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Building Industrial Resilience with a Little Help from Our Friends: Adapting DoD Acquisition Processes to Facilitate Allied and Partner Engagement

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Building Industrial Resilience with a Little Help from Our Friends: Adapting DoD Acquisition Processes to Facilitate Allied and Partner Engagement

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Abstract

This paper focuses on numerous existing and recent initiatives and programs involving allied and partner support to the U.S. defense industrial base and explores how they are currently instantiated in DoD acquisition processes. Are DoD acquisition processes able to effectively utilize efforts such as the National Technology Industrial Base (NTIB), Reciprocal Defense Procurement Agreements, Defense Production Act (DPA) Title III, and others to foster programs with partners that build industrial resilience in the defense industrial base? Research and interviews found that most of these efforts have promising foundations, but DoD acquisition processes need adaption to effectively increase allied and partner involvement. The author makes a series of recommendations to address these findings about the programs analyzed and the acquisition system itself. The author concludes that reframing acquisition processes and programs to better include partners and allies is ultimately a win-win proposition for all parties involved. Pursuing this approach will help to provide a concrete foundation for the future of international industrial collaboration and will build the industrial resilience needed to face the national security challenges of today and tomorrow. The paper also points to areas for further research to further refine the recommendations and explore specific areas in greater depth.

Research Question

This paper focuses on the numerous existing and recent programs and initiatives focused on building resilience in the U.S. defense industrial base and examines how current DoD acquisition processes support or hinder the involvement of allied and partner governments and companies. Specifically, there are a large number of existing and recent programs or initiatives that are designed, at least in part, to enable the involvement of companies based outside of the United States in U.S. defense acquisition programs. These efforts include Reciprocal Defense Procurement Agreements, the National Technology Industrial Base (NTIB), Trusted Capital Marketplace (TCM), and Defense Production Act (DPA) Title III. How are these programs impacting DoD acquisition processes, and are close allies and partners able to effectively contribute to building resilience in the U.S. defense industrial base?

Need for Increased U.S. Defense Industrial Base Capacity

The annual Department of Defense (DoD) industrial capabilities report to Congress lays out key trends in the defense industrial base. To quote from the Fiscal Year (FY) 2020 report, “The defense industrial base is the key to preserving and extending U.S. competitive military dominance in the coming century and, with it, deterrence that will keep Americans safe and keep the peace” (DoD, 2021). This report and previous annual reports showed fragility at lower levels of the defense supply chain, workforce challenges, troubling trends in the sole sourcing of

materials such as rare earth elements and chemicals from China, and chronic weaknesses in areas such as microelectronics.

China is the principal challenge as outlined in the current National Security Strategy (White House, 2017) and National Defense Strategy (DoD, 2019). These legacy documents from the Trump administration will change in priorities and focus under the Biden administration, but the new administration has made clear in its Interim National Security Strategic Guidance (White House, 2021) and other venues that a focus on China as the "pacing" national security challenge will remain (Shelbourne, 2021).

China has co-opted the free market system for its purposes. Today, China is no longer focused on being the locus for low-cost manufacturing and is looking to move up the value chain and gain intellectual property. The Made in China 2025 strategic plan clearly demarcated the areas where Chinese companies and state-owned enterprises would invest (robotics, AI, autonomy, etc.) and the investment has followed (Sutter, 2020). The approach for this is multifaceted: from licit business transactions to illicit intellectual property theft. Moreover, the truth of the matter is that any Chinese company, under the 1993 state law, is compelled to provide information deemed important for national security to the Chinese government (Brown & Singh, 2018).

These industrial base concerns have led to a greater focus on reshoring industrial capabilities previously conducted overseas to domestic locations. This prioritization began in earnest after the whole of government review of the U.S. manufacturing and defense industrial base launched in July 2017 by Executive Order No. 13,806 (2017). This effort underscored similar themes found in earlier reports but with greater fidelity and detail. The recommendations coming out of the final report, released in September 2018, focused first and foremost on addressing industrial base weaknesses where the United States was reliant on Chinese single and sole sources in areas such as rare earth elements, specialty chemicals, and small unmanned aerial systems (Executive Order No. 13,806, 2017).

DoD industrial base investment has concentrated on these and other priorities, but the concern about China has also led to an increased focus on Buy America efforts in some quarters. During 2020, for example, a congressional effort to expand Buy America in the FY2021 National Defense Authorization Act (NDAA) would have required 75% of Pentagon major defense acquisition programs to be procured solely from U.S. sources by 2021 and 100% by 2026. This provision would have obviated the industrial contributions by companies headquartered in allied countries, many of whom have significant U.S. subsidiaries (Greenwalt, 2020). This Buy America approach undermines those close allies that support thousands of American jobs through the development and purchase of U.S. defense systems. Because of existing Buy America regulations and national security priorities, defense systems are already one of the strongest domestic manufacturing sectors. Eliminating key international suppliers, many of whom have significant U.S. physical and economic presence, from our defense industrial base is counterproductive. Moreover, these countries—mainly our NATO allies and close partners like Japan, Australia, and Israel—buy billions of dollars of U.S. defense systems each year (McGinn, 2020).

Rather than excluding them, it is important to look at how partners and allies can contribute to efforts to building resilience in the U.S. defense industrial base.

International Involvement in DoD Acquisition

The principal objective of DoD acquisition system is to get the absolute best capabilities to meet U.S. warfighter needs. DoD programs do this primarily through contracting with U.S. companies large and small. However, given the global nature of technology in general and the aerospace

and defense business in particular, allied and partner governments and companies have been participating in DoD programs for decades. Participation occurs in three principal ways: (1) as a contributor to a program, (2) as a customer, and (3) as part of an international cooperative program. I will briefly discuss each in turn.

International Contributions to DoD Programs

The rationale for involving non-U.S. companies in DoD programs derives directly from the objective of the defense acquisition system. In some cases, the best technology or system for a program can be obtained from a non-U.S. source. The same goes for technology, subsystems, and components procured by U.S. prime integrators. Working as prime contractors, subcontractors, and suppliers, foreign sources have made significant contributions to the U.S. defense industrial base.

In addition, many foreign companies have U.S.-based subsidiaries that manufacture products or conduct services for unclassified and classified DoD programs. For those conducting classified work, these subsidiaries operate under foreign ownership, control, or influence (FOCI) regulations governed by the Defense Counterintelligence and Security Agency, which limits communications and sharing of information between the parent company and the U.S. subsidiary (Defense Counterintelligence and Security Agency, n.d.-a). Regardless, U.S.-based subsidiaries of foreign-owned companies are considered U.S. companies for purposes of DoD acquisition.

International Purchases of U.S. Systems

The purchase of DoD systems by international customers through foreign military sales (FMS) or direct commercial sales (DCS) is another major avenue for international participation in DoD acquisition. FMS are conducted via government-to-government agreements overseen by the Department of State (State) and executed by the DoD through the Defense Security Cooperation Agency (DSCA), while DCS are conducted via government-to-industry competitions, and sales are licensed by State or the Department of Commerce under their respective export control regimes governing military or commercial dual-use items.

U.S. international defense sales are significant and number in the tens of billions of dollars each year, but it is very difficult to track actual dollar expenditures associated with specific FMS and DCS transactions. This is because FMS are reported by DSCA in proposed letters of offer and acceptance that cite an “estimated” price for a “possible” sale (Defense Counterintelligence and Security Agency, n.d.-b). This is required under the U.S. Arms Export Control Act. DCS transactions, meanwhile, are reported by the purchasing governments and/or the U.S. company producing the system. The U.S. government reports the granting of an export license to authorize the sale of items via DCS, but the authorized value reported does not equate to a sale or the actual sale dollar amount (Department of State, 2021). The Stockholm International Peace Research Institute (SIPRI) provides the most comprehensive estimate of international transfer in its Arms Transfers Database (Stockholm International Peace Research Institute, n.d.).

International Cooperative Programs

DoD International Cooperative Programs (ICPs) are acquisition partnership arrangements between the United States and foreign countries that are established via memoranda of understanding (MoU) or project agreements (PAs) that often combine both foreign government and foreign commercial source participation. ICPs began in the 1960s, most prominently with the NATO Sea Sparrow missile, and continue today (Kenlon, 2018). The largest ICP by far is the F-35 Joint Strike Fighter, with eight countries initially participating in the program. Each country contributed various amounts to the research and development of the program, receiving in return various levels of participation (Gertler, 2020). Numerous other

major programs have ICPs, including the Guided Multiple Launch Rocket System (GMLRS), P-8 Maritime Patrol Aircraft, NATO Alliance Ground Surveillance, and SM-3 Block IIA. There have only been a few new major system ICPs established in the past decade, however (Kenlon, 2018).

International Impacts on the U.S. Defense Industrial Base

These international contributions in DoD programs have both direct and indirect impacts on the U.S. defense industrial base:

- **Direct impacts.** Many of these contributions have direct impacts on the health of the U.S. defense industrial base through employment and purchases. Specifically,
    - U.S. subsidiaries of foreign-headquartered firms employ tens of thousands of American workers through the production of systems and the performance of services in direct support of DoD programs. The United Kingdom (UK), for example, has estimated that U.S. subsidiaries of UK companies employ more than 56,000 U.S. personnel (Pierce, 2020).
    - The purchase of DoD systems by foreign government customers through FMS and DCS support the development and production of U.S. programs. Some programs, most notably the F-16 fighter, continue in production today solely because of these continued international sales.
    - ICPs such as the F-35, GMLRS, and P-8 support the continued production and product improvement of these U.S.-based programs.
- **Indirect impacts.** Other international participation in DoD acquisition programs also have a more indirect impact on the U.S. defense industrial base. For example,
    - The purchase of foreign-produced subsystems and parts by DoD programs contribute to the production and sustainment of programs across the DoD enterprise. These contributions do not have a direct impact on U.S. jobs or facilities, but they do enable the successful performance of a program and therefore support the economic impact of the program over the acquisition life cycle.
    - Partnering relationships established by the DoD and U.S. industry with their foreign counterparts can lead to additional teaming in technology development and product improvement efforts beyond the scope of the original program, leading to expanded U.S. industrial base opportunities in the global defense marketplace.[1]

Successes and Challenges

There have been recent notable successes in the involvement of international-headquartered firms in DoD programs. For example, Fincantieri Marinette Marine, the U.S. subsidiary of the Italian shipbuilding Fincantieri, won the Navy's Future Frigate competition in April 2020. The company invested nearly $180 million in its Wisconsin facility over several years, which helped the company position for its win of this almost $800 million contract (Fincantieri Marinette Marine, 2020). In addition, in this year's submission of proposals for the preliminary design phase of the U.S. Army's Optionally Manned Fighting Vehicle (OMFV), three of the four announced bidders are led non-U.S. headquartered companies: BAE Systems (teamed with Elbit Systems of America), Rheinmetall (teamed with Raytheon Technologies and L3Harris), and Hanwha (teamed with Oshkosh; Callan, 2021).

1. Thanks to Frank Kenlon for suggesting this impact.

In the regulatory space, the FY2019 NDAA created an exemption for NTIB entities in the United States operating under a special security agreement to not be required to obtain a national interest determination for access to proscribed information (John S. McCain National Defense Authorization Act [NDAA], 2018b). This streamlined the involvement of U.S. subsidiaries of NTIB countries performing highly classified programs for U.S. government agencies and was fully implemented in December 2020 (National Industrial Security Program Operating Manual [NISPOM], 2020).

However, significant challenges remain. Most of these challenges are either cultural within the DoD acquisition system or are an artifact of existing acquisition practices and processes. For example, in the development of system requirements in many DoD programs, requirements documents are frequently classified as SECRET NOFORN (or higher). This requires non-U.S. companies to obtain DoD technology security and foreign disclosure authorizations to even engage in classified discussions with DoD program offices or formally respond to DoD contracting officer requests for information that have classified aspects. This hinders the ability of these companies to better understand program office needs at early stages in program requirements formulation. It can even prevent them from responding to or making them less competitive for eventual DoD solicitations.

Even after winning a program, these types of challenges can continue. For instance, the intellectual property for a DoD program is designated U.S.-only. That is appropriate in most cases but can be problematic when a U.S. subsidiary is the prime. In the Navy's Future Frigate program, Fincantieri Marinette Marine was not permitted to speak with the parent company engineers to discuss engineering challenges during the design stage. This created difficulties that could have been more easily addressed if they could have obtained a U.S. government export license that would have enabled the U.S. subsidiary to conduct authorized technical discussions with parent company engineers (R. Hunt, personal communication, April 2, 2021).

Recommendations

There are several ways that the DoD can educate acquisition professionals and adapt existing processes to facilitate greater involvement of partners and allies in DoD programs:

- The DoD should promote current DoD 5000 series processes for incorporating allied and partner companies' technologies and systems into DoD programs.
- The DoD should improve the ability of acquisition professionals to develop requirements documents that facilitate the early involvement of allied and partner companies in DoD programs (e.g., avoid citing classified, U.S.-only documents in either informal or formal requests for information or solicitations where possible).
- The DoD should facilitate communications between U.S. subsidiary firms performing on DoD contracts and their parent foreign firms in areas of engineering with direct impact on the conduct of the system being developed or fielded (e.g., working with U.S. government export control organizations to authorize appropriate engineer-to-engineer engagement throughout the program life cycle).
- The DoD should reexamine its approach to ICPs to identify different types of cooperative opportunities leading to a new generation of programs in the coming years.

Existing and Emerging Initiatives and Programs

Reciprocal Defense Procurement and Acquisition Policy Memoranda of Understanding (RDP MOUs)

Current Use

There are currently 26 countries that have RDP MOUs with the United States (Defense Pricing and Contracting, n.d.). They are

- Australia
- Belgium
- Canada
- Czech Republic
- Denmark
- Egypt
- Estonia
- Federal Republic of Germany
- Finland
- France
- Greece
- Israel
- Italy
- Japan
- Latvia
- Luxembourg
- Netherlands
- Norway
- Poland
- Portugal
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom of Great Britain and Northern Ireland

These MOUs establish agreed upon procurement principles that foster transparency and openness to competition in each country's respective defense marketplace.

The largest tangible benefit for the non-U.S. signatory countries is that they are waived from Buy America provisions when competing for DoD programs (DFARS 225.872-1, 2021). The existence of this exemption is often not well recognized in some program offices or on Capitol Hill, and others are opposed to these exemptions in the first place, as described above. Moreover, the Buy America focus of the current administration, which is directly at odds with its Interim National Security Strategy Guidance emphasis on strengthening relationships with allies and partners, sends conflicting signals to allies and partners (White House, 2021).

In addition to its RDP MOU, Canada also has a Defence Production Sharing Agreement (DPSA), which guides defense trade procedures between the two allies (Canadian Commercial Corporation, n.d.). The DPSA is further codified within the U.S. Defense Federal Acquisition Regulation Supplement 225.870 (DFARS 225.870, 2021) and permits the Canadian Commercial Corporation to help Canadian firms compete for DoD opportunities.

Potential Future Uses

There is a clear lack of awareness of the RDP MOUs and what they mean for DoD acquisition and for strengthening the defense industrial base. More detailed analysis of the impact of the presence *and* spending of RDP MOU countries, for example, would help to explicate the benefits of allied participation in DoD acquisition. This analysis would assist in educating acquisition professionals, DoD officials, and congressional staff and members about these tangible benefits. This could also spur greater involvement in DoD programs, leading to more investment as well as economic and national security benefits. In addition, written statements by the Biden administration on their support for RDP MOUs would go a long to reassure signatory countries.

Recommendations

- The administration would be well served to formally articulate their support for RDP MOUs as part of their emphasis to strengthen relationships with allies and partners.
- The DoD or Congress should request an analysis of the impact of RDP MOU countries' contributions to the U.S. defense industrial base through participation in DoD programs *and* the purchase of U.S. defense systems through foreign military or direct commercial sales.
- The DoD should work to increase awareness of and educate acquisition professionals across the services about the Buy America exemption for RDP MOU countries as well as the Canadian DSPA DFARS clause to help spur additional competition and innovative solutions in the U.S. defense industrial base.

Security of Supply Arrangements

Current Use

There are currently 9 bilateral Security of Supply Arrangements (SoSAs) between the United States and partner countries. Specifically, the following countries have SoSAs with the United States:

- Australia
- Canada
- Finland
- Italy
- Netherlands
- Norway
- Spain
- Sweden
- United Kingdom

Not surprisingly, all of the SoSAs are with RDP MOU countries. These arrangements implement part of the Declaration of Principles in the RDP MOUs and recognize the "mutual interdependence of supplies needed for national security" as well as calling for the signatories to "explore solutions for achieving assurance of supply" (Industrial Policy, n.d.-b). Some of the signatory nations have established industry codes of conduct as a measure of reliance of their respective industry partners to support defense priorities.

The most telling part of these efforts, however, is the fact that they are *arrangements*, not agreements. That underscores the relatively informal and voluntary nature of these bilateral initiatives. There arrangements are confidence-building measures, and there is value in that, but they are not formal commitments by the respective government signatories. Thus, it is not

surprising that these arrangements have not been invoked directly in any specific case to date (Hasik, 2021).

Potential Future Uses

It is time to reexamine SoSAs and their use for today's national security challenges. They can continue to be utilized as confidence building measures, but the United States and signatory nations should also consider methods for strengthening them. For example, the DoD could explore ways to partner with countries on mutually beneficial efforts through SoSAs. An arrangement with Japan for microelectronics and arrangements with Brazil and India for chemicals, for instance, could strengthen industrial capacities in those critical areas.

Recommendation

- The DoD should conduct a review of SoSAs with partner countries to determine the future of SoSAs, specifically how these (and any future) arrangements could be adapted to make them more relevant for today's global industrial security challenges.

National Technology Industrial Base

Current Use

The NTIB has deep roots. Initially born out of the North American Technology and Industrial Base Organization (NATIBO; Government of Canada, n.d.), the NTIB was first codified in law in 1992. At that time, Congress required the DoD to report annually on "steps to foster and safeguard" the NTIB. The NTIB was defined at the outset to include the United States and Canada (Hunter et al., 2017). NATIBO conducted periodic bilateral studies on industrial base issues, but neither NATIBO nor NTIB gained significant visibility (or impact) until the NTIB was expanded to include Australia and the United Kingdom in the 2017 National Defense Authorization Act (NDAA, 2016).

The expansion of the NTIB brought greater attention to the need to increase industrial cooperation between these key allies (Greenwalt, 2019). The NTIB countries established an initial governance structure and identified areas for initial focus. The increased dialogue has been favorably viewed by the NTIB governments, but the NTIB made an immediate impact in area of foreign direct investment (FDI).

Prior to 2010, for example, the vast majority of FDI in the United States came from allied and partner countries. In less than a decade, those ratios shifted dramatically. From 2016 to 2018, transactions originating from China were the largest proportion of cases filed: 26.5%. Moreover, the nature of the Chinese transactions drew increased scrutiny because the vast majority of these proposed acquisitions (84%) were focused on the manufacturing, finance, information, and services sectors (Department of the Treasury, 2021).

This shift drew significant bipartisan attention on the Committee on Foreign Investment in the United States (CFIUS), which reviews foreign transactions for national security concerns, and led directly to a significant strengthening of CFIUS authorities through the Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA; NDAA, 2018a). As the United States has strengthened its position on FDI, Chinese investment started to focus on other countries with advanced technology companies. Thus, NTIB governments have undertaken significant efforts to share best practices among NTIB countries to counter potential national security impacts.

NTIB was also featured in the Executive Order 13,806 final report of the U.S. manufacturing and defense industrial base. The final report, published in October 2018, recognized the global nature of the defense industrial base and underscored the importance of allies and partners. For example, the broadening of the NTIB is cited favorably: "These types of

agreements [i.e., NTIB] with partners and allies provide economies of scale and scope, help facilitate cost-effective defense production, and increase Warfighter interoperability" (DoD, 2018).

Potential Future Uses

The governments are focusing on NTIB governance and on sharing best practices in FDI and will continue to do that. What else can be done? Analysts such as William Greenwalt (2019) argue that the NTIB should be used to foster export control reform among member countries. While that goal is laudable, there has been little progress on this front since the NTIB expansion. One potential related area that could be promising to pursue is releasability. For example, when companies from NTIB countries are working with program executive offices and program offices, those offices sometimes establish releasability provisos on the program's technology. These provisos require companies not based in the United States to file for an export license. That delays the time before a foreign company can examine technical data and speak at a technical level with a DoD customer for a potential or actual solicitation, thereby making them less competitive. Establishing releasability criteria at the outset to include appropriate NTIB-based companies, for example, could create opportunities for greater competition for DoD customers.

The recently passed FY2021 NDAA had a provision that directed the DoD to establish criteria for expanding the NTIB to include additional countries (NDAA, 2021). This clearly indicates congressional intent to increase NTIB countries, and there have been numerous countries seeking to be part of the NTIB. As part of establishing any criteria for expansion, the DoD should look at creating specific opportunities for strengthening the ability of NTIB-based companies to contribute to the U.S. defense industrial base.

An immediate opportunity for success is to create acquisition pathways for DoD projects and programs to employ NTIB-based companies that are able to provide leading edge technology and affordable solutions to emerging DoD requirements. A concrete way for the DoD to incentivize NTIB contributions to U.S. efforts to strengthen the defense industrial base, for example, would be to create opportunities for companies based in NTIB countries to compete for projects and programs by simply changing acquisition rules to incentivize DoD acquisition personnel to consider facilitating NTIB offerings at prime, subcontractor, and supplier levels. The DoD has started to do this to a modest degree. In a March 2019 memorandum to DoD acquisition officials, for example, then Acting Principal Director of Defense Pricing and Contracting Kim Herrington specifically recommended the "inclusion of" NTIB members in innovation-focused Other Transactions (OT) consortia (Herrington, 2019). Memos like this are useful to set the conditions for change, but the NTIB needs to be formalized through rule changes and DFARS clauses that can be deployed in solicitations and contracts. Once the rules are changed, education and training can help to expand opportunities for NTIB companies (McGinn, 2021).

This education need also extends to industry. One of the biggest failures of the previous U.S.–UK and U.S.–Australian defense trade cooperation treaties, for example, is the fact that the governments did not get industry engaged early enough to incentivize companies to use the treaties. These treaties, approved by the U.S. Senate in late 2010, were designed to create a "trusted community" of companies that could share technology and compete for opportunities in this trusted community (Directorate of Defense Trade Controls, 2010). Unfortunately, they never realized their potential, and while they have been used for government-to-government efforts, they have almost never been used by industry.

The NTIB provides an opportunity to do better, but the governments need to help create pathways where industry can see the potential business benefit. DoD and NTIB governments

can and should make the value proposition of NTIB clear to industry and then let the resulting business relationships grow and flourish. Industry will not always pursue these incentives, but there is 100% certainty that they will not pursue them in the absence of a clearly defined pathway to success.

Recommendations

- Conduct rule-making and establish DFARS clauses focused on facilitating NTIB participation and membership in opportunities such as OT consortia, DPA Title III, IBAS, and other appropriate programs.
- Educate the acquisition workforce on the use of NTIB clauses for use in programs across the DoD.
- Advertise these NTIB-inclusive opportunities to NTIB countries and trade associations to facilitate additional solutions to U.S. industrial base challenges.

DPA Title III

Current Use

The Defense Production Act (DPA) is a long-standing authority that derives from the Korean War. Passed in 1950 and drawing on the War Powers Acts of World War II, the DPA is a broad set of authorities to help the U.S. government strengthen the defense industrial base to respond to national emergencies. Title III of the DPA is focused specifically on the expansion of productive capacity and supply and utilizes grants, loans, loan guarantees, purchases, and purchase commitments to build industrial capacity (Cecire & Peters, 2020). The DoD has been delegated authority to execute Title III projects and has used this authority for decades to expand industrial capacity in areas such as the creation of a domestic beryllium production facility to complex forgings for naval propulsion shafts (Air Force Research Library, 2013; *Earmark Declaration*, 2009).

The COVID-19 pandemic response has put DPA Title III into overdrive. Where DPA annual appropriations fluctuated between $40 million and $100 million during the decade preceding the pandemic, $1 billion was appropriated for DPA Title III in the March 2020 CARES Act. The recently passed American Recovery Act dramatically upped the ante, appropriating $10 billion for current and future pandemic response that almost certainly will be allocated via DPA Title III (American Rescue Plan Act, 2021). The focus of these Title III projects is to increase domestic production capacity to reduce reliance on non-U.S. sources for items such as vaccine production, personal protective equipment (PPE), testing equipment, and so on. The primary focus is on reducing dependencies on Chinese sources, as COVID had exposed the dominant positions of China in areas such as PPE and antibiotics production (Bradsher & Alderman, 2020; Swanson, 2020).

Potential Future Uses

In efforts to reshore or onshore manufacturing capacity, one relatively unknown provision of the DPA defines the term *domestic source* as a business concern

> that performs in the United States or Canada substantially all of the research and development, engineering, manufacturing, and production activities required of such business concern under a contract with the United States relating to a critical component or a critical technology item. (Defense Production Act, 1950)

This permits Canadian firms to apply for DPA Title III grants and for Title III projects to be conducted in Canada as well. This is a legacy of long-standing U.S.–Canadian industrial base collaboration in the Cold War North American Aerospace Defense Command (NORAD) and NATIBO (Hunter et al., 2017). Given the geographic proximity and the expertise of Canadian

industry in areas such as mining and chemicals, this could significantly benefit the U.S. defense industrial base. If the DPA were amended to include other NTIB countries in the definition of domestic source, this would substantially expand the opportunities for firms in Australia and the UK to contribute to strengthening the U.S. industrial base.

Recommendations

- The DoD and Canada should promote the ability for Canadian-based firms to contribute to DPA Title III projects.
- The DoD should submit a legislative proposal to amend the DPA to include all NTIB countries to reflect the fact that they are already part of the U.S. industrial base and make their respective industrial capabilities available to strengthen that base.

Industrial Base Analysis and Sustainment Program

Current Use

The Industrial Base Analysis and Sustainment (IBAS) program was established in 2014 in the DoD to fund the mitigation of defense industrial base issues (Nelson, 2016). Defined in 10 U.S.C. § 2508 (Industrial Base Fund, 2011), IBAS has four principal functions:

(1) to support the monitoring and assessment of the industrial base … ;
(2) to address critical issues in the industrial base relating to urgent operational needs;
(3) to support efforts to expand the industrial base; and
(4) to address supply chain vulnerabilities. (Industrial Base Fund, 2011)

With a similar mandate to DPA Title III, IBAS conducts projects to build industrial capabilities to support DoD priorities. IBAS has both an open Broad Agency Announcement (BAA) and the Cornerstone OT Authority to support a broad range of industrial base requirements (Industrial Policy, n.d.-a). IBAS has ranged from $10 to $100 million in appropriations annually, depending on congressional adds, and has conducted a wide array of projects ranging from updating naval propulsion foundry and electron beam welding to munitions and missile improvements (Defense and Aerospace Competitive Intelligence Service, 2019).

Potential Future Uses

IBAS is an active program that will continue to receive funding for industrial base projects. IBAS does not have a clause in its BAA or OT like DPA Title III explicitly including Canadian or other non–U.S.-headquartered firms, but there is no explicit restriction either. Firms based or headquartered in allied or partner countries are currently eligible to join the Cornerstone OTA, where the majority of IBAS contract opportunities are posted, on a case-by-case basis. Designating NTIB countries as eligible for IBAS projects through a DFARS clause or by changing the DPA definition of domestic source would create a number of new eligible firms to help strengthen the U.S. defense industrial base.

Recommendations

- The DoD should consider creating and adding a DFARS clause to the IBAS BAA and Cornerstone OT making companies based in NTIB countries eligible to compete for IBAS opportunities to reflect the fact that they are already part of the U.S. industrial base.
- The DoD should advertise and encourage NTIB-based companies to join the Cornerstone OTA and to develop solutions to meet IBAS solicitations in the coming months.

Trusted Capital Management

Current Use

Trusted Capital Management (TCM) is one of the newest DoD efforts to strengthen the defense industrial base. After several previous aborted efforts, TCM formally launched in late 2020 with the creation of its digital marketplace. The overall objective of TCM is to reduce the vulnerability of high-technology start-ups funded by venture capital or private equity to funding from sources of adversarial capital, principally from China. Chinese technology priority areas in recent years have included many high-tech areas such as robotics, autonomy, and artificial intelligence. In addition to funding domestic sources of innovation in these areas, Chinese-based private equity and venture funds have invested in U.S.-based start-ups. Some of these investments have been shielded from easy discovery by start-ups. In response to some publicly revealed instances of adversarial investment, the DoD created TCM (Trusted Capital, n.d.).

TCM is intended to create a trusted clearinghouse for companies and investors to conduct business free of potential adversarial investment. This effort is still in its early stages, but approximately 50 venture capital firms and companies have been vetted, and additional firms are in the pipeline (McLeary, 2021).

Potential Future Uses

TCM was created first and foremost for U.S. companies and investors, but there has always been an appreciation for non-U.S. companies and investors in allied and partner countries given the global nature of investment and technology. To that end, TCM is open to venture capital (VC) funds and companies based in other countries as long as they go through the same vetting process of other firms in the trusted capital marketplace and are currently on a DoD contract.[2]

In addition, there is strong DoD interest in the development of TCM-like regimes in partner and allied countries or even in organizations such as the North Atlantic Treaty Organization (NATO). These could develop over time because U.S. allies are facing the same adversarial challenge of Chinese investments in their markets.

Recommendations

- The DoD should promote TCM to allied- or partner-based VC firms and companies focused on DoD business.
- The DoD and State should work with allied governments and NATO to establish TCM-like organizations in their respective countries or jurisdictions.

Conclusions

Allies and partners have long played a productive role in our defense acquisition system and have contributed to the U.S. defense industrial base. Given the common threat that we face in our respective supply chains, it is imperative to eliminate exposure to Chinese suppliers in critical national security areas. It makes little sense, however, to reshore all industrial capacity in a Buy America “Only” approach. Instead, we should focus first and foremost on those manufacturing areas where we are most vulnerable to China. In that effort, there are numerous manufacturing and resource areas where we can work with our close allies and partners to help achieve that common goal. From mining and chemicals to microelectronics and hypersonics,

2. The latter requirement can be challenging for many start-ups, however, because current Small Business Administration rules do not permit foreign firms to compete for early-stage opportunities such as Small Business Innovation Research funding.

government and industry partnerships are synergistic and mutually beneficial for parties involved.

The focus, therefore, should be on actions to foster true international industrial collaboration. That is done through actual participation in defense programs. Interestingly, there is a surprising amount of that happening right under our noses. Leonardo partnered with Boeing to win the Huey helicopter replacement program; Saab partnered with Boeing to win the Air Force T-X deal; SAIC partnered with Singapore's ST Engineering and Belgium's CMI Defence to prototype a light tank for the Army; Fincantieri Marinette Marine's won the Navy's Future Frigate program and the Army OMFV partnerships described above; and the list goes on and on (Judson, 2018). Not all of these partnerships have been or will be successful, but they create more competition for the DoD customer and lead to more industrial base resilience. And that, ultimately, is the goal.

We need to create opportunity spaces for companies to operate within groups of "trusted communities," to borrow a phrase from the treaties. The preceding has detailed how we have started to build these communities, but there is a long way to go. The NTIB is best postured to become one of those trusted communities. Whether NTIB companies are small or medium-sized enterprises operating exclusively in one of these countries or if they are subsidiaries of U.S.-headquartered primes, these companies are now part of *one* industrial base. The RDP MOU countries are a different trusted community, and we can build on these over time.

In sum, reframing acquisition processes and program to more effectively include partner and allied government and industry participation is ultimately a win-win proposition for all parties involved. Pursuing programs, initiatives, and recommendations like those described in this paper will help to provide a concrete foundation for the future of international industrial collaboration and will build industrial resilience we need to face the national security challenges of today and tomorrow.

Summary Table of Recommendations

Area	Recommendation
General	• The DoD should promote current DoD 5000 series processes for incorporating allied and partner companies' technologies and systems into DoD programs.
	• The DoD should improve the ability of acquisition professionals to develop requirements documents that facilitate the early involvement of allied and partner companies in DoD programs (e.g., avoid citing classified, U.S.-only documents in either informal or formal requests for information or solicitations where possible).
	• The DoD should facilitate communications between U.S. subsidiary firms performing on DoD contracts and their parent foreign firms in areas of engineering with direct impact on the conduct of the system being developed or fielded (e.g., working with U.S. government export control organizations to authorize appropriate engineer-to-engineer engagement throughout the program life cycle).
	• The DoD should reexamine its approach to ICPs to identify different types of cooperative opportunities leading to a new generation of programs in the coming years.

Area	Recommendation
RDP MOUs	• The administration would be well served to formally articulate their support for RDP MOUs as part of their emphasis to strengthen relationships with allies and partners.
	• The DoD or Congress should request an analysis of the impact of RDP MOU countries' contributions to the U.S. defense industrial base through participation in DoD programs *and* the purchase of U.S. defense systems through foreign military or direct commercial sales.
	• The DoD should work to increase awareness of and educate acquisition professionals across the services about the Buy America exemption for RDP MOU countries and the Canadian DPSA DFARS clause to help spur additional competition and innovative solutions in the U.S. defense industrial base.
SoSAs	• The DoD should conduct a review of SoSAs with partner countries to determine the future of SoSAs, specifically how these (and any future) arrangements could be adapted to make them more relevant for today's global industrial security challenges.
NTIB	• Conduct rule making and establish DFARS clauses focused on facilitating NTIB participation in solicitations for industrial base opportunities such as DPA Title III, IBAS, and other appropriate programs.
	• Educate the acquisition workforce on the use of NTIB clauses for use in programs across the DoD.
	• Advertise these NTIB-inclusive opportunities to NTIB countries and trade associations to facilitate additional solutions to U.S. industrial base challenges.
DPA Title III	• The DoD and Canada should promote the ability for Canadian-based firms to contribute to DPA Title III projects.
	• The DoD should submit a legislative proposal to amend the DPA to include all NTIB countries to reflect the fact that they are already part of the U.S. industrial base and make their respective industrial capabilities available to strengthen that base.
IBAS	• Conduct rule-making and establish DFARS clauses focused on facilitating NTIB participation and membership in opportunities such as OT consortia, DPA Title III, IBAS, and other appropriate programs.
	• The DoD should advertise and encourage NTIB-based companies to join the Cornerstone OTA and to develop solutions to meet IBAS solicitations in the coming months.
TCM	• The DoD should promote TCM to allied- or partner-based VC firms and companies focused on DoD business.
	• The DoD and the Department of State should work with allied governments and NATO to establish TCM-like organizations in their respective jurisdictions.

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