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Establishing a Manufacturing Security Program

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Abstract

The Department of Defense faces persistent challenges related to munitions production, including single source suppliers, reliance on foreign-sourced materials, limited surge capacity, and cybersecurity threats to defense industrial systems. These vulnerabilities compromise readiness and strategic deterrence while endangering the warfighter. This paper provides foundational research for the concept of a Manufacturing Security Program (ManuSP), a framework designed to ensure secure, scalable, and resilient domestic manufacturing of critical munitions. The paper analyzes seven case studies for their effectiveness in the following four components: 1) authorities and policies, 2) government-industry collaboration; 3) resources and contracting 4) and activation phases and utilization. The case studies focus on the following programs: the Voluntary Intermodal Sealift Agreement (and Maritime Security Program), the Voluntary Tanker Agreement (and Tanker Security Program), the "Voluntary Agreement, Manufacture and Distribution of Critical Healthcare Resources Necessary to Respond to a Pandemic," the Civil Reserve Air Fleet, the National Armaments Consortium, the Munitions Campus, and the Civil Reserve Manufacturing Network. They are scored as either "low," "medium," or "highly" effective. The following paper is a draft of the ongoing research project.

Voluntary Intermodal Sealift Agreement Case Study

Overview

The Voluntary Intermodal Sealift Agreement (VISA) is a Defense Production Act (DPA) Title VII voluntary agreement established to provide the Department of Defense (DoD) with guaranteed access to commercial vessels for sealift and intermodal shipping services and systems during times of conflict or emergency. VISA also provides participants with increased peacetime business contracts and opportunities (Maritime Administration, 2024). Of these vessels, a subset are part of the Maritime Security Program (MSP). MSP, which shortly predated VISA, uses financial incentives to encourage carriers to participate in VISA to grow participation in the VISA fleet (McGinn & Letts, 2025). MSP also focuses on sustaining a labor resource of American mariners and enables operators to make upgrades to their vessels (Maritime Administration, n.d).

Authorities and Policies

VISA falls under Section 708 of Title VII of the DPA and first went into effect in 1997. Section 708 enables the President to work with representatives of industry, finance, business, agriculture, labor, and other sectors to create voluntary emergency preparedness agreements in the instance that there is a direct threat to national defense or emergency preparedness programs (Maritime Administration, n.d.). As a voluntary agreement, VISA must be approved by the Department of Justice (DoJ) and Federal Trade Commission (FTC) to allow for the exemption of antitrust laws. This process is difficult, and there are arguments that voluntary agreements should only be created where other options for government-industry collaboration don't exist (McGinn & Letts, 2025).

The driving force for establishing MSP and VISA was preventing the reduction of the U.S.-flag fleet and better maintaining trained personnel for U.S. shipping and transportation

needs. VISA took at least 6 years to negotiate after the Gulf War and was created in part because of the failings of the Sealift Readiness Program (SRP). SRP was not used during Operation Desert Storm or Operation Desert Shield because it was not responsive enough during wartime and caused financial risk for SRP companies (McGinn & Letts, 2025). At the end of the 20th century, MSP saved the two largest American commercial carriers, American President Lines and Sealand, from having to transition vessels to foreign flags. The U.S. Ocean Shipping Reform Act of 1998 allowed for confidential services contracts and was instrumental in helping U.S. commercial carriers negotiate with the U.S. government without needing to be the lowest bid (Lewis & Coulter, 2000). Since VISA is a preexisting program, it is easier to acquire a renewal, which takes between 6 to 8 months, but if a new voluntary agreement were established, it would be more difficult due to the need for an antitrust exemption. For renewals, the Maritime Administration (MARAD) must make a case why VISA is achieving its purpose and then the DoJ Antitrust Division and the FTC must sign off on the renewal (McGinn & Letts, 2025).

MARAD, under the Department of Transportation, is the sponsorship authority for VISA, and the United States Transportation Command (USTRANSCOM) jointly maintains the VISA fleet. USTRANSCOM, MARAD, and the participating commercial shipping companies work together to determine the available capacity of participants to supplement the DoD at different stages of a conflict or emergency. Carrier Coordination Agreements (CCAs) provide flexibility to participants so that they can navigate commercial operation needs with DoD contingency efforts. The federal government also has the option to requisition non-VISA ships in times of emergency through Title 46, but the purpose of VISA is to prepare ahead of time with a framework in place to support the DoD. USTRANSCOM is the procurement authority for ships under VISA, while USTRANSOM and MARAD then maintain and operate the VISA fleet (Maritime Administration, n.d.).

The Maritime Security Act of 1996 created the MSP (Maritime Administration, 2005). The 2020 National Defense Authorization Act (NDAA) extended MSP operating agreements until September 30, 2035 (Maritime Administration, 2025). MARAD can maintain at most 60 vessels in the MSP program in a single fiscal year (FY; Maritime Administration, 2023). MSP is a financial incentive for industry participation. All MSP carriers must be a part of VISA, which is an emergency preparedness program, but not all VISA carriers are a part of MSP. MSP carriers are required to commit 100% of their MSP capacity and associated intermodal transportation resources to the third activation stage of VISA, while the remaining VISA operators must commit only 50% of their U.S.-flag capacity (Maritime Administration, n.d.). The goal of MSP payments is to help companies counter the cost of running U.S. flag vessels which can be more costly than foreign flag vessels. MSP agreements are established per company, not vessel (Chatham House Interview, 2025).

VISA and MSP promote yearly government-industry collaboration and offer clear forums and open channels for communication. MARAD and USTRANSCOM co-chair the Joint Planning Advisory Group (JPAG) which allows their organizations and VISA participants to coordinate (Maritime Administration, 2024). JPAG is a planning forum for reviewing DoD sealift and intermodal contingency requirements, analyzing commercial capacity available to meet those requirements, and creating Concepts of Operation (CONOPS) for such requirements (Maritime Administration, 2024). The strength of authorities and policies for VISA rests on its ability to be renewed relatively quickly and the clear structures and legislation in place. **Assessment: High**

Government-Industry Collaboration

There is a clear and straightforward financial incentive for industry to take part in MSP and VISA. For VISA vessels, they receive priority access to DoD cargo when the United States is not at war. This access has been explained as “peacetime business for wartime capacity.”

VISA commercial carriers have transported cargo for the United States to both Afghanistan and Ukraine where at one time about 85% of sustainment support was provided by VISA or Civilian Reserve Air Fleet participants (McGinn & Letts, 2025). MSP participants benefit further by receiving funding per ship. For MSP, the federal government pays MSP participants based on available appropriations and specific funding ceilings. The roster of vessels in the MSP can change, and new applications are accepted through the Federal Register when there are openings for new operating agreements (Maritime Administration, 2023). One of the benefits of the VISA program is that the program does not need to be activated for there to be productive direct negotiations and contracts between the federal government and industry. There are opportunities for government-industry engagement through the two unclassified VISA meetings that occur every year between the government and carrier companies. These meetings provide an avenue for open discussion of industry capacity and the tradeoff of risks and opportunities (McGinn & Letts, 2025). One of the strengths of voluntary agreements and VISA is the ability for government-industry collaboration, even without the activation of the agreement. **Assessment: High**

Resources and Contracting

Congress allocates funding in the U.S. Department of Transportation's budget for the MSP (Maritime Administrator, n.d.). Congress authorizes and funds the program in increments, so continued funding would depend on the priorities of Congress over time, but there is an established process of authorizing and providing funding for MSP. Personnel for the program depend on staffing at MARAD and USTRANSCOM. As both organizations have functions beyond the MSP and were not stood up solely to execute the program, there is greater stability in continued staffing and oversight for MSP. MARAD issues awards for new MSP Operating Agreements (in keeping with the 60-vessel maximum for the fleet), and MARAD then places a notice for applications in the Federal Register, highlighting which vessels are needed. MARAD reviews the applications and associated vessels to determine their commercial viability while USTRANSCOM assesses their potential use for the military. When both MARAD and USTRANSOM agree on a vessel, MARAD awards the new Operating Agreement to the chosen carrier (Maritime Administrator, n.d.).

The antitrust exemption means that MARAD can directly negotiate with VISA participants regardless of activation which facilitates open communication, discussions of resource and capacity gaps, and enables better logistics tracking for the U.S. government. Private companies can better track their long-term business opportunities (McGinn & Letts, 2025). VISA is a form of soft requisition that is supported by established government-industry relationships. During conflict, the government does not need to use open bids and can bypass the typical 120-day contracting cycles (Chatham House Interview, 2025). The federal government does not need to use an acquisition pathway as they are not purchasing new ships for MSP but only creating Operating Agreements to use commercial vessels when necessary. There is an established process for these agreements, and the program has been running for several decades, so the contracting process is relatively straightforward. **Assessment: High**

Activation Phases and Utilization

There are three activation stages to the VISA program. Stage I and II allow for contingency contracts between USTRANSCOM and the participating companies to meet expected DoD Contingency requirements. The contracts are negotiated ahead of time, and the agreements are carried out in line with DoD contracting methodologies. Stage III offers the DoD more capacity if Stages I and II capacity cannot fulfill Contingency requirements and there aren't enough shipping services available from non-VISA participants through standard DoD contracting practices or U.S. government treaties. The Secretary of Defense is able to activate each stage of VISA, and, when required, MARAD will report to the FEMA Administrator on the

state of the agreement. There is also a mandatory position reporting system for vessels in VISA (Maritime Administration, 2024).

The main issue in assessing the activation phases is that VISA has never been activated, but the benefit of close ties between industry and government through VISA means that activation would likely be simple and effective (Kok, 2021). McGinn and Letts explain "voluntary agreements have saved money and supported national security objectives through their collaborative function in peacetime scenarios" (McGinn & Letts, 2025). Activation would most likely be an effective process, but there have been no activations, and therefore MARAD and TRANSCOM have no experience to draw on. **Assessment: Medium**

Voluntary Tanker Agreement

Overview

The Voluntary Tanker Agreement (VTA) is a voluntary agreement through DPA Title VII that enables the U.S. government to contract commercial tankers during national emergencies. The agreement is designed to ensure the DoD can draw on commercial product tanker capacity to support national defense and global operations (Maritime Administrator, 2022a).

Authorities and Policies

As with VISA, Section 708 of the DPA authorized the establishment of the VTA. Originating in 1951, the VTA is one of the oldest voluntary agreements. Activated to provide support to meet fuel transportation needs during the Korean War, the VTA remained on standby until it lapsed in 2013. The program halted largely due to limited industry participation, driven by lackluster government incentives. Due to increased concerns over national security and emergency response capabilities, the U.S. government decided to reactivate the VTA (McGinn & Letts, 2025). In addition to the VTA, MARAD the Tanker Security Program (TSP), which provides financial incentives for companies to enroll in the VTA. The TSP strengthens industry's ability to participate in the international trade of liquid fuel products and the DoD's capability to respond to emergencies (Maritime Administrator, 2022b).

As with the VISA program, USTRANSCOM and MARAD oversee the VTA fleet. MARAD serves as the program's primary oversight authority and the DoD retains authority over program activation. USTRANSCOM is responsible for the procurement of commercial tankers and manages the contracts that would be used during activation. MARAD has general oversight and authority power over the obligated tanker fleet (Maritime Administrator, 2022a). The VTA has two annual meetings with the tanker and carrier companies to align priorities, however if activated, the VTA would formally convene to establish a joint planning advisory group (McGinn & Letts, 2025).

Ultimately, the goal of payments through the TSP is to ease the financial burden of companies using U.S. flag vessels and encourage their use (Chatham House Interview, 2025). There are well-established government authorities and clear policies for industry participants. The VTA's long-standing history and its successful reactivation demonstrate the program's ability to operate effectively within government processes, including coordination with the DoJ and FTC to establish and reaffirm often complicated and lengthy legal agreements.
Assessment: Medium

Government-Industry Collaboration

The VTA provides industry participants with both financial and legal incentives. This program was designed to create a close working relationship between industry partners, MARAD, and USTRANSCOM. In addition to receiving funding in exchange for each participating tankers, companies enrolled in the VTA will receive priority contracting for

peacetime operations (McGinn & Letts, 2025). The DoD provides funding for any increased war risk insurance premiums for vessels. Furthermore, the VTA provides participants with civil and criminal defense for potential violations of antitrust laws while carrying out VTA contractual obligations. Tankers participating in the VTA remain on continuous standby to support DoD operational needs. The VTA provides an avenue for direct negotiations between government and industry, having created well-integrated forums for participation that meet twice a year. These meetings allow industry professionals and government officials to collaborate and communicate about tanker capabilities, program priorities, and industry capacity. It also provides an outlet for the two groups to come together and discuss their risk assessments, allowing them to address and mitigate concerns both parties may have (Maritime Administration, 2022a). While there are clearly articulated contracts and incentives for industry partners, these incentives have historically proven to be too lackluster and the program is at risk of not providing a continuing incentive structure to support longevity. **Assessment: Medium**

Resources and Contracting

Following its reauthorization, the VTA received funding through congressional appropriations for TSP. Section 3511 of the FY21 NDAA approved funding for and authorized the TSP. Congress then appropriated $60,000,000 in funding for the TSP in the FY22 Consolidated Appropriations Act. The funding provides $6 million per tanker, per year for up to 10 U.S. Flag tankers. This funding is to remain until it is depleted, at which point new funds will be requested and need to be reauthorized and appropriated through Congress. Participating vessels are required to meet specific standards, undergo inspections, and maintain necessary capabilities to uphold DoD requirements and meet MARAD safety standards. The vessels must maintain a Certificate of Inspection from the U.S. Coast Guard to continue participation in the program. Commercial participants are responsible for the maintenance, overhaul, and repair work necessary to meet program requirements. The companies use funding they receive from the government to offset these costs (Maritime Administrator, 2022b). The VTA represents a form of soft requisition where the government does not need to use open bids. When a conflict occurs, the VTA enables the government to pursue quick contracts without the typical 120-day cycle. Relationships with industry are also established in advance and help streamline contracting during conflicts (Chatham House Interview, 2025). **Assessment: Medium**

Activation Phases and Utilization

The VTA can be activated by the Commander of USTRANSCOM, under the direction of the Secretary of Defense. Activation is approved by the Secretary of Defense when it is sufficiently demonstrated that the existing tanker capabilities are insufficient to respond to the national emergency. Following the approval of the activation, MARAD is notified, which in turn notifies the FTC Chair and the Attorney General. When the VTA is activated, they do not ask each company to provide a certain amount of space on the tankers but instead contract the tankers in their entirety. The number of tankers contracted is dependent upon the need of the government at the time. As of this writing, the VTA has not been activated since its original activation during the Korean War. VTA activation uses participant tanker capacity in timed phases. There is a priority for capacity, with the stages as follow: 1) U.S.-Flag vessel capacity operated by a VTA participant, 2) U.S.-Flag vessel capacity operated by a carrier that is not a participant, 3) combination of U.S./foreign flag vessel capacity operated through a VTA participation, 4) combination of U.S. owned or operated foreign flag capacity operated by a non-participant, and lastly 5) foreign-owned or operated foreign flag capacity operated by a carrier outside the VTA program (Maritime Administration, 2022a). This category has not been activated in over 75 years, and uncertainties remain regarding how the process would function in practice. Potential challenges may not become apparent until an activation occurs. **Assessment: Low**

COVID-19 Case Study

Overview

The COVID-19 pandemic revealed severe shortcomings in the U.S. industrial base's capacity to meet domestic medical supply needs, largely due to the nation's heavy reliance on foreign sources. By leveraging Title VII of the DPA, the federal government created the Voluntary Agreement for the Manufacture and Distribution of Critical Healthcare Resources Necessary to Respond to a Pandemic. This Covid voluntary agreement united private-sector participants and the Federal Government to expand the manufacturing and distribution of critical healthcare resources nationwide for pandemic response through coordinated planning, information sharing, and collaboration in support of national defense needs. However, this agreement was never fully utilized because it was executed too late. The Covid voluntary agreement concluded in August 2025 (FEMA, 2021).

Authorities and Policies

The Covid voluntary agreement was designed to expand the effectiveness of manufacturing and distribution of healthcare supplies by uniting the efforts of private-sector participants and the federal government. It was first authorized in August 2020. In President Trump's Executive Order (E.O.) 13911, the Secretary of Health and Human Services and the Secretary of Homeland Security were given the authority of the President per Section 708(c)(1) and (d) of the DPA to enact the Voluntary Agreement (Trump, 2020). The Federal Emergency Management Agency (FEMA) was designated as the Sponsor for this agreement under Section 708 of the DPA (FEMA, 2021).

As part of the DPA-required consultation process, FEMA, as the sponsoring agency, coordinated closely with several key federal partners when forming the Voluntary Agreement. These consulting federal agencies included the Department of Health and Human Services (HHS), the DoJ, and the FTC, including its Chair (FEMA, 2021). This interagency coordination helped ensure that the agreement aligned with public health priorities, legal requirements, and anti-trust safeguards while supporting the broader national defense mission (Department of Homeland Security, 2020). However, due to minimal waiting periods, such as the approval of the Attorney General, fully authorizing the Agreement took longer than expected (GAO, 2025).

In addition to federal oversight, the organizational structure of the agreement was built around private-sector participation. Private companies, manufacturers, suppliers, distributors, trade associations, and other non-federal organizations could join as "Participants" once invited by FEMA and upon meeting the eligibility criteria. The agreement included six different plans of actions, defined as "documented methods adopted by participants in an existing voluntary agreement to implement that agreement" (FEMA, 2021). After signing a Plan of Action Agreement, participants committed to collaborative efforts under the Voluntary Agreement, including coordinated planning, manufacturing, information sharing, allocation, and distribution of critical healthcare resources to support pandemic response efforts. To implement each Plan of Action, FEMA could convene structured meetings and established specialized subcommittees between industry and government focused on specific supply categories or logistical challenges, such as respirators, gloves, gowns, or eye protection (FEMA, 2021).

The 2020 Voluntary Agreement was designed to coordinate the manufacture and distribution of critical healthcare resources only within the United States for pandemic response (FEMA, 2021). Its language and implementation focus on nationwide production, allocation, and domestic supply-chain coordination through FEMA-led plans of Aation. The authorities of this framework were defined, however, the delay in establishment made the Agreement ineffective. A former government representative who was responsible for driving the formation of the Covid Voluntary Agreement explained that government lawyers and personnel lacked a foundational

knowledge of voluntary agreements. Another temporal barrier was the requirement that each step goes through the Attorney General (Chatham House Interview, 2025). **Assessment: Low**

Government-Industry Collaboration

Private industry played a large role in establishing this voluntary agreement. The Agreement allowed FEMA, after consultation with HHS, DoJ, and FTC, to convene with private-sector suppliers (81st Congress, 1950). Subcommittees brought together federal officials and private-sector participants to assess demand, identify production bottlenecks, coordinate sourcing of raw materials, and align distribution with national needs (FEMA, 2021). Meetings held under the authority of Section 708 served as the primary mechanism for guiding implementation, and expanding participation as needed (FEMA, 2021). For the Covid Voluntary Agreement, morning meetings were run with primarily eight companies, though a far larger list of companies signed up for the Voluntary Agreement. It is estimated that approximately 80% of companies that joined the Covid voluntary agreement were not relevant to the pandemic response effort (Chatham House Interview, 2025).

Implementation was designed to occur through resource-specific Plans of Action, each tailored to a particular category of healthcare resources. The first such plan, the Plan of Action to Establish a National Strategy for the Manufacture, Allocation, and Distribution of Personal Protective Equipment (PPE), created multiple subcommittees, bringing together government representatives and industry participants to ensure the timely production and distribution of PPE across the country, manage the nation's stockpile of PPE, establish a streamlined process for FEMA Allocation of PPE, and ensure competition in manufacturing of PPE under the DPA (Department of Homeland Security, 2020). The other five plans followed the same framework, aimed at tackling manufacturing shortages for healthcare supplies. Participants in a Voluntary Agreement have antitrust protections and were given defenses to civil and criminal actions brought for violations of antitrust laws. However, this protection only applied while the agreement was authorized (FEMA, 2021).

The Agreement created a structured process for accelerating the production of supplies by intersecting private-sector capabilities with federal priorities. Antitrust protections incentivized firms to collaborate and scale manufacturing quickly, while Plans of Action established production targets and allocation strategies (FEMA, 2021). Unfortunately, the COVID Voluntary Agreement was established too late and was not in place to prevent the race to secure PPE and the eventual scarcity of such necessary protection equipment. The Agreement could have been a key channel for industry and government to collaborate in maximizing existing sources of PPE. Furthermore, with a voluntary agreement established earlier in the pandemic, industry might have had more time to respond by onshoring production, increasing the domestic prevalence of such material production for future need (Chatham House Interview, 2025). **Assessment: Medium**

Resources and Contracting

The Coronavirus Aid, Relief, and Economic Security (CARES) Act was enacted in March 2020 to provide broad and economic and public health support. Contributing nearly $2.2 trillion, the CARES act provided agencies such as FEMA, DoJ, and HHS with funds to carry out tasks related to pandemic support (Peter G. Peterson Foundation, n.d.). FEMA struggled to establish the Agreement in time to have a meaningful effect on the production of healthcare supplies, in part, because of minimum waiting periods (GAO, 2025). Moreover, its effectiveness was limited by participants' ability to adjust operations dynamically and supply-chain constraints (GAO, 2021). **Assessment: Low**

Activation Phases and Utilization

Implementation of the Covid Voluntary Agreement was carried out through formal, resource-specific Plans of Action approved by FEMA. The first and most significant Plan of Action focused on establishing a national strategy for the manufacture, allocation, and distribution of PPE in response to COVID-19. The other five Plans focused on diagnostic test kits, drug products and substances, medical devices, and supply chain logistics. Once a Plan of Action was approved, participating companies signed onto that specific plan, which defined the scope of permitted coordination, the objectives of production and distribution, and the safeguards governing information sharing and collaboration (FEMA, 2021). Unfortunately, the Covid voluntary agreement was designed and implemented too late to be properly activated and effective. **Assessment: Low**

Civil Reserve Air Fleet

Overview

The Civil Reserve Air Fleet (CRAF) is a voluntary partnership through which U.S. commercial air carriers provide surge capacity to the United States military during national emergencies in exchange for priority access to government business in peacetime. CRAF demonstrates the ability to augment U.S. military resources through the mobilization of existing domestic and commercial resources. All major U.S. airlines, along with many regional carriers and cargo companies, have been consistent participants in CRAF (Department of Transportation [DOT], 2024).

Authorities and Policies

The DPA established broad presidential authorities to enable the mobilization of the U.S. industrial base in support of national security (Neenan, 2023). Title I of the DPA empowers the executive branch to incentivize commercial businesses to prioritize and accept government contracts that service national defense and sustain warfighting capabilities. Established in 1951 as a joint initiative of the DoD and the Department of Commerce, CRAF was stood up one year after the creation of the DPA, as one of the original DPA initiatives (Russell, 2025). CRAF has had limited structural changes over its lifespan. The most significant change in program history was the transition of joint authority between the DoD and the Department of Commerce to the DoD and the Department of Transportation (DOT; DOT, 2024). As a joint program, the operations of CRAF are split between the DOT and DoD; the DOT creates and manages contracts with commercial passenger airlines and cargo companies, while USTRANSCOM manages the activation phases (Peters, 2021). The government enacts thousands of prioritization actions a year which means the government often “jumps itself in line” (Chatham House Interview, 2025).

CRAF participants are required to meet performance and regulatory standards to ensure that if they are activated, they can complete assigned tasks to expectations (DOT, 2024). This includes requiring airline personnel involved in CRAF to maintain security clearances, maintain strict compliance with FAA regulations, meet performance and safety standards, be able to commit 40% of their CRAF-capable fleet, and maintain four complete crews per aircraft (Peters, 2021). CRAF is organized into two primary participation segments—national and international—each designed to support distinct operational requirements. The international segment provides overseas airlift support, while the national segment supports domestic and intra-theater missions (Peters, 2021). Through CRAF, the federal government can indemnify companies and protect them from being sued when they must change commercial flights and prioritize government needs (Chatham House Interview, 2025). Executive Order 13603 (National Defense Resource Preparedness) signed by President Obama on March 16, 2012, reinforces that the activation of CRAF is executed when determined necessary and under the discretion of

the Secretary of Defense (Obama, 2012). CRAF's authorities and policies are well established, clearly articulated, and supported by defined oversight mechanisms. **Assessment: High**

Government and Industry Collaboration

Under CRAF, the government provides participating companies with priority access to government business. The U.S. government is highly reliant on domestic passenger and cargo carriers to transport its goods, mail and people which provides robust business for CRAF participants (Baldanza, 2021). Additionally, CRAF participants have the potential to receive tax incentives and are eligible for broader U.S. government transportation contracts (Warren & Conklin, 2024). When CRAF is activated, the government pays the carriers for their services at a pre-determined rate that covers both the cost and provides a return on investment (Lyman, 2011). The CRAF model requires industry to provide the government with detailed financial information and through close coordination and communication, CRAF has promoted greater understanding between government and industry while providing useful relationships and contacts for USTRANSCOM (Chatham House Interview, 2025).

Major passenger and cargo carriers, and many smaller airlines, have remained committed participants in both the international and national segments of CRAF largely because of the strong incentives for industry. The properly structured firm-level incentives and the low likelihood of mobilization underpin CRAF's durability and strength over time. The operational demands placed on activated CRAF participants closely mirror their normal commercial activities. Government and industry collaboration through CRAF is successful because there are clear and well-established incentives for industry and the government has proven to be a reliable partner—both in providing business and limiting mobilization until necessary (Harshberger, n.d.). **Assessment: High**

Resources and Contracting

CRAF participation is renewed on an annual basis, with contracts and funding reflecting the needs of the Air Force and composition of the fleet and business needs of the industry. The Mobility Capabilities and Requirements Study (MCRS), a classified study conducted by the DoD every five years, determines the necessary capacity and makeup of CRAF. This analysis guides the strategic planning in the buildout of CRAF agreements and the recruitment of industry participants (Tirpak, 2024). As of 2010, the DoD obligated $26.20 billion to various CRAF participants, reflecting the program's sustained operational value to U.S. mobility planning. In FY2025, USTRANSCOM obligated $1.8 billion for CRAF passenger and cargo airlift services (Federal Procurement Data System, 2025). Congressional funding must be renewed each fiscal year, and lapses or delays in the budget process could complicate the negotiation of new agreements or interfere with the activation of current participants if necessary. CRAF is also considered an expensive program (Chatham House Interview, 2025). That said, there have been no major issues maintaining the program historically, and CRAF is popular in Congress. **Assessment: High**

Activation Phase and Utilization

Since its inception, CRAF has been activated on three occasions; Operation Desert Storm/Shield (1990–1991), Operation Iraqi Freedom (2002–2003), and Afghanistan Noncombatant Evacuation Operations (2021). Each of these activations were classified as stage one activations. Stage one is activated for "humanitarian assistance, disaster relief, and minor regional crises." Stage one is activated largely during peacetime or in a minor regional crisis and is called upon when AMC airlift capability cannot meet deployment expectations and other airlift requirements simultaneously. This stage exclusively relies on international, long-range aircraft. Stage two activations are for "major theater wars." This activation is used to support defense emergencies that are greater than stage one but do not yet meet the

requirements of a full national emergency. This stage relies on all three segments: national, international long-range, and international short-range. Stage three is activated during “periods of national mobilization” (DoD, 2021). Stage three activations mobilize the entirety of the CRAF fleet. This can occur when there are either, multiple major theater wars, a national emergency declared by the President, or Congress or a serious national security situation. CRAF can be activated by the Commander of USTRANSCOM with approval from the Secretary of Defense in stage one and two. Stage three requires authorization from the Secretary of Transportation as well as the Secretary of Defense. It is expected that when mobilized, CRAF carriers will have their aircraft ready within 24–48 hours after activation and mission assignment. The Air Mobility Command assigns missions dependent upon the stage of activation. When CRAF is deactivated, it is required that the AMC provide the carriers with a 15-day notice (Lyman, 2011).

The emergency evacuation from Afghanistan demonstrates a successful CRAF activation. In 2021, Secretary of Defense Austin III ordered the stage one activation of CRAF to augment the Department of State’s efforts to evacuate U.S. citizens and personnel and at-risk individuals from Afghanistan. Through this activation, 18 aircraft from United, American, Delta, Omni, Hawaiian, and Atlas Air were sent to interim staging areas to move people to their final destinations. The activated aircraft did not fly directly into the crisis area in Kabul, but provided onward movement of passengers from the region, while military aircraft were responsible for the evacuations out of Kabul. This greatly decreased the element of risk for the activated CRAF members. Additionally, the airlines faced no disruption to their commercial operations and qualified their participation in the program as a success, each putting out press releases on their involvement. CRAF activated without issue, and the carriers completed their task with no disruption to commercial business, and there was minimal risk for the participating crew (DoD, 2021). A potential challenge of the existing activation model is the lack of real-world experience beyond stage one activation. CRAF has never been mobilized to stage two or three, resulting in limited insight into how the system would perform under higher levels of demand. This gap creates uncertainty around both industry responsiveness and the government’s ability to carry out activation. Despite this, CRAF’s well-defined activation plans, clearly designated decision authority, and history of three successful stage one activations mean that the program would likely find success in any level of activation. **Assessment: High**

National Armaments Consortium

Overview

The National Armaments Consortium (NAC) is the largest cooperative entity partnering with the DoD to advance armament technologies in support of U.S. national security (Advanced Technology International, n.d.). The NAC aims to create a technological advantage over the United States’s adversaries by fostering collaboration between industry professionals, academia, and government (National Armaments Consortium, n.d.). Made up of over one-thousand companies, the NAC leverages research, development, and the acquisition process to expand U.S. military munition capabilities (National Armaments Consortium, 2019).

Authorities and Policies

The NAC operates under the National Cooperative Research and Production Act (NCRPA) of 1993 (DoJ, 2025). The NCRPA, enacted by the U.S. Congress, strives to “promote research and development, encourage innovation, stimulate trade, and make and appropriate modifications in the operation of the antitrust laws” (FTC, 2019). Under this Act, joint ventures and standard development organizations, such as the NAC, can participate in cooperative activities without violating antitrust laws (DoJ, n.d.). The NAC has around 1,229 companies as members (Chatham House Interview, 2025). It is a public-private partnership overseen by an Executive Committee consisting of nine members from academia, small businesses, and large

businesses while the Executive Director guides the organization's daily operations including outreach and development initiatives. Complimenting the Executive Director and Committee, a Consortium Management Firm provided by the government called Advanced Technology International (ATI) assists with management and administrative tasks to ensure the needs of the NAC are met in an efficient manner (National Armaments Consortium, n.d.).

Within the NAC, there are three working groups which target specific armament strategies. Companies looking to contribute to armament solutions can apply to be a NAC Member Organization. There are members of the NAC that have foreign corporate ties through their U.S. subsidiaries, such as BAE Systems, which is a U.K.-based company with U.S. subsidiaries. However, an NAC membership is limited to U.S. companies or U.S.-based affiliates of foreign companies as all members must meet certain security requirements such as DD2345 which is a Military Critical Technical Data Agreement used by the DoD (National Armaments Consortium, n.d.). **Assessment: High**

Government-Industry Collaboration

The NAC fosters strong government-industry relations. As a consortium, there is a formal channel for the DoD to communicate their needs. The consortium model exemplifies the power of many stakeholders pooling resources and coordinating to deliver capabilities for the DoD. The NAC offers a single point of access for the government to engage in a broad network of industry and academic partners. DoD agencies participating in armament technology outline their technical needs, which NAC members then address with solution proposals. Additionally, a secure, members-only NAC website provides networking capabilities and detailed insight into DoD armament technology strategies and requirements. This allows NAC members to communicate with DoD customers to collaborate on technological challenges and innovative methods (National Armaments Consortium, n.d.).

One of the benefits of the NAC is that it can plan and host conferences for government-industry engagement without the restrictions faced by government organizations. The NAC can provide a forum for such engagement where its members can attend for free and government representatives can meet with many potential industry partners over a short period of time. The NAC also promotes government-industry collaboration through surveys of industry. They can survey their member base and collect valuable feedback for the government, for instance for the House Armed Services Committee (Chatham House Interview, 2025).

The NAC provides solutions for the DoD through three Other Transaction Agreements (OTAs). These OTAs issue solicitations to which NAC members can respond. The solicitations describe what technology is needed, and NAC members can submit an Enhanced White Paper explaining their approach (National Armaments Consortium, n.d.). These NAC-only solutions are a key incentive for industry engagement. Through the NCRPA, the NAC is granted antitrust immunity which allows members to engage in research and development as well as production. Therefore, members can focus on prototyping and experimentation, which can spark more innovative practices. Together, these features help shorten the time from identifying a need to delivering production-ready capabilities (Federal Trade Commission, 2019). **Assessment: High**

Resources and Contracting

Funding for the NAC relies on member organizations paying a $500 annual membership fee. When a member organization receives a Project Agreement from the DoD, the NAC is subject to an award assessment (FTC, 2019). This assessment does not exceed more than 1% of the obligation amount and is reviewed throughout the contract period to help maintain the NAC operating reserve. The NAC supports faster development and production by giving DoD agencies access to rapid contracting mechanisms. These processes significantly reduce administration constraints, allowing prototypes, technologies, and manufacturing improvements

to move from concept to production more quickly than through traditional acquisition processes (National Armaments Consortium, n.d.). The consortium model also speeds up progress by improving coordination between industry and government, giving members early insight into requirements and enabling iterative feedback during development (Defense Acquisition University, n.d.). OTAs play a large role in continuing NAC sustainment. The use of OTAs provides a streamlined process that allows the NAC to bring their findings and prototypes to the Federal Government without being subjected to many regulations that apply under the Federal Acquisition Regulations (FAR). Through these OTAs, NAC member organizations are able to participate in efficient acquisition pathways, leading to a streamlined scaling process (National Armaments Consortium, n.d.).

The Federal Government has also increased its focus on building up the industrial base. Modernization and reform efforts have been undertaken to enhance the nation's future strategic environment (DoD, 2024). This indicates that the DoD has seen increased funding efforts focused on strengthening our industrial base (Obis, 2024). The NAC has grown significantly over the years, with member organizations hoping to take advantage of DoD contracts (National Armaments Consortium, n.d.). For example, obligations for ordnance and missiles, have increased tremendously since 2022 (Federal Procurement Data System, n.d.). The NAC should continue to see an increase in DoD activity, allowing member organizations to place their focus on innovation and development, contributing to the future of national armaments (Gerton, 2025). **Assessment: Medium**

Activation Phases and Utilization

The NAC operates under OTA frameworks, which include defined milestones for prototype development and technology maturation. However, the NAC is more strongly driven by DoD supply-and-demand. DoD program offices sponsoring NAC projects provide requirements, timelines, and performance metrics for consortium members. While the NAC itself does not set policy, its projects follow a DoD-defined process, ensuring there is a government plan and measurable objectives for technological development. Through solicitation announcements, Requests for White Papers (RWP), and Requests for Proposals (RFP), posted on the NAC members-only website, member organizations can see upcoming opportunities and potential production needs (National Armaments Consortium, n.d.). This provides early visibility for U.S. industry, signaling when to scale workforce, manufacturing, or supply chain capabilities to meet anticipated DoD requirements. The DoD establishes requirements and timelines for member organizations providing a clear framework for utilization. **Assessment: High**

Munitions Campus

Overview

The OUSD A&S Munitions Campus was established as a pilot project on September 26, 2023, by the Office of the Deputy Assistant Secretary of Defense for Industrial Base Resilience (DoD IBR) and their Manufacturing Capability Expansion and Investment Prioritization (MCEIP) office (DoW, 2023). The campus is currently being built and managed by the American Center for Manufacturing & Innovation (ACMI). The goal of the Munitions Campus is to provide space for hypersonics, energetics, advanced fabrication processes, and other defense industrial needs (American Center for Manufacturing and Innovation, n.d.). The Campus is located within the planned National Security Industrial Hub (NSIH) in Indiana, next to the Crane Army Ammunition Activity and Naval Surface Warfare Center (Kadzielski, 2025).

Authorities and Policies

The Munitions Campus is an example of a public-private partnership where part of the funding for the campus comes from DPA Title III, and the rest is provided by private capital

(Chatham House Interview, 2025). DPA Title III Section 303 allows the President to "create, maintain, protect, expand, or restore domestic industrial base capabilities essential for the national defense, the President may make provision" by several methods including "purchases of or commitments to purchase and industrial resource or a critical technology item, for Government use or resale" and "the development of production capabilities," (U.S. Congress, 2014). The Munitions Campus is also part of MCEIP's Pathfinders, which strives to maximize the DPA and Industrial Base Fund to quickly build the U.S. domestic industrial base and address critical supply chain challenges. Pathfinders strategies include using private capital, emphasizing market pull, creating "innovation clusters," and expanding domestic production capability and capacity. The Munitions Campus incorporates each of the four strategies (OASD, 2025). MCEIP and DoD IBR are within the DoD Office of Industrial Base Policy, which carries out programs through its authorization from sections 2502 and 2505 of the U.S.C. Title 10 (DoW, 2023). Through their contract with the federal government, ACMI is building the infrastructure and facilities for the Munition Campus while also coordinating with future tenant companies and will be the manager for the site (American Center for Manufacturing and Innovation, n.d.). **Assessment: Medium**

Government-Industry Collaboration

The Munitions Campus is a highly collaborative initiative between the federal government, the defense industry, private capital, and academia (Kadzielski, 2025). The Campus aims to address the problem that startup companies face in securing funding for real estate and facility construction. ACMI and their future tenant companies are using government funding augmented by private capital to secure land and construct facilities (Chatham House Interview, 2025). The Campus represents a method where the emerging defense industry, federal government, and capital market can work in tandem to increase access and eventually incorporate advanced manufacturing for munitions production.

ACMI currently has agreements with at least 16 companies including the solid rocket motor supplier Prometheus Energetics, considered the "anchor" tenant (Chatham House Interview, 2025; Kadzielski, 2025). Prometheus plans to use 550 acres of the NSIH for their headquarters and a production facility (Kadzielski, 2025). Kratos Defense & Security Solutions and RAFAEL Advanced Defense Systems, an Israeli company, established Prometheus to produce energetics, SRM, and other munitions while being based in the United States. Through the Munitions Campus, government and industry collaborate both in coordination and funding but also in location. The NSIH site (which includes the planned Munitions Campus) and the government's Crane site are located directly next to each other. ACMI Federal and Crane Army Ammunition Activity signed an MOU in 2024 to integrate government agencies, researchers, and companies through a framework focused on the munitions supply chain, resilience of the domestic munitions stockpile, and development of new munitions technology (ACMI, n.d.). The Munitions Campus broke ground in February of 2026 (DoW, 2026).

The Munitions Campus is a promising example of government-industry collaboration and the larger NSIH site has surpassed projections for generating private capital funding showing how this model of collaboration could be effective. There is an anchor tenant company in place and agreements with a range of smaller companies. The proximity of the Crane and NSIH sites should also be instrumental in ensuring the success of Munitions Campus. However, it is too early to judge the effectiveness of the site before it is operational and the day-to-day functioning of the campus can be observed. **Assessment: Medium**

Resources and Contracting

The Munitions Campus is partially funded by the federal government, through DPA Title III, and primarily funded through private capital. From the government, ACMI Federal won a

contract for $50 million in funding for shared equipment and $25 million in R&D funding for the Munitions Campus Pilot Program after undergoing a competitive process (DoW, 2023). ACMI was then able to start planning their NSIH site which is expected to generate $600 million in private capital (Kadzielski, 2025). Initially, this endeavor was expected to generate half that amount, only $300 million in funding, showing how the program has been able to surpass expectations (Chatham House Interview, 2025).

The Munitions Campus eases the burden of commercial companies by reducing lease expenses until companies begin pulling in revenue. Operational efficiency is also maximized while tenant resources can be put into production instead of construction. Available excess tenant space provides an easy transition to expand production and scale (ACMI, n.d.). This approach supports the scaling of manufacturing processes. Venture capital (VC) funding provides most of the funding for the Munitions Campus, but it could also potentially fund tenants on the campus who require specialized equipment. ACMI has signaled that VC firms are eager to provide additional funding to tenants for manufacturing equipment. VC firms and in-house finance companies find these investments to be particularly attractive (Chatham House Interview, 2025). The success of investment from private capital—far beyond initial expectations bodes well for the development of the Munitions Campus. So long as investments by private capital in the campus prove successful, funding should be relatively secure. **Assessment: Medium**

Activation Phases and Utilization

The Munitions Campus is in the early stages of development with one anchor tenant secured and a range of smaller companies intending to be tenants. The system is in place to combine government funding with private capital and use private industry as the manager of the enterprise (Chatham House Interview, 2025). The Munitions Campus, as part of the Pathfinders initiative, could be considered “activated” now that the anchor tenant, Prometheus, has been confirmed, but the campus is too early in development for the program to be considered executed or yet a success.

The nascent program is also too early in development for any clear plan as to how tenants on the campus will be able to scale production quickly and effectively or how government will be able to direct such production increases during a conflict. There are initiatives in place that could support such activation, including a focus on using a shared location between the Munitions Campus and larger NSIH site and the government’s Crane campus to streamline production and supply chain resourcing. There is also a focus on integrating equipment and processes into campus facilities that use advanced manufacturing techniques. There is not a clear activation plan in the same way as a voluntary agreement, but there are early ideas around how the campus could grow or be replicated around other capabilities. ACMI intends to find more anchors and look to industries like drones, batteries, and pharma. The campus has a significant amount of space still left to fill, and it is expected that it would be refreshed over time with new tooling equipment. The design of the program, focus on innovation, and chosen location will likely contribute to the ability of Munitions Campus tenants to scale production, but concrete plans, a coordination framework for managing competing tenant needs, and on-the-ground equipment and facilities are still undetermined (Chatham House Interview, 2025). **Assessment: Medium**

Civil Reserve Manufacturing Network Case Study

Overview

The Civil Reserve Manufacturing Network (CRMN) is a public-private initiative recently established under the National Defense Authorization Act (NDAA) for FY2026 to ensure the

United States maintains a resilient industrial base capable of supporting defense requirements in times of national emergencies and conflict. CMRN leverages commercial manufacturing capabilities aligned with national security needs, ensuring rapid scaling of production for defense materials, components and systems (Albon, 2025). This initiative creates opportunities to formalize agreements and surge production in ways that go beyond traditional voluntary agreements (Chatham House Interview, 2026).

Authorities and Policies

CRMN is authorized under section 1841 of NDAA FY2026, incorporating House bill (sec. 879) and Senate Bill (Sec. 220), which direct the Secretary of Defense to establish a working group under the Defense Industrial Resilience Consortium to support CRMN creation (Chatham House Interview, 2026). A CRMN Establishment Plan must be submitted to congressional defense committees within 120 days of enactment, and the first report is expected in June. The Secretary of Defense will also need to provide Interim Progress Reports on CRMN development for Congressional Oversight, allowing transparency for both government and industry stakeholders (U.S. House Rules Committee, 2025).

Congress has intentionally left significant decision-making authority to the Office of Industrial Base Policy (IBP), giving the DoD flexibility to determine how CRMN will operate in practice. As one official noted, “The proposal and how the activate has been the hardest part,” highlighting the ongoing process of figuring out the program’s operational details. This flexibility allows the CRMN to adapt its authority and activation approaches as lessons are learned during early implementation (Chatham House Interview, 2026). **Assessment: Medium**

Government-Industry Collaboration

CRMN will establish formal, legally binding agreements between the DoD and private commercial manufacturers (Chatham House Interview, 2026). Industry participants can interact directly with the Pentagon, while the DoD provides surge requirements and technical standards to ensure readiness. By June 2027, the Department plans to enter into agreements with at least two manufacturers to participate in CRMN (Prusock et al., 2026). Implementation discussions highlight that CRMN is building on models like the CRAF but will move beyond voluntary participation. Companies can commit with legally binding agreements, creating on-call capacity and additional resources. The goal is for close cooperation between the organic industrial base and commercial industry. This is described as an “agile approach of iterations” with steep learning curves in the first few years, acknowledging the program will evolve as the department works through incentive structures, intellectual property considerations, and sector specific needs (Chatham House Interview, 2026).

CRMN participants will receive support for infrastructure and workforce development as well as recognition as critical contributors to national defense readiness. Additionally, participants may benefit from accelerated qualification and certification processes and, subject to appropriations, receive funding to speed up testing and modify existing manufacturing capabilities, with an emphasis on upgrading current facilities rather than building new ones. However, the incentive structure is still being developed and will expand as participation grows. Possibilities include investments in advanced manufacturing tools, models where the government buys capacity by placing tools in a facility, and other innovative mechanisms. CRMN planning has emphasized that the first few years will involve experimentation and iteration, noting the importance of aligning incentives with the diverse needs of different industries and sectors (Chatham House Interview, 2026). **Assessment: Medium**

Resources and Contracting

CRMN has over $177 million in funding from the NDAA to establish a network of commercial manufacturers capable of rapidly supporting defense production requirements.

Additional funds are allocated for Research, Development, Test and Evaluation (RDT&E) for the Army, Air Force, and other Defense agencies meant to expedite transformation when activated. Quarterly updates on the progress of establishing CRMN will be provided to congressional defense committees by the Assistant Secretary of Defense for IBP through September 30, 2027 (DoD, 2026). Interview insights highlighted that the program is not tied to any single contracting pathway, and the DoD can use a range of methods to fund and incentivize participants (Chatham House Interview, 2026). Coordination with other offices and attention to advanced manufacturing barriers, testing, and qualification processes are integral to CRMN planning (Prusock et al., 2026). **Assessment: High**

Activation Phases and Utilization

CRMN is intended to maintain a pool of commercial manufacturers that can be activated to support defense production during wartime or national security emergencies. During activation, selected manufacturers would convert their production lines and increase output to provide surge capacity for critical defense needs under DoD direction (King & Spalding, 2026). CRMN will need a phased activation plan and clear triggers for production because it is expected that the program will move quickly once signals are sent. CRMN will also initially focus on domestic manufacturers, postponing allies or foreign companies to future phases. Component-level production will be easier to integrate into resilience models, and non-traditional or emerging manufacturers will be engaged progressively. The program aims to revisit its structure every few years to reflect lessons learned and evolving industry capacity (Chatham House Interview, 2026). **Assessment: Medium**

Findings: Elements of an Effective Manufacturing Security Program

Authorities and Policies

The case studies and supporting research interviews highlight the authorities and policies that best enable programs to succeed. Authorities like DPA Title VII Voluntary Agreements can be helpful but without regular use and experienced government staff and lawyers accustomed to creating them, they can be challenging to establish. The long gap that existed between voluntary agreements made it more difficult to create a new one when the Covid Voluntary Agreement was needed. Authorities need to allow for clear government-industry collaboration but also need to be used regularly so that the institutional knowledge and structures needed to create and maintain them are in place. Defense Production Act Title I requires the same regular use in order to be useful. Authorities and policies are most effective when they are in place well before a conflict. Anti-trust exemptions can be helpful for coordination between government and industry, but the legal steps to enact these exemptions take time. They should be used only when necessary to facilitate effective information sharing.

Organizational structures vary across case studies. The DOT's MARAD runs both VISA/MSP and VTA/TSP, the DOT and DoD share responsibilities for overseeing CRAF, and while the Voluntary Agreement was active, FEMA oversaw the COVID Voluntary Agreement and subsequent coordination efforts. Additionally, the DoD is responsible for CRMN. These five cases represent avenues for government-run programs, but there are public-private partnerships with different organization structures. For instance, a volunteer board is responsible for overseeing the NAC, while a private company, ACMI, established the Munitions Campus and will work with another company who will oversee daily operations. Organizational structures must be well articulated and involve only stakeholders and industry members relevant to the success of the program.

Government-Industry Collaboration

Government and industry can coordinate in several productive ways as shown in the case studies. When information sharing is a challenge, authorities that allow for an anti-trust exemptions (DPA Title VII) can be helpful. These exemptions takes time to put in place, but when necessary, it allows government and industry to talk and share their respective needs and constraints. Anti-trust exemptions enable information sharing to an extent that is beneficial for collaborative activities focused on specific programs or industry sub-segments. For public and private entities to effectively coordinate, information sharing is key. In addition to authorities that enable communication, standing meetings and coordination timelines are also key. For the NAC, one method of coordination with the government included hosting conferences with industry for a government sponsor. For the Munitions Campus, coordination occurred between many different entities (the government sponsor, the coordinating company [ACMI], the tenant vendor [Prometheus], the potential smaller vendors) and the venture capital companies taking point on funding the endeavor. A regular pace of meetings and collaborations can lead to better trust and understanding between government and industry. The important caveat is that industry still requires clear incentives to participate. Programs must have a clear business case of increased peacetime contracts, regular payments for participation, or both.

Resources and Contracting

The case studies demonstrate multiple options for funding and resources in addition to a range of contracting approaches. In the case of funding, certain programs (CRAF) are more expensive than others but can have Congressional support and a long history of success that helps maintain their funding. Initiatives like the Munitions Campus demonstrate a way in which the federal government can take a smaller role while private capital is responsible for a larger share of the initial and ongoing investment. These investments show industry commitment. The Munitions Campus was particularly efficient in pooling private capital and reducing the government's burden in financing the initiative. In addition to the need for continual, reliable funding, programs are also more successful with contract mechanisms that enable surge. Effective and established contractual relationships between industry and government are key.

Activation Phases and Utilization

More then half of the case studies have outlined activation plans. These include VISA, VTA, CRAF, and the Covid Voluntary Agreement. As a consortium, the NAC does not have an activation plan, but there could be stages to growing the consortium or utilizing the consortium during times of conflict. The Munitions Campus is incredibly new, and there is a general idea of how the campus could grow, or the model could be replicated but these plans are not concrete, and the campus has only just broken ground. CRMN is also too new to have a clear activation plan. There are several factors that improve the success of an activation plan. One is that the plan has been activated before and any potential difficulties have been addressed. This is obviously not possible if there hasn't been a reason to activate the plan yet or it is new. A possible solution is consistent test exercises. There should also be specific operational constraints or stages to a conflict that trigger each activation stage.

Conclusion

The United States recognized a gap in munitions production during the War in Ukraine that has only persisted as a burden for strategic planners. As a result of the conflict in Iran and the need to deter threats from Russia and China, the munitions problem could worsen. This issue is multifaceted as the United States and allies are unable to surge production both for the quantity of munitions needed and the breadth of munitions required to mount an effective deterrent strategy. Efforts to increase surge production require coordination between industry

and the government to find ways to build excess manufacturing capacity, uncover and address gaps in the supply chain, and utilize advanced manufacturing capabilities.

References

Albon, C. (2025, June 12). *House proposes manufacturing network to boost wartime arms production*. https://www.defensenews.com/pentagon/2025/06/12/house-proposes-manufacturing-network-to-boost-wartime-arms-production/

Advanced Technology International. (n.d.). *National Armaments Consortium.* https://www.ati.org/services/nac/

ACMI Group. (2025). *Home-ACMI.* https://acmigroup.com/

Baldanza, B. (2021, September 1). *How the Civil Reserve Air Fleet benefits the country and helps airlines.* Forbes. https://www.forbes.com/sites/benbaldanza/2021/09/01/how-the-civil-reserve-air-fleet-benefits-the-country-and-helps-airlines/

Busler, B. (n.d.). *FY20 NDAA fuel tanker study unclassified executive summary report.* U.S. Transportation Command. https://www.maritime.dot.gov/sites/marad.dot.gov/files/2023-04/%28U%29%20FY20%20NDAA%20Fuel%20Tanker%20Study%20-%20Executive%20Summary%20Report%20%2815Jun21%29.pdf

Civil Reserve Air Fleet. (2024, February 23). *U.S. Department of Transportation*. https://www.transportation.gov/mission/administrations/intelligence-security-emergency-response/civil-reserve-airfleet-allocations

Defense Acquisition University. (n.d.). *OTA today takeaways*.

Defense Production Act of 1950. (2018, August 13). https://www.fema.gov/sites/default/files/2020-03/Defense_Production_Act_2018.pdf

Defense Production Act voluntary agreement report to Congress. (2021, August 10). https://www.fema.gov/sites/default/files/documents/fema_DPA-voluntary-agreement-report_2020.pdf

Delegating additional authority under the Defense Production Act with respect to health and medical resources to respond to COVID-19. (2020, April 1). https://www.govinfo.gov/content/pkg/FR-2020-04-01/pdf/2020-06969.pdf

Department of Defense Appropriations Act, 2026. (2026). https://www.congress.gov/119/meeting/house/118889/documents/BILLS-1192ih.pdf

Department of Homeland Security. (2020, December 8). *Plan of action for PPE distribution under DPA*.

DoD. (2021, August 22). *CRAF activation for Afghanistan.*

DoD. (2024). *DoD releases first-ever National Defense Industrial Strategy.* https://www.defense.gov/News/Releases/Release/Article/3643326/dod-releases-first-ever-national-defense-industrial-strategy/

DoJ. (n.d.). *Filing a notification under the NCRPA.*

DoJ. (2025). *Notice pursuant to the National Cooperative Research and Production Act of 1993—National Armaments Consortium.* https://www.govinfo.gov/content/pkg/FR-2025-04-21/pdf/2025-06796.pdf

DoW. (2023, September 26). *DoD establishes munitions campus pilot.*

DoW. (2026). *Department of War announces groundbreaking of new munitions campus in Indiana*. https://www.war.gov/News/Releases/Release/Article/4411124/department-of-war-announces-groundbreaking-of-new-munitions-campus-in-indiana/

Exec. Order No. 13603. (2012).

Federal Procurement Data System. (n.d.). https://sam.gov

Federal Trade Commission. (2019). *National Cooperative Research and Production Act of 1993.* https://www.govinfo.gov/content/pkg/COMPS-229/pdf/COMPS-229.pdf

FEMA. (2021, November 3). *Meetings to implement pandemic response voluntary agreement.*

GAO. (2021, December). *COVID-19: Agencies are taking steps to improve future use of Defense Production Act authorities*. https://www.gao.gov/assets/gao-22-105380.pdf

GAO. (2025, June 12). *Defense Production Act: Information sharing needed to improve use of authorities*.

GAO. (2025, June 12). *Defense Production Act: Use and challenges from fiscal years 2018 to 2024*. https://www.gao.gov/assets/gao-25-108497.pdf

Gerton, T. (2025). *The National Armaments Consortium is gearing up for 2026.* https://federalnewsnetwork.com/contracting/2025/11/the-national-armaments-consortium-is-gearing-up-for-2026-with-fresh-direction-and-a-focus-on-armaments-innovation/

Harshberger, T. (n.d.). *Applying a Civil Reserve Air Fleet (CRAF) model to industrial production.*

Joint Explanatory Statement to Accompany the National Defense Authorization Act for Fiscal Year 2026. (2025, December). U.S. House Rules Committee. https://rules.house.gov/sites/evo-subsites/rules.house.gov/files/documents/fy26-ndaa-joint-explanatory-statement-final.pdf

Kadzielski, P. (2025, April 9). *ACMI announces 16 companies to operate at munitions campus.* https://acmigroup.com/2025/04/09/acmi-announces-16-companies-munitions-campus-nsih/

Kadzielski, P. (2025, March 26). *JLL to lead leasing ACMI's industrial hub.* https://acmigroup.com/2025/03/26/acmi-properties-jll-nsih/

King & Spalding. (2026, January 12). *FY 2026 NDAA: Domestic sourcing, artificial intelligence, cybersecurity, and acquisition reforms.* https://www.jdsupra.com/legalnews/fy-2026-ndaa-domestic-sourcing-9484065

Kok, A. (2021, February 16). *Tabletop exercise refines voluntary intermodal sealift agreement activation process.* U.S. Transportation Command. https://www.ustranscom.mil/cmd/panewsreader.cfm?ID=B249EFB0-BDC7-3C1A-6403671EA44CC7CB&yr=2021

Lewis, I., & Coulter, D. Y. (2000). The voluntary intermodal sealift agreement. *Transportation Journal, 40*(1), 26–34.

Lyman, M. (2011). *Civil reserve air fleet.* Air Mobility Command.

MARAD. (2025, July 16). *Maritime security program (MSP).* https://www.maritime.dot.gov/national-security/strategic-sealift/maritime-security-program-msp

Maritime Administration. (2024, October 18). *Voluntary intermodal sealift agreement.* Federal Register.

Maritime Administrator. (n.d.). *MSP & VISA facts.*

Maritime Administrator. (2005, September 22). *Maritime security program.* Federal Register.

Maritime Administrator. (2022a, November 7). *Renewal of the voluntary tanker agreement program; revised form of the voluntary agreement.* Federal Register.

Maritime Administrator. (2022b, June 6). *Tanker Security Program interim final rule*. Federal Register.

Maritime Administrator. (2022c). *VISA and MSP.*

Maritime Administrator. (2023, May 26). *Solicitation of applications for MSP agreements.* Federal Register.

McGinn, J., & Letts, O. (n.d.). *Options for strengthening the use of Defense Production Act Title VII.*

National Armaments Consortium. (n.d.). https://www.nacconsortium.org/

National Armaments Consortium Member Agreement. (2019, December 6).

Neenan, A. (2023). *The Defense Production Act of 1950.* Congressional Research Service.

OASD(IBP). (2025, July 22). *DoD tactics for engaging private capital—MCEIP pathfinders brief for NDIA ETI*.

Obis, A. (2024). *DoD dispelling lingering myths about OTAs.* https://federalnewsnetwork.com/contracting/2024/02/dod-dispelling-lingering-myths-about-otas/

Peter G. Peterson Foundation. (n.d.). What's in the CARES Act?

Peters, H. M. (2021). *Afghanistan evacuation: The Civil Reserve Air Fleet.*

Prusock, M. P., Schaengold, M.J., McQuade, P. F., Ross, E. M., & Malone, J. N. (2026). *The substantial impact of the FY2026 NDAA on federal procurement law.* Greenberg Traurig. https://www.gtlaw.com/en/insights/2026/2/fy2026ndaa/fy-2026-ndaa-the-substantial-impact-of-the-fiscal-year-2026-national-defense-authorization-act-on-federal-procurement-law

Tirpak, J. (2024, September 6). Still delivering after all these years*. Air & Space Forces Magazine*.

USA Spending. (n.d.). *Civil Reserve Air Fleet contracts FY2010–FY2025.*

Warren, M., & Conklin, T. (2024, September 4). *CRAF program benefits.*


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