NDIA

VITAL SIGNS 2026

The Health and Readiness of the Defense Industrial Base

Years of work to start reposturing the U.S. defense industrial base have culminated in a policy and political environment that is poised for national policymakers and industry to work together to meet this pivotal point in world history. And the demands of the moment are obvious: The requirement is for radically different outcomes that enable stable and scalable production and for prioritizing speed in acquiring and employing disruptive technologies.

First published in April 2026 by NDIA
2101 Wilson Blvd, Suite 700, Arlington, VA 22201
United States of America. (703) 522-1820

This report is made possible by general support to NDIA. No direct sponsorship contributed to this report. This report is produced by NDIA, a nonpartisan, nonprofit, educational association that has been designated by the IRS as a 501(c)(3) nonprofit organization and was founded to educate its constituencies on all aspects of national security. Its research is nonpartisan and nonproprietary.

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NDIA would like to thank the **1,646** government and industry *Vital Signs 2026 Survey* respondents and the NDIA members who contributed drafting support, including (in alphabetical order) the **AI Working Group, Armaments Division, Critical Minerals Working Group, Cybersecurity Division, Delaware Valley Chapter, DIB Working Group, Integrated Program Management Division, International Division, IP Working Group, Manufacturing Division, Munitions Division, Procurement Division, Robotics Division, Rocky Mountain Chapter, San Diego Chapter, Science & Engineering Technology Division, Small Business Division, Special Operations Division, Undersea Warfare Division, and Wright Brothers Regional Chapter.**

Introduction

Over the last three years, **the National Defense Industrial Association (NDIA) has advocated for more focused and bipartisan attention on the interdependent link between a strong U.S. defense industrial base (U.S. DIB) and effective national deterrence**. The end state objective is to strengthen the hand of the National Command Authority (NCA) of any Administration to both deter aggression and maximize its range of credible response options should crisis or conflict erupt.

The policy dialogue started over the last few years was intentionally designed to build bipartisan support for a strong, resilient, and diverse U.S. DIB. The objective is to ensure consistent, bipartisan support from policymakers in both the executive and congressional branches for the required funding and sustainable changes to the archaic defense acquisition system. This gives U.S. warfighters and civilian acquisition professionals the support they deserve, and it provides industry and investors with more predictability and, hence, higher confidence in making long-term investments. The work of previous administrations to advance these efforts is covered in the *Vital Signs 2024* report[1] and the *Vital Signs 2025* report.[2]

This important work expanded during President Trump's Administration, and there are tangible areas of bipartisan consensus, including ongoing efforts to reduce the amalgamation of acquisition laws, regulations, policies, and norms which drive a risk-averse acquisition culture; to build incentives for innovative and creative leadership in the Department of War[3] and the larger defense acquisition system; and an ongoing emphasis for the need to more efficiently acquire and scale commercial technology with defense applications. Finally, there is also more focus on radically improved outcomes, with a shift away from processes rewarded for compliance and certainty—with a one-dimensional focus on cost control—to a system that evaluates a successful outcome as one in which the acquisition system expeditiously fields capabilities under operationally relevant timelines to address evolving and potentially simultaneous threats, while also being cost-effective.

These themes are prominent in the Department's Acquisition Transformation Strategy[4] and implementation memos in 2025[5] and culminate in the 2026 National Defense Strategy (NDS),[6] which makes supercharging the U.S. DIB the Department's fourth line of effort. The 2026 NDS emphasizes the U.S. joint force's "readiness, lethality, range, and survivability—and ultimately, the military options [the Department's leaders] provide—are directly linked to the DIB's ability to securely develop, field, sustain, resupply, and transport the equipment and materiel that affords [the U.S. its] warfighting advantage."[7] The end state goal is to enable the Joint Force to provide the President with "operational flexibility and agility."[8] The strategy also reinforces that **the Department is focused on re-investing in U.S. defense production capacity at scale, adopting disruptive technologies, and removing outdated policies, regulations, and practices that serve as obstacles.**

The strategy was released in the larger security environment context in which disruptive technologies are radically changing the character of war and in which the U.S. homeland faces direct threats from a variety of sophisticated and multi-domain attack vectors. It is also informed by recent U.S. military operations, including *Operation Midnight Hammer*, *Operation Absolute Resolve*, and *Operation Epic Fury,* all of which required access to exquisite platforms and munitions, as well as sophisticated space, cyber, and electromagnetic capabilities.

The strategy also emphasizes another current characteristic of global security: the U.S. and its allies must "be prepared for the possibility that one or more potential opponents might act together in a coordinated or opportunistic fashion across multiple theaters."[9] Therefore, as highlighted in the 2026 NDS, U.S. policymakers and the U.S. DIB must remain proactively attentive to the fact that peer and near-peer competitors are transactionally aligning, prioritizing bolstering their capabilities, and expanding their production capacity.

For these reasons, in addition to its appreciation for the level of leadership and effort from both the executive and congressional branches in calendar year 2025, **NDIA continues to emphasize the importance of reducing obstacles for companies across all sectors of the U.S. DIB, regardless of the corporate model, in order for them to focus on scaled and sustained production.**

As noted throughout the *Vital Signs 2026* report, the strategic nexus between national deterrence and the U.S. DIB, reinforced by the 2026 NDS, as well as many of the current implementation lines of effort in the Department's strategies and guidance, nest well with the themes and recommendations of the *Vital Signs* report series over the past several years. This is the moment, and this report focuses on what must come next to capitalize on the momentum. But most of all, given the seriousness and scale of the challenges, what matters most is that whether it is the expenditure of funds, time, shared risk, or political capital, the U.S. can afford to be ready.

Executive Summary

President Eisenhower stated that "every war is going to astonish you in the way it occurred, and in the way it is carried out."[10] He was also known for reminding people that no one hates war more than the service member who has seen its brutality, futility, and stupidity.[11] Both these quotes are apt because they are clear reminders of the need for both vigilance and constant innovation, and the purpose of both—to support every line of effort in furtherance of deterrence by denial.[12]

The *Vital Signs* report series has focused over the last several years on the importance of effectively managing time, financial investment, and changes in systemic behavior patterns to reshape the U.S. DIB into a threat-informed defense ecosystem with the capacity to grow its output, fulfill a surge in military demands, and reconstitute during a major conflict. The report series also continues to emphasize that time and consistency are immutable factors for both military readiness and defense industrial readiness.

The demands of this moment are obvious: The requirement is for radically different outcomes that enable stable and scalable production and prioritize speed in acquiring and employing disruptive technologies. The work NDIA members have done over the last couple of years has culminated in a policy and political environment that is poised for the U.S. government and the U.S. DIB to work together to meet this moment in time.

Therefore, the content and recommendations of the *Vital Signs 2026* report emphasize what needs to be done now to keep the momentum going. Examples include:

- The next steps required to unleash the innovative power of the private sector with prudent policies related to intellectual property, artificial intelligence, and cybersecurity
- The concrete actions required to accelerate foreign military sales, Direct Commercial Sales, co-production, and licensed production to meet the goals of integrated and interoperable allied industrial bases
- The paradigm shift required to ensure stable production for critical munitions to meet operationally relevant timelines
- The additional investment and policy support to achieve the policy goals of onshoring and building more resilient supply chains

This is a dynamic moment. As discussed in the methodology section, the *Vital Signs 2026 Survey* had a record number of respondents, and the private sector respondents were balanced between companies that exclusively use their own capital for research and development (R&D) and those that both use their own capital and receive partial reimbursement through direct government contracts. **It is exceptionally noteworthy that corporate business models played a limited role in how private sector respondents answered questions about the pressing needs, challenges, and opportunities in the survey.** It is therefore important that public policy debates do not artificially set up a dichotomy that does not exist in practice. **It will take companies of all sizes and all corporate**

models to produce the platforms, services, and technologies for the holistic suite of capabilities and capacity the Joint Force requires, particularly in an environment in which simultaneous crises and conflicts are an unfortunate but increasingly plausible scenario.

Therefore, the *Vital Signs 2026* report highlights for the current Administration and the 119th Congress the key challenges confronting the U.S. DIB and—more importantly—identifies the short-, medium-, and long-term solutions to provide more flexible response options to policymakers.

Methodology

In this report, NDIA uses three primary data sources: public financial data, government contract data, and proprietary NDIA polling data. This polling data is based on a survey of NDIA membership conducted between September 9, 2025, and November 24, 2025. The poll closed with 1,646 responses.

Of the 1,646 respondents, 469 were government employees, and 1,177 worked in industry, or at a university, research center, or other non-governmental organization (NGO).[13] For the purposes of clarity in this report, industry, university, research center, and NGO respondents will be denoted as private sector respondents. Of these 1,177 private sector respondents, 615 represent small businesses, which NDIA defined in the *Vital Signs 2026 Survey* as companies receiving between $0 – $25M in defense revenue in the prior fiscal year (FY) and/or registered as a small business with the government. There were 279 medium-sized businesses, which the survey defined as companies reporting annual defense revenue of more than $25M but less than $1B. Finally, the survey had 283 respondents representing large-sized businesses, which reported an annual defense revenue greater than $1B.[14]

Additionally, respondents were asked if they primarily use traditional methods or private capital to scale up production or conduct R&D. The responses were also equitably balanced: 522 respondents primarily used private capital, and 630 used a traditional, government-reimbursed approach.[15] For this report, NDIA also gathered qualitative data through several free-response questions.

Munitions Spending Data Analysis

Pillar 4 of the *Vital Signs 2026* report includes munitions spending data analysis. To produce this analytical tool, NDIA utilized publicly available financial data from the Department's Justification Book data,[16] inflationary data from the Bureau of Labor Statistics,[17] and population data from the Department's Defense Manpower Data Center (DMDC) reports[18] from FY2005 to FY2026. The enacted and requested procurement documentation from FY2005 to FY2026 was adjusted for inflation after being filtered for specific munitions-related Procurement portfolios. These financial requests were then categorized with the U.S. Munitions List (USML) from the Code of Federal Regulations,[19] and all requested and enacted spending was adjusted for inflation. The inflationary data was compiled from the Consumer Price Index (All Urban Consumers) data, which represents the weighted average price level change in goods across years.[20]

Within the USML, there are various categories that do not fit industry and/or "conventional" definitions of munitions, and these categories were not included. For example, the category "Spacecraft and Related Articles" is considered a Munition under the 21 different categories within the USML. Likewise, programs for the Nuclear Trident, such as Trident II, were excluded from the data to focus attention on non-nuclear munitions modernization. For these reasons, the data was adjusted to create a "Traditional Munitions" portfolio, which only includes Categories I – V. This adjustment more accurately fits traditional policy debates regarding munitions within the context of the Pentagon's procurement decisions. This representation is reflected in the graphs and, when necessary, is specified as a "Traditional" Munition.

In addition, the Justification Book data was both used on its own and correlated with DMDC reports from FY2005 to FY2026. To account for changes in force structure and accurately represent all funding requests, the three "categorical" branches represented are the Army, Navy, and Air Force. The U.S. Marine Corps (USMC) was counted

within the Navy portfolio due to the ways in which the Navy represents Ammunition spending. The U.S. Space Force (USSF) was grouped into the Air Force to account for how the USSF's creation has impacted financial spending. The grouping of the USMC and USSF with the Navy and Air Force, respectively, was consistent with the representation of U.S. Military population data, which includes all active and reserve personnel from September of each year.

Synergistic Partnerships

Over the last two years, NDIA has advocated for a more synergistic partnership between the Department and industry to create a shared sense of endeavor in achieving the desired end state of a strong, diverse, and resilient U.S. DIB. To fully realize a healthy, synergistic partnership, NDIA continues to ask government and private sector respondents a set of questions to compare how each respondent pool assesses areas of alignment and areas of misalignment.

In the *Vital Signs 2026 Survey*, private sector respondents identified the most pressing issues facing the U.S. DIB as:

- Complex and protracted procurement processes (66%)
- Federal budget processes (55%)
- Burden and risk of compliance with government contracting requirements (50%)
- Lack of or unclear demand signal (48%)

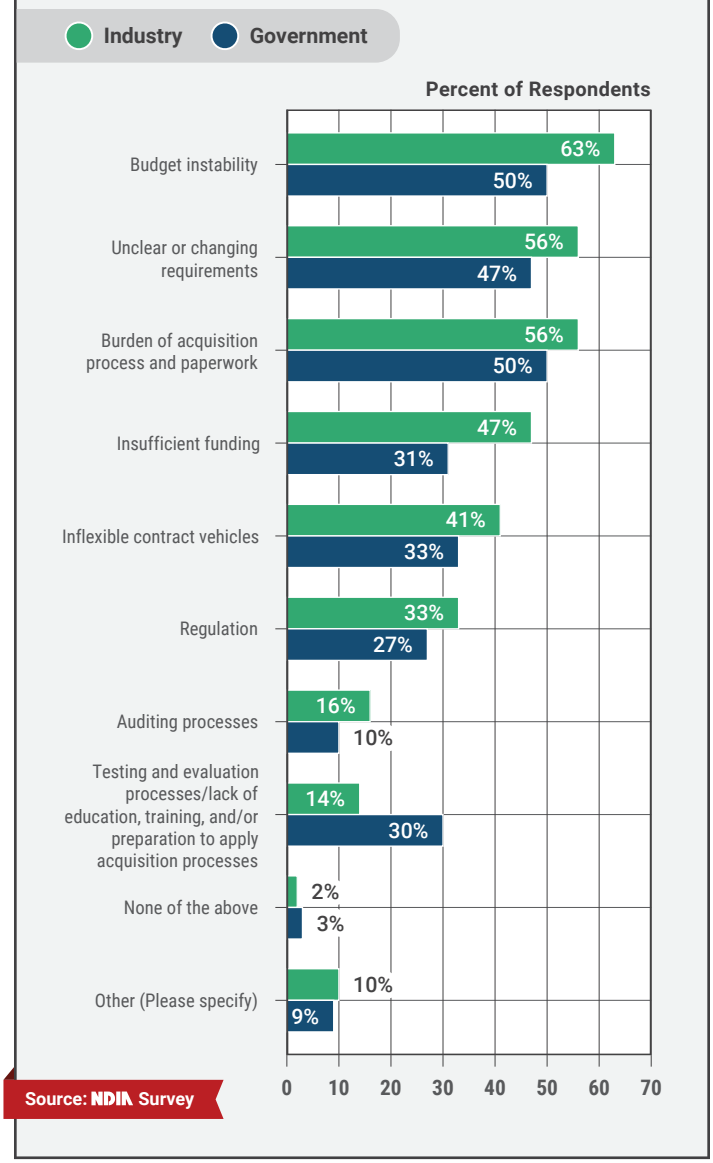
There are two major changes in the responses to this question from the *Vital Signs 2025* report. While government respondents continue to view supply chain challenges as the second most pressing issue facing the U.S. DIB, in this year's survey, private sector respondents listed supply chain challenges as their fifth concern, with a drop from 58% last year to 39% this year. **Conversely, private sector respondents' concerns regarding the burden and risk of compliance with government contracting requirements rose significantly from 23% last year to 50% this year.**

For the government respondents, the top four most pressing issues identified were:

- Identifying, recruiting, and retaining talent or other workforce issues (51%)
- Federal budget processes (51%)
- Complex and protracted procurement processes (48%)
- Supply chain challenges (47%)

Question 56 & 58

What do you find most difficult about government processes? *(Select all that apply)*



While there was greater spread in last year's survey responses, which led to a different ordering of the concerns, government respondents identified the same top four issues as compared to last year's survey.

The *Vital Signs 2026 Survey* also asked both government and private sector respondents to identify what is most difficult about government processes. Government respondents ranked the top four challenges as:

- Budget instability (50%)
- Burden of acquisition process and paperwork (50%)
- Unclear or changing requirements (47%)
- Inflexible contract vehicles (33%)

For private sector respondents, the top four challenges identified were:

- Budget instability (63%)
- Unclear or changing requirements (56%)
- Burden of acquisition process and paperwork (56%)
- Insufficient funding (47%)

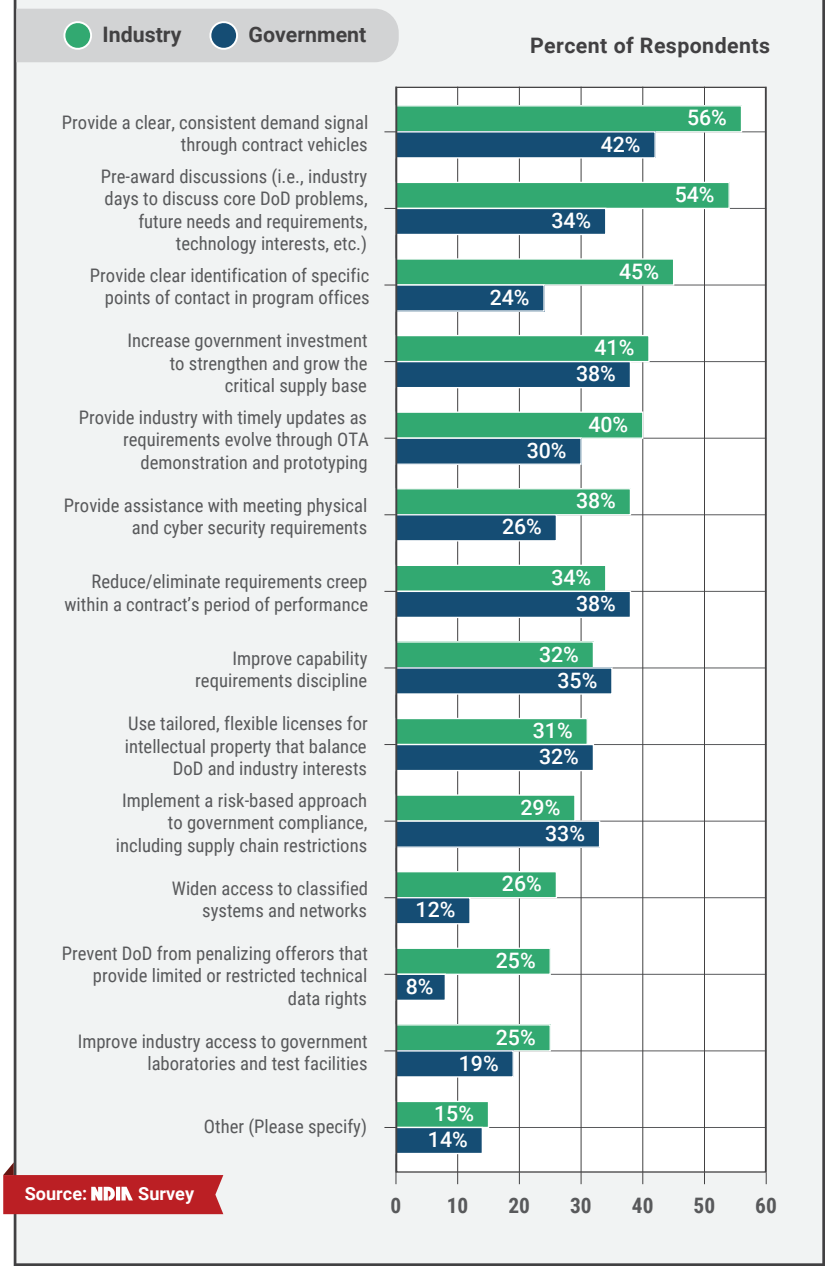
While there is more alignment between government and industry on the pressing challenges, it is noteworthy that the government respondents had over twice the percentage of respondents (compared to private sector respondents) identify testing and evaluation processes, lack of education, training, and/or preparation to apply acquisition processes as a challenge. As discussed in other sections of the report, **NDIA members have a deep appreciation for the significant demand on the acquisition community, and the *Vital Signs 2026* report has several recommendations on areas where industry would like this professional cadre to receive more support.**

Finally, the *Vital Signs 2026 Survey* asked both government and industry to identify the best steps the government could take to improve the ability of industry to work with the Department. Private sector respondents identified the top four opportunities as:

- Provide a clear, consistent demand signal through contract vehicles (56%)
- Pre-award discussions, including industry days to discuss core Department problems, future needs, and requirements (54%)
- Provide clear identification of specific points of contact in program offices (45%)
- Increase government investment to strengthen and grow the critical supply base (41%)

Question 8 & 59

What are the best steps the government could take to improve the ability of industry to work with the Department? *(Select all that apply)*



For government, the top four opportunities to improve the ability to work with industry were identified as:

- Provide a clear, consistent demand signal through contract vehicles (42%)
- Increase government investment to strengthen and grow the critical supply base (38%)
- Reduce/eliminate requirements creep within a contract's period of performance (38%)
- Improve capability requirements discipline (35%)

Sources of Capital Available to the U.S. DIB

Previous *Vital Signs* reports analyzed the top U.S. DIB companies' operating margins, free cash flows, R&D, and capital expenditures (CAPEX), to compare with the largest non-U.S. DIB companies, tech companies, and industrial companies from FY2019 – FY2024. An in-depth analysis of how publicly traded defense companies compete with other sectors for access to public capital, the implications for U.S. DIB companies, and the corresponding choices they make can be found in the *Vital Signs 2025* report.[21]

In response to ongoing public policy debates regarding the need for the U.S. DIB to harness the power of available private capital, **the *Vital Signs 2026* report expands U.S. DIB financial analysis to include and focus on the various forms of private capital investment**. But first, it is worth reviewing how companies with different corporate models utilize R&D, CAPEX, and contract financing.

Research and Development Discussion

There are generally four pathways of defense R&D: (1) R&D performed internally in government-owned laboratories; (2) government-contracted R&D with private sector entities; (3) independent R&D (IR&D) funded by private sector entities; and (4) R&D performed with private capital pursuant to a commercial-like business model.

More specifically, contracted R&D is R&D performed by contractors directly under contracts, agreements, or other transactions with the Department. This R&D occurs as an element of contract performance and includes "clean sheet" R&D performed by both publicly traded and privately held private sector entities.

In addition to contracted R&D performed directly under Department contracts, contractors perform R&D at their own private expense via IR&D and private capital pathways. IR&D is a reasonable and necessary expense paid for by contractors and recovered as part of the general and administrative (G&A) pool in contractor rates under cost-reimbursable contracts. For R&D funded by private capital, it is an expense companies seek to recover in the sale of products and services at price under fixed-price contracts, which is the model used in the commercial market. Both IR&D and R&D performed with private capital are funded by the contractor, though the method and timing of recovery —and associated financial risk—differ for each pathway.

Generally, privately held companies usually utilize the private capital R&D pathway, while small-, medium-, and large traditional defense companies generally utilize the IR&D business model for defense-unique products and services. However, some of the largest defense companies do employ a hybrid business model in which they utilize the IR&D pathway for their defense business segments and private capital for their commercial business segments. These companies note the technological advances resulting from such commercial investments can also benefit the Department through downstream commercial product offerings.

The Department will need to continue to leverage all R&D pathways to develop and acquire necessary capabilities for the U.S. warfighter. There are important acquisition strategy reasons that inform the Department's decisions regarding which R&D funding pathway to take, and often the pathways are utilized in a complementary manner. For example, funding cycles for government-funded R&D can have long and protracted timelines but are important for the development of exquisite platforms and munitions. At the same time,

contractors utilize IR&D to fund the development of CAPEX intensive technological advancements with long technology readiness and maturation cycles, which are critical for the development of exquisite platforms. Examples include advanced propulsion, stealth technologies, and advanced airplane structures. These areas are often deemed risky for most privately available capital due to projected profit margins. On the other hand, private investment can accelerate R&D timelines, which supports faster delivery of technologies to end-users. Therefore, private R&D investment is more likely to be utilized for software development and mass, attritable capabilities.

It is important for public policy debates to remember that businesses of all corporate models have to recoup their costs, including R&D costs, by charging them to the customer. For companies that have Department contracts for R&D funding, federal regulations require these companies to separately account for these costs in their reporting.[22] For companies that do not have to comply with Federal Acquisition Regulation (FAR) Cost Principles or cost accounting standards (CAS), the government assumes the cost of development will be accounted for in their pricing.

Capital Expenditure Discussion

Similarly, **all companies rely on raising capital for CAPEX,[23] which are used to build new factories, buy machinery, and scale production.** Here, too, it is important to note that companies of all corporate models pay for their CAPEX upfront by raising capital, whether publicly or privately sourced, to make those investments; there is no immediate expensing to the government. This is an area of strategic opportunity and risk for companies. They must decide whether to invest in CAPEX ahead of a contract award or potentially lose the competition on the grounds that they are unlikely to achieve accelerated schedule requirements. However, making the investment is not a guarantee that the company will prevail in the competition, placing the company in the position of carrying the financial loss of the invested CAPEX, along with the cost of any excess capacity created through the investment. Further information on the implications of excess capacity is discussed on pages 60 and 61 in this report.

Incentivizing Private Contract Financing

The private capital funding pathway is critical to support public policy goals, to establish robust domestic supply chains, and to promote onshoring of critical production. Defense supply chains are strengthened when companies have greater access to capital. Well-capitalized companies find it easier to secure financing from regulated institutions such as commercial banks, which not only supports business growth but is also a prerequisite for participation in certain defense programs.[24] By contrast, companies with limited access to capital are more vulnerable to bankruptcy, liquidation, or acquisition by adversarial entities.[25]

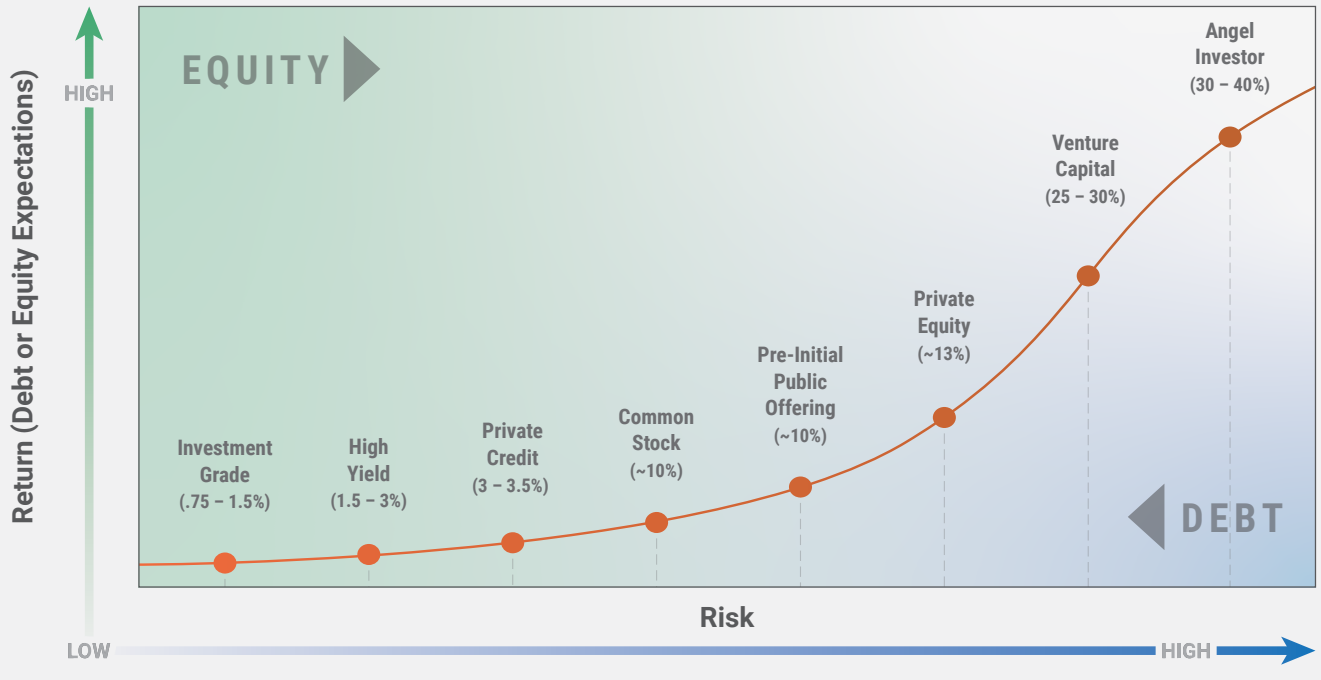
Accordingly, private capital investment bolsters stability in domestic supply chains by enabling greater access to funding from multiple sources. Private investors are, in some cases, willing to assume significantly greater risk when financial analysis predicts higher future margins, thereby enabling investment in critical early-stage and underfunded industries.

It is important to note, however, that U.S. DIB companies operating under FAR Cost Principles and CAS are currently disincentivized from seeking capital from commercial banks for investing in their businesses because the FAR Cost Principle makes interest costs unallowable.[26] **Allowing all U.S. DIB companies, regardless of corporate model, to utilize private financing would be a constructive exercise.** As an important first step, Section 803 of the FY2026 National Defense Authorization Act (NDAA) authorizes a pilot program for making interest payments allowable.[27]

Sources of Capital Discussion

Private capital investment in the U.S. DIB offers additional solutions to public financing challenges, including its ability to rapidly mobilize capital for R&D and early-stage development. For example, research from NDIA's Emerging Technologies Institute (ETI) identified about $440B in private capital activity in defense and dual-use sectors since 2020.[28] Private investment is delivered to U.S. DIB companies through a variety of asset classes and financing mechanisms. This work will primarily address venture capital and private equity while also briefly addressing other key financing methods that are of value to the U.S. DIB.

Capital Risk versus Reward



Investment Grade = .75 – 1.5% | High Yield = 1.5 – 3% | Private Credit (PC) = 3 – 3.5%
Common Stock (CS) = ~10% | Pre-Initial Public Offering (Pre-IPO) = ~10% | Private Equity (PE) = ~13%
Venture Capital (VC) = 25 – 30% | Angel Investor (AI) = 30 – 40%

Chart is for Illustrative purposes only

This chart shows the relationship between trade-off risks and incentives of financial investment for a range of asset classes. In general, the lower the risk of lending capital, the lower the expected return on investment (ROI). Debt or loans are generally preferred in situations in which the company expects near-term positive cash flow sufficient to pay back both the principal amount of the loan as well as the accrued interest. Equity is a form of financial investment in exchange for ownership in the company. Equity-based financing is most likely to be utilized in situations in which the company is not expected to generate near-term cash flow and is expected to have long periods of illiquidity. With equity, it is important to note that it is considered permanent capital; therefore, there is no defined time period or mechanism by which the company has to return the capital to its investors. In essence, the equity holder is "making an implicit bet at the time of the investment that the value of the investment will grow commensurate with the financial progress of the business, and the most likely method by which the equity holder will realize that value is by selling that equity at some future date."[29]

Venture Capital

The venture capital (VC) industry is very diverse, and while it garners significant public policy attention, it is a proportionally small part of the overall world of finance. In general, VC funds are sources of start-up financing for early-stage companies where investment is high-risk with a commensurately high potential reward. The ideal companies in the VC world are potentially transformative companies that could become drivers of economic growth. Many currently publicly traded and prominent U.S. companies were once VC-funded.[30]

VC firms curate investment funds through limited partners (LPs), examples of which are endowments, foundations, pension funds, and family offices. A VC investment fund typically expects to support portfolio companies with multiple investment rounds over a 5 – 10-year period. And, in general, a VC fund expects a portfolio company to

successfully exit the venture ecosystem, which is how the fund receives its ROI, either through an initial public offering (IPO) or through a merger or acquisition.

It is important to remember that VC fund distribution returns are expected to be heavily skewed toward a very small number of its portfolio companies because the funds are expected to generate two-and-a-half to three times net returns to their investors in order for the fund to continue to have access to institutional capital. Therefore, the incentive structure is not for the majority of portfolio companies in the fund to be making incremental but steady progress, but rather for a few exceptional companies to achieve exponential breakout. Therefore, VC funds prioritize trying to identify companies with technologies or products that are "ten times better or ten times cheaper than the current best in class."[31]

The financial incentives for VC also drive conversations around market size estimation. The starting point for analyzing demand is typically referred to as the "total addressable market" (TAM), which provides an estimate of the total potential market demand for a product or service. Market size estimation is easiest when a new product is positioned as a direct substitute for an existing product. In the defense space, this dynamic offers insight into why capabilities debates are sometimes structured as zero-sum trade-off choices rather than complementary capabilities.

Private Equity

Private equity (PE) is a very large and diverse industry, encompassing many types of private equity firms using a variety of investment tools and seeking a variety of return profiles. By some measures, the private equity market comprises hundreds of billions, or even trillions, of dollars in the U.S. The PE market for defense is one subset of this larger market.

In general, private equity firms acquire companies through mergers and acquisitions (M&A) and seek to sell them later at a profit. In many cases, company owners sell a majority stake of their companies to a private equity firm. Unlike VC firms, private equity firms typically target mature companies with predictable cash flows, aiming to raise profits and sell the company once again at a profit. PE strategies often focus on reducing costs or strategically repositioning a business. On average, this process is expected to yield returns in the range of 13%. While these profits are distinctly lower than the higher returns expected from VC, they tend to carry lower risk due to the focus on mature, established companies over those that are new or emerging.

Similar to VC firms, PE firms form discrete PE funds that source capital from other investors. The most common investors in PE funds are institutional investors: pensions, insurance firms, and sovereign wealth funds. To raise and deploy capital, PE funds must be able to credibly demonstrate to these investors the pathway for competitive returns on their money.

Private equity can make high-impact contributions to the U.S. DIB by enabling greater access to funding, shortening the procurement cycle, and reducing costs. Through both direct capital investments and raising a company's profitability, private equity increases access to funding for research, development, testing, and evaluation. This enables greater internal development without external contracts, which often delay the development cycle. Consequently, projects can be executed faster and without constraints that impart undue expense. This, in turn, lowers the cost per effect for key defense systems. As a result, projects are more likely to overcome the "valley of death," and systems can be delivered to end-users faster and at lower prices.

Other Types of Private Capital

Pre-IPO placement involves the private sale of bulk shares of a company prior to its initial public offering. This action assists newer companies by providing a financial infusion that enables scaling and helps to establish a company's foothold in the market, both of which mitigate risk. Pre-IPO investments are considered moderate risk, and returns are generally around 10%.

Common stock refers to ownership of a corporation's stock or shares, which can yield dividends for investors. Returns on investment fluctuate with the value of a company's stock, making this a moderate- to low-risk form of investing that yields approximately 10% in returns. Recently, the Pentagon's Office of Strategic Capital (OSC) has begun investing in private companies that are positioned in critical defense and national security sectors, often involving the purchase of the company's common stock.[32]

Private credit investing involves private entities lending money to borrowers who cannot, or do not want to, access loans from other financial sources, such as banks. Lenders offer debt that companies can use for working capital, growth, or acquisitions, making private credit a useful, stable, and predictable investment avenue. Because they offer debt financing, the risk appetite from private credit lenders tends to be low, and loans cannot be extended without highly predictable future cash flows. Returns mirror this lower level of risk with investment yields of approximately 3 – 3.5%.

High-yield and investment-grade bonds are loans that a private entity gives to a company or government at a fixed interest rate, generally with a fixed maturity duration. High-yield bonds typically offer higher returns at 1.5 – 3% than their investment-grade counterparts, which yield .75 – 1.5% ROI. Despite high-yield bonds being slightly riskier than investment-grade bonds, they both come with objectively low risk.

Collectively, these forms of private capital can bolster the U.S. DIB by complementing larger-scale VC and PE investments as part of a diversified portfolio. This ensures that the U.S. DIB can maintain consistent access to funding, maintain or improve production, and deliver critical resources and systems to warfighters, even when federal funding lapses or is not accessible.

Faster and Flexible Pathways

Recent disruptive technology developments have been powerful because they are ubiquitous in both civilian and military applications and because the catalyst of their proliferation is unprecedented availability and the associated compounding demand, which iteratively drives the technology to become cheaper and more accessible. For the U.S. military, this has seismic implications at the operational and tactical levels of warfare. Civilian and military leaders at the Pentagon emphasize that technology trends introduce (1) significant asymmetric advantages for both state and non-state actors, (2) breathtakingly fast development cycles—measured in days and weeks, not months and years, (3) dual-use applications of the technologies—which blur the traditional phases of conflict and complicates policies and authorities developed for a more static environment, and (4) increasing degrees of autonomy in the technologies themselves. These dynamics have emboldened a full range of threat actors to go on the offensive because the cost of entry is low and there are increasing levels of deniability and ambiguity, which compromises traditional deterrence models.

In this rapidly evolving environment, the Department is increasing its Research, Development, Test, and Evaluation (RDT&E) budget request from $141.3B in FY2025 to an overall combined annual budget of $179B in FY2026, including the mandatory funding in the reconciliation package.[33] This increase represents a shift toward a focus on how these disruptive technologies are converging and a reimagining of how the integration of offensive and defensive technologies will be employed on the near-future battlefield.[34] In this context, there is a renewed call for new and improved approaches to weapons systems development. This includes a recognition that a mix of high- and low-end capabilities—coupled with rapid fielding of low-cost autonomous weapons—and improving acquisition processes are elements that will strengthen deterrence.[35] Inextricably tied to acquisition approaches for both exquisite weapons systems and attritable systems are prototyping methods that are critical to their successful development.

To address these challenges and meet warfighter requirements, the Administration has sent a strong message that disrupting previous approaches to military acquisition is imperative.[36] As directed in Executive Order (EO) 14265, "Modernizing Defense Acquisitions and Spurring Innovation in the Defense Industrial Base," and EO 14275, "Restoring Common Sense to Federal Procurement," the focus is on energizing the acquisition process. EO 14265 directs a fundamental transformation of the way defense acquisitions are executed. In addition, EO 14275 was the impetus for the ongoing Revolutionary Federal Acquisition Regulation Overhaul (RFO) initiative. The RFO initiative launched the most significant rewrite of the FAR in over 40 years,[37] with the intent of removing non-statutory

requirements and providing plain-language instructions. Combined, these EOs are the President's strategic direction to reduce regulations and to align processes and procedures with a focus on speed.

Under this framework, on November 7, 2025, Secretary Hegseth presented his vision for Acquisition Transformation,[38] including direction to significantly change the requirements generation process and to implement changes in the foreign military sales (FMS) and Direct Commercial Sales (DCS) procedures (see more in Pillar 3 starting on page 48). The Department's Acquisition Transformation Strategy[39] represents a fundamental shift in how the Pentagon intends to develop and procure new capabilities, in which **speed is the bedrock focus of the reform.**[40]

As outlined in the Transformation Strategy, the Department intends to shift from a requirements-based acquisitions approach to a solutions-based approach. This approach is intended to address the pattern of the government developing bespoke requirements without input from industry. Contracting officers will be instructed to procure existing equipment and systems that may provide a viable solution to a capability gap, even if the available equipment or system does not satisfy 100% of the need. Other key parts of the initiative include a preference for commercial items, direct-to-supplier contracting, anything-as-a-service solutions, and other transaction authorities (OTAs), as well as prototyping reform.

Providing a clear competitive path for all industrial base participants will be critical to the successful implementation of the strategy. The original intent of establishing unique rules to attract new entrants was to expand the U.S. DIB by making it easier for innovative companies and small businesses—particularly high-tech firms that may have been reluctant to engage—to get started working with the Department. Many of these companies, due to their non-traditional nature and products, do not have the resources to comply with many defense federal acquisition regulations that are designed to control cost. NDIA supports this policy objective and applauds the removal of unnecessary compliance requirements on new entrants. However, it does not make sense to maintain regulatory burdens for established companies simply because they have demonstrated their ability to comply.

Compliance-driven behavior has not achieved the outcomes that bipartisan policymakers seek for the U.S. DIB. This is why the significant effort to raise the applicability thresholds for the Truth in Negotiations Act (TINA), which requires certified cost and pricing data, and the thresholds for full CAS requirements[41] has been so critical. At the same time, while these increased thresholds are important, they still do not obviate ongoing FAR and CAS requirements applicable to established U.S. DIB companies that are not applicable to new entrants. Removing barriers from all defense companies is the best way to ensure both greater and equal access to the innovation that the Department seeks. This is the best way to avoid potential unbalanced competition opportunities, particularly under the new acquisition frameworks.

This is no longer a theoretical debate. As the U.S. realized through military operations over the last 15 months and activities by global competitors, the ability to scale and sustain production capacity is an equally important policy priority. Reducing barriers for all companies is the most expeditious and clear path to achieving national policymakers' priority to increase innovation and resilience in the U.S. DIB.

Preference for Commercial Items

As stated in the *Acquisition Transformation Strategy*, the Department's direction to the acquisition workforce is to accelerate the preference for commercial items.[42] In addition, Congress also legislated a preference for commercial items in the FY2026 NDAA.[43] At the same time, while the prioritized search for commercial solutions does not specifically preclude any segments of the U.S. DIB from participating, the process provides a competitive advantage to companies selling commercial products or commercial services, as well as to non-traditional defense contractors (NTDCs) selling defense-unique items under commercial terms. This may, in turn, lead to reduced competition.

Therefore, while the stated intent of the commercial preference is to infuse speed and reduce government-unique requirements, the government must preserve legal authorities and policies for contracting officers to procure noncommercial products and services. The government must ensure that the selection of non-commercial items does not become viewed as an adverse action but rather is treated as an "all-of-the-above" approach to procurement. Therefore, precise implementation of the preference on commercial items will

be important to achieve the desired outcomes. For example, how the Department's acquisition workforce interprets the FY2026 NDAA requirement for contracting officers to only use non-commercial options if they determine that a commercial option is not available, and where it makes sense, will be an important component of the approach.[44]

More broadly, given the emphasis on speed and the realities of a reduced contracting workforce, effective implementation of the preference for commercial items still requires cultural and legislative changes. The reality is that many commercial items integrated into the Department's weapon systems are not unmodified, commercial-off-the-shelf items. Rather, many commercial items need to be adapted or modified in some way to meet defense-unique requirements. Congress acknowledged this reality by adding both the "of a type" and the "minor modification" criteria in the statutory "commercial product."[45] Nevertheless, the Department still continues to struggle with making commercial determinations.

Therefore, a better approach may be for Congress to establish a new statutory authority for the use of price-based acquisition for other-than-commercial products and commercial services. Another option may be for Congress to amend Section 864 of the FY2025 NDAA[46] to expand the pilot program for the use of capability-based analysis so that it is available to any contractor that develops a product or service with private funding.

In addition, **if the Department wants to move more acquisitions to commercial pricing, it will also have to accept commercial best practices of price-based acquisition instead of cost-based acquisition.** Price-based acquisition bases price on the worth to the customer, rather than on production or historical costs. Cost-based acquisition regulations focus on cost-control, including production costs, indirect costs, and profit amounts. Cost-based acquisition is the most appropriate approach when the Department must be slow and deliberate.

Public trust remains an important element in these discussions, so it is important to remember that the Department has decades of certified cost and pricing data, as well as performance data, on all its contracts. Especially **in the age of data analytics, it is well within the ability of the Department to review what it previously paid for a comparable capability and to determine price reasonableness.** It is important to remember, too, that the focus on established entrants' profits over the cost to the Department is also in direct contrast to the framework for new entrants, and, as discussed elsewhere in the report, there are financial investment structures supporting many new entrants that require specific profit thresholds to be viable.

Finally, to implement commercial-preference contracts, the Department's acquisition workforce will be required to conduct an additional level of market research to make commercial versus non-commercial determinations. Contracting officers must still perform these determinations prior to acquiring a product or service for which there is no commercial equivalent. Policymakers should pay close attention to the current capacity of the acquisition workforce and the additional training that will be required.

Direct-to-Supplier Contracting

Another component of the *Acquisition Transformation Strategy* is the Direct-to-Supplier initiative.[47] Through this transformation effort, the Department intends to "proactively manage risk within supply chains and … establish the contractual and resourcing mechanisms, as well as acquisition strategies."[48] Federal Supply Schedules (FSS) and Government-Wide Acquisition Contracts (GWACS) are the likely avenues for the implementation of direct-to-supplier efforts for widely-used products and services, such as IT services and solutions.[49] The Defense Logistics Agency (DLA) also executes direct-to-supplier buying; however, these efforts are primarily for spare parts and fuel.[50] Contractor engagement approaches such as these, however, are not typically executed to satisfy the Department's requirements for complex hardware systems. It will be necessary to scale determinations of responsibility and other requirements of FAR Part 9 Contractor Qualifications to ensure that the contractors the Department engages meet minimum standards, and that the anticipated increase in volume of these determinations be factored into contracting officer workloads. Speed on the front-end will enable faster direct-to-supplier contracting.

In addition, **direct-to-supplier contracting is another area where Congress will have to work with the Military Services for additional funding for second- or third-source suppliers.** For more information, see page 69.

Consumption-Based Solutions – Anything-as-a-Service

Consumption-based solutions, a broad term for the application of "anything-as-a-service,"[51] is the model under which a technology-supported capability using any combination of software, hardware or equipment, data, labor, or services is provided to the Department that can be metered and billed based on actual usage at fixed-price units. This approach includes Software-as-a-Service (SaaS), Data-as-a-Service (DaaS), and Space-as-a-Service (SPaaS).[52] This approach is intended to allow usage-based subscriptions in lieu of traditional commodity or capability purchases. The concept was originally a pilot in the FY2024 NDAA.[53] This new approach will require a move away from cost-based contracting and requires a different mindset among contractors and contracting officers alike.

The benefits of employing consumption-based solutions include bypassing several steps in the traditional acquisition process,[54] including significant and perhaps unnecessary upfront analysis, which can lead to exhaustive de-risking of the technology, and micromanaging design, testing, and production. With clearly identified and defined requirements, this approach may lend itself to greater private investment. This strategy also lends itself to rapid iteration and flexibility for the government to have competition among competing vendors.

There are mechanical challenges for the government's use of the anything-as-a-service approach, including financial restrictions, investment planning, contracting, and forecasting & management.[55] For example, currently, financial restrictions, codified in the Anti-Deficiency Act (ADA), preclude unforeseen and/or unfunded swings in consumption. To ensure there are no violations of law, investment planning and forecast management must be accurate enough to flex in usage rates or a shift in requirements.[56] Therefore, this approach will require a method for the government to accurately estimate funding and consumption profiles.

Other Transaction Authorities

The Acquisition Transformation Strategy also emphasizes the importance of OTAs.[57] OTAs were created to give the Department a flexible method to adopt and incorporate commercial business standards and practices in defense acquisitions.[58] To ensure the successful use of these authorities, **the Department must be diligent in ensuring non-FAR agreements are not saddled by FAR-type requirements, such as inserting cost and pricing data requirements or termination for convenience type clauses.**

Requirements Reform

Among the transformative efforts, the Department announced the disestablishment of the Joint Capabilities Integration and Development System (JCIDS). This process was the formal process for identifying acquisition requirements and evaluation criteria for defense programs.[59] Eliminating JCIDS is anticipated to streamline the identification of priority needs, prioritize early and iterative industry engagement, and enable greater integration of requirement-owners and solutions providers.[60] These upstream actions are intended to markedly reduce the lead time of procurements and will be a critical aspect of reducing the administrative burden to enable speed.

Prototyping Reform

Among the significant changes directed to acquisition processes, the Department also announced the intent to replace the Analysis of Alternatives (AoA) process and lean into a competitive prototyping process, which may open the gate to novel technologies that can be acquired.

Analysis of Alternatives

The current version of the Department's Instruction 5105.84[61] specifically establishes policy, assigns responsibilities, and prescribes AoA procedures in the development of major defense acquisition programs (MDAPs).[62] AoAs are the assessment of potential materiel solutions to satisfy the capability need documented in an approved Initial Capabilities Document.[63] Specifically, AoAs are a process for preparing a bespoke solution for a specifically identified capability gap. While this process ensures a solution addresses the capability requirements, it is also a detailed and often time-intensive process.

Competitive Prototyping Pathways

Competitive prototyping is a different approach whereby several contractors offer prototypes to demonstrate the performance of a system. The current framework for conducting competitive physical prototyping in defense acquisitions is a component of the AoA, which includes the rapid prototyping options of Urgent Capability Acquisition (UCA) and the Middle Tier of Acquisition (MTA) pathway.

Within the UCA framework, the test and evaluation process streamlines the pre-development and development phases of rapid acquisitions. The UCA framework also facilitates deliberate, program manager-level decision-making focused on balancing acquisition risk with operational risk. While a UCA does not produce a new working prototype, the deliberative decision-making process allows thorough consideration of a capability or solution as it currently exists and whether it can be deployed in real-world environments. If a proposed solution is determined to only be available via another acquisition pathway, the proposed solution is then transitioned to the next acquisition pathway, the MTA pathway.[64]

Implementing the Reform Correctly

As the Department moves away from the time-intensive AoA process toward a process focused on a more rapid assessment of commercial solutions and existing technologies, the competitive prototyping approach and the use of other transaction authorities for this type of procurement is also expected to become the preferred method.[65] **While the AoA process was developed for bespoke systems, the review of commercial solutions and competitive prototyping is intended for quick-turn development with the possibility of a production follow-on contract. Therefore, the stakes for both operational requirements and for companies are high as the thresholds for executing other-than-competitive procedures are anticipated to increase significantly to over $5M.**

In addition, **competitive prototyping is not appropriate for all acquisitions**. For example, some programs for exquisite, large, and extremely complex systems, such as spacecraft and ships, will not produce prototypes during their development because of the high cost of each article.[66] Scenarios such as this result in first-article testing, during which, as the name implies, the first-produced article of the system or end item undergoes operational testing in lieu of a prototype. This process is also intended to produce information on which other developmental and production decisions may be based, such as the trade space between cost, schedule, and performance, the trade space between alternatives, and considerations of affordability and life-cycle costs.[67]

During the implementation of prototyping reform, choosing the right model will be important. **Components of the U.S. military have benefited from the use of prototyping for decades.**[68] While traditional prototyping processes may require additional time early in a system's development, the intent of the process is to save time later by setting the conditions for a more seamless transition into production and delivery. Identifying problems within the system or product at the earliest possible opportunity allows incremental changes to be made before production and, in turn, allows for reduced rework and waste. Finally, when production efforts do start, the delivered capability is more likely aligned with warfighter needs.

The Department's Acquisition Workforce

The Acquisition Transformation Strategy includes the redesignation of the Defense Acquisition System to the Warfighting Acquisition System (WAS).[69] **This redesignation represents the concept that acquisition is a warfighting function and is critical to the implementation of new strategies based on greater speed and expanded use of faster, unencumbered approaches**. Section 826 of the FY2026 NDAA[70] directs the establishment of key performance evaluation metrics and behavioral objectives for the Warfighting Acquisition Workforce.[71] **The key performance objectives outlined in Section 826 codify the direction to lean into the use of risk-tolerant practices and, perhaps more importantly, signals support for a culture shift in the application of novel approaches.**

The implementation of this part of the Department's strategy will be the responsibility of the Defense Civilian Training Corps, which is a cadre of acquisition professionals the Department is creating to execute these objectives.[72] Accompanied by structural and organizational changes such as the establishment of Portfolio Acquisition Executives (PAEs),[73] the WAS is posturing itself to execute novel approaches with a broad section of industrial base participants and new entrants for weapons systems and capabilities developed with dual-use

technologies. The core principles of acquisition transformation are clearly stated: instill the warrior ethos in the acquisition workforce, inject a sense of urgency and a relentless focus on speed, and cut through unnecessary layers to focus the WAS on speed.[74] The Department intends that these actions will help its engagement with the U.S. DIB.

Recommendations:

Short-Term

1. **The Department and Congress must continue to remove compliance burdens across the spectrum of U.S. DIB participants to realize greater competition, innovation, and speed.** Raising thresholds within acquisition processes is a significant step toward removing compliance burdens for all, and NDIA supports the proposed exemptions for all U.S. DIB participants to create a clearer, cleaner path to innovation, speed, and capacity.
2. **The government must ensure that the selection of non-commercial items does not become viewed as an adverse action but rather is treated as an "all-of-the-above" approach to procurement.** While the stated intent of the commercial preference is to infuse speed and reduce government-unique requirements, the government must preserve legal authorities and policies for contracting officers to procure noncommercial products and services.
3. **The Department must guard against the potential to infuse FAR-related requirements into non-FAR contract agreements.** Infusing FAR-type requirements reduces the ability of the contractor to execute as innovatively and expeditiously as it potentially could.
4. **The Department must immediately scale the Department's acquisition workforce and ensure it is sufficiently staffed and trained to adjudicate commercial determinations, non-determinations, and direct-to-supplier contracting in a timely manner.**

Medium-Term

5. **The Department must codify processes and procedures and develop training and guidance for the acquisition workforce to employ flexible approaches such as consumption-based solutions.** While the anything-as-a-service approach is innovative, this approach will require an acquisition cadre trained to execute agreements of this type, a method to accurately estimate funding and consumption profiles, and the codification of the anything-as-a-service approach into strategy.
6. **Congress must direct the Department to inventory the differences in compliance requirements between traditional defense contractors (TDCs) and NTDCs as the first step to removing the additional requirements on TDCs.** The Department has created a dichotomy of compliance requirements for TDCs and NTDCs. If the premium is on speed, it is counterintuitive to continue subjecting TDCs to a labyrinth of government acquisition processes and regulations simply because they have demonstrated the ability to comply.

Pillar 1: Prioritizing Sufficient and Stable Budgets

The Department and the U.S. DIB experienced a uniquely challenging year in calendar year 2025 (CY2025) from a budget and appropriations standpoint. For the first time in its history, the Department operated under a continuing resolution (CR) for the entire fiscal year[75] and endured 43 days under a lapse in appropriations, the longest government shutdown to date.[76]

While the Department had to operate under a CR through January 30, 2026,[77] thankfully, the FY2026 Defense Appropriations Act was signed into law on February 3, 2026.[78] While the bill provides a total discretionary topline of $839.2B,[79] senior appropriators have expressed concern that the Administration itself acknowledges a funding gap of at least $40B.[80]

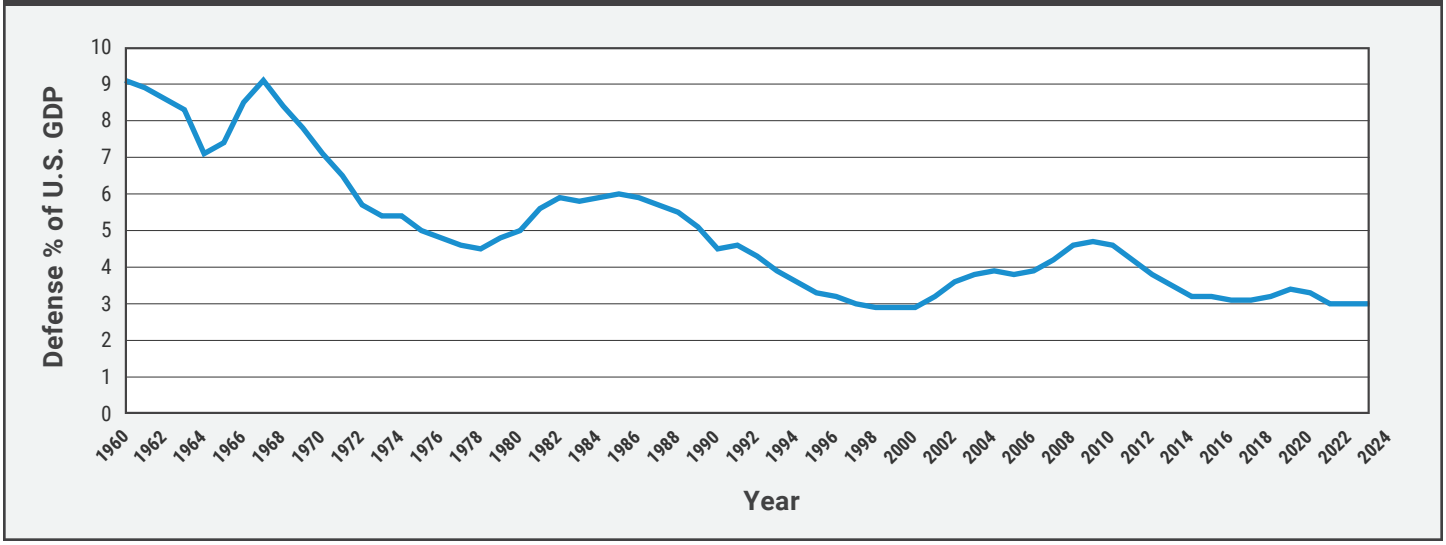
The Context of Defense Spending Level Challenges

While defense spending is sizeable, it is not the driver of U.S. national debt. In fact, defense spending is at a near-record low as a percentage of the U.S. economy and declining. Since the conclusion of the Cold War, the U.S. has significantly decreased defense spending as a percent of the U.S. federal budget[81] and U.S. gross domestic product (GDP).[82] For example, observing the trend line, national defense spending as a percentage of U.S. GDP dropped 50% from 6% to 3% from 1986 to 2023 and is projected to drop to 2.8% by 2029.[83]

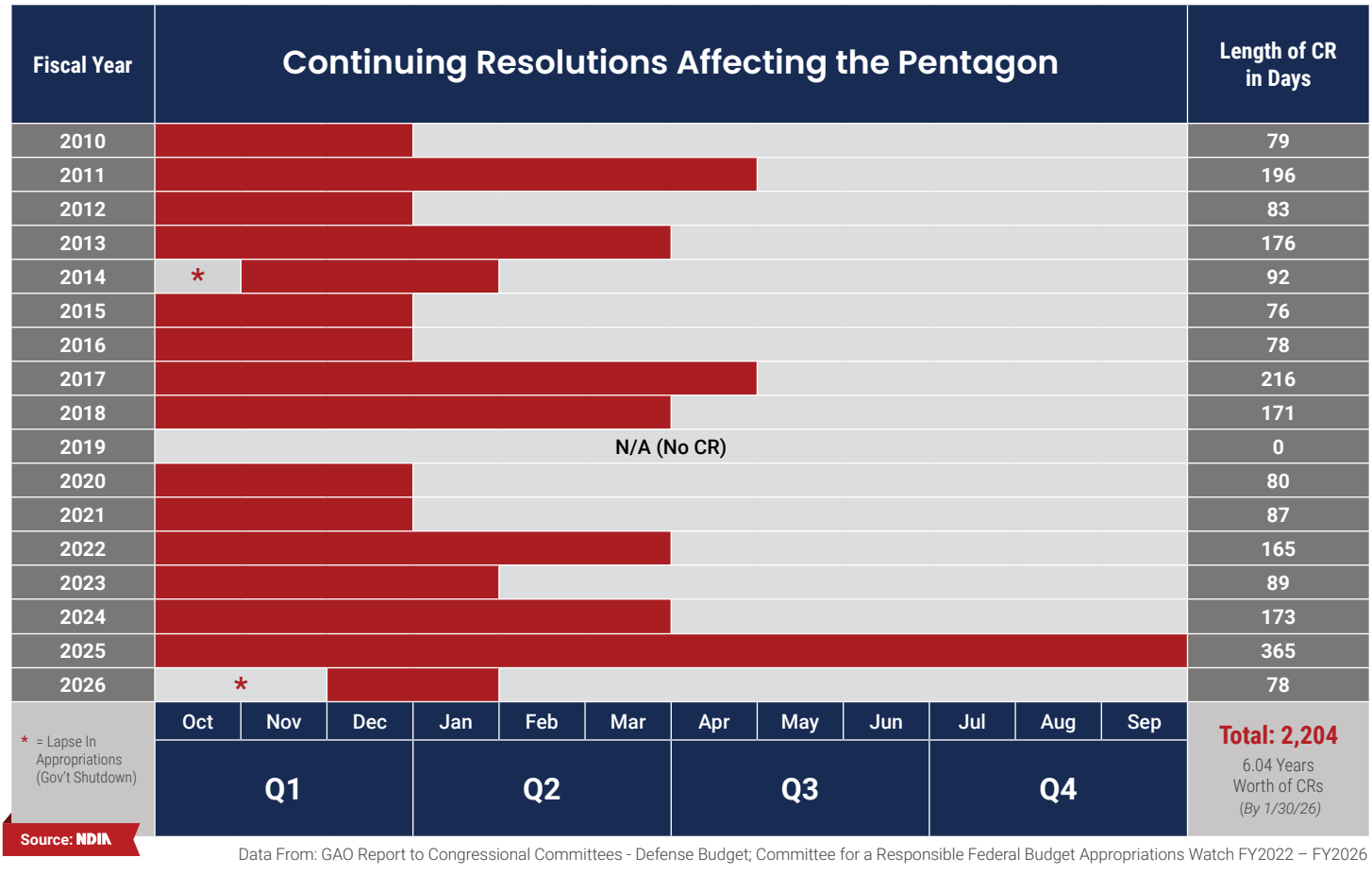
Compounding the challenge, the Fiscal Responsibility Act of 2023 (FRA)[84] placed spending caps on all federal departments and agencies, including the Department, for FY2024 and FY2025. Therefore, the FY2025 budget request of $849.8B for Department of Defense (DoD) represented a less than 1% increase in funding over FY2024, as the request aligned with the FRA caps.[85] In addition, the budget request did not account for inflation. Furthermore, for FY2026, both the Senate[86] and House[87] appropriations committees noted that funding was at the same level as FY2025. The result, with inflation considered, represents an actual reduction in defense funding. This is why **NDIA members strongly endorse congressional efforts to increase defense spending during the FY2027 authorization and appropriations processes.**

As an additional complication, part of the budget and appropriations process in CY2025 was addressed through a budget reconciliation process, for which the public law is

Decades of Declining DoD Spending (1960 - 2024)



Source: OMB Historical Tables



Data From: GAO Report to Congressional Committees - Defense Budget; Committee for a Responsible Federal Budget Appropriations Watch FY2022 – FY2026

colloquially referred to as the One Big Beautiful Bill (OBBB) Act.[88] The bill included a one-time infusion of $150B in mandatory spending for defense and included $29B for shipbuilding, $25B for integrated air and missile defense for the U.S. homeland, $25B for expanded munitions production, $16B to address depots, shipyards, and expand stockpiles of critical spare parts, $15B to accelerate modernization of the nuclear triad, and $9B for next generation aircraft and autonomous systems.[89] Senior congressional appropriators are on record[90] regarding the challenges of managing multi-year efforts through a one-time funding bill, and senior Department leaders acknowledged in June 2025 that total 2025 shortfalls after reconciliation exceed $25B.[91] It is important to note that, in January 2026, senior appropriators asserted that the total funding gap is closer to $40B.[92]

Impact of Funding Disruptions on U.S. DIB Companies

Unlike their peers in the purely commercial sector, U.S. defense and dual-use companies are tethered to annual congressional funding and defense resourcing decisions. Stable funding is critical to the Department and the federal acquisition process, including its ability to attract and retain private sector investments in R&D, advance technological innovation, expand production capacity, diversify supply chains, and rebuild a skilled workforce. Stable funding is also critical to ensure U.S. warfighters have the platforms, weapons, equipment, technologies, supplies, and services they need to conduct their missions and to maintain their competitive advantage against any potential adversary.

Conversely, CRs and government shutdowns have a significant negative impact on U.S. national security. Every week the Department is under a CR or in a shutdown is an additional week the United States provides the People's Republic of China (PRC) and other near-peer competitors with uncontested time to erode the U.S. military's operational competitive advantage. For more information, see the *Vital Signs 2025* report (pages 25 – 27).[93]

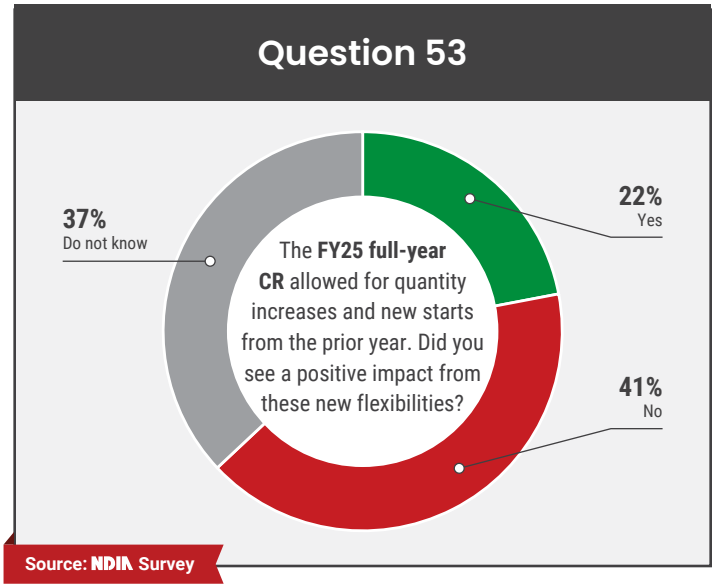
NDIA has consistently maintained a strong position against long-term CRs and government shutdowns that fail to provide the Department with the necessary flexibility to respond to

developing circumstances and take advantage of emerging opportunities. However, the FY2025 full-year appropriations bill[94] made significant changes to the traditional CR language that has been enacted over the last 16 fiscal years. For the first time since 2009, under this funding legislation, the Department was given the authority to initiate new starts (Section 1409) and leverage multi-year procurements (MYP), including for the *Virginia*-class nuclear-powered fast attack submarines, which are on a zero-margin production schedule (Section 1418). The bill also provided additional funds to complete construction for several shipbuilding programs (Section 1417), increased the general transfer authority (Section 1412), and granted additional flexibility to obligate more funds during the last two months of the fiscal year (Section 1411). Finally, an important priority for many of NDIA's member companies, it provided appropriations and authorities for OSC (Section 1420).

Many of these flexibilities address concerns and reflect recommendations highlighted by past NDIA correspondence to congressional leaders regarding the appropriations process, the *Vital Signs 2025* report, and the Planning, Programming, Budgeting, and Execution (PPBE) Reform Commission. For example, the new start authorities in Section 1409 are a welcome improvement to promote innovation and, as recommended by the PPBE Commission, should become standard practice in the future. In recognition of the extraordinary flexibilities in P.L. 119-4, and to avoid a harmful—and potentially protracted—government shutdown, NDIA supported passage of the legislation. At the same time, NDIA respectfully asked Congress to prioritize enactment of the FY2026 DoD Appropriations Act before the start of the next fiscal year.

In the *Vital Signs 2026 Survey*, private sector respondents were asked if they saw a positive impact from the flexibilities included in the FY2025 full-year CR. Private sector respondents did not demonstrably see a positive impact from the flexibilities: 41% said no, 37% were not sure, and only 22% responded yes. This is one of the areas in the *Vital Signs 2026 Survey* in which private sector respondents were invited to provide additional feedback. Noteworthy comments included:

- "The absence of a real budget for the past few years continues to compound the issue. One flexible CR doesn't fix years of uncertainty. Especially with a multi-year capital program like the Columbia Class Submarine."



- "While the flexibilities do allow for more efficiencies, there is still the issue of understanding the need for the government to explicitly provide planning and capital to allow for sustainable quantity increases."

As noted in the *Vital Signs 2023* report, **resolution of political budget battles in Washington does not necessarily translate into viable business solutions for defense companies.**[95]

Impact of the Government Shutdown

Compounding the challenges of a year-long CR, unfortunately, it became increasingly clear in the late summer of 2025 that a government shutdown was a plausible outcome as the executive and congressional branches struggled with negotiating the FY2026 appropriations process. Therefore, NDIA engaged with U.S. DIB companies and NDIA regional chapters to understand the strategic and regional impacts of a potential government shutdown and to elicit feedback on how the Department could exercise specific authorities to minimize the harmful effects.

Funding lapses and constraints have negative impacts on companies of all sizes within the U.S. DIB. Small businesses within the defense sector are disproportionately impacted as their limited cash flow hampers their ability to withstand lengthy funding disruptions. This is especially the case when there are delays in government reimbursement through invoicing systems, such as Wide Area Workflow (WAWF) in the Procurement Integrated Enterprise Environment (PIEE),

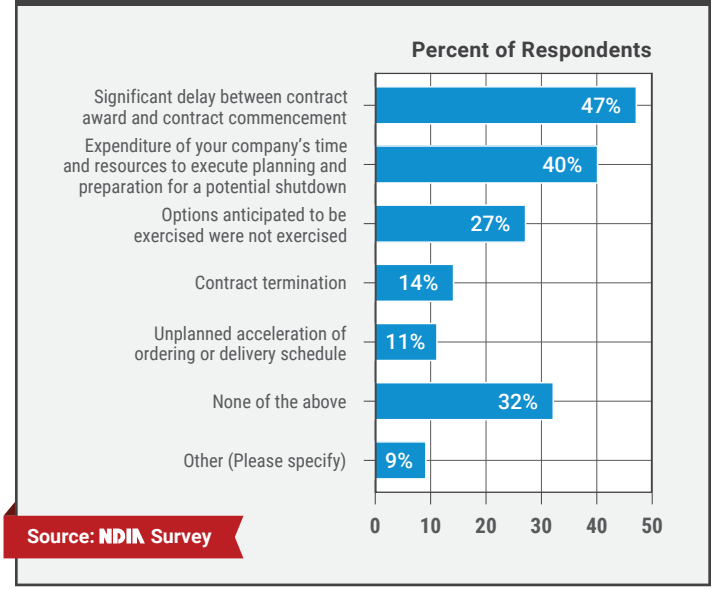
particularly on smaller task orders. While the volume varies, the outstanding amounts can be significant. One key supplier in the mid-Atlantic region noted at the time of the shutdown that it had millions in accounts receivable currently outstanding. Smaller businesses also simply do not have the flexibility to reassign workers to other contracts or have the financial reserves to continue operations when the government is unable to meet its obligations.

In addition to the lack of available funding, shutdowns often result in the compounding effect of suspended production lines, supply chain disruptions, and workforce engagement challenges. Additionally, restarting production lines, repairing the links of sub-tier supply chains, and re-engaging the workforce is time-consuming and often costly. A company on the East Coast noted that **there will be a strategic backlog of goods awaiting testing, including critical safety items (CSI), and that the disruption to the supply chain will continue for months after the shutdown concluded due to the backlog of products awaiting Lot Acceptance Testing (LAT), because testing—which is the linchpin of the government payment process—does not occur during shutdowns.** The company further noted that contractors expect that, on average, it takes an additional six months after the government reopens before they can expect to receive payment. Businesses of all sizes deal with these pressures, and, in many cases, the only viable option is to lay off workers and temporarily reduce or shutter production lines.

In the *Vital Signs 2026 Survey*, private sector respondents were asked about challenges they experienced as a direct result of preparation for a government shutdown. The three biggest reported challenges were significant delays between contract award and contract commencement (47%), expenditure of the company's time and resources to execute planning and preparation for a potential shutdown (40%), and contract options the company anticipated the government would exercise were not exercised (27%).

Question 52

Has your business experienced any of the following as a direct result of preparation for a potential government shutdown? *(Select all that apply)*



Submarine Industrial Base Vignette

A critical supplier on the West Coast manufactures power systems for both military and commercial customers. To prudently plan for a possible government shutdown, the company took a risk management approach to include staging delivery into controlled facilities that would then be forwarded to the government once the government was able to accept final delivery. The company also continued to deliver directly to prime integrators and shipyards where government engagement was not required.

Unfortunately, despite this planning, the supplier noted that the disruption caused by the government shutdown will likely contribute to the schedule delays for both the *Virginia*-class and *Columbia*-class programs. Government personnel are required for critical steps in delivery, including addressing engineering changes and verifying quality control and assurance, and they were not deemed essential during the shutdown.

Mitigating Government Shutdown Risks

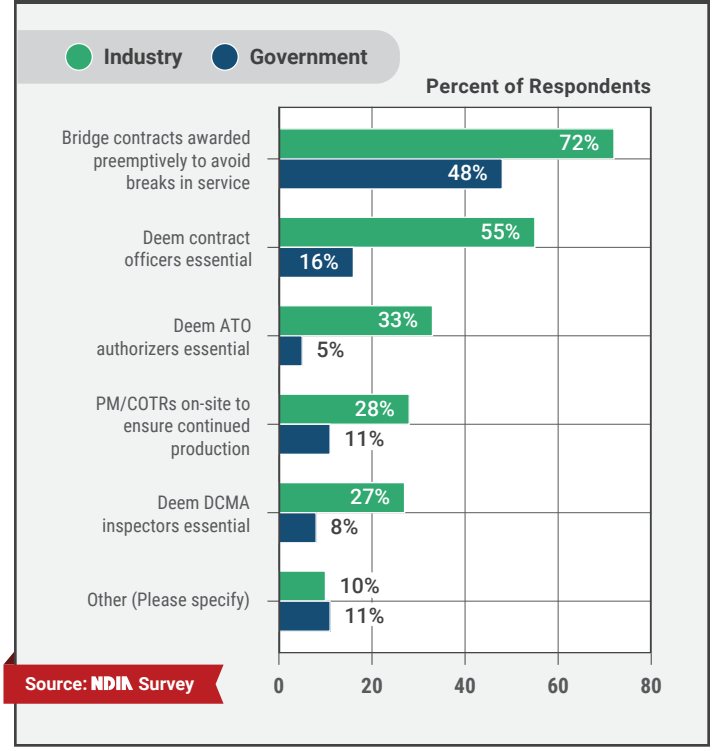
Government personnel are required both to execute a contract and to provide either daily or periodic oversight of contracts. **When the government enters into a period of a lapse of appropriations and is shut down, there are specific authorities the Department can exercise to avoid further delays in the production and fielding of critically needed systems and materiel.** These mitigation measures include:

- Department officials designating contract actions—including task or delivery orders, modifications or options, and non-FAR agreements (such as OTAs) that were issued, awarded, or exercised prior to the beginning of the fiscal year on October 1—as valid, and directing contractors to continue to perform work, up to the limit of the funds obligated on the contract action prior to the lapse in appropriations
- Department officials designating as essential—well in advance of a potential government shutdown—all the Department personnel necessary to properly execute previously funded contract actions. This includes, but is not limited to, inspection, testing, and acceptance personnel; security officers; agreement officers; contracting officers (both Administrative and Procuring); contracting officers' technical representatives (COTRs); Program Executive Officers (PEOs); Program Managers (PMs); compliance personnel for regulatory and policy requirements, such as Cybersecurity Maturity Model Certification (CMMC); and personnel required to validate and grant Authority to Operate (ATO) for funded software technologies
- Department officials acknowledging that FMS funding provided by foreign partners does not expire and, consequently, providing clear direction to continue FMS-funded contracts
- Department officials acknowledging that payment to contractors during a shutdown is legally permissible if funds were obligated in a prior fiscal year or were obligated after the beginning of the fiscal year on October 1 if from unexpired funds, such as multi-year funding
- Department officials proceeding with bridge funding for contracts that are near the end of their obligated funding close to the beginning of the fiscal year or—if multi-year funding is available—during a government shutdown
- Department officials ensuring procedures are developed and authorized to quickly process Requests for Equitable Adjustments (REAs) to recover significant production interruption and restart costs after the shutdown concludes

In the *Vital Signs 2026 Survey*, private sector respondents were asked what government actions would be most useful to mitigate damage caused by a government shutdown and to keep production lines moving. Private sector respondents overwhelmingly recommended the government preemptively award bridge contracts to avoid breaks in service (72%). They also identified deeming contracting officers essential (55%) and deeming ATO authorizers essential (33%) as top priorities. Government respondents ranked their top two recommendations as preemptively awarding bridge contracts to avoid breaks in service (48%) and deeming contracting officers essential (16%), followed by allowing PMs and COTRs on-site to ensure continued production (11%).

Question 55 & 61

Which of the following would be most useful to mitigate damage caused by a government shutdown and keep production lines moving? *(Select all that apply)*



Recommendations:

Short-Term

7. **Congress and the executive branch must work together to increase the topline for the FY2027 DoD Appropriations Act.**
8. **Congress and the executive branch must work together to ensure stable and consistent additional funding for the defense priorities partially funded in the reconciliation bill.**

Medium-Term

9. **Congress must enact the full-year FY2027 DoD Appropriations Act before September 30, 2026.**
10. **Congress must continue to provide flexibility to the Department to respond to developing circumstances and take advantage of emerging opportunities should it enact a further CR.**
11. **The Department must utilize its current authorities to mitigate the impact on the U.S. DIB if there is another lapse in appropriations.**

Pillar 2: Advancing DoD Digital Modernization & Transformation

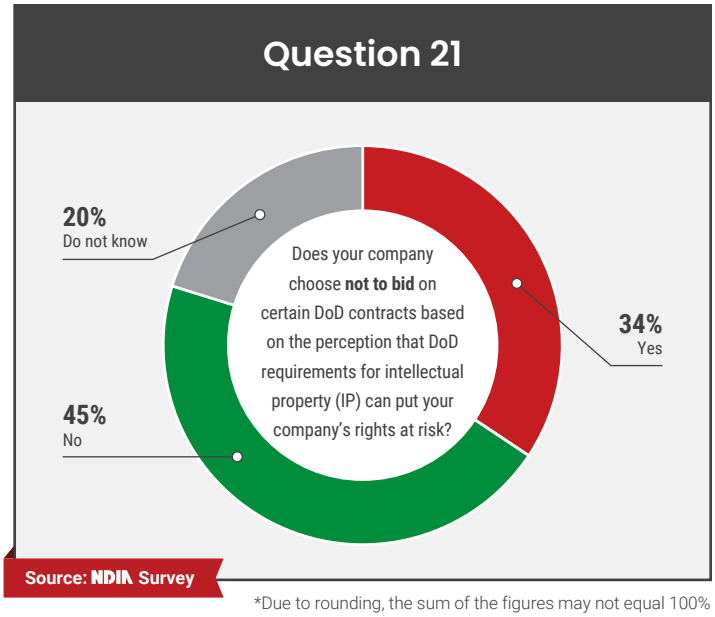
The future character of war focuses on the use of emerging and disruptive technologies, such as artificial intelligence (AI), quantum, biomanufacturing, contested logistics technology, directed energy, and hypersonics.[96] There has already been a shift from a single domain being the predominant domain of conflict to multi-domain conflict, including space and cyberspace, which will play more prominent roles in the initial phases of any potential conflict. This is driving significant shifts in the Department's budget prioritization, including: new concepts of operations ("how we fight"); more experimentation and prototyping; and renewed focus on partnerships with cutting-edge technology leaders—especially those adjacent to the traditional DIB.

Winning the race to maintain the U.S.' technological competitive advantage requires a deeper analysis of debates around the policies and authorities for acquiring, utilizing, and employing these technologies. Getting the balance right will make or break whether the Pentagon can successfully buy and integrate new technology at speed and scale fast enough to preserve and, where necessary, expand the U.S. military's technological competitive advantage. It will also have profound impacts on the ethical use of technology and whether the laws, policies, and regulations governing U.S. DIB companies incentivize both TDCs and NTDCs, while attracting new entrants.

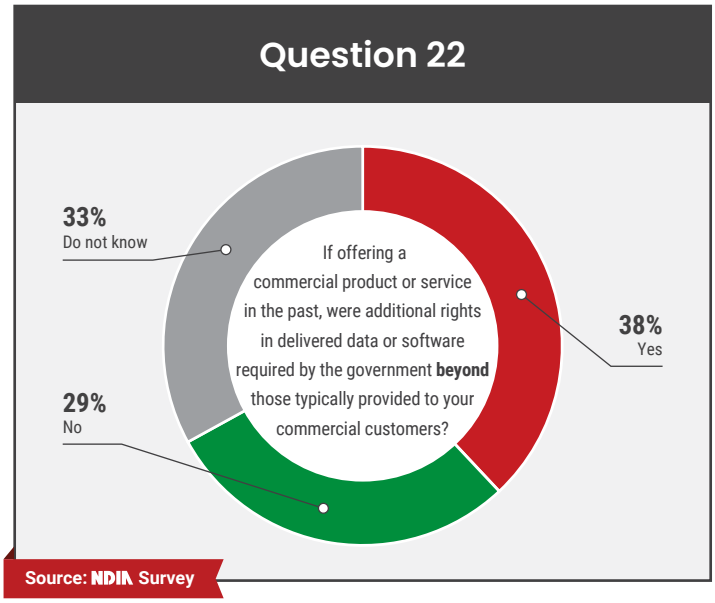
IP & Data Rights: Protecting the Department's Access to Innovation

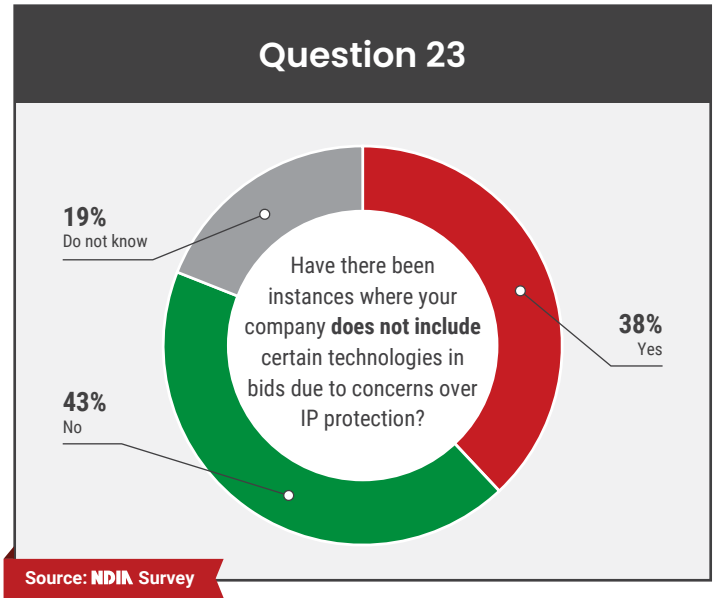
Protecting private sector intellectual property (IP) rights not only fosters innovation and attracts new entrants and private investment to the U.S. DIB but also ensures the military has continued access to the crucial information and technical data needed to support military equipment throughout its lifecycle. The current approach can also drive down costs to the government as contractors are not required to account for the full value of their IP rights in their proposed price for every contract, enabling the government to only pay for what it needs. **In essence, respecting and protecting the private sector's IP rights safeguards the Department's own long-term interests.**

Over the past decade, the legal and regulatory framework governing IP rights and the management of these rights has undergone careful reform to balance the legitimate needs of



*Due to rounding, the sum of the figures may not equal 100%





both the Department and industry.[97] The importance of this balance is evident in the core principles of the Pentagon's IP policy, which directs the Department to "negotiate specialized provisions when it better aligns DoD and industry interests" and to "respect and protect IP resulting from technology development investments."[98]

However, despite these efforts, there are many in industry who continue to have IP concerns when contracting with the Department. In NDIA's *Vital Signs 2026 Survey*, 38% of private sector respondents said their company decided not to include certain technologies in bids because of IP concerns, which is an increase of 10 percentage points over the 2024 survey. In addition, over one-third (34%) of private sector respondents chose not to bid on certain defense contracts out of fear that the Department's requirements for IP would put their company's rights at risk, which is an increase of 12 percentage points over the 2024 survey. Finally, 38% of private sector respondents noted that when offering a commercial product or service in the past, additional rights in delivered data or software were required by the government beyond those typically provided to commercial customers.

In recent years, there has been growing public policy discourse about where IP and data rights fit into readiness and sustainment. There are two reasons for this. First, the debates touch the nerve center of defense acquisition, which is to ensure the Joint Force has the platforms, weapons, equipment, technologies, supplies, and services to maintain high readiness levels during times of peace and to ensure competitive advantage and the highest levels of force protection during crisis or conflict. During the 20 years of counter-terrorism operations, an increasingly small proportion of the U.S. military served multiple overseas combat tours and experienced the reality of what happens when deployed service personnel do not have what they need when they need it. Many of these service members are now serving in Congress and in senior civilian and military positions in the Department. They emphasize urgency and a moral imperative for improved outcomes. In addition, debates around IP and technical data rights also touch high-profile strategic budgeting and programming decisions, including non-IP maintenance and sustainment issues of both legacy and next-generation platforms, as well as Modular Open Systems Approach (MOSA).

FY2026 NDAA IP and Data Rights Provisions

Right to Repair Debates

The initial Senate and House versions of the FY2026 NDAA in spring 2025 included "Right to Repair (RTR)" provisions to compel contractors to provide the government with "fair and reasonable access" to all repair parts, tools, and information. In summer 2025, the House Armed Services Committee (HASC) held a hearing titled *Reforming Defense Acquisition to Deliver Capability at the Speed of Relevance*.[99] Committee members asked senior defense acquisition executives multiple direct questions about the best way to appropriately balance government and industry interests regarding IP and technical data rights.

Industry supports and works with the Department and Military Services to enable service members to repair platforms. By way of example, a review of the publications available through the Army Publications Directorate includes over 6,700 technical manuals that the warfighter can use to maintain and operate their equipment. Additionally, the Department already has powerful, flexible, and underutilized statutory tools to negotiate for the specific data rights it needs for sustainment. This includes a statutory requirement for the Department to contract for the technical data it needs for operations and maintenance up-front, which enables service members to make the necessary repairs. The findings of the FY2026 NDAA emphasize that challenges to technical data are rooted in the Department's planning and resourcing decisions, and not in an insufficiency in current law.

However, the RTR proposals in the FY2026 NDAA went well beyond enabling service members to repair and maintain their own equipment. **The RTR mandates would force the disclosure of companies' sensitive, privately funded IP and trade secrets, which the Department could then share with third parties, including direct competitors.** This approach poses significant risks and will hamper innovation and the Pentagon's access to cutting-edge technologies by deterring companies from contracting with the Department over concerns of forced disclosure of IP; increasing legal, safety, and compliance risks; and introducing contractual and licensing conflicts (see Negative Impacts of Eroding IP & Data Rights on page 29).

FY2026 NDAA IP and Data Rights Provision

The RTR proposals were ultimately not included in the FY2026 NDAA. However, the final conference report did include "Section 805 – Addressing Insufficiencies in Technical Data," which seeks to address the concerns raised by RTR proponents without creating additional issues highlighted by industry. Section 805 requires the Department to establish a system to track, manage, and assess its data rights, as well as verify the compliance of contractors related to

Current Authority Overlap of Right to Repair Proposals

	Current Authority	Senate NDAA RTR	House NDAA RTR
Requirement to agree to provide technical data prior to entering into a contract	**Yes.** 10 USC 4236 currently requires agreement for any technical data prior to selecting a contractor for development, production, or sustainment of a major weapon system.	**Yes.** Proposed 10 USC 4664(a)(1) for instructions for continued operational readiness (ICOR) for covered defense equipment.	**Yes.** Proposed 10 USC 4664(a) for repair goods in support of a major weapon system.
License for government employee use of technical data for repairs	**Yes.** 10 USC 3771 (DFARS 252.227-7013 for Limited Rights) allows the government to use but not disclose to third parties for privately developed items, components, or processes.	**Yes.** Proposed 10 USC 4664(a)(3) has the contractor providing the right to diagnose, maintain, and repair the covered defense equipment.	**Yes.** Proposed 10 USC 4664(d) requires rights consistent with 10 USC 3771.
License for government contractor use of technical data for repairs	**Yes.** 10 USC 3774 requires the government to enter into a Specifically Negotiated License Rights (under DFARS 252.227-7013) with the contractor to support the product support strategy for a major weapon system and subsystem of a major weapon system.	**Yes.** Proposed 10 USC 4664(d) has the contractor not imposing restrictions on authorized maintenance providers for use of ICOR.	**Yes.** Proposed 10 USC 4664(d) requires contractors to provide the right to the authorized contractor consistent with 10 USC 3771.

technical data. The provision also requires the Department to identify where it has insufficient technical data and work with the contractor to rectify the insufficiency through several contracting options. As the Department moves toward implementing this section, it will be important for industry to continue working collaboratively as a willing partner.

> The FY2026 NDAA includes a provision requiring the Department to identify where it has insufficient technical data. The provision also requires the Department to work with contractors to rectify any identified insufficiencies through several contracting options.
>
> It will be important for the U.S. DIB to continue to work collaboratively with the Department as it implements this legislative requirement.

Data-as-a-Service Solution

A creative solution supported by industry that was not included in the FY2026 NDAA was Chairman Mike Rogers' proposed DaaS for weapons systems provision. **Instead of contracting for all of the data rights the Department believes it will need for all future sustainment for a particular platform up-front, the DaaS model allows the government and original equipment manufacturer (OEM) to set up a framework where all the necessary technical data or software is accessible, but the Department only pays if and when it utilizes the covered data for a repair or to manufacture a single part.** DaaS allows contractors to include an associated license agreement that provides the government with limited access to the necessary technical data or computer software to repair the weapons system using the most up-to-date information for a reasonable fee and only for the limited time required for the repair.

As DaaS is part of the consumption-based solutions in the Department's Acquisition Transformation Strategy, NDIA members would support revisiting the inclusion of this provision in the FY2027 NDAA.

Future of IP and Data Rights

Moving forward, it is imperative to understand the varying use cases that government and industry are working to address and where alternative solutions related to IP can harness private sector innovations to bolster readiness. Instead of imposing RTR mandates, the Department and Congress should focus on solutions that address real challenges and foster a collaborative environment. As an example, at the HASC hearing, Under Secretary of War for Acquisition and Sustainment Michael Duffey acknowledged the complexity of IP and emphasized the need to be "creative" and "surgical" in how the Pentagon gains access to data "while still respecting the need to protect the IP that's privately funded and is really an engine of the innovation that we are dependent upon."[100] Fortunately, the Department can address many challenges without requiring legislative change. Ultimately, the best way to ensure warfighter readiness is for the Department to be a reliable partner that respects IP. This will attract—not deter—the innovative companies and private investment needed to maintain technological superiority.

Recommendations:

Short-Term

12. **The Department must fully utilize its current authorities to ensure it is contracting for the technical data needed for repairs and sustainment up-front in a transparent manner.**
13. **Industry must work as a collaborative partner with the Department as it implements the requirement to identify and rectify insufficiencies in technical data, as mandated in Section 805 of the FY2026 NDAA.**
14. **Policymakers must consider enabling and utilizing additional creative solutions, such as contracting for Data-as-a-Service where the Department only pays if and when it utilizes covered technical data for a repair or to manufacture a single part.**
15. **Congress and the Department must ensure that the Department's IP cadres, IP contracting specialists, and IP training programs are adequately resourced within the Department and across the Military Services to increase collaboration with industry and ensure that IP contracting specialists are available to manage the contracting workload in a consistent manner.**

Negative Impacts of Eroding IP & Data Rights

Reducing Access to Innovation: When a company develops new technology, that technology has potential future value, not only for the Department, but also for the commercial market. If a business fears it may lose its IP, which could potentially be the "crown jewel" underpinning the entire business, the company may simply choose not to contract with the Department in order to protect its future value on the commercial market. If a business elects to contract with the Department despite the risk of losing its IP rights, the company would be expected to account for that risk in its proposed price, which would limit the government's ability to maximize value. Alternatively, the company may decide to develop two different versions of a product: one for the government and one for the commercial sector. This could result in a better product going into a commercial offering or to another commercial entity that may or may not be willing to sell to the government, depending on outside investor decisions.

As mentioned above, the *Vital Signs 2026 Survey* shows that even before RTR mandates, more companies are already choosing not to contract with the Department or include certain technologies over fears of losing their IP. RTR mandates will further discourage companies from contracting with the Department and from investing in R&D focused on defense applications, which ultimately limits the Department's access to the most innovative and cutting-edge technologies.

Forcing Disclosure of Sensitive Proprietary IP: RTR proposals mandate that contractors provide repair materials, which can include proprietary software tools, technical data, specialized manufacturing techniques, and other trade secrets as a condition of contracting with the Department. This also includes proprietary IP completely developed through private expense without government funding. The Department would then be able to share this sensitive information with various third parties, which can include an OEM's direct competitors.

In addition to increasing the risk for U.S. innovations to fall into the hands of U.S. competitors and potential adversaries through unauthorized dissemination of sensitive information, forcing IP disclosure also weakens long-standing IP protections by exposing U.S. company innovations to reverse engineering and IP misappropriation, both domestically and internationally. This loss of IP creates a competitive disadvantage for U.S. companies by allowing competitors, third-party providers, and potentially international companies to replicate and/or misuse sensitive proprietary technologies. This type of IP loss further deters companies from contracting with the Department.

Increasing Legal, Safety, Compliance, and Contractual Risks and Conflicts: Although there is an attempt to define "fair and reasonable" within the RTR proposals, the unilateral control given to the government to define the prices, terms, and conditions surrounding a company's IP and associated repair materials introduces risk and legal ambiguity, which creates a further chilling effect on participation in defense contracts. For example, contractors may face compliance risks related to prior licensing and sales agreements, including exports, as each of these may have terms that could be arguably more favorable when viewed in isolation. Additionally, defense systems often integrate third-party IP under restrictive licenses, and OEMs may be unable to legally share certain tools and information without violating those agreements under the proposed RTR mandates. This would force companies to forgo contracting with the Department to avoid breach of contract or False

Claims Act risk, which again will limit the Department's access to innovation.

In addition, the proposed RTR mandates introduce a level of potential safety risk. There is significant interest and attention around additive manufacturing and 3D printing, but this should not mask the complexity of the safety, reliability, or viability of these options in austere expeditionary environments. While utilizing additive manufacturing to 3D print a door handle or a small hatch may introduce little risk, many components on advanced platforms can fail if not produced under the most favorable conditions by properly trained technicians. As an example, manufacturing an aileron[1] for a military aircraft outside of an extremely controlled environment with highly trained personnel would introduce significant risk to the performance of the aircraft and the safety of the pilot. In addition, many advanced components are manufactured utilizing specific materials with advanced techniques in exacting environments to extremely precise standards.

Read NDIA's White Paper "IP and Data Rights: Protecting DoD's Access to Innovation" at www.NDIA.org/IPDataRights

1 An aileron is a hinged flap on the edge of an aircraft's wing, used to control the plane's roll, enabling the plane to bank as it turns.

Cybersecurity

Technological advancements offer tremendous economic and national security benefits, but an increasingly interconnected world also incentivizes sophisticated competitors and potential adversaries to hunt for opportunities to exploit vulnerabilities for their advantage. From an economic and security perspective, the U.S. must protect the nation's critical data and networks. The pacing competitor and near-peer competitors of the U.S. work every day to steal commercial IP and personal data, extract financial and health information, and undercut the U.S. military's competitive advantage.

For these reasons, NDIA member companies long ago committed to the necessity of security for the data and systems that power the U.S. DIB, as well as the platforms, infrastructure, technologies, and services that support U.S. warfighters. Simultaneously, to avoid extraneous costs and burdens on industry, NDIA has been attentive to focusing resources and efforts to prioritize protecting the critical information and systems that truly matter.

Cybersecurity Maturity Model Certification

Since 2017, defense contractors have been required to protect controlled unclassified information (CUI) in accordance with requirements defined in National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171, Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations.[101] Subsequently, in 2019, the Department sought to require independent verification that a company fully complied with the required cybersecurity standards through the CMMC program, moving away from a self-attestation model to a model requiring companies to hire third-party assessors to certify compliance. After several years and multiple iterations of rulemaking, the final rule governing the CMMC program became effective on December 16, 2024.[102]

CMMC has three levels that contractors must meet, depending on what is specified in their contract. Level 1 requires contractors to meet 15 basic security practices, as outlined in FAR 52.204-21, for the protection of Federal Contract Information (FCI) through a self-assessment.[103] Level 2 requires contractors to protect CUI by meeting all 110 requirements of NIST SP 800-171 Rev. 2, which, depending on the contract, can be met through a self-assessment or required third-party assessment.[104] Level 3 focuses on protecting CUI from Advanced Persistent Threats (APTs), which includes all the requirements for Level 2 plus additional enhanced requirements from NIST SP 800-172. For Level 3, companies must first achieve Level 2 and then be assessed by the Defense Industrial Base Cybersecurity Assessment Center (DIBCAC).[105]

On September 10, 2025, the Department released the final rule that implements the contractual requirements for CMMC in the Defense Federal Acquisition Regulation Supplement (DFARS).[106] This final rule triggers the implementation of CMMC through a four-phase plan that spaces each phase apart by one year. Phase 1 began on November 10, 2025, and, where applicable, solicitations will require completed Level 1 or 2 self-assessments. In 2026, solicitations will require a Level 2 Certification and, where applicable, Level 3 Certifications will be required in 2027. Beginning on November 10, 2028, all solicitations and contracts will include the applicable CMMC Level requirements as a condition of contract award.[107]

As the defense industry continues with the implementation of CMMC, many companies are still facing uncertainty and questions surrounding the program, especially regarding cost, which may determine whether or not a contractor or supplier will enter or remain in the U.S. DIB. According to the Department's estimates, the private sector will face an annualized cost of $4B to implement the CMMC program. The rule also estimates a cost of more than $100,000 for three years of compliance for even small companies.[108] However, the Department's cost estimates are only related to the assessment and certification of the standards; they do not include the cost of meeting the actual NIST SP 800-171 standards, something that the Department never estimated prior to release, but are costs the Department "deemed necessary" in 2017.[109] Without knowing the full costs, it can be difficult for industry partners, especially small businesses and non-traditionals, to make a fully informed business decision of whether to conduct business with the Department, which can become a large barrier to entry.

> According to the Department's estimates, the private sector will face an annualized cost of $4B to implement the CMMC Program. However, the Department's cost estimates are only related to the third-party assessment and certification that a company is CMMC-compliant. The cost estimates do not include the costs to maintain the government's standards for handling CUI.

The costs to both implement and maintain the CMMC program are significant and distinct. According to *NDIA's DIB IT and Cybersecurity Survey (Cyber Survey)* conducted in 2024,[110] for the total non-recurring costs to implement the 110 security requirements specified in NIST SP 800-171, the *Cyber Survey* respondents reported that:

- Nearly one-half (49%) spent more than $100,000
- 28% spent more than $500,000
- 16% spent more than $1M
- 12% spent more than $2M
- 4% spent more than $5M

For the annual costs to maintain the security requirements specified in NIST SP 800-171, the *Cyber Survey* respondents reported that every year:

- 45% spend more than $100,000
- 20% spend more than $500,000
- 16% spend more than $1M
- 11% spend more than $2M
- 6% spend more than $5M

As CMMC implementation continues, it is critical for policymakers in the executive and congressional branches to be mindful of the challenges facing the U.S. DIB and to identify ways to assist companies that are below the "cybersecurity poverty line."[111] **Understanding the costs to contractors to safeguard information is an essential element to ensure that companies, especially small businesses and start-ups, are not regulated out of their ability to support the Department and its missions.**

Finally, it is important to remember that if the Department's topline increases over the next several years, much of the increase will go to new programs and expanded production requirements. It is critical that policymakers remain mindful and plan for the compounding financial impact the Department will incur in other areas, including the increasing cost of weapons systems, the management of the CMMC program, and the overall CUI program itself. There could also be additional management costs incurred by the Department that are not currently being adequately accounted for in budget planning assumptions.

Controlled Unclassified Information Program

An additional important consideration for policymakers is the CUI program itself. The risk management goals

of CMMC are fully dependent upon the ability of government and industry to effectively manage and safeguard defense-sensitive CUI. Effective management, however, is only possible with clear, accurate identification of what information requires protection, which requires consistent government marking of CUI prior to the transmission of such CUI, along with clear instructions to the contractor when their performance under a contract will create defense-sensitive CUI. Industry continues to highlight numerous and frequent instances where inconsistencies, ambiguities, and inaccuracies within the current CUI marking process have led to confusion, increased costs, and decreased security for all parties.

Harmonization of Cybersecurity Compliance Across DoD and Federal Government

The harmonization of cybersecurity compliance requirements across all Department offices and the federal government is essential for effective risk management and operational efficiency. Multiple authorities issue guidance and requirements, often simultaneously and at times overlapping in coverage. However, there is no clear agency in the federal government that acts as the clearinghouse for cyber-related regulations and requirements. For more information, see the *Vital Signs 2025* report, page 35.[112]

Cybersecurity harmonization was included in Section 866 of the FY2026 NDAA.[113] Section 866 requires the Department to undergo an effort by June 1, 2026, to harmonize the cybersecurity requirements applicable to the U.S. DIB and reduce the number of requirements that are unique to a specific contract or other agreement of the Department. While this is a positive step within the Department, further efforts are needed across the federal government as a whole.

For example, on January 5, 2026, the U.S. General Services Administration (GSA) released an update to its IT Security Procedural Guide on protecting CUI in nonfederal systems, which requires organizations to comply with Revision 3 of the NIST SP 800-171 standards.[114] Not only was this released before the FAR CUI rule has been finalized, but both the pending FAR rule[115] and the implemented CMMC program[116] require the use of Revision 2 of NIST SP 800-171, meaning **the GSA Procedural Guide requires a different CUI protection standard than what is required for defense contractors and what may be required for all federal contractors**. This will cause confusion within the CUI protection ecosystem by requiring contractors to comply with differing CUI protection standards. **In parallel, NIST is moving to dynamic control releases without going through the more thorough revision process, which leaves industry with fewer opportunities to collaborate and provide feedback on cybersecurity standard updates.**

Recommendations:

Short-Term

16. **The Department must engage in a formalized process with industry and across the federal government to establish clear, consistent CUI identification and marking guidance.**
17. **The Department must work to align and lessen the regulatory burdens for cybersecurity incident reporting and software attestation across the federal government.**
18. **Congress and the Department must work to enact provisions that support companies unable to adequately invest in cybersecurity protections, including tax credits and Small Business Administration (SBA) guaranteed loans.**
19. **Congress must direct the National Archives and Records Administration (NARA) to streamline and simplify CUI markings requirements to refocus CUI efforts on securing IT systems, rather than on non-value added onerous markings.**

Authority to Operate

The Department's ATO process has been one of the largest barriers to providing cutting-edge software to the Pentagon.[2] An ATO is a formal authorization from the Department that allows a system, network, or application to operate within a defense environment. The authorization process is based on the Federal Information Security Modernization Act (FISMA), Office of Management and Budget (OMB) Circular A-130, NIST Risk Management Framework (RMF) processes leveraging Federal Risk and Authorization Management Program (FedRAMP), and the FedRAMP Authorization Act, supplemented with agency-specific considerations.[3]

Timeline and Cost

Since 2014,[4] the Department has leveraged the NIST RMF, which is a seven-step process outlined in NIST SP 800-37.[5] Getting a traditional ATO could take several years and cost substantial funds, which can be very burdensome to small businesses and a barrier to rapidly delivering relevant software capabilities to the warfighter in a timely manner.[6]

The *Vital Signs 2026 Survey* asked companies for feedback on the time required to get through the ATO process.

Where a classified ATO was applicable, private sector respondents reported the following timelines:

- Less than 9 months – 22%
- 9 to 18 months – 32%
- 18 months to 3 years – 33%
- Longer than 3 years – 13%

Where an unclassified ATO was applicable, private sector respondents reported the following timelines:

- Less than 9 months – 44%
- 9 to 18 months – 32%
- 18 months to 3 years – 17%
- Longer than 3 years – 8%

In regard to cost, it is not unusual for a company to pay a Department-recommended third-party vendor high six figures (~$400,000) to get the company certified for an ATO. This cost estimate is only for the Pentagon's unclassified networks.

Implementing Improvements

Recognizing what the then DoD Chief Information Officer (CIO) characterized as "sluggish, duplicative processes that hinder technology and software innovation,"[7] on May 2, 2024, the Department released a one-page memo directing authorizing officials to leverage re-use and reciprocity "except when the cybersecurity risk is too great."[8] The goal is to save

2 Leed, Dr. Maren et al. "Coding the Future: Recommendations for Defense Software R&D." Emerging Technologies Institute. July 2023. https://www.emergingtechnologiesinstitute.org/-/media/ndia-eti/reports/software-report/eti_codingthefuture_final.pdf?download=1; See "Barriers to AI Adoption" on page 35 for further discussion.

3 U.S. Department of Defense. "ATO 101 for Small Businesses Pamphlet." October 10, 2024. https://dodcio.defense.gov/Portals/0/Documents/Library/ATO-101SmBusinessInfo.pdf#:~:text=While%20all%20systems%20require%20ATOs%2C%20the%20DoD,wireless%20capabilities%2C%20network%20devices%2C%20controllers%2C%20and%20sensors.

4 Inspector General, U.S. Department of Defense. *Audit of the DoD's Use of Cybersecurity Reciprocity Within the Risk Management Framework Process (DODIG-2022-041).* 2021. https://www.dodig.mil/reports.html/Article/2863697/audit-of-the-dods-use-of-cybersecurity-reciprocity-within-the-risk-management-f/.

5 Joint Task Force. "Risk Management Framework for Information Systems and Organizations: A System Life Cycle Approach for Security and Privacy." National Institute of Standards and Technology: Information Technology Laboratory. December 2018. https://doi.org/10.6028/NIST.SP.800-37r2.

6 Kroger, Bryon. "How achievable is the continuous Authority to Operate model?" *C4ISRNET.* June 28, 2024. https://www.c4isrnet.com/opinion/2024/06/28/how-achievable-is-the-continuous-authority-to-operate-model.

7 Welch, Carley. "Pentagon announces new reciprocity guidance to streamline software adaptation." *Breaking Defense.* May 9, 2024. https://breakingdefense.com/2024/05/pentagon-announces-new-reciprocity-guidance-to-streamline-software-adaptation.

8 U.S. Department of Defense, Office of the Deputy Secretary of Defense. "Resolving Risk Management Framework and Cybersecurity Reciprocity Issues." May 2, 2024. https://dodcio.defense.gov/Portals/0/Documents/Library/ResolvingRMF.pdf.

time and money by letting federal entities reuse other organizations' internal and external findings.[9]

On May 29, 2024, the Department also released the Continuous Authorization to Operate (cATO) Evaluation Criteria,[10] which maps out the principles for a continuous ATO and follows the Department's 2022 cATO memo.[11] The cATO is a modernized authorization process that moves away from a point-in-time, document-based security assessment to a process that continuously assesses, monitors, and manages risk, with the goal of allowing an organization to build and release new system capabilities by continuously monitoring them against approved security controls.[12]

New Cybersecurity Risk Management Construct

Building upon the previous efforts to improve the ATO process, in September of 2025, the Department announced the implementation of the Cybersecurity Risk Management Construct (CSRMC).[13] Replacing the long-standing RMF, which was "overly reliant on static checklists and manual processes," the CSRMC is intended to embed cybersecurity throughout the system lifecycle through automation as well as continuous monitoring and ATO to move toward a "constant" authorization posture.[14]

The CSRMC organizes cybersecurity into five phases, which include the design phase, build phase, test phase, onboard phase, and operations phase. In addition to automation and continuous monitoring, the CSRMC is grounded in ten core principles, including reciprocity and cybersecurity assessments, "integrating threat-informed testing to validate security."[15] Although further guidance for CSRMC is needed, it is important to note that CSRMC is completely separate from CMMC, which remains the compliance regime for contractors handling FCI and CUI.

The CSRMC's emphasis on a "repeatable playbook" highlights an opportunity to improve cost and schedule predictability, particularly for small businesses. Greater standardization—such as publishing predefined authorization packages by implementation "lane" (e.g., SaaS Moderate/IL4 hosting, on-premises enclave, and data-only systems)—could reduce unnecessary variability in the ATO process. Clearly defining a baseline set of required artifacts for each lane, while limiting additional documentation to cases where elevated risk warrants it, would help streamline authorizations and improve planning reliability across the industry.

Recommendations:

Short-Term

20. **The Department must continue to emphasize speed, reciprocity, cost reduction, and predictability within the ATO process and provide industry more clarity around guidance and implementation timelines for the CSRMC.**

9 Welch, Carley. "Pentagon announces new reciprocity guidance to streamline software adaptation." *Breaking Defense.* May 9, 2024. https://breakingdefense.com/2024/05/pentagon-announces-new-reciprocity-guidance-to-streamline-software-adaptation/.

10 U.S. Department of Defense. "Continuous Authorization to Operate (cATO) Evaluation Criteria." May 29, 2024. https://dodcio.defense.gov/Portals/0/Documents/Library/cATO-EvaluationCriteria.pdf?ver=A8tLIfPjmp3RpemU6JOhJw%3D%3D.

11 U.S. Department of Defense, Office of the Secretary of Defense. "Continuous Authorization To Operate (cATO)." February 3, 2022. https://media.defense.gov/2022/Feb/03/2002932852/-1/-1/0/CONTINUOUS-AUTHORIZATION-TO-OPERATE.PDF.

12 Kroger, Bryon. "How achievable is the continuous Authority to Operate model?" *C4ISRNET.* June 28, 2024. https://www.c4isrnet.com/opinion/2024/06/28/how-achievable-is-the-continuous-authority-to-operate-model/

13 U.S. Department of War. "Department of War Announces New Cybersecurity Risk Management Construct." September 24, 2025. https://www.defense.gov/News/Releases/Release/Article/4314411/department-of-war-announces-new-cybersecurity-risk-management-construct/.

14 Ibid.

15 Ibid.

Artificial Intelligence and Autonomy

AI and machine learning (ML) are general-purpose technologies that can be leveraged across a broad range of use cases, offering tremendous benefits to American society and U.S. national security. The Department identifies AI as a technology with disruptive potential for defense capabilities and highlights it as a critical technology area for enhanced attention and investment. AI, ML, and autonomy are all poised to drive the military technological innovation needed to equip U.S. warfighters with AI-enabled systems that will improve the timeliness, speed, quality, and accuracy of decisions in the field, which can provide the decisive advantage needed to deter or win a fight.

In the *Vital Signs 2026 Survey*, private sector respondents were asked what percentage of their company's defense products or services incorporate the use of AI: 17% reported they use AI in more than one-quarter of their defense products, which is 4 percentage points higher than last year's survey. 15% reported they use AI in 15% to 25% of their defense products, and 38% reported they use AI in less than 15% of their defense products.

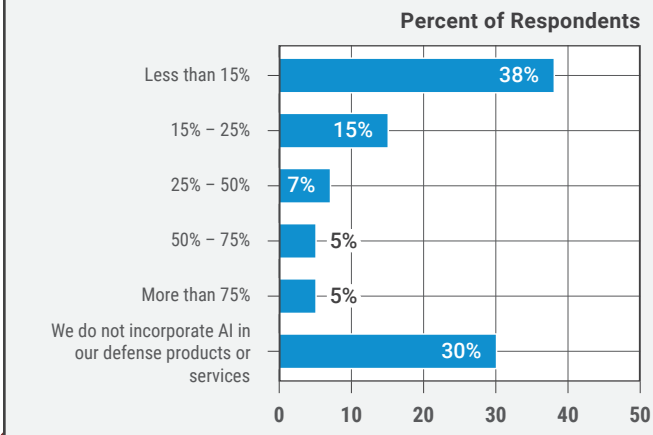
Private sector respondents were also asked what percentage of their company or business unit's work involves the use of AI in procurement: 13% of respondents use AI for procurement in more than 25% of their work, which is an increase of 5 percentage points above the 2025 survey. 14% of respondents use AI for procurement in 15% to 25% of their work, and 41% of respondents use AI for procurement in less than 15% of their work.

Barriers to AI Adoption

Despite the increasing use of AI, AI regulation within the United States is still very nascent and highly fragmented. This has led to both existing and emerging barriers hindering the timely adoption of AI technologies. In this context, in September of 2025, the Office of Science and Technology Policy (OSTP) released a request for information (RFI) to identify "statutes, regulations, agency rules, guidance, forms, and administrative processes that unnecessarily hinder the development, deployment, and adoption of AI technologies." OSTP's mandate is to coordinate federal science, technology, and policy efforts across the U.S. federal government.

Question 26

What percentage of your company's defense products or services incorporate the use of artificial intelligence?

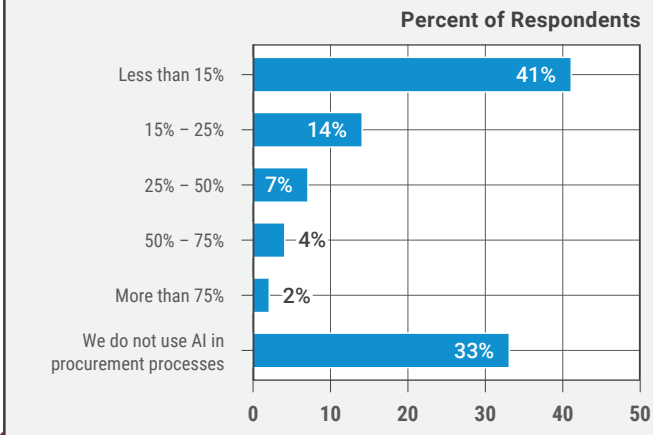


Source: NDIA Survey

*Due to rounding, the sum of the figures may not equal 100%

Question 24

What percentage of your company or business unit's work involves the use of artificial intelligence in procurement processes?



Source: NDIA Survey

*Due to rounding, the sum of the figures may not equal 100%

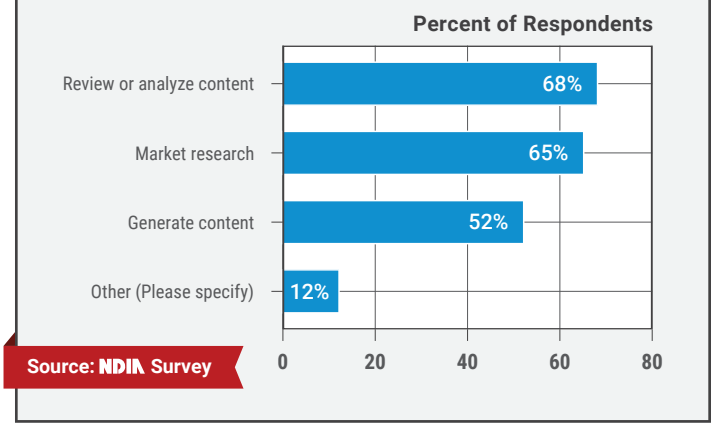
The Department launched efforts around AI policy earlier in 2025, when the Pentagon's Industrial Base Policy (IBP) office[117] released "Artificial Intelligence (AI) in Defense: A Roadmap for the Future of the Defense Industrial Base (DIB)." The key findings of this report, which was informed by the 2024 RFI for DIB Adoption of AI,[118] identified that AI capabilities are expanding, AI is being deployed by U.S.

DIB suppliers for both business operations and weapons system integration, and there is opportunity for the Department to further improve AI adoption with short-, medium-, and long-term actions.

However, the report also highlighted **five key adoption barriers for AI, including data sharing, workforce and education, acquisition processes, supply chain security, and IP.** Examples within the five key adoption barriers include challenges with decentralized, isolated data repositories, which restrict access to pertinent data that the U.S. DIB may require to develop relevant AI models. Acquisition processes are also complex, making it difficult for AI start-ups and small businesses to navigate the acquisition landscape. In addition, developing AI-enabled defense systems often involves collaboration between multiple entities, including defense primes, non-traditional contractors, and research institutions. This can make it difficult and complex to determine ownership and sharing of IP and data rights, and to assess the outcomes of AI tools in collaborative projects.

Question 25

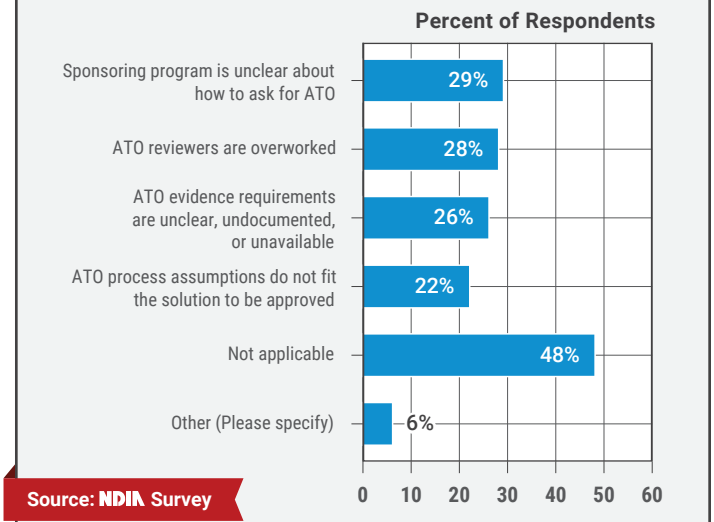
How does your company or business unit use AI? *(Select all that apply)*



Source: NDIA Survey

Question 28

What are the biggest barriers to classified ATOs? *(Select all that apply)*



Source: NDIA Survey

Authority to Operate for AI

In addition, one of the most significant barriers to efficiently introducing new AI capabilities into the U.S. government is the "Authorization and Accreditation" process required to obtain an ATO. Getting a traditional ATO can take over a year and cost substantial sums, which can be very burdensome for small businesses and a barrier to rapidly delivering relevant software capabilities to agencies (see more information on ATO on page 33).

Two very prominent examples are the FedRAMP and the Department's Impact Levels 4 and 5, which are standardized, risk-based frameworks that establish security controls to handle certain levels of data. Level 4 includes security controls to handle CUI and non-CUI for non-critical defense data, and Level 5 includes security controls to handle CUI, national security systems, and highly sensitive data. To be clear, these certifications are necessary. However, the certification process is unnecessarily long and laborious, often preventing innovative startups from adding value to the U.S. government, if they even try. In addition to taking a year or more to complete, which stifles progress and dissuades new companies from working with the Department, they traditionally require an agency to sponsor a certification before the process can even begin, despite the cost and burden being almost exclusively the responsibility of the company seeking the certification.

Federal Preemption

Another potential emerging barrier to the adoption of AI within the defense ecosystem is the growing interest of states in enacting AI regulations in the absence of a national

regulatory framework. At the national level, certain federal laws account for the unique impact of national defense, sometimes resulting in national security exemptions or specialized rules for defense applications.

For example, the debate surrounding many AI regulations includes protecting individuals from potential harm posed by AI systems. However, for some defense-related AI applications and autonomous weapons systems, neutralizing potential threats, which may cause harm to individual targets, may be the intended purpose of the AI system. This has already been addressed with certain international AI laws enacted to account for the unique nature of defense-related AI systems. For example, the European Union (EU) recently enacted the "EU AI Act," touted as the world's first comprehensive AI law addressing the potential risks of AI development and deployment. However, the EU AI Act includes a national security exemption excluding AI systems used exclusively for military, defense, or national security purposes.

Throughout 2025, U.S. policymakers have debated the potential impact of preempting state AI regulations. In December of 2025, the White House released EO 14365, "Ensuring a National Policy Framework for Artificial Intelligence."[119] This EO establishes an AI Litigation Task Force to challenge state AI laws in conflict with the EO on constitutional grounds. Additionally, states with AI laws considered onerous would be ineligible for non-deployment funds under the Broadband Equity Access and Deployment (BEAD) Program, which funds broadband infrastructure deployment, service installation in multi-unit buildings, and adoption programs in unserved and underserved areas.[120]

However, **the debate over federal preemption has mainly focused on broad federal preemption rather than the specific potential impact of state laws on defense-related AI applications.** While some states, like Colorado, have enacted broad exemptions for defense-related AI applications within AI regulations, others have not. A recent example is California Senate Bill (SB) 53, the "Transparency in Frontier Artificial Intelligence Act," enacted in September 2025, that establishes safety and transparency requirements for developers of advanced AI models. Under the new state law, large developers must create, implement, and publish an online framework outlining how they assess, manage, and mitigate "catastrophic risks," incorporate relevant standards, and address cybersecurity. Developers are also required to report "critical safety incidents," including those posing an imminent risk of death or serious injury. SB 53 does allow large developers to redact information from online reports to protect national security; however, unlike the EU AI Act and Colorado's AI law, there is no broad exemption for defense-related applications. It is yet to be seen how this may impact the Department's decision to purchase defense-related AI systems, including those integrated into larger systems, where foreign adversaries would also have access to potentially sensitive publicly available information about the system online.

Roles and Responsibilities

As agencies work to update their policies and procedures for the adoption and use of AI systems, it is imperative that they are mindful of the roles and responsibilities placed on contractors. As an example of a potential unintended consequence related to roles and responsibilities, in November 2025, GSA released the order, *Accelerating Responsible Use of Artificial Intelligence at GSA*.[121] While much of the directive focuses on internal compliance, the new terms and conditions within the directive essentially impose barriers for software companies integrating and using large language models (LLMs), which may deter companies from working with commercial LLM providers, because defense contractors could be responsible for certain outputs (or refusals) of LLMs out of their control. By passing through these requirements, GSA is potentially creating an environment where software companies could be chilled from working with the government due to overreaching regulations.

Administration Efforts to Bolster AI

On January 9, 2026, Secretary Hegseth released three memos focused on reorganizing the innovation community, accelerating AI adoption, and reducing bureaucratic barriers. The "Transforming the Defense Innovation Ecosystem to Accelerate Warfighting Advantage" memo disestablishes the Defense Innovation Steering Group, the Defense Innovation Working Group, and the Chief Technology Officer (CTO) Council.[122] In their place, the Under Secretary of War for Research & Engineering (USW(R&E)) will be the single, empowered CTO tasked to "modernize the Department and

align innovation organization around outcomes that matter for the warfighter."[123] The memo establishes a framework to focus on delivering innovation in three key areas, including technology innovation, product innovation, and operational capability. It also highlights presenting industry with clear demand signals through two complementary channels. The Mission Engineering and Integration Activity (MEIA) will engage industry through problem-driven engagement to explain to industry what the Department is trying to do. In addition, the Defense Innovation Unit (DIU) will focus on the product side by helping Program Acquisition Executives (PAEs) and program offices better adopt what industry has built.[124]

The second memo, *Transforming Advana to Accelerate Artificial Intelligence and Enhance Auditability*, focuses on restructuring Advana,[125] which is the Department's enterprise data and analytics platform that uses AI/ML to integrate data from over 400 Department business systems.[126] The memo directs the USW(R&E) and the Chief Digital and Artificial Intelligence Officer (CDAO) to restructure Advana into three distinct program components.[127] The War Data Platform (WDP) program team will focus on the core data integration layer to provide standardized data access to streamline the rapid development and integration of AI and other applications Department-wide. The Advana for Financial Management program team will focus on supporting the USW (Comptroller) Audit Remediation Teams to achieve a clean audit of the FY2028 agency-wide financial statements. Finally, the WDP Application Services program team will focus on rationalizing all other existing (non-audit-related) Advana application environments, supporting migrations to the new WDP architecture, and supporting self-service integration of new agentic AI[128] and other applications.[129]

The third memo lays out the *"Artificial Intelligence Strategy for the Department of War."*[130] This strategy re-focuses the CDAO to enable seven "Pace-Setting Projects" (PSPs) that will serve as tangible, outcome-oriented vehicles to complete the buildout of AI enablers, including infrastructure, data, models, policies, and talent, that are spread across the warfighting, intelligence, and enterprise mission areas.[131]

Future Opportunities for AI

The opportunities for applying AI technologies are effectively limitless. However, meeting the Department's mission requires a diverse set of stakeholders and industry partners with access to critical technology. As the U.S. DIB and the Pentagon continue to push for the adoption of AI in business operations and weapons system integration, policymakers must work to reduce barriers to AI adoption to ensure our warfighters have the most technologically advanced systems to deter and, if necessary, win a fight. The memo also states the Department's intent to invest in AI compute infrastructure, from datacenters to the edge, and enable greater access to data and talent.

Recommendations:

Short-Term

21. **Congress and the Department must increase investment in critical AI and autonomous technologies and utilize all acquisition pathways to ensure our warfighters have access to the most innovative and cutting-edge tools.**
22. **Congress and the Department must establish contracting mechanisms and acquisition strategies that respect and protect privately developed IP to the greatest extent possible and focus on acquiring only those technical data deliverables and license rights necessary to accomplish the specific, definitive goals of the government at hand.**
23. **Policymakers must ensure that any AI regulatory proposal takes a risk-based approach that targets harms raised by specific applications of AI systems in high-risk use cases.** Specifically, proposed regulations should focus on defined use cases (rather than a general definition of "high-risk") to enable clear legal analysis and an efficient development process.

Golden Dome for America

On January 27, 2025, the Trump Administration released an EO calling for the development of a next generation integrated air and missile defense shield to defend the U.S. homeland against nuclear and conventional attacks.[132] This layered, multi-domain defense shield effort, which has become known as the "Golden Dome for America (GDA)" is described as a "system of systems,"[133] integrating existing sensors and missile defense assets while investing in a slate of next generation capabilities outlined in the EO. The EO intends to address the Trump Administration's concerns that, in the last two decades, the official U.S. homeland missile defense policy focused on missile defense threats from regional actors such as Iran and North Korea, and on accidental or unauthorized missile launches. The intention of the EO is to expand that policy—and the associated capabilities—to address the threats from next-generation strategic weapons and delivery systems. The EO's policy direction focuses on deterrence and defense for both U.S. citizens and critical infrastructure and explicitly expects the U.S. to have a guaranteed and secure second-strike capability.

Congress has already provided $24.4 billion for the related GDA effort in the FY2025 reconciliation law, the OBBB Act.[134] All investments in GDA will be guided by an updated missile defense force planning construct, defined by a newly expansive vision to defend the homeland against all aerial attacks, including ballistic, cruise, and hypersonic missiles, as well as aerial and Unmanned Aerial Vehicle (UAV) threats, from peer and near-peer adversaries. GDA envisions defending the homeland from these advanced aerial threats by integrating a constellation of sensors across the air, ground, sea, and space domains with new and existing interceptors manned by the joint force, cooperating across geographical and functional combatant commands.

The current goal is for GDA to achieve initial operational capability by summer 2028. The integrated nature of GDA will enable the Department to build upon and integrate with previous efforts to modernize command and control for joint, multi-domain warfare, known as Combined Joint All Domain Command and Control (CJADC2). In turn, while focused on the homeland, advancements in GDA may also enable further improvements in the use of CJADC2 in operations around the globe, including with U.S. allies and partners.

The Construct of Golden Dome for America

Although few details are currently publicly available on GDA's overall architecture, the USSF has awarded 18 OTA prototype contracts for space-based interceptors (SBIs), which are satellites designed to target and destroy incoming ballistic and hypersonic missiles from orbit.[135] Through the Brilliant Pebbles program in the late 1980s, SBIs were developed to destroy adversary ballistic missiles in the boost phase by colliding with them at high speed.[136] Although the technology was proven, these "pebbles" were high-cost, exquisite systems that made scaling difficult. For GDA, the USSF is looking to deploy SBIs and other kinetics that are lower cost per shot with a deeper magazine.[137]

The Space Development Agency's (SDA) Proliferated Warfighter Space Architecture (PWSA) will also likely play a key role in the GDA "system of systems," as it did with the CJADC2 architecture. PWSA is a network of low Earth orbit Satellites that SDA has been launching since its inception in 2019. Their position in low Earth orbit can enable improved domain awareness as well as intelligence, surveillance, and reconnaissance (ISR) functions to U.S. warfighters, while their proliferated nature can provide resilience against attempts to degrade or disrupt joint communications.

The "Transport Layer" of the PWSA, the space backbone of CJADC2, is intended to transport information from the PWSA across the joint force to entities such as U.S. NORTHCOM, whose area of responsibility includes the U.S. homeland. Other layers of PWSA perform functions such as missile warning and tracking threats to the homeland. The GDA EO calls for further development of PWSA to include a "Custody Layer," which would enable preemptive intercepts, such as boost phase intercept. Importantly, the Custody Layer provision reinforces the centrality of PWSA to modern command and control of homeland missile defense.

As the GDA EO is implemented, there are three first-order policy and technology questions that must be clarified. First, despite the clear wording of the EO, it is not settled that policymakers agree on addressing all threats posed by regional and strategic actors. Second, the acquisition strategies, including creating a joint, all-domain command-and-control network, will require continual government engagement, a key point noted by congressional oversight committees.

Finally, there are ongoing questions involving funding, particularly around capabilities to deter and, if necessary, defeat strategic competitors, that need to be addressed or at least managed. Regardless of whether policymakers agree with the EO, there is a consensus that the investment in the OBBB Act is a small down payment on what will be required. Consistency in addressing these questions will be crucial as the government looks to industry to make significant investments in developing these capabilities.

Golden Dome for America: CJADC2 Use Case

Homeland missile defense presents the exact type of operational problem set that CJADC2 was conceived to solve. USSF General Michael Guetlein, the Director of GDA, has articulated that his first priority is "getting out of the gate on [command and control]… to deliver on that vision of integrated command and control… we have to bring to bear an integrated network of sensors… with an integrated network of interceptors that have probably never been brought together before, between the Army, the Navy, the Air Force, and even the Marine Corps."[16]

Given that GDA has the same operational requirements as envisioned for CJADC2, for GDA to be successful, the challenges faced by the CJADC2 cross-functional team offer useful lessons. The overarching problem which inspired the concept of CJADC2 in the first place is the difficulty in achieving genuine interoperability across the U.S. joint force, let alone with U.S. allies and partners. U.S. Combatant Commanders are tasked with command and control of a joint force made up of units from across the services, using different platforms with different specifications built by different companies, developed within different service cultures. The stovepipes within which the sensors and shooters are developed represent the problem at its core.

In April 2025, the Government Accountability Office (GAO) released a report on the CJADC2 cross-functional team, as well as the overall progress made across the Department. GAO found that while much progress had been made, the cross-functional team did not create a framework to guide the Military Services and to measure their progress as they each pursued their own investments and initiatives toward the CJADC2 goal. The GAO also found that the cross-functional team did not satisfactorily share lessons learned from CJADC2 success stories, such as the Army's XVIII Airborne Corps, across the Department.

As such, there are important lessons to be learned from the Department's CJADC2 cross-functional team, which will play a direct role in the Golden Dome "system of systems." The challenges and lessons learned from the CJADC2 effort will inform success for GDA, as a new cross-functional team attempts to conquer similar problems of integration across the joint force, in service of a new, ambitious concept for homeland defense.

Recommendations:

Short-Term

24. **Congress must continue consistent and stable annual funding for Golden Dome for America beyond the initial investment in the FY2025 reconciliation law.**

16 Hadley, Greg. "Guetlein: First Priority for Golden Dome Is Command and Control." *Air & Space Forces Magazine.* July 23, 2025. https://www.airandspaceforces.com/guetlein-first-priority-golden-dome-c2/.

Advanced Manufacturing

Advanced manufacturing (AM) is a growing area where innovative technologies and methods can improve and enhance competitiveness within the manufacturing sector, including for the U.S. DIB. Although there is no full consensus around the definition of advanced manufacturing, several functional areas include: additive manufacturing (3D printing), digital modeling and simulation, AI, advanced materials, robotics and automation, biotechnology, laser machining and welding, nanotechnology, and network and information technology (IT) integration.[138]

Additive Manufacturing

A large focus area within AM for the Department has centered around 3D printing. In 2021, the Office of the then-Secretary of Defense Manufacturing Technology (OSD ManTech) Program Office in the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) released its first-ever comprehensive Additive Manufacturing Strategy.[139] The Strategy outlines how additive manufacturing supports U.S. economic and defense dominance in three key areas:

1. Modernizing national defense systems to improve performance using additive manufacturing-designed equipment
2. Increasing materiel readiness to rapidly prototype and produce direct parts, thereby reducing the risk of obsolete hardware
3. Enabling U.S. warfighters to employ innovative solutions on the battlefield through additive manufacturing capabilities

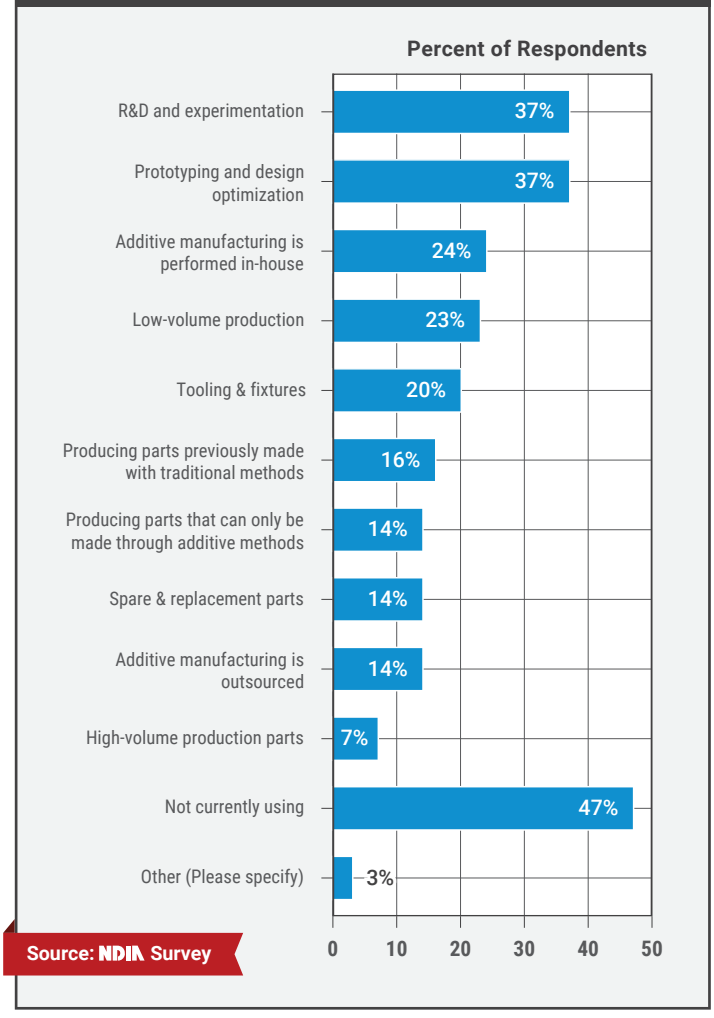
Private sector responses to the *Vital Signs 2026 Survey* directly reflect the first two key areas of the Additive Manufacturing Strategy and offer insights into how warfighters are able to utilize these capabilities on the field. When asked how companies are using additive manufacturing in production, over half of the private sector respondents (53%) reported they are utilizing additive manufacturing in some form, with the top two areas being R&D and experimentation (37%) and prototyping and design optimization (37%).

More broadly, when asked where organizations are integrating digital technologies to significantly increase the speed of product delivery in production, the top six answers include:

- Design/modeling (54%)
- Workforce training (39%)
- Personnel systems (27%)
- Digital manufacturing systems (27%)
- Supply chain transactions (22%)
- Supply chain illumination (17%)

Question 29

How is your company using additive manufacturing in production? *(Select all that apply)*



Furthering Advanced Manufacturing

Over the next several years, advanced manufacturing has the promise to become further ingrained in manufacturing supply chains to help reduce lead times and cycle times, lower defect rates, increase the time machines are up and running, and enable faster times for product changeover or deployment of new production lines. In the short term, it will be important to focus on key R&D priorities that help to optimize existing infrastructure and embed AI into current systems. This includes AI for predictive maintenance and dynamic scheduling, augmented reality/virtual reality (AR/VR) for workforce training, advanced sensors, strengthening operational technology cybersecurity, and promoting modular manufacturing platforms.

However, companies face several challenges in implementing and scaling advanced manufacturing technologies. Technology alone will not solve the challenge. Many of the constraints in the U.S. DIB affect small- and medium-sized manufacturers specializing in defense-specific subcomponents. Without additional government incentives, these companies often cannot justify the ROI for modernization and the adoption of advanced manufacturing. For companies involved in higher-volume commercial production, investment in AM is easier to justify, but government incentives may still be needed.

The "valley of death" between lab-scale innovation and commercial production (technology readiness levels (TRLs) 4-7)[140] remains a persistent challenge. Shared pilot lines, such as those operated by Manufacturing USA institutes, can provide critical infrastructure and de-risk scale-up efforts. Financial assistance from programs like the Department of Energy (DOE) Loan Programs Office or the Department's OSC can also help.

The absence of widely accepted standards for process validation, quality assurance, and material certification also hinders widespread adoption, especially in highly regulated sectors like aerospace and defense. In additive manufacturing, the certification of printers, feedstocks, and parts for critical applications is also a well-known long-term barrier.

Other challenges include both offshore dependencies and inherent limitations on domestic supply chains, such as the slow throughput of 3D printing, compared to traditional casting or the seasonal variability of biomass feedstock for biotechnology. This drives the requirement for the U.S. to incentivize a domestic recycling industry for strategic materials.

As with many areas within the defense sector, there is also a pronounced shortage of workers skilled in both traditional and new manufacturing disciplines, ranging from welding to synthetic biology, process engineering, and nanoscale characterization. Federal, state, and local investments, in partnership with industry, are needed to promote cross-disciplinary training, apprenticeships, and stackable credential pathways.

Overcoming these challenges will require collaboration between industry, academia, and government. Public-Private Partnerships (PPPs) are ideal for addressing complex, capital-intensive challenges that neither sector can solve alone. For example, Manufacturing USA institutes, like America Makes, MxD, and CESMII, provide shared testbeds for validating innovations before full-scale commercialization, attracting industry funding while leveraging federal support. PPPs can also develop shared data platforms and risk assessment tools that benefit entire industries. Government-facilitated consortia can establish standardized benchmarks and testing environments for manufacturing-specific AI, building trust in its use for mission-critical processes. PPPs can also be a hub to address advanced manufacturing workforce development and recruitment needs.

Recommendations:

Short-Term

25. **Government and industry must prioritize R&D investments to optimize existing infrastructure and embed intelligence into current systems to increase the use of advanced manufacturing.**
26. **Manufacturing USA institutes must be charged with collaborating and expanding their shared testbeds to accelerate innovation validation before full-scale commercialization, creating proven pathways that attract both industry investment and federal support.** Beyond physical infrastructure, these institutes must spearhead the development of shared data platforms and risk assessment tools that elevate entire defense manufacturing ecosystems rather than individual companies.
27. **The Department must partner with national and regional programs, including the Manufacturing USA institutes, to establish hubs for advanced manufacturing workforce development and recruitment, bridging the gap between traditional manufacturing skills and emerging technology requirements.** The Department is well positioned to couple cross-disciplinary training programs, apprenticeships, and credential pathways with the workforce needs of major acquisition programs.
28. **Government-facilitated consortia must establish standardized benchmarks and testing environments essential for manufacturing-specific AI adoption.** By providing a trusted, neutral ground for validation, these consortia will build the confidence needed for mission-critical AI deployment in defense manufacturing.
29. **Manufacturing technology programs must engage warfighters in manufacturing developments to gain feedback and promote adoption of emerging technologies.**

Areas of Concern for Small Businesses

Small businesses[17] drive innovation broadly in the U.S. economy and specifically in the U.S. DIB. As the most recent Department's Small Business Strategy notes, in FY2021, small businesses made up 73% of all companies that did business with the Department and 77% of the R&D companies that did business with the Department.[18] However, there are troubling indications that more structural support must be provided to enable this critical population of companies in the U.S. DIB to thrive.

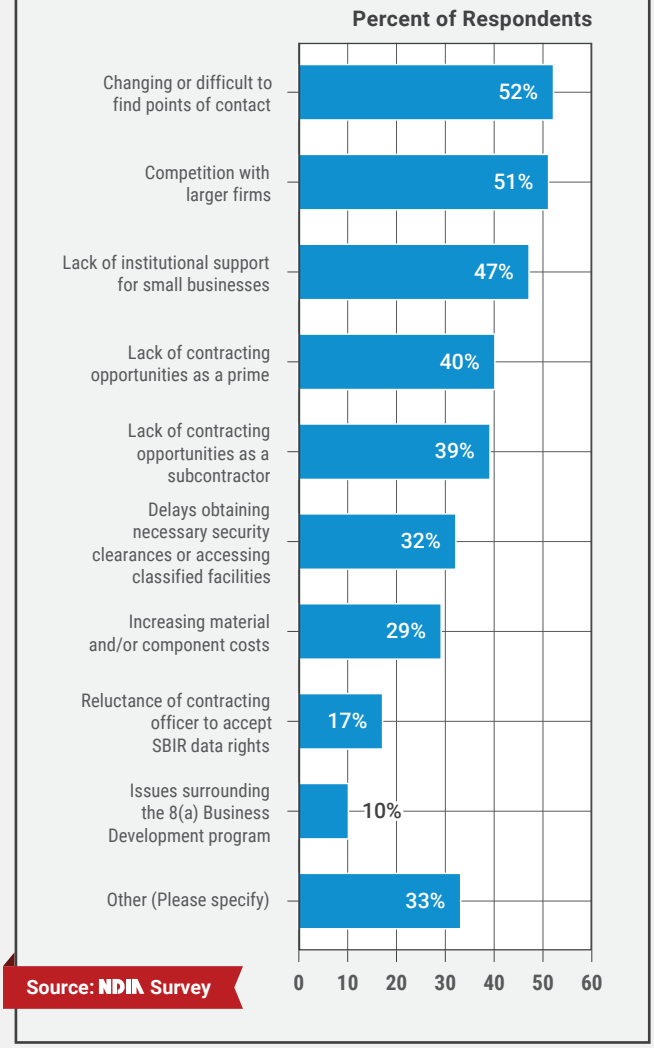
In recent years, the overall number of companies in the U.S. DIB has declined, and the Department estimates the number of small businesses participating in the U.S. DIB has declined by over 40% in the past decade.[19] In addition, all companies, including small businesses, have been under increasing pressure over the last several years. The residual effects of the pandemic, including supply chain disruptions coupled with workforce shortages, and elevated interest rates as a result of inflation,[20] have combined to increase liquidity risk to small businesses.

The *Vital Signs 2026 Survey* included tailored questions for small business private sector respondents. Of the most significant difficulties faced by small businesses in government contracting, private sector respondents highlight the following (see Q4 Chart):

- Changing or difficult to find points of contact (52%)
- Competition with larger firms (51%)
- Lack of institutional support for small businesses (47%)

Question 4

What are the most significant difficulties specifically faced by small businesses in government contracting? *(Select all that apply)*



17 Small businesses are defined in the *Vital Signs 2026 Survey* as generating total revenue between $0-$25M each year or registered as a small business by the U.S. government.

18 U.S. Department of Defense. "Small Business Strategy." October 23, 2023. https://media.defense.gov/2023/Jan/26/2003150429/-1/-1/0/SMALL-BUSINESS-STRATEGY.PDF.

19 Ibid.

20 Labonte, Marc. *Why Is the Federal Reserve Keeping Interest Rates "High for Longer"?* No. IN12388. Congressional Research Service. July 3, 2024. Library of Congress. https://www.congress.gov/crs-product/IN12388.

- Lack of contracting opportunities as a prime (40%)
- Lack of contracting opportunities as a subcontractor (39%)

For example, many small businesses report lengthy delays between being told they have won the contract and getting a definitized contract. This has significant implications for how they manage their workforce. Under these scenarios, companies report that the best option is to go with a contractor workforce, but that increases the allowable costs on the contract when the company factors in the subcontractor's own profit margin, G&A expenses, and overhead costs. In addition, the classified contractor pool is more limited, which also increases costs.

Further, the burden and risk of compliance with government contracting requirements not only increases the cost to the government but also impacts the business strategies of many dual-use technology companies. Several companies have identified challenges that defense business units in commercial companies face when both the executive management of the company, as well as investors, analyze the economic inefficiency in the defense business unit, including unique accounting requirements, defense contracting specialists, the uncertainty of funding, and compliance requirements such as CMMC and ATO costs.

The *Vital Signs 2026 Survey* also asked small businesses about contracting opportunities both as a prime contractor and a subcontractor. For prime contractor opportunities, 9% of small business respondents reported an increase, which is a decline of 4 percentage points from the 2025 survey. 40% reported the same, and 51% reported a decrease, which is 22 percentage points higher than last year's survey. For subcontracting opportunities, 10% of small business respondents reported an increase, which is 7 percentage points lower than the 2025 survey. In addition, 45% reported the same, and 45% reported a decrease, which is 19 percentage points higher than last year's survey. **Overall, small businesses are reporting fewer contracting opportunities than last year, with a significant percentage seeing a decrease.**

In recent years, small businesses reported a noticeable decline in the emphasis on meeting federally established small business subcontracting goals. Many small businesses have observed limited communication, fewer subcontracting opportunities, and a lack of accountability mechanisms to enforce adherence to small business participation plans. This raises concerns about current oversight processes and the ability of small businesses to compete and thrive in government contracting. Although there are several challenges facing small businesses within the U.S. DIB, a notable concern for small businesses in 2025 was the lapse of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs.

SBIR and STTR Programs

The SBIR and STTR programs are effective tools for bringing cost-effective and valuable innovations to the Department and, ultimately, to our warfighters. They are also essential programs in attracting and retaining small business innovators in the defense ecosystem. Out of the 615 small business respondents to the *2026 Vital Signs Survey*, 32% reported they have received funding from a SBIR Phase I or Phase II award, and 16% reported they have received a SBIR Phase III award.

The SBIR Program was established in 1982[21] as a competitive U.S. government initiative to meet federal R&D requirements by providing funding to small businesses for innovative R&D with commercial potential. The STTR Program was created in 1992[22] to facilitate the commercialization of university and federal R&D by small businesses.

21 P.L. 97-219

22 P.L. 102-564

Both the SBIR and STTR programs have three phases. Phase I funds feasibility-related R&D corresponding to the participating federal departments' and agencies' requirements.[23] Phase II supports additional R&D efforts initiated under Phase I, with a focus on prototyping specific program requirements and exhibiting potential for commercial application. Finally, Phase III focuses on the commercialization of the results of Phase I and Phase II grants. **It is important to note that the SBIR and STTR programs do not provide funding under Phase III, and that not every Phase II results in a prototype that is ready for Phase III commercialization.**

2026 SBIR and STTR Reauthorization

The SBIR and STTR programs have been extended and reauthorized several times, but authorization lapsed on September 30, 2025, which coincided with the beginning of the 2025 government shutdown. This left many small businesses and their government partners with uncertainty about the way forward for innovation assessed as critical to national security.

However, congressional small business leaders were able to come to an agreement with the passage of S. 3971, the "Small Business Innovation and Economic Security Act."[24] The agreement reauthorizes the SBIR and STTR programs through September 30, 2031, and includes several proposals to build on previous reauthorizations. This includes creating a clear, consistent baseline for the foreign ties due diligence program with minimum standards for denial and establishing a process to communicate the reason for a foreign risk denial to small business.[25] S. 3971 also establishes the new Phase II Strategic Breakthrough Awards, which allows agencies with the largest SBIR programs to utilize existing funds to award sequential Phase II awards of up to $30 million with required matching funds from private capital or non-SBIR government contracts.[26]

The agreement also implements Phase III improvements that align with NDIA's recommendations in *Vital Signs 2025*.[27] This includes establishing training activities to ensure federal agency acquisition and contracting officers are fully aware of the processes and intent of awarding follow-on contracts for SBIR awarded technologies.[28] The bill also instructs agencies to develop simplified and standardized procedures and model contracts for Phase III awards that mirror previous protections for agencies to establish standardized data rights frameworks for SBIR awardees.[29]

Importance of SBIR & STTR

The SBIR/STTR programs have a proven track record as a pipeline for ingenuity and advancements in the defense sector. The goal of the SBIR/STTR programs is to encourage competitive small businesses to work in coordination with the federal government on agency research & development needs, and to expand private sector commercialization of the innovations stemming from this research.

By supporting small business competition for these contracts, the SBIR/STTR programs inspire technical innovation and inject an important sense of entrepreneurship into the defense enterprise. **Speeding innovations and advanced capabilities to our warfighters is critical to the Department's efforts to outpace the PRC and**

23 Small Business Administration. "Policy Directives." Accessed December 11, 2024. https://www.sbir.gov/about/policies.

24 P.L. 119-83

25 Ibid.

26 Ibid.

27 *Vital Signs 2025.* National Defense Industrial Association. 2025. https://www.ndia.org/-/media/sites/ndia/policy/vital-signs/2025/vital-sign_2025_final.pdf?download=1.

28 P.L. 119-83

29 Ibid.

other potential competitors in this era of great power competition. The SBIR/STTR programs have also had a significant impact on the U.S. economy.

According to the SBA, through FY 2019, the SBIR program has provided over 179,000 awards totaling over $54.3 billion to small businesses.[30] Just within the Department, according to its latest economic impact report released in 2019, **the SBIR/STTR programs have generated a 22:1 return on the Department's investment.**[31] It has also had a significant economic impact with the creation or sustainment of 1,508,295 jobs, a total labor income of $111 billion, and over $39 billion in combined federal, state, and local tax revenues.

The National Science Foundation has also done extensive work tracking the trends in R&D expenditure. Over the last 60 years, there has been a significant shift in R&D investments made by the federal government and the private sector. In 1964, federal R&D expenditures accounted for 67% of all domestic R&D investments, and private sector R&D accounted for 31% of the investments.[32] **By 2020, the roles had reversed, with private sector business accounting for 73% of domestic R&D and federal government investment accounting for 21%.[33] This change further highlights the importance of the SBIR/STTR programs as an established pathway to enable small business innovators to meet federal R&D requirements.**

Overall, the SBIR/STTR programs provide a purposeful focus on strengthening high-tech innovators' abilities to effectively engage with the Department on cutting-edge technologies that may be too uncertain to attract venture capital and too early in development for large contractors. The SBIR/STTR programs are critical to bridging a key gap in the national innovation ecosystem and maintaining a pipeline to innovators across the country who may or may not have access to private capital sources but nonetheless can deliver innovation critical to the wide-ranging needs of national security.

Recommendations:

Short-Term

30. **The Department must source acquisitions from the existing pipeline of SBIR technologies and leverage the simplified acquisition authorities for companies that can reasonably meet the identified need.**
31. **The Department must appropriately draft SBIR contracts, ensure the protection of technical data, and support SBIR Data Rights in market research, the contracting process, and the management of ongoing Phase III efforts.**
32. **The Department must ensure that evaluation criteria do not penalize industry for the assertion of SBIR data rights and that flow-down requirements do not force subcontractors to relinquish SBIR data rights to perform on the contract.**
33. **The Department must comply with federal law to the greatest extent practicable to issue follow-on work to technology developed under a SBIR/STTR award. When an exception to this requirement is pursued, the Department must document that a clearly defined, objective, and auditable process is followed.**

30 Small Business Administration. "Congressional History." Accessed March 19, 2025. https://legacy.www.sbir.gov/about.

31 U.S. Department of Defense. "National Economic Impacts from the DoD SBIR/STTR Program 1995-2018." October 3, 2019. https://www.sbir.gov/sites/default/files/documents/DOD_SBIR%20Economic%20Impacts_1995-2018.pdf.

32 National Science Foundation. "National Patterns of R&D Resources 2021-2022." National Center for Science and Engineering Statistics. Accessed December 11, 2024. https://ncses.nsf.gov/data-collections/national-patterns/2021-2022#data.

33 Ibid.

Small Business Taxes Update

Vital Signs 2025 highlighted a significant issue facing small businesses: the statutory R&D amortization requirement.[34] Beginning with their 2022 tax return filings, rather than receiving the full deduction for qualified R&D expenses in the year incurred, all companies, including small businesses, were required to amortize the deduction over five years and were only allowed to deduct up to 10% of the company's expenses in the year they are incurred. This resulted in a dramatically higher tax bill for small businesses, reducing companies' ability to maintain a highly qualified and specialized workforce as well as to make further R&D investments. As such, NDIA fully supported and pursued efforts to address the statutory R&D amortization requirement.

In July of 2025, H.R. 1, the reconciliation bill, cited elsewhere in this report as the OBBB Act, was signed into law, which included an R&D amortization fix that allows immediate R&D expensing for domestic research for five years, retroactive to January 1, 2025.[35] In addition, it included other important business-related tax provisions, including 100% full expensing for capital equipment purchases for five years and reducing the cost of debt financing by reverting the basis of the interest limitation rules from an earnings before interest and taxes (EBIT) standard to an earnings before interest, taxes, depreciation, and amortization (EBITDA) standard.[36]

34 In 2017, the Tax Cuts and Jobs Act (TCJA) (P.L. 115-97) was signed into law. The TCJA repealed the option to deduct the entire amount of research and experimental expenses incurred in a given year. The repeal was made effective with tax years beginning after December 31, 2021. Companies are therefore currently required to capitalize these expenses and amortize them over a minimum of five years. Further educational material on this topic can be found at: https://crsreports.congress.gov/product/pdf/IN/IN11887.

35 P.L. 119-21.

36 Ibid.

Pillar 3: Modernizing Defense Trade & Increasing International Technological Cooperation

The strong network of global and regional alliances and partnerships the U.S. built and maintained since the end of World War II serves as the diplomatic and military operational center of gravity in national deterrence and, should crisis or conflict erupt, will help provide the U.S. with decisive advantage in ultimately prevailing in conflict. At the operational level of warfare, these alliances and partnerships require assured access, basing, and overflight agreements; trusted and resilient command and control architectures; and interoperable and interchangeable platforms, systems, and infrastructure. To keep them strong, the U.S. must also focus on updating the policy, legal, regulatory, and technology security framework governing U.S. defense trade. This includes modernizing FMS and DCS processes, deepening U.S. technological cooperation and integration with its closest allies and partners, and having clear parameters around technology releasability and export controls.

The current U.S. defense trade's legal, regulatory, and technology security framework was designed in a strategic era when the U.S. enjoyed technological dominance. But this legal and regulatory framework has "increasingly figured as roadblocks to defense industrial and technology integration with

the United States' closest allies."[141] U.S. allies and partners around the world are building their own indigenous defense industrial sectors and are becoming centers of innovation and cutting-edge technology. Globalization, the migration of innovation to the commercial sector, and the proliferation of dual-use technologies have incentivized governments to explore new and innovative ways of doing business.

Since the *Vital Signs* report series started covering defense trade issues, **both the executive and congressional branches have launched major reform efforts, and there is optimism in the U.S. DIB that the leadership and focused energy of these efforts can meaningfully improve outcomes.** Therefore, throughout Pillar 3, the focus of the analysis and recommendations is to provide constructive suggestions to ensure the implementation of reform efforts maintains a disciplined focus on effective outcomes, not process inputs, and to provide companies of all sizes and corporate models with meaningful opportunities to engage in foreign sales.

The Need to Reform Defense Trade

The main goals of defense trade reform are to streamline the FMS and DCS processes, limit unnecessary licensing requirements and barriers in order to consistently meet the timelines set in policy in the Security Assistance Management Manual (SAMM), and maintain the speed and agility required to compete in the international marketplace. Foreign sales support U.S. DIB companies' production schedules, provide consistency to critical suppliers, and strengthen the lethality and capabilities of U.S. allies and partners. The inherent tension between competition and protection must be carefully managed, and vigorous controls around what truly needs to be protected must remain in place. At the same time, both military operational challenges and U.S. DIB business strategy requirements provide a compelling case for a clearer, more responsive framework that prevents the spread of sensitive technologies to countries of concern while boosting military interoperability with U.S. allies and partners.

The sense of urgency, from both the U.S. DIB and U.S. allies and partners, is palpable. Although U.S. defense trade policy conversations start with the premise that U.S. defense articles are generally seen as the 100 percent exquisite solution, some nations are willing to accept less exquisite capability if it means it can be fielded months to years sooner. In addition, with more than 16,000 open FMS cases valued at $903B, as well as $200B in DCS approvals in 2024,[142] foreign defense sales help to keep domestic production and supply lines operating and the skilled U.S. DIB workforce employed, all of which help to bolster U.S. national security imperatives.

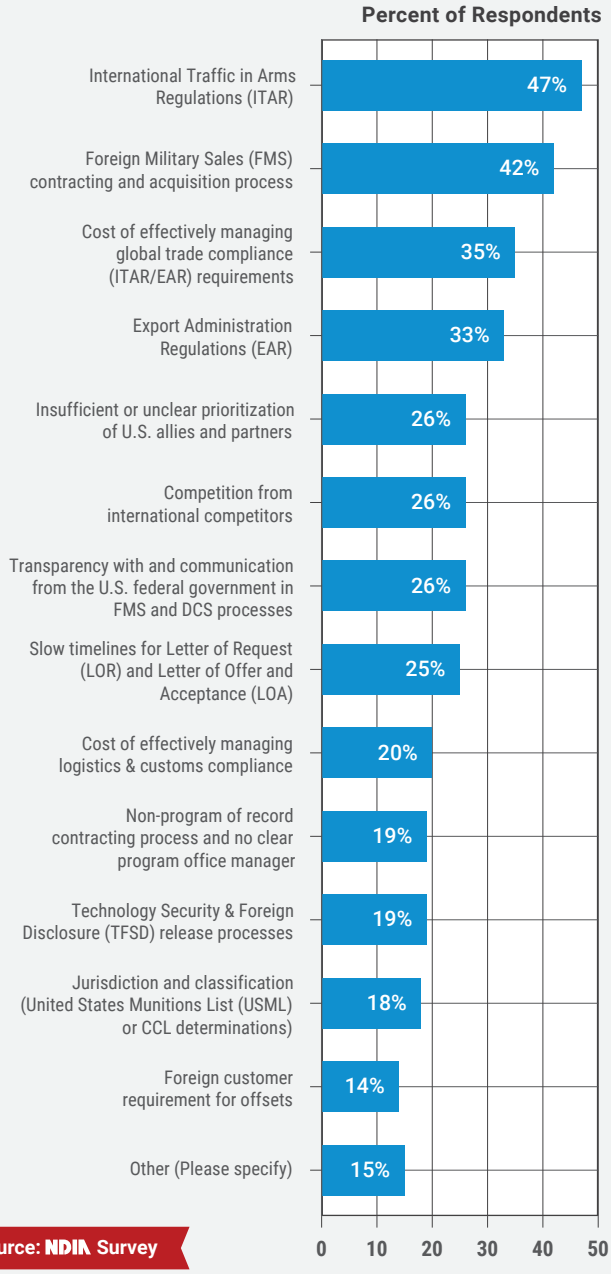
Ultimately, defense trade reform requires empowering government leaders to keep defense trade cases moving through government processes, including consolidation of diverse security cooperation functions within the Department; increasing accountability in the FMS processes, which means clearly assigned responsibility and authority to actively manage a case through the process; and providing transparency and predictability in technology release decisions. **The goal is less about creating new oversight layers and more about empowering designated leaders to keep cases moving predictably through the Military Services and within established timelines.** Reform in these areas will increase the resiliency of international supply networks and improve the overall interoperability between the U.S. and its allies and partners. This will also enable the U.S. DIB to remain competitive with other non-U.S. defense exporters that have less stringent and less costly processes.

Supporting Small- and Medium-Sized Enterprises

One of the key policy goals of the last several administrations has been to create more diversity and attract new entrants willing to work with the Department. One concrete way the government can better support small- and medium-sized businesses is clarity and transparency to industry on the order of operations and process procedures. For example, some security reviews can be done simultaneously, but often small- and medium-sized enterprises are unaware of this option. In addition, another constructive step would be to create additional opportunities for small- and medium-sized enterprises to learn more specifics about pending requirements.

Question 50

What are the biggest barriers your company faces when selling its products and services to foreign customers? *(Select all that apply)*



Source: NDIA Survey

Defense Trade Reform Priorities

To support the ongoing work of NDIA members, the *Vital Signs 2026 Survey* asked private sector respondents to identify the biggest barriers to selling products and services to foreign customers. The top four barriers include:

- International Traffic in Arms Regulations (ITAR) (47%)
- FMS contracting and acquisition process (42%)
- Cost of effectively managing global trade compliance (ITAR/EAR) requirements (35%)
- Export Administration Regulations (EAR) (33%)

It is notable that over the last three *Vital Signs* reports, ITAR has remained the top-reported barrier to selling products and services to foreign customers. NDIA will continue supporting modernizing defense trade processes, supporting government-industry engagements to operationalize international security agreements, and working with federal agencies on export controls to facilitate international industrial collaboration.

Modernizing and Streamlining FMS

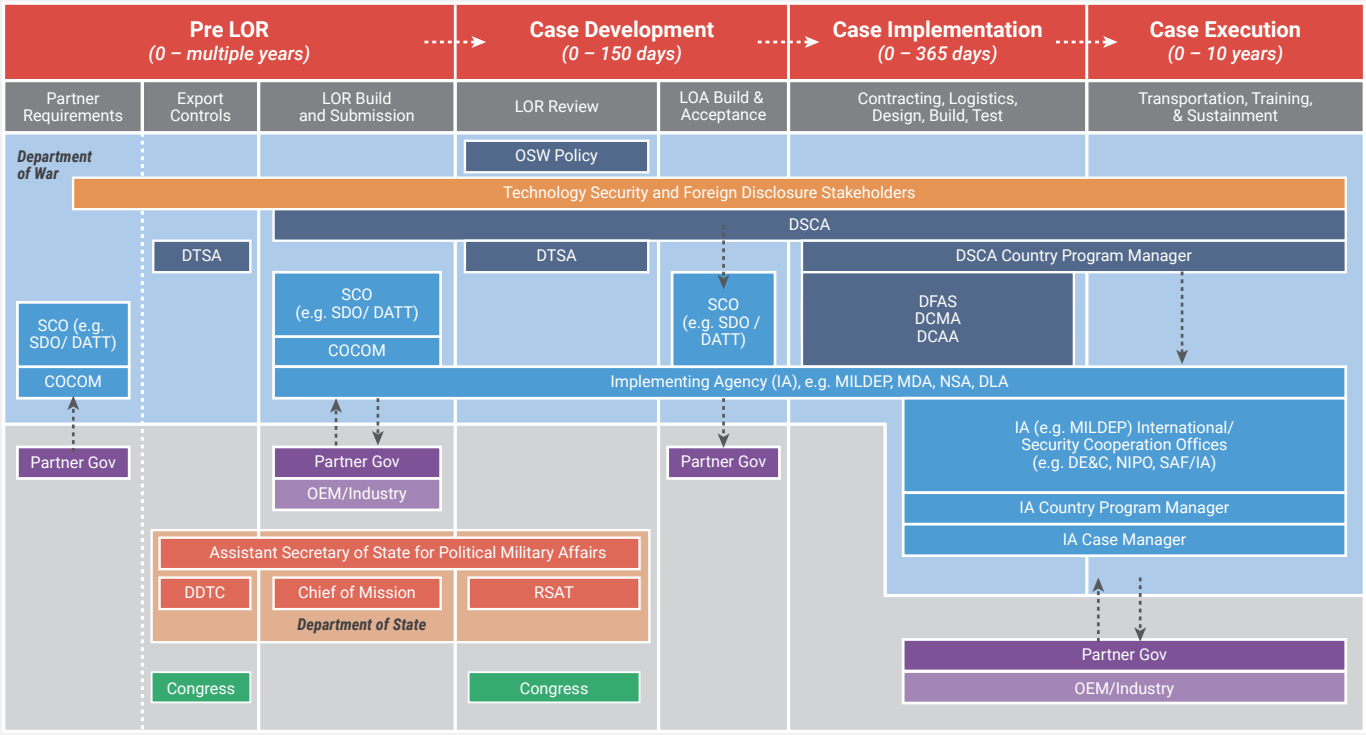
Reforming and modernizing FMS is critical to strengthening the resiliency of the U.S. DIB in an era of great power competition, to enhancing diplomatic ties by strengthening our network of alliances and partnerships, and to improving the effectiveness of those relationships by enhancing military interoperability at the operational level. Over one-half (57%) of private sector respondents in the *Vital Signs 2026 Survey* reported that they planned to engage in FMS or DCS. Additionally, 12% reported they would like to engage in FMS or DCS but do not currently. FMS modernization and reform is, therefore, more crucial than ever as significant fluctuations in high-value FMS transactions are one of the three top drivers of U.S. DIB revenue volatility.

Unfortunately, under the current framework, the FMS process is opaque, disaggregated, and slow. In the past, the Department has addressed technology security risks by establishing new processes and responsibilities with defined authorities within different offices for each identified risk. Each office, in turn, develops its own internal processes with different decision-making mechanisms. As of today, no single office is responsible for resolving internal disagreement in a timely fashion.

However, industry is encouraged by the vast amount of interest and progress on FMS reform throughout 2025. In accordance with EO 14268, "Reforming Foreign Defense Sales to Improve Speed and Accountability," Secretary Hegseth released a series of memorandums in November

FMS Stakeholder Map

Security assistance timelines are official targets set by the federal government in the Defense Security Cooperation Agency's Security Assistance Management Manual



Source: NDIA

2025 under the defense acquisition transformation initiative that advance several reforms aimed at streamlining and strengthening acquisition and defense trade processes. Chief among these for defense trade reform is the realignment of the Defense Security Cooperation Agency (DSCA) and the Defense Technology Security Administration (DTSA) from the Under Secretary of War for Policy (USW(P)) to the USW for Acquisition and Sustainment (USW(A&S)). **The goal of this realignment is to create synergies for the efficient delivery of defense articles and services by having all of the processes from initial planning through contract execution and production overseen by a single enterprise.**[143]

On February 6, 2026, the Administration released EO 14383, "Establishing an America First Arms Transfer Strategy," which sets the policy to leverage U.S. arms transfers as a foreign policy tool and to expand strategically relevant industrial production capacity.[144] The EO focuses on the prioritization of arms sales to partner nations that have "invested in their own self-defense and capabilities, have a critical role or geography in United States plans and operations, or contribute to our economic security." The government will take the lead in developing a sales catalog of prioritized platforms and systems that the United States will encourage our allies and partners to purchase. The EO also seeks to eliminate certain inefficiencies in arms sales, including those related to end-use monitoring activities and Third-Party Transfer processes.[145]

Additionally, the Administration's reforms align with congressional efforts to advance critical defense trade reforms through the bipartisan Foreign Arms Sales Task Force and the FY2026 NDAA. This includes Section 903 of the FY2026 NDAA which creates the new Assistant Secretary of Defense for International Armaments Cooperation (ASD(IAC)), who will directly report to the USW(A&S). This new position creates a natural place to further centralize the roles of DTSA and DSCA under the USW(A&S) to empower and increase accountability with senior leader decision-making over

defense trade processes. This move aligns the responsibilities of maintaining the "share and protect balance" of arms sales under one Department authority. As such, the Department should also consider the potential benefits of aligning the Director for International Engagements, currently within IBP, under the ASD(IAC). With DSCA's move to the acquisition office, one of the administrative watch areas for industry is the division of labor between USW(A&S) and USW(P) regarding representation on the National Disclosure Policy Committee. Finally, H.R. 4215, which passed the House of Representatives by a voice vote on September 2, 2025, and seeks to prioritize a list of countries vital to national security for DCS, aligns with the priorities of EO 14383.[146]

Another administrative risk watch item continues to be the administration of Letters of Request (LOR) and Letters of Acceptance (LOA) in the implementing agencies across the federal government (see *Vital Signs 2025* report for more information on this process).[147] These documents do not move through the system consistently with the timelines outlined in the SAMM. One well-known cause of this is because of a receiving agency's workforce not being provided with adequate training on how to implement the next steps in the process. Government organizations responsible for providing training to the FMS workforce may benefit from engaging industry practitioners on common or strategic sticking points in the system.

Finally, **it is important to remember that many challenges with specific FMS cases have to do with the underlying acquisition of the defense article. This is why the Department's implementation of several transformation initiatives across the defense acquisition system will also be highly relevant for the defense trade reform implementation.** As an example, whereas a Program of Record (POR) weapons system is a line item in the Department's annual budget, a non-Program of Record (NPOR) is an item not under the purview of the Department's planning and budgetary process. This can make the FMS process even more difficult for these defense articles, as there is no clear program office owner to manage the LOR and drive the process forward. In line with the 2023 DoD FMS Tiger Team recommendations, it would be beneficial to assess the utility of a dedicated FMS contracting construct for NPORs.

Recommendations:

Short-Term

34. **The Department of War and the Department of State (DoS) must continue to improve FMS processes to adhere to the FMS timelines outlined in SAMM.**
35. **The Department must consider further consolidation and efficiencies for defense trade and security cooperation functions as it implements its overarching defense and acquisition transformation reforms, to include NPOR Acquisition Management and Technology Security and Foreign Disclosure (TSFD).**
36. **The Administration must work with industry to identify appropriate channels to help shape training for the FMS workforce through the Defense Security Cooperation University.**

Leveraging Direct Commercial Sales

As discussed above, national policymakers and geographic Combatant Commanders are continuously searching for innovative ways to reduce the current time required—measured in years, not months—under the FMS process to get definitized contracts for the key capabilities required to optimize interoperability between the U.S. military and its allies. While FMS timelines are measured in years, DCS timelines are measured in months. DCS brings the added benefit of incentivizing foreign countries to make their own commercial investments to increase production rates, and it allows the U.S. DIB to access greater margins for investment without the constraints of the FAR or DFARS. Improved defense export timelines also strengthen the business case for U.S. companies to make additional investments in production facilities and to improve the planning around long-lead parts and components (see *Vital Signs 2025*[148] for further discussion).

Government-to-Government Only List

NDIA applauds the Administration's efforts to update the FMS Only List, which has been renamed to the Government-to-Government-Only (G2G-Only) List that is defined in the SAMM, to provide more flexibility for DCS.[149] Through this update, the Administration also worked to provide more transparency and clearer criteria to industry for what articles and services can be transferred under DCS. One administrative watch item for industry is how the federal government will handle exceptions for the G2G-Only List. NDIA also supports Section 1213 of the FY2026 NDAA, which requires the State Department to continue to review and update the G2G-Only List on a biennial basis. **These significant policy changes, which were recommended in the *Vital Signs 2025* report, will help to accelerate sales to allies and partners and increase the number of U.S. jobs while maintaining important safeguards**. With the anticipation of a higher volume of DCS cases, including defense articles that were previously handled by FMS staff, an administrative risk to watch is to ensure DCS cases are properly transitioned and properly staffed.

DCS Licensing Challenges

Although the timelines for DCS are generally shorter than FMS, DCS still has technology and arms control reviews that can be onerous. For example, EU countries have significantly fewer licensing requirements regarding defense trade among internal members, making the U.S. less competitive in the European market. In addition, currently, every potential DCS sale, with few exceptions, requires a case-by-case review and authorization by the State Department's Defense Trade Controls Licensing (DTCL) office.[150] Given that the U.S. deals with numerous cases involving the export of the same capabilities to trusted allies within the North Atlantic Treaty Organization (NATO), this can be redundant and inefficient. Some policy ideas to streamline this process include identifying technology for approved exports to NATO+[151] countries; streamlining licensing for NATO+ countries for capabilities that have historically been approved for other NATO+ countries, constituting a "do not staff list;" or, most ambitiously, dropping licensing requirements altogether for key allies and partners. As an example, the NATO+ countries already receive privileged treatment in the DCS process in the form of reduced congressional notification timelines.[152]

DCS Case Ownership

DCS does not have a clear program office to take ownership over a case, unlock proviso or TSFD barriers, and push the case through to approval in an executable way. Defense exports that get licensed for DCS will still need a champion in the Department to ensure approval, especially for sensitive military technology. The Department should consider assigning responsibility to either DSCA or DTSA to support industry engagement and advocacy to clear TSFD and proviso issues for POR and NPOR defense articles.

Recommendations:

Short-Term

37. **The Department must consider empowering DSCA or DTSA personnel to champion DCS cases throughout the process and ensure the DCS system is ultimately aligned with national security policy goals.**
38. **Policymakers must consider modernization of follow-on authorities, specifically Building Partnership Capacity (BPC) and Foreign Military Financing (FMF), to allow DCS use of that funding and unlock increased defense exports.**
39. **Congress and the Department must consider adequately resourcing the DCS licensing workforce as the program responsibilities expand with decreased FMS-only restrictions.** Defense exports which were previously handled by FMS staff will have to be transitioned to DCS and staffed sufficiently.
40. **DoS and the Pentagon must establish a "do not staff" mechanism for NATO+ export authorizations where precedent exports of the subject technology are clearly established.**

Congressional Notification

Additionally, within the Australia-United Kingdom-United States (AUKUS) security pact (see AUKUS Security Pact on page 56) and defense trade more broadly, the congressional notification and certification process can trigger additional wait times for both FMS and DCS transactions. The dollar threshold for congressional notification under the Arms Export Control Act has not been updated to account for inflation since 2003. Updating this threshold would contribute to speeding up the FMS process without diminishing Congress's important oversight role. Congress should also review the need for congressional review for AUKUS transactions, which is intended to efficiently increase defense trade with our closest allies and partners.

Recommendations:

Short-Term

41. **Congress must increase the congressional notification threshold to account for inflation.**
42. **Congress must examine areas where Congress can still receive congressional notifications to be informed without triggering the tiered review process, such as in instances of re-notification and under cooperative agreements and security agreements, like AUKUS.**

Consolidating Technology Security and Foreign Disclosure Process

Another important area to address in defense trade is the TSFD process, which is a set of guidelines and procedures that govern the sharing of sensitive technologies with foreign entities. It is intended to balance the need for technological advancement with the need to protect national security, but the process has been identified as one of the key drivers for delays in defense trade.

Congress directed the Department, through Section 918 of the FY2024 NDAA, to carry out an initiative to reform and improve policies, processes, and procedures applicable to technology release and foreign disclosure decisions.[153] In late December 2024, the Department provided a report to Congress responding to Section 918. While the report itself includes CUI, key takeaways from the executive summary make it clear that it will take senior leader engagement across the interagency to streamline the authorities, simplify the amalgamation of processes across the government, and enable the TSFD process to operate at speed and scale across multiple priority areas simultaneously.

The FY2026 NDAA further directed the Department to undertake efforts to produce a framework to revise technology transfer and foreign disclosure policies and processes of the Military Services and the technology transfer and foreign disclosure committees.[154] Moving forward, policymakers are encouraged to examine whether there should be a primary lead for TSFD. Under this construct, the lead official should be an individual with the authority to act and who understands policy, military operations, and the Administration's strategic intent. One model for policymakers to review is the National Disclosure Policy Committee. The move of DSCA and DTSA to USW(A&S) also moves the critical management of the National Disclosure Policy Committee out of USW(P). However, USW(P) still retains delegated authority for National Disclosure Policy Committee management. As such, policymakers should consider shifting the National Disclosure Policy Committee management and secretariat responsibilities from under USW(P) to USW(A&S). Under this construct, USW(P) would still maintain its status as a voting member on the committee.

Finally, because the Section 918 report was labeled as CUI, it has been more difficult for industry to review and provide substantive feedback. The DTSA should release the full Section 918 report and any subsequent reports to organizations capable of handling CUI and/or release a version that does not contain CUI.

Recommendations:

Short-Term

43. **The Department must analyze and implement the previous reform recommendations to ensure industry concerns about the TSFD requirements process, which is required to be completed before technology can be shared with allies, are addressed.**
44. **The Department should shift National Disclosure Policy Committee management and secretariat authority from USW(P) to USW(A&S) to align with the DSCA and DTSA shift. Under this construct, USW(P) would still maintain voting status.**
45. **The Department must align TSFD with FMS-only processes and the new regulatory landscape of the AUKUS exemption. Current TSFD policies have not been updated to account for AUKUS or the decrease in FMS-only restrictions.**
46. **The Department must modify USXPORTS (U.S. Export Systems) to become the standard IT system for the TSFD community to use to track and store TSFD decision memoranda.** The current decisions are recorded in PDFs and File Explorer systems that take dozens of employee-hours to navigate for simple TSFD decisions and amendments.
47. **The Department must assign responsibility to a lead TSFD office (DSCA or DTSA) that can hold the other TSFD process owners and Military Services accountable to a standard set of timelines for review and to track high-priority FMS and DCS efforts subject to TSFD processes.** Currently, each Military Service and TSFD process owner has their own separate review process, with varying standards, for transferring technology. TSFD timelines must be adjusted to align with standards set for the FMS and DCS processes.
48. **The Department must assign responsibility and resourcing to a lead TSFD Office that can serve as a DIB entry point on TSFD issues impacting FMS and DCS cases.** This would allow the U.S. DIB to engage the U.S. government and resolve TSFD issues in a timely manner with appropriate support from the Department.

Strengthening Regional Industrial Cooperation and Burden-Sharing

AUKUS Security Pact

Launched in September 2021, the AUKUS security pact is designed to be part of the strategic deterrent to the PRC's growing military capabilities in the Indo-Pacific region. Although attention initially focused on the proposed transfer of nuclear propulsion technology to Australia through Pillar 1, the plan for Pillar 2 also has ambitions to develop advanced technologies and other military capabilities expected to deliver a decisive advantage in the digital era of warfare. From a U.S. industry perspective, AUKUS represents at least the third attempt at export control reform.

In 2024, the State Department implemented the AUKUS ITAR § 126.7 exemption, which applies to activities subject to the ITAR, including exports, reexports, retransfers, and temporary imports of defense articles; performance of defense services; and brokering activities between the U.S., Australia, and the UK. The Final Rule for the § 126.7 exemption states that exporters may still apply for a license instead of using the exemption,[155] and some companies are still hesitant to pursue the exemption over regulatory violation concerns. **The *Vital Signs 2026 Survey* asked private sector respondents if they have utilized or planned to use the new ITAR exemptions or expedited licensing for Australia and the UK. Only 35% stated "Yes" or "Maybe," which was a drastic decrease from the 64% that stated "Yes" or "Maybe" in the *Vital Signs 2025 Survey*.** It is equally noteworthy that 24% stated "No," which is an increase of 9% from the *Vital Signs 2025 Survey*. Additionally, 18% of the private sector respondents are evaluating applicability, but are unsure about implementation and operational use cases. Finally, nearly a quarter (24%) were still unaware of these authorities.

The *Vital Signs 2025* report identified the Excluded Technology List (ETL) as one of the top concerns with the ITAR exemption. Industry largely considers the ETL to be too broad because it includes technology essential to trade with Australia and the UK, and industry cannot identify the reason behind the technologies listed on the ETL. Furthermore, companies expressed concern that the ETL includes technology that falls under AUKUS Pillar 2 objectives, including electronic warfare as well as hypersonic and counter-hypersonic capabilities.

Toward the end of 2025, the Department completed its review of AUKUS meant to identify opportunities to strengthen the agreement for long-term success.[156] Although the report has not been made public, the Department stated that it was the shared intent to move "full steam ahead" on the AUKUS agreement.[157]

Four years after the announcement of AUKUS, both government and industry need to make progress on a coordinated approach with meaningful efforts that can enable AUKUS partners to develop and deliver needed capabilities. With the structure and frameworks, including the ITAR Exemption and Expedited Licensing processes, largely in place, the next phase of AUKUS is moving toward the testing and evaluation implementation phase. **For the U.S., this will necessarily shift the focus of AUKUS away from DoS and toward the Department, the Military Services, and Congress to begin initiating designated AUKUS programs with dedicated funding streams and contracting vehicles.**

Partnership for Indo-Pacific Industrial Resilience

The PRC's growing military power has created the need to enhance U.S. deterrence, work with allies and partners, and counter adversarial threats in the Indo-Pacific region. In 2024, the Department created the Partnership for Indo-Pacific Industrial Resilience (PIPIR). PIPIR is a multilateral forum of 14 Indo-Pacific and Euro-Atlantic partners collaborating to accelerate Indo-Pacific contributions to global defense industrial base resilience. Since its launch, PIPIR has focused on identifying concrete opportunities to "enhance combined lethality, leverage shared capabilities, and strengthen the defense industrial base."[158]

The PIPIR initiative nests well under the current Administration's priorities, including the third pillar in the 2026 NDS, to incentivize regional DIB integration across U.S. allies and partners, to stress test processes intended to support in-theater maintenance and repair, to stimulate mass production forward, and to mature technologies and processes around additive manufacturing. At the 2025 Shangri-La Dialogue, Secretary Hegseth announced two

major projects under this initiative,[159] including the development of standards for small unmanned aerial systems across the Indo-Pacific and expanding the sustainment capabilities of anti-submarine warfare and maritime domain awareness capabilities to Australia.

In the FY2026 NDAA, Congress included a provision to authorize the Secretary of War to enter into agreements and memoranda of understanding to support the objectives of PIPIR.[160] In addition, the provision also authorizes the convening of working groups and technical exchanges, and authorized engagement with industry, capital providers, and academia.

Recommendations:

Short-Term

49. **The Department and the Military Services must identify specific viable business opportunities, including a dedicated funding stream, program element line, and contract vehicles, under Pillar 2.**
50. **DoS must re-evaluate the ETL to ensure better alignment with AUKUS policy objectives, to include removing Missile Technology Control Regime-controlled commodities from the ETL.**
51. **The Department must expand the opportunities available under AUKUS and similar security agreements with U.S. allies to better integrate the U.S. DIB with the DIBs of U.S. allies.**
52. **The Department, U.S. allies and partners, and regional industrial bases must continue efforts to strengthen PIPIR** to build a robust network of industrial and economic relationships that will serve as a strategic buffer to deter conflicts that would threaten vital economic interests and prosperity.

A New Approach for Dual-Use Export Controls

Dating back to the aftermath of World War II, federal government controls on U.S.-developed technology and capabilities have been viewed as a powerful tool in U.S. national security strategies. In addition to U.S. unilateral controls, the U.S. also participates in four major multilateral control regimes: the Australia Group (chemical and biological weapons), the Missile Technology Control Regime (MTCR) (missiles and missile technology), the Nuclear Suppliers Group (NSG) (nuclear weapons), and the Wassenaar Arrangement (conventional arms and dual-use goods and technologies).

After the Cold War, the U.S. government prioritized U.S. export control policies on limiting the proliferation of weapons of mass destruction (WMD) and missile technology. However, with the public emphasis, including in both the 2018 and 2022 National Defense Strategies, on the reemergence of great power competition, U.S. export control policy debates are broadening in scope as both the executive branch and Congress now consider export controls a central pillar in preserving U.S. technological leadership. Additionally, given the pace of technological innovation and the PRC's aggressive blending of civil-military technology, policy conversations have resurfaced in Washington about the potential utility of moving to a single licensing system.

Currently, there are multiple federal departments and agencies with responsibility for export controls, and it can be confusing for industry to navigate the byzantine system. For instance, in its FY2022 annual report—its most recent published report—the Bureau of Industry and Security stated it worked with the U.S. DoS on 248 requests to determine whether a particular item was subject to DoS's ITAR or the U.S. Department of Commerce's EAR. In many cases, those adjudications took months to complete. To help streamline the process and avoid unnecessary confusion and delays, NDIA recommends that policymakers re-evaluate the merits of moving to a single licensing agency for dual-use items and munitions, a single control list, and a single agency for export control enforcement, with the ultimate goals being empowerment, accountability, and transparency.

Recommendations:

Short-Term

53. **Both the executive and congressional branches must re-evaluate the merits of moving to a single licensing agency for dual-use items and munitions, a single control list, and a single agency for export control enforcement.** Peer competitors of the U.S. are increasing civil-military fusion to gain advantages in the global technological competition.
54. **The U.S. government must evaluate the market barriers in multilateral agreements, such as the MTCR, and the benefits of lessening licensing requirements to our closest allies and partners.**
55. **Both the executive branch and Congress must assess the long-term impacts of U.S. export controls on U.S. technology leadership, including the risks of "design out" and avoidance of U.S. content.**
56. **The Pentagon and DoS must push trade policies to maintain and expand international markets with allies and partners.**

Defense Trade Financing

Currently, the U.S. Export-Import Bank does not support the financing of defense trade. Conversely, in 2025, the EU finalized $176 billion in low-interest loans for its member states to use for investing in European defense projects. Increased competition from European firms and other countries presents another reason to explore creative methods to boost defense exports. The executive and congressional branches should evaluate expanding the U.S. Export-Import Bank's fiat to providing financing for defense trade.

In addition to the reforms discussed above, policymakers should continue to explore greater utilization of the FMF program to increase defense exports to allies and partners, including repurposing the program into a de facto Export-Import Bank for allied deterrence. Since Russia began its mobilization for the full-scale invasion of Ukraine in 2022, Congress and the U.S. interagency have incrementally expanded the scope of the FMF program, primarily as a vehicle to surge security assistance to Ukraine and other NATO allies. Before the invasion, FMF assistance primarily went to select partners in the Middle East and South Asia.[161] The U.S. government has taken steps to expand on the Ukraine model and unlock the program for Indo-Pacific allies and partners, namely through $300 million in FMF funds for Taiwan[162] and a later $2 billion for Indo-Pacific allies and partners[163] broadly in 2024.

Recent years have also shown experimentation with FMF direct loans[164] and loan guarantees,[165] whereas FMF funds are usually administered in the form of grants to foreign governments. Despite this progress, FMF financing for Ukraine or Indo-Pacific partners was not extended in FY2026, except for the Philippines. NDIA commends the steps taken in recent years and supports continued expansion of the FMF program, which is a burgeoning tool the U.S. can utilize to strengthen deterrence for our allies and partners.

Recommendations:

Short-Term

57. **The Administration and Congress must consider expanding the utilization of the FMF program, including through the use of direct loans and loan guarantees.** This should be a scalable tool to strengthen allied deterrence and enable defense exports, particularly where grants alone are insufficient or unavailable.
58. **The Administration and Congress should consider allowing the U.S. Export-Import Bank to provide financing for defense trade.**

Cooperative Agreements

In addition to FMS and DCS, cooperative agreements offer a third avenue for transferring defense articles and services. The OSW International Cooperation office, currently housed within IBP, has authority over cooperative agreements.[166] International Agreements (IAs) include Memorandums of Agreement/Understanding (MOAs/MOUs), Project Agreements/Arrangements (PAs), Loan Agreements/Arrangements, and Equipment and Material Transfer Agreements/Arrangements (E&MTAs).[167]

IAs can be cumbersome to establish and are not suited for all transfers; however, they can provide a valuable tool for cooperation among our closest allies and partners in certain circumstances. A prime example of where cooperative agreements may be useful in moving an existing partnership forward is with AUKUS. However, it is not always clear to industry when an IA may be a more appropriate vehicle over FMS and DCS, and when the government may or should pursue IAs with certain countries. The Department should work to provide more clarity to industry on the pathways to pursuing International Armaments Cooperation as an option for international sales.

Recommendations:

Short-Term

59. **The Department must evaluate and pursue cooperative agreements with countries to strengthen international defense cooperation with our closest allies and partners.**

Pillar 4: Restoring Industrial Readiness Powerhouses

President Trump's EO 14265, "Modernizing Defense Acquisitions and Spurring Innovation in the Defense Industrial Base," declares it is "the policy of the United States Government to accelerate defense procurement and to revitalize the DIB to restore peace through strength."[168] U.S. government leaders emphasize the importance of a vibrant U.S. industrial base to support U.S. national defense, including the ability for industry to have surge capacity and to ramp up production in a crisis. This policy focus, which started with the invasion of Ukraine, has sharpened since summer 2025, when the U.S. military conducted *Operation Midnight Hammer*, which was a series of targeted strikes in June against three facilities associated with Iran's nuclear program. The urgency has intensified under *Operation Epic Fury*.

The Department and Congress have equally focused on how the recent operations have impacted current U.S. munitions magazines and production capacity. During congressional hearings, senior civilian and military leaders emphasized their priority to decrease lead time to backfill munitions magazines by supporting the Department's acquisition workforce in writing better contracts, breaking down unnecessary barriers to speed and scale, and prioritizing developing operational requirements for munitions that the U.S. joint force will need in the future.

Before discussing the reform efforts, it is important to address the foundational issues that drove U.S. DIB munitions production over the last three decades. Munitions have often been the billpayers for higher priorities in the Department's budgeting process. While the Military Services and Combatant Commanders reference requirements-based processes, the munitions requirements in the annual budget process are often softened from "what is required" to "what we can afford." This only further weakens the munitions industrial base, as manufacturing facilities are left without sufficient cash flow to modernize or repair production lines. For example, the Services' budgeting for only training requirements does not effectively allow producers to prepare for surge production.

Data Analytics on Munitions Spending

To inform discussions on munitions production, NDIA added data analysis tracking government budget requests for munitions to this year's report to inform how government demand impacts business strategy decisions. **This data can be found on the NDIA's Munitions Dashboard** (NDIA.org/MunitionsDashboard). Overall, while there has been a general upward trend in munitions spending fluctuating between 9 and 15% of the Department's topline, **the dashboard shows abrupt fluctuations in government priorities and subsequent budget requests.**

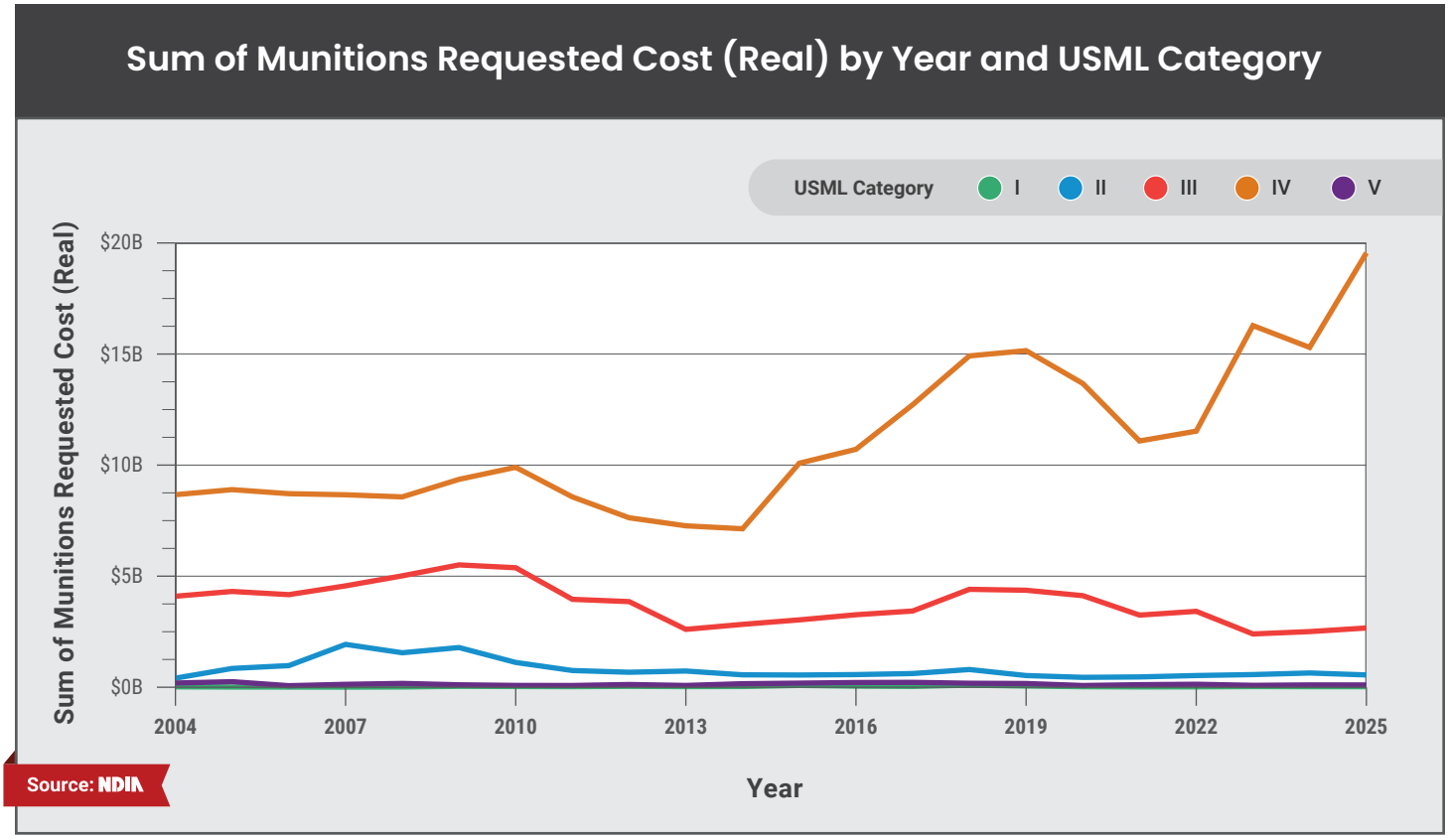
Specifically, the fluctuations include widely varying levels of spending within the munitions categories, which have resulted in complex demand signals. Furthermore, the budget requests for Category IV munitions, such as the Trident or JASSM programs, increased rapidly since the early 2010s while, at the same time, the budget requests for Categories III munitions, such as the 155 mm shell, declined steadily, with irregular spikes depending on projected conflict or domestic capacity requirements (see chart below).[169] These priority changes directly impact industry's ability to plan investments in workforce, production capacity, and supply chains.

Finally, to address a common misconception in public policy discussions, it is important to note that the munitions dashboard shows little discrepancy between the Department's annual munitions budget requests and congressional appropriations.

Previous Government Focus: Cost-Controls for Exquisite Munitions Production

For the executive and congressional branches to meaningfully change current production trends, they both need to address the fact that, **currently, neither the federal government nor the investor community incentivizes the U.S. DIB to have significant surge capacity.** Neither wants to pay for economic inefficiencies, including idle facilities,[170] idle capacity,[171] and high indirect rates for labor.[172]

In terms of facilities costs, there is a bias toward economic efficiency. Ordinarily, defense contractors must try to mitigate the costs of idle facilities and idle capacity before passing those costs on to the government via



indirect rates. Generally speaking, costs of idle facilities are unallowable, and costs of idle capacity are allowable under certain conditions.[173] During the 2020 – 2021 global COVID-19 pandemic, the federal government made allowances under federal regulations for companies having idle capacity, but companies are reporting they expect renewed emphasis on government enforcement of this regulation. Therefore, the federal government would have to make policy and regulatory changes before companies could carry significant excess capacity. This is a continuation of a pre-existing problem facing the U.S. DIB, where companies must invest in production capacity prior to winning a contract to be deemed capable of delivering the required quantities of materiel.

In addition, the federal government must revisit policies and regulations around indirect rates for labor. As a general example, as the work a company does on a program or contract winds down and the company anticipates another program or contract may begin, on its own, the company will want to keep employees it will need for the next contract, such as engineers and skilled trade workers. However, during this gap period, the federal government will not want the company to carry too many employees if it results in the company charging the government indirectly for that labor. In addition, companies know investors are also looking for economic inefficiencies, which are exacerbated by the outmoded, inflexible model of acquisition and sustainment. Investors focus on the return on a company's net assets and do not want the company carrying anything that dilutes economic efficiency in the metrics they use to ensure the company is financially healthy. Additionally, in government-owned contractor-operated (GOCO) facilities, where industry is even less incentivized to make significant investments, much excess capacity has been sold off or left to become obsolete, creating further barriers to surge capacity production.[174]

A Serious Pivot: Focus on Speed

On July 30, 2025, Deputy Secretary of War Feinberg issued a memo[175] to lay out a refreshed approach to optimizing the Department's acquisition processes to accelerate delivery of critical munitions as part of the Secretary of War's priorities to enhance the lethality, readiness, and effectiveness of the Joint Force. The memo directed significant changes in the acquisition process, including moving away from a process calibrated and incentivized to optimize cost and performance at the expense of speed. The memo explicitly emphasized that the Department's acquisition workforce has guidance to be more comfortable assuming risk, engaging creatively with the U.S. DIB, and breaking down unnecessary barriers to speed and scale. There was also clear guidance to all Department leaders to set an example by supporting innovation and accepting prudent risk to increase the pace at which the U.S. develops, produces, and fields critical munitions. **The Deputy Secretary's guidance is clear: The Department is focused on delivering increased production capacity at scale to meet munitions requirements on an operationally relevant timeline.** In support of this objective, the Department has also signaled that it is taking a close look at what additional support can be provided to subcontractors and suppliers, as well as what can be done to address known chokepoints in the supply chain, such as microelectronics and solid rocket motors.

There was another clear signal to industry in the memo. **The Department leadership wants both its personnel and U.S. industry to have a wartime mindset and to move quickly to address the operational requirements necessary for simultaneous tasks assigned to the Joint Force**, including maintaining operational overmatch in the Indo-Pacific region, responding to global contingencies, and accelerating the capabilities required to defend the U.S. homeland, which is no longer considered a sanctuary. Congress is thinking along similar lines, with the Senate Armed Services Committee's provision in the FY2026 NDAA mandating a report concerning the stockpiles of munitions currently held and the capacity of the U.S. stockpile to be utilized in multiple concurrent conflicts across the globe.[176] These imperatives were also reinforced in the 2026 NDS.

Government Support to Industry

As the Department has engaged the U.S. DIB on accelerating munitions capacity, it has been keenly focused on how these efforts can introduce new suppliers into the system and also on what conditions are required to attract private capital. **The key challenge facing the U.S. DIB is how to**

adequately prepare for a possible future need for surge production under protracted conflict. The *Vital Signs 2026 Survey* asked private sector respondents to identify the biggest barriers right now to surging capacity. The top three barriers identified were:

- No contract vehicle to justify expansion (56%)
- Challenges with expanding the number of technical workers (41%)
- Access to additional capital to support expansion (36%)

The *Vital Signs 2026 Survey* also asked if the Department were to award a contract to surge production, what would respondent companies require to support a surge in capacity? Private sector respondents emphasized the importance of:

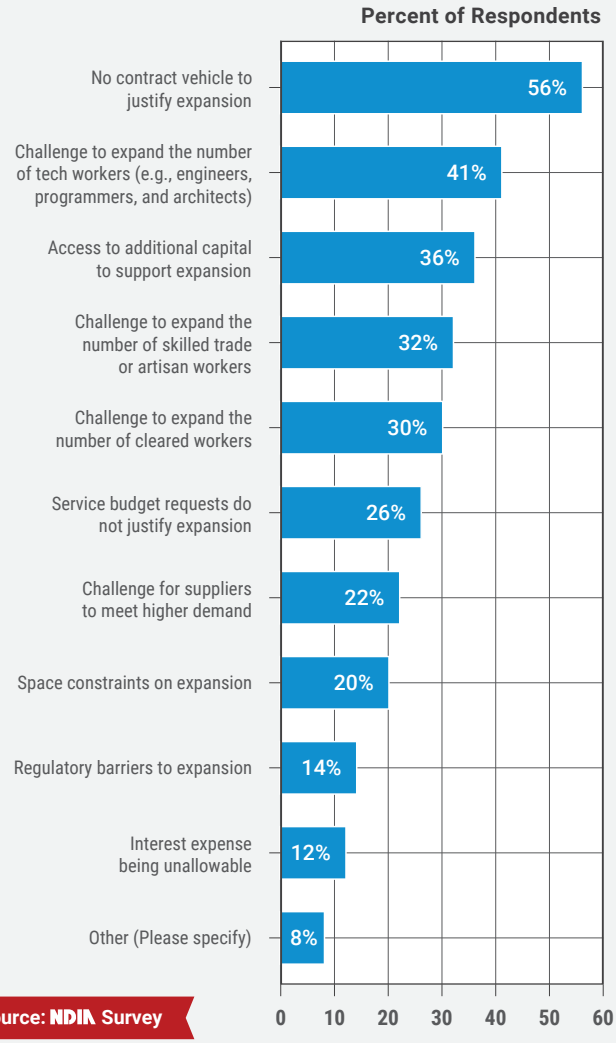
- De-risked contract vehicles/approach (e.g., cost-plus-fixed/incentive-fee) (65%)
- Higher progress payment rates (42%)
- Focused and dedicated inspection and acceptance process (31%)
- Streamlined and dedicated licensing approval process (30%)

NDIA met with companies representing different corporate models to elicit additional recommendations for how to immediately accelerate production. Common areas of feedback include:

- Pursue MYPs, including authorizing quantity and advanced procurement funding, including economic order quantities (EOQ) for long lead parts, and yearly minimum order quantities
- Award funding for long lead materials beyond current contracting

Question 38

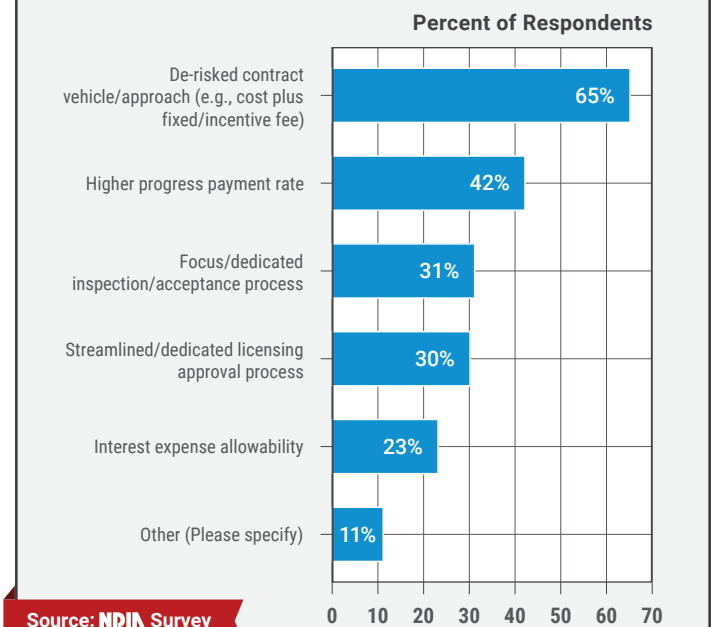
What are the biggest barriers to surging capacity? *(Select all that apply)*



Source: NDIA Survey

Question 39

If the Department were to award a contract to surge production for your company's service or product, what would your company require to support the surge in capacity? *(Select all that apply)*



Source: NDIA Survey

- Incremental testing of new suppliers and components to address government barriers around testing, qualification, and acceptance
- Relax exportability restrictions to allow for foreign production orders and qualification of allied suppliers

The tragic conflicts around the world have caused U.S. policymakers to focus on the current depth of U.S. munitions magazines and have renewed industry's **emphasis on what is required for stable production levels. The most important method—and one the Department has announced in recent weeks—is the utilization of MYP authorities and the associated advanced procurement (AP) and EOQ funding.** These authorities are essential to help industry retain and recruit skilled workers necessary for surge production and to support their suppliers and supply chains with forecasts for long lead time items such as electronics, metal parts and steel, energetics, and packing materials. However, even with these new mechanisms there are challenges, including multi-year contracts that do not, in some cases, have a minimum buy that would reduce unit costs or, in other cases, have a sharp decrease in production in the immediate years after the accelerated ramp-up of production.

In addition, U.S. industry continues to constructively remind the government that ramping up production of munitions in many cases exacerbates the competition for component parts, such as electronics and circuit boards. The competition is both between munition categories and with the civilian economy, including competition with the automobile and mobile phone sectors, due to components at lower tiers of the supply chain often being dual-use. This has profound implications for lead times and the impact inflation can have on the prime contractor and suppliers under firm-fixed-price (FFP) contracts. **It therefore takes the combined efforts of the Department, the Military Services, and Congress to ensure MYP authorities and advanced procurement and EOQ requests are viable from a business-strategy perspective.**

Yet, despite these challenges, the U.S. DIB is continuing to assume risk and make capital investments. Of note, 67% of private sector respondents work for companies that made significant CAPEX investments in the last five years for either facilities and/or production lines. Large- (89%) and medium-sized (81%) U.S. DIB members continue to make investments to maintain existing facilities and increase production. However, small business respondents were far less likely to report significant investments in the last five years, with only 51% stating that their firms had made such investments. These small businesses may lack adequate demand signals to make these investments, and due to their smaller cash reserves, may need more concrete information to spur investment. **Additionally, further direct support may be needed so that small businesses can adequately scale up production to meet the requirements of large programs. This can be potentially ameliorated through the involvement of private equity and venture capital, which in recent years have indicated a greater desire to make investments in both defense and overall supply chains.** In addition, 51% of respondents indicated their companies intended to make additional significant CAPEX investments in either facilities and/or production lines during the next five years.

The Future Character of War: Balancing the High-Low Mix of Munitions

As emphasized with *Operation Midnight Hammer* and *Operation Epic Fury*, the Department has an urgent need to accelerate production of exquisite weapons systems. This is reflected in the data analytics NDIA conducted, which shows that spending on Category IV weapons has had significant growth over the last 25 years, while spending on Category III weapons has conversely decreased at a slower rate.

A central policy discussion involving munitions is funding the right balance of exquisite munitions, such as long-range precision fires and air defense interceptors, with mass, attritable munitions. **The operational balance that must be struck must ensure that Combatant Commanders have sufficient quantities of munitions that have the range, speed, size, and survivability in conflicts with peer and near-peer competitors with affordable mass weapons that would allow the U.S. military to employ high-volume effects against complex and recurring targets in a cost-effective manner.**

Previous sections covered the challenges the U.S. DIB has in surging capacity of exquisite systems. Companies seeking to produce mass attritable weapons seek different support from the government. For them, they desire that future operational requirements include a prioritization of producibility at scale; a competitive commercial approach that includes

awarding contracts to multiple suppliers and tying compensation to performance metrics and production timelines; allowing for simultaneous, rather than sequential, product and production design; and enabling them to leverage commercial supply chains and to reduce dependency on defense-specific suppliers (see more in the Supply Chain section, page 67).

It is a false equivalency to suggest there is a clean operational trade-off between exquisite and attritable weapons. They are designed for different tactical and operational contexts, and their producibility requires very different conditions. Sufficient, consistent, on-time appropriations for the different munitions categories to support stable production levels are required for both. An acquisition strategy for an exquisite system looks very different than an acquisition strategy for mass attritable munitions. Therefore, building acquisition strategies designed specifically for the optimization of the production conditions under which they are produced is equally important.

Recommendations:

Short-Term

60. **The Department must continue to provide multi-year contracts for munitions production.** Companies of all corporate models emphasize that this is the best way to encourage industry to make the investments to support long-term production.
61. **Congress must focus on securing a dedicated percentage of the procurement budget for critical munitions and support MYPs.**
62. **The Services must focus on requesting a balanced high-low mix of munitions to support not only current operational needs, but also to ensure future needs are met.**
63. **The Services must pivot from requesting training requirement-level spending to total requirement spending for Category III munitions.** This would enable companies to be better prepared for any future surge needs.

Medium-Term

64. **The Department must implement Section 803 of the FY2026 NDAA,[177] the Pilot Program for Financing for Covered Activities.** The Pilot specifically includes "to materially expand the capacity of production or sustainment and maintenance through capital expenditure" as a covered activity. Designating these efforts as covered activities is a significant incentive for industry to invest in building capacity.

NDIA created an interactive dashboard to complement the *Vital Signs 2026* report. NDIA's Munitions Dashboard allows users to interact with our munitions-related data and view additional charts. Access the Munitions Dashboard at NDIA.org/MunitionsDashboard.

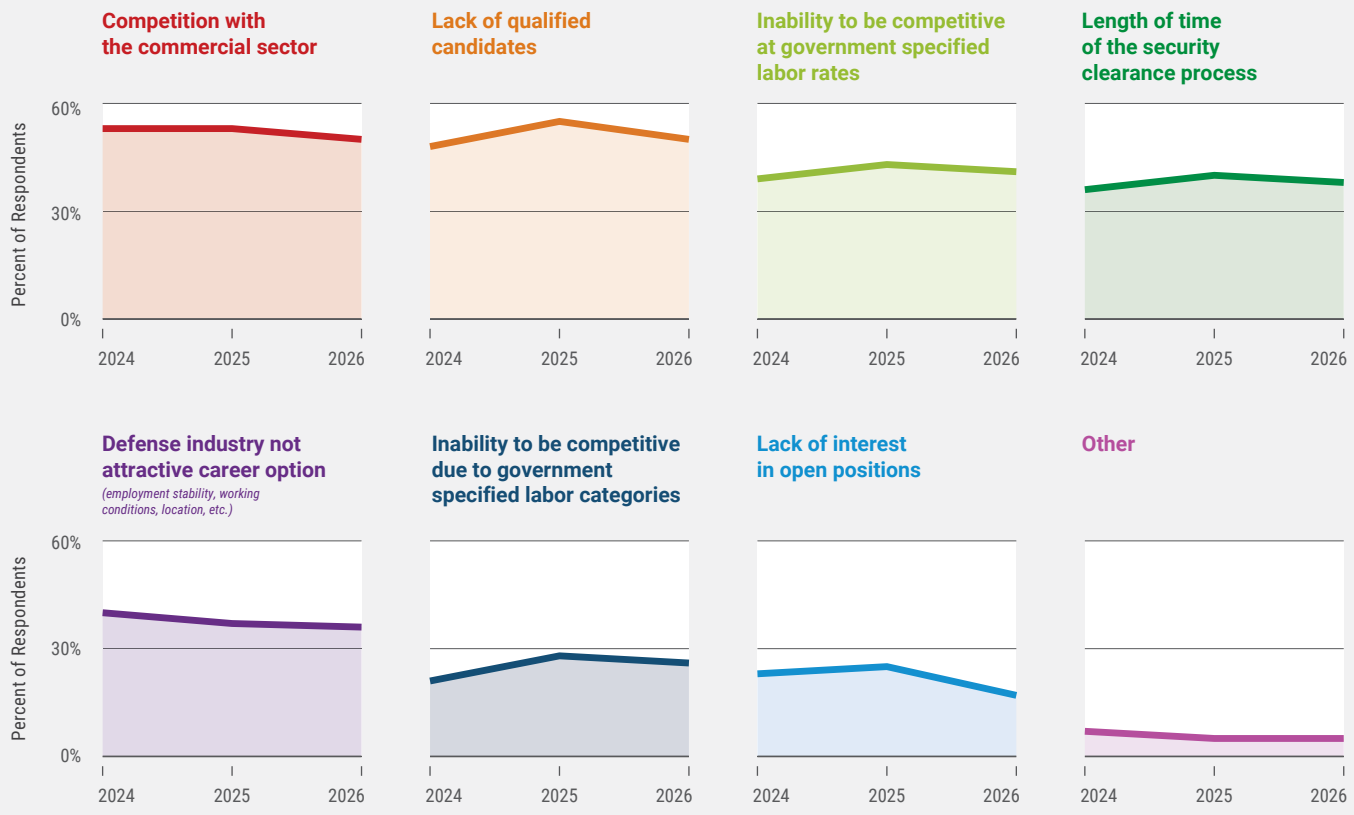
Workforce

Last year's *Vital Signs* report studied the skilled labor aspect of the defense workforce in greater detail.[178] This year, in addition to the earlier section detailing the importance of the acquisition workforce, the *Vital Signs 2026 Survey* continued to ask defense industry members about key questions regarding their ability to find, recruit, and retain their workers. Whether due to qualifications or factors relating to other sectors of industry, finding the right workers continues to be a challenge.

Over the last three *Vital Signs* surveys, industry members have consistently identified the same two primary barriers to filling vacancies in their companies: a lack of qualified candidates and competition with the commercial sector. The consistency of these barriers continues to indicate that labor supply is at the heart of industry's workforce issues. Similar to the competition for capital, the U.S. DIB does not operate in isolation and must compete with non-defense sectors for the same workforce. If the number of trained, qualified, and/or interested workers in the labor market, particularly in the manufacturing sector, is decreasing rather than increasing, as we have seen with these surveys, the U.S. DIB's competition with the commercial sector will continue to be a leading challenge. Due to regulations limiting the U.S. DIB's profits and wage limits, the U.S. DIB has not been able to keep up with non-defense increases in pay, erasing the wage premium that once ensured the nation's top talent was working in the sector dedicated to delivering solutions to the warfighter.

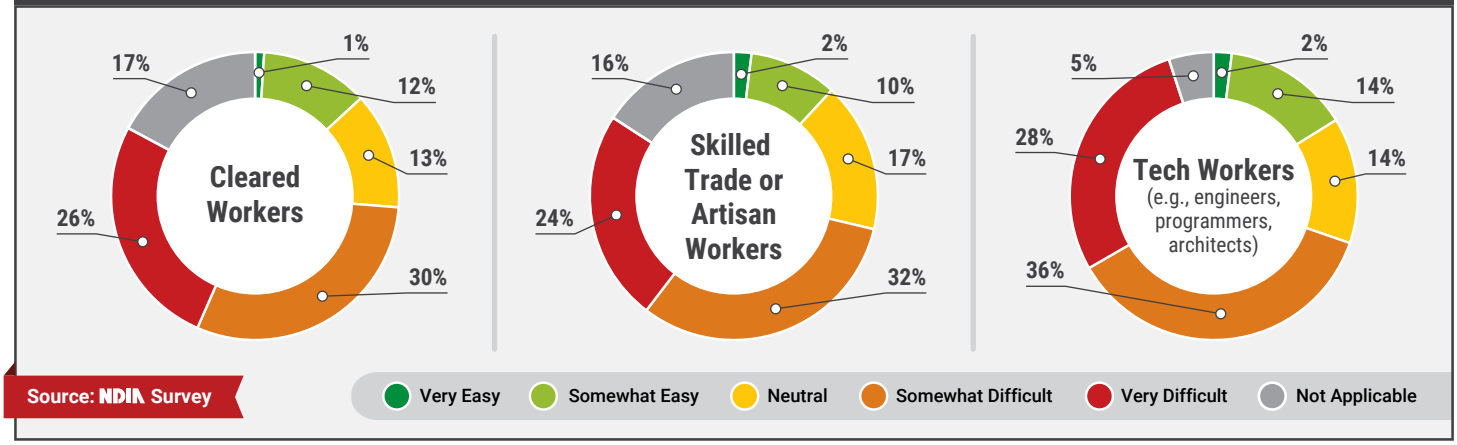
Vital Signs Survey Trend:

What are the biggest barriers to filling vacancies in your company? *(Select all that apply)*



Question 44

How difficult is it to recruit and retain the following workers?



*Due to rounding, the sum of the figures may not equal 100%

The *Vital Signs 2026 Survey* also studied how hard it is for industry to recruit and retain workers across three critical categories: cleared workers, skilled trade or artisan workers, and tech workers.[179] Similar to the findings in 2024 and 2025, across all three categories, most of the respondents indicated doing so was somewhat difficult or very difficult:

- Cleared Workers (56%)
- Skilled Trade or Artisan Workers (56%)
- Tech Workers (64%)

Recommendations:

Short-Term

65. **The executive and congressional branches must encourage the Defense Contract Audit Agency (DCAA) to review the impacts of prevailing wage rates and labor categories on the U.S. DIB's ability to increase wages and to make recommendations on solutions for any impediments discovered.** Across multiple U.S. DIB sectors, companies have noted that in certain regions, minimum wage increases and service sector starting wages are approaching industrial base starting wages.
66. **The Department must align public and private skilled trades definitions to reflect new U.S. DIB trades capabilities necessitated by emergent technologies.**
67. **The Military Services must emphasize that both collegiate degrees and skilled trades are important and viable career paths for departing service members.** Historically, a significant portion of the U.S. DIB skilled trades talent pipeline came from enlisted personnel. However, there are concerns that the Military Services are not currently encouraging skilled trade career paths.

Medium-Term

68. **The Department of Labor (DoL) must pursue insightful data to develop a more granular understanding of the collective status of manufacturers' workforce.** This data must specifically focus on (1) the number of engineers, skilled workers/tradesmen, and other critical roles currently employed and their experience levels, (2) existing unfilled workforce needs, and (3) forecasts of workforce needs two years from now. This data must also explicitly differentiate data collected from different sectors and regions.

69. **In collaboration with DoL, the Pentagon must expand the Registered Apprenticeship Program (RAP) by increasing funding for trainee pay and mentoring that allows for training significantly larger pools of specialty-skilled workers, deploying them rapidly into the U.S. DIB.** An affiliated pre-apprenticeship program available to regional defense manufacturing hubs, co-managed by industry and school systems, would create a pathway for youth into "Registered Apprenticeship 2.0."
70. **The Department must include training expenses for targeted, potential-employee training programs as allowable costs.**

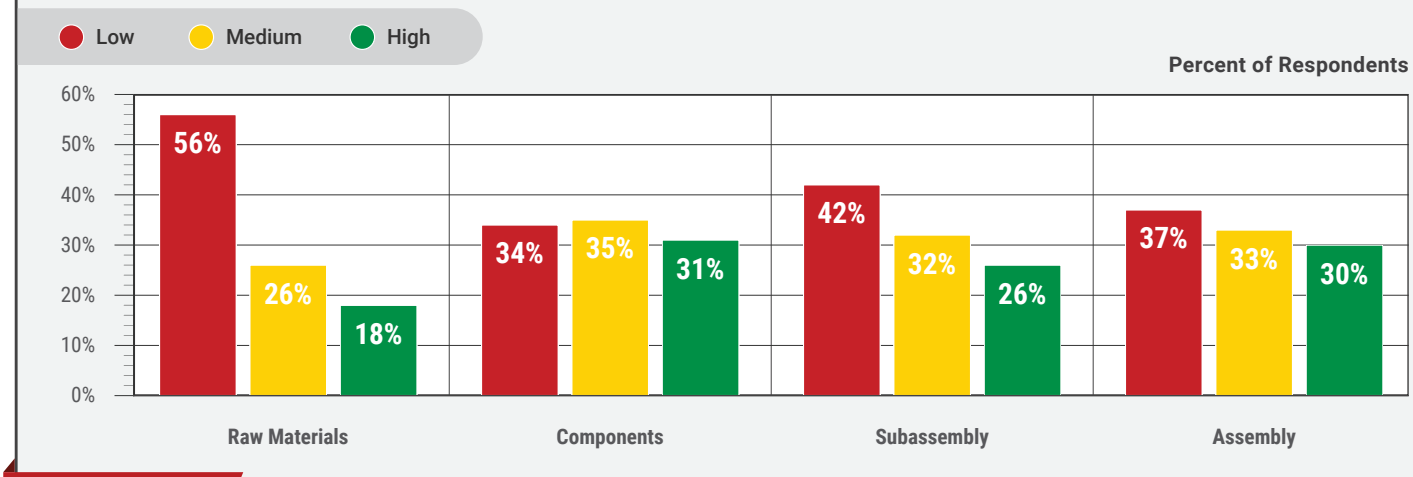
Pillar 5: Ensuring Resilient Supply Chains

Policymakers' renewed focus on supply chain resiliency is a recalibration of a framework that previously prioritized efficiency and lower costs over domestic production and resilience. **A new policy framework has emerged over the last three administrations which has put more weighted emphasis on economic security as part of national security.** U.S. DIB supply chains are now part of a larger conversation regarding onshoring and reshoring domestic production capacity, trade imbalances, and secure borders.

It should be noted with caution, however, that these policy initiatives come with their own complexity. For example, *the Vital Signs 2024* report highlighted that the PRC provides a significant percentage of raw and intermediate inputs for priority supply chains, including for the microelectronics and advanced manufacturing sectors, to other countries in the Indo-Pacific region, as well as Mexico and Canada.[180] While the Administration is pursuing transshipment tariffs from the PRC to the U.S. via third countries to address this issue,[181] the current fact pattern will continue to have important implications for both tariff negotiations and business strategy decisions in 2026.

Question 43

What level of supply chain visibility does your business/business unit have for the following areas?



Source: NDIA Survey

Supply Chain Illumination

Within this context, to be proactive, the current and previous administrations focused on improving the resiliency of U.S. supply chains through better data on the structure of supply chains, making investments in redundancy, identifying more opportunities to substitute between inputs, and improving communication across the supply chain. In addition, as supply chains have become global, prime contractors continue to struggle to gain full visibility over their entire supply chains. For instance, a prime contractor may know that a supplier is based in the U.S. or an allied nation but may not know from where all raw material or subcomponent inputs are sourced.

In the *Vital Signs 2026 Survey*, private sector respondents were asked what level of supply chain visibility their business/business unit has for components, assembly, subassembly, and raw materials. The data shows that businesses' high visibility reduces significantly at the subassembly level and in tracing their raw material inputs. For example, while businesses report medium-to-high visibility for components (66%) and assembly (63%), this level of visibility drops with subassembly (58%) and raw materials (44%). It is noteworthy that private sector respondents report low visibility for raw materials at 56%.

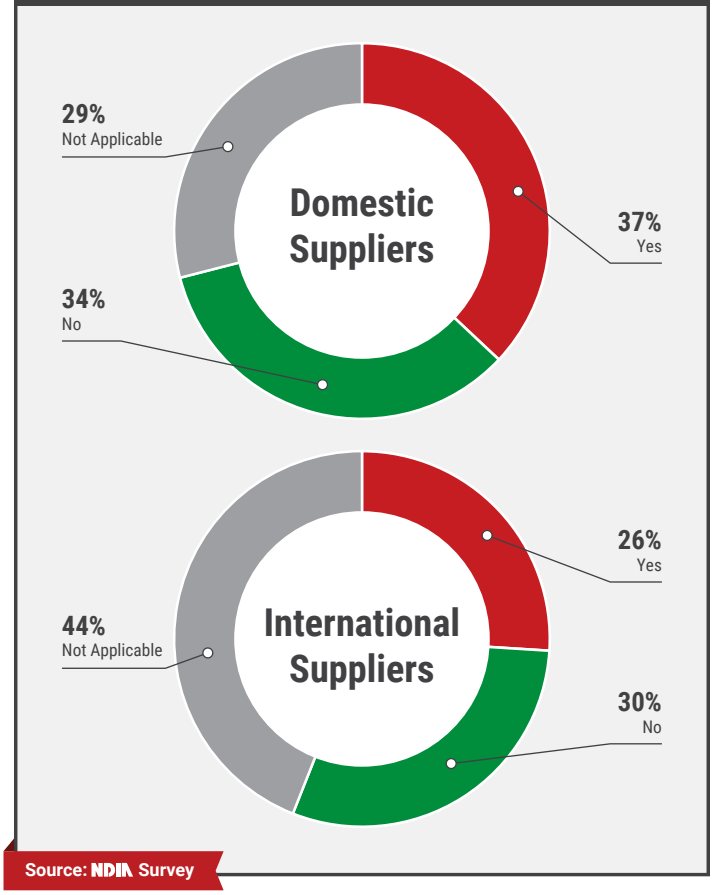
However, as policymakers seek to remedy the situation, given the fluidity and complexity of international supply chains, **government and industry must both be realistic about the time required to fully identify truly independent and alternative supply chains and the level of resourcing required to operationalize those supply chains.** In recognition of these challenges, in the FY2026 NDAA Conference Report, Congress approved interim national security waivers for supply chain illumination efforts (Section 833).[182] Specifically, the provision allows for circumstances in which a contractor, through the use of supply chain illumination efforts, discovers a noncompliant item in a supply chain and promptly discloses that discovery to the PM responsible for such supply chain, for the contractor to be eligible for a waiver to deliver an end item subject to the requirements laid out in the section.

One of the policy watch areas for industrial policy regarding U.S. DIB supply chains is the restrictions applied to companies that operate under defense acquisition regulations. As the policy preference moves toward commercial items, this will introduce a new layer of complexity. For example, producers of mass attritable munitions recommend that they be allowed to leverage commercial supply chains and to reduce dependency on defense-specific suppliers. In addition, producers of unmanned systems, including companies located in industrial bases in the Indo-Pacific, report that their supply chains are not price-competitive when they are prohibited from using adversarial sources. This will continue to be an important policy discussion in light of the Department's proposed scale of commercial acquisitions.

The Department and Congress should continue to explore opportunities to increase supply chain illumination to identify high-risk nodes, including over-reliance on sole- and single-source providers, obsolescence challenges, and financial insecurity of critical contractors, as well as the overall integrity of the supply chain. At the same time, **it will be important to prioritize establishing sound policy, financial investment, and regulatory frameworks to support all of the U.S. DIB, regardless of corporate model, during this transition period.**

Question 41

In the last three years, have you lost any of the following single or sole-source suppliers:



Source: NDIA Survey

Single- and Sole-Source Suppliers

The *Vital Signs 2026 Survey* also asked private sector respondents whether they have lost any single or sole-source suppliers. **Since the publication of the *Vital Signs 2025* report, private sector respondents report a 7% increase in loss of domestic single- or sole-source suppliers and an 11% increase in loss of international single- or sole-source suppliers.**

This trend emphasizes the ongoing recommendation in the *Vital Signs* report series that the Military Services need to work with Congress to provide consistent and dedicated funding for second- and potentially third-source suppliers.

Shift in Supply Chain Concerns

In a significant shift from previous years, in which private sector respondents focused on U.S. domestic challenges as the biggest concerns impacting supply chains, the *Vital Signs 2026 Survey* shows private sector respondents' current biggest concerns regarding supply chain challenges are both domestic and international. In response to the question "What are the biggest challenges to your supply chain?" the top three challenges were:

- Long lead times and capacity constraints (51%)
- Inflation making cost estimation unpredictable (39%)
- Government policies (38%)

Congress is paying attention. In the FY2026 NDAA, congressional negotiators included language in the Joint Explanatory Statement noting that it will be increasingly important for the Department to track the impact of economic fluctuations, including tariffs, supply chain disruptions, and inflation, as well as their impact on lead times.[183]

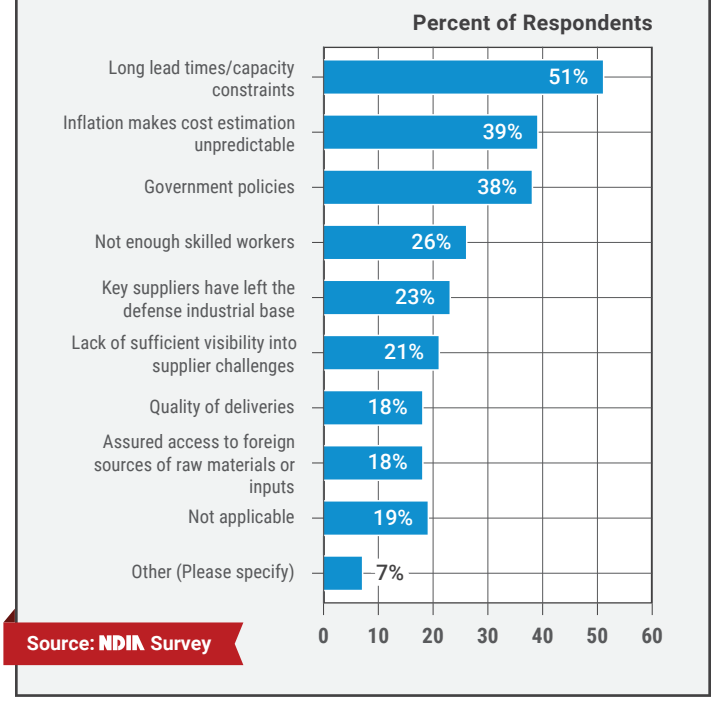
Pressing Supply Chain Vulnerabilities

Private sector respondents were also asked to identify the most pressing supply chain vulnerabilities for their respective companies. The top concerns were:

- Increasing material and/or component costs (46%)
- Single- or sole-source suppliers (37%)
- Geopolitical sensitivities of foreign sources (31%)

Question 42

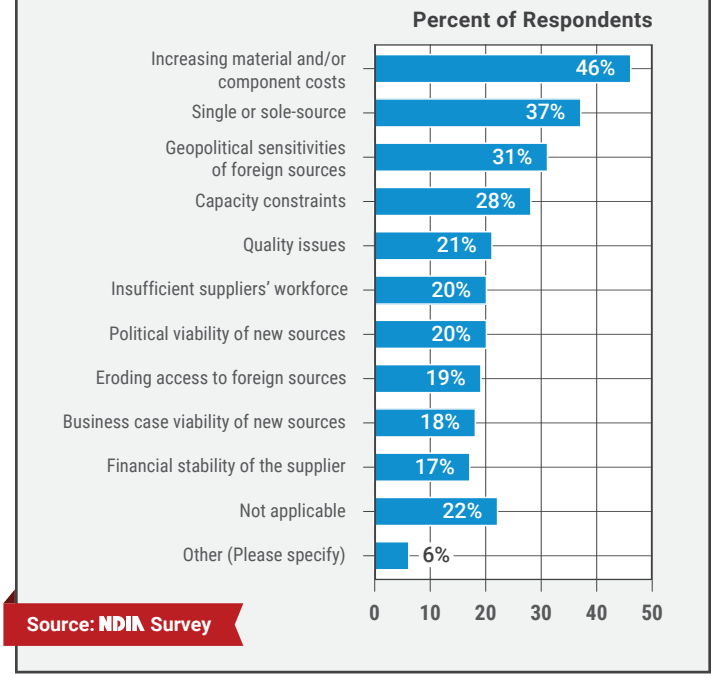
What are the biggest challenges to your supply chain? *(Select all that apply)*



Source: NDIA Survey

Question 40

Which supply chain vulnerabilities are most pressing for your company or business unit? *(Select all that apply)*



Source: NDIA Survey

Recommendations:

Short-Term

71. **The Military Services must include resourcing second-source suppliers in their budget requests for critical single-source material, components, and equipment.** Congress must support funding for second-source suppliers in these areas.
72. **The Department and Congress must continue to collaborate with industry to manage instances of supply chain noncompliance.** While Section 833 in the FY2026 was important support for industry, policy decisions around supply chains, while understandable, will take time to resolve.

Medium-Term

73. **The Department and Congress must prioritize both advanced procurement funding and a stable and long-term acquisition strategy for stockpiling.**

Critical Minerals

Strategic Context

The PRC is the leading global producer of critical minerals and rare earth elements (REEs), a group of 17 metals that are a subset of critical minerals and are essential both for civilian commercial products and defense capabilities, including batteries and magnets. It also has a history of employing export restrictions during periods of geopolitical tension. Over the past two years, the PRC has implemented and expanded critical minerals export restrictions against the United States as economic and technological competition tensions have intensified.

For example, in July 2023, the PRC introduced export licensing policies that required end user certificates for the critical minerals gallium (used in semiconductors and in electronic warfare applications) and germanium (used in night vision lenses and for infrared imaging), and in December 2023, the PRC put a prohibition on exporting REE extraction technology. In August 2024, the PRC implemented export restrictions on another critical mineral, antimony (an essential input used in primers and explosives). By December 2024, the PRC escalated by fully prohibiting exports of gallium, germanium, antimony, and other critical materials to the United States. Then, in April 2025, the PRC announced additional export restrictions of REEs, and informed companies in the Republic of Korea (colloquially referred to as South Korea) that they were not to export products containing critical minerals sourced from China to U.S. defense contractors. The restrictions enacted licensing requirements for exports of several REEs, including samarium, an element used to manufacture permanent magnets with uniquely high temperature resistance. Due to these attributes, samarium magnets are often used in electric motors that operate at high temperatures, such as those in aircraft, spacecraft, and the nose cones of missiles. These operating requirements make samarium magnets both expensive and almost exclusively a defense-related material.

In October 2025, the PRC announced an expansion of its battery of export controls, this time to include controls on several rare earth magnets, compounds, and target materials—highly purified forms of rare earths.[184] Under these new restrictions, dual-use export permits from the Chinese Ministry of Commerce are required for exports of items from China containing any of these rare earth materials in which the value of the rare earths comprise at least 0.1% of the value of the item. The restrictions also mandate that export permits are required for the transfer of items produced in foreign countries that use magnets and compounds containing REEs of Chinese origin, and which are produced using crucial REE manufacturing technologies and practices.

As with previous PRC critical mineral and REE export controls, the October 2025 controls widely prohibit the export of items intended for military end-use or purposes that would enhance military capabilities. Moreover, they dictate that exports relating to the development or production of advanced memory and logic chips (such as CPUs, GPUs, RAM, and ROM chips), semiconductors, as well as

research and development for AI with possible military end-use, are subject to approval on a case-by-case basis. This effectively expands the scope of PRC export prohibitions against REE-related items that are considered dual-use.

These most recent restrictions have since been suspended for one year following talks between President Trump and Chinese President Xi Jinping as part of a U.S.-China trade deal. Some other restrictions placed on gallium, antimony, and germanium have also been suspended for one year under this agreement.[185]

In response, the Trump Administration has issued three EOs and one Presidential Proclamation directing joint negotiations between the Department of Commerce, the U.S. Trade Representative, and trading partners related to critical minerals. In March 2025, the President signed EO 14241,[186] focused on increasing domestic production of critical minerals, and in April 2025, the President signed EO 14285,[187] focused on securing critical mineral supply chains and promoting offshore critical mineral development. Furthermore, also in April 2025, the President signed EO 14272,[188] which instructed the Department of Commerce to launch a formal investigation—known as a Section 232 Investigation—to determine the effects imports of processed critical minerals and their derivative products have on U.S. national security.

Additionally, on January 14, 2026, the President issued a Proclamation entitled "Adjusting Imports of Processed Critical Minerals and their Derivative Products [PCMDP] into the United States."[189] In this issuance, the President acknowledged that processed critical minerals and derivatives are being imported into the country at such levels that are deleterious to U.S. national security. Furthermore, the Proclamation states that the President will direct the adjustment of imports of PCMDPs to reduce threats to national security. Mitigation efforts could include establishing a price floor and other trade-restricting measures when negotiating critical mineral trade agreements. The proclamation concluded that the United States must "ensure that it has a secure supply chain to obtain PCMDPs and that it has sufficient domestic mining and processing of critical minerals to reduce import reliance on foreign countries."[190]

In addition to these lines of effort, the Administration has engaged in bilateral arrangements with Australia, Japan, Thailand, Malaysia, Kazakhstan, and Saudi Arabia on critical minerals and rare earths. These initiatives are aimed at countering PRC market manipulation and filling gaps in U.S. supply chains to complement domestic production and refining efforts. Specifically, the U.S. intends to partner with these nations to establish pricing mechanisms through the creation of "high-standard marketplaces," which will include price floors and other financial protections.[191] Additionally, the U.S. intends to collaborate with partners and allies on protecting global critical mineral reserves and supply chains and investing in global mining and processing projects, as well as harmonizing and streamlining regulations.[192]

Despite these efforts, reporting from Reuters in February 2026 indicated that two North American manufacturers of yttrium-derived coatings used in turbine engines have temporarily halted production due to mineral shortages resulting from PRC export controls.[193] Yttrium, like many REEs, is still predominantly produced in China and remains under export control despite the recent pause on select elements. While the halt reportedly has yet to impact jet engine manufacturers, concerns about downstream effects remain high. The production halt also demonstrates the strategic role that critical minerals play as a key supply chain chokepoint that can be manipulated by competitors.

The Foundational Role of Critical Minerals in National Security

As defined in statute, a critical mineral is essential to the economic and national security of the United States, has a vulnerable supply chain, and serves an essential function in manufacturing a product.[194] Over the last several administrations, the U.S. has consistently sought to reduce its reliance on critical minerals sourced from the PRC by developing alternative supply chains with allies and partners and by exploring increasing U.S. domestic sources. In 2020, for example, President Trump signed EO 13953,[195] which declared a national emergency due to the U.S.' overreliance on foreign sources of critical minerals, particularly from the PRC. The EO highlighted that the U.S. imported more than half of its annual consumption for 31 of the identified 35 critical minerals and had no domestic production for 14 of the 35.

Reducing U.S. reliance and enhancing domestic production will take significant time and investment, as well

as close collaboration between government and industry. Mining and processing of critical minerals is capital-intensive, and equity markets have historically, particularly in the U.S., been hesitant to invest due to the risk profile of most mining projects and the protracted timelines before investors can reasonably expect to see a ROI.

In addition, commodity price manipulation challenges price transparency, which further complicates ROI calculations. For example, the battery metals market has had wide price swings in recent years. The prices for cobalt and lithium dropped significantly in 2023, and the average price of nickel is 29% lower than the 2023 average.[196] The prices remain at multi-year lows due to oversupply and slower economic growth in key markets.[197] In addition to the PRC, other countries have temporarily halted production, in the case of cobalt, over depressed commodity prices and, in the case of nickel mining, over local protests.[198] Combined, these factors make it harder to raise private capital for U.S. mining and processing projects.

The challenges are further exacerbated for the U.S. DIB, which represents a relatively small market share in the overall demand for critical minerals, including REEs, although the precise percentage does vary significantly depending on the critical mineral. As U.S. policymakers work through alternative source options, it is important to note that, currently, **the private sector's stockpiles are designed to buffer logistical delays and short-term market instability. They are not designed to remedy a nation-state's long-term export prohibition.** And while the DLA maintains strategic stockpiles of critical minerals and rare earths, DLA intervention and resource infusion in defense industry supply chains is not a long-term solution.[199]

Select Critical Minerals in Defense Applications

Antimony	Antimony trisulfide is used in ammunition as a primer and in explosives.[200]	**Nickel**	Nickel is a component of many high-strength alloys, such as those used in rocket nozzles and armor plating.[205]
Arsenic	Used as a doping agent in semiconductors to increase conductivity.[201] Also used in lead alloys for bullets.[202]	**Niobium**	Due to niobium's high heat tolerance, it is used in hypersonic platforms, jet engines, and nozzles.[206]
Gallium	Widely used in semiconductors, including in electronic warfare suites and radar pods.[203]	**Rare Earths**	Rare earths are used predominantly in magnets. Rare earth magnets are both strong and heat-tolerant, making them ideal for use in aerospace and kinetic applications.[207]
Germanium	Germanium is used in night-vision and infrared lenses, as well as in sensors for satellite imagery.[204]	**Tungsten**	Due to tungsten's hardness, it is used in armor-piercing shells and ammunition rounds.[208]

Government Solutions

In the second half of 2025, the United States government, primarily through OSC, has invested in several domestic mining projects. These arrangements are typically a combination of "offtake agreements" (in which one party buys future products or resources from the other party), federal loans, and equity. For example, in July 2025, OSC entered an agreement with MP Materials to establish domestic rare earth magnet supply chains. Based on the terms of the agreement, the Department committed to establishing a price floor of $110 per kilogram for neodymium-praseodymium (NdPr) for ten years, with a ten-thousand metric-ton estimated output.[209] Additionally, it has committed to providing buyer guarantees for all magnets produced at a new MP Materials production facility for ten years.[210] Notably, the U.S. government has also agreed to purchase $400 million in MP Materials stock and has obtained a warrant permitting it to purchase further shares. This will make the Department the company's largest shareholder.[211]

Then, in November 2025, in partnership with the Department, MP Materials announced a joint venture with the Saudi Arabia-based firm Maaden to establish a rare earth mine in the Kingdom of Saudi Arabia. The mine, which would be 49% owned by the Department and MP Materials, is set to process rare earth feedstock from Saudi Arabia and the rest of the world, and will produce separated light and heavy rare earth oxides.[212] The Department is fully financing the U.S. portion of the investment via a non-recourse loan.[213]

Similar agreements have been made between OSC and a joint venture between Vulcan Elements[214] and the refining company ReElement,[215] announced in November, as well as Trilogy Metals,[216] a Canadian company, in October. In both cases, upfront investments in the form of loans and offtake agreements totaling $620 million and $17.8 million, respectively, are coupled with the Pentagon acquiring equity in both firms. Additionally, in the Vulcan-ReElement case, the Department of Commerce is set to acquire $50 million in equity in ReElement.[217] The DoE also conducted an investment of this kind in October, agreeing to provide Lithium Americas with over $2 billion in loans and offtake agreements to onshore lithium production in exchange for equity in the company.[218] As noted at the time by the Secretary of Energy, the U.S. government equity stake was needed to help make the mine project viable after a deep drop in the price of lithium.[219]

While these agreements are a promising start, they do not offer a long-term solution. Estimates suggest that it takes an average of twenty-nine years in the United States to develop an operational mine from initial discovery, with many of those years spent navigating the convoluted permitting process.[220] While this is not representative of the above agreements, because the above agreements are directed at establishing new supply chains and bolstering active supply chains within preexisting mines, it illustrates the scale of the challenge that the U.S. will face in the coming years if it hopes to become more self-sufficient in the mining and processing of critical minerals and rare earths.

There are numerous offices within the executive branch that focus on rare earths and critical minerals and materials; however, these agencies focus on the materials with applications in their industry sectors. Consolidating the lines of communication among agencies with sector-specific concerns could offer the insight needed into challenges relating to rare earth and critical minerals and materials. Industry's inability to effectively communicate demand inhibits lower levels of supply chains from being able to reliably fulfill that demand. As a result, industry will be unable to fulfill government needs for technologies and equipment. By effectively aggregating demand, industry can create a consistent signal that all levels of the supply chain can predictably satisfy and reliably deliver products to end-users. Furthermore, consistent demand demonstrates stability to government investors, which may lower the perceived risk of investing in earlier-stage projects. NDIA stands ready to serve as the nexus to expand this dialogue and provide actionable demand signal data that industry and government can use to formulate strategies to address supply chain resilience.

The Administration has taken steps to address these issues and promote greater development capacity. EO 14241[221] contains provisions for reducing regulatory constraints on the permitting process for mineral production projects. This includes reforms to review processes, federal land use policy, and federal financial authorization authority, among others.[222]

Industry continues to welcome learning more about how it can support the administration's overarching strategy and about the desired end goals it hopes to achieve through these policy reforms and partnerships. Thus far, joint ventures between industry and the U.S. government have not demonstrated a predictable process or pattern of action. As the operator of one of the most prominent active REE mines in the United States, it is clear why the administration has sought a partnership with MP Materials. Similarly, Lithium Americas currently operates the largest active lithium mine in the U.S., as well as one of the largest in the world, making it an easy and valuable target for partnership.[223] However, there have not been efforts or investments of this magnitude in establishing and diversifying domestic supply chains beyond scaling those that already exist. In short, the Administration is going after the straightforward targets, which are necessary to yield results in the near-term. But it *must* be part of a grand strategic initiative to shore up critical mineral production and processing if the U.S. hopes to achieve sustainable long-term supply chain independence.

Recommendations:

Short-Term

74. **The U.S. government must establish a rare earth and critical minerals and materials strategy, with a supporting framework to achieve sustainable domestic critical minerals and REE supply chains.** This should include strategies for targeted investment in mining projects at all levels (exploration, planning, construction, and production), in addition to investment strategies for processing facilities.
75. **The U.S. government must establish a single office to act as a clearinghouse for harmonizing rare earth requirements to bolster collaboration and communication between government and industry, ensure both defense and commercial rough order of magnitude demand signals are understood, and prioritize workstreams to address these demand signals.**
76. **Congress should establish a commission to conduct further reforms to the permitting and licensing process for new mines and processing facilities.** Permitting and licensing reform will reduce constraints on the establishment of new mining and refining projects, which will reduce early-stage delays and undue expenses. This will, in turn, make the ecosystem more favorable to smaller- and lower-budget entities, which will lessen the demand for government financial intervention. It will also organically enable the diversification of supply chains by fostering a more competitive environment.
77. **The U.S. government must continue to fund/enable multiple nodes in a specific material/application supply chain simultaneously.** Funding nodes within the supply chain and requiring collaboration among the nodes will promote the health and resilience of these supply chains.

Medium-Term

78. **The U.S. government must identify opportunities to exercise the OSC to invest in emerging processing facilities and mine exploration projects.** The capital-intensive nature of mineral mining and processing requires some degree of surety in the marketplace. The "Valley of Death" as commonly referenced regarding businesses transitioning from small to mid-tier, applies to mining and processing. This valley period is where mining and processing exploration efforts have been proven. However, the current market does not support the

full investment calculus required for further capital-intensive operations. Exercising and expanding access to OSC's funding could provide the necessary capital boost for mining and processing efforts to commence.

79. **The U.S. government must enable an environment that encourages private investment, both equity and loans.** Regular banks and investors must see profitability in potential investments. Bankable agreements, including binding offtake agreements or letters of commitment, enable suppliers to show potential profitability to lenders.
80. **DLA must bolster the domestic critical mineral and rare earth recycling capacity.** To employ an "all-of-the-above" strategy, DLA Disposition Services should go forward with the development of the reclamation circular economy. Reclaiming critical minerals and materials during the disposal process is another avenue to satisfy critical mineral requirements.

Long-Term

81. **The U.S. government must explore AUKUS Pillar 3.** AUKUS, the security pact between Australia, the United Kingdom, and the United States, currently consists of two existing pillars: Pillar 1, the sharing of nuclear propulsion technology regarding submarine construction, and Pillar 2, encompassing a variety of capability sharing such as undersea warfare, quantum technologies, advanced cyber, and hypersonic/counter hypersonic capabilities. Pillar 3 is contemplated to be the expansion of the security agreement into two additional domains: space and critical minerals & materials. Such a security pact should facilitate standardized regulatory and security practices while creating diversified supply chains among trusted partners to supplement domestic mineral production and processing.
82. **The U.S. government must create financial incentives for tier 1 and 3 companies to pre-purchase and hold inventories of at-risk materials.** Companies that hold excess stock of identified critical minerals/materials could be offered a tax credit or rebate in negotiations for holding such stock. This would encourage the holding of such materials and allow greater lucidity of available stocks.
83. **The U.S. government should create a Sovereign Wealth Fund or other funding mechanism to bolster diversified mineral supply chains and formalize "high-standard marketplaces" for critical minerals.** In the same way that currency was once backed by gold, the high-standard marketplace needs to be backed by mineral production. The Sovereign Wealth Fund, created to provide economic stabilizing expenditures, can be used to support the transformation of the critical minerals market and mitigate the influence and manipulation by the PRC.[224]

Conclusion

The world is growing more dangerous, fractured, and volatile. In engagements with senior military leaders over the last year, there is a palpable and honed focus in their eyes, and crisp, precise language in their remarks covering their operational requirements. They are demonstrating they understand that the consequences of losing the global economic and technological competition means a negative impact on the values, standard of living, and security of every American. And they are demonstrating they carry the weight of what the consequences will be for every Soldier, Sailor, Marine, Airman, and Guardian, should deterrence by denial fail.

The United States jealously guards its tradition of civilian control of the military, and that tradition in practice means the current civilian leadership in the Trump Administration and the Members of the 119th Congress bear the weight of creating the policy and political conditions that maximize deterrence by denial. To support their work, this report covers the most important issues that require real change, not incremental improvements, to ensure a healthy, diverse, and resilient U.S. DIB, one that provides the capabilities and capacity U.S. warfighters require and deserve.

In a crisis or conflict, one thing leaders cannot buy is more time. **And the clock is ticking.**

Appendix A: Recommendations by Section

Faster and Flexible Pathways

The Department's Acquisition Reforms

Short-Term

1. **The Department and Congress must continue to remove compliance burdens across the spectrum of U.S. DIB participants to realize greater competition, innovation, and speed.** Raising thresholds within acquisition processes is a significant step toward removing compliance burdens for all, and NDIA supports the proposed exemptions for all U.S. DIB participants to create a clearer, cleaner path to innovation, speed, and capacity.
2. **The government must ensure that the selection of non-commercial items does not become viewed as an adverse action but rather is treated as an "all-of-the-above" approach to procurement.** While the stated intent of the commercial preference is to infuse speed and reduce government-unique requirements, the government must preserve legal authorities and policies for contracting officers to procure noncommercial products and services.
3. **The Department must guard against the potential to infuse FAR-related requirements into non-FAR contract agreements.** Infusing FAR-type requirements reduces the ability of the contractor to execute as innovatively and expeditiously as it potentially could.
4. **The Department must immediately scale the Department's acquisition workforce and ensure it is sufficiently staffed and trained to adjudicate commercial determinations, non-determinations, and direct-to-supplier contracting in a timely manner.**

Medium-Term

5. **The Department must codify processes and procedures and develop training and guidance for the acquisition workforce to employ flexible approaches such as consumption-based solutions.** While the anything-as-a-service approach is innovative, this approach will require an acquisition cadre trained to execute agreements of this type, a method to accurately estimate funding and consumption profiles, and the codification of the anything-as-a-service approach into strategy.
6. **Congress must direct the Department to inventory the differences in compliance requirements between traditional defense contractors (TDCs) and NTDCs as the first step to removing the additional requirements on TDCs.** The Department has created a dichotomy of compliance requirements for TDCs and NTDCs. If the premium is on speed, it is counterintuitive to continue subjecting TDCs to a labyrinth of government acquisition processes and regulations simply because they have demonstrated the ability to comply.

Pillar 1: Prioritizing Sufficient and Stable Budgets

Mitigating Government Shutdown Risks

Short-Term

7. **Congress and the executive branch must work together to increase the topline for the FY2027 DoD Appropriations Act.**
8. **Congress and the executive branch must work together to ensure stable and consistent additional funding for the defense priorities partially funded in the reconciliation bill.**

Medium-Term

9. **Congress must enact the full-year FY2027 DoD Appropriations Act before September 30, 2026.**
10. **Congress must continue to provide flexibility to the Department to respond to developing circumstances and take advantage of emerging opportunities should it enact a further CR.**
11. **The Department must utilize its current authorities to mitigate the impact on the U.S. DIB if there is another lapse in appropriations.**

Pillar 2: Advancing DoD Digital Modernization & Transformation

Future of IP and Data Rights

Short-Term

12. The Department must fully utilize its current authorities to ensure it is contracting for the technical data needed for repairs and sustainment up-front in a transparent manner.
13. Industry must work as a collaborative partner with the Department as it implements the requirement to identify and rectify insufficiencies in technical data, as mandated in Section 805 of the FY2026 NDAA.
14. Policymakers must consider enabling and utilizing additional creative solutions, such as contracting for Data-as-a-Service where the Department only pays if and when it utilizes covered technical data for a repair or to manufacture a single part.
15. Congress and the Department must ensure that the Department's IP cadres, IP contracting specialists, and IP training programs are adequately resourced within the Department and across the Military Services to increase collaboration with industry and ensure that IP contracting specialists are available to manage the contracting workload in a consistent manner.

Cybersecurity

Short-Term

16. The Department must engage in a formalized process with industry and across the federal government to establish clear, consistent CUI identification and marking guidance.
17. The Department must work to align and lessen the regulatory burdens for cybersecurity incident reporting and software attestation across the federal government.
18. Congress and the Department must work to enact provisions that support companies unable to adequately invest in cybersecurity protections, including tax credits and Small Business Administration (SBA) guaranteed loans.
19. Congress must direct the National Archives and Records Administration (NARA) to streamline and simplify CUI markings requirements to refocus CUI efforts on securing IT systems, rather than on non-value added onerous markings.

Authority to Operate

New Cybersecurity Risk Management Construct

Short-Term

20. **The Department must continue to emphasize speed, reciprocity, cost reduction, and predictability within the ATO process and provide industry more clarity around guidance and implementation timelines for the CSRMC.**

Future Opportunities for AI

Short-Term

21. Congress and the Department must increase investment in critical AI and autonomous technologies and utilize all acquisition pathways to ensure our warfighters have access to the most innovative and cutting-edge tools.
22. Congress and the Department must establish contracting mechanisms and acquisition strategies that respect and protect privately developed IP to the greatest extent possible and focus on acquiring only those technical data deliverables and license rights necessary to accomplish the specific, definitive goals of the government at hand.
23. Policymakers must ensure that any AI regulatory proposal takes a risk-based approach that targets harms raised by specific applications of AI systems in high-risk use cases. Specifically, proposed regulations should focus on defined use cases (rather than a general definition of "high-risk") to enable clear legal analysis and an efficient development process.

Golden Dome for America: CJADC2 Use Case

Short-Term

24. **Congress must continue consistent and stable annual funding for Golden Dome for America beyond the initial investment in the FY2025 reconciliation law.**

Advanced Manufacturing

Short-Term

25. **Government and industry must prioritize R&D investments to optimize existing infrastructure and embed intelligence into current systems to increase the use of advanced manufacturing.**
26. **Manufacturing USA institutes must be charged with collaborating and expanding their shared testbeds to accelerate innovation validation before full-scale commercialization, creating proven pathways that attract both industry investment and federal support.** Beyond physical infrastructure, these institutes must spearhead the development of shared data platforms and risk assessment tools that elevate entire defense manufacturing ecosystems rather than individual companies.
27. **The Department must partner with national and regional programs, including the Manufacturing USA institutes, to establish hubs for advanced manufacturing workforce development and recruitment, bridging the gap between traditional manufacturing skills and emerging technology requirements.** The Department is well positioned to couple cross-disciplinary training programs, apprenticeships, and credential pathways with the workforce needs of major acquisition programs.
28. **Government-facilitated consortia must establish standardized benchmarks and testing environments essential for manufacturing-specific AI adoption.** By providing a trusted, neutral ground for validation, these consortia will build the confidence needed for mission-critical AI deployment in defense manufacturing.
29. **Manufacturing technology programs must engage warfighters in manufacturing developments to gain feedback and promote adoption of emerging technologies.**

Areas of Concern for Small Businesses

Importance of SBIR & STTR

Short-Term

30. **The Department must source acquisitions from the existing pipeline of SBIR technologies and leverage the simplified acquisition authorities for companies that can reasonably meet the identified need.**
31. **The Department must appropriately draft SBIR contracts, ensure the protection of technical data, and support SBIR Data Rights in market research, the contracting process, and the management of ongoing Phase III efforts.**
32. **The Department must ensure that evaluation criteria do not penalize industry for the assertion of SBIR data rights and that flow-down requirements do not force subcontractors to relinquish SBIR data rights to perform on the contract.**
33. **The Department must comply with federal law to the greatest extent practicable to issue follow-on work to technology developed under a SBIR/STTR award. When an exception to this requirement is pursued, the Department must document that a clearly defined, objective, and auditable process is followed.**

Pillar 3: Modernizing Defense Trade & Increasing International Technological Cooperation

Modernizing and Streamlining FMS

Short-Term

34. The Department of War and the Department of State (DoS) must continue to improve FMS processes to adhere to the FMS timelines outlined in SAMM.
35. The Department must consider further consolidation and efficiencies for defense trade and security cooperation functions as it implements its overarching defense and acquisition transformation reforms, to include NPOR Acquisition Management and Technology Security and Foreign Disclosure (TSFD).
36. The Administration must work with industry to identify appropriate channels to help shape training for the FMS workforce through the Defense Security Cooperation University.

Leveraging Direct Commercial Sales

Short-Term

37. The Department must consider empowering DSCA or DTSA personnel to champion DCS cases throughout the process and ensure the DCS system is ultimately aligned with national security policy goals.
38. Policymakers must consider modernization of follow-on authorities, specifically Building Partnership Capacity (BPC) and Foreign Military Financing (FMF), to allow DCS use of that funding and unlock increased defense exports.
39. **Congress and the Department must consider adequately resourcing the DCS licensing workforce as the program responsibilities expand with decreased FMS-only restrictions.** Defense exports which were previously handled by FMS staff will have to be transitioned to DCS and staffed sufficiently.
40. **DoS and the Pentagon must establish a "do not staff" mechanism for NATO+ export authorizations where precedent exports of the subject technology are clearly established.**

Congressional Notification

Short-Term

41. Congress must increase the congressional notification threshold to account for inflation.
42. Congress must examine areas where Congress can still receive congressional notifications to be informed without triggering the tiered review process, such as in instances of re-notification and under cooperative agreements and security agreements, like AUKUS.

Consolidating Technology Security and Foreign Disclosure Process

Short-Term

43. The Department must analyze and implement the previous reform recommendations to ensure industry concerns about the TSFD requirements process, which is required to be completed before technology can be shared with allies, are addressed.
44. The Department should shift National Disclosure Policy Committee management and secretariat authority from USW(P) to USW(A&S) to align with the DSCA and DTSA shift. Under this construct, USW(P) would still maintain voting status.
45. The Department must align TSFD with FMS-only processes and the new regulatory landscape of the AUKUS exemption. Current TSFD policies have not been updated to account for AUKUS or the decrease in FMS-only restrictions.
46. **The Department must modify USXPORTS (U.S. Export Systems) to become the standard IT system for the TSFD community to use to track and store TSFD decision memoranda.** The current decisions are recorded in PDFs and File Explorer systems that take dozens of employee-hours to navigate for simple TSFD decisions and amendments.
47. **The Department must assign responsibility to a lead TSFD office (DSCA or DTSA) that can hold the other TSFD process owners and Military Services accountable to a standard set of timelines for review and to track high-priority FMS and DCS efforts subject to TSFD processes.** Currently, each Military Service and TSFD process owner has their own separate review process,

with varying standards, for transferring technology. TSFD timelines must be adjusted to align with standards set for the FMS and DCS processes.

48. **The Department must assign responsibility and resourcing to a lead TSFD Office that can serve as a DIB entry point on TSFD issues impacting FMS and DCS cases.** This would allow the U.S. DIB to engage the U.S. government and resolve TSFD issues in a timely manner with appropriate support from the Department.

Strengthening Regional Industrial Cooperation and Burden-Sharing

Short-Term

49. **The Department and the Military Services must identify specific viable business opportunities, including a dedicated funding stream, program element line, and contract vehicles, under Pillar 2.**
50. **DoS must re-evaluate the ETL to ensure better alignment with AUKUS policy objectives, to include removing Missile Technology Control Regime-controlled commodities from the ETL.**
51. **The Department must expand the opportunities available under AUKUS and similar security agreements with U.S. allies to better integrate the U.S. DIB with the DIBs of U.S. allies.**
52. **The Department, U.S. allies and partners, and regional industrial bases must continue efforts to strengthen PIPIR** to build a robust network of industrial and economic relationships that will serve as a strategic buffer to deter conflicts that would threaten vital economic interests and prosperity.

A New Approach for Dual-Use Export Controls

Short-Term

53. **Both the executive and congressional branches must re-evaluate the merits of moving to a single licensing agency for dual-use items and munitions, a single control list, and a single agency for export control enforcement.** Peer competitors of the U.S. are increasing civil-military fusion to gain advantages in the global technological competition.
54. **The U.S. government must evaluate the market barriers in multilateral agreements, such as the MTCR, and the benefits of lessening licensing requirements to our closest allies and partners.**
55. **Both the executive branch and Congress must assess the long-term impacts of U.S. export controls on U.S. technology leadership, including the risks of "design out" and avoidance of U.S. content.**
56. **The Pentagon and DoS must push trade policies to maintain and expand international markets with allies and partners.**

Defense Trade Financing

Short-Term

57. **The Administration and Congress must consider expanding the utilization of the FMF program, including through the use of direct loans and loan guarantees.** This should be a scalable tool to strengthen allied deterrence and enable defense exports, particularly where grants alone are insufficient or unavailable.
58. **The Administration and Congress should consider allowing the U.S. Export-Import Bank to provide financing for defense trade.**

Cooperative Agreements

Short-Term

59. **The Department must evaluate and pursue cooperative agreements with countries to strengthen international defense cooperation with our closest allies and partners.**

Pillar 4: Restoring Industrial Readiness Powerhouses

Focus on Speed and Sustained Production

Short-Term

60. **The Department must continue to provide multi-year contracts for munitions production.** Companies of all corporate models emphasize that this is the best way to encourage industry to make the investments to support long-term production.

61. **Congress must focus on securing a dedicated percentage of the procurement budget for critical munitions and support MYPs.**
62. **The Services must focus on requesting a balanced high-low mix of munitions to support not only current operational needs, but also to ensure future needs are met.**
63. **The Services must pivot from requesting training requirement-level spending to total requirement spending for Category III munitions.** This would enable companies to be better prepared for any future surge needs.

Medium-Term

64. **The Department must implement Section 803 of the FY2026 NDAA, the Pilot Program for Financing for Covered Activities.** The Pilot specifically includes "to materially expand the capacity of production or sustainment and maintenance through capital expenditure" as a covered activity. Designating these efforts as covered activities is a significant incentive for industry to invest in building capacity.

Workforce

Short-Term

65. **The executive and congressional branches must encourage the Defense Contract Audit Agency (DCAA) to review the impacts of prevailing wage rates and labor categories on the U.S. DIB's ability to increase wages and to make recommendations on solutions for any impediments discovered.** Across multiple U.S. DIB sectors, companies have noted that in certain regions, minimum wage increases and service sector starting wages are approaching industrial base starting wages.
66. **The Department must align public and private skilled trades definitions to reflect new U.S. DIB trades capabilities necessitated by emergent technologies.**
67. **The Military Services must emphasize that both collegiate degrees and skilled trades are important and viable career paths for departing service members.** Historically, a significant portion of the U.S. DIB skilled trades talent pipeline came from enlisted personnel. However, there are concerns that the Military Services are not currently encouraging skilled trade career paths.

Medium-Term

68. **The Department of Labor (DoL) must pursue insightful data to develop a more granular understanding of the collective status of manufacturers' workforce.** This data must specifically focus on (1) the number of engineers, skilled workers/tradesmen, and other critical roles currently employed and their experience levels, (2) existing unfilled workforce needs, and (3) forecasts of workforce needs two years from now. This data must also explicitly differentiate data collected from different sectors and regions.
69. **In collaboration with DoL, the Pentagon must expand the Registered Apprenticeship Program (RAP) by increasing funding for trainee pay and mentoring that allows for training significantly larger pools of specialty-skilled workers, deploying them rapidly into the U.S. DIB.** An affiliated pre-apprenticeship program available to regional defense manufacturing hubs, co-managed by industry and school systems, would create a pathway for youth into "Registered Apprenticeship 2.0."
70. **The Department must include training expenses for targeted, potential-employee training programs as allowable costs.**

Pillar 5: Ensuring Resilient Supply Chains

Addressing Supply Chain Vulnerabilities

Short-Term

71. **The Military Services must include resourcing second-source suppliers in their budget requests for critical single-source material, components, and equipment.** Congress must support funding for second-source suppliers in these areas.

72. **The Department and Congress must continue to collaborate with industry to manage instances of supply chain noncompliance.** While Section 833 in the FY2026 was important support for industry, policy decisions around supply chains, while understandable, will take time to resolve.

Medium-Term

73. **The Department and Congress must prioritize both advanced procurement funding and a stable and long-term acquisition strategy for stockpiling.**

Critical Minerals

Short-Term

74. **The U.S. government must establish a rare earth and critical minerals and materials strategy, with a supporting framework to achieve sustainable domestic critical minerals and REE supply chains.** This should include strategies for targeted investment in mining projects at all levels (exploration, planning, construction, and production), in addition to investment strategies for processing facilities.
75. **The U.S. government must establish a single office to act as a clearinghouse for harmonizing rare earth requirements to bolster collaboration and communication between government and industry, ensure both defense and commercial rough order of magnitude demand signals are understood, and prioritize workstreams to address these demand signals.**
76. **Congress should establish a commission to conduct further reforms to the permitting and licensing process for new mines and processing facilities.** Permitting and licensing reform will reduce constraints on the establishment of new mining and refining projects, which will reduce early-stage delays and undue expenses. This will, in turn, make the ecosystem more favorable to smaller- and lower-budget entities, which will lessen the demand for government financial intervention. It will also organically enable the diversification of supply chains by fostering a more competitive environment.
77. **The U.S. government must continue to fund/enable multiple nodes in a specific material/application supply chain simultaneously.** Funding nodes within the supply chain and requiring collaboration among the nodes will promote the health and resilience of these supply chains.

Medium-Term

78. **The U.S. government must identify opportunities to exercise the OSC to invest in emerging processing facilities and mine exploration projects.** The capital-intensive nature of mineral mining and processing requires some degree of surety in the marketplace. The "Valley of Death" as commonly referenced regarding businesses transitioning from small to mid-tier, applies to mining and processing. This valley period is where mining and processing exploration efforts have been proven. However, the current market does not support the full investment calculus required for further capital-intensive operations. Exercising and expanding access to OSC's funding could provide the necessary capital boost for mining and processing efforts to commence.
79. **The U.S. government must enable an environment that encourages private investment, both equity and loans.** Regular banks and investors must see profitability in potential investments. Bankable agreements, including binding offtake agreements or letters of commitment, enable suppliers to show potential profitability to lenders.
80. **DLA must bolster the domestic critical mineral and rare earth recycling capacity.** To employ an "all-of-the-above" strategy, DLA Disposition Services should go forward with the development of the reclamation circular economy. Reclaiming critical minerals and materials during the disposal process is another avenue to satisfy critical mineral requirements.

Long-Term

81. **The U.S. government must explore AUKUS Pillar 3.** AUKUS, the security pact between Australia, the United Kingdom, and the United States, currently consists of two existing pillars: Pillar 1, the sharing of nuclear propulsion technology regarding submarine construction, and Pillar 2, encompassing a variety of capability sharing such as undersea warfare, quantum technologies, advanced cyber, and hypersonic/counter hypersonic capabilities. Pillar 3 is contemplated to be the expansion of the security agreement into two additional domains: space and critical minerals & materials. Such a security pact should facilitate standardized regulatory and

security practices while creating diversified supply chains among trusted partners to supplement domestic mineral production and processing.

82. **The U.S. government must create financial incentives for tier 1 and 3 companies to pre-purchase and hold inventories of at-risk materials.** Companies that hold excess stock of identified critical minerals/materials could be offered a tax credit or rebate in negotiations for holding such stock. This would encourage the holding of such materials and allow greater lucidity of available stocks.

83. **The U.S. government should create a Sovereign Wealth Fund or other funding mechanism to bolster diversified mineral supply chains and formalize "high-standard marketplaces" for critical minerals.** In the same way that currency was once backed by gold, the high-standard marketplace needs to be backed by mineral production. The Sovereign Wealth Fund, created to provide economic stabilizing expenditures, can be used to support the transformation of the critical minerals market and mitigate the influence and manipulation by the PRC.

Appendix B: Glossary

ADA: Anti-Deficiency Act

AI: artificial intelligence

AM: advanced manufacturing

AoA: Analysis of Alternatives

AP: advanced procurement

APT: Advanced Persistent Threat

AR/VR: augmented reality/virtual reality

ASD(IAC): Assistant Secretary of Defense for International Armaments Cooperation

ATO: Authority To Operate

AUKUS: Australia-United Kingdom-United States

BEAD: Broadband Equity Access and Deployment

BPC: Building Partnership Capacity

CAPEX: capital expenditure

CAS: Cost Accounting Standards

cATO: Continuous Authorization to Operate

CDAO: Chief Digital and Artificial Intelligence Officer

CIO: Chief Information Officer

CJADC2: Combined Joint All Domain Command and Control

CMMC: Cybersecurity Maturity Model Certification

COCOM: Combatant Command

COTR: Contracting Officers' Technical Representative

CR: continuing resolution

CSI: critical safety items

CSRMC: Cybersecurity Risk Management Construct

CTO: Chief Technology Officer

CUI: controlled unclassified information

CY: calendar year

DaaS: Data-as-a-Service

DATT: Defense Attache

DCAA: Defense Contract Audit Agency

DCMA: Defense Contract Management Agency

DCS: Direct Commercial Sales

DDTC: Directorate for Defense Trade Controls

DE&C: Deputy Assistant Secretary of the Army for Defense Exports and Cooperation

DFARS: Defense Federal Acquisition Regulation Supplement

DFAS: Defense Finance and Accounting Service

DIBCAC: Defense Industrial Base Cybersecurity Assessment Center

DIU: Defense Innovation Unit

DLA: Defense Logistics Agency

DMDC: Defense Manpower Data Center

DoD: Department of Defense

DOE: Department of Energy

DoL: Department of Labor

DoS: Department of State

DoW: Department of War

DSCA: Defense Security Cooperation Agency

DTCL: Defense Trade Controls Licensing

DTSA: Defense Technology Security Administration

E&MTA: Equipment and Material Transfer Agreement/Arrangement

EAR: Export Administration Regulations

EBIT: earnings before interest and taxes

EBITDA: earnings before interest, taxes, depreciation, and amortization

EO: Executive Order

EOQ: economic order quantities

ETI: Emerging Technologies Institute

ETL: Excluded Technology List

EU: European Union

FAR: Federal Acquisition Regulation

FCI: Federal Contract Information

FedRAMP: Federal Risk and Authorization Management Program

FFP: firm-fixed-price

FISMA: Federal Information Security Modernization Act

FMF: Foreign Military Financing

FMS: foreign military sales

FRA: Fiscal Responsibility Act of 2023

FSS: Federal Supply Schedules

FY: fiscal year

G&A: general and administrative

G2G-Only: Government-to-Government-Only

GAO: Government Accountability Office

GDA: Golden Dome for America

GDP: gross domestic product

GOCO: government-owned contractor-operated

GSA: General Services Administration

GWACS: Government-Wide Acquisition Contracts

HASC: House Armed Services Committee

IA: International Agreement

IBP: Industrial Base Policy

ICOR: instructions for continued operational readiness

IP: intellectual property

IPO: initial public offering

IR&D: independent R&D

ISR: intelligence, surveillance, and reconnaissance

IT: information technology

ITAR: International Traffic in Arms Regulations

JASSM: Joint Air-to-Surface Standoff Missile

JCIDS: Joint Capabilities Integration and Development System

LAT: Lot Acceptance Testing

LLM: large language model

LOA: Letter of Acceptance

LOR: Letter of Request

LP: limited partner

M&A: mergers and acquisitions

MDA: Missile Defense Agency

MDAP: major defense acquisition program

MEIA: Mission Engineering and Integration Activity

MILDEP: Military Department

ML: machine learning

MOA: Memorandum of Agreement

MOSA: Modular and Open Systems Approach

MOU: Memorandum of Understanding

MTA: Middle Tier of Acquisition

MTCR: Missile Technology Control Regime

MYP: multi-year procurement

NARA: National Archives and Records Administration

NATO: North Atlantic Treaty Organization

NCA: National Command Authority

NDAA: National Defense Authorization Act

NDIA: National Defense Industrial Association

NdPr: neodymium-praseodymium

NDS: National Defense Strategy

NGO: non-governmental organization

NIPO: Navy International Programs Office

NIST: National Institute of Standards and Technology

NORTHCOM: Northern Command

NPOR: non-Program of Record

NSA: National Security Agency

NSG: Nuclear Suppliers Group

NTDC: non-traditional defense contractor

OBBB: One Big Beautiful Bill

OEM: original equipment manufacturer

OMB: Office of Management and Budget

OSC: Office of Strategic Capital

OSD ManTech: Office of the Secretary of Defense Manufacturing Technology

OSTP: Office of Science and Technology Policy

OSW: Office of the Secretary of War

OTA: other transaction authority

OUSD(R&E): Office of the Under Secretary of Defense for Research and Engineering

PA: Project Agreement/Arrangement

PAE: Portfolio Acquisition Executive

PCMDP: processed critical minerals and their derivative products

PE: private equity

PEO: Program Executive Officer

PIEE: Procurement Integrated Enterprise Environment

PIPIR: Partnership for Indo-Pacific Industrial Resilience

PM: Program Manager

POR: Program of Record

PPBE: Planning, Programming, Budgeting, and Execution

PPP: Public-Private Partnership

PRC: People's Republic of China

PSP: Pace-Setting Projects

PWSA: Proliferated Warfighter Space Architecture

R&D: research and development

RAP: Registered Apprentice Program

RDT&E: Research, Development, Test, and Evaluation

REA: Request for Equitable Adjustment

REE: rare earth element

RFI: request for information

RFO: Revolutionary Federal Acquisition Regulations Overhaul

RMF: Risk Management Framework

ROI: return on investment

RSAT: Office of Regional Security and Arms Transfers

RTR: Right To Repair

SaaS: Software-as-a-Service

SAF/IA: Deputy Under Secretary of the Air Force for International Affairs

SAMM: Security Assistance Management Manual

SB: Senate Bill

SBA: Small Business Administration

SBI: space-based interceptor

SBIR: Small Business Innovation Research

SCO: Security Cooperation Official

SDA: Space Development Agency

SDO: Senior Defense Official

SP: Special Publication

SPaaS: Space-as-a-Service

STTR: Small Business Technology Transfer

TAM: total addressable market

TDC: traditional defense contractor

TINA: Truth In Negotiations Act

TRL: technology readiness level

TSFD: Technology Security and Foreign Disclosure

U.S. DIB: United States Defense Industrial Base

UAV: Unmanned Aerial Vehicle

UCA: Urgent Capability Acquisition

UK: United Kingdom

USMC: U.S. Marine Corps

USML: U.S. Munitions List

USSF: U.S. Space Force

USW(A&S): Under Secretary of War for Acquisition and Sustainment

USW(P): Under Secretary of War for Policy

USW(R&E): Under Secretary of War for Research and Engineering

USXPORTS: U.S. Exports Systems

VC: Venture Capital

WAS: Warfighting Acquisition System

WAWF: Wide Area Workflow

WDP: War Data Platform

WMD: weapon of mass destruction

Endnotes

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What's included on this year's *Vital Signs* cover?

1. Falcon Heavy Rocket
2. B-2 Spirit
3. Falcon 9 Rocket
4. Lance Corporal
5. U.S. Marine with M224 60 mm mortar
6. USNS Supply (T-AOE-6)
7. Collaborative Combat Aircraft
8. F-22 Raptor
9. Vulcan Rocket
10. Boatswain's Mate
11. USS Gerald R. Ford (CVN 78)
12. USS Mount Whitney (LCC 20)

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