIS objectives is in the execution of thousands of solicitations conducted by the acquisition workforce. Reaching the entire workforce to communicate guidance and best practices and the workforce then successfully executing them is a large-scale task that will take years of consistent enforcement from leadership to instill

[35] Details regarding metrics for the NDIS-IP are forthcoming in the NDIS-IP Classified Annex.

new institutional knowledge, behavior, and culture change. A large aspect of this change will come from DAU, which includes a consortium of DoD schools and courses that develop and deliver acquisition, technology, and logistics training to the federal workforce. Program leadership at all levels must drive tailored interest-based IP Strategies to be a critical cross-functional element of all program planning.

The timeframe for these actions to mitigate risks identified in the NDIS is **3-4 years**.

Estimated Resources:

Resourcing for this effort will come from efforts across the DoD and OUSD(A&S).

Future Directions for Intellectual Property and Data Analysis: Foreign Investment Review

FIR and CFIUS will play a crucial role in protecting intellectual property and sensitive data in the future by scrutinizing foreign investments that may pose risks to national security. As global technological competition intensifies, CFIUS will increasingly focus on preventing the transfer of critical technologies and IP to foreign entities, particularly in areas such as artificial intelligence, biotechnology, and defense-related innovations. By reviewing foreign acquisitions of U.S. companies or investments in sectors tied to national security, CFIUS will help safeguard proprietary technologies and sensitive information from falling into the hands of adversarial nations.

Moreover, the committee's growing emphasis on data analysis will become even more vital in the digital age, where the collection, storage, and use of data have become central to both economic and military power. CFIUS will assess the potential risks associated with foreign access to large datasets that could reveal valuable insights into U.S. industries, infrastructure, or even individuals. Through its oversight, CFIUS will mitigate the risk of foreign adversaries exploiting data for malicious purposes, ensuring that sensitive information related to national security is adequately protected. As a result, CFIUS will contribute to both safeguarding intellectual property and securing critical data, enhancing the U.S.'s ability to maintain its competitive edge and protect its strategic interests in an increasingly interconnected and technologically driven world.

SECTION

04

Other NDIS Implementation Investments

DoD FY 2024-2025 Investments in Defense Industrial Capacity and Resilience

As highlighted in the NDIS, the COVID-19 crisis and Russia's unprovoked war of aggression in Ukraine underscored the challenges for defense-critical supply chains. However, these problems were decades in the making and will take time and resources to address. The NDIS-IP is the next step in focusing DoD's efforts on modernizing the defense industrial ecosystem, but it is certainly not the beginning of DoD's work in this sphere. To be clear, the Department recognizes that contracts drive the demand signal that industry recognizes, and contracts ultimately spur industry investments in industrial capacity. In addition to contracts and programs of record, the Department has several incentivization programs in place focused on industrial capacity building that facilitate alleviating bottlenecks for critical materials and components, support sub-tier suppliers, and bridge new and commercial off-the-shelf capabilities onto programs of record in an expedited timeline. Following FY 2024 enacted appropriations and national security supplementals, as well as the FY 2025 President's Budget Request (PBR), the NDIS-IP is the next step in organizing and aligning the Department to ensure DoD's investments are prioritized, coordinated, and thoughtfully allocated.[36]

This section provides an overview of programs and investments supporting **immediate** actions (in FY24 and FY25) aligned to the NDIS, including multi-year procurement for key missiles and munitions, investments in the Submarine Industrial Base, DPA Title III, IBAS, the Defense Logistics Agency Warstopper Program, and the Defense Innovation Unit's Replicator initiative. This section provides an overview of programs and investments supporting **immediate** actions (in FY24 and FY25) aligned to the NDIS, including multi-year procurement for key missiles and munitions, investments in the Submarine Industrial Base, DPA Title III, IBAS, the Defense Logistics Agency's Warstopper Program, and the Defense Innovation Unit's Replicator initiative. Below are key DoD programs aimed at strengthening industrial capacity and resilience.

Figure 10. FY 2024 DOD Funding Overview: NDIS-IP Supporting Programs and Investments (in millions)

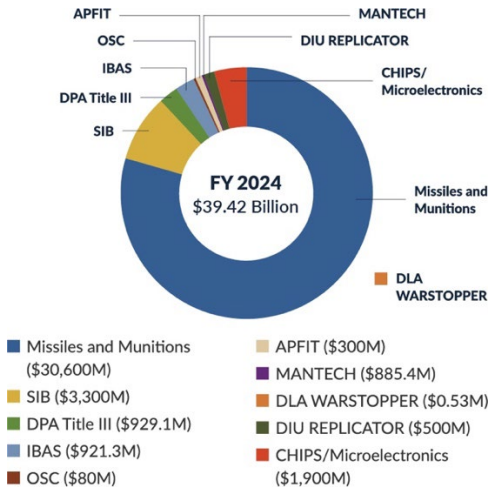
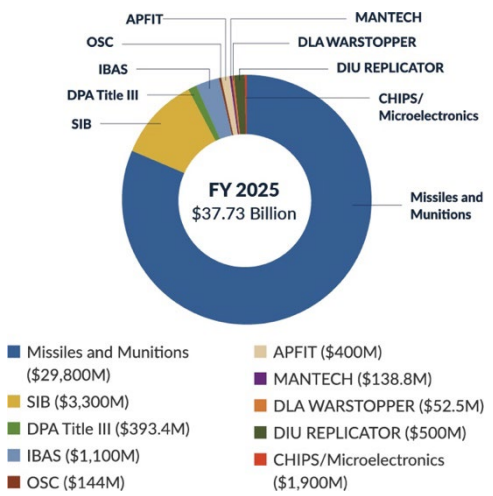


Figure 11. FY 2025 PB Funding Request: NDIS-IP Supporting Programs and Investments (in millions)



[36] There are limitations in the data available for funding described in this section. Exact values may not be available consistently in each year across investments or provided in consistent formats. This section aims to capture and explain those investment vehicles that align with the goals of the NDIS-IP, and the most updated and accurate values available are what have been documented here.

MISSILES AND MUNITIONS PRODUCTION

Rebuilding and increasing stocks of key missiles and munitions is key to both supporting allies and partners and assuring readiness of the Joint Force. The Department has prioritized precision-guided munitions as well as longer range missiles necessary for potential conflict in the Indo-Pacific theater. This family of weapon systems includes land-attack missiles, such as the Precision Strike Missile (PrSM), Joint Air-to-Surface Standoff Missile (JASSM), and Tomahawk Land Attack Missile upgrades, and the new Long Range Anti-Ship Missile (LRASM) designed for naval warfare.

The Department has requested multi-year procurement authority for several missiles and munitions to stimulate increased production and stabilize the munitions industrial base. Inconsistent year-over-year demand for new production limits industry's ability to quickly ramp up production rates to meet emergent military requirements. Additionally, munitions are unique military items, and sub-tier suppliers do not have the commercial base to sustain their business during funding downturns.

In Fiscal Year 2024, the total program acquisition cost for missiles and munitions was **$30.6 Billion**. This included: $5.6 Billion for ammunition, $17.3 Billion for tactical missiles, $7.3 Billion for strategic missiles, and $0.6 Billion for technology development.[37]

The missiles and munitions Fiscal Year 2025 budget request includes **$29.8 Billion** for munitions, including $5.9 billion for conventional ammunition, $7.2 billion for strategic missiles, $16.0 billion for tactical missiles, and $0.7 billion for technology development.[38]

Table 4 below provides an overview of funding for the largest programs associated with missiles and munitions-related DIB investments. It does not include all DoD investments in missiles and munitions.

[37] Office of the Undersecretary of Defense (Comptroller)/Chief Financial Officer. *Program Acquisition Cost by Weapon System*. United States Department of Defense Fiscal Year 2024 Budget Request.
[38] Office of the Undersecretary of Defense (Comptroller)/Chief Financial Officer. *Program Acquisition Cost by Weapon System*. United States Department of Defense Fiscal Year 2025 Budget Request.

Table 4. Funding for Munitions ($ in millions) FY2024-2025– includes procurement and RDT&E dollars and quantities.[39]

Weapon System	FY24 Quantity	FY24 PB Request with CR Adjustments	FY25 Quantity	FY25 PB Request
Precision Strike Missile (PrSM)	110	$656.9	230	$676.6
Joint Air-to-Surface Standoff Missile (JASSM)	550	$1,818.6	550	$1,008.6
Advanced Medium Range Air-to-Air Missile (AMRAAM)	831	$1,223.6	723	$810.2
Tomahawk	34	$934.3	22	$765.4
Standard Missile-6	125	$1,615.0	125	$1,223.5
Long Range Anti-Ship Missile (LRASM)	118	$827.3	205	$696.8
Guided Multiple Launch Rocket System (GMLRS)	-	$1,027.1	-	$1,241.9

SUBMARINE INDUSTRIAL BASE INVESTMENTS (SIB)

Building and sustaining submarines is a nationwide effort – requiring more than 15,000 companies nationwide. Funding to bolster the SIB is at the top of the Navy's and DoD's priorities for FY 2025. DoD investments in the submarine industrial base are necessary to meet a generational increase in demand driven by recapitalizing in the Columbia class submarine. These investments will result in on-time delivery of Virginia class submarines, the maintenance of in-service submarines, and support national commitments made under the AUKUS agreement.

The Department requested **$4.0 billion** for the SIB in FY 2025.[40] This funding will implement actions to address the findings of the Submarine Industrial Base Study conducted by the Cost Assessment and Program Evaluation (CAPE) office in the following areas:

- **Supplier Development:** Decades of industrial base contraction and reduced defense spending have dramatically impacted the SIB. This increase in funding will focus on increasing capacity and capabilities in the existing SIB and supporting new suppliers entering the defense market.
- **Infrastructure Development:** Due to a lack of peacetime investment, SIB infrastructure assistance is needed for both DoD-owned and commercial facilities. Funding will support prime shipbuilders, public facilities, and the SIB supply system.

[39] Office of the Secretary of Defense. (2024a, March). *Defense-Wide Justification Book Volume 1 of 2: Defense Production Act Purchases*. Department of Defense Fiscal Year (FY) 2025 Budget Estimates.
[40] Office of the Secretary of Defense (Comptroller)/Chief Financial Officer. (2024, April 4). *United States Department of Defense Fiscal Year 2025 Budget Request*. Budget Materials.

- **Workforce Development:** Because of decreased demand for skilled workers in shipyards and a competitive labor market, there are not enough workers to fill positions in the SIB. The Department will increase efforts to attract, train, and retain workers in the specialties required for the SIB.
- **Government Oversight:** In addition to increased workforce needs, overseeing the increasing demands on the SIB will require additional government personnel. The Department plans to increase staffing levels for SIB planning, engineering, execution, and oversight.
- **Manufacturing Technology Improvements:** Since little investment has been made in SIB manufacturing, these facilities have not benefitted from significant improvements in manufacturing technologies like additive manufacturing and robotics. This funding line supports research, development, and implementation of advanced manufacturing technologies to modernize SIB production.

THE DEFENSE PRODUCTION ACT (DPA) TITLE III

Title III of the Defense Production Act provides the President with broad authority to ensure the timely availability of domestic industrial base capabilities essential for our national defense. DPA Title III is an important authority to utilize economic incentives to create, maintain, protect, expand, or restore domestic sources for critical components, critical technology items, and industrial resources.

DPA investments under Title III have been used more frequently in recent years to allow the Department to issue purchase agreements, grants, loan guarantees, or loans to support NDIS strategic objectives of resilient supply chains, economic deterrence, and workforce readiness. The NDIS-IP builds upon these actions with further investment, which, taken together, will ensure that the defense industrial base possesses the capability to meet the growing, modernized needs of the Joint Force and the forces of our allies and partners.

DPA Title III FY 2024 Appropriations and Supplementals ($919.1M)[41]

The Department recognized the need to invest in the industrial base to ensure it can meet current and upcoming warfighter needs and resourced the program accordingly in FY 2024 with over $900M in investments, including $587.9M in FY24 base appropriations, $132.6M in the Indo-Pacific supplemental appropriations, and $198.6M in the Israel supplemental appropriation bill.

DPA Title III FY 2025 Budget Request ($393.4M)[42]

The President's FY 2025 proposed budget reflects the DPA program resources needed to address critical shortfalls in the domestic industrial base and address NDIS priorities for resilient supply chains. Key investment areas include:

- **Critical Chemicals Supply Chain ($30.0M):** Multiple efforts are being scoped to address critical shortfalls in our domestic capability to produce materials for DoD missiles and munitions, as well as other critical capabilities such as body armor. The current priority is to onshore the top ten mission-critical chemicals currently produced overseas and modernize chemicals from World War II era manufacturing to a more flexible, versatile industrial base that can pivot quickly to meet new demands.
- **Biomanufacturing Critical Chemicals ($124.7M):** Funds will be used to support domestic, modular bio-manufacturing of multiple materials critical to the Department.

[41] One Hundred Eighteenth Congress of the United States of America. (2024, September 30). *H.R. 2882 - Further Consolidated Appropriations Act, 2024*. congress.gov. https://www.congress.gov/bill/118th-congress/house-bill/2882/text
[42] Office of the Secretary of Defense. (2024a, March). *Defense-Wide Justification Book Volume 1 of 2: Defense Production Act Purchases*. Department of Defense Fiscal Year (FY) 2025 Budget Estimates.

- **Casting and Forgings ($75.0M):** Investments are planned in the shipbuilding industrial base to support casting and forging, shipbuilding, and other system requirements. Some FY 2023 funds will be used to invest in domestic aluminum castings and heavy forging capabilities.
- **Manufacturing Industrial Base Sub-Tier Facilitation ($50.0M):** DoD will utilize funds to support the domestic manufacturing industrial base's sub-tier capabilities in areas such as solid rocket motors, gas turbine engines, precision ball bearings, guidance control, and actuation subsystems.
- **Hypersonics Industrial Base ($53.4M):** The Department has been working with stakeholders to identify gaps in the industrial capability to produce components for hypersonic systems and scale production from prototype levels to the required capacity. In FY 2020, the President authorized the use of DPA Title III authorities to execute industrial base products that support high/ultra-high temperature composites for hypersonic, strategic missile, and launch systems. Additional projects are anticipated to be executed to expand the capabilities needed to build hypersonic weapons in areas such as high-temperature composites, advanced propulsion systems, and navigation and guidance components.
- **Strategic Radiation Hardened Microelectronics ($20.3M):** The purpose of this effort is to provide assured capabilities to produce or acquire strategic radiation-hardened trusted microelectronics to supply critical components for radiation environments needed for the acquisition of delivery systems for nuclear weapons. These investments are necessary to support the Department's priority to deter strategic attacks against the United States, allies, and partners.
- **Space Industrial Base ($12.0M):** Gaps in the National Security Space industrial supply base are continuously being assessed. Projects are anticipated to be executed to address industrial shortfalls impacting integrated optical chips and infrared detectors.
- **Chemical and Biological Defense Capabilities ($8.0M):** This effort postures the Department to respond to biological incidents more rapidly by leveraging industrial base partnerships and buying down risks to production optimization efforts. Partners across DoD will prioritize onshoring of key chemicals (e.g., active pharmaceutical ingredients, essential starting materials) critical to addressing DoD's unique enhanced biodefense medical countermeasure needs. Efforts will also include increased use of computational tools and manufacturing controls to reduce the cost burden of small batches and continuous advanced manufacturing methods to enhance compliance.

Table 5. Topline FY 2023-2025 Funding for DPA Title III and IBAS[43]

	FY 2023 Appropriations ($M)	FY 2024 Enacted ($M)	FY 2025 President's Budget Request ($M)
Defense Production Act Investments (DPAI)	$518.9	$929.1	$393.4
Industrial Base Analysis and Sustainment (IBAS) Support	$802.9	$1,017.1	$1,099.2

INDUSTRIAL BASE ANALYSIS AND SUSTAINMENT (IBAS)

The **IBAS program,** within the OASD(IBP), improves the readiness and competitiveness of the U.S. industrial base by establishing high-priority domestic capabilities for new supply chains and mitigating exposure to global supply chain risks. The IBAS program invests heavily in six priority industrial capability development areas: submarine and shipbuilding workforce, kinetic weapons, microelectronics, critical

[43] Office of the Secretary of Defense (Comptroller)/Chief Financial Officer. (2024, April 4). *United States Department of Defense Fiscal Year 2025 Budget Request*. Budget Materials.

chemicals, castings and forgings, and energy storage and batteries. Each of these areas was identified in Executive Order 14017, *America's Supply Chains*, as a center of gravity for economic and national security.

IBAS FY 2024 Appropriations and Supplementals ($921.3M)[44]

Under the IBAS program, FY 2024 funding was allocated to several sectors aimed at supporting workforce readiness and resilient supply chains, including submarine industrial base and workforce ($264.5M), microelectronics ($150.3M), hypersonics ($10.0M), batteries ($5.1M), castings and forgings ($145.0M), critical materials ($175.7M), and radar ($15.5M).

IBAS FY 2025 Budget Request ($1,099.2M)[45]

The strategic focus of the IBAS FY 2025 PBR includes workforce, critical minerals, castings and forgings, kinetic weapons, energy storage and batteries and microelectronics:[46]

- **Workforce ($112.2M):** In collaboration with the Innovation Capability and Modernization (ICAM) Office, the Navy Submarine Industrial Base Task Force plans to build upon successes from existing regional training systems (RTS) and start work in FY 2025 to establish a new RTS.
- **Critical Minerals ($192.7M):** New starts in FY 2025 will focus on development of the midstream supply chain by focusing investments in the metallization and magnets space. These investments will serve as a critical step in developing domestic mine-to-magnet capability to mitigate the risks inherent in the People's Republic of China's (PRC) dominance of the magnet market and ultimately transfer some of the PRC's approximately ninety percent magnet market dominance to the United States. Furthermore, as domestic supply of rare earth element oxides and metals become available, IBAS will support the development of resources and processes for validation and testing for defense applications.
- **Kinetic Capabilities (Hypersonics) ($110.0M):** Additional funding in FY 2025 will enable DoD to more easily mass produce prototypes and transition the projects into U.S. Navy and U.S. Army programs of record.
- **Microelectronics ($355.3M):** Additional funding in FY 2025 will enable DoD to transition from planning to contract execution phase in digital engineering efforts. ICAM is developing an Enterprise Parts Management System (EPMS) to provide improved microelectronics part risk information sharing across the Department and enable enhanced illumination of various risks during microelectronics parts selection. The EPMS program is in its first phase of system development and is anticipated to be released in FY 2028.
- **Castings and Forgings ($293.7M):** Plans include increasing infrastructure investments to implement automation and improve efficiencies, expanding relevant workforce training networks, and expanding relevant material production efforts to mitigate or eliminate foreign dependencies.

A NOTE ON FY2024 SUPPLEMENTAL FUNDING

During FY2024, DoD received supplemental funding from Congress via *H.R.815 making emergency supplemental appropriations for the fiscal year ending September 30, 2024, and for other purposes.*[47] This funding included Ukraine, Israel, and Indo-Pacific Security Supplemental funding.[48]

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[44] Office of the Secretary of Defense. (2024b, March). *Defense-Wide Justification Book Volume 3 of 5: Research, Development, Test & Evaluation, Defense-Wide*. Department of Defense Fiscal Year (FY) 2025 Budget Estimates.
[45] Office of the Secretary of Defense. (2024b, March). *Defense-Wide Justification Book Volume 3 of 5: Research, Development, Test & Evaluation, Defense-Wide*. Department of Defense Fiscal Year (FY) 2025 Budget Estimates.
[46] From Innovation Capability and Modernization (ICAM) Office, Industrial Base Analysis and Sustainment (IBAS) Program.
[47] Senate and House of Representatives of the United States of America in Congress. (n.d.). *Making emergency supplemental appropriations for the fiscal year ending September 30, 2024, and for other purposes*. congress.gov. https://www.congress.gov/bill/118th-tcongress/house-bill/815/text
[48] The figures that follow do not represent the total of the FY24 supplemental funding.

In the supplemental funding, at least **$331.2M** was appropriated for **DPA Title III** Purchases (this is included in the DPA totals).

$3.3B was appropriated to support the **Submarine Industrial Base**, including:

- $557.8M: Operation and Maintenance, Navy
- $2.2B: Shipbuilding and Conversion, Navy
  - $2B for Columbia Class Submarine
  - $200M for Virginia Class Submarine
- $293.6M: Other Procurement, Navy
- $7M: Research, Development, Test, and Evaluation, Navy
- $281.9M: Military Construction, Navy, and Marine Corps

A significant amount of supplemental funding was appropriated to support **missiles and munitions**:

- $5.6B for Procurement of Ammunition, Army
- $3.1B for Missile Procurement, Army, and Air Force
- $5.2B for Defense-Wide Procurement was appropriated for the Secretary of Defense to provide the Government of Israel for the procurement of Iron Dome, Iron Beam, and David's Sling defense systems to counter short-range rocket threats
- $3.5B for Foreign Military Financing Program is available for advanced weapon systems

OFFICE OF STRATEGIC CAPITAL (OSC)

Established in 2022, the **Office of Strategic Capital (OSC)** develops and implements strategies and partnerships to accelerate and scale private investment in critical technologies needed for national security. In FY 2024, Congress appropriated $80 million for OSC to launch a pilot loan program that aims to authorize over $900 million in loans to promising companies that can scale to further support the defense industrial base.[49] The bill includes strong safeguards to ensure that loans and loan guarantees are only provided to companies with a strong financial track record, protecting the interest of the taxpayer.

RAPID INTEGRATED SCALABLE ENTERPRISE (RISE)

The Department intends to relaunch the previously successful Rapid Innovation Fund, a program aimed at bridging the technological valley of death and helping small businesses successfully move their technologies into programs of record. Now rebranded as the RISE program, RISE will support NDIS's *flexible acquisition* and *resilient supply chain* priorities by providing a collaborative vehicle for small businesses to provide the Department with innovative technologies that can be rapidly inserted into acquisition programs that meet specific defense needs. RISE will mature and insert innovative research and development products into production-ready technology into DoD programs. This approach will help sustain small businesses in the defense industrial base and increases small business manufacturing capability while preventing delay or loss of valuable technology and fostering commercial sales.

RISE projects will be drawn from previous initiatives, defense laboratory and academia efforts, and non-traditional sources. The objectives of these projects are to mature and accelerate technologies from

[49] U.S. Department of Defense Office of Strategic Capital. (2024). *Investment Strategy for the Office of Strategic Capital*. Office of the Under Secretary of Defense, Research and Engineering (OUSD(R&E)).

technology readiness level (TRL)-4 to TRL-9; to reduce lifecycle costs of defense acquisition programs; to reduce program technical risk; and to improve timeliness, testing and evaluation.

The Department's FY 2025 budget request includes $10.0 million to relaunch RISE as a pilot.[50]

Table 6. RISE Funding Profile

	FY 2024 ($M)	FY 2025 ($M)
RISE	$0.0	$10.0

ACCELERATE THE PROCUREMENT AND FIELDING OF INNOVATIVE TECHNOLOGIES (APFIT) PROGRAM

APFIT is a pilot program started in FY 2022 to provide procurement funding for innovative projects that have completed development and are ready to transition into operational use.

Funding amounts of $10M-$50M are awarded to projects with small business or non-traditional performers to accelerate initial production and reduce the overall procurement timeline. The OUSD (R&E) conducts a competitive down-select process each year using evaluation criteria including impact to the warfighter, sustainment support, and applicability to the broader DoD.

Congress has allocated $400 million for APFIT in FY2025.[51] In FY 2024, Congress allocated $300 million for APFIT.[52] The FY 2024 funding will be used for the following projects, among other efforts:

Figure 12. APFIT Funding Profile

	FY 2024
Accelerated Procurement of Martine Expeditionary Standoff Response Advanced Capability Modules (Marine Corps)	$12.0M
ARCHER Airborne Threat Detection & Tracking (Air Force)	$13.5M
Electronic Intelligence Modernization Upgrade Production (Navy)	$14.4M
Micro Identity Friend or Foe (Marine Corps)	$10.1M

DEFENSE-WIDE MANUFACTURING SCIENCE AND TECHNOLOGY[53]

The DMS&T program objective is to increase the speed at which innovation, inventions, and scientific discoveries are turned into equipment and capabilities through advances in manufacturing technologies and

[50] Office of the Secretary of Defense. (2024a, March). *Defense-Wide Justification Book Volume 1 of 2: Procurement, Defense-Wide.* Department of Defense Fiscal Year (FY) 2025 Budget Estimates.
[51] *Committee Approves FY25 Defense Appropriations Act*. House Committee on Appropriations - Republicans. (2024, September 11).
[52] *Accelerate the Procurement and Fielding of Innovative Technologies (APFIT)*. DAU.edu. (n.d.). https://www.dau.edu/cop/csci/announcements/accelerate-procurement-and-fielding-innovative-technologies-apfit
[53] U.S. Department of Defense Manufacturing Technology Program. (2024). Office of the Under Secretary of Defense, Research and Engineering (OUSD(R&E)).

processes. The DMS&T program directly supports NDIS *workforce readiness* and *resilient supply chains* priorities, and its activities have created and continue to sustain a manufacturing innovation ecosystem.

DoD supports **nine MIIs** that are essential components of the DoD ManTech mission and serve as unique resources to address DoD challenges through public/private partnerships with members from industry, academia, and federal and state governments — including small, medium, and large manufacturers — that support both commercial and defense manufacturing needs. These MIIS support these needs within specific, defense-relevant technology areas to mature manufacturing processes, build out a supporting ecosystem, and provide for manufacturing education and workforce development. Their flexible business models and strong focus on enabling highly collaborative research and development are catalyzing important new organizational relationships across government, industry, and academia. MIIs bring together both traditional defense and non-traditional sectors to accelerate key innovation cycles, expand U.S. industrial capability, and assist in creating resilient supply chains that will support innovative defense products. Each MII consortium attracts partner funding to match DoD investments at a one-to-one ratio (or greater), and some offer state-of-the-art pilot facilities. MIIs receive active participation and support from the military departments, and defense agencies, and their members. The nine MII technology domain focus areas are:

Figure 13. Manufacturing Innovation Institutes Funding DoD Profiles

Name	Location	Core Mission	FY24 Funding Profile ($M)	FY25 Funding Profile ($M)	FY26 Funding Profile ($M)
America Makes	Youngstown, OH	Accelerate adoption of additive manufacturing	$20.0	$20.1	$44.4
Manufacturing x Digital (MxD)	Chicago, IL	Promote digital manufacturing, design, and manufacturing cybersecurity	$8.6	$11.4	$13.3
Leading Innovations for Tomorrow (LIFT)	Detroit, MI	Advance American materials manufacturing, talent development, integration, and processes	$8.9	$11.7	$11.3
American Institute for Manufacturing and Integrated Photonics (AIM Photonics)	Albany, NY	Advance domestic integrated photonics manufacturing, packaging, and foundry access	$17.9	$19.9	$16.7
NextFlex	San Jose, CA	Accelerate manufacture of flexible hybrid electronics	$9.7	$11.7	$10.1
Advanced Functional Fabrics of America (AFFOA)	Cambridge, MA	Transform the manufacture of traditional fibers, yarns, and textiles into integrated and networked devices and systems	$7.1	$9.1	$6.8
BioFabUSA	Manchester, NH	Advance human tissue manufacturing innovations into biomaterials and cell processing and technologies	$10.1	$12.1	$11.8
Advanced Robotics Manufacturing (ARM) Institute	Pittsburgh, PA	Improve U.S. manufacturing competitiveness through advancements in smart collaborative robots	$9.0	$12.3	$11.5
BioMADE	Twin Cities, MN and Emeryville, CA	Deliver new class of bioindustrial manufacturing for increased supply chain security	$21.5	$30.5	$19.2

The Manufacturing Education and Workforce Development (M-EWD) program provides strategic leadership of advanced manufacturing talent development within the defense industrial base with three mission objectives: (1) invest in strategic education and workforce development capabilities, (2) expand the talent acquisition pool to promote diversity equity and inclusion in manufacturing careers, (3) modernize manufacturing EWD by driving action within DIB-critical regional economies with a focus on career and

technical education. The M-EWD project drives regional action to modernize manufacturing education for the commercial and organic defense industrial base, invests in strategic education and workforce development capabilities, and expands strategic leadership of advanced manufacturing human capital development.

Figure 14. M-EWD Funding Profile

	FY 2024 ($M)	FY 2025 ($M)	FY 2026 ($M)
M-EWD	$13.1	$4.6	$4.9

Technology Industrial Base (TIB) supports technology leaders in identifying industrial innovation base needs, characterizing and assessing priority technology investments, identifying and mitigating issues and risks impacting the industrial innovation base, and exploiting opportunities to advance technology development, testing, and manufacturing. TIB efforts develop near- and long-term strategies and employ mechanisms to retain the U.S. advantage in current and emerging modernization technology priorities by addressing the capabilities of the industrial innovation base to develop, test, manufacture, and sustain them. One of TIB's main objectives is to create balance between promotion of the industrial innovation base while protecting the technology from interference or exploitation by competitors. This balance will support the Department's work to advance critical and emergent technologies ahead of competitor nations and actors while sustaining a healthy, resilient, and globally competitive industrial innovation base. This portfolio of activity extends efforts initiated in response to FY 2019 National Defense Authorization Act (NDAA) Section 1793.

Figure 15. Technology Industrial Base Funding Profile

	FY 2024 ($M)	FY 2025 ($M)	FY 2026 ($M)
TIB	$6.7	$5.7	$6.1

THE WARSTOPPER PROGRAM

The Warstopper Program is an initiative by DLA designed to ensure the availability of critical items that are essential during wartime but have low demand during peacetime. The mission of the Warstopper Program is to ensure the availability of DLA-managed consumable items where unavailability would hinder warfighting capabilities. This program seeks to obtain or maintain industrial capability for go-to-war material where industry does not have a business case to support DoD contingency readiness levels. Warstopper aims to share risk with industry on the most critical DLA-managed items by reducing the gap between industry peacetime capabilities and surging wartime demand. Warstopper investments may include the purchase of critical industrial equipment to support a wartime surge.

Figure 16. DLA Warstopper Funding Profile

	FY 2024 ($M)	FY 2025 ($M)	FY 2026 ($M)
DLA Warstopper	$48.9	$52.5	UNK

THE REPLICATOR INITIATIVE

The DIU-led Replicator initiative is DoD's effort to accelerate delivery of innovative capabilities to the warfighter at speed and scale. In its first year, the Replicator Initiative has targeted unmanned aerial vehicles and uncrewed aerial systems. Specific operational challenges will be addressed, and contracting mechanisms implemented with a variety of mid-size, non-traditional, and venture-backed companies.

In FY 2024, $500 million was secured for Replicator tranche one, which includes kamikaze drones, unmanned surface vessels, and counter-drone systems. An additional $500 million was requested for FY 2025.[54]

CHIPS / MICROELECTRONICS

The **Microelectronics Commons Program**, funded by the CHIPS Act, is a network of regional technology Hubs acting on a shared mission to expand the national leadership in microelectronics. With $2 billion in funding for Fiscal Years 2023 through 2027, the Microelectronics Commons program aims to leverage these regional hubs to accelerate domestic hardware prototyping and "lab-to-fab" transition of semiconductor technologies. This will help mitigate supply chain risks and ultimately expedite access to the most cutting-edge microchips for our troops.[55]

In September 2024, the Biden-Harris Administration awarded Intel Corporation up to $3 billion in direct funding under the CHIPS and Science Act for the **Secure Enclave program**.[56] The Secure Enclave program builds on previous projects between Intel and the DoD such as Rapid Assured Microelectronics Prototypes - Commercial (RAMP-C) and State-of-the-Art Heterogeneous Integration Prototype (SHIP).[57] This investment will help secure the domestic chip supply chain while also collaborating with the DoD to help enhance the resilience of U.S. technological systems by advancing secure, cutting-edge solutions.

Figure 17. CHIPS Act Funding Profile

	FY 2024 ($M)	FY 2025 ($M)
Secure Enclave	$1500.0	$1500.0
Microelectronics Commons	$400.0	$400.0

[54] Deputy Secretary of Defense Hicks Announces First Tranche of Replicator Capabilities Focused on All Domain Attritable Autonomous Systems. May 2024.
[55] Microelectronics Commons.org.
[56] Department of Defense & Department of Commerce Joint Statement: Announcement in Support of the Manufacture of Microelectronics and Advanced Semiconductors for National Security. September 2024.
[57] Intel Awarded up to $3B by the Biden-Harris Administration for Secure Enclave. September 2024.

SECTION

05

Next Steps

Next Steps

The NDIS provided the strategic vision and context for why the United States must act now to build a modernized, resilient defense industrial ecosystem. The NDIS-IP provides a roadmap and describes the work in progress to reshape both the Department and industry to better defend the United States. While all efforts to build capacity and resilience in the defense industrial ecosystem are significant, the six implementation initiatives highlight the key areas for DoD senior leader attention.

Many of the efforts described are rooted deep within the DoD's history with industry. This implementation guidance unifies new and existing initiatives under a cohesive framework. While the NDIS provided the strategic vision and the challenges in the defense industrial base, the NDIS-IP establishes roles and responsibilities, and communicates risks and associated funding.

How can implementation partners work with the DoD moving forward? Industry can invest (or co-invest) their own resources, including capital expenditures (CAPEX), alongside DoD's own capacity-building tools. Specifically, industry can invest (or co-invest) their own resources, including capital expenditures (CAPEX), alongside DoD's own capacity-building tools. International allies and partners can work with DoD to create the enabling environment that supports defense production and innovation, interoperability, and interchangeability. Numerous partners have expressed keen interest in our production diplomacy efforts. These efforts to scale co-development and co-production depend on partner capabilities and willingness to meet immediate and medium-term needs that support DoD's focus on building resilience to counter pacing threats.

DoD will issue an updated implementation plan annually after the President's Budget Request is released, to include progress on metrics. The NDIS addresses the imperative to mitigate and remedy critical vulnerabilities with intentional action, guided by a strategic vision and a framework for how to revitalize, modernize, and expand the industrial base. The actions proposed by this plan lay out the generational changes needed to catalyze a modernized defense industrial ecosystem. This will require real and meaningful cooperation and participation of new domestic and international entrants into the defense industrial fold. We must transform into a robust, resilient, fully capable 21st-century defense industrial ecosystem – the success and safety of our warfighters demands it.

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SECTION

06

Appendix

Appendix

2024 NDIS Interim Implementation Report

Introduction

The Department of Defense (DoD)'s first-ever **National Defense Industrial Strategy (NDIS)** continues moving from vision to action since its January 2024 release. In coordination with our interagency, industry, and international stakeholders, we are implementing the four NDIS strategic priorities across the Department with the aim of buying down the risks to national security across the industrial base that the NDIS underscores.

NDIS implementation actions reflect DoD's renewed focus on bolstering the health and resilience of the industrial base and mitigating short-, medium-, and long-term risks spurred in part by world events, such as the COVID-19 pandemic and Russia's invasion of Ukraine. In response, funding for the Defense Production Act (DPA), a major vehicle for DoD investment in industrial base resilience, increased from an average of about $84 million per year between 2013-2019 to $774.5 million per year between 2020-2023.

However, we need to correct for years of underinvestment in the industrial base. Timely appropriations, multi-year procurement, and rapid execution of defense contracting create the demand signal needed for industry to expand production. Ultimately, increased production aids deterrence. Funding enacted under Ukraine supplemental appropriations in 2021-2023, the 2022 Inflation Reduction Act, and, most recently, the FY2024 National Security Supplemental Appropriations Act has bolstered DoD's investments in the defense industrial ecosystem. Combined FY2024 supplemental and base defense appropriations will inject $74.6 billion for defense industrial base investments, including much needed modernization of the submarine industrial base and replenishment of weapons sent to Ukraine, Israel, and Taiwan. This funding will create advantageous jobs in the U.S., strengthen American manufacturing and help build resilience across the industrial ecosystem-but consistent, sustained investment into the future remains imperative.

While further details on NDIS implementation will be forthcoming later this summer, there are several major internal DoD and interagency policy and programmatic initiatives already underway to inform the FY2026 Future Years Defense Program. We also continue engaging with congressional, industry, and international stakeholders, which will remain fundamental for these major initiatives moving forward.

The following Interim Implementation Report highlights examples of actions taken by the Department in each of the four NDIS strategic priorities over the last six months while inviting further collaboration with our domestic and international partners. We will continue to build on these efforts through targeted investments and policy updates to modernize our industrial ecosystem and, ultimately, support the Warfighter.

William A. LaPlante
Under Secretary of Defense for
Acquisition and Sustainment

Resilient Supply Chains

The defense industrial base can securely produce the products, services, and technologies needed now and in the future at speed, scale, and cost.

Resilient supply chains serve as the backbone of the modernized industrial ecosystem envisioned in the NDIS. DoD has accelerated progress in this domain through direct investments and collaborative action with international partners. DoD has prioritized developing domestic sources for critical materials urgently needed to reduce long lead times for defense systems, investing in munitions production, and diversifying the supplier base. Examples include:

- In May 2024, DoD awarded **$20 million in DPA funds to South32 for the Hermosa Project**, which will sustainably produce battery-grade manganese in Santa Cruz County, Arizona. Manganese is an essential material used in batteries for DoD and civilian applications. DPA funds will enable the acceleration the Hermosa Project to deliver ore up to two years earlier than originally planned. Once completed, South32 will be the first sustainable, domestic producer of battery-grade manganese.
- DoD announced awards of **$6.4 million and $8.3 million in May 2024** to Canadian companies Fortune Minerals Limited and Lomiko Metals, Inc. to build resilience in the cobalt and graphite supply chains and support the U.S.-Canadian Joint Action Plan on Critical Minerals. These awards represent the first DPA awards using the expanded definition of DPA domestic sources (see "Economic Deterrence" section).
- The **U.S. Army opened a new modular metal parts facility in Mesquite, Texas** to increase domestic production capability and help achieve the goal of producing 100,000 155-millimeter artillery shells per month, meeting growing requirements.
- In March 2024, DoD released the **Defense Industrial Base Cybersecurity Strategy**, which will enhance the cybersecurity of our defense industry stakeholders, while improving U.S. posture and resiliency against attacks.
- DoD, through Defense Production Act Authority, awarded the **American Center for Manufacturing Innovation a $75-million contract** to establish a munitions campus pilot that will allow companies of all sizes to participate in a shared facility to reduce costs and lower barriers to entry.
- DoD created the Office of Strategic Capital (OSC) to attract and scale private capital in support of DoD priorities and, in 2024, announced the release of **OSC's first Investment Strategy**.
- DoD's Manufacturing Capability Expansion and Investment Prioritization (MCEIP) Office issued multiple awards totaling $285.7 million in areas such as **domestic mining and production of lithium**, expanding the **graphite supply chain**, and **critical chemicals**. These investments represent the continuation of DoD's five- year investment plan to secure supply chains for minerals and materials critical to the defense and commercial sectors. The critical chemicals awards help onshore the supply chain for military grade chemicals used in defense systems, including non-energetic chemicals and precursors for both energetic and non-energetic chemicals.

Workforce Readiness

A skilled and sufficiently staffed workforce that is diverse and representative of America.

The NDIS acknowledges the actions and initiatives needed to invest in DoD's most important resource: people. Ultimately DoD aims to aggressively renew interest in industrial jobs and maintain the well-trained workforce needed to achieve our national defense goals. DoD is taking significant steps to enhance workforce development programs, training, and other avenues for advancement. Examples include:

- DoD's MCEIP Office awarded $20M **to Austal USA**, and their subsidiary Austal USA Advanced Technologies, to enhance U.S. Navy shipbuilding capabilities and address gaps in the submarine workforce.
- Over the past decade, DoD's commitment of $954 million to its nine **Manufacturing Innovation Institutes** has resulted in approximately $2 billion of committed non-federal cost share and over $1.2 billion of committed federal project work.

- DoD allocated $61.7 million to the **DoD Research and Education Program for Historically Black Colleges and Universities and Minority Serving Institutions program,** which helps increase the number of under- represented minorities in defense-related fields.
- In order to tackle the shortage of a skilled submarine production workforce, the Navy and its industry stakeholders held **regional submarine workforce talent signing days** in May 2024, celebrating more than 2,700 individuals starting careers with maritime industry suppliers.
- DoD continued to support career pathways in manufacturing through the **America's Cutting Edge** program, which offers free online training as well as the opportunity for hands-on, in-person training, setting workers on career paths in the machine tool industry.
- **CHIPS and Science Act** funding included $13.2 billion to DoD to support domestic prototyping and fabrication of microelectronics for the military, workforce development, and a tax credit incentive that will create tens of thousands of construction and high-skilled manufacturing jobs. DoD issued a **call for projects for the Microelectronics Commons** in September 2023 and will announce the recipients of awards by the end of FY2024.

Flexible Acquisition

Acquisition strategies that strive for dynamic capabilities while balancing efficiency, maintainability, customization and standardization in defense platforms and support systems. Flexible acquisition strategies would result in reduced costs, and increased scalability.

Flexible acquisition enhances DoD's ability to adopt new technologies and improve development turnaround times for Warfighter readiness. The ability and willingness of DoD and industry stakeholders to quickly embrace acquisition pathways that shorten the time between lab-to-prototype and prototype-to-production is critical to our country's defense posture and future warfighting capabilities. To achieve this vision, ongoing DoD activities include:

- The **U.S. Partnership for Assured Electronics** and the **Defense Business Accelerator** promote public-private partnerships, increasing the speed at which participants can adopt emerging technologies from the private sector.
- DoD **established the Defense Industrial Base Consortium Other Transaction Authority (DIBC OTA)** to accelerate production and enable DoD to adopt state-of-the art commercial prototypes more swiftly. As the first DoD OTA to include research, prototype, and production activities, the DIBC OTA is a vehicle for whole- of-government investment to expand domestic capabilities and diversify the supplier base in critical areas.
- In January 2024, the DIBC-OTA issued a **Request for White Papers for the Distributed Bio-industrial Manufacturing Investment Program (DBMIP)**. The Department expects to announce awards this summer for approximately 30 proposals, which will each receive up to $2 million to deliver a business and technical plan for building a U.S. bio-industrial manufacturing production facility.
- Working with Congress, DoD secured FY24 authorities and resources to execute multi-year procurements for six critical munitions: Advanced Medium Range Air-to-Air Missile (AMRAAM), Naval Strike Missile (NSM), Guided Multiple Launch Rocket System (GMLRS), **PATRIOT Advanced Capability-3 Missile Segment Enhancement (PAC-3 MSE)**, Long Range Anti-Ship Missile (LRASM), and Joint Air-to-Surface Standoff Missile (JASSM).
- The Defense Innovation Unit's **Replicator Initiative** accelerates delivery of innovative capabilities to the Warfighter by removing systemic roadblocks and overcoming challenges faced by commercial industry. By leveraging non-traditional technology ecosystems, alongside more traditional sources of defense capability, the DoD is adapting to integrate emerging technologies and methodologies to add the most military value while working to diversify and expand the base of American industry and technology companies.

Economic Deterrence

Fair and effective market mechanisms that support a resilient defense industrial ecosystem among the U.S. and close international allies and partners and contribute to economic security and integrated deterrence. Fear of materially reduced access to U.S. markets, technologies, and innovations sows doubt in potential aggressors.

The DoD continues to demonstrate its commitment to leveraging fair and effective interventions that support a robust defense industrial ecosystem. Working closely with international allies and partners remains crucial to enhance and protect U.S. economic security. Examples include:

- For only the second time in the 74-year history of the Defense Production Act, Congress **expanded the definition of a domestic source for DPA Title III Awards** in the FY24 National Defense Authorization Act, allowing companies and projects in the **United Kingdom** and **Australia**, in addition to the United States and Canada, to be considered as domestic sources for DPA funds.
- DoD announced the **Regional Sustainment Framework** in March 2024, which aims to optimize regional maintenance, repair and overhaul by aligning the U.S., its international partners, and industry in a more closely linked collaborative network to drive enhanced coordination for Warfighter readiness capabilities.
- DoD and international partners and allies endorsed announced a **Statement of Principles for Indo-Pacific Defense industrial Base Collaboration** at the 2024 Shangri-La Dialogue in Singapore. Underscoring the importance of defense industrial resilience, by adopting this statement of principles, the United States and global allies will pursue collaborative actions bilaterally and multilaterally to enhance shared defense industrial resilience in the Indo-Pacific.
- The U.S. and Japan restructured the Systems and Technology Forum into the **Defense Industrial Cooperation, Acquisition, and Sustainment (DICAS) Forum** in June 2024. This new initiative allows both nations to leverage their respective industrial bases to establish an allied defense co-production capacity.
- In February 2024, the Secretary of the Navy announced the formation of the **Maritime Economic Deterrence Executive Council**. This council is a component of the national Maritime Statecraft approach that calls for strengthening industries that are vital to enhancing U.S. maritime power.
- This year, **President Biden ordered divestment of MineOne's** real estate and equipment in Cheyenne, Wyoming. The property located near Francis E. Warren Air Force Base is majority-owned by a company directly linked to the People's Republic of China. This is the first Presidential Determination blocking adversarial foreign ownership since 2018 and a first directed against adversarial investment near a military installation, underlining the importance of economic deterrence tools in support of national defense.

Next Steps

As demonstrated in this Interim Implementation Report, DoD is already executing on the NDIS with visible results, moving from vision to reality by increasing investment and global cooperation in defense industrial development. DoD will continue to engage with internal DoD, industry, interagency, and international stakeholders to strengthen national defense capabilities and achieve the vision of a resilient industrial ecosystem. In addition to ongoing activities, the Office of the Secretary of Defense and Military Service Secretaries have identified six, urgent and cross-cutting implementation initiatives that will strengthen the defense industrial ecosystem. Specific details and actions will be forthcoming in the full classified NDIS Implementation Plan later this summer. DoD will need enduring commitments from interagency teammates, Congress, industry, and global allies and partners to continue enhancing defense readiness and warfighting superiority. DoD remains committed to forging the path towards a modernized defense industrial ecosystem.

Additional FY2024 NDIS Highlights

While the Department published the NDIS in January 2024, DoD had already been advancing many of the proposed actions in FY 2024 programs. These efforts are primarily focused around advancing the four key strategic priorities: Resilient Supply Chains, Workforce Readiness, Flexible Acquisitions, and Economic Deterrence. These priorities are essential to strengthening the defense industrial ecosystem and ensuring long-term national security. The following examples build upon and add to the initiatives outlined in the FY2024 Interim Implementation Report.

Resilient Supply Chains

- In FY 2024, the Office of the Assistant Secretary of Defense for Industrial Base Policy's Manufacturing Capability Expansion, and Investment Prioritization (MCEIP) Office made significant investments to strengthen the DoD's capabilities through its Defense Production Act (DPA) and Industrial Base Analysis and Sustainment (IBAS) program authorities. Through DPA, DoD has obligated $533.98 million in FY 2024 in the areas of kinetic capabilities, microelectronics, strategic and critical materials, and castings and forgings. Through IBAS, DoD has obligated $892.07 million in FY 2024 in defense-critical sectors such as kinetic capabilities, microelectronics, energy storage and batteries, and castings and forgings.
- In FY 2024, DoD **awarded the Defense Industrial Base Consortium Other Transaction Agreement (DIBC OTA) to Advanced Technology International (ATI)**. The DIBC directly aligns with the strategic priorities of the NDIS through its mission to enable shortened technology development, lower costs, and forge an expedited path to full-scale production. DoD has released solicitations that address biomanufacturing, propulsion, microelectronics, and kinetic capabilities (i.e., solid rocket motors). These awards will ultimately increase the supplier base for these critical industries and technologies. The DIBC OTA also supports the creation of a resilient defense industrial ecosystem by opening membership to include businesses from Canada, Australia, and the United Kingdom.
- Anduril Industries is **transforming defense manufacturing with its new Arsenal-1 factory, supported by a $1.5 billion Series F funding round**. The factory aims to produce tens of thousands of autonomous military systems annually, integrating design, development, and mass production through Anduril's software-defined platform, Arsenal. This approach addresses the need for scalable defense systems, utilizing commercial supply chains and modular, simplified designs to produce at hyperscale. Anduril plans to open additional Arsenal factories, domestically and possibly abroad, to meet the growing demand for defense systems.
- Leonardo DRS **announced plans to develop a state-of-the-art, 140,000 square foot manufacturing facility** in Charleston, South Carolina, representing a $120 million investment. The facility, which is expected to be operational in 2026, will support the production, integration, and testing of advanced naval electric propulsion systems, including components for the Columbia-class ballistic missile submarine. Collaborating with state and local governments and regional economic organizations, the facility will enhance Navy programs and contribute to economic growth.

Workforce Readiness

- The U.S. Army **enhanced the professional development of its logisticians** through a one-year, industry-based broadening opportunity offered by the Institute for Defense and Business (IDB). This program allows selected logisticians to work with private sector companies, gaining insights and experience in industry practices and innovation.
- The DoD Mentor-Protégé Program, which pairs small companies with more experienced prime contractors, paired General Lattice, a Chicago-based digital materials solution company, and All Points, a Florida-based mentor company. Their collaboration involved applying foam replacement research with advanced lattice materials, computational design, and 3-D printing. The mentor-protégé relationship of these companies and partnership with the Army Soldier Center resulted in improvements for the safety

and well-being of our soldiers while also decreasing the discomfort of wearing protective equipment for long periods of time. General Lattice was also able to support the Army's Low-Cost Missile System Program with computational design to advance work on autonomous design, manufacture, and assembly of agile, low-cost missile systems. At the same time, they were able to allow for faster iteration cycles and the ability to drive design decisions through data.

Flexible Acquisition

- Since the DIBC OTA issued a Request for White Papers for the Distributed Bioindustrial Manufacturing Program in January, DOD has awarded 34 awards totaling $60 million to innovative companies with business and technical plans for building a U.S. bioindustrial manufacturing production facility.

Economic Deterrence

- Safran Electronics & Defense, a global supplier of defense and space equipment, **is expanding its U.S. manufacturing capabilities to produce small satellite propulsion systems** in response to rising demand from the commercial and defense sectors. This initiative will support the projected growth of the North American small satellite market, expected to exceed $5 billion by 2030. The new "Made-in-the-USA" EPS®X00 system is set to be manufactured at a Colorado facility with first deliveries in Q1 2026.
- On August 22, 2024, the DoD and the Ministry of Defense of the Government of India **entered into a bilateral Security of Supply Arrangement (SOSA)**. Through this SOSA, the United States and India agree to provide reciprocal priority support for goods and services that promote national defense. In the Arrangement, the U.S. and India commit to support one another's priority delivery requests for procurement of critical national defense resources.

Acronyms

ADA2 - All-Domain Attritable Autonomous Systems
AIA - Aerospace Industries Association
AM – Additive Manufacturing
AMC - Army Material Command
AMRAAM - Advanced Medium Range Air-to-Air Missile
APFIT - Accelerate the Procurement and fielding of Innovative Technologies
ASD(A) - Assistant Secretary of Defense Acquisition
ATI - Advanced Technology International
AUKUS - Australia, United Kingdom, and United States trilateral security partnership

BioMADE - Bioindustrial Manufacturing of Non-medical Materials and Products
BioFabUSA - Advanced Regenerative Tissue Bio fabrication

CAPE - Cost Assessment and Program Evaluation
CAPEX – Capital expenditure
CFIUS - Committee on Foreign Investment in the United States
CMMC - Cybersecurity Maturity Model Certification
CPIB - Continuous Process Improvement Board
CTA - Critical Technology Area
CTI - Controlled Technical Information
C-UAS - Counter-Unmanned Aircraft Systems

DA – Decision Authority
DAF - Department of the Air Force
DARPA – Defense Advanced Research Projects Agency
DAU - Defense Acquisition University
DFARS - Defense Federal Acquisition Regulation Supplement
DHS - Department of Homeland Security
DIA - Defense Intelligence Agency
DIB - Defense Industrial Base
DIBC OTA - Defense Industrial Base Consortium Other Transaction Agreement
DIU - Defense Innovation Unit
DLA - Defense Logistics Agency
DOD - Department of Defense
DON - Department of the Navy
DPA - Defense Production Act
DPAI - Defense Production Acts Investments
DPAP - Defense Production Act Purchases
DPAS - Defense Priorities & Allocations System
DMS&T - Defense Wide Manufacturing Science and Technology Program

EIMU - Electronic Intelligence Modernization Upgrade
ESG - Executive Steering Group

FIE - Foreign Intelligence Entity

FMS - Foreign Military Sales
FMS TT - Foreign Military Sales Tiger Team
FOCI - Foreign Ownership, Control, or Influence
FVEY - Five Eyes Alliance

GDEB - General Dynamics Electric Boat
GIES - Global Investment and Economic Security
GLSDB - Ground-Launched Small Diameter Bomb
GMLRS - Guided Multiple Launch Rocket System

HMI - Human-Machine Interfaces
HII-NNS - Huntington Ingalls Newport News Shipbuilding

IBAS - Industrial Base Analysist and Sustainment
IBAT - Industrial Base Assessment Tool
ICBMs - Intercontinental Ballistic Missiles
ICAM - Innovation Capability and Modernization
IDB - Institute for Defense and Business
IFF - Identify Friend or Foe
INDOPACOM - Indo-Pacific Command
IP - Intellectual Property

JAPEC - Joint Acquisition Protection and Exploitation Cell
JASSM - Joint Air-to-Surface Standoff Missile
JETO - Joint Energetics Transition Office
JPAC - Joint Production Accelerator Cell
JWC - Joint Warfighting Concept

LIFT - Leading Innovations for Tomorrow
LRASM - Long Range Anti-Ship Missile

M3 - Michigan Maritime Manufacturing Initiative
ManTech - Manufacturing Technology
MARCORLOGCOM - Marine Corp Logistics Command
MCEIP - Manufacturing Capability Expansion and Investment Prioritization
MCOIB – Marine Corps Organic Industrial Base
MDAP – Major Defense Acquisition Program
MDMC - Marine Depot Maintenance Command
MEDEC - Maritime Economic Deterrence Executive Council
M-EWD - Manufacturing Education and Workforce Development
MIIs - Manufacturing Innovation Institutes
MilSpec - Military Specifications
M&RA - Manpower & Reserve Affairs
MRO&U - Maintenance, Repair, Overhaul, and Upgrade
MSTP - Manufacturing Science and Technology Program
MTA – Middle Tier of Acquisition

NDS - National Defense Strategy

NDIS - National Defense Industrial Strategy
NDIS-I - National Defense Industrial Strategy Implementation
NISP - National Industrial Security Program
NPRM - Notice of Proposed Rulemaking
NSA - National Security Agency
NSM - National Security Memorandum

OASD(IBP) - Office of the Assistant Secretary of Defense for Industrial Base Policy
OIB - Organic Industrial Base
Open RAN - Open Radio Access Network
OSC - Office of Strategic Capital
OTAs – Other Transaction Authorities
OUSD(A&S) – Office of the Under Secretary of Defense for Acquisition and Sustainment
OUSD(P) – Office of the Under Secretary of Defense for Policy
OUSD(R&E) – Office of the Under Secretary of Defense for Research and Engineering

PA&T - OASD(IBP) Directorate Policy, Analysis, and Transition
PBR - President's Budget Request
PD - Principal Director
PRC – People's Republic of China
PrSM - Precision Strike Missile
RAN - Royal Australian Navy
RDER - Rapid Defense Experimentation Reserve
RISE - Rapid Integrated Scalable Enterprise
RSF - Regional Sustainment Framework
RTS - Regional Training Systems

SCG - Security Classification Guide
SCO – Strategic Capabilities Office
S&CM - Strategic and Critical Materials
SCRM-TAC - Supply Chain Risk Management Threat Analysis Center
SIB - Submarine Industrial Base
SOSA - Security of Supply Agreement
SRM - Solid Rocket Motor

THOR-ER – Tactical High-speed Offensive Ramjet for Extended Range
TTCP - The Technical Cooperation Program
WASSP - Wartime Acquisition & Sustainment Support Program

National Defense Industrial Strategy

Implementation Plan for FY2025