

SYM-AM-23-090



EXCERPT FROM THE
PROCEEDINGS
OF THE
TWENTIETH ANNUAL
ACQUISITION RESEARCH SYMPOSIUM

**Acquisition Research:
Creating Synergy for Informed Change**

May 10–11, 2023

Published: April 30, 2023

Approved for public release; distribution is unlimited.

Prepared for the Naval Postgraduate School, Monterey, CA 93943.

Disclaimer: The views represented in this report are those of the author and do not reflect the official policy position of the Navy, the Department of Defense, or the federal government.



ACQUISITION RESEARCH PROGRAM
DEPARTMENT OF DEFENSE MANAGEMENT
NAVAL POSTGRADUATE SCHOOL

The research presented in this report was supported by the Acquisition Research Program at the Naval Postgraduate School.

To request defense acquisition research, to become a research sponsor, or to print additional copies of reports, please contact any of the staff listed on the Acquisition Research Program website (www.acquisitionresearch.net).



ACQUISITION RESEARCH PROGRAM
DEPARTMENT OF DEFENSE MANAGEMENT
NAVAL POSTGRADUATE SCHOOL

Defense Acquisitions: DOD Should Take Additional Actions to Improve How It Approaches Intellectual Property

Timothy J. DiNapoli—is a managing director at the U.S. Government Accountability Office. [dinapolit@gao.gov]

Nathan Tranquilli—is an assistant director at the U.S. Government Accountability Office. [tranquillin@gao.gov]

Holly Williams—is a senior analyst at the U.S. Government Accountability Office. [williamshn@gao.gov]

Abstract

The Department of Defense (DOD) acquires and licenses intellectual property (IP) for its cutting-edge weapon systems. Yet, the DOD often does not acquire the IP it needs to operate and maintain those systems, which can lead to surging costs later. In 2019, the DOD assigned specific IP responsibilities to organizations within the department. However, we found the DOD had not fully addressed how the IP Cadre—the DOD's new group of specialized experts—will fulfill all of its responsibilities. The IP Cadre faced uncertainty in three areas: (1) The DOD planned to provide the director of the IP Cadre and his team in the Office of the Secretary of Defense (OSD) with funding for five positions through Fiscal Year 2023. IP Cadre members told us the temporary positions could present future staffing obstacles. (2) The members of the IP Cadre at the OSD expect to tap into a larger pool of IP experts across the DOD. However, the DOD had not detailed how the OSD team will work with these experts. (3) DOD officials said the department lacked sufficient expertise in two key areas—IP valuation and financial analysis. We made four recommendations to the DOD. The DOD concurred with all four recommendations. Our original report is accessible at www.gao.gov/products/gao-22-104752.

Keywords: Department of Defense, intellectual property, IP Cadre





Methodology

In this report, we (1) examine issues addressed in the Department of Defense's (DOD's) intellectual property (IP) instruction, (2) examine the extent to which the DOD has implemented the IP instruction, (3) assess the Defense Acquisition University's (DAU's) efforts to improve IP training, and (4) describe the DOD's efforts to develop a capability to track the IP the department has acquired and licensed. We reviewed guidance, reports, and documentation on IP issues; interviewed DOD personnel, military officials, and industry groups; and reviewed the existing regulatory and agency frameworks related to IP.

Background

Companies protect their IP in several ways, including through the use of patents, trademarks, copyrights, and trade secrets. See Figure 1 for more details on these types of IP categories.



			
<p align="center">Patents</p> <p>Provide exclusive rights to make, use, import, sell, and offer for sale an invention for up to 20 years</p>	<p align="center">Trademarks</p> <p>Protect words, names, symbols, sounds, or colors that distinguish goods and services</p>	<p align="center">Copyrights</p> <p>Protect works of authorship, such as software, writings, music, and works of art that have been tangibly expressed</p>	<p align="center">Trade secrets</p> <p>Protect information that companies keep secret to give them an advantage over their competitors</p>

Note. The source of the data is Government Accountability Office (GAO) analysis of U.S. Patent and Trademark Office guidance. See GAO (2021c) for the original figure.

Figure 1. Types of Intellectual Property

Congress has enacted several laws related to IP over the past several decades.¹ For example, in 1980, Congress passed the Patent and Trademark Law Amendments Act, which addressed patent rights in inventions made with federal assistance. The act addressed the rights of small businesses, universities, and other nonprofit organizations and generally gave them the right to retain title to subject inventions, provided they adhered to certain requirements. A subject invention was defined as any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement. In 1983, an executive order stated that it granted to all contractors, regardless of size, the title to patents made in whole or in part with federal funds (Reagan, 1983). The following year, Congress passed the Defense Procurement Reform Act, which required that regulations address rights in technical data, including procedures to validate any proprietary data restrictions asserted by contractors.

The Federal Acquisition Regulation (FAR) and Defense Federal Acquisition Regulation Supplement (DFARS) implement these laws and provide the basic regulatory framework governing how the DOD may license and acquire contractor IP.² For example, these regulations describe how the government may obtain technical data rights and licenses to computer software.³ In general, using another entity’s IP requires permission, and the government typically uses licenses to obtain permission and define the scope of its rights to use a particular contractor’s IP. The federal government also obtains data rights when the development of IP was funded by the government—in whole or in part—and the types of data rights obtained by the government generally depend on how the IP was developed and funded.⁴ Federal acquisition regulations established data rights, organized in three categories in Figure 2.⁵

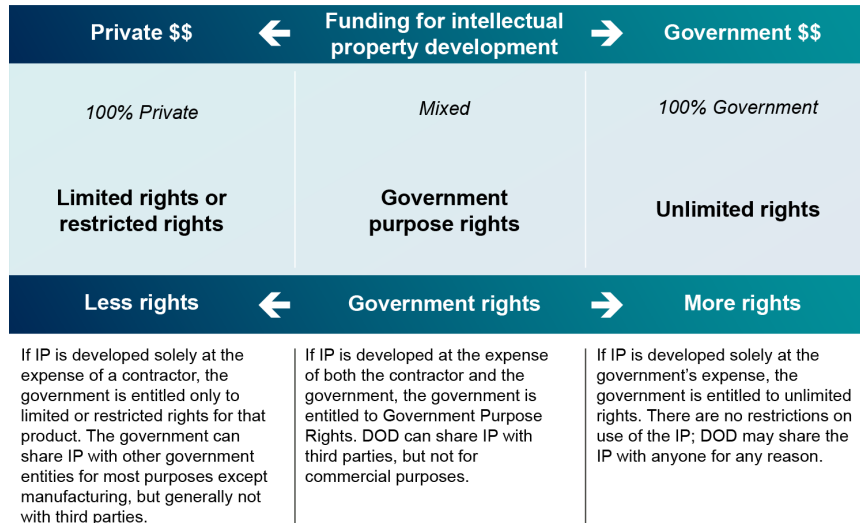
¹ In this report, we use the definition of intellectual property from DOD (2019): information, products, or services that are protected by law as intangible property, including data (e.g., technical data and computer software), technical know-how, inventions, creative works of expression, and trade names.

² For example, see 10 U.S.C. §§ 2320 & 2321; DFARS § 252.227.71 (Rights in Technical Data); DFARS § 252.227.72 (Rights in Computer Software and Computer Software Documentation); and DFARS 252.227-7013, -7014, -7015, -7017, -7018, -7019, -7026, -7027, -7030, and -7037.

³ Technical data includes any recorded information of a scientific or technical nature such as product design or maintenance data and computer software documentation. Computer software includes executable code, source code, code listings, design details, processes, flow charts, and related materials. See DFARS 252.227-7013, -7014.

⁴ Data rights are also determined by whether the item, process, or software is commercial or noncommercial, and the purpose of the data in question.

⁵ The government obtains technical data and license rights to use IP assets in accordance with the FAR, agency supplements to the FAR, and any specifically negotiated licenses in the contract. These rights control how the government can use, disclose, or reproduce contractor-owned information.



Note. The source of the data is GAO analysis of DOD documentation. The table does not represent every license right available to the DOD within federal acquisition regulations. "Limited rights" refer to those rights in technical data, and "restricted rights" refer to those rights in noncommercial software. See GAO (2021c) for the original figure.

Figure 2. Types of License Rights for Intellectual Property

Regardless of the source of funding used for IP development, the government obtains unlimited rights to form, fit, and function data and data necessary for operation, maintenance, installation, and training purposes. Not included within those exceptions are detailed manufacturing or process data (DMPD), including the steps, sequences, and assembly used by manufacturers to produce an item.

Recent Congressional Action to Improve How the DOD Acquires and Manages IP

In recent years, Congress included numerous requirements in national defense authorization acts (NDAA) for the DOD to assess and improve how it acquires and manages IP, including technical data needed to manufacture equipment or systems. For example, the National Defense Authorization Act for Fiscal Year 2016 directed the DOD to establish an advisory panel of industry and government experts—known as the 813 Panel—to provide recommendations to help ensure that statutory and related regulatory requirements pertaining to technical data were structured to best serve the interests of taxpayers and the national defense. Among other things, the 813 Panel found that two-thirds of system life-cycle costs typically occur in a system's sustainment phase; thus, it is critical for federal agencies to identify the necessary IP and licenses during source selection to thoroughly assess proposals during competition. We similarly reported that a weapon system's operating and support costs account for approximately 70% of a weapon system's total life-cycle cost (GAO, 2018).

The Fiscal Year 2016 NDAA also directed the DOD to commission an independent review of its regulations and practices addressing the use of IP rights of private sector firms, among other things. In a May 2017 report to Congress, the Institute for Defense Analyses (2017) found that there are often only two or three capable suppliers for key DOD systems, and that providers have a great deal of leverage in IP negotiations once a selection is made. The report stated that, given the long-term value of these contracts, contractors sometimes bid low under the assumption that they will secure profitable sustainment opportunities in the future. Figure 3 includes details of IP-related provisions from recent NDAs and actions taken to address them.



	Selected requirements	Outcomes
NDAAs FY 2016 Public Law 114-92	Section 813: Required DOD to establish a government-industry panel to review 10 U.S.C. §§ 2320 and 2321 regarding rights in technical data.	Section 813: Section 813 panel submitted its report to Congress in November 2018.
	Section 821: Amended Title 10 by adding § 2431a, requiring acquisition strategies to include IP for major defense acquisition programs, major automated information systems, and major systems.	Section 821: Implemented in the DOD 5000 series guidance.
	Section 875: Directed DOD to conduct an independent review and provide a report on its regulations, practices, and sustainment requirements related to government access and use of private sector IP, among other things.	Section 875: Institute for Defense Analyses conducted an independent review, and issued its report in May 2017.
NDAAs FY 2017 Public Law 114-328	Section 809: Amended 10 U.S.C. § 2320 regarding technical data rights relating to interfaces, including major systems interfaces, when funded with private or mixed funding.	Section 809: Statutory amendments currently being implemented by several open Defense Federal Acquisition Regulation Supplement cases.
	Section 844: Directed DOD to review decisions regarding IP requirements for major defense acquisition programs.	Section 844: MITRE Corporation issued a report in November 2017.
NDAAs FY 2018 Public Law 115-91	Section 802: Amended Title 10 by adding § 2322, which directed DOD to develop policy on the acquisition or licensing of IP, and to establish the IP Cadre.	Section 802: DOD Instruction 5010.44 was issued in October 2019, and DOD subsequently established the IP Cadre.
NDAAs FY 2020 Public Law 116-92	Section 801: Authorized DOD to conduct a 3-year pilot program to assess mechanisms to evaluate IP.	Section 801: Pilot began and DOD issued the first of three reports to Congress in March 2021.
	Section 838: Amended FY18 NDAA § 802, and directed DOD to submit a report that describes the leadership structure of the IP Cadre and the activities and efforts undertaken by the IP Cadre.	Section 838: DOD issued its report in April 2020.
NDAAs FY 2021 Public Law 116-283	Section 801: Directed each service acquisition executive to report to Office of the Secretary of Defense leadership on how it is addressing operation and sustainment risks associated with access to IP.	Section 801: DOD issued its report in August 2021.
	Section 802: Amended 10 U.S.C. § 2337 to require each applicable system has an approved life-cycle sustainment plan that includes IP.	Section 802: DOD is updating its guidance.
	Section 804: Amended 10 U.S.C. § 2320 regarding the type of technical data rights the government will acquire pertaining to modular system interfaces developed either exclusively at private expense or with mixed funding.	Section 804: DOD is updating its guidance and regulations.

DOD = Department of Defense IP = Intellectual property OSD = Office of the Secretary of Defense
FY = Fiscal year NDAA = National Defense Authorization Act USC = United States Code

Note. The source of the data is GAO analysis of the NDAAs for Fiscal Years 2016–21. See GAO (2021c) for the original figure.

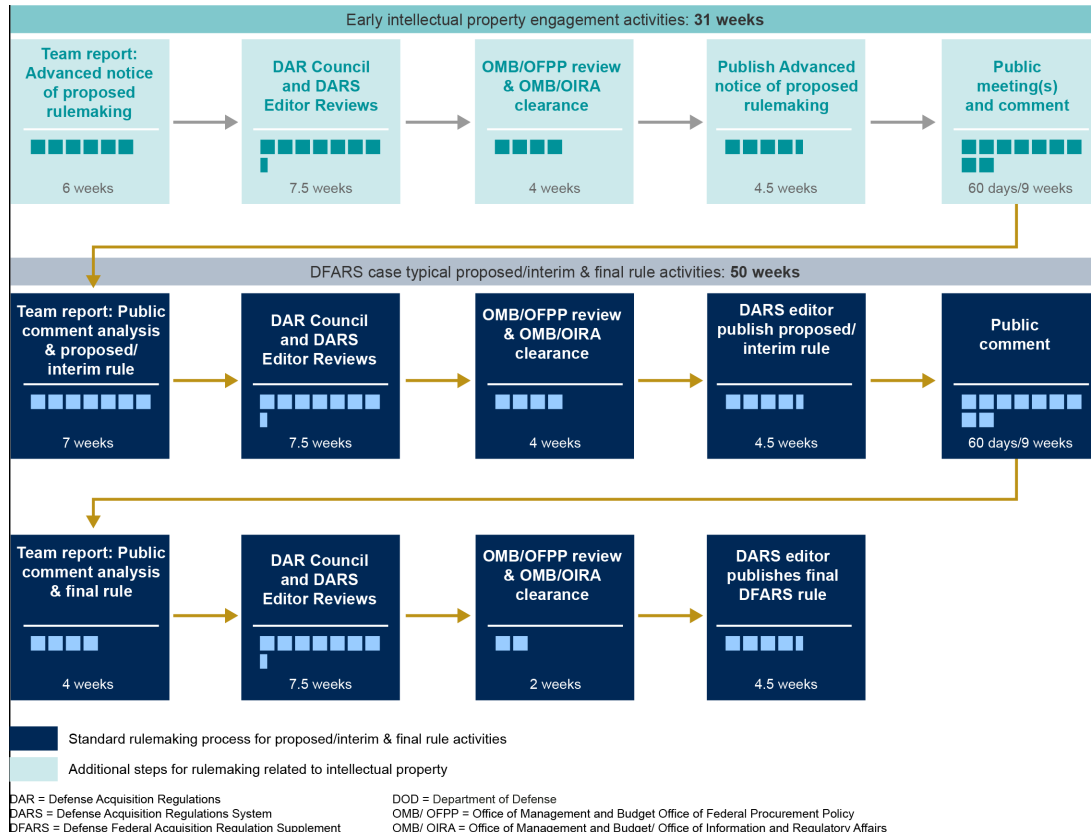
Figure 3. Summaries of Key IP-Related NDAA Provisions from Fiscal Years 2016–2021

NDAAs provisions, including those related to IP, can result in changes to federal or agency acquisition regulations. Regulatory changes to the FAR and DFARS occur through the federal rulemaking process, which includes opportunities for private sector representatives to provide input on how regulations should be updated. The DOD has a dedicated team—the Patents, Data, and Copyrights Team, chaired by the Director of the IP Cadre—that oversees regulatory changes involving IP in the DFARS. That team is currently working on eight proposed regulatory changes related to IP—based mostly on NDAA direction—including changes involving specially negotiated licenses and small business data.⁶

⁶ A specially negotiated license is required when the standard data rights arrangements defined in the FAR, DFARS, or by a commercial entity are modified by mutual agreement between a contractor and the government.



We previously reported that regulatory changes involving complex topics like IP often take longer than the DOD's standard 12-month process (GAO, 2019). The DOD extended the time frames of the process to make the DFARS changes recommended by the Section 813 Panel to provide industry and the public additional opportunities to provide input early in the process. See Figure 4, which illustrates the extended rulemaking timeline.



Note. The source of the data is GAO analysis of DOD documentation. The extended process applies to DFARS changes recommended by an advisory panel of industry and government experts that the DOD established in response to the NDAA for Fiscal Year 2016. This panel is commonly known as the 813 Panel. See GAO (2021c) for the original figure.

Figure 4. DOD's Extended Rulemaking Timeline for Selected Regulatory Changes Involving Intellectual Property (IP)

Prior GAO Reporting

Over the past 30 years, we have reported on the complexities of acquiring IP and associated rights—particularly technical data—for weapon systems (GAO, 1991, 2002, 2006, 2010, 2011). When IP rights are not acquired—because, for example, needs were not assessed—consequences may include sustainment cost growth, maintenance challenges, and the inability to competitively purchase follow-on systems and spare parts. We found that the military departments have experienced each of these consequences due to a lack of technical data or data rights. For example,

- In July 2006, we reported that a lack of technical data rights for several Army weapons systems disrupted sustainment plans intended to achieve cost savings and meet legislative requirements for depot maintenance capabilities (GAO, 2006). For example, when acquiring the Stryker family of vehicles, the Army did not obtain technical data rights needed to develop competitive offers for the acquisition of spare parts and components. Following the initial acquisition, the program analyzed



alternatives to the contractor's support strategy and attempted to acquire rights to the manufacturer's technical data package, which describes the parts and equipment in sufficient technical detail to allow the Army to use competition to lower the cost of parts. The contractor declined to sell the Stryker's technical data package to the Army. According to an Army Audit Agency report, the project office stated that the cost of the technical data, even if available, would most likely be prohibitively expensive at that point in the Stryker's fielding, offsetting any cost savings resulting from competition.

- In September 2014, we reported that the F-35 program did not acquire technical data needed to compete a subsequent award of the F-35 or its subsystems under its previously awarded system development contract (GAO, 2014). We also reported that program officials did not have an understanding of the technical data rights the DOD owned, what technical data rights it might still need, or how much it would cost to acquire those data rights to support the future sustainment of F-35 aircraft. We recommended that the F-35 program should, among other things, develop a long-term IP strategy that identifies (1) current levels of technical data rights ownership by the federal government, and (2) all critical technical data rights and their associated costs. The DOD concurred with the recommendation and stated that the program planned to address these technical data rights issues as part of the program's future sustainment strategy. However, in July 2021, we found that the F-35 program still does not have a comprehensive understanding of the technical data rights it currently owns, what technical data rights it may still need, or how much it will cost to acquire data needed to support F-35 sustainment (GAO, 2021a, 2021b).
- In March 2020, we found that a lack of technical data contributed to sustainment problems for several Navy ship programs, and that focusing on sustainment earlier in the acquisition process could save billions of dollars (GAO, 2020).
- Navy officials stated they did not have a clear understanding of all the IP needed until ship systems broke and Navy maintainers could not repair the systems with the IP available to them. Navy ship maintainers told us that once a ship is delivered it is often too late to implement strategies or agreements with manufacturers to get the IP needed to fully sustain the ship systems at an affordable price. We made several recommendations to the Navy, including that the Assistant Secretary of the Navy for Research, Development, and Acquisition should ensure that all shipbuilding programs develop and update life-cycle sustainment plans, in accordance with DOD policy, to demonstrate how they will affordably operate and maintain ship classes during sustainment. According to the DOD's acquisition policy in place at the time of our review, shipbuilding programs should document IP strategies early in acquisition planning to assess technical data needs and to determine what IP deliverables and license rights the program must acquire from contractors (DOD, 2013, 2018). The Navy agreed with this recommendation but has not addressed it yet.

DOD's IP Instruction Highlights Six Core Principles but Does Not Address DOD's Ability to Obtain Detailed Manufacturing or Process Data

The DOD integrated existing IP guidance and requirements, highlighted six core principles, and set a department-wide expectation for DOD personnel to prioritize IP planning early in the acquisition life cycle in its 2019 IP instruction (DOD, 2019). According to military officials, the IP instruction is helpful for setting expectations, but it does not address the DOD's ability to pursue DMPD, which the department often needs to repair and competitively re-procure its weapons systems.



DOD's IP Instruction Integrated Existing IP Guidance and Requirements and Highlighted Six Core Principles

In developing the IP instruction, the Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSD [A&S]) integrated existing requirements from prior DOD guidance into a single document. The IP instruction applies specifically to IP that is acquired, created by or for, or used by or on behalf of the DOD for purposes relating to the acquisition, operation, maintenance, modernization, and sustainment of defense products and services.⁷ Prior requirements included the DOD's 5000 series acquisition guidance and the DOD Open Systems Architecture–Data Rights Team *IP Strategy Guidance* (DOD, 2013; Open Systems Architecture-Data Rights Team, 2014). These earlier documents, for example, require program managers to establish and maintain an IP strategy as part of their acquisition planning, and to identify and manage IP-related issues throughout the program's life cycle.

The IP instruction also presented six core principles that are rooted in laws, regulations, and earlier DOD guidance:

1. Integrate IP planning fully into acquisition strategies to account for long-term effects on competition and affordability.
2. Ensure acquisition professionals have relevant IP knowledge for their official duties to support critical, cross-functional coordination during IP acquisition planning.
3. Negotiate specialized IP deliverables and associated license rights when doing so more effectively balances DOD and industry interests than standard license rights.
4. Communicate clearly and effectively with industry regarding IP expectations and sustainment objectives.
5. Respect and protect IP funded by both the private sector and the government.
6. The government must ensure delivery of IP deliverables and corresponding licenses.

The IP instruction further identified roles and responsibilities for key DOD organizations and important elements of IP strategies, such as identifying system interfaces and considering use of specially negotiated licenses and modular open systems approaches. It also emphasized a department-wide expectation that DOD personnel should prioritize IP planning early—specifically during the initial phases of the acquisition life cycle—when DOD has the most leverage to obtain the IP rights it needs at a fair and reasonable price through competition.

To develop the IP instruction, OUSD (A&S) indicated that it solicited input from relevant DOD offices, including acquisition and sustainment offices from each of the military departments. OUSD (A&S) also established an IP working group that reviewed and implemented stakeholder comments and considered industry input obtained during the proceedings of the 813 Panel. The working group consisted of a cross-functional team with experts on requirements, acquisition, sustainment, research and development, engineering, and training from OSD, the military departments, and other DOD components.

DOD's IP Instruction and Department-Wide Guidance Do Not Directly Address DOD's Ability to Acquire Detailed Manufacturing or Process Data

While the IP instruction emphasizes the importance of acquiring and licensing IP early in the acquisition process, officials from the IP Cadre and military departments stated that the instruction and department-wide guidance do not address the DOD's ability to

⁷ DOD Instruction 5010.44 does not apply to patent licensing or other technology transfer of U.S. government-owned IP or technology covered by DOD Directive 5535.03 and DOD Instruction 5535.8, or branding and trademark licensing by DOD components covered by DOD Directive 5535.09 and DOD Instruction 5535.12.



acquire DMPD. According to these officials, some DOD personnel believe that the current regulations prevent them from requesting DMPD the department often needs for sustainment activities. However, IP Cadre officials told us that DOD personnel are, in fact, allowed to request these data. IP Cadre officials told us that the misunderstanding hinders cost-effective re-procurement and sustainment of DOD systems.

The 813 Panel report and IP Cadre officials attributed this misunderstanding, in part, to tensions in the regulatory framework governing IP. In June 1995, the DOD issued DFARS sections that implement two parts of the *U.S. Code* related to the acquisition of DMPD.⁸ IP Cadre officials told us that the first DFARS section establishes that the DOD *cannot condition a contract award* on a vendor granting rights to DMPD, which they said may discourage DOD personnel from requesting it. According to the same officials, the second section, however, emphasizes what actions the DOD may take to acquire DMPD. Members of the IP Cadre told us that the DOD *can consider the effects* of acquiring rights to DMPD during source selections, and that these considerations are a more effective negotiation tool in a competitive environment. This position is consistent with findings from the 813 Panel. The panel reported that vendors' data deliverables and associated licenses should be considered during source selection, and that the DOD would not be forcing vendors to give up any license rights in violation of statute by asking that IP costs be included in the proposal (National Defense Industry Association, 2018).

The 813 Panel further found that the DOD's past source selections often did not include an evaluation factor for IP, particularly technical data and associated license rights. As a result, the DOD did not evaluate the value of IP during proposal evaluation. IP Cadre officials told us they want DOD personnel to be equally familiar with both DFARS sections and to use a balanced approach when considering the acquisition of DMPD. IP Cadre officials also want DOD personnel to evaluate the cost of requested IP deliverables and license rights during source selection in the ways that the regulations permit. However, the 2019 IP instruction does not reference either DFARS section or clarify the DOD's ability to acquire DMPD.⁹

IP Cadre officials told us the instruction does not address DMPD because DOD instructions generally do not address specific, individual challenges. They said that other types of guidance often address these types of challenges. However, we found that the DOD's current department-wide guidebook for acquiring IP rights from commercial companies also does not address how DOD officials can consider the effects of acquiring rights to DMPD during source selections (Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, 2001). In an April 2020 report to Congress, the DOD identified that it plans to publish a new department-wide IP guidebook intended to explain IP-related regulations and policies (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2020). However, the report did not identify whether the guidebook will address how government personnel may pursue DMPD during source selections. Members of the IP Cadre told us that they expect the DOD will publish the guidebook in the first quarter of Fiscal Year 2022 and that they believe it should address common misunderstandings related to DMPD.

⁸ See DFARS § 227.7103-1(c) and § 227.7103-10(a)(5) implementing 10 U.S.C. §§2320, 2321. Congress provided limited exceptions for technical data, allowing for unlimited government rights in "form, fit, and function" data and technical data necessary for "installation, operation, maintenance, or training" purposes. See 10 U.S.C. § 2320(a)(2)(A)(i). However, Congress excluded contractors' protected manufacturing data, known as "detailed manufacturing or process data." See 10 U.S.C. § 2320 (a)(2)(C)(ii).

⁹ We found that a 2015 Army guide cites both DFARS sections and clarifies that, while government personnel cannot require additional data rights from vendors, they can evaluate the effect of offered rights for technical data and computer software. However, this guidance has limited visibility across DOD. See U.S. Army Product Data & Engineering Working Group, 2015.



Standards for Internal Control in the Federal Government state that management should internally communicate information necessary to achieve objectives. In developing the next iteration of its guidebook, DOD leadership, specifically the Under Secretary of Defense for Acquisition and Sustainment, has an opportunity to clarify how DOD personnel should account for the two DFARS sections addressing DMPD and, ultimately, improve the re-procurement and sustainment of DOD systems.

DOD Is Taking Steps to Implement the IP Instruction but Has Not Fully Identified How the IP Cadre Will Meet Its Assigned Responsibilities

The DOD’s IP instruction assigns specific responsibilities to several organizations within the department, including the DOD’s Office of General Counsel, DAU, the military departments, and the DOD’s new IP Cadre. We found that, while these organizations are working to meet their responsibilities, the DOD has not yet determined how the IP Cadre will fulfill all of its assigned responsibilities. In particular, the DOD has not ascertained whether the IP Cadre, whether by itself or in coordination with other entities within the DOD, has the capacity to conduct IP valuation or provide program support. Additionally, the DOD has not determined how the IP Cadre will be funded and staffed in the future.

Organizations Identified in DOD’s IP Instruction Are Taking Steps to Meet Their Responsibilities

The DOD’s IP instruction identifies specific responsibilities for the Assistant Secretary of Defense for Acquisition, the DOD’s Office of General Counsel, and the president of DAU. Our review of documentation provided by the DOD and interviews with cognizant DOD officials found that these organizations are taking various actions to meet their responsibilities. See Table 1.

Table 1. Actions Taken to Address Key Responsibilities Established in DOD’s IP Instruction

DOD official/office	Responsibilities	Examples of actions taken
Assistant Secretary of Defense for Acquisition (ASD[A])	Serve as senior DOD official overseeing development and implementation of DOD IP policy and guidance Manage a cadre of experts (IP Cadre) in IP acquisition and licensing Coordinate the IP Cadre’s development and activities	ASD(A) appointed a Director of the IP Cadre, with responsibility for department-wide implementation of DOD IP policy and guidance. ASD(A) also established a support team under the Director of the IP Cadre, consisting of four temporary government positions and eight support contractors.
Office of General Counsel	Provide legal advice and services in support of DOD’s IP instruction and in support of the IP Cadre	DOD General Counsel assigned a staff member to the team supporting the Director of the IP Cadre, as Associate General Counsel for IP, to advise and support IP acquisition, licensing, and management.
President of Defense Acquisition University (DAU)	Develop and update curricula and reference materials (in coordination with the IP Cadre) Provide IP training Continuously improve and tailor IP training	DAU collaborated with the IP Cadre to develop new IP training and update existing IP training. In addition, DAU <ul style="list-style-type: none"> finalized a 5-year strategic plan for IP training; established an IP Community of Practice web portal; and established a foundational IP credential using DAU’s online IP courses.

Note. The sources of these data are GAO analysis of DOD Instruction 5010.44, DOD responses to a structured checklist, and related documentation.



Additionally, the DOD’s IP instruction identifies several specific responsibilities for the military departments, such as incorporating IP planning into acquisition strategies and source selections. DOD officials told us that the military departments are leveraging DOD and component-specific guidance to consider IP factors during source selections and to incorporate IP planning into their acquisition strategies, among other things. Table 2 provides examples of actions the military departments have taken to meet requirements from the IP instruction, according to DOD officials and our review of documentation provided by the DOD and the military departments.

Table 2. Examples of How Military Departments Are Addressing Responsibilities Established in DOD’s IP Instruction

Responsibilities from IP instruction	Air Force approach	Army approach	Navy approach
Ensure program personnel engaged in all stages of the acquisition life cycle have relevant knowledge of IP matters, as appropriate.	Air Force established component-specific IP guidance that sets an expectation for personnel at all stages of the acquisition life cycle to be familiar with relevant IP policy and guidance.	Army established component-specific IP guidance that directs staff at all stages of the acquisition life cycle to follow best practices for negotiating customized IP agreements with industry.	The Navy follows DOD guidance and component-specific acquisition guidance for program reviews and acquisition strategy approval processes to ensure that relevant personnel consider and use appropriate IP techniques and practices.
Incorporate consideration of types of IP deliverables and associated license rights into source selection evaluation factors and as negotiation objectives in sole-source awards, as appropriate.	Air Force IP guidance identifies IP as a source selection evaluation factor and directs contracting personnel and program officials to review and validate contractors’ restrictive assertions, when appropriate.	Army IP guidance directs staff to identify the types of IP and license rights needed and to consider including availability and delivery of identified data and rights as a source selection evaluation factor.	Navy open architecture guidance directs personnel to consider IP deliverables as part of proposal evaluation and for source selection.
Incorporate IP planning elements into acquisition strategies, emphasizing long-term analysis and planning during the earliest phases of the program, and preserving flexibility in the program sustainment strategy.	Air Force IP guidance addresses early IP planning, involving cost and benefits analysis, and the Air Force uses tools such as checklists and approval processes to ensure that proper IP planning has occurred.	Army guidance establishes that acquisition strategies should include IP strategies and notes that they should be developed as early as possible and continuously updated to reflect evolving conditions and needs over a system’s life cycle.	Navy uses the DOD’s Adaptive Acquisition Framework policy—and is in the process of updating its own acquisition guidance—to direct acquisition personnel to include a technical data plan in a program’s IP strategy.
Communicate clearly and effectively with industry on IP matters early in the program life cycle.	Air Force IP guidance directs personnel to communicate IP needs and strategies to vendors and to use tools such as checklists to ensure IP matters are considered when communicating with vendors.	Army guidance states that Army personnel should communicate with industry early in the acquisition process and share appropriate information from IP strategies.	Navy follows the DOD’s acquisition planning procedures, which require program offices to document their IP goals; Navy commands also have practices for sharing IP goals with vendors via industry days and draft solicitations.

Note. The sources of these data are GAO analysis of DOD Instruction 5010.44, DOD responses to a structured checklist, and related documentation including *Air Force Data Rights Guidebook* and Army Directive 2018-26.



DOD Has Not Identified Strategies or Resources for the IP Cadre to Fully Meet Its Assigned Responsibilities

The DOD's IP instruction identifies several responsibilities for the IP Cadre that involve strategic activities and providing program support. See Table 3.

Table 3. IP Cadre Responsibilities in DOD's IP instruction

Type of responsibilities	Responsibilities
Strategic activities	Interpret and provide counsel on laws, regulations, and policies relating to IP
	Coordinate with DAU, academia, and industry to improve IP training
	Facilitate coordination and consistency across the DOD for determining the IP deliverables and rights necessary for operation, maintenance, modernization, and sustainment
Program support	Advise and assist acquisition programs with the development of acquisition, product support, and IP strategies
	Conduct or assist acquisition programs with financial analysis and valuation of IP
	Assist acquisition programs in drafting solicitations, contracts, or other transactions
	Address management of IP deliverables and IP rights to create a competitive environment
	Assist program interactions with contractors, including negotiations on solicitations and awards
	Conduct or assist acquisition programs with mediation if technical data are not delivered or do not meet contract terms

Note. The source of these data is GAO analysis of DOD Instruction 5010.44.

In addition to the responsibilities identified in Table 3, the DOD's IP instruction directs the ASD(A) to ensure that the IP Cadre is adequately staffed to provide seven areas of expertise:

1. Acquisition,
2. Contracting,
3. Engineering,
4. Law,
5. Logistics,
6. Financial analysis, and
7. Valuation.

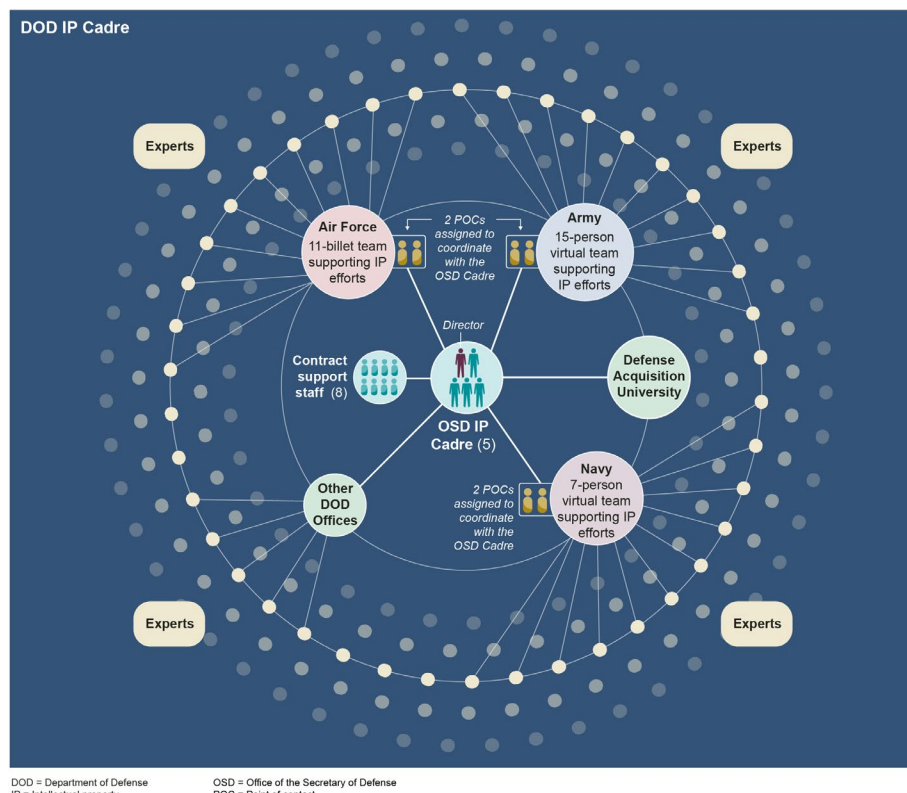
The DOD has provided some information on its strategy for the IP Cadre to meet its responsibilities in two reports to Congress (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2020, 2021). For example, these reports identify certain planned activities and provide information about the IP Cadre's existing areas of expertise. However, the DOD has not yet detailed

- how the IP Cadre will provide program support,
- how the IP Cadre will provide two key areas of expertise, and
- future funding and staffing needs for the IP Cadre.



Program Support

The IP instruction assigns the IP Cadre responsibility for providing support to programs, such as assisting with the development of acquisition planning and product support planning. The IP Cadre director told us that the IP Cadre will work to meet this responsibility through the federated structure described in the two reports to Congress. Specifically, in April 2020 and March 2021, the DOD described the IP Cadre’s organizational structure as a federated model that involves two cadres: the five-billet OSD IP Cadre situated in OUSD (A&S), which is part of a larger, less clearly defined network of DOD IP experts that span the entire department (Office of the Under Secretary of Defense for Acquisition and Sustainment, 2020, 2021). According to DOD officials, from October 2019 to September 2021, the DOD primarily focused on establishing the OSD IP Cadre. Figure 5 presents the IP Cadre’s proposed federated structure, including the OSD IP Cadre’s central role, contracted support staff, DAU, and dedicated points of contact at the military departments.



Note. The source of this figure is GAO analysis of DOD documentation. In addition to the IP Cadre, DAU coordinates with military departments, industry, academia, and the public on its intellectual property training and learning materials. See GAO (2021c) for the original figure.

Figure 5. Proposed Federated Structure for DOD’s IP Cadre

Under this approach, the five OSD IP Cadre members expect to tap into a much larger pool of IP experts from among the thousands of personnel that make up the DOD’s acquisition workforce. Members of the OSD IP Cadre expect that the members of the larger DOD IP Cadre will provide many of the program-support functions identified in the IP instruction and that these personnel will contribute in that capacity in addition to their current responsibilities. The IP Cadre director said that this approach maximizes DOD resources, allowing the five-person team to leverage its expertise across the department—primarily by



conducting strategic activities such as interpreting laws, developing DOD-wide guidance and tools, and coordinating with DAU—while relying on military department staffs to support their own acquisition programs, as they have in the past. The members of the OSD IP Cadre plan to support programs when requested to do so. As of July 2021, the director of the IP Cadre told us the OSD IP Cadre had provided support to four acquisition programs and eight other DOD offices, but indicated that members of the larger DOD IP Cadre will be principally responsible for supporting programs.

OSD IP Cadre officials told us more work is needed to refine how members of the OSD IP Cadre and the larger DOD IP Cadre will work together. For example, these officials told us that detailed staffing and resourcing requirements for the OSD IP Cadre and the military departments have not yet been identified.

Areas of Expertise

DOD officials have efforts underway to increase expertise in two of the seven areas required by the IP instruction: IP valuation and financial analysis. Members of the OSD IP Cadre told us the military departments, including the offices proposed to be part of the larger DOD IP Cadre, currently lack sufficient expertise in those areas. In its April 2020 report to Congress, the DOD described its plan to leverage an ongoing 3-year pilot program that is assessing, in part, mechanisms for determining the value of IP.¹⁰ The pilot program will study valuation strategies used by one major Army weapon system and three smaller Navy programs to identify practices that can be shared across the DOD and incorporated into department-wide guidance. The pilot program will also involve the collection and analysis of data across the DOD and outreach to industry, academia, and other nongovernmental entities. Further, OSD IP Cadre officials told us that they plan to work with the Defense Pricing and Contracting directorate on financial analysis matters, although they recognize that those experts generally do not provide the program-specific financial analysis or IP support assigned to the IP Cadre in the DOD instruction. OSD IP Cadre officials told us more work is needed to determine the level of workforce resources needed to meet those responsibilities.

Future Funding and Staffing for the IP Cadre

In the Fiscal Year 2018 NDAA, Congress authorized the DOD to use the Defense Acquisition Workforce Development Account (DAWDA) to staff the IP Cadre for up to 3 years. In Fiscal Years 2020 and 2021, DOD officials told us that the department used \$4.7 million in DAWDA funding on IP Cadre staffing and activities. According to IP Cadre officials, the DOD planned to use available DAWDA funding to pay the salaries for four of the five OSD IP Cadre billets through July 2023. However, OSD IP Cadre officials told us these four billets were created as temporary billets, and that DOD leadership has not yet converted them to permanent billets. The director of the IP Cadre told us that securing permanent billets beyond July 2023 is the top risk to the IP Cadre's current framework. OSD IP Cadre members told us the temporary nature of their positions was a disincentive when they were assessing the employment opportunity, and they suggested that it could present an obstacle in future attempts to staff the OSD IP Cadre.

While the DOD has developed a conceptual framework intended to guide its operations, we found that the department has not yet detailed how the IP Cadre will meet its broad responsibilities or determined whether it has the capacity to do so. IP Cadre officials told us they plan to assess further the framework and the associated implementation plans

¹⁰ The NDAA for Fiscal Year 2020 authorized the DOD to conduct a 3-year pilot program assessing mechanisms for evaluating IP, including its monetary value.



and resource requirements. Office of Management and Budget (OMB) Circular A-11 states that performance planning, human capital planning, and budget processes should jointly support an agency's implementation of goals and objectives by establishing refined strategies and resource allocations, among other things (Office of Management and Budget, 2021). Until the DOD determines how the IP Cadre will meet its responsibilities and the resources needed to do so, the DOD will be at increased risk of not implementing a key element of its IP strategy.

DAU Is Working to Improve IP Training, but Its Strategic Plan Lacks Priorities, and the IP Cadre Has Not Specifically Identified Which DOD Personnel Should Take the Training

To guide its efforts to improve its IP training, DAU developed a 5-year strategic plan that identified more than 60 activities that DAU could pursue. However, resource constraints limit DAU's ability to pursue all of them, and the plan does not prioritize these activities past 2023. Additionally, the DOD's IP instruction states that DOD personnel with a role in supporting IP acquisitions should receive IP training, but officials from the military departments told us additional clarification from the IP Cadre on which personnel specifically should receive IP training would be beneficial.

DAU Is Updating and Expanding IP Training, but Its Strategic Plan Does Not Prioritize Activities

DAU developed a 5-year strategic plan for improving IP training after a comprehensive review of its IP and data rights courses and training materials and based upon recommendations from IP Cadre staff and other DOD stakeholders. To implement parts of that plan, DAU has undertaken several efforts. For example, DAU introduced a foundational IP credential in September 2020, based on seven existing IP training courses. The credential is intended to provide learners with a general understanding of a range of IP topics. DAU is currently in the process of updating those IP courses to reflect legislative and policy changes from the past 5 years. The DAU IP learning director told us that DAU tentatively plans to complete those updates by June 2022. DAU also plans to develop topical IP credentials and other IP training materials. Additionally, DAU created an IP community of practice web portal that visitors can use to identify DAU's IP-related training courses. This web portal serves as one of the OSD IP Cadre's primary conduits for disseminating IP resources (Defense Acquisition University, n.d.). For example, we found that as of August 2021, the portal contained over 40 documents, including recent IP-related policies, a collection of IP and data rights best practices, templates, and videos.

The strategic plan also includes more than 60 other activities related to IP training. Proposed activities include creating or updating specific IP training courses and collaborating with industry groups to develop IP-related learning resources. This aligns with our discussions with the IP Cadre, officials within the military departments, and representatives from industry groups, who identified a number of areas where additional training could be helpful. For example, officials from the OSD IP Cadre and military departments told us that DOD personnel responsible for activities across the acquisition life cycle would benefit from training tailored to their roles. In practice, for example, this training could enable engineers who develop technical requirements to work with logisticians who plan sustainment activities to determine what IP deliverables are necessary to maintain a system. In turn, program managers and contracting staff could use that information to assess risks and costs related to IP before awarding a contract. Industry groups also told us that DOD personnel often do not understand their roles in acquiring IP, and that more tailored training could help them better engage with industry to identify appropriate IP and strategies for obtaining it. Additionally, industry groups told us that DOD personnel could



benefit from training to help them negotiate IP transactions with smaller and less experienced firms, particularly when using Other Transaction Authorities (OTAs) to enter into agreements with specially negotiated licenses for IP.¹¹ OSD IP Cadre and DAU officials told us that this additional training content could be delivered through courses on OTAs, specially negotiated licenses, Small Business Innovation Research and Small Business Technology Transfer programs,¹² and Modular Open Systems Approaches.¹³

However, DAU officials told us that DAU's ability to execute all the potential activities, including creating or updating courses that it identified in its strategic plan, is limited by resource constraints. DAU's strategic plan identifies seven priority issue areas, which DAU plans to address through December 2022. However, DAU has not identified which activities it will fund after that time frame (i.e., from January 2023 through December 2025, the end date for the strategic plan). The DAU learning director for IP told us DAU has not prioritized activities for Fiscal Year 2023 and beyond because the OSD IP Cadre has not yet identified which activities DAU should prioritize during that period.

The DOD's IP instruction directs DAU and the IP Cadre to collaborate on developing and improving IP training. Further, OMB Circular A-11 states that agencies should identify priorities supporting strategic objectives and that strategic plans should provide the context for budget planning (OMB, 2021). Until the OSD IP Cadre provides DAU with updated priorities, there is increased risk that DAU will not use its limited resources to develop and deliver the highest priority IP training.

OSD IP Cadre Has Not Yet Identified Who Specifically Should Receive IP Training Within the Military Departments

The DOD's IP instruction states that the heads of components with acquisition authority—such as the military departments—shall ensure that personnel engaged in all stages of the acquisition life cycle have relevant knowledge of IP matters, laws, and regulations. The IP instruction also tasks the director of the IP Cadre with supporting the development of training requirements for the acquisition workforce. Officials representing the Directors of Acquisition Career Management (DACM) at the Army and Air Force told us that they need additional guidance from the IP Cadre to identify the specific individuals within key career fields who should receive IP training or pursue the IP credential. They also noted that training that targets its audience is more meaningful for the workforce. For example, according to Army and Air Force DACM officials, it would be more useful to have logisticians who contribute to life-cycle sustainment plans take the IP training, rather than requiring that all logisticians do so.

This position on targeted training is consistent with November 2020 guidance from the OUSD (A&S) and the president of DAU. That guidance sets an expectation that DAU should design training and credentials for people who need specific knowledge and skills at the time they need them (Woolsey & Shaffer, 2020). The DACM officials told us that they

¹¹ Other Transaction Authorities allow the DOD to enter into agreements "other than" standard government contracts or other traditional mechanisms. Agreements under these authorities are generally not subject to federal laws and regulations applicable to federal contracts or financial assistance, allowing agencies to customize their other transaction agreements to help meet project requirements and mission needs (10 U.S.C. § 2371b).

¹² The Small Business Innovation Research and Small Business Technology Transfer programs encourage domestic small businesses to engage in federally sponsored research efforts with the potential for commercialization.

¹³ DOD's modular open systems approach (MOSA) is to design systems with highly cohesive, loosely coupled, and severable modules that can be competed separately and acquired from independent vendors. This approach allows the department to acquire warfighting capabilities, including systems, subsystems, software components, and services, with more flexibility and competition. MOSA implies the use of modular open systems architecture, a structure in which system interfaces share common, widely accepted standards, with which conformance can be verified.



would be positioned to track whether the targeted personnel completed the courses, using the personnel's individualized training plans, if the OSD IP Cadre more specifically identified which DOD personnel should receive IP training or credentials. Until the director of the IP Cadre provides this guidance, however, the DOD is at increased risk that personnel that should be receiving IP training will not receive it when they would benefit from it most.

Conclusions

The DOD's IP instruction highlights core principles and integrates guidance and requirements for acquiring and licensing IP. However, the instruction and other DOD-wide guidance do not address misconceptions about the DOD's ability to pursue detailed manufacturing or process data. This affects the department's ability to manage costs by competing requirements for weapons systems over time, including operation and maintenance requirements. The also has not yet established the refined strategies, staffing plans, and resource requirements needed for the IP Cadre to fully meet its broad responsibilities set forth in the department's IP instruction. The DOD also has opportunities to further improve IP training by ensuring that DAU prioritizes the development and delivery of high-priority IP training, and by identifying personnel that would benefit most from receiving IP training and credentials for their roles.

Recommendations for Executive Action

We make four recommendations to the DOD:

1. The Under Secretary of Defense for Acquisition and Sustainment should ensure that the DOD's planned guidebook on IP clarifies how DOD personnel can pursue detailed manufacturing or process data.
2. The Secretary of Defense should determine the collaboration, staffing, and resources needed, both within the OSD and across the components, to execute the DOD's proposed federated approach for the IP Cadre.
3. The Assistant Secretary of Defense for Acquisition should ensure that the director of the IP Cadre collaborates with the president of DAU to prioritize IP-related tasks that DAU should undertake between 2023 through 2025.
4. The Assistant Secretary of Defense for Acquisition should ensure that the director of the IP Cadre develops additional guidance to help component heads and DACMs identify the DOD personnel in key career fields that would benefit most from receiving IP training and credentials.

References

- Defense Acquisition University. (n.d.). *Acquisition community connection: Intellectual property (IP) & data rights*. Retrieved October 25, 2021, from <https://www.dau.edu/cop/IPDR/Pages/Default.aspx>
- Defense Procurement Reform Act of 1984, Pub. L. No. 98-525, 98 Stat. 2492 (1984).
<https://www.govinfo.gov/content/pkg/STATUTE-98/pdf/STATUTE-98-Pg2492.pdf>
- DOD. (n.d.-a). *Rights in computer software and computer software documentation* (DFARS § 252.227.72). Retrieved April 2, 2023, from <https://www.acquisition.gov/dfars/subpart-227.72-rights-computer-software-and-computer-software-documentation>
- DOD. (n.d.-b). *Rights in technical data* (DFARS § 252.227.71). Retrieved April 2, 2023, from <https://www.acquisition.gov/dfars/subpart-227.71-technical-data-and-associated-rights>
- DOD. (2013). *Operation of the defense acquisition system* (DOD Instruction 5000.02).
https://www.acq.osd.mil/fo/docs/DSD%205000.02_Memo+Doc.pdf
- DOD. (2018). *The defense acquisition system* (DOD Directive 5000.01).
<https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/500001p.pdf>
- DOD. (2019). *Intellectual property acquisition and licensing* (DOD Instruction 5010.44).
<https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/501044p.PDF>



- Exec. Order No. 12591, 3 C.F.R. (1987). <https://www.archives.gov/federal-register/codification/executive-order/12591.html>
- GAO. (1991). *Defense procurement: Acquiring technical data for spare parts procurement*. <https://www.gao.gov/products/Insiad-91-313>
- GAO. (2002). *Intellectual property: Industry and agency concerns over intellectual property rights* (testimony). <https://www.gao.gov/products/gao-02-723t>
- GAO. (2006). *Weapons acquisition: DOD should strengthen policies for assessing technical data needs to support weapon systems*. <https://www.gao.gov/products/gao-06-839>
- GAO. (2010). *Intellectual property: Agencies progress in implementing recent legislation, but enhancements could improve future plans*. <https://www.gao.gov/products/gao-11-39>
- GAO. (2011, May 11). *Defense acquisition: DOD should clarify requirements for assessing and documenting technical-data needs*. <https://www.gao.gov/products/gao-11-469>
- GAO. (2014). *F-35 sustainment: Need for affordable strategy, greater attention to risks, and improved cost estimates*. <https://www.gao.gov/products/gao-14-778>
- GAO. (2018). *Weapon system sustainment: Selected Air Force and Navy aircraft generally have not met availability goals, and DOD and Navy guidance need to be clarified*. <https://www.gao.gov/products/gao-18-678>
- GAO. (2019). *Defense acquisitions: DOD needs to improve how it communicates the status of regulation changes*. <https://www.gao.gov/products/gao-19-489>
- GAO. (2021a). *F-35 sustainment: DOD needs to cut billions in estimated costs to achieve affordability*. <https://www.gao.gov/products/gao-21-439>
- GAO. (2021b). *F-35 sustainment: Enhanced attention to and oversight of F-35 affordability are needed* (testimony). <https://www.gao.gov/products/gao-21-505t>
- GAO. (2021c). *Defense acquisitions: DOD should take additional actions to improve how it approaches intellectual property*. <https://www.gao.gov/products/gao-22-104752>
- Institute for Defense Analyses. (2017). *Department of Defense access to intellectual property for weapon systems sustainment*. <https://www.ida.org/-/media/feature/publications/d/de/department-of-defense-access-to-intellectual-property-for-weapon-systems-sustainment/p-8266.ashx>
- National Defense Authorization Act for Fiscal Year 2016, Pub. L. No. 114-92, 129 Stat. 726 (2015). <https://www.congress.gov/114/plaws/publ92/PLAW-114publ92.pdf>
- National Defense Industry Association. (2018). *2018 report government-industry advisory panel on technical data rights*. <https://www.ndia.org/-/media/Sites/NDIA/Policy/Documents/Final%20Section%20813%20Report>
- Office of Management and Budget. (2021). *Preparation, submission, and execution of the budget* (Circular No. A-11). <https://www.whitehouse.gov/wp-content/uploads/2018/06/a11.pdf>
- Office of the Under Secretary of Defense for Acquisition and Sustainment. (2020). *Report to Congress on intellectual property policy and the cadre of intellectual property experts, section 838 of the National Defense Authorization Act for Fiscal Year 2020*. https://www.dau.edu/cop/IPDR/_layouts/15/WopiFrame.aspx?sourcedoc=/cop/IPDR/DAU%20Sponsor%20Documents/Lord_IP-Policy-IP-Cadre-Sec-838-FY20-NDAA_Report-to%20Congress%20May%202020.pdf&action=default
- Office of the Under Secretary of Defense for Acquisition and Sustainment. (2021). *Report to Congress on pilot program on intellectual property evaluation for acquisition programs, section 801 of the National Defense Authorization Act for Fiscal Year 2020*. <https://www.acq.osd.mil/asda/ae/docs/IP%20Evaluation%20Pilot.pdf>
- Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. (2001). *Intellectual property: Navigating through commercial waters. Issues and solutions when negotiating intellectual property with commercial companies*. <https://apps.dtic.mil/sti/pdfs/ADA400207.pdf>
- Open Systems Architecture–Data Rights Team. (2014). *Intellectual property strategy guidance*. DoD.
- Patent and Trademark Law Amendments Act of 1980 (Bayh–Dole Act), Pub. L. No. 96-517, 94 Stat. 301535 (1980). <https://www.govinfo.gov/content/pkg/STATUTE-94/pdf/STATUTE-94-Pg3015.pdf>
- Reagan, R. (1983). *Government patent policy* [President’s memorandum to the heads of the executive departments and agencies].
- U.S. Army Product Data & Engineering Working Group. (2015). *Army data & data rights (D&DR) guide: A reference for planning and performing data acquisition and data management activities throughout the DOD life cycle*. U.S. Army. https://www.acq.osd.mil/asda/dpc/cp/policy/docs/pa/Army_Data_and_Data_Rights_Guide_1st_Edition_4_Aug_2015.pdf
- Woolsey, J. & Shaffer, A.R. (2020). *Defense Acquisition University reform: The intersection with Back-to-Basics*. Defense Acquisition University and Deputy Under Secretary of Defense for Acquisition & Sustainment. <https://asc.army.mil/web/wp-content/uploads/2020/11/DAU-Reform-The-Intersection-with-BtB-16NOV2020.pdf>





ACQUISITION RESEARCH PROGRAM
DEPARTMENT OF DEFENSE MANAGEMENT
NAVAL POSTGRADUATE SCHOOL
555 DYER ROAD, INGERSOLL HALL
MONTEREY, CA 93943

WWW.ACQUISITIONRESEARCH.NET