

May 2022

Trends in Department of Defense Other Transaction Authority Usage

AUTHORS

Rhys McCormick
Gregory Sanders

A Report of the CSIS DEFENSE-INDUSTRIAL INITIATIVES GROUP

CSIS

CENTER FOR STRATEGIC &
INTERNATIONAL STUDIES



May 2022

Trends in Department of Defense Other Transaction Authority Usage

AUTHORS

Rhys McCormick
Gregory Sanders

A Report of the
CSIS DEFENSE-INDUSTRIAL INITIATIVES GROUP



ROWMAN &
LITTLEFIELD

Lanham • Boulder • New York • London

About CSIS

The Center for Strategic and International Studies (CSIS) is a bipartisan, nonprofit policy research organization dedicated to advancing practical ideas to address the world's greatest challenges.

Thomas J. Pritzker was named chairman of the CSIS Board of Trustees in 2015, succeeding former U.S. senator Sam Nunn (D-GA). Founded in 1962, CSIS is led by John J. Hamre, who has served as president and chief executive officer since 2000.

CSIS's purpose is to define the future of national security. We are guided by a distinct set of values—nonpartisanship, independent thought, innovative thinking, cross-disciplinary scholarship, integrity and professionalism, and talent development. CSIS's values work in concert toward the goal of making real-world impact.

CSIS scholars bring their policy expertise, judgment, and robust networks to their research, analysis, and recommendations. We organize conferences, publish, lecture, and make media appearances that aim to increase the knowledge, awareness, and salience of policy issues with relevant stakeholders and the interested public.

CSIS has impact when our research helps to inform the decisionmaking of key policymakers and the thinking of key influencers. We work toward a vision of a safer and more prosperous world.

CSIS does not take specific policy positions; accordingly, all views expressed herein should be understood to be solely those of the author(s).

© 2022 by the Center for Strategic and International Studies. All rights reserved.

ISBN: 978-1-5381-7053-3 (pb); 978-1-5381-7054-0 (eBook)

Center for Strategic & International Studies
1616 Rhode Island Avenue, NW
Washington, DC 20036
202-887-0200 | www.csis.org

Acknowledgments

This material is based upon work supported by the Naval Postgraduate School Acquisition Research Program under Grant No. HQ0034-20-1-0015. The views expressed in written materials or publications, along with those made by speakers, moderators, and presenters, do not necessarily reflect the official policies of the Naval Postgraduate School, nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. government.

Abstract

The federal government's use of Other Transaction Authority (OTA) agreements has exploded in recent years, thanks in large part to a surge in popularity within the Department of Defense (DoD). Rather than a contract, grant, or cooperative agreement, OTAs are an acquisition approach that enables certain federal agencies to access goods and services outside of the traditional acquisition system. This research examines trends in OTA usage across the DoD to provide insights into what the DoD is using OTAs for, how DoD spending under an OTA is organized, and to whom the majority of OTA obligations go.

Contents

- Contents..... 4
- Chapter 1 Introduction..... 5
- Chapter 2 Topline DoD Trends..... 7
 - 2.1 | What Is the DoD Buying?..... 7
 - 2.2 | What Are the Defense Components Doing?..... 12
 - 2.2 | Competition for DoD OTA Awards..... 16
 - 2.3 | Whom Is the DoD Buying From? 17
- Chapter 3 Army OTA Trends..... 20
 - 3.1 | What Is the Army Buying? 21
 - 3.2 | Competition for Army OTA Awards 26
 - 3.3 | Whom Is the Army Buying From?..... 26
- Chapter 4 Air Force OTA Trends 29
 - 4.1 | What Is the Air Force Buying? 29
 - 4.2 | Competition for Air Force OTA Awards 34
 - 4.3 | Whom Is the Air Force Buying From? 35
- Chapter 5 Navy OTA Trends 38
 - 5.1 | What Is the Navy Buying?..... 39
 - 5.2 | Competition for Navy OTA Awards..... 43
 - 5.3 | Whom Is the Navy Buying From? 44
- Chapter 6 Conclusion 48
- About the Authors 50

Introduction

OTAs have become an increasingly popular tool across the DoD as senior Pentagon officials and congressional leadership look for ways to empower the defense acquisition enterprise as it seeks to maintain continued U.S. technological superiority against global competitors like China and Russia. DoD OTA obligations increased from \$0.76 billion to \$16.18 billion between FY 2015 and FY 2020. Neither contracts, nor grants, nor cooperative agreements, OTAs are a more flexible acquisition approach that enables specific federal agencies to access goods and services outside of traditional acquisition processes.¹ OTAs give agencies greater flexibility and customization in designing appropriate acquisition approaches, but they are not without limitations and risks: they are often limited to a specific set of activities—largely centered around research and development (R&D)—which require a skilled acquisition workforce to design and execute, demanding familiarity and training that may be lacking in the broader community.

The DoD has had access to some form of OTA approaches since 1989 (when DARPA was given the authority to enter into OTAs), as shown in the timeline to

HISTORY OF THE DOD'S OTA POWERS

- **1958:** [OTA is created at NASA](#)
- **1989:** [DARPA gets authority to use OTAs](#)
- **1993:** [Sec. 845 of the FY 1994 NDAA](#) expands DARPA authority to include prototyping
- **1996:** [Sec. 804 of the FY 1997 NDAA](#) expands OTA jurisdiction to others in the DoD beyond DARPA
- **2000:** [Sec. 803 of the FY 2001 NDAA](#) clarifies and extends OTAs jurisdiction to include agreements with nontraditional firms or significant investment by defense contractors
- **2001:** [Sec. 822 of the FY 2002 NDAA](#) permits OTAs for follow-on production
- **2002:** [Sec. 244 of the FY 2003 NDAA](#) defines nontraditional defense contractors as an “entity that has not, for at least one year prior to the date of the enactment of this Act, entered into, or performed with respect to, any contract.”
- **2014:** [Sec. 812 of the FY 2015 NDAA](#) broadens the DoD’s OTA jurisdiction and exempts small businesses from cost-sharing requirements
- **2015:** [Sec. 814 of the FY 2016 NDAA](#) expands powers by making the DoD’s authority to enter into OTAs permanent, modifying the definition of nontraditional defense contractor, and allowing the DoD to issue follow-on production contracts for OTA prototypes
- **2017:** [The FY 2018 NDAA](#) expands DoD authority to nonprofit research institutions and establishes new workforce requirements, [small business thresholds](#), and [OTA preferences](#).
- **2018:** [Sec. 873 of the FY 2019 NDAA](#) institutes new OTA reporting requirements
- **2019:** [DoD clarifies that OTA consortium can extend membership to NTIB partner companies](#)
- **2020:** [Sec. 833 of the FY 2020 NDAA](#) mandates the

¹ Besides the DoD, the following 10 federal agencies have some form of OTA power: Advanced Research Projects Agency – Energy, Department of Energy, Department of Health and Human Services, Department of Homeland Security, Department of Transportation, Federal Aviation Administration, Domestic Nuclear Detection Office, NASA, National Institutes of Health, and the Transportation Security Agency.

the right—so what explains its increased popularity in recent years?² The answer lies in the National Defense Authorization Act (NDAA) from FY 2015 and FY 2016 expanding what the DoD can use OTAs to accomplish. Section 812 of the FY 2015 NDAA expanded the range of what types of prototypes could be pursued under an OTA, while Section 815 “expanded DoD’s OTA authority by making DoD’s OTA authority permanent, modifying the definition of a nontraditional defense contractor, and allowing DoD to issue follow-on production contracts for OTA prototypes.”³ In the FY 2016 NDAA conference report, House and Senate conferees noted that the expansion of the DoD’s OTA powers was designed to “support Department of Defense efforts to access new sources of technical innovation” by making OTAs “attractive to firms and organizations that do not usually participate in government contracting due to the typical overhead burden and ‘one size fits all’ rules.”⁴ Congress’s expansion of OTA powers coincided with increased DoD interest in utilizing more flexible contracting vehicles to speed acquisition, as well as with a push to carry out the development of major weapon systems outside the traditional weapon systems acquisition pipeline and the policy regime this entails.

The present paper examines the notable trends in DoD OTA usage since the DoD’s authority to enter into OTAs was expanded by the statutory changes in the FY 2015 and FY 2016 NDAA. It seeks to answer the following research questions:

- What are the topline trends in the DoD’s OTA usage?
- What is the DoD procuring using OTAs?
- How are the different DoD components using OTAs?
- What is the extent of competition for DoD OTA awards?
- Whom is the DoD procuring from using OTAs?

This report builds and expands on the methodology used in other CSIS reports that employ data from the Federal Procurement Data System (FPDS). Unlike other Defense-Industrial Initiatives Group reports on federal contracting, which rely on bulk data downloaded from USAspending.gov, this brief relies on the data downloaded directly from Sam.gov. Because federal government-wide OTA data is not available through SAM.gov, however, this report prioritizes depth and only looks at DoD OTAs.⁵ All dollar figures are reported in constant FY 2020 dollars, using Office of Management and Budget (OMB) deflators.

² Air Force, *Other Transactions Authority (OTA) Statutory Timeline* (Washington, DC: Air Force, 2018), <https://www.transform.af.mil/Portals/18/documents/OTA/OTA%20Statutory%20Timeline.pdf?ver=2018-02-07-165325-513>; Moshe Schwartz and Heidi M. Peters, *Department of Defense Use of Other Transaction Authority: Background, Analysis, and Issues for Congress* (Washington, DC: Congressional Research Service, 2019), <https://sgp.fas.org/crs/natsec/R45521.pdf>.

³ Rhys McCormick, *Defense Acquisition Trends, 2019: Topline DoD Trends* (Washington, DC: Center for Strategic and International Studies, 2019), https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/191011_McCormick_AcquisitionTrendsTopline_v4.pdf.

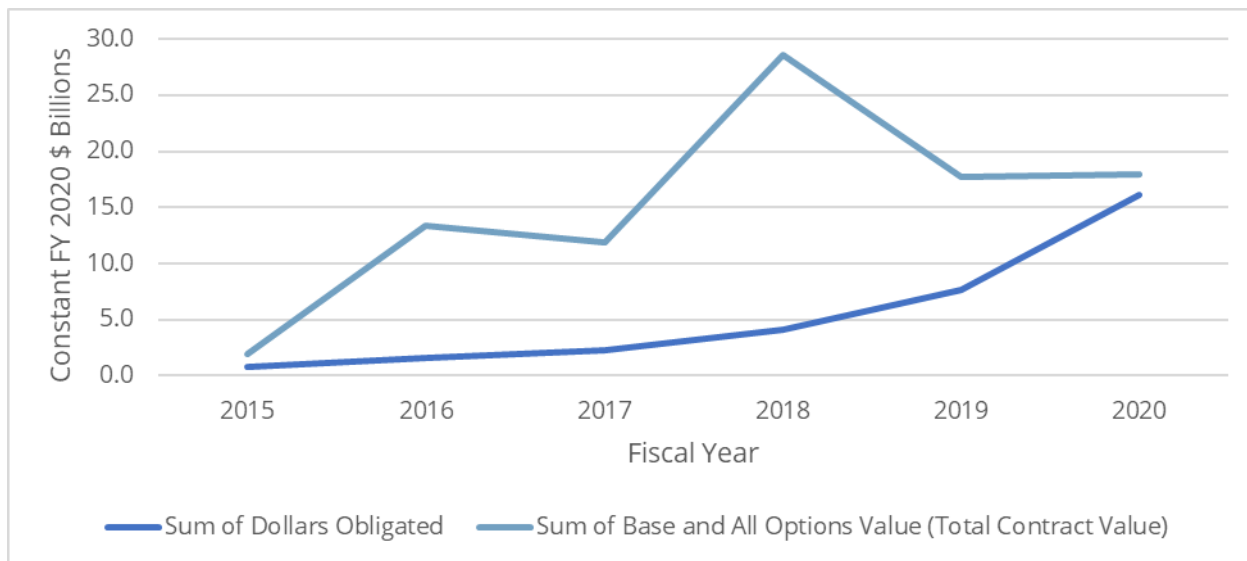
⁴ U.S. Congress, House, *National Defense Authorization Act for Fiscal Year 2016 Conference Report (to Accompany H.R. 1735)*, H.R. Rep. 114-270, 114th Cong., 1st sess., 2015, <https://www.govinfo.gov/content/pkg/CRPT-114/hrpt270/pdf/CRPT-114/hrpt270.pdf>.

⁵ Most notably, NASA Space Act agreements are not available to the general public via Sam.gov, and other reports provided to Congress are not machine-readable and provide far less detail. The other departments reporting into Sam.gov are the Department of Homeland Security, the Office of the Assistant Secretary for Management and Budget, the National Institutes of Health, and most recently, the Department of the Interior. A related data quality challenge is that it is unclear when reasonably complete data is available for any given agency. For the DoD, FY 2015 is a starting point that allowed comparison with other analysts and has more widespread reporting, but the same may not hold for other departments.

Topline DoD Trends

The data show that the rapid growth in the DoD's usage of OTAs did not slow down in FY 2020, driven in large part by the use of OTAs as part of the DoD's response to Covid-19. Instead, as seen in Figure 2-1, DoD OTA obligations increased by 113 percent, rising from \$7.6 billion in FY 2019 to \$16.2 billion in FY 2020. Between FY 2015 and FY 2020, DoD OTA obligations have increased from \$0.76 billion to \$16.2 billion, a 2,030 percent increase. Of note, while the sum of OTA dollars obligated increased by 113 percent last year, the Sum of Base and All Options Value or potential total contract value of DoD OTA obligations only increased by 1 percent. This could suggest that while OTAs are likely to continue to increase in future years, we might not see the same level of year-over-year growth that we have seen recently.

Figure 2-1: Defense OTA Obligations, 2015–2020



Source: FPDS; CSIS analysis.

2.1 | What Is the DoD Buying?

OTAs are rapidly growing in popularity and usage across the DoD, but what is the department buying with these arrangements? This section, and similar sections in subsequent chapters, looks at the critical trends in what the DoD is using OTAs for. It begins by looking at trends by area, so as to get a breakdown of spending between the three main areas of DoD acquisition: products, services, and R&D. Next is a detailed breakdown of OTA R&D spending by the stage of R&D, in order to get a sense of where OTAs are being used in the development pipeline for major weapon

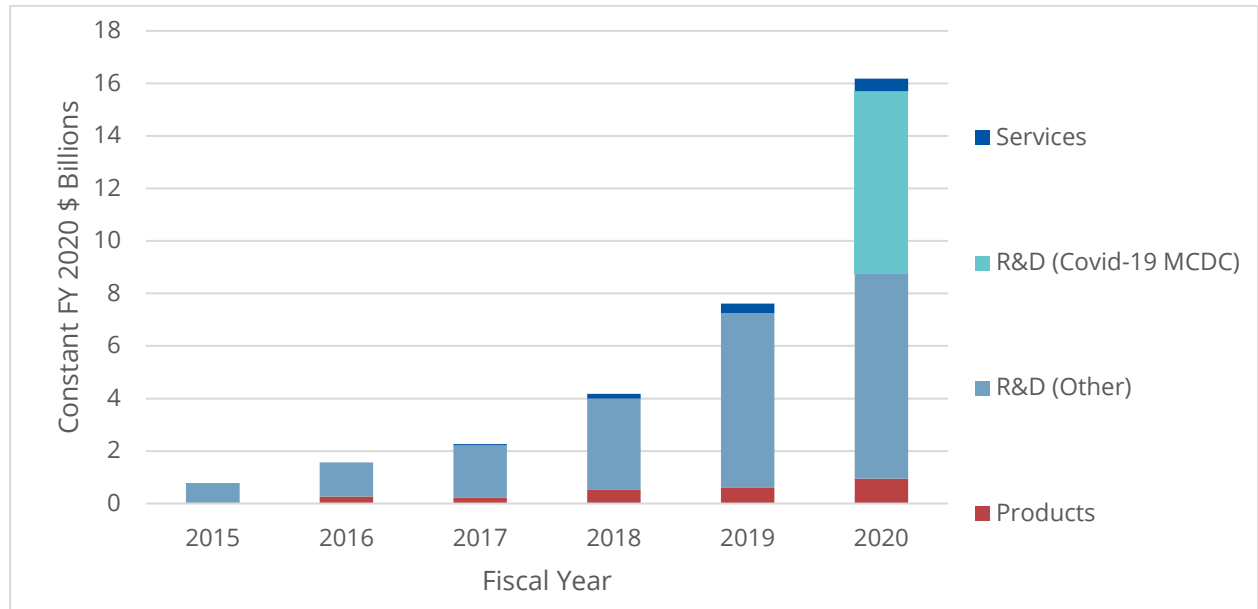
systems. Third is a look at the preliminary trends in OTA spending by type of agreement, to examine how much is being spent on prototypes compared to production efforts. Finally, the section looks at spending by platform portfolio, to get a better sense of the capability areas the DoD is prioritizing for OTA usage.

DEFENSE OTA OBLIGATIONS BY AREA

Given the history of how the DoD’s authority to enter into OTAs developed, it is not surprising that the DoD has predominantly used them for R&D activities, but OTAs are not unique to R&D. As seen in Figure 2-2, between FY 2015 and FY 2020, 89 percent of total DoD OTA obligations were awarded for R&D, compared to 8 percent for products and 3 percent for services.

Defense OTA R&D obligations increased from \$6.7 billion in FY 2019 to \$14.8 billion in FY 2020, a 122 percent increase. Between FY 2015 and FY 2020, DoD OTA R&D obligations increased by 1,850 percent. Similarly, defense OTA products contract obligations increased from \$0.6 billion in FY 2019 to \$0.95 billion in FY 2020, a 59 percent increase. Between FY 2015 and FY 2020, DoD OTA products obligations increased by 43,654 percent. And finally, for services, defense OTA contract obligations increased from \$0.4 billion to \$0.5 billion last year, a 29 percent increase. DoD OTA services obligations are up 58,761 percent between FY 2015 and FY 2020.

Figure 2-2: Defense OTA Obligations by Area, 2015–2020



Source: FPDS; CSIS analysis.

DEFENSE OTA OBLIGATIONS BY STAGE OF R&D

Perhaps as significant as the growth of OTAs in the R&D area overall is the growth of OTAs for R&D activities other than prototyping. Stages of R&D can be seen by looking at the budget activity (BA), which ranges from 6.1 to 6.7 with higher numbers signaling later stages. Previous CSIS research showed that “OTAs are taking on a more major role in the mid-to-late stages of the

development pipeline for major weapon systems.”⁶ While this largely held true into FY 2020, there were several notable developments and shifts in the composition of the DoD’s OTA R&D portfolio.

Among mid-stage R&D activities, there was significant growth in Advanced Technology Development (BA 6.3), overtaking Advanced Component Development & Prototypes (BA 6.4) as the largest category of OTA spending. Advanced Technology Development OTA obligations increased from \$0.6 billion in FY 2019 to \$8.0 billion, an increase of 1,196 percent. Meanwhile, Advanced Component Development & Prototypes OTA obligations declined by 1 percent in FY 2020, falling from \$3.9 billion to \$3.8 billion. \$7.1 billion of the increase in Advanced Technology Development can be traced to a single OTA supporting the Medical Chemical, Biological, Radiological, and Nuclear Defense Consortium (MCDC). That OTA was a critical vehicle used for Covid-19 response, but due to its importance and magnitude, it may continue to be an influential example on future OTA practice even once the immediate crisis has passed.⁷ The OTA covers a range of stages of R&D and production, although this nuance is lost in the data trends because the OTA is only assigned a single product or service code.

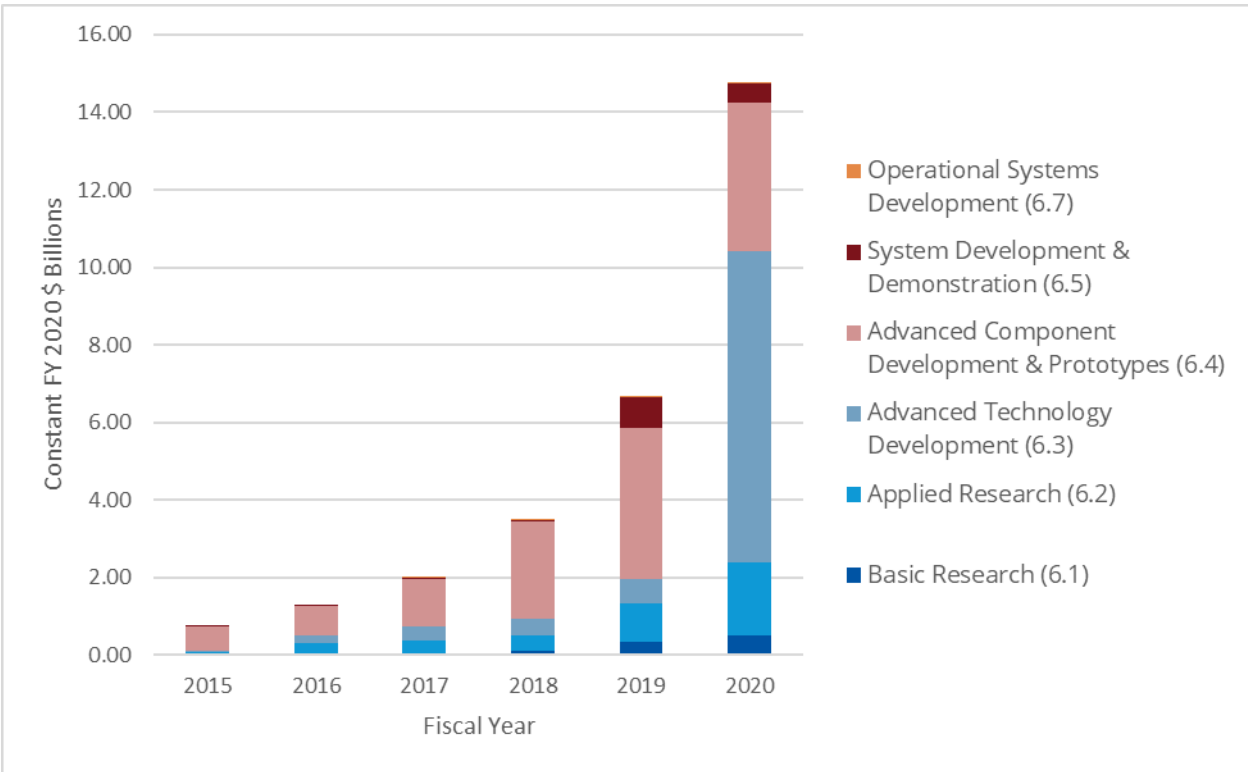
In the later stages of the weapon-systems development pipeline, there was actually a drop-off from previous levels. System Development & Demonstration (SD&D, also referred to as BA 6.5) OTA obligations declined by 37 percent, totaling \$0.5 billion in FY 2020 compared to \$0.8 billion in FY 2019. This decline was somewhat offset by the gains in OTA obligations Operational Systems Development (BA 6.7), but Operational Systems Development still accounts for less than 1 percent of all DoD OTA obligations.

Finally, both Basic Research (BA 6.1) and Applied Research (BA 6.2) saw increased OTA obligations in 2020, but these two early-stage R&D activities both fell as a share of overall defense OTA spending. Even though Basic Research OTA obligations increased from \$0.3 billion to \$0.5 billion (a 50 percent increase), Basic Research itself fell as a share of overall defense obligations, from 5 percent to only 3 percent. Similarly, Applied Research saw an 87 percent increase in OTA obligations in FY 2020 from FY 2019, but its share of overall defense obligations fell from 15 percent to 13 percent.

⁶ Rhys McCormick, *Department of Defense Other Transaction Authority Trends: A New R&D Paradigm?* (Washington, DC: Center for Strategic and International Studies, 2020), https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/201207_McCormick_DoD_OTA.pdf.

⁷ The procurement identifier for this OTA is W15QKN1691002. The top four transactions in FY 2020 account for nearly \$6.8 billion in obligations by themselves, and each explicitly mentions Covid-19 response.

Figure 2-3: Defense OTA R&D Obligations by Stage of R&D, 2015–2020

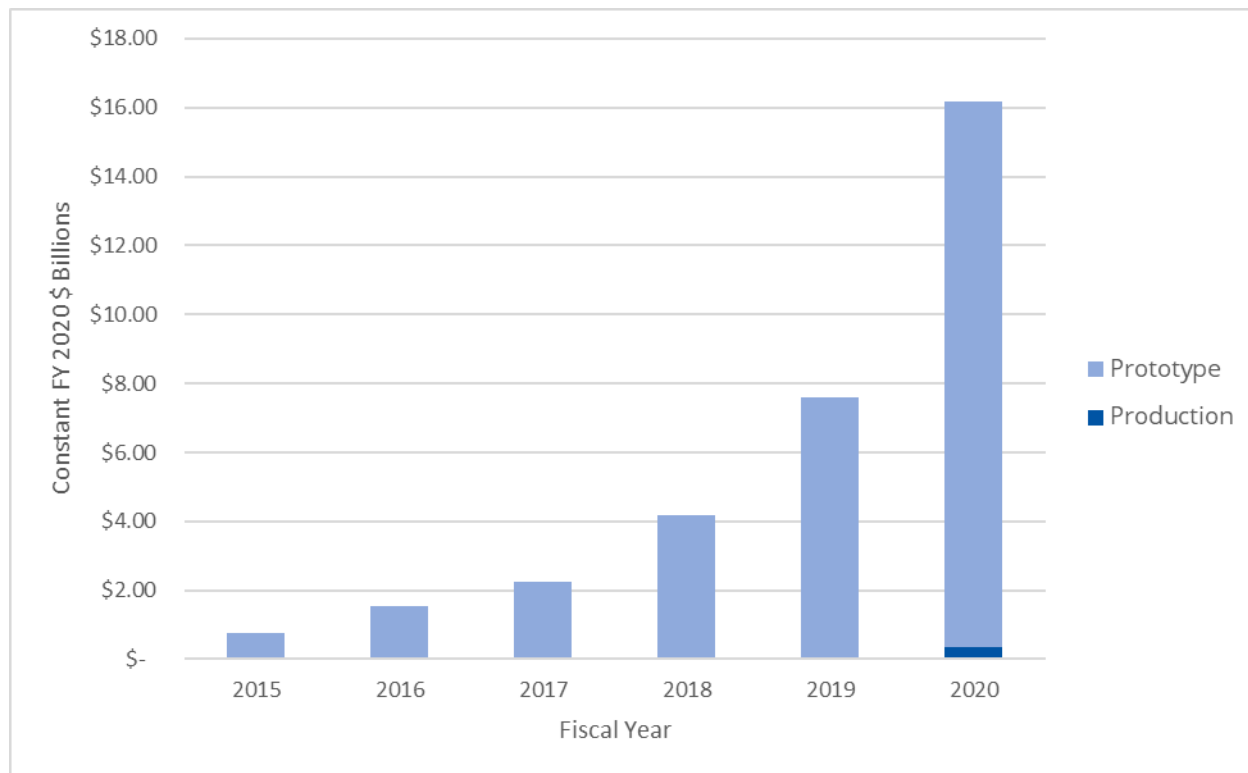


Source: FPDS; CSIS analysis.

DEFENSE OTA OBLIGATIONS BY TYPE OF AGREEMENT

As shown in Figure 2-4 below, the predominance of DoD OTA obligations in recent years has unsurprisingly gone to prototyping efforts. It is only recently that the DoD has received the authority to award follow-on production OTA agreements, so it is not too surprising to see that production OTAs are still in their infancy. OTA use for production includes competed agreements and thus is not strictly limited to follow-on contracts, although most production OTA dollars went to agreements with only one source available. In one notable case where a prototype contract included production, the aforementioned MCDC OTA was used in FY 2020 not just for vaccine development but also for the mass production of vaccines and therapeutics. While there is not much to this data at this point in time, this will be an important area that CSIS will continue to monitor into the future as the DoD evolves its approach to the emerging new R&D funding paradigm.

Figure 2-4: Defense OTA Obligations by Type of Agreement, 2015–2020



Source: FPDS; CSIS analysis.

DEFENSE OTA OBLIGATIONS BY PLATFORM PORTFOLIO

As shown in Figure 2–5 below, several trends emerge in analyzing DoD OTA obligations by platform portfolio. Defense Aircraft OTA obligations increased from \$0.1 billion in FY 2019 to \$0.4 billion in FY 2020, a 3,365 percent increase. Meanwhile, Space Systems, which had been on an uptick in recent years, saw a decline in OTA obligations last year. Defense Space Systems OTA obligations declined by 27 percent in FY 2020, falling from \$1.1 billion to \$0.7 billion.

Ordnance and Missiles, the predominant OTA platform portfolio prior to the recent statutory changes, saw a decline in OTA obligations in FY 2020, but it remains the second-largest platform portfolio. Ordnance and Missiles OTA obligations declined from \$2.9 billion in FY 2019 to \$2.6 billion in FY 2020, a 10 percent decline. However, Ordnance and Missiles OTA obligations are still up by 372 percent between FY 2019 and FY 2020. As a share of overall defense OTA obligations, Ordnance and Missiles fell from 72 percent in FY 2015 to 16 percent in FY 2020.

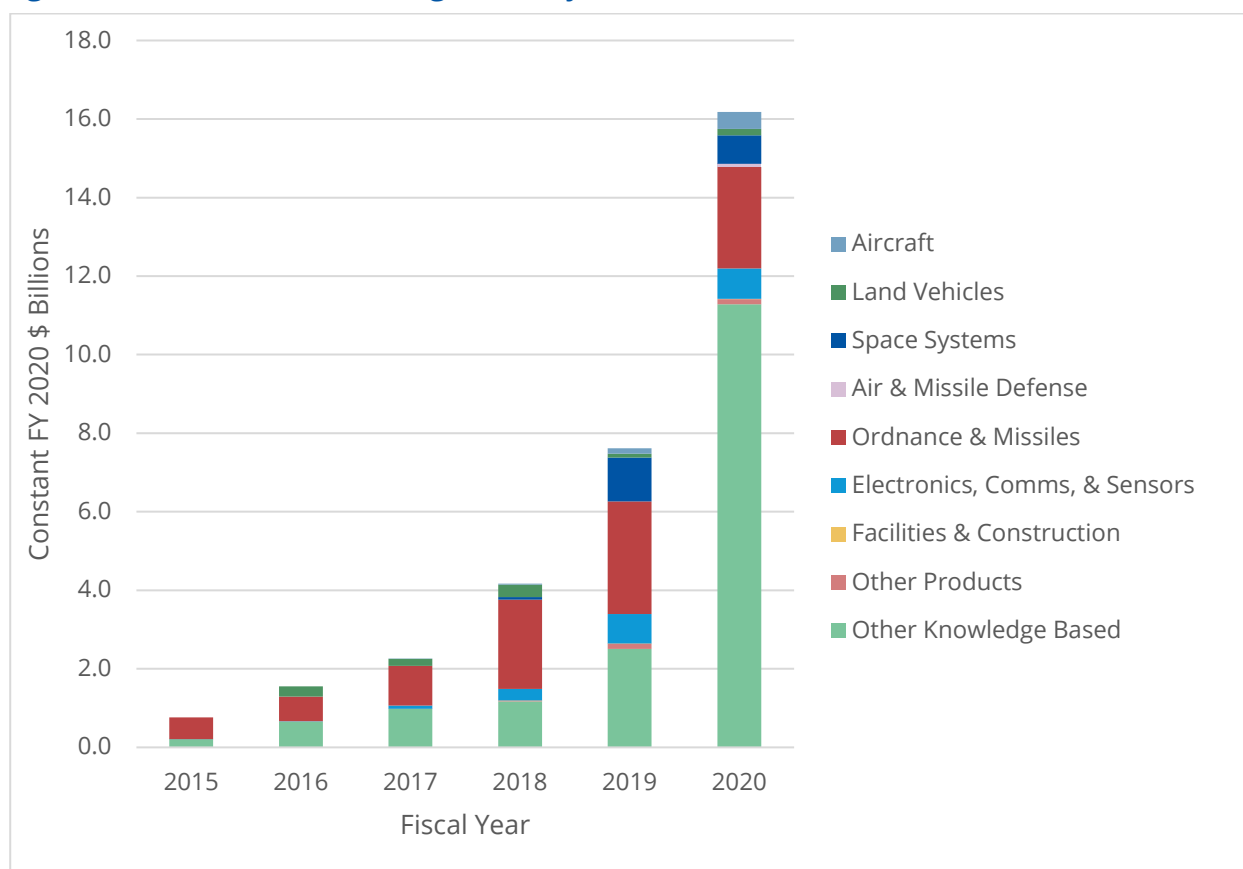
Other R&D and Knowledge Based—previously the second-largest platform—succeeded Ordnance and Missiles as the largest OTA platform portfolio in FY 2020.⁸ Other R&D and Knowledge Based contract obligations increased by an impressive 350 percent last year, from \$2.5 billion to \$11.3 billion. This increase was primarily driven by the coronavirus-driven MCDC OTA, which is consistently classified as “R&D– DEFENSE OTHER: SERVICES (ADVANCED DEVELOPMENT).” That

⁸ Other R&D and Knowledge Based serves as a catch-all category that doesn’t fit into platform portfolios. It consists of a wide range of activities that include, but are not limited to, biomedical, technical services, and other R&D activities.

service code consequently saw an increase in OTA obligations from \$0.14 billion in FY 2019 to \$7.2 billion in FY 2020, a 5,013 percent increase. Of note, the following product or service codes comprised the top five Other R&D and Knowledge Based accounts (ordered by total OTA obligations) between FY 2015 and FY 2020:

- 1.) R&D- DEFENSE OTHER: SERVICES (ADVANCED DEVELOPMENT)
- 2.) R&D- DEFENSE OTHER: OTHER (ENGINEERING DEVELOPMENT)
- 3.) EDUCATION/TRAINING- COMBAT
- 4.) R&D- MEDICAL: BIOMEDICAL (APPLIED RESEARCH/EXPLORATORY DEVELOPMENT)
- 5.) R&D- MEDICAL: BIOMEDICAL (ADVANCED DEVELOPMENT)

Figure 2-5: Defense OTA Obligations by Platform Portfolio, 2015–2020



Source: FPDS; CSIS analysis.

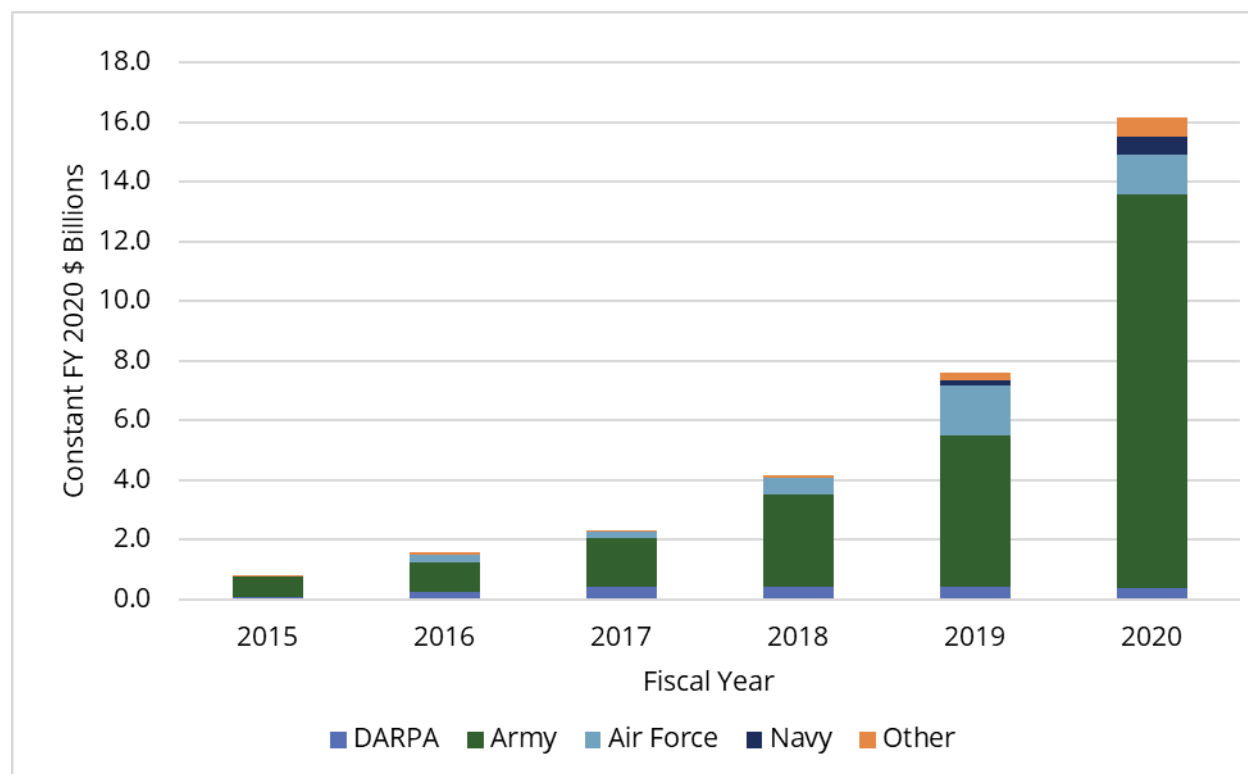
2.2 | What Are the Defense Components Doing?

The Army remains the leader in OTA usage across DoD components, but other components have also seen substantial increases in recent years. In FY 2020, Army OTA obligations increased from \$5.1 billion to \$13.2 billion, an increase of 161 percent; Army OTA obligations have increased by 1,840 percent since FY 2015. After seeing an uptick in OTA obligations in FY 2019, Air Force OTA obligations declined by 20 percent last year, falling from \$1.7 billion in FY 2019 to \$1.3 billion in

FY 2020. On the other hand, after a slow start to OTA usage, the Navy has seen a significant increase in OTA usage over the last two years: Navy OTA obligations increased from \$0.2 billion in FY 2019 to \$0.6 billion in FY 2020, a 253 percent increase. The increase between FY 2015 and FY 2020 is even more remarkable, as Navy OTA obligations increased by 24,633 percent. There was also a notable increase in OTA obligations last year for “Other DoD,” largely driven by the Washington Headquarters Services.

Between FY 2015 and FY 2020, the Army accounted for 76 percent of total defense OTA obligations—compared to the Air Force and DARPA, which both accounted for 12 percent, or the Navy, which accounted for approximately 3 percent. The Army’s early dominance has been sustained in part due to its leading role in the Covid-19 response.; in FY 2020 alone, the Army accounted for 82 percent of defense OTA obligations. Meanwhile, the Air Force accounted for 8 percent of defense OTA obligations last year after accounting for 22 percent the previous year, DARPA fell to 2 percent, and the Navy rose slightly to 4 percent.

Figure 2-6: Defense OTA Obligations by Customer, 2015–2020



Source: FPDS; CSIS analysis.

DEFENSE OTA OBLIGATIONS BY CONTRACTING OFFICE

Army Contracting Command (ACC) New Jersey, headquartered out of Picatinny Arsenal, once again remains the largest contracting office awarding OTAs across all of the DoD. As shown in Table 2-1, in FY 2020, ACC-NJ accounted for 62 percent of all DoD OTA obligations; it has in fact accounted for 60 percent of all DoD OTA obligations between FY 2015 and FY 2020. Outside of ACC-NJ, the Army continues to retain several contracting offices executing OTAs, accounting for 5 of the top 10 DoD OTA contracting offices between FY 2015 and FY 2020. Outside of the Army, 2

Air Force contracting offices remained in the top 10—Launch Enterprise Systems Directorate and Space Development & Test Wing—but the Air Force Life Cycle-Management (HNK C3IN) fell out of the top 10 and was replaced by Joint Munitions Command.

Table 2-1: Top 10 Defense OTA Contracting Offices, 2015–2020

Contracting Office Rank	Contracting Office	Component	Total Obligations 2015–2020 (Billions)
1	ACC–PICATINNY NJ	Army	19.5
2	DARPA	DARPA	1.9
3	Launch Enterprise Systems Directorate	Air Force	1.8
4	ACC–Aberdeen Proving Grounds	Army	1.7
5	ACC–Redstone Arsenal	Army	1.3
Top 5 Total			26.2
6	Space Development & Test Wing	Air Force	0.8
7	Washington Headquarters Service	Other DoD	0.6
8	Tank–Automotive and Armaments Command (TACOM)	Army	0.5
9	Joint Munitions Command	Army	0.5
10	ACC–Orlando	Army	0.4
Top 10 Total			28.9
Overall DoD Total			32.5

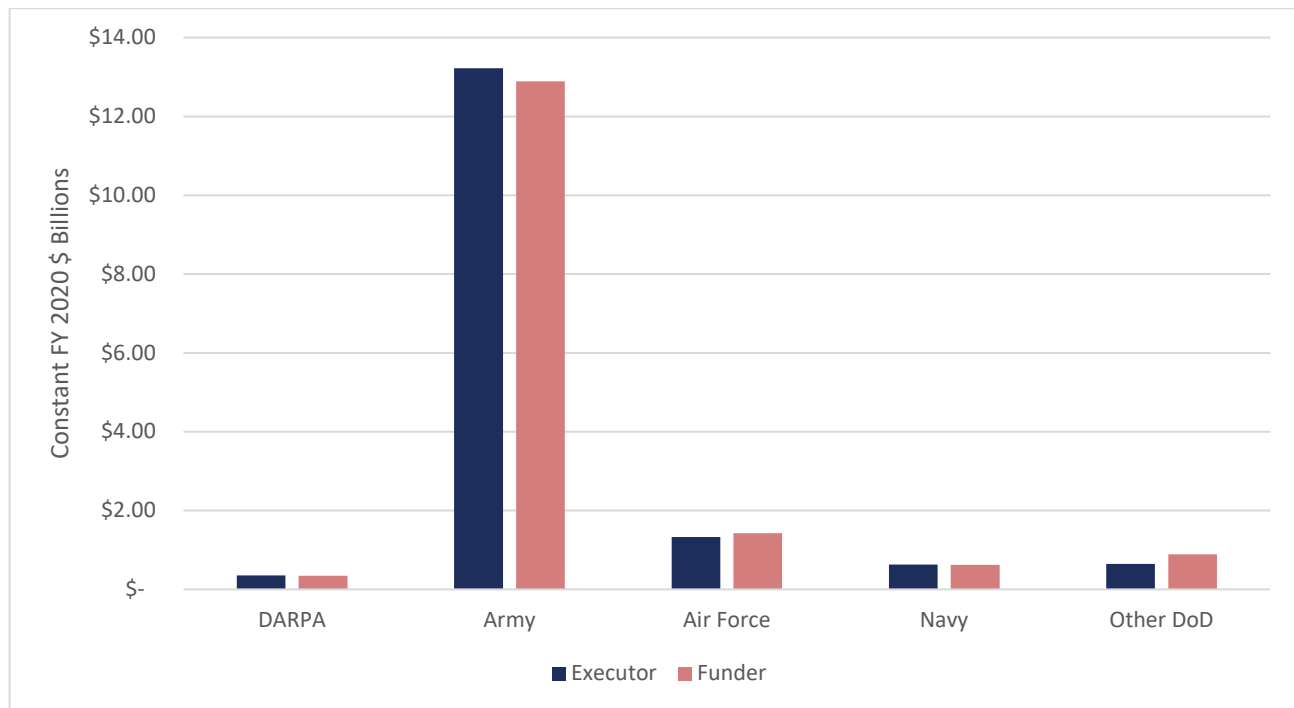
Source: FPDS; CSIS analysis.

DEFENSE OTA OBLIGATIONS BY FUNDING ORGANIZATION

The Army, led by the work being done at Picatinny Arsenal, is the OTA leader across the DoD, but does the Army fund this work or is it being executed for other DoD organizations and components? Looking at the data, between 63 percent to 75 percent of records between FY 2015 and FY 2018 show a blank funding agency. In FY 2019, only 40 percent of the data was labeled blank, however, and nearly all records from FY 2020 included the funding agency (as seen in Figure 2–7 below). However, while a high proportion of data between FY 2015 and FY 2018 is labeled blank, this is consistent with FPDS instructions: “If funding for this transaction was provided by another agency, enter the code that identifies the agency that provided the preponderance of the obligated funds.”⁹ While the high preponderance of blank data in previous years is not necessarily a data quality issue, this paper focuses only on the FY 2020 trends, given the potential for discrepancies in previous years.

⁹ GSA, *GSA Federal Procurement Data System (FPDS) Data Element Dictionary* (Washington, DC: GSA, August 31, 2021), https://www.fpds.gov/downloads/Version_1.5_specs/FPDS_DataDictionary_V1.5.pdf.

Figure 2-7: FY 2020 Defense OTA Obligations, Funder v. Customer



Source: FPDS; CSIS analysis.

Looking only at the FY 2020 funding agency data, a few key trends emerge as to the relationship between funding agency and contracting agency. At the topline level, there is a rough alignment between funding and customer agency, but it is not perfect. For example, the Army and DARPA execute 2 and 3 percent more OTA obligations respectively than they fund, compared to the Air Force and Other DoD that each execute 7 percent and 27 percent less respectively. This is a bit more surprising for the Air Force, which has its own notable OTA contracting offices, but it is less surprising for Other DoD as this includes agencies like U.S. Special Operations Command (SOCOM), the Missile Defense Agency (MDA), and the Office of the Secretary of Defense (OSD), all of which lack the specialized acquisition workforce required to properly execute OTAs.

Looking beyond the topline agency data and to the funding contracting office reveals a murkier picture. The data show that in FY 2020, \$7.7 billion (48 percent) of total DoD OTA obligations were funded by the Joint Project Management Office for Medical Countermeasure Systems (JPM MCS) under the Joint Program Executive Office for Chemical, Biological, Radiological, Nuclear Defense (JPEO-CBRND).¹⁰ This is not surprising given that JPEO-CBRND heavily leveraged OTAs as part of its acquisition strategy for combating the coronavirus, but it does slightly complicate the picture.¹¹ Although JPEO-CBRND is an Army organization and derives its acquisition authority from the Office of the Assistant Secretary of the Army for Acquisition, Logistics & Technology, JPEO-CBRND is the executive agency in charge of the CBDP mission for the entire department. Furthermore, JPEO-CBRND works with other agencies both within the DoD, like the Defense

¹⁰ The data in FPDS still refers to the organization's previous name, Chemical and Biological Defense (JPM CBD).

¹¹ Al Burket, *JPEO-CBRND MULTIPLE AWARD TASK ORDER CONTRACTS (MATOCS)* (Washington, DC: JPEO-CBRND, June 2020), https://www.jpeocbrnd.osd.mil/Portals/90/Team_APG_APBI_2020_Day_1_JPEO_CBRND.pdf.

Threat Reduction Agency (DTRA), and outside the DoD with other departments, like the Department of Health and Human Services, to execute certain acquisition activities.¹²

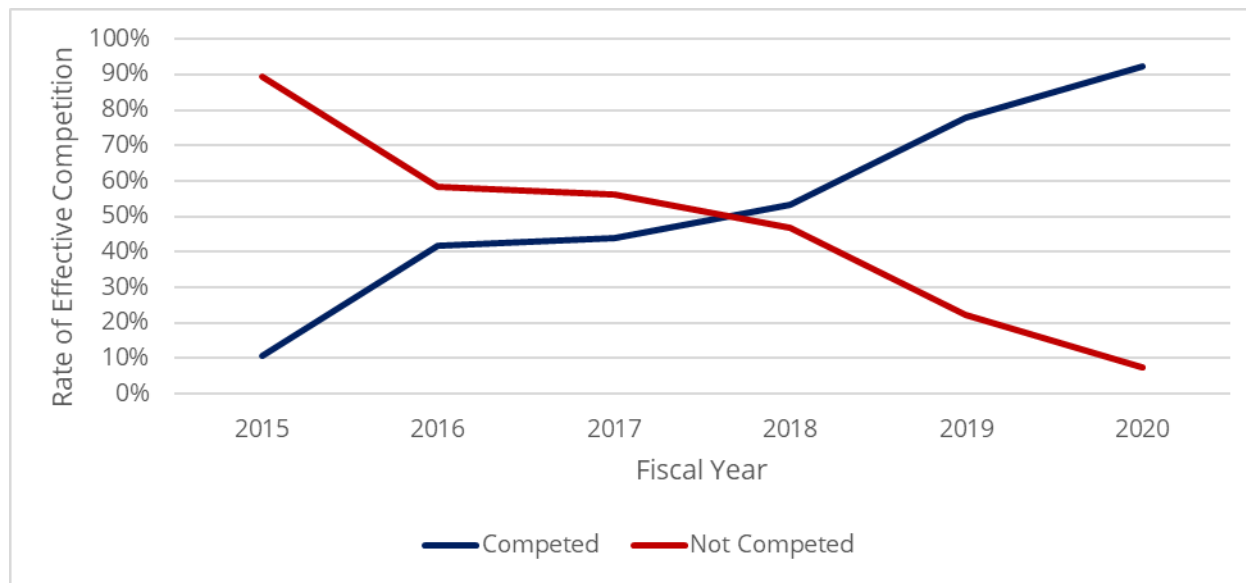
Given the limitations of previous years' data and the abnormalities presented by Covid-19, it is difficult to comprehensively conclude the extent to which there is a significant difference between the sums of OTA obligations funded and executed by different agencies. The topline trends suggest that, while there are some differences, the vast majority of work the Army and DARPA execute is funded by their own organization and funding being executed on behalf of other agencies.. However, looking beyond that topline, the necessity of combating Covid-19 led to a surge in funding from JPEO-CBRND—an Army office, but responsible for managing the entire Joint Force. Without certain previous years' data to compare to the 2020 trends, it is difficult to ascertain definitive conclusions, and this is an area worth continued focus in the years to come.

2.2 | Competition for DoD OTA Awards

As shown in Figure 2-8 below, the data continue to show positive trends in the rates of competition for DoD OTA obligations. Just 11 percent of DoD OTA obligations were competed in FY 2015, but that share has been rising every year since, and in FY 2020, 92 percent of DoD OTA obligations were awarded after competition. OTA agreements do not provide the same level of transparency on competition as does the federal contracting system. For example, there is no way to differentiate agreements that are competed but only receive a single offer. Consortia are also not inherently categorized as competed, although the data do not highlight whether competition was limited only to the members of one consortium. OTA data do describe three types of solicitation: Broad Area Announcement, Program Selection, and Only One Source. Broad Area Announcements and Only One Source are, by definition, always and never competed respectively. However, Program Selections use a mix of competitive and noncompetitive measures.

¹² JPEO-CBRND, "Memorandum of Understanding for Acquisition Support Signed Between the Department of Defense and the Department of Health and Human Services," Press release, May 20, 2021, <https://www.jpeocbrnd.osd.mil/Media/News/Article/2636232/memorandum-of-understanding-for-acquisition-support-signed-between-the-departme/>; Al Burket, *JPEO-CBRND CONTRACTING UPDATE* (Washington, DC: JPEO-CBRND January 2021), https://www.jpeocbrnd.osd.mil/Portals/90/JPEO-CBRND_Contracting_Update_Jan_2021.pdf

Figure 2-8: Competition for DoD OTA Obligations, 2015–2020



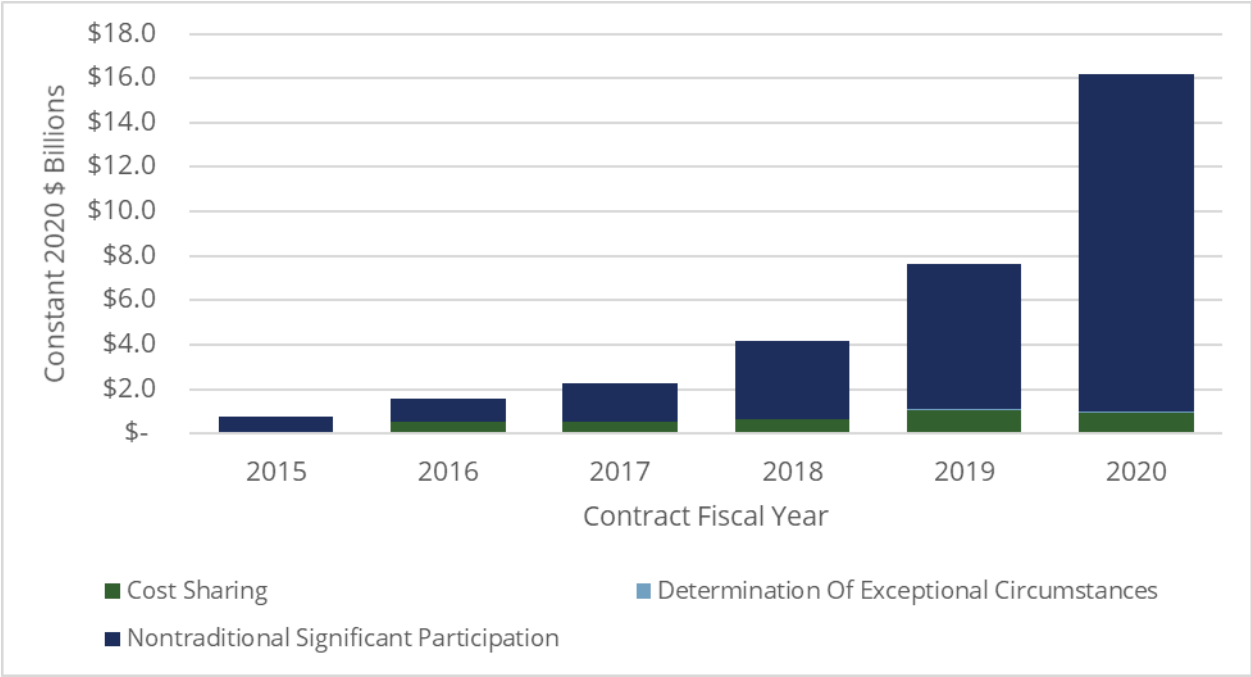
Source: FPDS; CSIS analysis.

2.3 | Whom Is the DoD Buying From?

As shown in Figure 2–9 below, the rise in the vast majority of DoD OTA obligations in recent years was awarded to vendors categorized as having nontraditional significant participation.¹³ Between FY 2018 and FY 2019, it appeared that there might be an emerging trend showing an increased share of DoD OTA obligations being awarded with cost sharing, but that trend halted in FY 2020. In FY 2020, defense OTA obligations awarded with cost sharing fell from \$1.1 billion to \$0.9 billion, a 14 percent decline; they also fell as a share of DoD OTA obligations, from 15 percent to 6 percent. Between FY 2015 and FY 2020, 88 percent of DoD OTA obligations were awarded after having nontraditional significant participation, 12 percent were awarded after cost sharing, and less than 1 percent were awarded following a Determination of Exceptional Circumstances.

¹³ Nontraditional vendors are often used as a shorthand for major Silicon Valley firms, other commercial technology leaders, or individual start-ups with breakthrough technology.

Figure 2-9: Defense OTA Obligations by Nontraditional Government Contractor Participation, 2015–2020



Source: FPDS; CSIS analysis.

TOP 20 DEFENSE OTA VENDORS

As highlighted in previous CSIS reports on OTAs, consortia remain the predominant beneficiaries of DoD OTA obligations in recent years.¹⁴ Between FY 2015 and FY 2020, the top five defense OTA vendors in order were Analytic Services Incorporated, Consortium Management Group Incorporated, Advanced Technology International, Lockheed Martin, and the System of Systems Consortium (SOSSEC). With the exception of Lockheed Martin—one of the Big Five defense firms—consortia represented four of the top five ranked defense OTA vendors. Furthermore, these top five vendors accounted for 62 percent of DoD OTA obligations between FY 2015 and FY 2020.

Looking beyond the top five defense OTA vendors to the top 20 vendors, there was more diversity, but consortia continued to lead the way. Among the top 20 defense OTA vendors between FY 2015 and FY 2020, there were 10 consortia compared to four Big Five Defense Firms, one joint venture between two Big Five Defense Firms, one Big Five Information Technology firm, two large defense firms, and two large nontraditional defense firms.¹⁵ The 10 consortia accounted for \$22.4 billion—66 percent of all DoD OTA obligations between FY 2015 and FY 2020—compared to 9 percent for the Big Five defense firms, 2 percent for Microsoft, 1 percent for the large defense firms, and 2 percent for the large nontraditional vendors.

¹⁴ McCormick, *Department of Defense Other Transaction Authority Trends*.

¹⁵ The Big Five Information Technology Firms are commonly understood to be Google, Amazon, Apple, Meta, and Microsoft.

Table 2-2: Top 20 Vendors, Overall OTA Obligations, 2015–2020

Vendor Rank	Global Vendor Name	Vendor Type	Total Obligations (2015–2020) Billions
1	Analytic Services	Consortium	16.34
2	Consortium Management Group	Consortium	1.69
3	Advanced Technology International	Consortium	1.68
4	Lockheed Martin	Big Five Defense	0.86
5	System of Systems Consortium (SOSSEC)	Consortium	0.79
	Top 5 Total		21.36
6	National Center for Manufacturing Sciences	Consortium	0.78
7	Microsoft	Big Five IT	0.66
8	Raytheon	Big Five Defense	0.58
9	Northrop Grumman	Big Five Defense	0.55
10	United Launch Alliance L.L.C.	Big Five Defense (Joint Venture)	0.50
11	Boeing	Big Five Defense	0.42
12	Medical Technology Enterprise Consortium	Consortium	0.35
13	Defense Energy Center of Excellence	Consortium	0.35
14	Aerodyne Rocketdyne Holdings	Large Defense	0.35
15	Defense Automotive Technologies Consortium	Consortium	0.24
16	National Security Technology Accelerator	Consortium	0.23
17	Blue Origin	Large Nontraditional	0.22
18	ICON PLC	Large Nontraditional	0.21
19	VMWare	Large Nontraditional	0.19
20	Consortium For Energy, Environment, and Demilitarization	Consortium	0.18
	Top 20 Total		27.17
	Overall DOD total		34.07

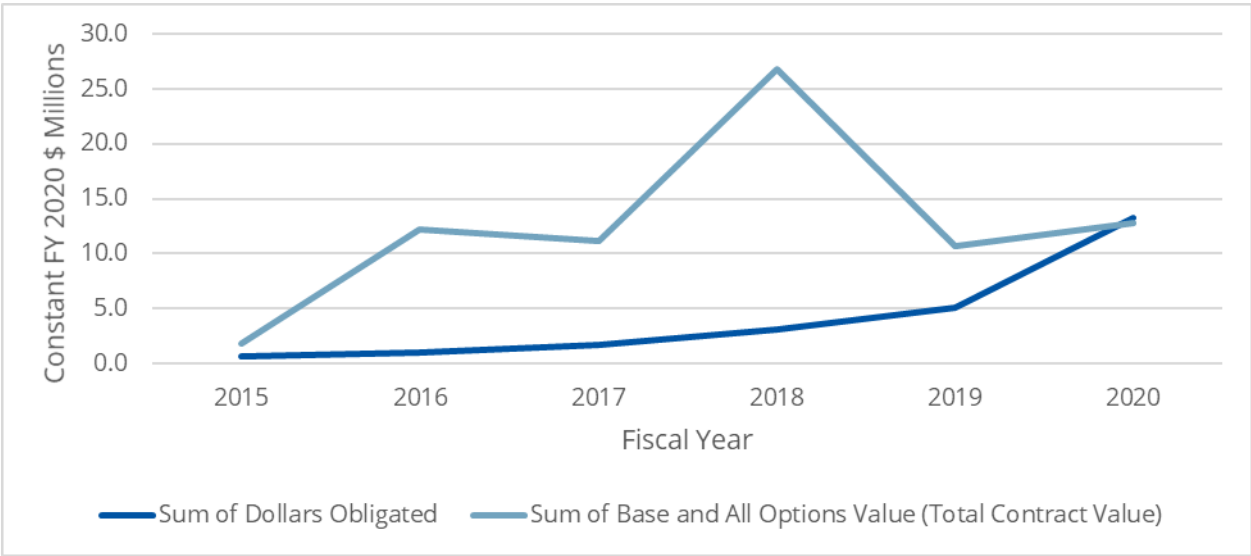
Source: FPDS; CSIS analysis.

Army OTA Trends

The data show that the Army has seen substantial growth in OTA obligations, particularly in the last three years. Between FY 2015 and FY 2020, Army OTA obligations increased from \$0.68 to \$13.2 billion—an 1,840 percent increase. Last year, Army OTA obligations increased by 161 percent, rising from \$5.1 billion in FY 2019 to \$13.2 billion in FY 2020.

However, year-over-year growth in OTA obligations may start to slow down in future years, as seen by the trends in the base and all options value, or total potential value, of Army OTA agreements. Following the recent legislation and regulatory changes, there was strong year-over-year growth in the potential value of Army OTA agreements between FY 2015 and FY 2018, but the Army saw a 40 percent decline in FY 2018. However, this sharp decline did prove to be a one-year trend, as the Army’s total potential value of OTA agreements increased by 20 percent in FY 2020. Unused prior year potential value does carry over until an agreement is completed, so even though obligations exceeded base and all options value in FY 2020 there is still substantial ceiling space for new spending. Nonetheless, this was smaller growth than seen during previous years. This suggests that Army OTA obligations are likely to continue growing in future years, but not at the astronomical rates seen previously.

Figure 3-1: Army OTA Obligations, 2015–2020



Source: FPDS; CSIS analysis.

3.1 | What Is the Army Buying?

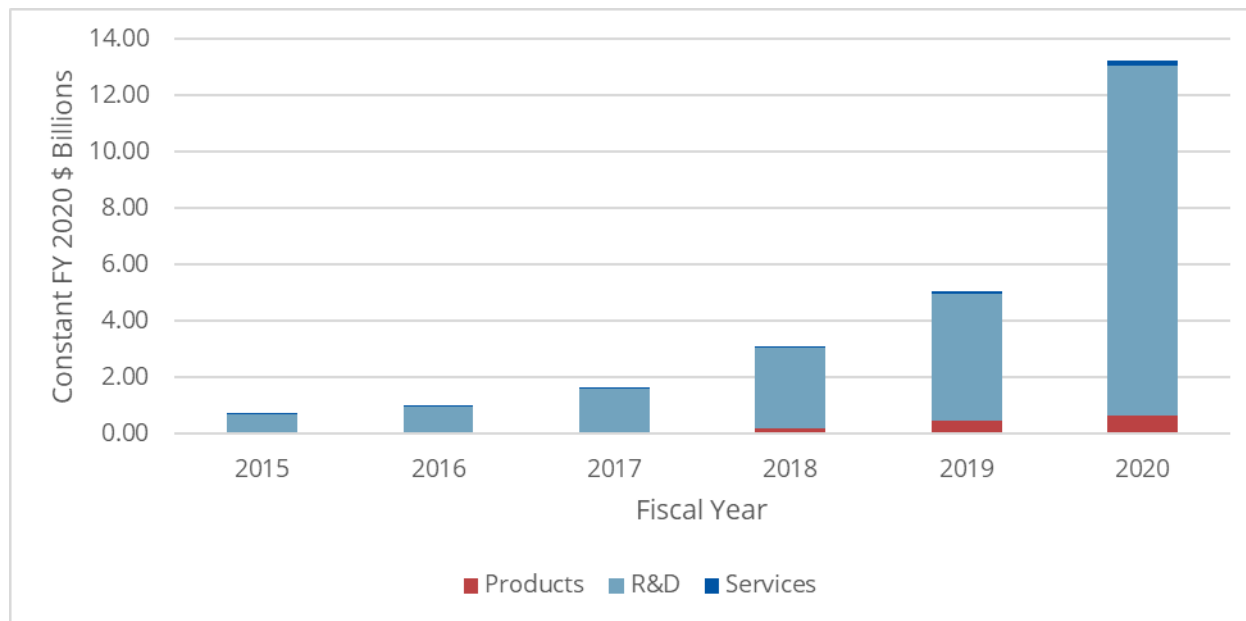
ARMY OTA OBLIGATIONS BY AREA

In recent years, the Army has predominantly used OTAs for R&D activities, but not exclusively: R&D accounted for 93 percent of Army OTA obligations between FY 2015 and FY 2020 compared to 5 percent for products and 2 percent for services. Unlike other DoD components, the Army had already been leveraging OTAs for a small, but notable, set of R&D activities prior to the recent legislative and statutory changes. In FY 2015 and FY 2016, for instance, Army R&D OTA obligations totaled \$0.68 billion and \$0.97 billion respectively. That said, in recent years, as OTAs have become more prevalent, the growth in Army OTA R&D activities has exploded. Between FY 2015 and FY 2020, Army OTA obligations increased by 1,723 percent, rising from \$0.68 billion in FY 2015 to \$12.39 billion in FY 2020. Last year, Army OTA obligations increased from \$4.5 billion in FY 2019 to \$12.4 billion in FY 2020, a 174 percent increase.

Prior to the OTA revolution, the Army made negligible use of OTAs for products, but this use has seen substantial increases in recent years. Between FY 2015 and FY 2020, Army products OTA obligations increased from \$0.00 billion in FY 2015 to \$0.65 billion in FY 2020, a 52,914 percent increase. In FY 2020, Army products OTA obligations increased by 1,723 percent, rising from \$0.45 billion in FY 2019 to \$0.65 billion. As a share of Army OTA obligations, products went from 0.2 percent in FY 2015 to 3 percent in FY 2017, then peaked at 9 percent in FY 2019 before settling at 5 percent in FY 2020.

The Army makes the least use of OTAs in services compared to R&D and products, but there has still been sizable growth in the Army's usage of OTAs for services in recent years. Army services OTA obligations increased from \$0.00 billion in FY 2015 to \$0.18 billion in FY 2020, a 66,118 percent increase. Between FY 2019 and FY 2020, Army services OTA obligations increased by 1,616 percent, totaling \$0.18 billion in FY 2020 compared to \$0.11 billion the previous year. As a share of Army OTA obligations, services went from 0.04 percent in FY 2015 to between 1 and 2 percent in the last three years.

Figure 3-2: Army OTA Obligations by Area, 2015–2020



Source: FPDS; CSIS analysis.

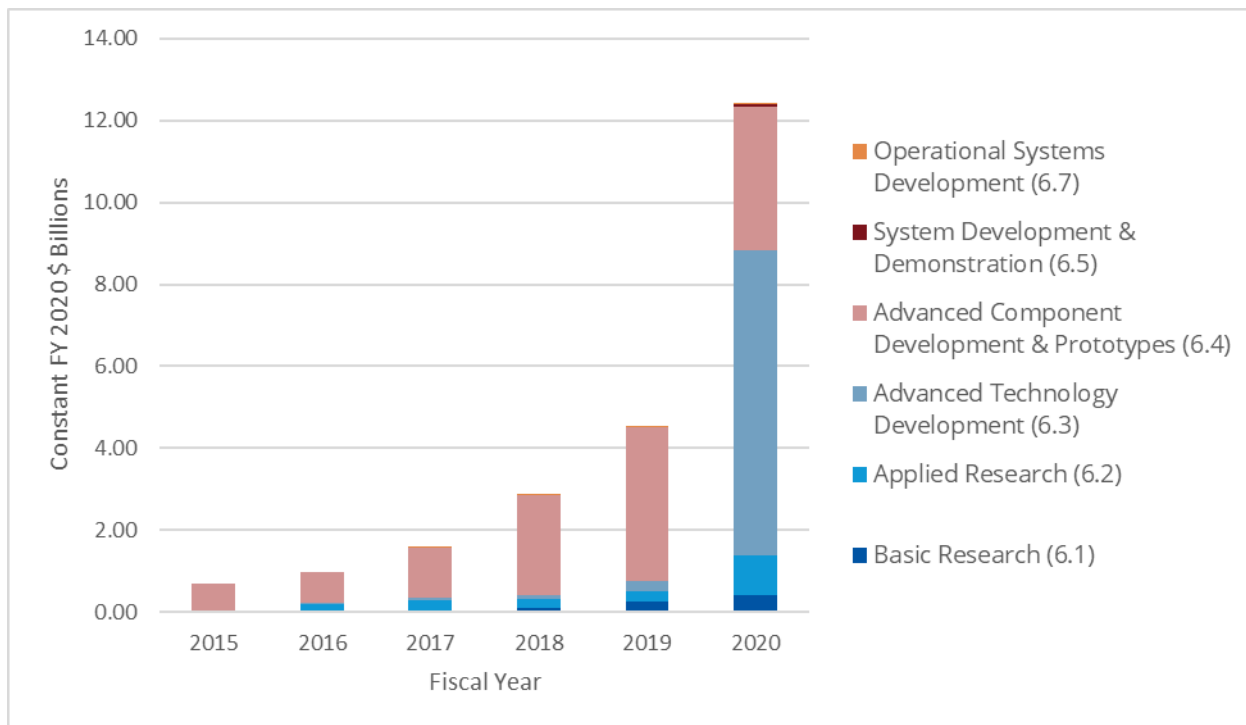
ARMY OTA OBLIGATIONS BY STAGE OF R&D

R&D has been the leading priority for Army OTA obligations these last few years, but growth has not been even within the different R&D activities. Figure 3-3 shows Army OTA obligations by stage of R&D between FY 2015 and FY 2020.

For mid-stage R&D activities, Army trends reflected overall trends, with significant growth in Advanced Technology Development (BA 6.3) and a slight decline in Advanced Component Development & Prototypes (BA 6.4). Advanced Technology Development OTA obligations increased from \$0.24 billion in FY 2019 to \$7.48 billion, a 2,991 percent increase. As previously discussed, this increase is explained by the Army's Covid-19 response. Meanwhile, Advanced Component Development & Prototypes OTA obligations declined by 7 percent in FY 2020, falling from \$3.76 billion to \$3.5 billion.

In the later stages of the weapon-systems development pipeline, there was growth in SD&D (BA 6.5) OTA obligations. Army SD&D OTA obligations increased from \$0.01 billion in FY 2019 to \$0.05 billion in FY 2020, an 808 percent increase. Finally, both Basic Research (BA 6.1) and Applied Research (BA 6.2) saw increased OTA obligations in 2020, but these two early-stage R&D activities saw mixed trends in their share of Army OTA spending. Army Basic Research OTA obligations increased from \$0.27 billion to \$0.41 billion, a 249 percent increase. However, Basic Research fell as a share of overall defense obligations from 5 percent to 3 percent. Applied Research saw a 249 percent increase, rising from \$0.27 billion to \$0.96 billion, and consequently rose as a share of Army R&D OTA obligations from 6 percent to 8 percent.

Figure 3-3: Army R&D OTA Obligations by Stage of R&D, 2015–2020



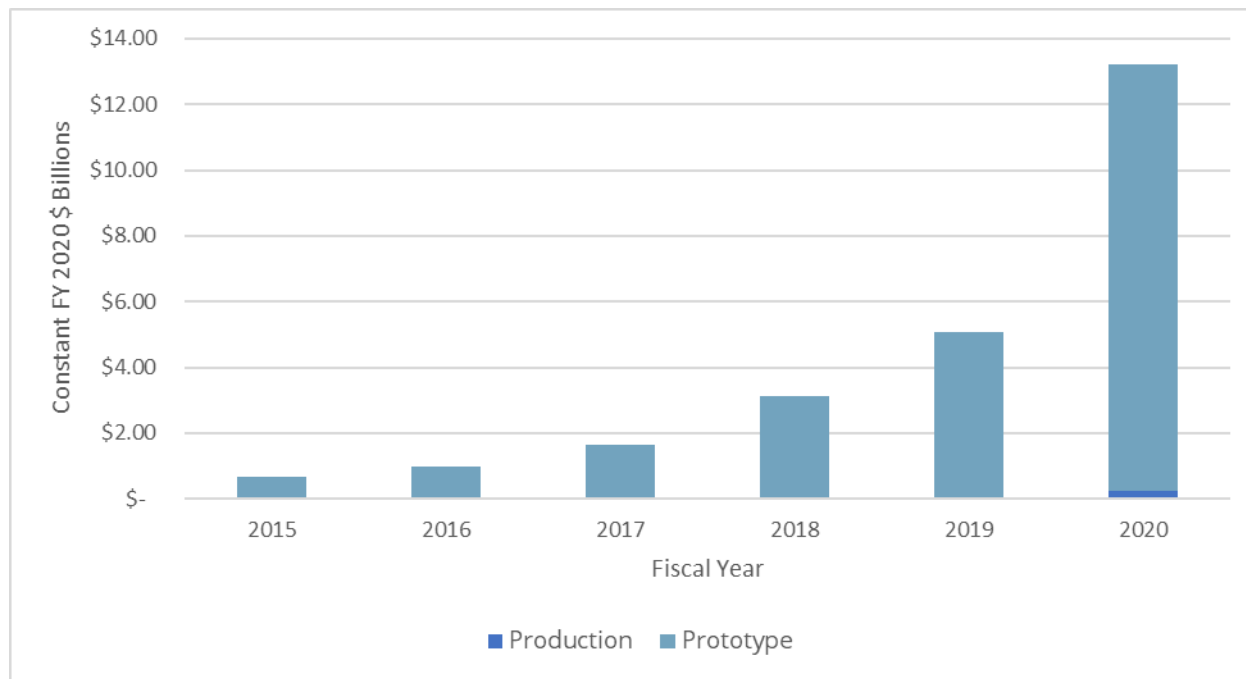
Source: FPDS; CSIS analysis.

ARMY OTA OBLIGATIONS BY TYPE OF AGREEMENT

Given the novelty of the DoD's follow-on prototyping authority, it is not surprising that only a small percentage of Army OTA obligations in recent years has gone to production, but there are still a few interesting insights to be gleaned for the limited data. Army production OTA obligations increased by 1,594 percent in FY 2020, rising from \$0.01 billion in FY 2019 to \$0.23 billion in FY 2020. While that \$0.23 billion pales in comparison to the \$12.99 billion the Army spent on prototyping, it is a little over a third of what the Navy spent on OTAs in total in FY 2020. In addition, the Army's Covid-19 response does include production of vaccines and antibodies, despite that OTA being classified as a prototype agreement. Although the data is limited now, this will be an area worth watching, particularly in the coming years as critical pillars of the Army's modernization strategy start to move from prototypes to production.¹⁶

¹⁶ Rhys McCormick, Greg Sanders, and Andrew Hunter, *Assessing the Affordability of the Army's Future Vertical Lift Portfolio* (Washington, DC: CSIS, November 2019) https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/200506_Industrial%20Base%20Army%20FVL_WEB_v3_%20FINAL.pdf.

Figure 3-4: Army OTA Obligations by Type of Agreement, 2015–2020



Source: FPDS; CSIS analysis.

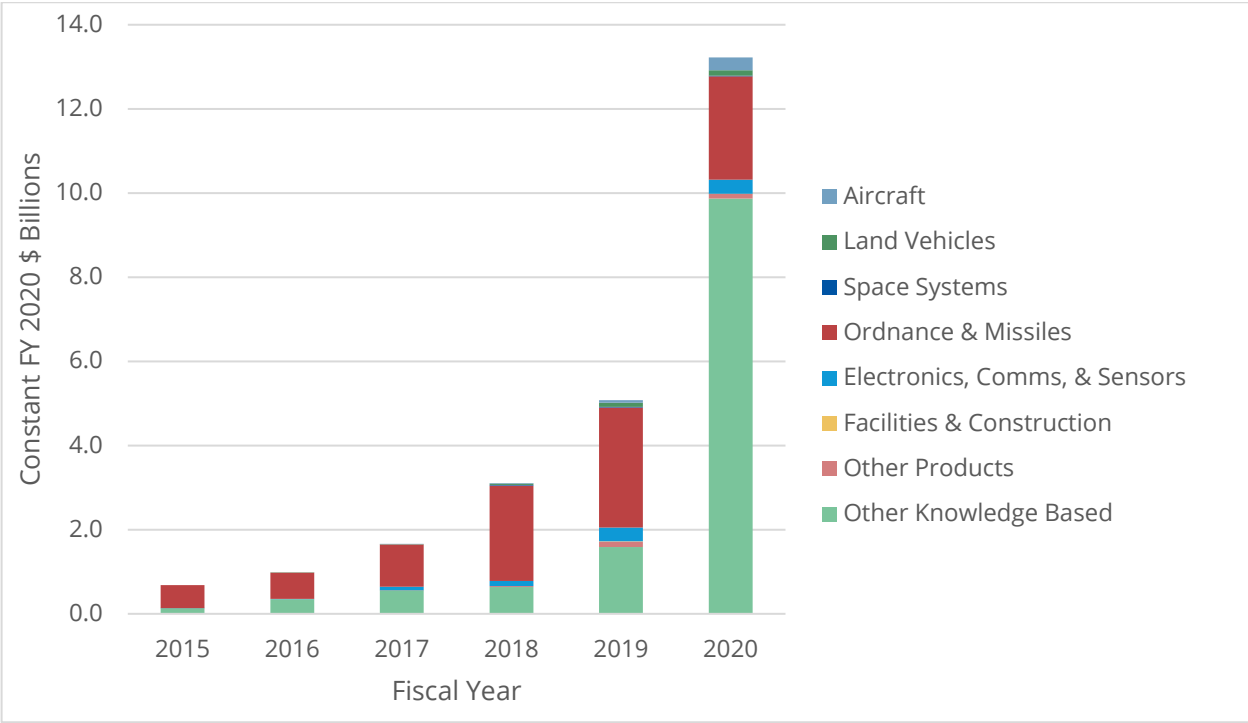
ARMY OTA OBLIGATIONS BY PLATFORM PORTFOLIO

Prior to the recent changes, Ordnance and Missiles accounted for the predominant share of Army OTA obligations. While Ordnance and Missiles has seen its market share slip in recent years, it remained the largest platform portfolio up until it was surpassed by Other R&D and Knowledge Based in FY 2020. This was driven both by a massive increase in Other R&D and Knowledge Based OTA obligations resulting from the Covid-19 response and by a decline in Ordnance and Missiles OTA obligations. Ordnance and Missiles OTA obligations declined 14 percent between FY 2019 and FY 2020, falling from \$2.85 billion to \$2.45 billion. As a share of overall Army OTA obligations, Ordnance and Missiles fell from 56 percent in FY 2019 to 19 percent in FY 2020.

As previously mentioned, Other R&D and Knowledge Based saw an enormous increase last year as the DoD heavily emphasized the usage of OTAs in its response to the coronavirus. Army Other R&D and Knowledge Based OTA obligations increased from \$1.58 billion in FY 2019 to \$9.87 billion in FY 2020, a 523 percent increase. While Covid-19 explains the significant increase seen last year, Other R&D and Knowledge Based OTA obligations had been trending upwards even in the years prior; they increased from \$0.13 billion in FY 2015 to \$0.63 billion in FY 2018 to \$1.58 billion in FY 2019. In total, Other R&D and Knowledge Based OTA obligations increased by 7,322 percent between FY 2015 and FY 2020.

Army Electronics and Communications (EC&S) OTA obligations, the third-largest Army OTA platform portfolio, has seen slow but steady growth in recent years. Army EC&S OTA obligations totaled \$0.34 billion in FY 2020, a 2 percent increase from the \$0.33 billion obligated in FY 2019. As a share of Army OTA obligations, EC&S fell from 7 percent to 3 percent over those years. However, between FY 2015 and FY 2020, Army ECS&S obligations have grown 27,552 percent.

Figure 3-5: Army OTA Obligations by Platform Portfolio, 2015–2020



Source: FPDS; CSIS analysis.

ARMY OTA OBLIGATIONS BY CONTRACTING OFFICE

The data show that the vast majority of Army OTAs are executed out of Picatinny Arsenal, which is unsurprising given its prominence across all of the DoD. Between FY 2015 and FY 2020, 86 percent of Army OTA obligations were executed by ACC-NJ. Other important contracting offices are Redstone Arsenal, Aberdeen Proving Ground (APG), APG Natick, and U.S. Army Tank-Automotive and Armaments Command (TACOM). Collectively, as seen in Table 3-1, these five contracting offices accounted for 22.6 billion in OTA obligations between FY 2015 and FY 2020, 91 percent of all Army OTA obligations in those years.

Table 3-1: Top 5 Army OTA Contracting Offices, 2015–2020

Contracting Office Rank	Contracting Office	FY 2020 Obligations (Billions)	Total Obligations 2015–2020 (Billions)
1	ACC Picatinny NJ	10.00	19.53
2	ACC Redstone Arsenal	0.97	1.27
3	ACC Aberdeen Proving Ground	0.56	0.69
4	ACC Aberdeen Proving Ground Natick	0.35	0.64

5	HQ US ARMY TACOM*	0.22	0.46
Top 5 Total		12.1	22.59

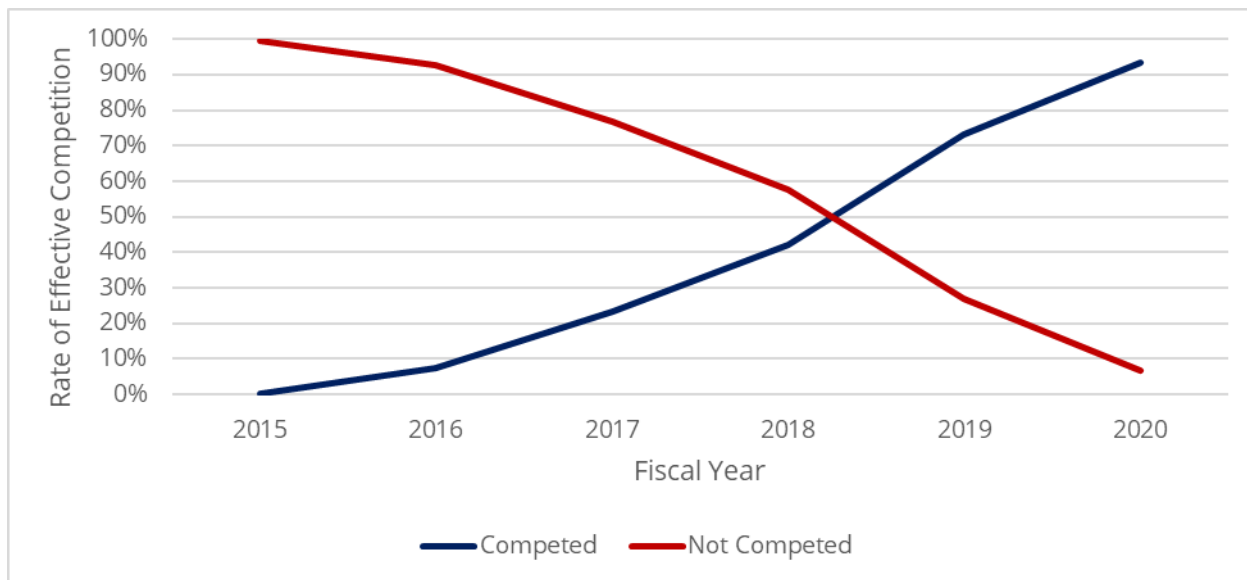
*7th Largest Contracting office for FY 2020

Source: FPDS; CSIS analysis.

3.2 | Competition for Army OTA Awards

The Army has shown a remarkable turnaround in its publicly reported rates of competition for its OTA obligations. In FY 2015 and FY 2016, less than 10 percent of all Army OTA obligations were competed, but the share of Army OTA obligations competed has been increased every year since FY 2015. In FY 2020, 93 percent of Army OTA obligations were competed compared to 7 percent not competed, a complete reversal of the abysmal FY 2016 trends.

Figure 3-6: Competition for Army OTA Obligations, 2015–2020



Source: FPDS; CSIS analysis.

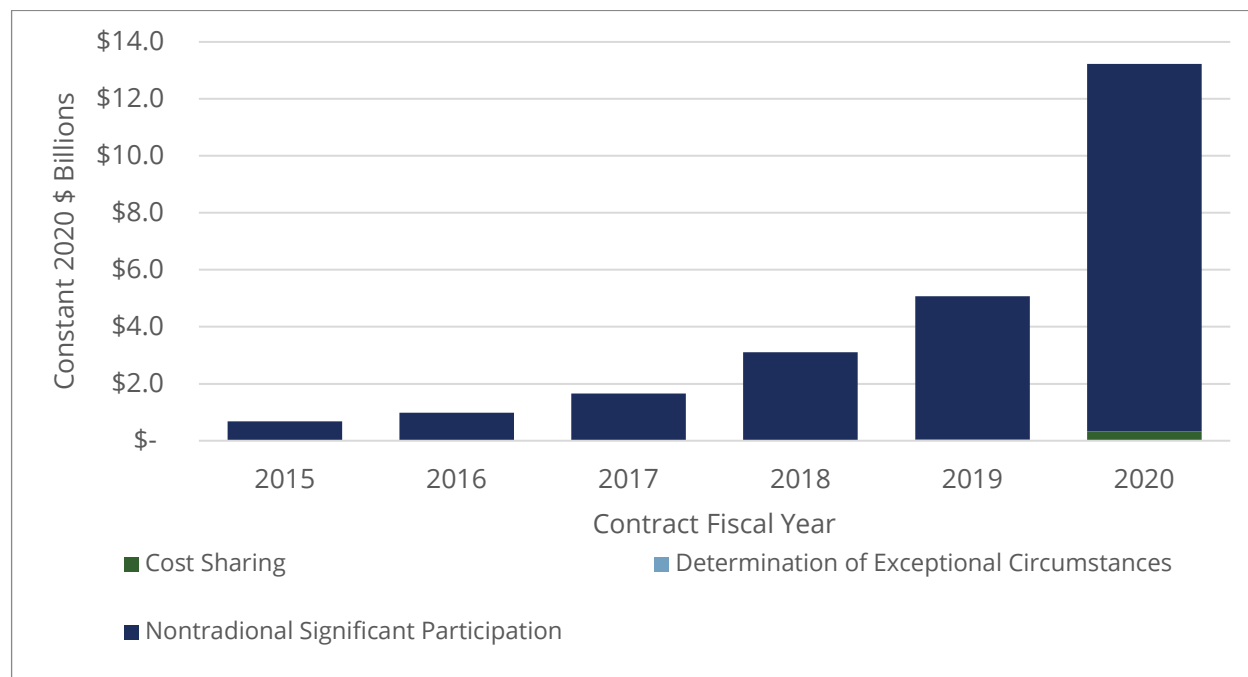
3.3 | Whom Is the Army Buying From?

As shown in Figure 3-8 below, nearly all Army OTA obligations in recent years have been awarded to vendors categorized as having nontraditional significant participation. Between FY 2015 and FY 2020, 98.5 percent of all Army OTA obligations were awarded to vendors categorized as nontraditional, compared to 1.5 percent of obligations awarded with cost sharing.

In FY 2020, OTA obligations awarded to vendors with cost sharing did outpace the growth in OTA obligations awarded to vendors categorized as having nontraditional significant participation, but this did not represent a significant change to the ongoing trends. Cost-sharing Army OTA

obligations grew at a rate of 613 percent in FY 2020 compared to the 157 percent growth rate in vendors categorized as having nontraditional significant participation, but cost sharing saw only a marginal increase in its share of Army OTA obligations, going from 1 percent to 2 percent. Finally, Army OTA obligations awarded following a Determination of Exceptional Circumstances increased by 398 percent in FY 2020, but this remains a negligible portion of the Army OTA portfolio, accounting for just 0.03 percent of Army OTA obligations.

Figure 3-7: Army OTA Obligations by Nontraditional Government Contractor Participation, 2015–2020



Source: FPDS; CSIS analysis.

TOP 20 ARMY OTA VENDORS

Between FY 2015 and FY 2020, the top five Army OTA vendors in order were Analytic Services Incorporated, Advanced Technology International, Consortium Management Group Incorporated, National Center for Manufacturing Sciences Inc, and Microsoft. These top five vendors accounted for \$19.8 billion, 80 percent of Army OTA obligations between FY 2015 and FY 2020.

Looking beyond the top five defense OTA vendors to the top 20 vendors, there was more diversity, but consortia continued to lead the way. Among the top 20 Army OTA vendors between FY 2015 and FY 2020, there were 11 consortia compared to two Big Five Defense Firms, one Big Five Information Technology firm, two large defense firms, two large nontraditional defense firms, and two small nontraditional defense firms. The 11 consortia accounted for 83 percent of all Army OTA obligations between FY 2015 and FY 2020, compared to 2 percent for the Big Five defense firms, 1 percent for Microsoft, and 1 percent for the large defense firms, large nontraditional vendors, and small nontraditional vendors.

Table 3-2: Top 20 Vendors, Army OTA Obligations, 2015–2020

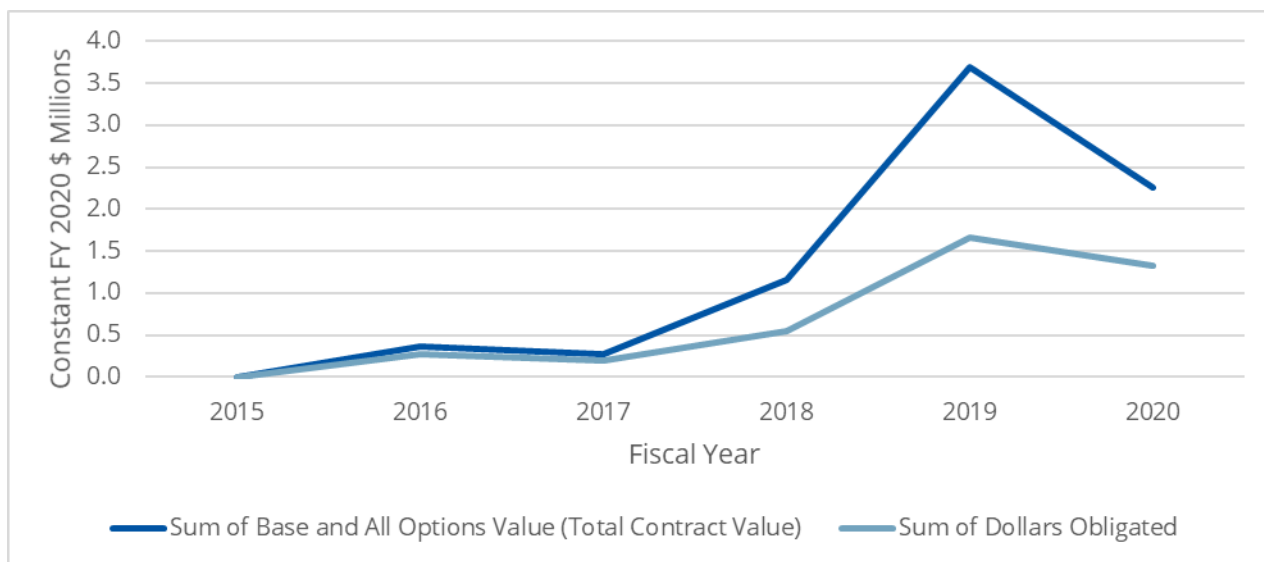
Vendor Rank	Global Vendor Name	Vendor Type	Total Obligation 2015–2020 (Billions)
1	Analytic Services	Consortium	15.34
2	Advanced Technology International	Consortium	1.67
3	Consortium Management Group	Consortium	1.46
4	National Center for Manufacturing Sciences	Consortium	0.78
5	Microsoft	Big Five IT	0.55
Top 5 Total			19.80
6	System of Systems Consortium (SOSSEC)	Consortium	0.53
7	Medical Technology Enterprise Consortium	Consortium	0.35
8	Defense Energy Center of Excellence	Consortium	0.32
9	Raytheon	Big Five Defense	0.25
10	Defense Automotive Technologies Consortium	Consortium	0.24
11	ICON PLC	Large Nontraditional	0.21
12	Lockheed Martin	Big Five Defense	0.21
13	Consortium for Energy, Environment, and Demilitarization	Consortium	0.18
14	Textron	Large Defense	0.18
15	Palantir Technologies	Large Defense	0.12
16	Ology Bioservices	Small Nontraditional	0.12
17	Consortium For Command, Control, Communications, and Computer Technologies	Consortium	0.11
18	Skywater Technology Foundry	Small Nontraditional	0.11
19	World Wide Technology Holding	Large Nontraditional	0.06
20	Insitech	Consortium	0.06
Top 20 Total			22.86
Overall Army Total			24.27

Source: FPDS; CSIS analysis.

Air Force OTA Trends

The data show that the Air Force has seen growth in OTA obligations in recent years, but that it saw a decline in obligations between FY 2019 and FY 2020. Air Force OTA obligations increased from \$0.01 billion in FY 2015 to \$1.33 billion in FY 2020, a 24,261 percent increase. However, Air Force OTA obligations declined by 20 percent last year, falling from \$1.7 billion to \$1.3 billion.

Figure 4-1: Air Force OTA Obligations, 2015–2020



Source: FPDS; CSIS analysis.

4.1 | What Is the Air Force Buying?

AIR FORCE OTA OBLIGATIONS BY AREA

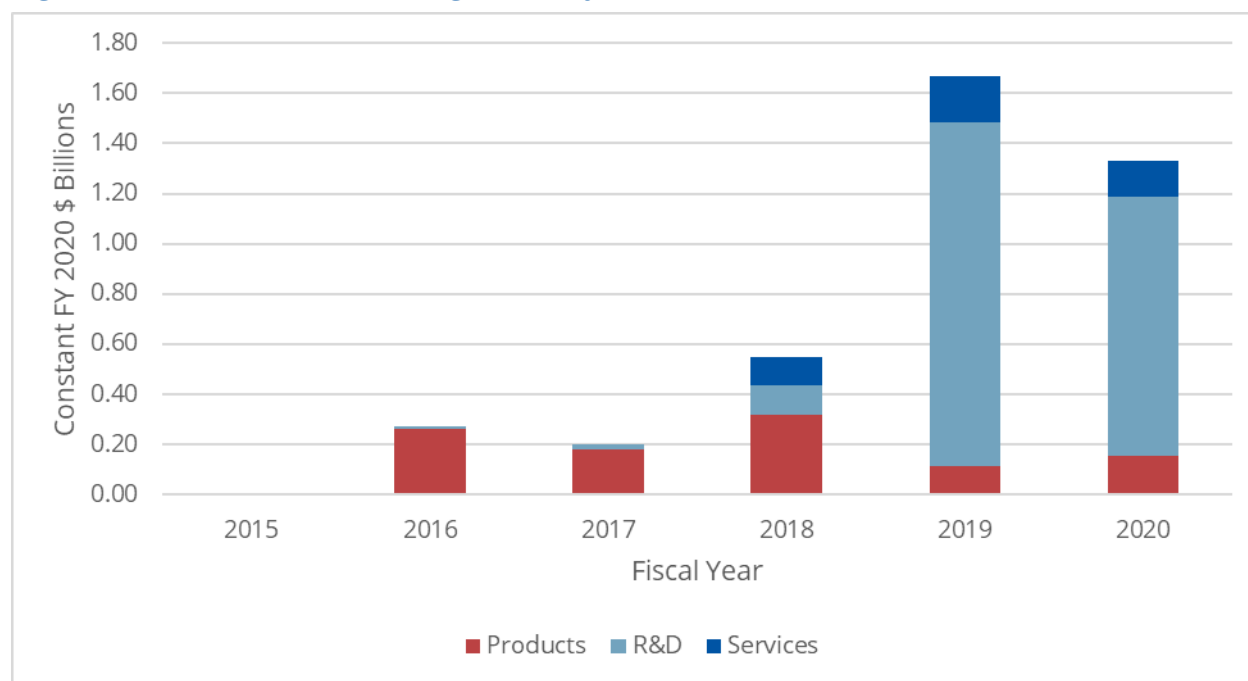
The Air Force predominantly uses OTAs for R&D activities, but not to the same degree as the Army. R&D accounted for 63 percent of Air Force OTA obligations between FY 2015 and FY 2020, compared to 26 percent for products and 11 percent for services. Prior to the recent changes, the Air Force leveraged OTAs for a minimal set of R&D activities, and it is only in the most recent years that the Air Force has experienced substantial growth. In FY 2015, Air Force R&D OTA obligations totaled just \$0.01 billion. They remained minimal until they began to grow in earnest in FY 2018, when Air Force R&D OTA obligations totaled \$0.12 billion. Between FY 2018 and FY 2019, Air Force R&D OTA obligations grew from \$0.12 billion to \$1.37 billion. However, Air Force R&D OTA obligations declined by 25 percent in FY 2020, falling to \$1.03 billion. Still, there has

been remarkable growth overall: between FY 2015 and FY 2020, Air Force R&D OTA obligations increased by 18,799 percent.

While the Air Force was slower to adopt OTAs for R&D than others, it made greater usage of OTAs for products as early as FY 2016. In FY 2016, Air Force products OTA obligations totaled \$0.26 billion compared to nonexistent usage the year prior. Usage subsequently declined in FY 2017 before rebounding in FY 2018 only to fall more sharply in FY 2019. Between FY 2019 and FY 2020, Air Force products OTA usage grew from \$0.11 billion to \$0.16 billion, a 36 percent increase.

The Air Force made negligible usage of OTAs for services in the beginning years of the OTA revolution but has made large strides in recent years. After nonexistent levels between FY 2015 and FY 2017, Air Force services OTA obligations have averaged \$0.15 billion annually between FY 2018 and FY 2020, accounting for 12 percent of total Air Force OTA obligations over that period.

Figure 4-2: Air Force OTA Obligations by Area, 2015–2020



Source: FPDS; CSIS analysis.

AIR FORCE OTA OBLIGATIONS BY STAGE OF R&D

Unlike the Army—where, despite uneven growth between the different R&D activities, there is still notable activity in different stages of the weapon development pipeline—Air Force OTA R&D activities are primarily concentrated in two activities: Applied Research (BA 6.2) and SD&D (BA 6.5).

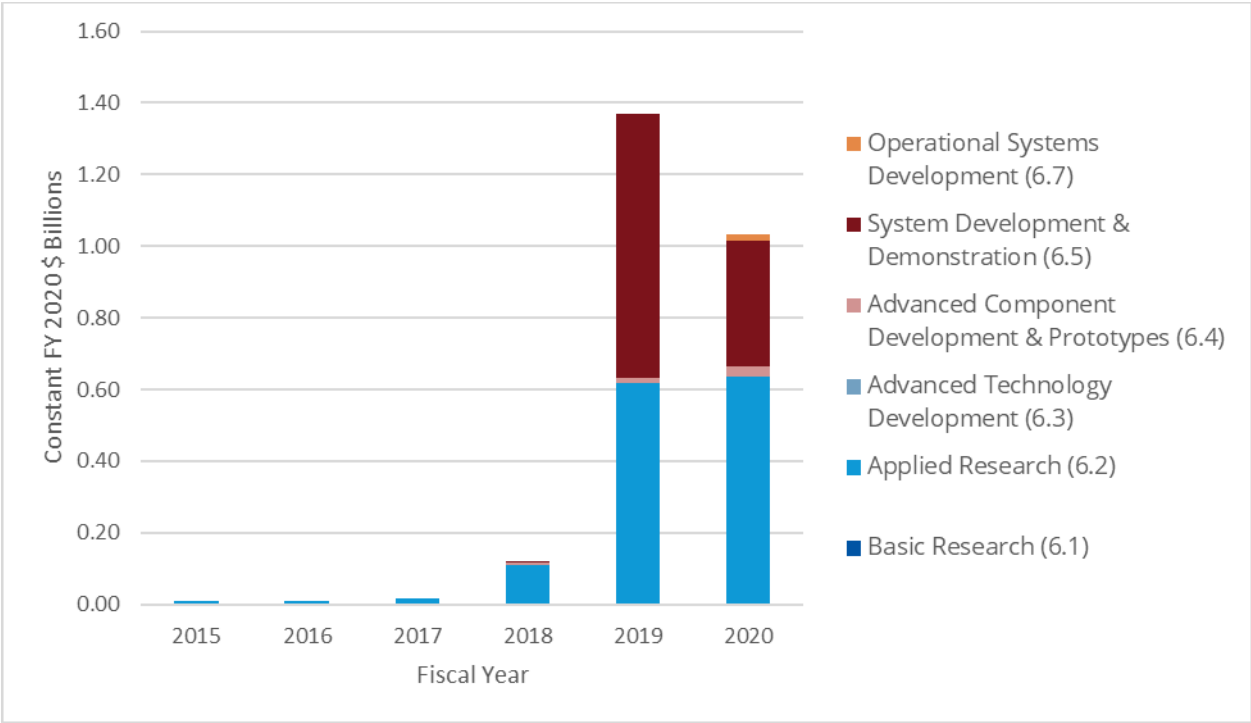
Applied Research (BA 6.2), the largest share of Air Force R&D activities, saw slow but steady growth at the start of the OTA revolution before jumping massively in FY 2019: from \$0.01 billion in FY 2015 and FY 2016 to \$0.11 billion in FY 2018, and then to \$0.62 billion in FY 2019. Air Force Applied Research OTA obligations continued growing in FY 2020, increasing to \$0.64 billion, a 3

percent growth from the previous year. In total, between FY 2015 and FY 2020, Air Force Applied Research OTA obligations increased by 11,537 percent.

Air Force SD&D (BA 6.5) had negligible OTA activities prior to FY 2019 only to see a massive jump in OTA obligations that year. After totaling less than \$0.01 billion in OTA obligations in FY 2018, this increased to \$0.74 billion in FY 2019. This one-year growth was not sustained, however, as Air Force SD&D subsequently declined by 53 percent in FY 2020, totaling just \$0.35 billion. Despite this decline, SD&D accounted for 34 percent of total Air Force R&D OTA obligations in FY 2020.

Although Advanced Component Development & Prototypes (BA 6.4) accounted for just 3 percent of Air Force R&D activities in FY 2020, Air Force ACDP OTA obligations increased by 154 percent between FY 2019 and FY 2020.

Figure 4-3: Air Force R&D OTA Obligations by Stage of R&D, 2015–2020

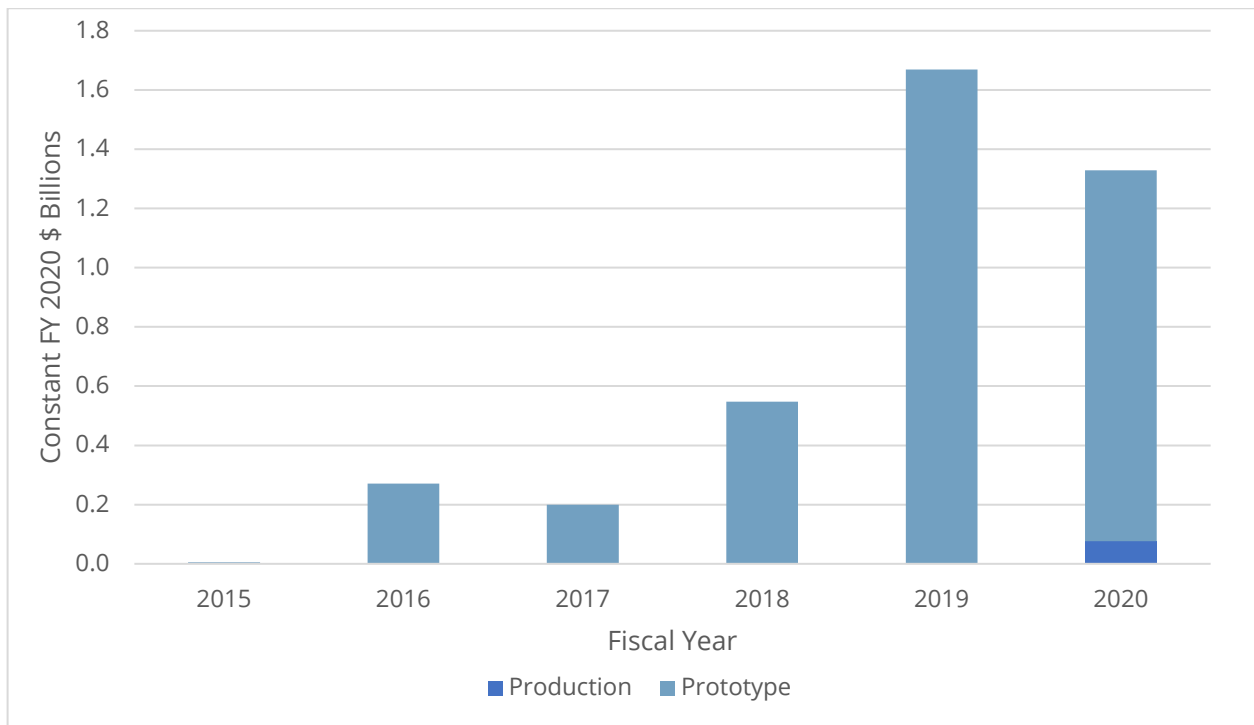


Source: FPDS; CSIS analysis.

AIR FORCE OTA OBLIGATIONS BY TYPE OF AGREEMENT

The data show that \$0.08 billion (6 percent) of total Air Force OTA obligations were awarded to production in FY 2020, compared to \$1.25 billion in prototyping agreements. Although still minimal, this 6 percent was higher than the 2 percent of Army and overall DoD OTA obligations awarded to production.

Figure 4-4: Air Force OTA Obligations by Type of Agreement, 2015–2020



Source: FPDS; CSIS analysis.

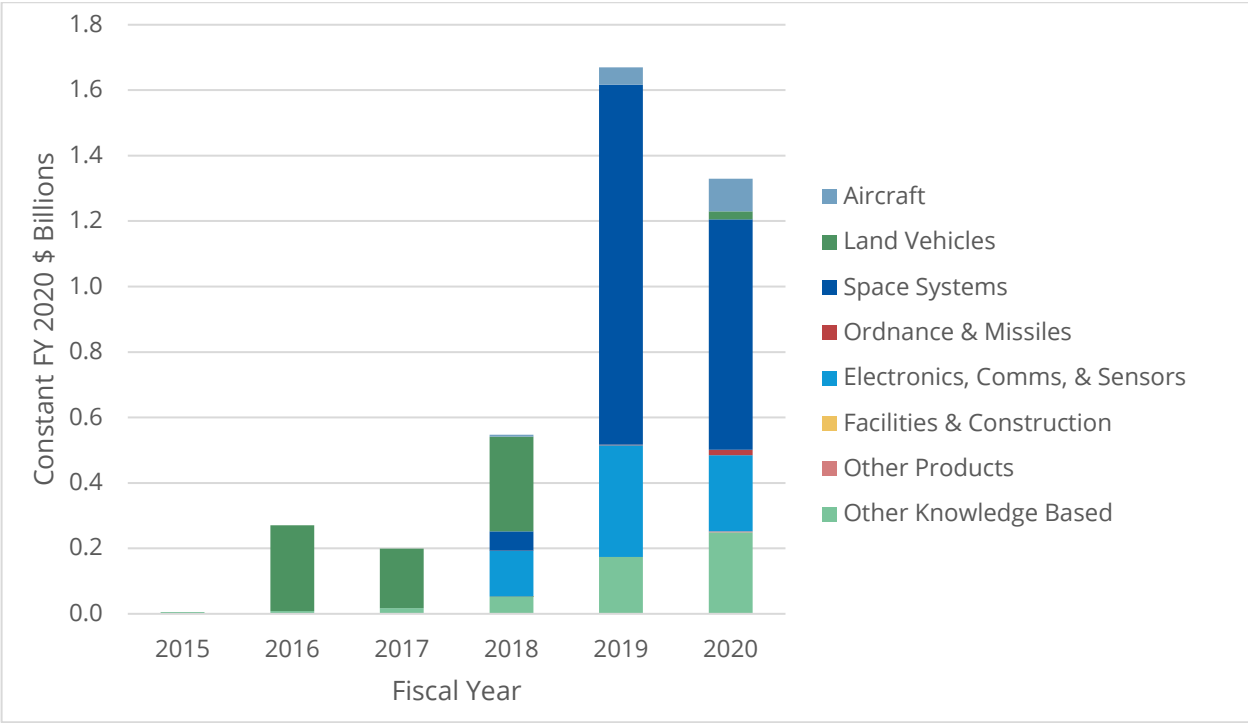
AIR FORCE OTA OBLIGATIONS BY PLATFORM PORTFOLIO

Space Systems was slow to get started but has become the largest Air Force OTA platform portfolio in recent years. Prior to 2017, OTA obligations for Air Force Space Systems were negligible, and obligations totaled just \$0.06 billion in FY 2018. However, in 2019, Air Force Space Systems OTA spending jumped all the way up to \$1.1 billion. Air Force spending on Missile and Space Systems under OTAs did decline by 36 percent in FY 2020, falling to \$0.7 billion, but the platform portfolio was still the largest in the Air Force OTA—with over twice the spending of the next portfolio down.

Similar to Space Systems, the Air Force made negligible usage of OTAs for EC&S prior to the recent statutory changes, but this portfolio has seen a slower uptick since. Air Force EC&S OTA obligations totaled \$0.14 billion in FY 2018 before jumping up to \$0.34 billion in FY 2019. Again, similar to Space Systems, Air Force EC&S declined in FY 2020, falling to \$0.23 billion, a 32 percent fall from the previous year.

Unlike other platform portfolios which had nonexistent usage prior to the recent statutory changes, the Air Force had already made use of OTAs for Other R&D and Knowledge Based in a small set of activities. In FY 2015, for instance, the Air Force spent \$0.01 billion on Other R&D and Knowledge based, and that figure has steadily grown in the years since. Between FY 2015 and FY 2020, Air Force OTA obligations for Other R&D and Knowledge Based has grown from \$0.01 billion in FY 2015 to \$0.25 billion in FY 2020, a 4,466 percent increase.

Figure 4-5: Air Force OTA Obligations by Platform Portfolio, 2015–2020



Source: FPDS; CSIS analysis.

AIR FORCE OTA OBLIGATIONS BY CONTRACTING OFFICE

The data show that while the Air Force has a dominant OTA contracting office—Launch Systems Enterprise Directorate—this does not have same market share as the Army’s dominant contracting office, ACC-NJ. Between FY 2015 and FY 2020, Launch Systems Enterprise Directorate accounted for \$1.8 billion in OTA obligations, or 46 percent of total Air Force OTA obligations over that period. Outside of Launch Systems Enterprise Directorate, the other four largest Air Force contracting offices in order were Space and Missile Systems Center Contracting Directorate, Air Force Life Cycle Management Center (AFLMC) C3IN, USAF SBIR STTR Contracting, and the AFLMC Digital Directorate. In total, the top five Air Force contracting offices accounted for \$3.4 billion in OTA obligations between FY 2015 and FY 2020, 84 percent of all Air Force OTA obligations over that period.

Table 4-1: Top 5 Air Force OTA Contracting Offices, 2015–2020

Contracting Office Rank	Contracting Office	FY 2020 Obligations (Billions)	FY 2015–2020 Obligations (Billions)
1	Launch Systems Enterprise Directorate	0.37	1.84
2	Space and Missile Systems Center Contracting Directorate	0.34	0.76

3	AFLCMC: C3IN*	0.11	0.40
4	USAF SBIR STTR C*	0.14	0.20
5	AFLCMC: Digital Directorate	0.07	0.17
Top 5 Totals		1.03	3.38
Top 5 Share of Total Airforce		78%	84%

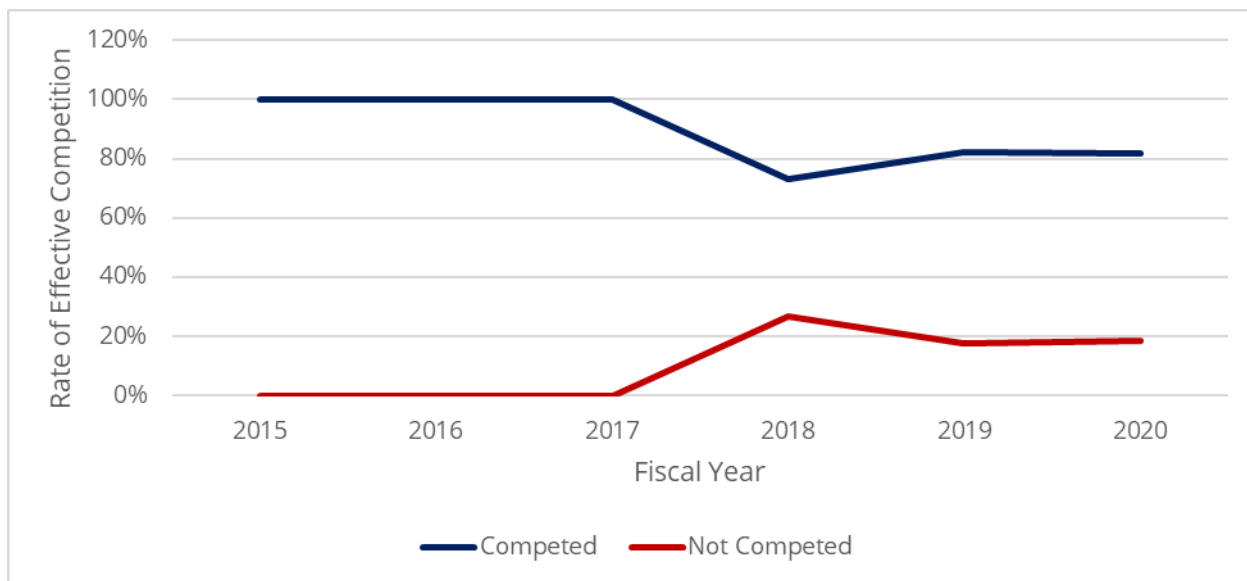
*In FY 2020 the 3rd and 4th ranked contracting offices were reversed

Source: FPDS; CSIS analysis.

4.2 | Competition for Air Force OTA Awards

Between FY 2015 and FY 2017, when the Air Force made more minimal usage of OTAs, they reported a 100 percent competition rate. In FY 2017, as OTAs became more prevalent across the Air Force, their rate of reported competition fell to 73 percent. In FY 2019, the rate of reported competition for Air Force OTA obligations rose to 82 percent and remained steady at that level in FY 2020.

Figure 4-6: Competition for Air Force OTA Obligations, 2015–2020



Source: FPDS; CSIS analysis.

4.3 | Whom Is the Air Force Buying From?

AIR FORCE OTA OBLIGATIONS BY NONTRADITIONAL GOVERNMENT CONTRACTOR PARTICIPATION

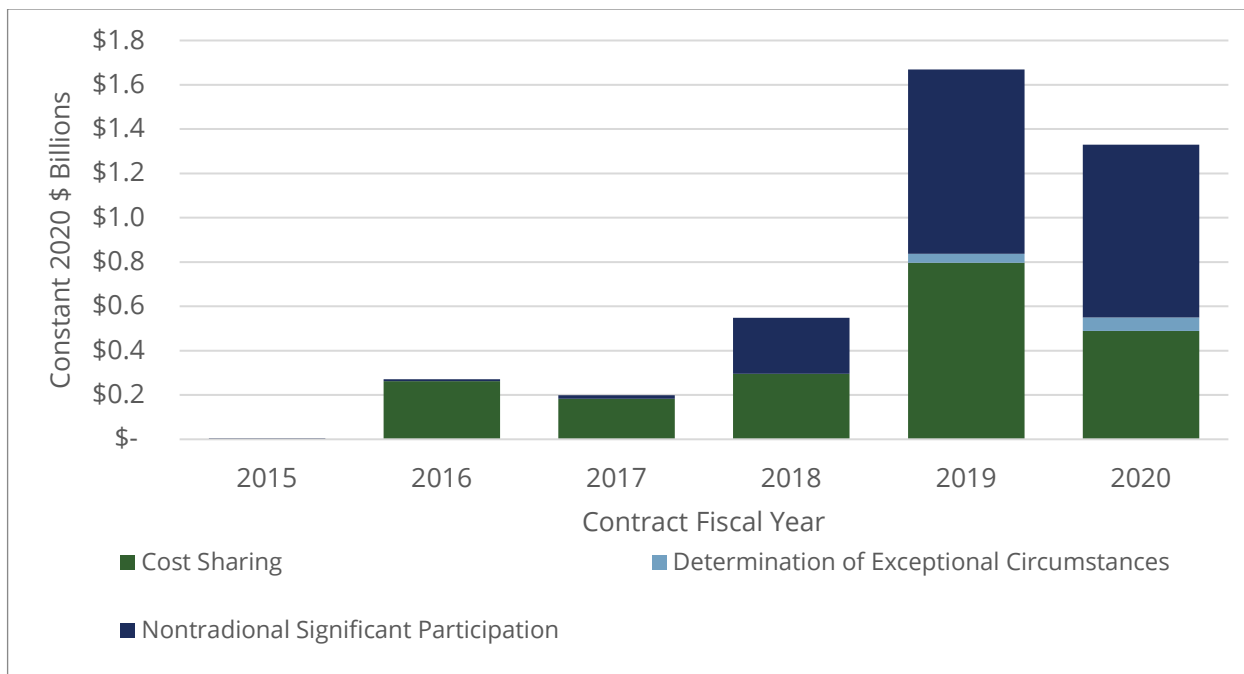
As shown in Figure 3-7 below, unlike the Army, where a majority of OTA obligations were awarded to vendors categorized as having nontraditional significant participation, the Air Force has seen more of a split between nontraditional significant participation and cost sharing.

Immediately following the implementation of the recent statutory changes, the majority of OTA obligations in FY 2016 and FY 2017 was awarded via cost sharing: 97 and 91 percent of Air Force OTA obligations, respectively. However, as the years have gone on, the share of Air Force OTA obligations awarded via cost sharing has steadily fallen. In FY 2018, the share fell to 54 percent, followed by 48 percent in FY 2019, and finally 37 percent in FY 2020. In total between FY 2015 and FY 2020, 50 percent of all Air Force OTA obligations were awarded via cost sharing.

In FY 2015, the small number of Air Force OTA obligations was 100 percent awarded to vendors categorized as having nontraditional significant participation. As Air Force OTA obligations grew in FY 2016 and FY 2017, the growth in nontraditional significant participation did not keep pace with the growth in cost sharing. Whereas cost-sharing OTA obligations totaled \$0.26 billion and \$0.18 billion in FY 2016 and FY 2017 respectively, nontraditional significant participation totaled just \$0.01 billion and \$0.02 billion. That began to change in FY 2018, when the total dollars awarded to vendors categorized as having nontraditional significant participation began to grow at rates equal to the rate of growth seen in cost sharing. In FY 2018, Air Force OTA obligations awarded to vendors categorized as having nontraditional significant participation grew to \$0.25 billion and subsequently to \$0.83 billion in FY 2019. In FY 2020, Air Force cost-sharing OTA obligations declined by 39 percent, compared to the more gradual 6 percent decline in vendors categorized as having nontraditional significant participation.

Finally, Determination of Exceptional Circumstances has seen its market share rise slightly in the last two years: in FY 2019, 2 percent of OTA obligations were awarded after a Determination of Exceptional Circumstances, and that figure rose to 5 percent in FY 2020.

Figure 4-7: Air Force OTA Obligations by Nontraditional Government Contractor Participation, 2015–2020



Source: FPDS; CSIS analysis.

TOP 20 AIR FORCE OTA VENDORS

Between FY 2015 and FY 2020, the top five Air Force OTA vendors in order were Analytic Services Incorporated, Northrop Grumman, United Launch Alliance (ULA), Aerojet Rocketdyne Holdings, and SOSSEC. These top five vendors accounted for \$2.36 billion, 59 percent of Air Force OTA obligations between FY 2015 and FY 2020.

Looking beyond the top five Air Force OTA vendors to the top 20 vendors, unlike the Army, there was a lot more diversity. There were only four consortia, compared to two Big Five Defense Firms, two Big Five Information Technology firms, five large defense firms, five large nontraditional defense firms, and two small nontraditional defense firms. The four consortia accounted for just 29 percent of all Air Force OTA obligations between FY 2015 and FY 2020, compared to 29 percent for the five large defense firms. Beyond the consortia and the large defense firms, Northrop Grumman and Raytheon accounted for 14 percent of Air Force OTA obligations between FY 2015 and FY 2020, the two Big Five IT firms accounted for 5 percent, the five large nontraditional defense firms accounted for 14 percent, and the two small nontraditional firms accounted for just 1 percent.

Table 4-2: Top 20 Vendors: Air Force OTA Obligations, 2015–2020

Vendor Rank	Global Vendor Name	Vendor Type	FY 2015–2020 Obligations (Billions)
1	Analytic Services	Consortium	0.76
2	United Launch Alliance (ULA)	Large Defense	0.50

3	Northrop Grumman	Big Five Defense	0.50
4	Aerodyne Rocketdyne Holdings	Large Defense	0.34
5	System of Systems Consortium (SOSSEC)	Consortium	0.26
Top 5 Totals			2.36
6	Blue Origin	Large Nontraditional	0.22
7	Orbital ATK	Large Defense	0.18
8	Space Exploration Technologies Corp. (SpaceX)	Large Nontraditional	0.16
9	Pivotal Software (VMware)	Large Nontraditional	0.16
10	Microsoft	Big Five IT	0.11
11	Consortium Management Group	Consortium	0.10
12	AT&T	Big Five IT	0.09
13	Accenture	Large Defense	0.08
14	UNISYS	Large Nontraditional	0.08
15	Raytheon	Big Five Defense	0.07
16	Textron Aviation	Large Defense	0.05
17	Southwest Research Institute	Consortium	0.04
18	Rhombus Power	Small Nontraditional	0.02
19	Mile Two	Large Nontraditional	0.01
20	Beta Technologies	Small Nontraditional	0.01
Top 20 Total			3.73
Overall Air Force Total			4.02

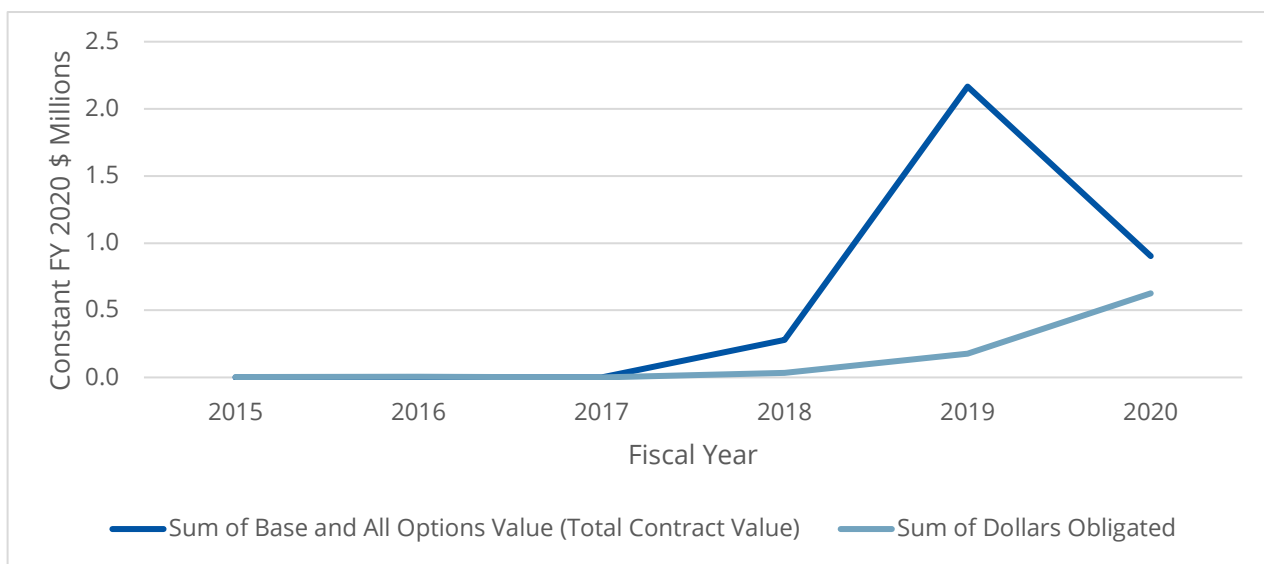
Source: FPDS; CSIS analysis.

Navy OTA Trends

The data show that the Navy has been slow to join the OTA revolution compared to the Army and the Air Force, but that it has started to make greater usage of OTAs in the last two years. Between FY 2015 and FY 2018, Navy OTA obligations only totaled on average \$0.01 billion annually. However, in FY 2019, Navy OTA obligations increased from \$0.03 billion to \$0.18 billion. This trend continued in FY 2020, jumping from \$0.18 billion to \$0.63 billion, a 253 percent increase. Between FY 2015 and FY 2020, Navy OTA obligations increased by 24,633 percent.

Of note, Navy Sum of Base and All Options value—the total potential contract value—saw a massive spike in FY 2019, rising from \$0.28 billion in FY 2019 to \$2.17 billion in FY 2020. However, that one-year spike proved to be short lived, as Sum of Base and All Options value declined by 58 percent in FY 2020, falling to \$0.9 billion. Despite total potential contract value falling precipitously last year, OTA obligations continued rising. Total potential contract value is cumulative; this reduction shows not that existing OTAs have had their ceiling lowered but instead that the new OTAs added in 2020 had a lower potential ceiling than those added in 2019. This suggests that Navy OTA obligations may continue rising at a steady rate, but may not attain the massive explosion seen in other DoD components.

Figure 5-1: Navy OTA Obligations, 2015–2020



Source: FPDS; CSIS analysis.

5.1 | What Is the Navy Buying?

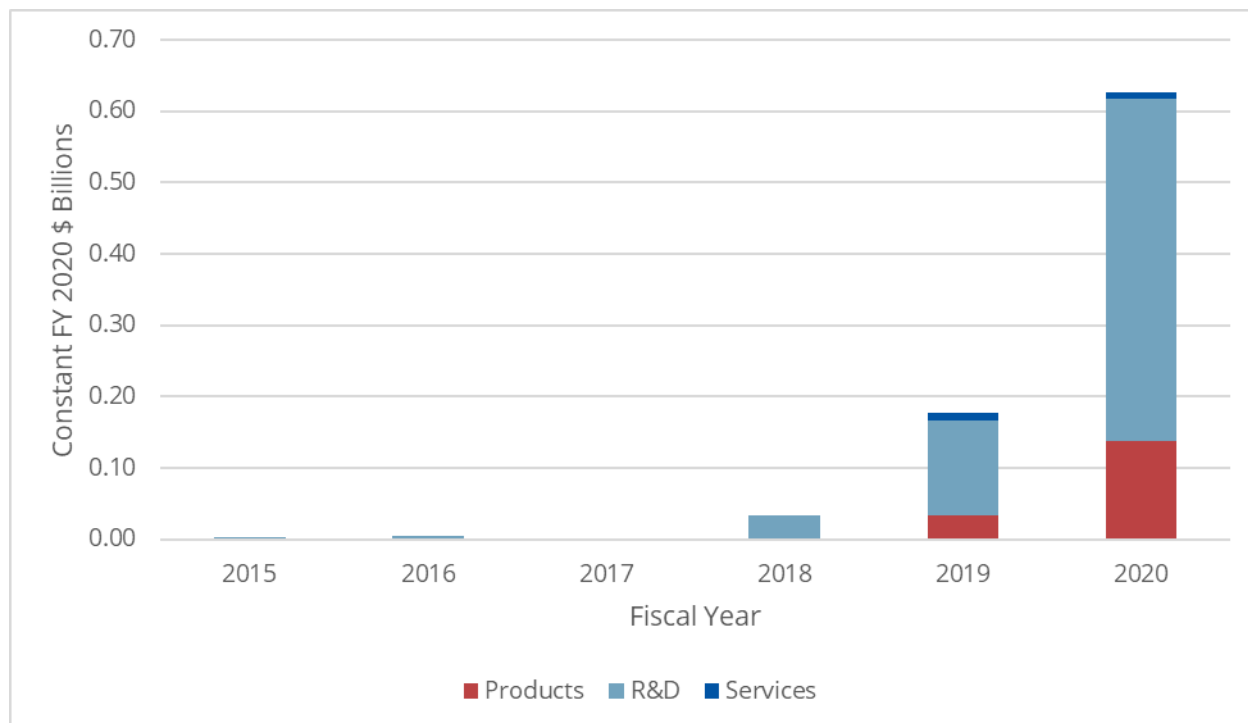
NAVY OTA OBLIGATIONS BY AREA

Similar to the Army and Air Force, the Navy predominantly uses OTAs for R&D activities, but it has made greater usage of OTAs for products in terms of market share than the other two services. Even as the Navy was slower to adopt OTAs, it made use of them for a small but steady set of R&D activities between FY 2015 and FY 2018, around \$0.01 billion annually. In FY 2019, Navy R&D OTA obligations increased from \$0.03 billion the previous year to \$0.13 billion. Navy R&D OTA obligations continued rising, increasing to 257 percent, totaling \$0.48 billion. Between FY 2015 and FY 2020, Navy R&D OTA obligations increased from less than \$0.01 billion to \$0.48 billion, an 18,868 percent increase. Over that same period, R&D accounted for 78 percent of all Navy OTA obligations.

Over the last two years, the Navy has made greater usage of OTAs for products, after making insignificant usage of them in the years prior. Between FY 2019 and FY 2020, Navy products OTA obligations grew from \$0.03 billion to \$0.14 billion, a 318 percent increase—higher than the rate of growth in R&D. As a share of Navy OTA obligations, products rose from 4 percent in FY 2018, to 18 percent in FY 2019, to 22 percent in FY 2020.

Finally, the Navy has made negligible usage of OTAs for services in recent years, accounting for on average just \$0.01 billion in the last two years.

Figure 5-2: Navy OTA Obligations by Area, 2015–2020



Source: FPDS; CSIS analysis.

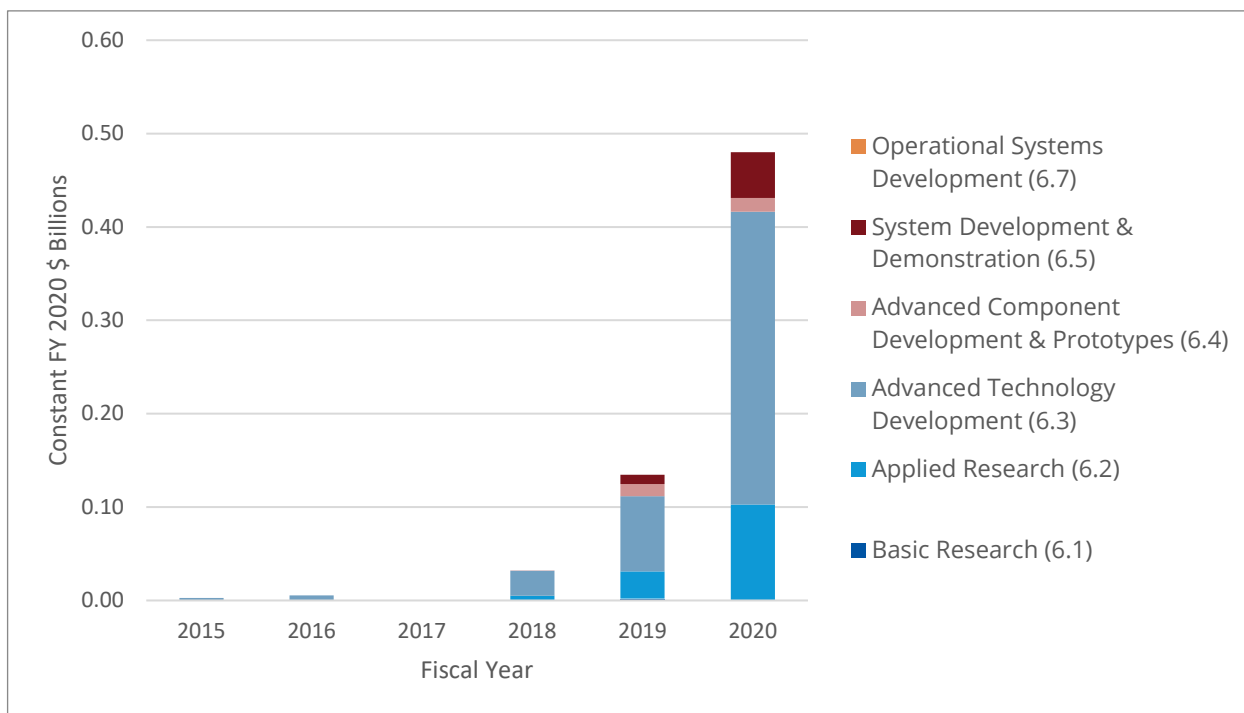
NAVY OTA OBLIGATIONS BY STAGE OF R&D

Similar to the Air Force, Navy R&D activities being conducted using OTAs has largely been consolidated within a limited set of R&D activities: Advanced Technology Development (BA 6.3) and Applied Research (BA 6.2).

Advanced Technology Development (6.3), the largest share of Navy R&D activities, accounted for roughly 65 percent of Navy OTA obligations over the last five years. The Navy Advanced Technology Development trends resemble the Navy SD&D trends in recent years: slow but small volatile spending between FY 2015 and FY 2017, followed by more rapid growth in the last three years. Navy Advanced Technology Development OTA obligations increased from \$0.08 billion in FY 2019 to \$0.31 billion in FY 2020, a 288 percent increase. Between FY 2015 and FY 2020, Navy Advanced Technology Development OTA obligations increased from less than \$3 million to \$0.31 billion, a 12,277 percent increase.

Unlike Advanced Technology Development, which saw spending over the entire FY 2015 to FY 2020 period, it is only in the last three years that Navy Applied Research OTA obligations have reported funding. Over the last three years, Navy Advanced Technology Development OTA obligations increased from \$0.01 billion in FY 2018 to \$0.10 billion in FY 2020, a 1,981 percent increase. As a share of Navy R&D OTA obligations, Advanced Technology Development went from null between FY 2015 and FY 2017 to 16 percent in FY 2018 and 21 percent in both FY 2019 and FY 2020.

Figure 5-3: Navy R&D OTA Obligations by Stage of R&D, 2015–2020

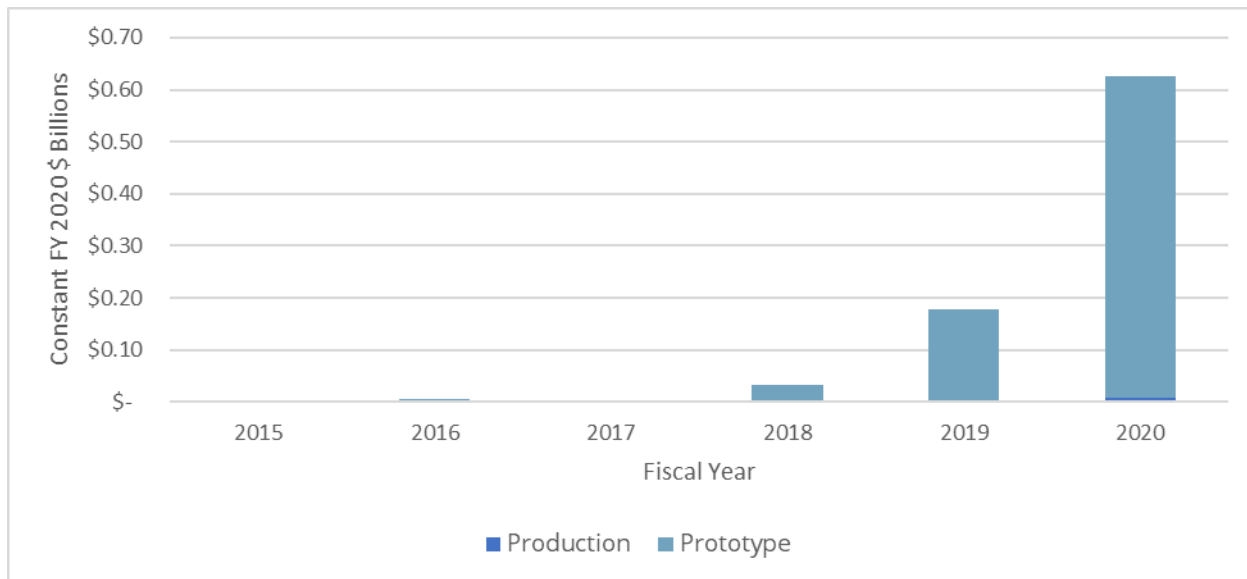


Source: FPDS; CSIS analysis.

NAVY OTA OBLIGATIONS BY TYPE OF AGREEMENT

The data show that Navy production OTA agreements remain in their infancy, accounting for \$0.01 billion—just 1 percent of Navy OTA obligations in FY 2020. This share of Navy OTA obligations going to production is lower than either the Army (2 percent) or the Air Force (6 percent). Given the immaturity of Navy OTA usage compared to the other services, this is not too surprising.

Figure 5-4: Navy OTA Obligations by Type of Agreement, 2015–2020



Source: FPDS; CSIS analysis.

NAVY OTA OBLIGATIONS BY PLATFORM PORTFOLIO

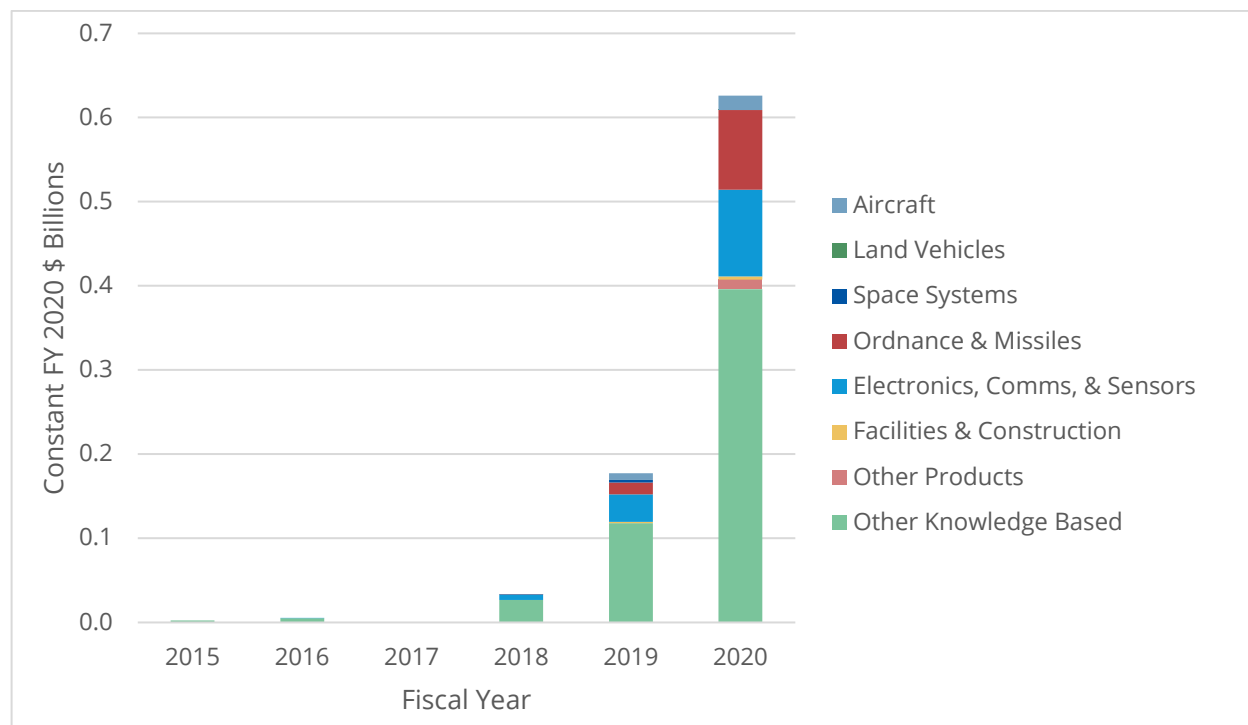
Other R&D and Knowledge Based has historically been the Navy's largest platform portfolio category, and while that has remained true in recent years, it has seen its market share decline despite increases in total OTA obligations. Navy Other R&D and Knowledge Based OTA obligations increased from \$0.03 billion in FY 2018 to \$0.12 billion in FY 2019, but this portfolio's market share declined from 81 percent to 67 percent. In FY 2020, Navy Other R&D and Knowledge Based OTA obligations increased by 235 percent, rising from \$0.12 billion to \$0.4 billion. Between FY 2015 and FY 2020, Navy Other R&D and Knowledge Based increased by 15,537 percent.

EC&S, the second-largest Navy platform portfolio, has shown notable growth in the last two years. Navy EC&S OTA obligations increased \$0.03 billion in FY 2019 to \$0.1 billion in FY 2020, a 214 percent increase. As a share of Navy OTA obligations, EC&S has accounted for between 16 to 19 percent annually between FY 2018 and FY 2020.

Ordnance and Missiles, the Navy's third-largest platform, has also seen notable growth in the last two years. Navy Ordnance and Missiles OTA obligations increased from less than \$0.1 million in FY 2018 to \$0.01 billion in FY 2019, before increasing by 206 percent in FY 2020 to \$0.09 billion. As a share of Navy OTA obligations, Missile and Space Systems accounted for 0.3 percent of Navy OTA obligations in FY 2018, rose to 8 percent in FY 2019, and then reached 15 percent in FY 2020.

After accounting for no notable spending before FY 2018, Navy Aircraft OTA obligations increased by 114 percent in FY 2020. Navy Aircraft OTA obligations increased from \$0.01 billion in FY 2019 to \$0.02 billion FY 2020 and therefore rose as a share of Navy OTA obligations to 3 percent.

Figure 5-5: Navy OTA Obligations by Platform Portfolio, 2015–2020



Source: FPDS; CSIS analysis.

NAVY OTA OBLIGATIONS BY CONTRACTING OFFICE

The data show that although the top five Navy OTA contracting offices account for most Navy OTA obligations between FY 2015 and FY 2020, the work is more evenly distributed between the different contracting offices than for the Army or the Air Force. The Navy's largest contracting office, Naval Surface Warfare Center (NSWC) Crane, accounted for \$0.25 billion in OTA obligations between FY 2015 and FY 2020, 30 percent of Navy OTA obligations. Rounding out the top five Navy contracting offices were, in order, Marine System Command, Naval Undersea Warfare Center (NUWC) Newport, Naval Information Warfare Center Atlantic, and the Office of Naval Research (ONR). These contracting offices individually each accounted for between 10 and 15 percent of total Navy OTA obligations between FY 2015 and FY 2020. In total, the top five Navy contracting offices accounted for 78 percent of Navy OTA obligations between FY 2015 and FY 2020.

Table 5-1: Top 5 Navy OTA Contracting Offices, 2015–2020

Contracting Office Rank	Contracting Office	FY 2020 Obligations (Billions)	FY 2015–2020 Obligations (Billions)
1	Naval Surface Warfare Center Crane	0.21	0.25
2	Marine Corps Systems Command	0.1	0.13
3	Naval Undersea Warfare Center: Newport	0.08	0.11
4	Naval Information Warfare Center: Atlantic*	0.06	0.09
5	Office of Naval Research **	0.02	0.09
Top 5 Total		0.47	0.66
Top 5 Share of Total Navy		76%	78%

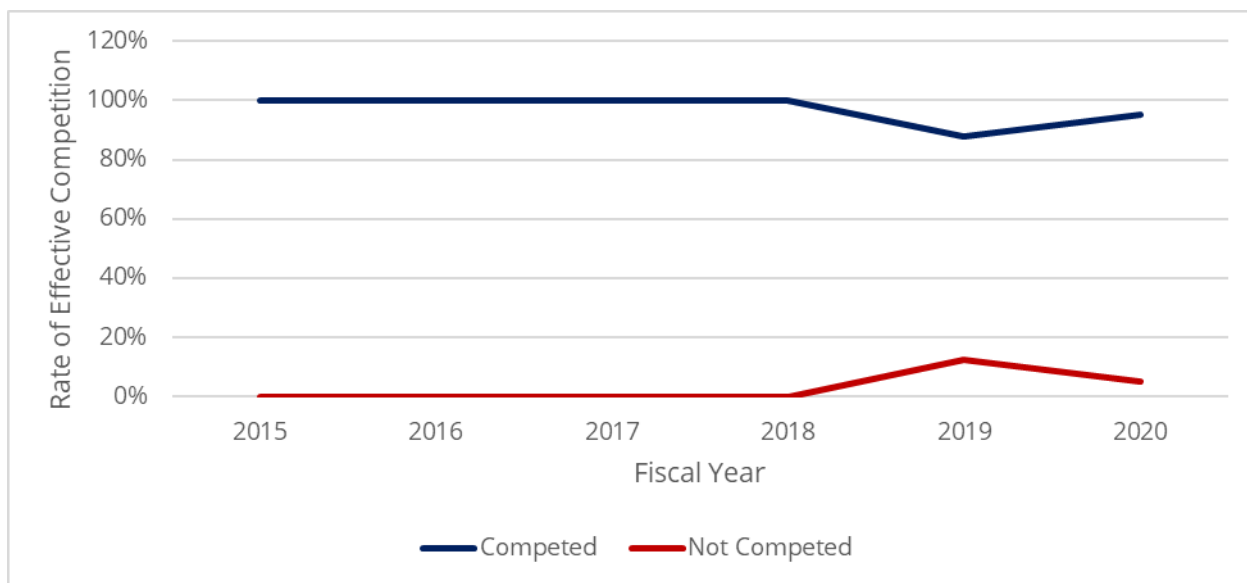
*5th in 2020; **6th in 2020

Source: FPDS; CSIS analysis.

5.2 | Competition for Navy OTA Awards

Despite the relative immaturity of the Navy’s OTA usage compared to other components, the Navy has maintained a high rate of reported competition for OTA obligations in recent years. When the Navy started making greater usage of OTAs starting in FY 2019, it saw its reported rate of competition dip to 88 percent, but that rate rebounded to 95 percent in FY 2020.

Figure 5-6: Competition for Navy OTA Obligations, 2015–2020



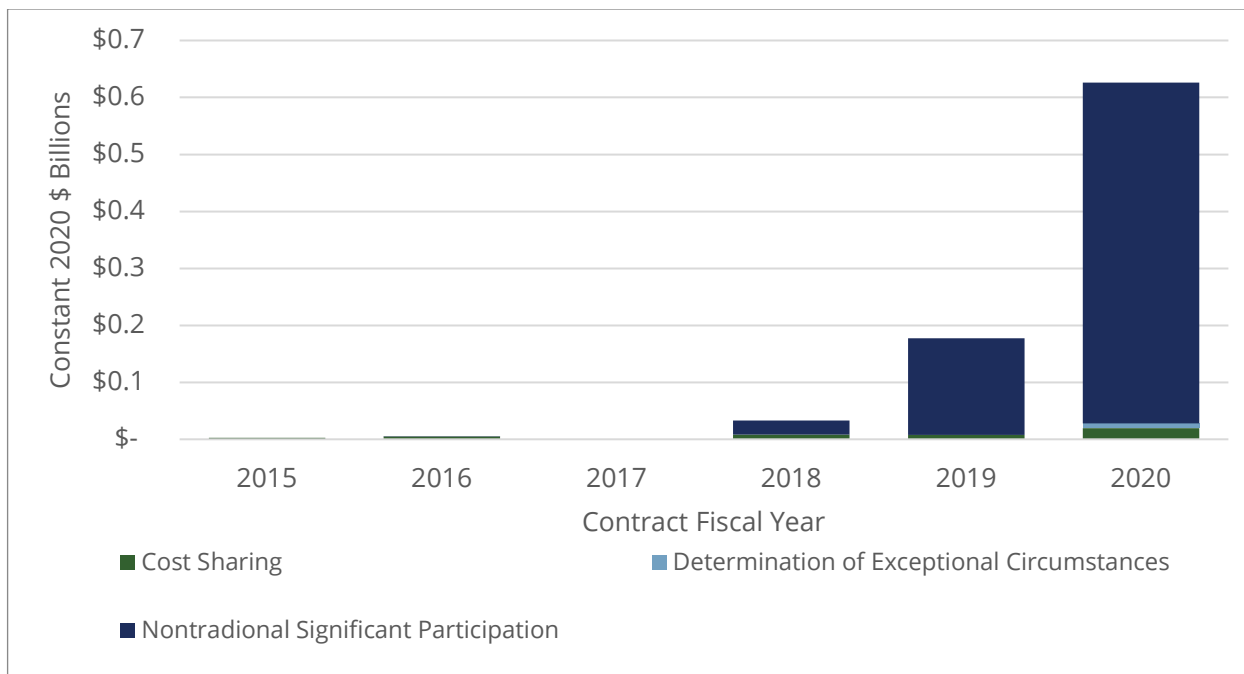
5.3 | Whom Is the Navy Buying From?

NAVY OTA OBLIGATIONS BY NONTRADITIONAL GOVERNMENT CONTRACTOR PARTICIPATION

As shown in Figure 5-7 below, prior to the growth in Navy OTA obligations starting in FY 2018, nearly all Navy OTA obligations were awarded following cost sharing. However, as Navy OTA obligations have grown in recent years, most of the growth occurred among vendors categorized as having nontraditional significant participation.

Prior to the recent growth in Navy OTA obligations, the share of Navy OTA obligations awarded to vendors categorized as having nontraditional significant participation was minimal, accounting for less than 1 percent of total Navy OTA obligations in FY 2015 and FY 2017 and just 7 percent in FY 2016. As Navy OTA obligations have grown in the last three years, that share jumped to 76 percent in FY 2018 and totaled 96 percent in both FY 2019 and FY 2020. This represents growth both in terms of market share and in total obligations. Navy OTA obligations awarded to vendors categorized as having nontraditional significant participation has grown from \$0.03 billion to FY 2018 to \$0.63 billion in FY 2020, a 1,782 percent increase. In FY 2020, Navy OTA obligations awarded to vendors categorized as having nontraditional significant participation grew by 253 percent, compared to the 145 percent growth in Navy OTA obligations awarded via cost sharing.

Figure 5-7: Navy OTA Obligations by Nontraditional Government Contractor Participation, 2015–2020



Source: FPDS; CSIS analysis.

TOP 20 NAVY OTA VENDORS

Between FY 2015 and FY 2020, the top five Navy OTA vendors in order were National Security Technology Accelerator, Analytic Services Inc., Consortium Management Group, Raytheon, and Boeing. These top five vendors accounted for \$0.59 billion, 70 percent of Navy OTA obligations between FY 2015 and FY 2020.

Looking beyond the top five, there was a wider range of different types of vendors among the top 20 Navy vendors than for either the Army or the Air Force. Among the top 20 Navy OTA vendors, there were six consortia, accounting for 67 percent of total Navy OTA obligations between FY 2015 and FY 2020. Northrop Grumman joined Raytheon and Boeing among the top 20 Navy OTA vendors, and these three Big Five defense vendors accounted for 11 percent of total Navy OTA obligations. Compared to the other components, the Navy was the only service to have a university research institute among its top 20 vendors, with the George J. Kostas Research Institute for Homeland Security at Northeastern University coming in at number 10 and accounting for \$0.01 billion, 2 percent of total Navy OTA obligations over that period. Otherwise, the list of top Navy vendors was rounded out by five large defense firms that accounted for 6 percent of Navy OTA obligations, three small nontraditional firms that accounted for 2 percent of Navy OTA obligations, and one small defense firm and a nonprofit that each accounted for 1 percent of Navy OTA obligations.

Table 5-2: Top 20 Vendors: Navy OTA Obligations, 2015–2020

Vendor Rank	Global Vendor Names	Vendor Type	Total Obligations FY 2015–2020 (Billions)
1	National Security Technology Accelerator	Consortium	0.23
2	Analytic Services	Consortium	0.20
3	Consortium Management Group	Consortium	0.08
4	Raytheon	Big Five Defense	0.05
5	Boeing	Big Five Defense	0.03
Top 5 Total			0.59
6	Defense Energy Center of Excellence	Consortium	0.03
7	Elemental Excelerator	Consortium	0.02
8	Deloitte	Large Defense	0.01
9	American Lightweight Materials Manufacturing Innovation Institute	Consortium	0.01
10	George J. Kostas Research Institute for Homeland Security at Northeastern University	Nonprofit	0.01
11	Northrop Grumman	Big Five Defense	0.01
12	Elbit Systems	Large Defense	0.01
13	Honeywell International	Large Defense	0.01
14	Aerojet Rocket Holdings	Large Defense	0.01
15	Spin Systems	Small Nontraditional	0.01
16	American Systems Corporation	Medium	0.01
17	Cole Engineering Services	Small Nontraditional	0.01
18	Logistic Services International	Small Nontraditional	0.01
19	Mistral	Large Defense	0.01

20	Battelle Memorial Institute	Nonprofit	0.01
Top 20 Total			0.75
Overall Navy Total			0.84

Source: FPDS; CSIS analysis.

Conclusion

DEFENSE OTA OBLIGATIONS CONTINUED TO GROW AT STAGGERING RATES

The data show that the rapid growth in the DoD's usage of OTAs did not slow down in FY 2020. Driven by the response to the coronavirus, DoD OTA obligations increased by 113 percent last year, rising from \$7.6 billion in FY 2019 to \$16.2 billion in FY 2020. However, the Sum of Base and All Options Value or potential total contract value of DoD OTA obligations only increased by 1 percent, suggesting there could be some slowdown in the level of year-over-year growth compared to what has occurred in recent years.

COVID-19 RESPONSE DRIVING OTA TRENDS IN FY 2020

A large source of the increase in the OTA obligations in FY 2020 can be traced back to the DoD's usage of OTAs to support its response to the coronavirus. A substantial portion of the increased OTA spending in FY 2020, \$7.1 billion, can be traced to a singular OTA, procurement identifier W15QKN1691002, supporting the Medical Chemical, Biological, Radiological, and Nuclear Defense Consortium (MCDC). Although classified under a single product or service code, this OTA not only empowered the DoD's effort to support the development of vaccines but also fueled the mass production of vaccines and therapeutics. The usage of OTAs provides critical insights going forward—not only as an influential example on future OTA practice but also about the need for greater transparency on OTA spending. Despite covering a wide range of activities, this OTA was only assigned a single product or service code, limiting transparency into the actual ongoing trends in DoD OTA usage.

R&D REMAINS THE MAJORITY OF DOD OTA OBLIGATIONS

Defense R&D OTA obligations increased by 122 percent between FY 2019 and FY 2020, compared to the 59 percent increase and 29 percent increase in products and services respectively. Between FY 2015 and FY 2020, 89 percent of total DoD OTA obligations were awarded for R&D, compared to 8 percent for products and 3 percent for services.

MID-STAGE R&D CONTINUES GROWING WHILE LATER-STAGE R&D FALLS OFF

Although there was a slight decline in Advanced Component Development & Prototypes (BA 6.4) OTA obligations in FY 2020, those losses were more than offset by the 1,196 percent increase in Advanced Technology Development (BA 6.3) OTA obligations, which was primarily the consequence of one agreement employing MCDC to address Covid-19. However, the later stages of the weapon-systems development pipeline saw a drop-off where the decline in System Development & Demonstration (BA 6.5) was not nearly close to being offset by the relatively small total increase in Operational Systems Development (BA 6.7).

THE ARMY REMAINS THE PREDOMINANT USER OF OTAS ACROSS THE DOD

The Army remains the predominant user of OTAs across all of the DoD, but other components, notably the Navy, have made more extensive use of OTAs in recent years than they previously did. Army OTA obligations increased by 161 percent in FY 2020 and are up 1,840 percent since FY 2015. Navy OTA obligations increased from \$0.18 billion in FY 2019 to \$0.63 billion in FY 2020, a 253 percent increase. ACC Picatinny Arsenal on its own accounted for six out of ten dollars obligated via OTAs during the period. The Air Force's Launch System Directorate also accounted for \$1.8 billion over the 2015–2020 period, more than the entirety of the Navy's obligations.

NONTRADITIONAL SIGNIFICANT PARTICIPATION REMAINS DOMINANT AS COST SHARING DECLINES

For a few years, it seemed that there might be an emerging trend showing that cost sharing was gaining a foothold for defense OTA obligations. However, this trend halted in FY 2020, as OTA obligations awarded with cost sharing declined by 14 percent and fell as a share of OTA obligations from 14 percent to 6 percent.

About the Authors

Rhys McCormick is a former fellow with the Defense-Industrial Initiatives Group (DIIG) at CSIS. His work focuses on unmanned systems, global defense industrial base issues, and U.S. federal and defense contracting trends. Prior to working at DIIG, he interned at the Abshire-Inamori Leadership Academy at CSIS and the Peacekeeping and Stability Operations Institute at the U.S. Army War College. He holds a BS in security and risk analysis from the Pennsylvania State University and an MA in security studies from Georgetown University.

Gregory Sanders is a fellow in the International Security Program and deputy director of the Defense-Industrial Initiatives Group at CSIS, where he manages a research team that analyzes data on U.S. government contract spending and other budget and acquisition issues. In support of these goals, he employs SQL Server, as well as the statistical programming language R. Sanders holds an MA in international studies from the University of Denver and a BA in government and politics, as well as a BS in computer science, from the University of Maryland.

COVER PHOTO U.S. ARMY



1616 Rhode Island Avenue NW
Washington, DC 20036
202 887 0200 | www.csis.org

ROWMAN &
LITTLEFIELD

Lanham • Boulder • New York • London

4501 Forbes Boulevard
Lanham, MD 20706
301 459 3366 | www.rowman.com

