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Trends in Department of Defense Other Transaction Authority (OTA) Usage

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Abstract

The federal government's use of Other Transaction Authority (OTA) agreements has exploded in recent years, thanks in large part due to a surge in popularity within the Department of Defense (DoD). Neither a contract, grant, or cooperative agreements, OTAs are an acquisition approach that enable certain federal agencies to access goods and services outside of the traditional acquisition system. This research examines the trends in OTA usage across DoD to provide insights into what DoD is using OTAs for, how they are spending under an OTA, and to whom the majority OTA obligations go.

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Chapter 1 | Introduction

OTAs have become an increasingly popular tool across 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 to $16.18 billion between FY 2015 and FY 2020. Neither contracts, 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] These authorities give these agencies greater flexibility and customization in designing appropriate acquisition approaches, but they are not without limitations and risks. OTAs are often more restricted to a specific set of activities, largely centered around R&D, and require a more skilled acquisition workforce to design and execute these activities that may lack the necessary familiarity and training amongst the broader community.

DoD has had some form of OTA authority since 1989 (when DARPA was given the authority to enter into OTAs), as shown in the timeline to the right, so what explains its

HISTORY OF DOD'S OTA AUTHORITY

- **1958**: OTA authority created at NASA
- **1989**: DARPA gets OTA authorities
- **1993**: Sec. 845 of the FY 1994 NDAA expands DARPA authority expanded to include prototyping
- **1996**: Sec. 804 of the FY 1997 NDAA expands OTA authorities to others in DoD beyond DARPA beyond DoD OTA authorities expanded beyond DARPA
- **2000**: FY 2001 NDAA Sec. 803:
  - Attract non-traditional firms
  - Non-traditional defined in FY 2003 NDAA
  - Increase efficiency of defense contractors
- **2001**: FY 2002 NDAA Sec. 822 – follow-on production authority
- **2002:** Sec. 244 of the FY 2003 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 FY 2015 NDAA broadens DoD's OTA authority and exempts small businesses from cost sharing requirements
- **2015:** Sec. 814 of the FY 2016 NDAA expands authorities by making DoD's OTA authority permanent, modifying the definition of non-traditional defense contractor, and allowing DoD to issue follow-on production contracts for OTA prototypes
- **2017**: FY 2018 NDAA expands DoD authorities to nonprofit research institutions, establishes new workforce requirements, new 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 DoD maintain and make available a list of OTA consortia

[1] Besides DoD, the following 10 federal agencies have some form of OTA authority: 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 Institute of Health, and the Transportation Security Agency.

increased popularity in recent years?[2] DoD's recent interest in OTAs is heavily driven by the FY2015 and FY2016 National Defense Authorization Act (NDAA) expanding what DoD can use OTAs to accomplish. Section 812 of the FY2015 NDAA expanded the range of what types of prototypes could be pursued under an OTA, while Section 815 of the FY2015 NDAA "expanded DoD's OTA authority by making DoD's OTA authority permanent, modifying the definition of nontraditional defense contractor, and allowing DoD to issue follow-on production contracts for OTA prototypes."[3] In the FY2016 NDAA conference report, House and Senate conferees noted that the expansion of DoD's OTA authorities was designed to "support Department of Defense efforts to access new source 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 authority coincided with increased interest at DoD in utilizing more flexible contracting vehicles to speed acquisition and a push to carry out the development of major weapon systems outside the traditional weapon systems acquisition pipeline and the policy regime it carries with it.

The following paper examines the notable trends in the DoD OTA authorities since the FY2015 and FY2016 NDAA statuary changes expanded DoD's OTA authorities and seeks to answer the following research questions:

- What are the topline trends in DoD's OTA usage?
- What is DoD procuring using OTAs?
- How are the different DoD components using OTAs?
- What is the extent of competition for DoD OTA awards?
- Whom is 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, this report prioritizes depth and only looks at DoD OTAs.[5] All dollar figures are reported in constant FY2020 dollars, using Office of Management and Budget (OMB) deflators.

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[2] Sources: Air Force, "Other Transactions Authority (OTA) Statutory Timeline" (Washington, DC: Air Force, 2018), https://www.transformaf.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_AcquisitionTrends_Topline_v4.pdf.

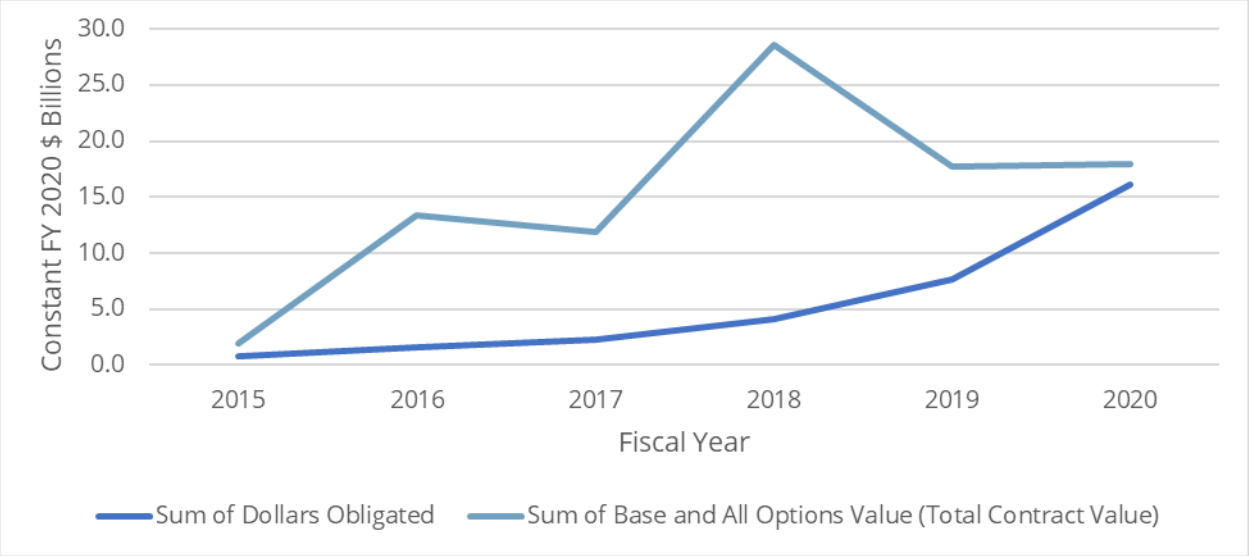
[4] U.S. Congress, House, National Defense Authorization Act for Fiscal Year 2016 Conference Report (to Accompany H.R. 1735), 114th Cong., 1st sess., 2015, H.R. Rep. 114270, https://www.govinfo.gov/content/pkg/CRPT-114hrpt270/pdf/CRPT-114hrpt270.pdf.

[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 unclear when reasonably complete data is available for any given agency. For 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.

Chapter 2 | Topline DoD Trends

The data show that the rapid growth in DoD's usage of OTAs did not slowdown in FY 2020, driven in large part using OTAs as part of DoD's response to COVID-19. DoD OTA obligations increased 113 percent last year, 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 2030 percent increase. Of note, while the sum of OTA dollars obligated increased 113 percent last year, the Sum of Base and All Options Value or potential total contract value of DoD OTA obligations only increased 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 in recent years.

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



Source: FPDS; CSIS analysis

2.1 | What is DoD Buying?

OTAs are rapidly growing in popularity and usage across 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 DoD is using OTAs for. It begins by looking at the critical trends by area 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 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, it looks at spending by platform portfolio to get a better sense of the capability areas DoD is prioritizing for OTA usage.

DEFENSE OTA OBLIGATIONS BY AREA

Given the hi story of how DoD's OTA authority developed , it is not surprising that DoD has predominan tly used OTAs for R&D activities, but OTAs are not unique to R&D. 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.

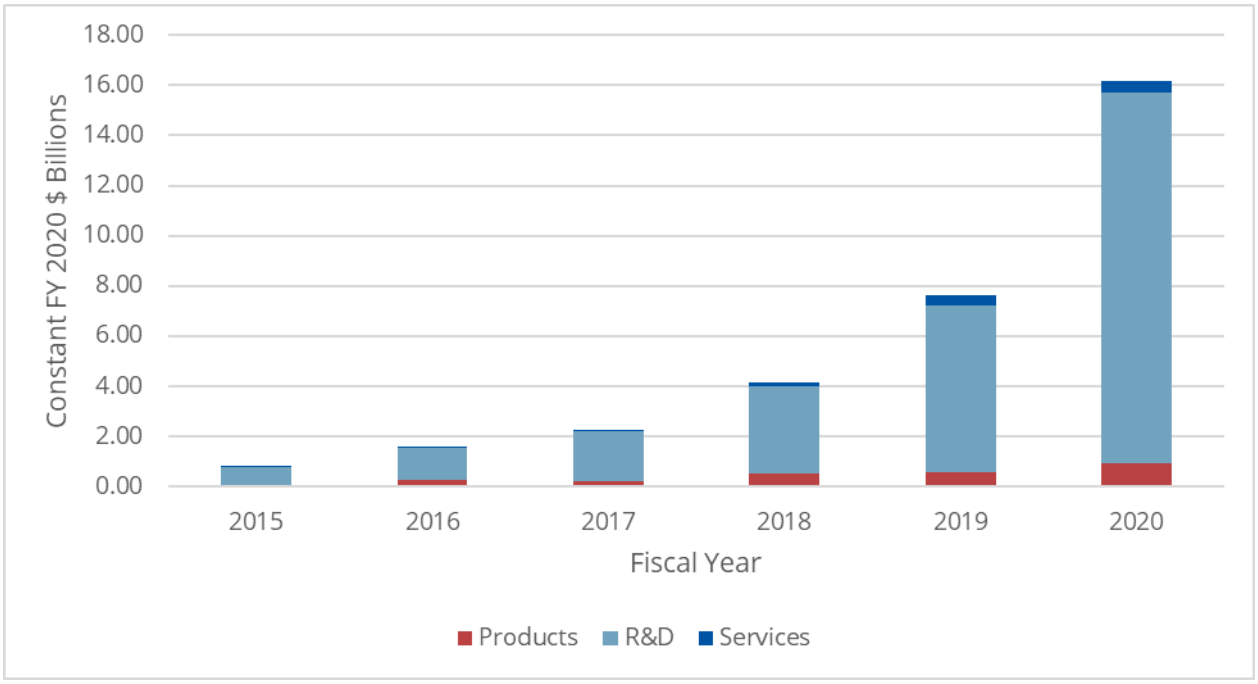
Defense OTA R&D obligations increased from $6.7 billion in FY 2019 to $14.8 billion in FY 2020, a 122 percent increase. Between FY 2015 and FY 2020, DoD OTA R&D obligations increased 1 ,850 percent.

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 43,654 percent.

Defen se OTA Services contract obligations increased from $0.4 billion to $0.5 billion last year, a 29 percent i ncrease. DoD OTA services obligations are up 58,761 percent between FY 2015 and FY 2020.

Figure 2 - 2 shows defense OTA obligations by area from FY 2015 to 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 of the R&D area is the growth of OTAs for R&D activities other than prototyping. 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 FY2020, there were several notable developments and shifts in the composition of DoD's OTA R&D portfolio.

In the mid-stage R&D activities, there was significant growth in Advanced Technology Development (6.3) overtaking Advanced Component Development & Prototypes (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, a 1,196 percent increase. Meanwhile, Advanced Component Development & Prototypes OTA obligations declined 1 percent in FY2020, falling from $3.9 billion to $3.8 billion. The vast majority of this increase, $7.1 billion, can be traced to a single OTA supporting the Medical Chemical, Biological, Radiological, and Nuclear (CBRN) Defense Consortium. That OTA was a critical vehicle used for COVID-19 response but due to its importance and magnitude it may to be an influential example on future OTA practice even once the immediate crisis has passed.[7] This OTA covers a range of stages of R&D and production, although in the data trends this nuance is lost 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 or 6.5) OTA obligations declined 37 percent, totaling $0.5 billion in FY2020 compared to $0.8 billion in FY2019. This decline was somewhat offset by the gains in OTA obligations Operational Systems Development (6.7), but Operational Systems Development still accounts for less than 1 percent of all DoD OTA obligations.

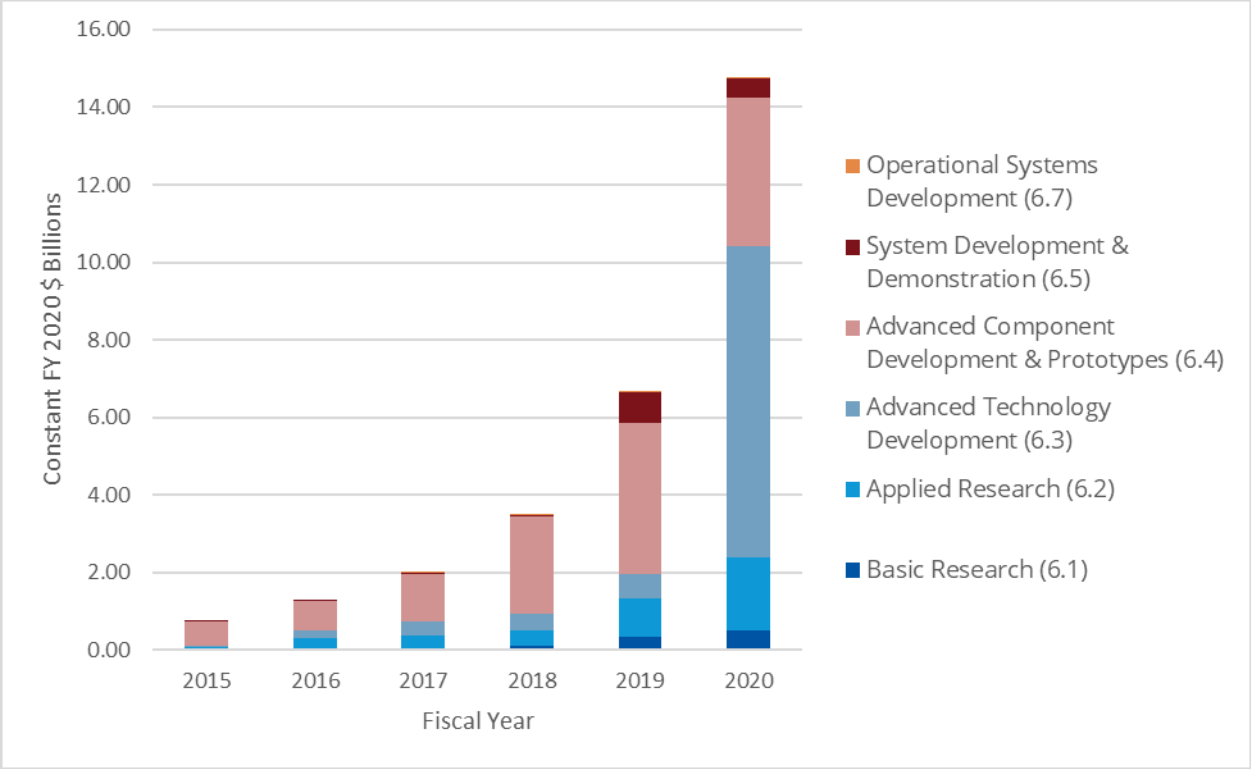
Finally, both Basic Research (6.1) and Applied Research (6.2) saw increased OTA obligations in 2020, but the two early-stage R&D activities both fell as a share of overall defense OTA spending. Basic Research OTA obligations increased from $0.3 billion to $0.5 billion, a 50 percent increase. However, Basic Research fell as a share of overall defense obligations from 5 percent to 3 percent. Applied Research saw an 87 percent increase in OTA obligations in FY2020 from FY2019 but fell as share of overall defense obligations from 15 percent to 13 percent.

Figure 2-3 shows defense OTA obligations by stage of R&D from FY2015 to FY2020.

[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 Obligations by Stage of R&D, 2015 -2020

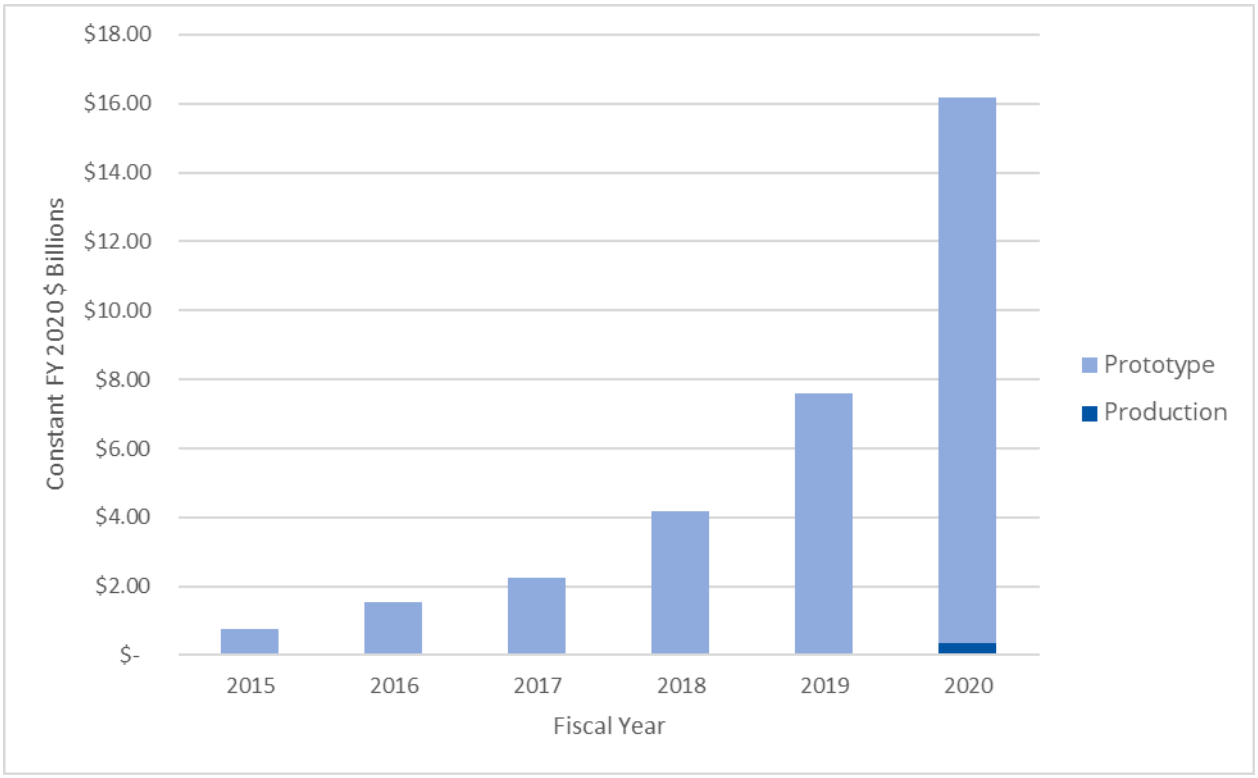


Source: FPDS, CSIS analysis

DEFENSE OTA OBLIGATIONS BY TYPE OF AGREEMENT

As shown in Figure 2- 4 below, unsurprisingly the predominance of DoD OTA obligations in recent years have gone to prototyping efforts. Its only in recent years that 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 a prototype contract included production, the aforementioned MCDC OTA was used in FY2020 not just for development of vaccines but also 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 DoD evolves its approach to the emerging new R&D funding paradigm.

Figure 2-4: Defense OTA Obligations by Type of A greement, 2015 -2020

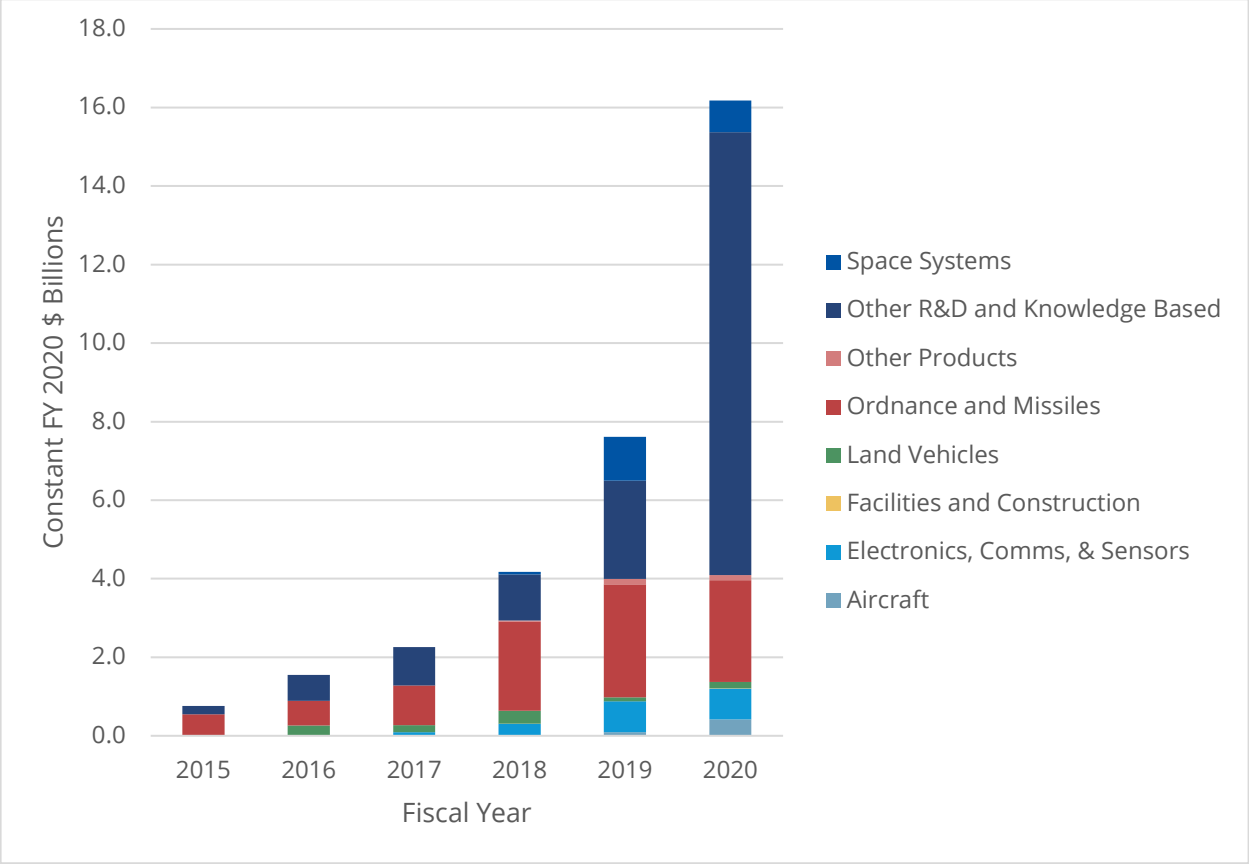


Source: FPDS; CSIS analysis

DEFENSE OTA OBLIGATIONS BY PLATFORM PORTFOLIO

As shown in Figure 2- 5 below, several trends emerge in analyzing DoD OTA obligations by platform portfolio.

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



Source: FPDS; CSIS analysis

Defense Aircraft OTA obligations increased from $0.1 billion in FY 2019 to $0.4 billion in FY 2020, a 3365 percent increase.

Space Systems, which had been on an uptick in recent years, saw a decline in OTA obligations last year. Defens e Space Systems OTA obligations declined 27 percent in FY 2020, falling from $1.1 billion to $0.8 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 remains the second largest platform portfolio. Ordnance and Missile 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 373 percent between FY 2020. As a share of 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 a staggering 350 percent last year. Total Other R&D and Knowledge Based OTA obligations increased from $2.5 billion to $11.3 billion. This increase was primarily driven the

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

Medical CBRN Defense Consortium OTA which is consistentl y classified as R&D- DEFENSE OTHER: SERVICES (ADVANCED DEVELOPMENT) . That service code 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)

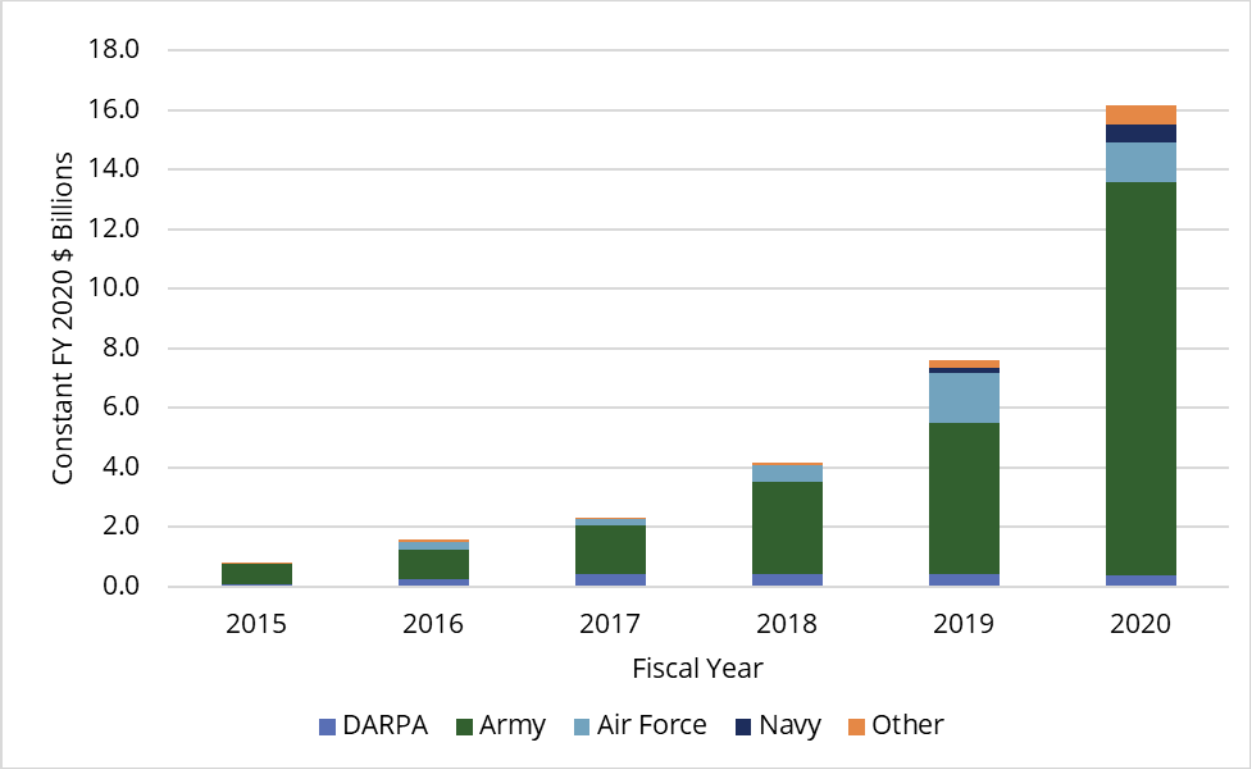
2.2 | What Are the Defense Components Doing?

The Army remains the leader in OTA usage across DoD components, but other components have also seen substantial increases in recent years. In FY2020, Army OTA obligations increased from $5.1 billion to $13.2 billion, a 161 percent. Army OTA obligations have increased 1,840 percent since FY 2015. After seeing an uptick in OTA obligations in FY2019, Air Force OTA obligations declined last year. Air Force OTA obligations declined 20 percent last year, falling from $1.7 billion in FY2019 to $1.3 billion in FY2020. 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 FY2019 to $0.6 billion in FY2020, a 253 percent increase. Between FY2015 and FY2020, Navy OTA obligations increased 24,633 percent. There was a notable increase in OTA obligations last year for "Other DoD" largely driven by the Washington Headquarters Services (WHS).

Between FY2015 and FY2020, the Army accounted for 76 percent of total defense OTA obligations compared to the Air Force and DARPA which both accounted for 12 percent while the Navy accounted for approximately 3 percent. The Army's early leading role has been sustained, in part due to its responsibility for the leading role in COVID- 19 response. In FY2020 alone, the Army accounted for 82 percent of defense OTA obligations, 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 shows defense OTA obligations by customer from FY2015 to FY2020.

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



Source: FPDS; CSIS analysis

DEFENSE OTA OBLIGATIONS BY CONTRACTING OFFICE

Army Contracting Command New Jersey (ACC- NJ) headquartered out of Picatinny Arsenal, once again remains as the largest contracting office awarding OTAs across all of DoD. In FY 2020, ACC- NJ accounted for 62 percent of all DoD OTA obligations and has 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, two Air Forces contracting offices remained in the top ten, Launch Enterprise Systems Directorate and Space Development & Test Wing, but the Air Force Life Cycle- Management- - HNK C3IN, fell out of the top ten and was replaced by Joint Munitions Command.

Table 2- 1 shows the top ten defense OTA contracting offices between FY 2015 and FY 2020.

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	WHS	Other DoD	0.6
8	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**

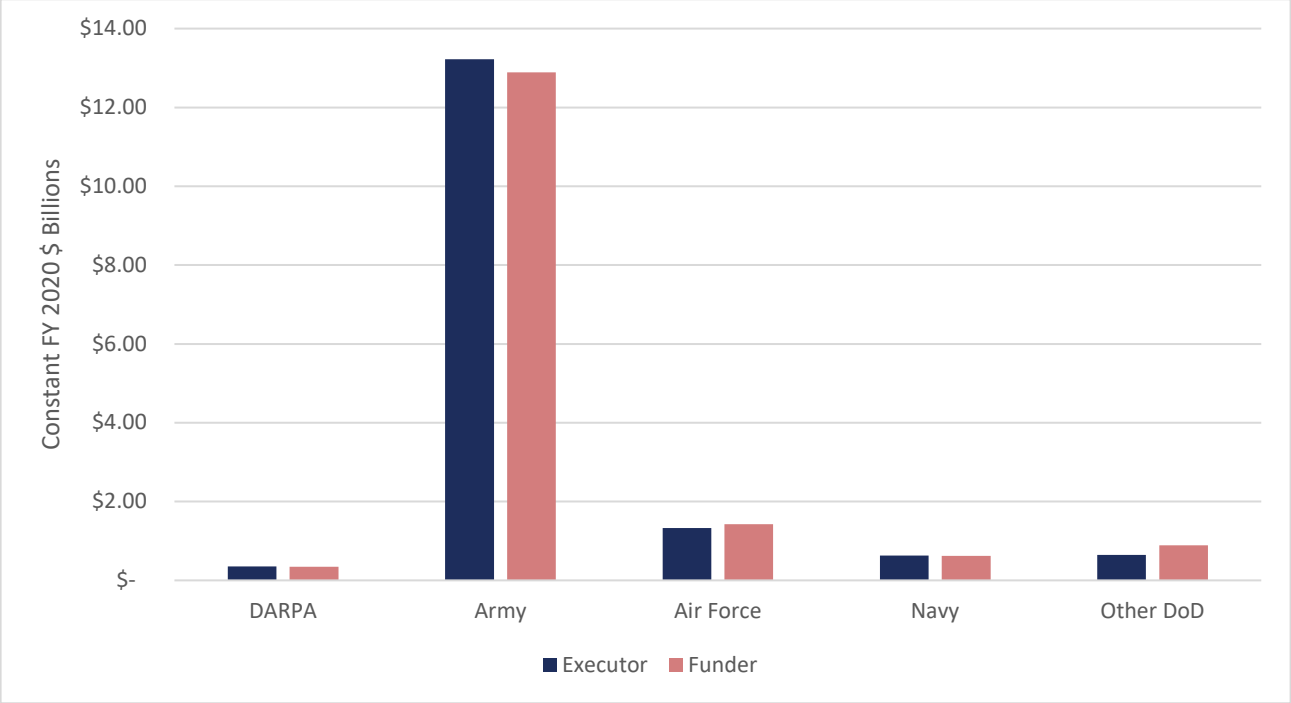
Source: FPDS; CSIS analysis

DEFENSE OTA OBLIGATIONS BY FUNDING ORGANIZATION

The Army, led by the work being done at Picatinny Arsenal, is the OTA leader across 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 data between FY 2015 and FY 2018 shows a blank funding agency. In FY 2019, only 40 percent of the data was labeled blank and in FY 2020, nearly all records 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 FY2020 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 the funding and customer agency, but it's not a perfect alignment. 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 execute 7 percent and 7 percent less respectively. This is a bit more surprising for the Air Force which has its own notable OTA contracting offices but is less surprising for "Other DoD" which includes agencies like US Special Operations Command (SOCOM), the Missile Defense Agency (MDA) and the Office of the Secretary of Defense (OSD) 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 or 48 percent of total DoD OTA obligations in FY 2020 were funded by the Joint Project Manager 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 combatting the coronavirus, but it does slightly complicate the picture.[11] Although JPEO-CBRND is an Army organization and derives its acquisition authority from the Under 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 DoD, like the Defense Threat Reduction Agency (DTRA), and outside DoD

[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.

with other departments like the Department of Health and Human Services , to execute certain acquisition activities.[12]

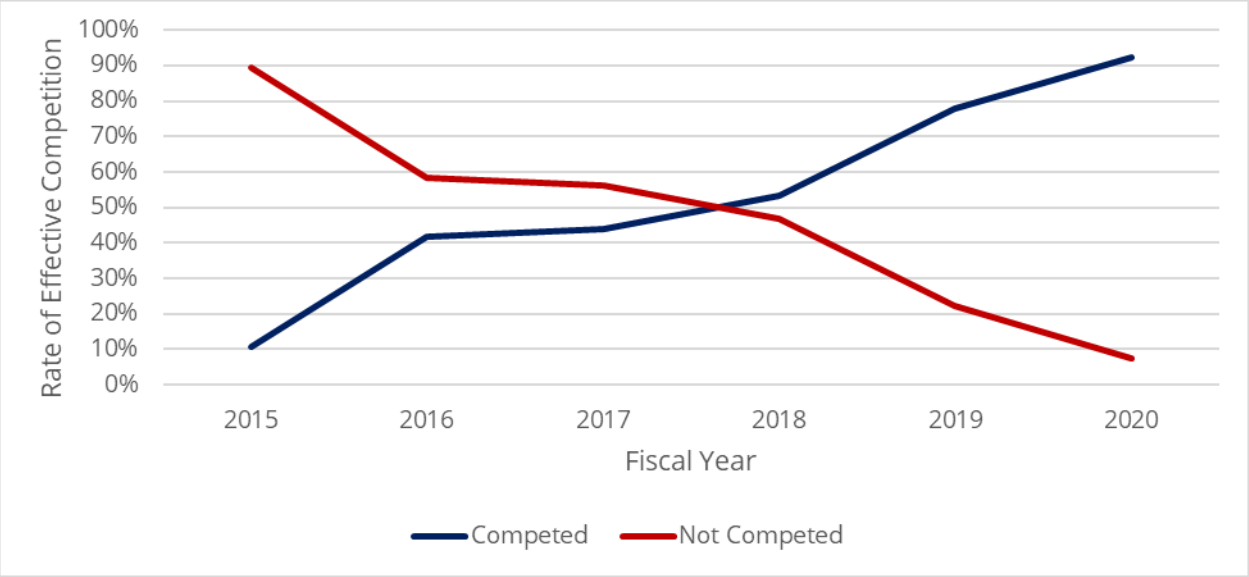
Given the limitations of previous years' data and the abnormalities presented by COVID-19, it is difficult to comprehensively conclude the extent to which there is a significant difference between the sum of OTAs obligations funded and executed by different agencies. The topline trends suggest that, while there are some differences, we are not seeing the Army and DARPA executing OTAs awards for other agencies, the vast majority of their work is funded by their own organization. However, looking beyond that topline, the necessity of combatting COVID-19 led to a surge in funding from JPEO-CBRND, an Army office, but responsible for the entire 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 continues to show positive trends in the rates of competition for DoD OTA obligations. Just 10 percent of DoD OTA obligations were competed in FY2015, but that share has been rising every year since. In FY2020, 92 percent of DoD OTA obligations were awarded after competition. OTA agreements with 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 not inherently categorized as competed, although the data does not highlight whether competition was limited only to the members of one consortium. OTA data does 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 non-competitive measures.

[12] "Memorandum of Understandin g for Acquisition Support Signed Between the Department of Defense and the Department of Health and Human Services " (Washington, DC: JPEO-CBRND, 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



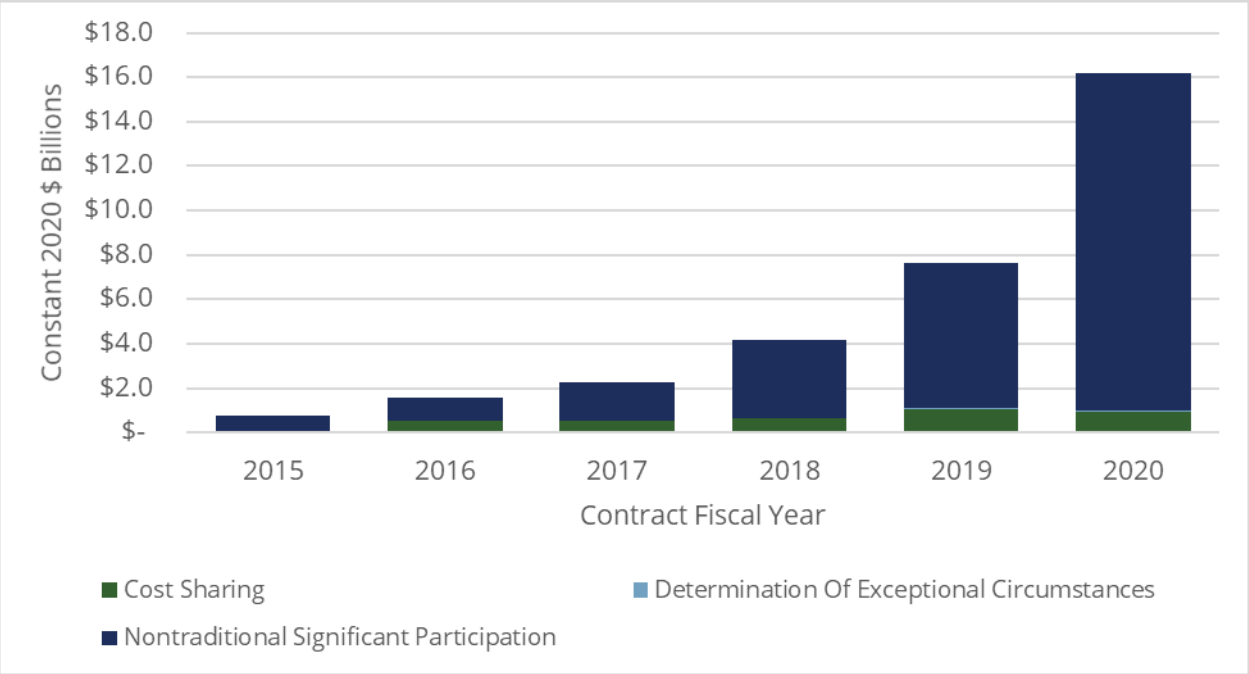
Source: FPDS; CSIS analysis

2.3 | Whom is DoD Buying From?

As shown in Figure 2- 9 below, the rise in the vast majority of DoD OTA obligations the vast majority of DoD OTA obligations in recent years were 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, and subsequently 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 startups 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, consortium accounted for four of the top 5 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. Amongst the top 20 defense OTA vendors between FY 2015 and FY 2020, there were 10 consortiums compared to 3 Big Five Defense Firms, 1 Big Five Information Technology firm, 3 Large defense firms, and 2 large non-traditional defense firms. These 10 consortia accounted for $22.4 billion, 66 percent of all DoD OTA obligations between FY 2015 and FY 2020, compared to 3 percent for the 3 Big Five defense firms, 2 percent for Microsoft, 3 percent for the 3 Large Defense firms and 1 percent for the Large Non-traditional vendors.

[14] McCormick, 2020

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 Inc.	Consortium	16.34
2	Consortium Management Group Inc.	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 Inc.	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 (ULA)	Large Defense	0.50
11	Boeing	Big Five	0.42
12	Medical Technology Enterprise Consortium	Consortium	0.35
13	Defense Energy Center Of Excellence	Consortium	0.35
14	Aerojet 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 LLC	Large Defense	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

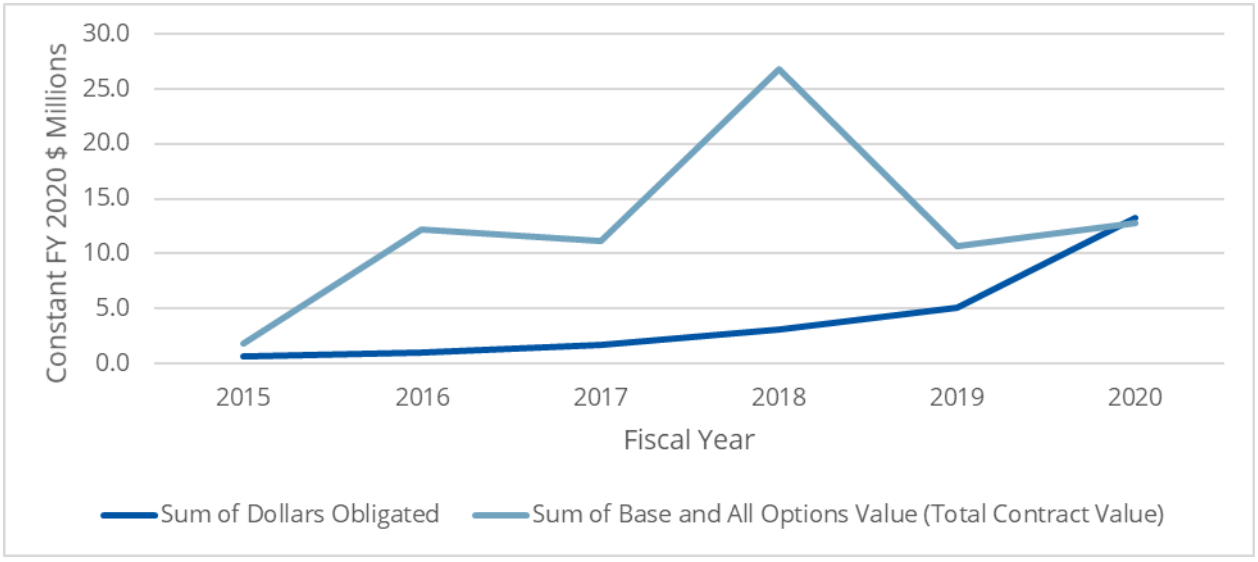
Chapter 3 | Army OTA Trends

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 billion in FY 2015 to $13.2 billion in FY 2020, an 1840 percent increas e. Last year, Army OTA obligations increased 161 percent , rising from $5.1 billion in FY 2019 to $13.2 billion in FY 2020.

While the data show substantial growth in OTA obligations the last three years, year - over - year growth in OTA obligations may start t o 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 legislation and regulatory changes, there was strong year - over - year growth in the potential value of Army O TA 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 Army total potential value of OTA agreements increased 20 percent in FY 2020 . Unused prior year pot ential value does carry over until an agreement is completed so even though obligations exceeded base and all options value in FY2020 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 as the astronomical rates seen previously.

Figure 3 - 1 shows Army OTA obligations between FY 2015 and FY 2020.

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



Source: FPDS; CSIS analysis

3.1 | What is the Army Buying?

ARMY OTA OBLIGATIONS BY AREA

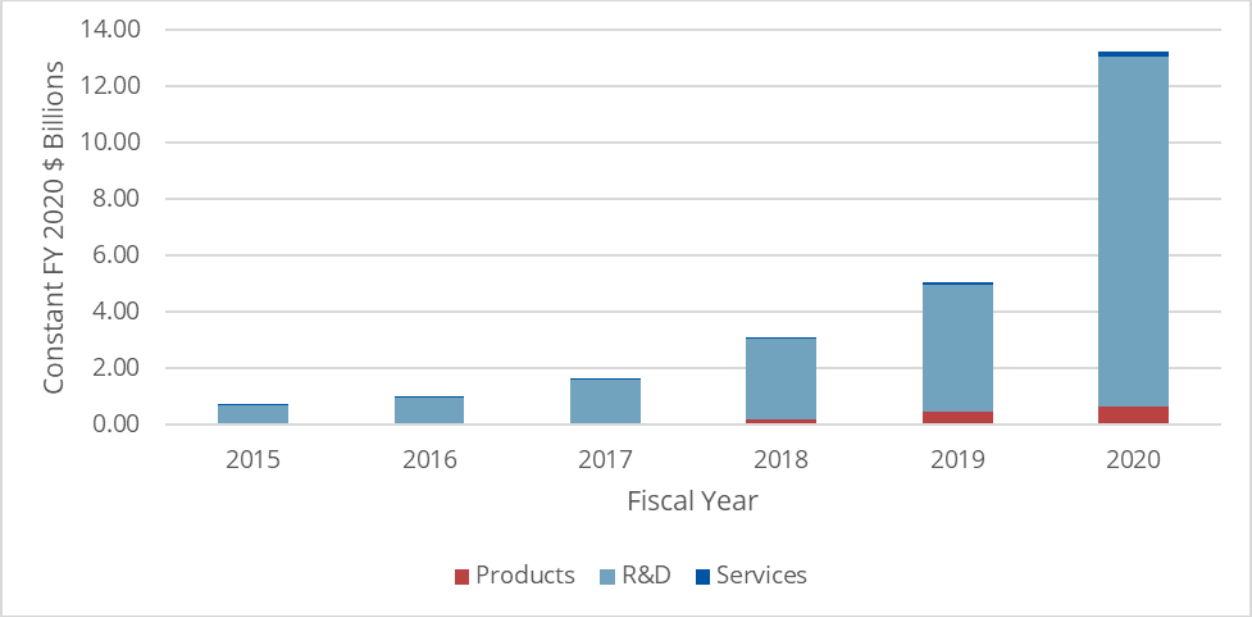
The Army predominantly uses OTAs for R&D activities in recent yea rs, but not exclusively. R&D accounted for 93 percent of Army OTA obligations between FY 2015 and FY 2020 compared to 5 percent for Products and 2 percent for Services.

Unlike the 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, Army R&D OTA obligations totaled $0.68 billion and $0.97 billion respectively. 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 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 t o $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 has seen substantial increases in recent years. Between FY 2015 and FY 2020, Army products OTA obligations increased fr om $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 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, 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 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 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

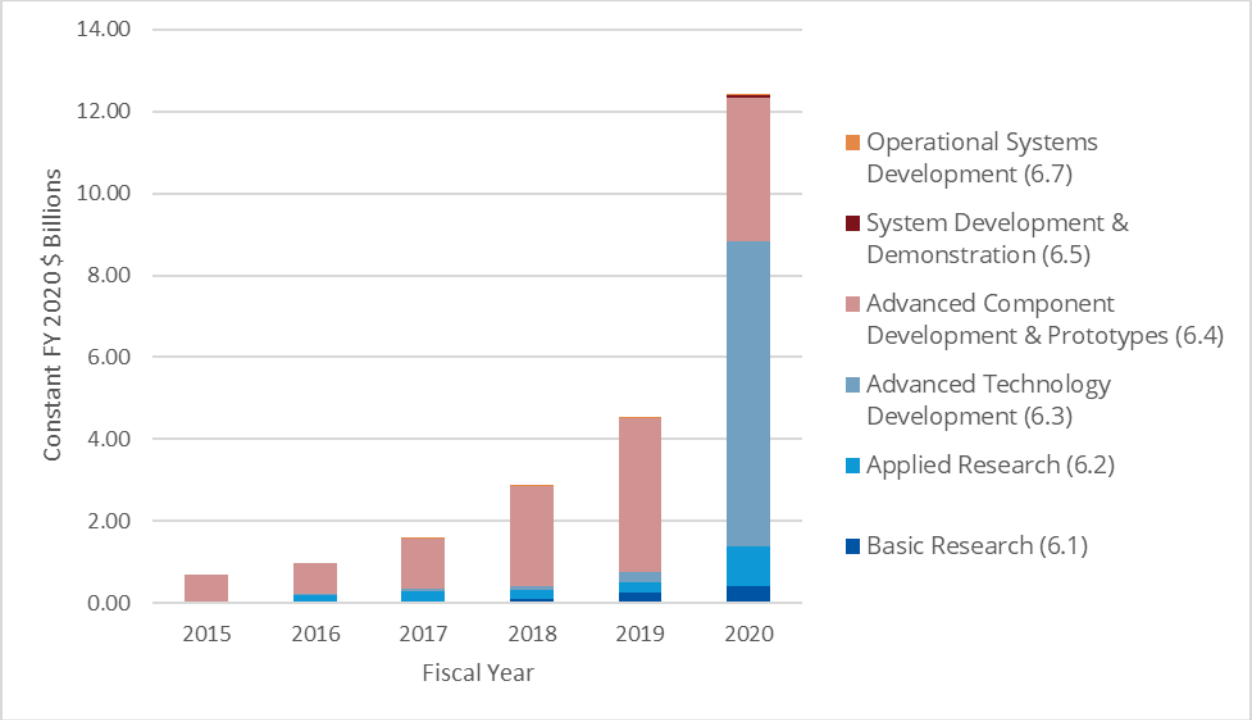
R&D has been the predominant majority of Army OTA obligations these last few years, but growth has not been even within the different R&D activities. Figure 3-3 shows Army OTA obligations by stage of R&D between FY2015 and FY2020.

In the mid-stage R&D activities, the Army trends reflected the overall trends with significant growth in Advanced Technology Development (6.3) and slight declines in Advanced Component Development & Prototypes (6.4). Advanced Technology Development OTA obligations increased from $0.24 billion in FY2019 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 7 percent in FY2020, falling from $3.76 billion to $3.5 billion.

In the later-stages of the weapon-systems development pipeline, there was growth in System Development & Demonstration (6.5) OTA obligations. Army SD&D OTA obligations increased from $0.01 billion in FY2019 to $0.05 billion in FY2020, an 808 percent increase.

Finally, both Basic Research (6.1) and Applied Research (6.2) saw increased OTA obligations in 2020, but the 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, in OTA obligations between FY2019 and FY2020, and subsequent rose as a share of Army R&D OTA obligations from 6 percent to 8 percent.

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



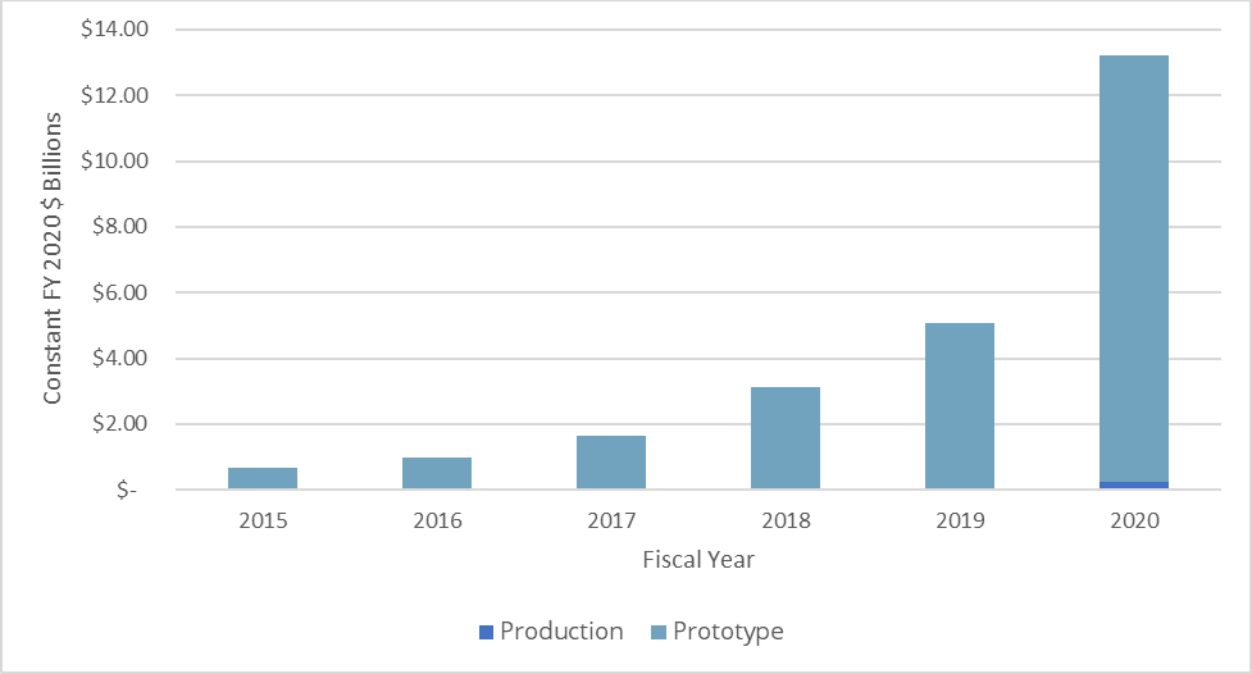
Source: FPDS; CSIS analysis

ARMY OTA OBLIGATIONS BY TYPE OF AGREEMENT

Given the novelty of DoD's follow- on prototyping authority, it's not surprising that predominant majority of Army OTA obligations in recent years have gone to production, but there are still a few interesting insights to be gleamed for the limited data. Army Production OTA obligations increased 1594% in FY2020, seeing total Army production OTA obligations rise from $0.01 billion in FY2019 to $0.23 billion in FY2020. While that $0.23 billion pales in comparison to the $12.99 billion the Army spent on prototyping, it is only a little over than 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 in the forward, particularly in the coming years as critical pillars of the Army's modernization strategy start to move from prototypes to production.[15]

[15] 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

Figure 3- 5 below shows Army OTA obligations by platform portfolio between FY2015 and FY2020.

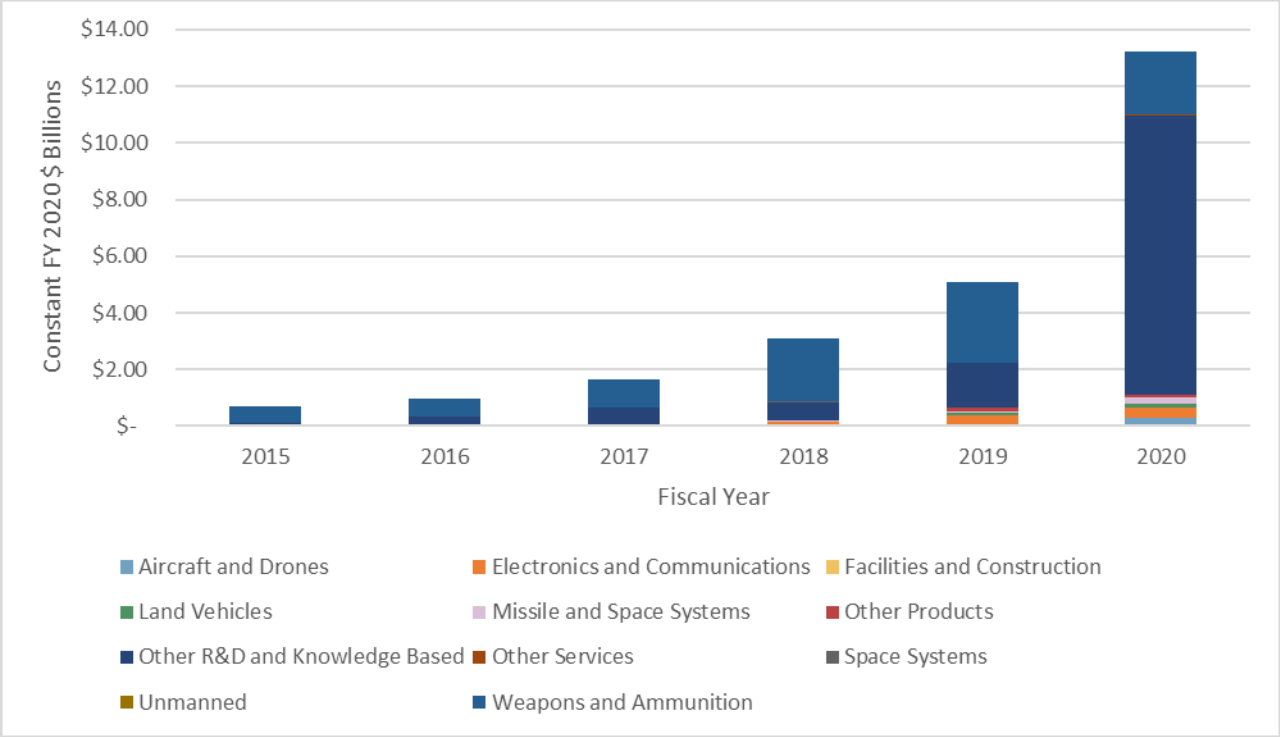
Prior to the recent changes, Weapons and Ammunition accounted for the predominant share of Army OTA obligations. While the Weapons and Ammunition had seen its market share slip in recent years it remained the largest platform portfolio up until it was surpassed by Other R&D and Knowledge Based in FY2020. This was driven both by a massive increase in Other R&D and Knowledge Based OTA obligations resulting from the COVID- 19 response, but also a decline in Weapons and Ammunition OTA obligations. Weapons and Ammunition OTA obligations declined 22 percent between FY2019 and FY2020, falling from $2.85 billion to $2.23 billion. As a share of overall Army OTA obligations, Weapons and Ammunition fell from 56 percent in FY2019 to 17 percent in FY 2020.

As previously mentioned, Other R&D and Knowledge Based saw an enormous increase last year as 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 FY2019 to $9.87 billion in FY2020, a 523 percent increase. While COVID- 19 explains the significant increase seen last year, Other R&D and Knowledge Based had been trending upwards even in the years prior. Other R&D and Knowledge Based OTA obligations increased from $0.13 billion in FY2015 to $0.63 billion in FY2018 to $1.58 billion in FY2018. In total, Other R&D and Knowledge Based OTA obligations increased 7322 percent between FY2015 and FY2020.

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 FY2020, a 2 percent increase from the $0.33 billion obligated in FY2019. As a share of

Army OTA obligations, EC&S fell from 7 percent to 3 percent. Between FY 2015 and FY 2020, Army ECS&S obligations have grown 27,548 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 unsurprisingly given its prominence across all of DoD, the vast majority of Army OTAs are executed out of Picatinny Arsenal. Between FY 2015 and FY 2020, 86 percent of Army OTA obligations were executed by ACC- NJ. Besides Redstone Arsenal, Aberdeen Proving Ground (APG), APG Natick, and US Army Tank- Automotive and Armaments Command (TACOM). Collectively, these 5 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 shows the top five Army OTA contracting offices between FY 2015 and FY 2020.

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

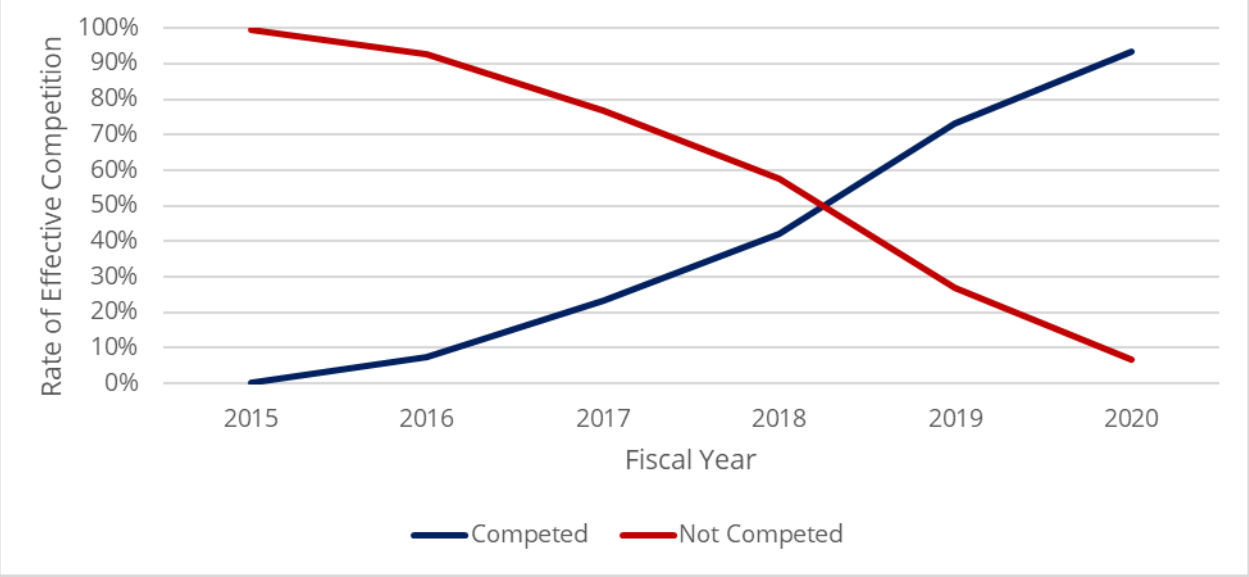
Contracting Office Rank	Contracting Office	FY 2020 Obligations (Billions)	Total Obligations 2015-2020 (Billions)
1	ACC-Picatinny NJ	10.0	19.5
2	ACC-Redstone Arsenal	1.0	1.3
3	ACC-Aberdeen Proving Ground	0.4	0.7
4	ACC-Aberdeen Proving Ground: Natick	0.6	0.6
5	HQ US ARMY TACOM	0.2	0.5
Top 5 Total		12.1	22.6
Top 5 Share of Total Army		92%	91%

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



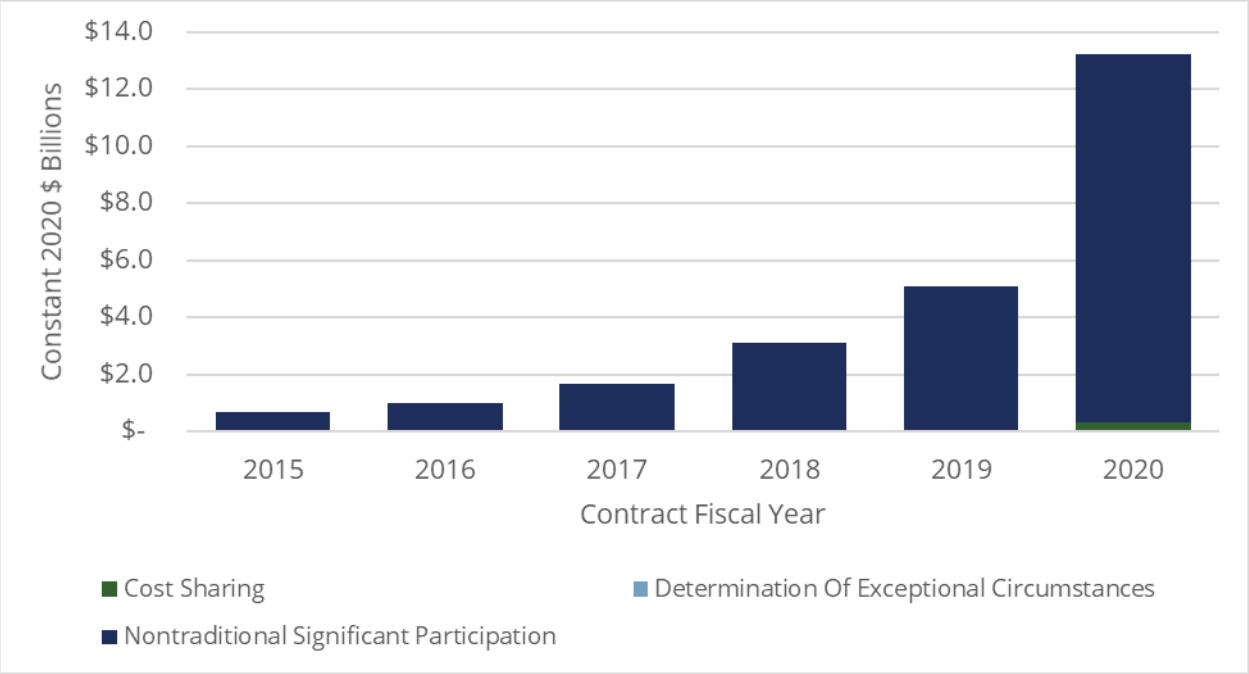
. Source: FPDS; CSIS analysis

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 significant participation, 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 vendo rs categorized as having nontraditional significant participation but did not represent a significant change in 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 vendor s 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 determination of excepti onal circumstances increased 398 percent in FY 2020, but still remains a negligible portion of the Army OTA portfolio accounting for just 0.03 percent of Army OTA obligations.

Figure 3-7: Army OTA Obligation s 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. Amongst the top 20 Army OTA vendors between FY 2015 and FY 2020, there were 11 consortiums compared to 2 Big Five Defense Firms, 1 Big Five Information Technology firm, 2 large defense firms, 2 large non-traditional defense firms, and 2 small non-traditional defense firms. These 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 non-traditional vendors, and small non-traditional vendors.

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

Vendor Rank	Global Vendor Name	Vendor Type	Total Obligations 2015-2020 (Billions)
1	Analytic Services Inc.	Consortium	15.34
2	Advanced Technology International	Consortium	1.67
3	Consortium Management Group Inc.	Consortium	1.46
4	National Center For Manufacturing Sciences Inc.	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 Inc.	Small Nontraditional	0.11
19	World Wide Technology Holding Co. Inc.	Large Nontraditional	0.06
20	Insitech Inc	Consortium	0.06
	Top 20 Total		22.86
	Overall Army Total		24.72

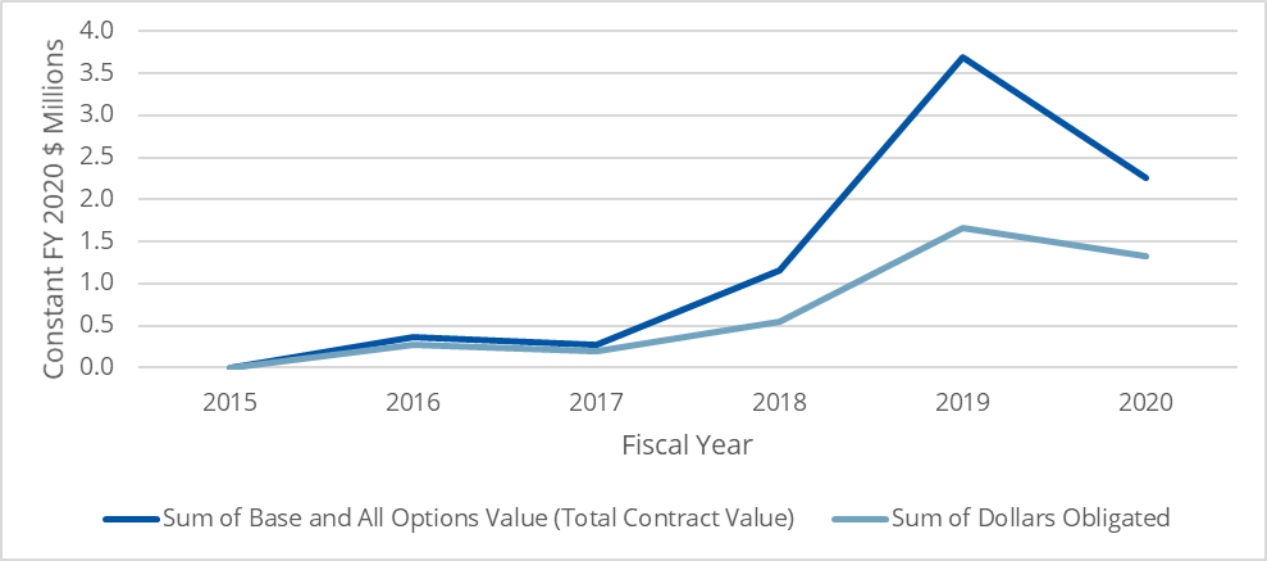
Source: FPDS; CSIS analysis

Chapter 4 | Air Force OTA Trends

The data show that the Air Force has seen growth in OTA obligations in recent years but 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 24261 percent increase. However, Air Force OTA obligations declined 20 percent last year, falling from $1.7 billion to $1.3 billion.

Figure 4-1 shows Air Force OTA obligations between FY 2015 and FY 2020.

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

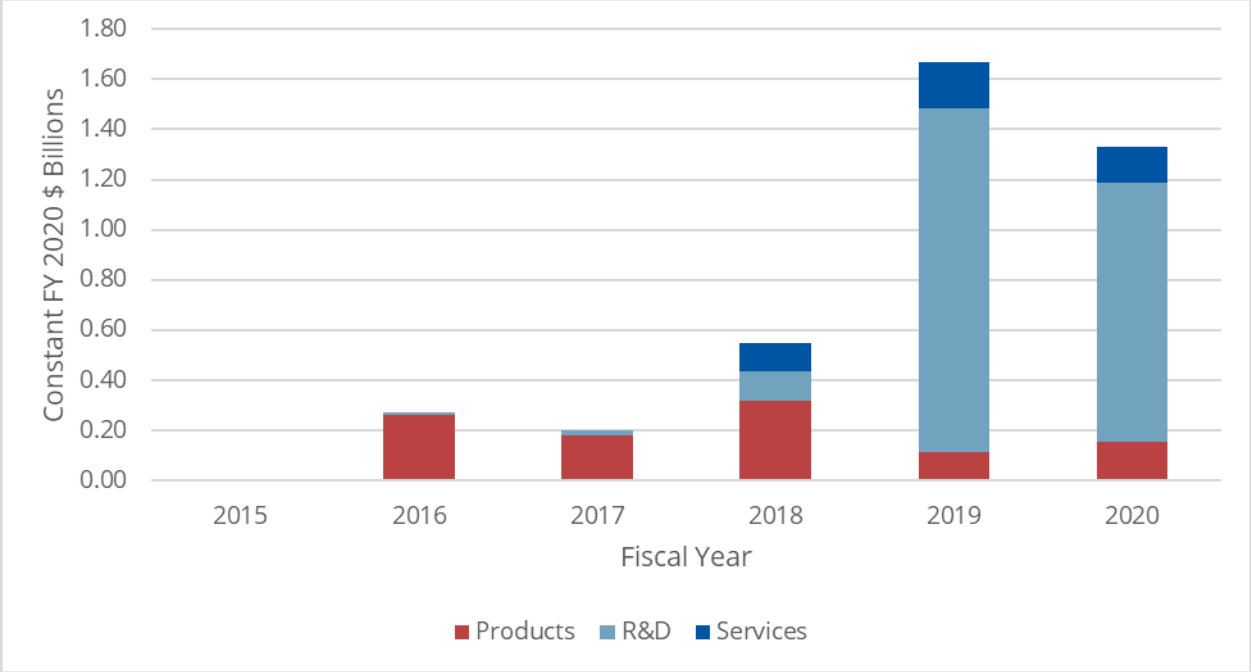
The Air Force predominantly uses OTAs for R&D activities in recent years, but not to the same degree as the Army. R&D accounted for 63 percent of Air Force OTA obligations between FY 2015 and FY 2020 compared to 26 percent for Products and 11 percent for Services.

Prior to the recent changes, the Air Force leveraged OTAs for a minimal set of R&D activities and its only in the most recent years that we've seen substantial growth. In FY 2015, Air Force R&D OTA obligations totaled just $0.01 billion and remained minimal until they really began to grow in earnest starting 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 25 percent in FY 2020, falling to $1.03 billion. Between FY 2015 and FY 2020, Air Force R&D OTA obligations increased 18,799 percent.

While the Air Force was slower to adopt OTAs for R&D, 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 non - existent usage the year prior. Air Force products OTA usage subsequently declined in FY 2017 before rebounding in FY 2018 only to fall more sharply in FY 2019. Be tween FY 2019 and FY 2020 Air Force products OTA usage has been rebounding increasing from $0.11 billion in FY 2019 to $0.16 billion in FY 2020, a 36 percent increase.

The Air Force made negligible usage of OTAs for services in the beginning years of the OTA revolutions but has made large strides in recent years. After non - existent 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 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

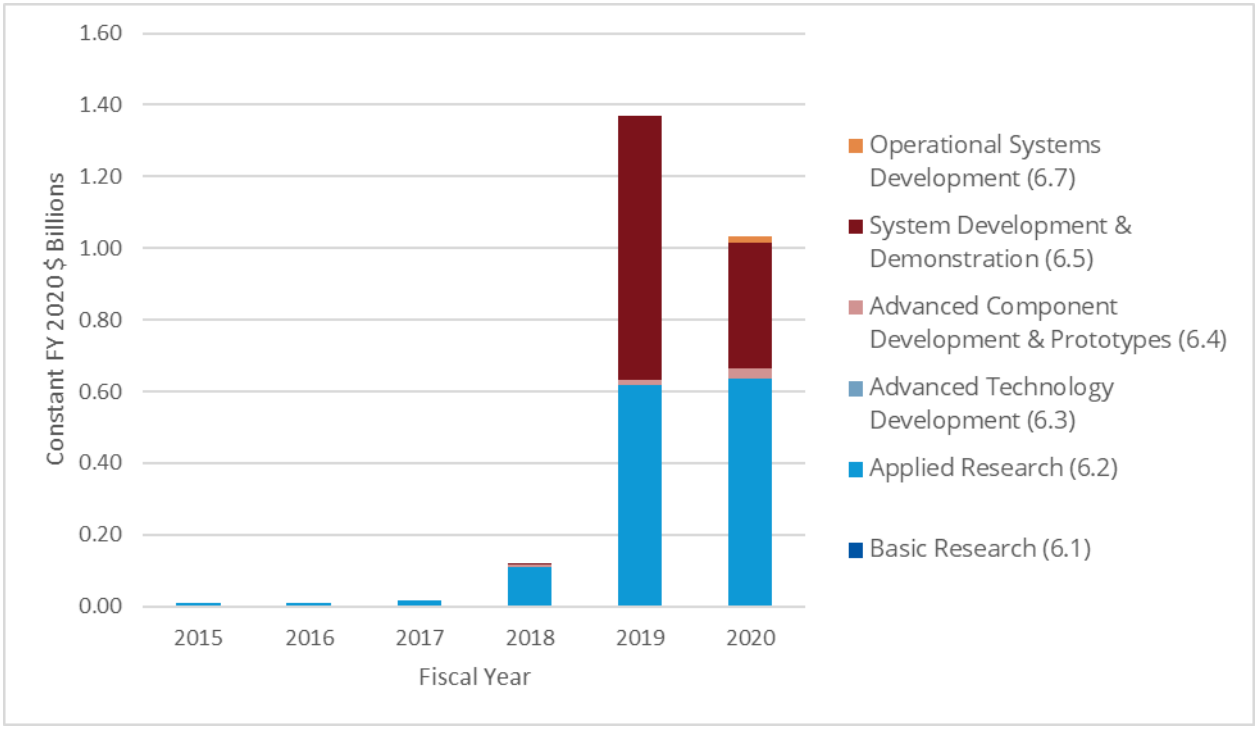
Unlike the Army where despite uneven growth between the different R&D activities there is still notable activity in different stages of the weapon development pipeline, Air Force OTA R&D activities are primarily concentrated in two activities: Applied Research (6.2) and Systems Development & Demonstration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

Applied Research (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. Air Force Applied Research OTA obligations went from $0.01 billion in FY 2015 and FY 2016 to $0.11 billion in FY 2018 before jumping 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 11,537 percent.

Air Force Systems Development & Demonstration (6.5) had negligible OTA activities prior to FY 2019 only to see a massive jump in OTA obligations that year. Afte r totaling less than $0.0 1 billion in OTA obligations in FY 2019, Air Force Systems Development & Demonstration (6.5) OTA obligations increased to d $0.74 billion in FY 2019. This one - year - growth was not sustained as Air Force Systems Development & Demonst ration subsequently declined 53 percent in FY 2020, totaling just $0.35 billion. Despite this decline, Air Force SD&D accounted for 34 percent of total Air Force R&D OTA obligations in FY 2020.

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

Figure 4-3: Air Force OTA Obligations by Stage of R&D



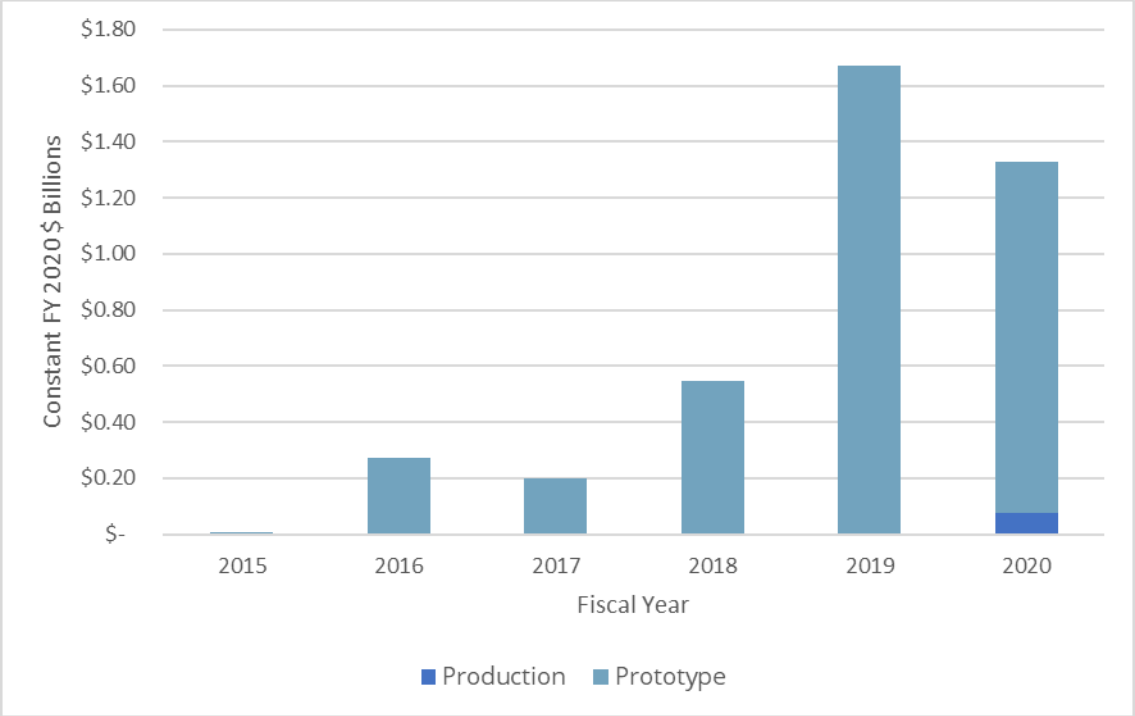
Source: FPDS; CSIS analysis

AIR FORCE OTA OBLIGATIONS BY TYPE OF AGREEMENT

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

Figure 4-4 below shows Air Force OTA obligations by type of agreement between FY 2015 and FY 2020.

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



Source: FPDS; CSIS analysis

AIR FORCE OTA OBLIGATIONS BY PLATFORM PORTFOLIO

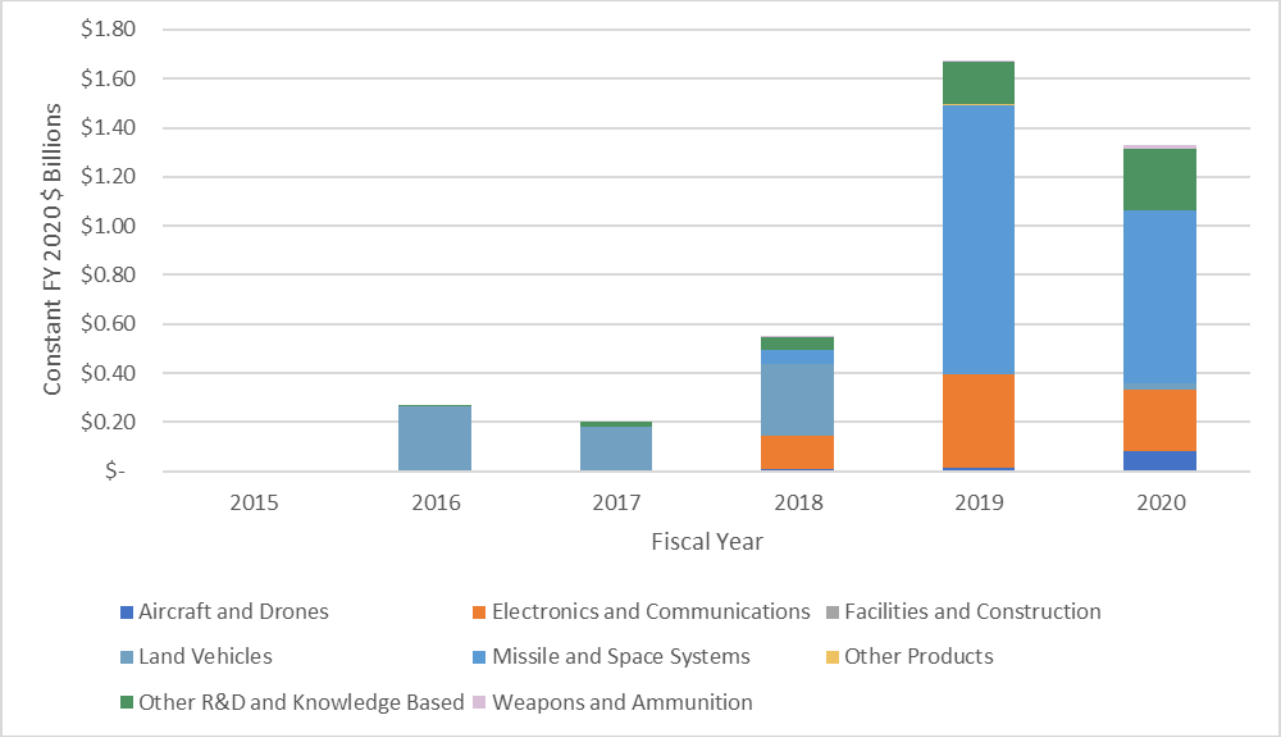
Figure 4-5 below shows Air Force OTA obligations by platform portfolio between FY2015 and FY 2020.

Missile and Space Systems was slow to get started but has become the largest Air Force OTA platform portfolio in recent years. There were negligible OTA obligations for Air Force Missile and Space Systems prior to FY2017 and OTA obligations totaled just $0.06 billion in FY2018. Air Force Missile and Space Systems OTA spending jumped all the way up to $1.1 billion in FY2019. Air Force spending on Missile and Space Systems under OTAs did decline 36 percent in FY2020, falling to $0.7 billion, but the platform portfolio was still the largest Air Force OTA platform portfolio by over twice the closest platform portfolio.

Similar to Missile and Space Systems, the Air Force made negligible usage of OTAs for Electronics & Communications prior to the recent statutory changes, but has seen a slower, but steady up tick in most recent years. Air Force EC&S OTA obligations totaled $0.14 billion in FY2018 before jumping up to $0.38 billion in FY2019. Similar to Missile and Space Systems Air Force EC&S declined in FY2020, falling to $0.25 billion, a 34 percent decline from the previous year.

Unlike other platform portfolios which had non-existent usage prior to the recent statutory changes, the Air Force made use of OTAs for Other R&D and Knowledge Based in a small set of activities. In FY2015, 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 FY2015 and FY2020, Air Force OTA obligations for Other R&D and Knowledge Based has grown from $0.01 billion in FY2015 to $0.25 billion in FY 2020, a 4566 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, it 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, 46 percent of total Air Force OTA obligations over that same 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 shows the top five Air Force OTA contracting offices between FY 2015 and FY 2020.

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

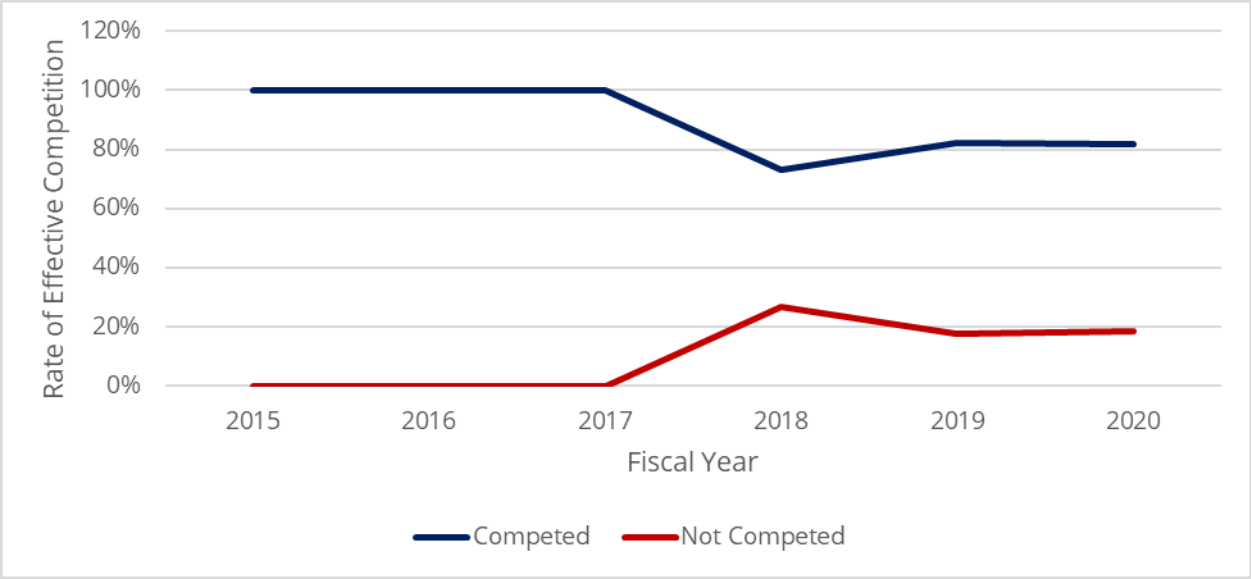
Contracting Office Rank	Contracting Office	FY 2020 Obligations (Billions)	Total Obligations 2015-2020 (Billions)
1	Launch Systems Enterprise Directorate	0.4	1.8
2	Space and Missile Systems Center Contracting Directorate	0.3	0.8
3	AFLCMC: C3IN	0.1	0.4
4	USAF SBIR STTR Contracting	0.1	0.2
5	AFLCMC: Digital Directorate	0.1	0.2
Top 5 Total		1.0	3.4
Top 5 Share of Total Air Force		78%	84%

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 in FY 2017 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

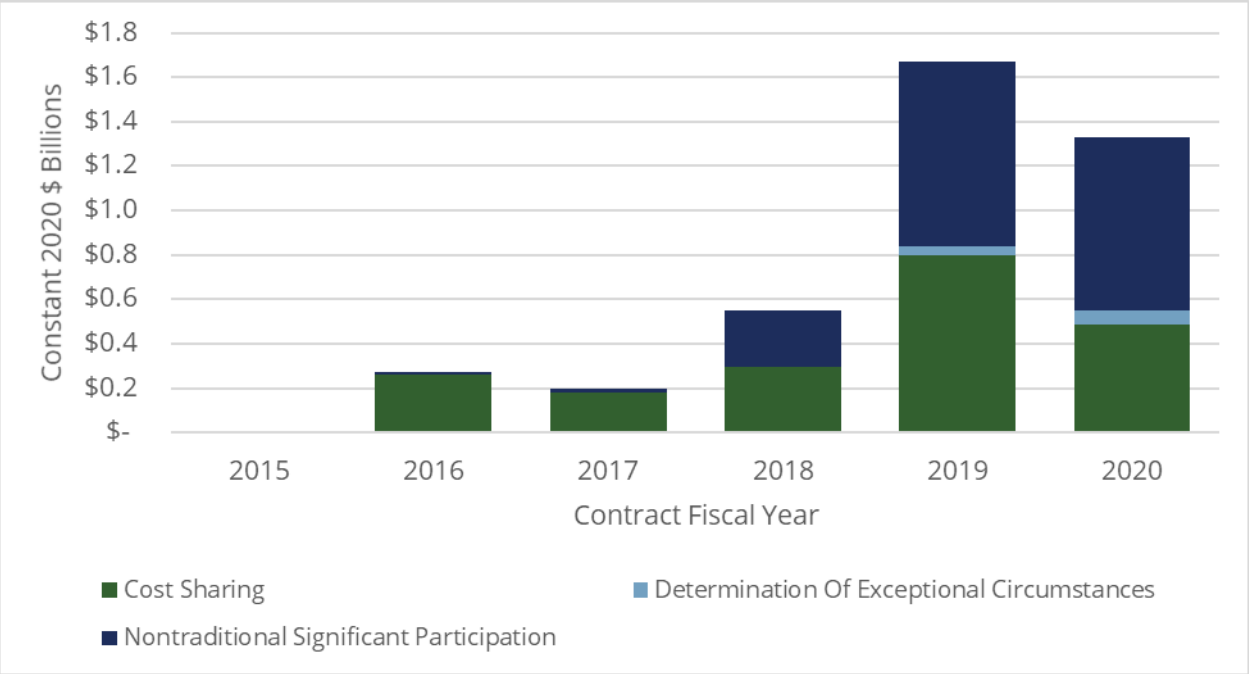
As shown in Figure 3 - 7 below, unlike the Army where a majority of OTA obligations were awarded to vendors categorized as having nontraditional significant participation, the Air Force has seen more of a split between nontraditional significant participation and cost sharing.

Immediately following the implementation of the recent statutory changes, the majority of OTA obligations in FY 2016 and FY 2017 were awarded via cost sharing. In FY 2016 and FY 2017, 97 percent and 91 percent of Air Force OTA obligations were awarded via cost sharing respectively. However, as the years have gone on, the share of Air Force OTA obligations awarded via cost sharing has steadily fallen. The share of Air Force OTA obligations via cost sharing fell to 54 percent in FY 2018, 48 percent in FY 2019, and finally 37 percent in FY 2020. 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 the Air Force 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 grew to $0.83 billion in FY 2019. In FY 2020, Air Force cost sharing OTA obligations declined 39 percent in FY 2020 compared to the more gradual 6 percent decline in vendors categorized as having nontraditional significant participation.

Finally, determination of exceptional circumstance 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 FY2015 and FY2020, 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 FY2015 and FY2020.

Looking beyond the top five Air Force OTA vendors to the top 20 vendors, unlike the Army, there was a lot more diversity in the vendors comprising the top 20 vendors. Amongst the top 20 Air Force OTA vendors between FY2015 and FY2020, there were just 4 consortiums compared to 2 Big Five Defense Firms, 2 Big Five Information Technology firm, 6 large defense firms, 4 large non-traditional defense firms, and 2 small non-traditional defense firms. These 4 consortia accounted for just 29 percent of all Air Force OTA obligations between FY2015 and FY2020, compared to 34 percent for the 6 large defense firms. Beyond consortiums and the large defense firms, Northrop Grumman and Raytheon accounted for 14 percent of Air Force OTA obligations between FY2015 and FY2020, the 2 Big Five IT firms accounted for 5 percent, the 4 large nontraditional defense firms accounted for 10 percent, and the 2 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	Total Obligations 2015-2020 (Billions)
1	Analytic Services Inc.	Consortium	0.76
2	Northrop Grumman	Big Five Defense	0.50
3	United Launch Alliance (ULA)	Large Defense	0.50
4	Aerojet Rocketdyne Holdings	Large Defense	0.34
5	System of Systems Consortium (SOSSEC)	Consortium	0.26
	Top 5 Total		2.36
6	Blue Origin	Large Defense	0.22
7	Orbital ATK	Large Defense	0.18
8	Pivotal Software (VMware)	Large Nontraditional	0.16
9	Space Exploration Technologies Corp. (SpaceX)	Large Nontraditional	0.16
10	Microsoft	Big Five IT	0.11
11	Consortium Management Group Inc.	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 Inc	Consortium	0.04
18	Rhombus Power	Small Nontraditional	0.02
19	Mile Two	Large Nontraditional	0.01
20	Beta Technologies Inc.	Small Nontraditional	0.01
	Top 20 Total		3.73
	Overall Air Force Total		4.02

Source: FPDS; CSIS analysis

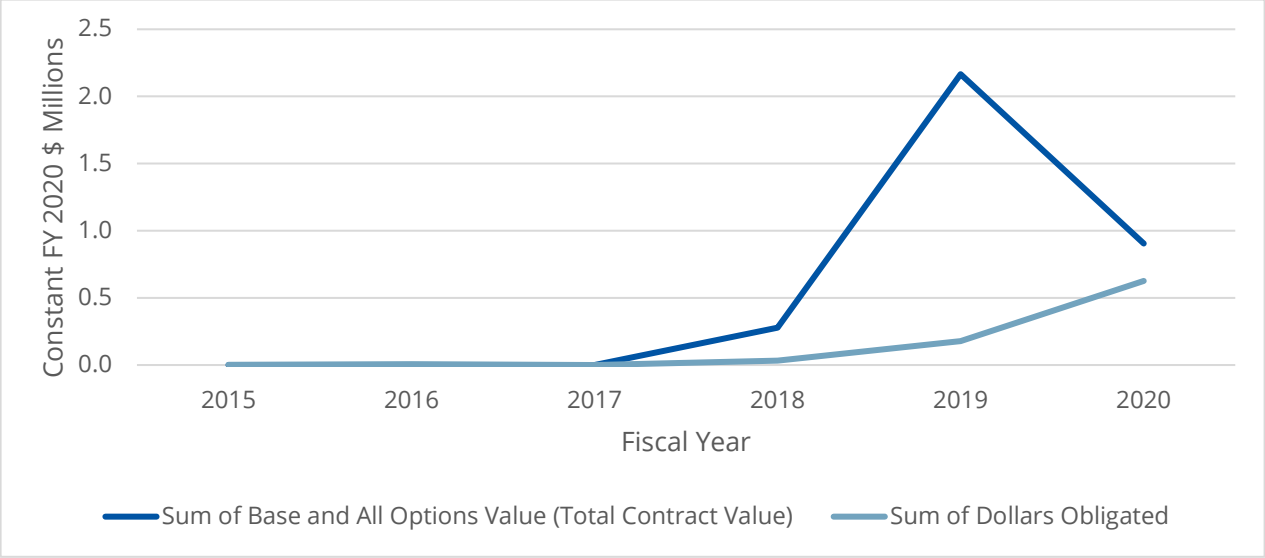
Chapter 5 | Navy OTA Trends

The data show that the Navy has been slow to join the OTA revolution compared to the Army and the Air Force but has started to make greater usage of OTAs in the last two years. Between FY 2015 and FY 2018, Navy OTA obligations totaled on average $0.01 billion annually. In FY 2019 Navy OTA obligations increased from $0.03 billion to $0.18 billion. In FY 20 20 continued rising, increasing from $0.18 billion to $0.63 billion, a 253 percent increase. Between FY 2015 and FY 2020, Navy OTA obligations increased 24,633 percent.

Of note, Navy s um of base and all options value, the total potential c ontract 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 fell 58 percent in FY 2020, falling to $0.9 billion. Despite the change in total potential contract valu e falling precipitously last year, OTA obligations continued rising suggesting Navy OTA obligations may continue rising at a steady rate, but you may not see the massive explosion in OTA obligations like w e have seen in the other DoD components.

Figure 5- 1 shows Navy OTA obligations between FY 2015 and FY 2020.

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



Source: FPDS; CSIS analysis

5.1 | What is the Navy Buying?

NAVY OTA OBLIGATIONS BY AREA

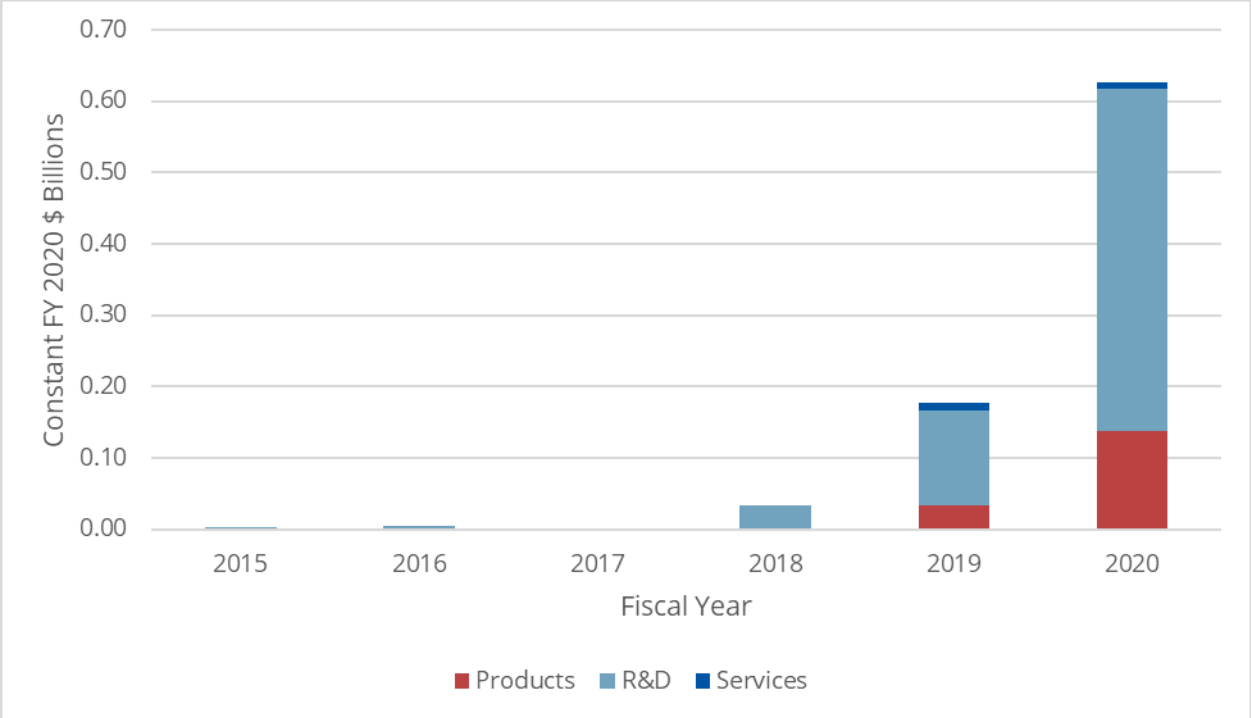
Similar to the Army and Air Force, the Navy predominantly uses OTAs for R&D activities but has made greater usage of OTAs for Products in terms of market share than the other two components. Figure 5 - 2 has shown Navy OTA by area between FY 2015 and FY 2020.

Even as the Navy was slower to adopt OTAs, it made of usage of OTAs for a small, but steady set of R&D activities of around $0.01 billion annually between FY 2015 and FY 2018. 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 in the years prior. Between FY 2019 and FY 2020, Navy Products OTA obligations grew increased 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 for services in recent years accounting for on average just $0.01 billion 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: System Development & Demonstration (6.5), Advanced Technology Development (6.3), and Applied Research (6.2).

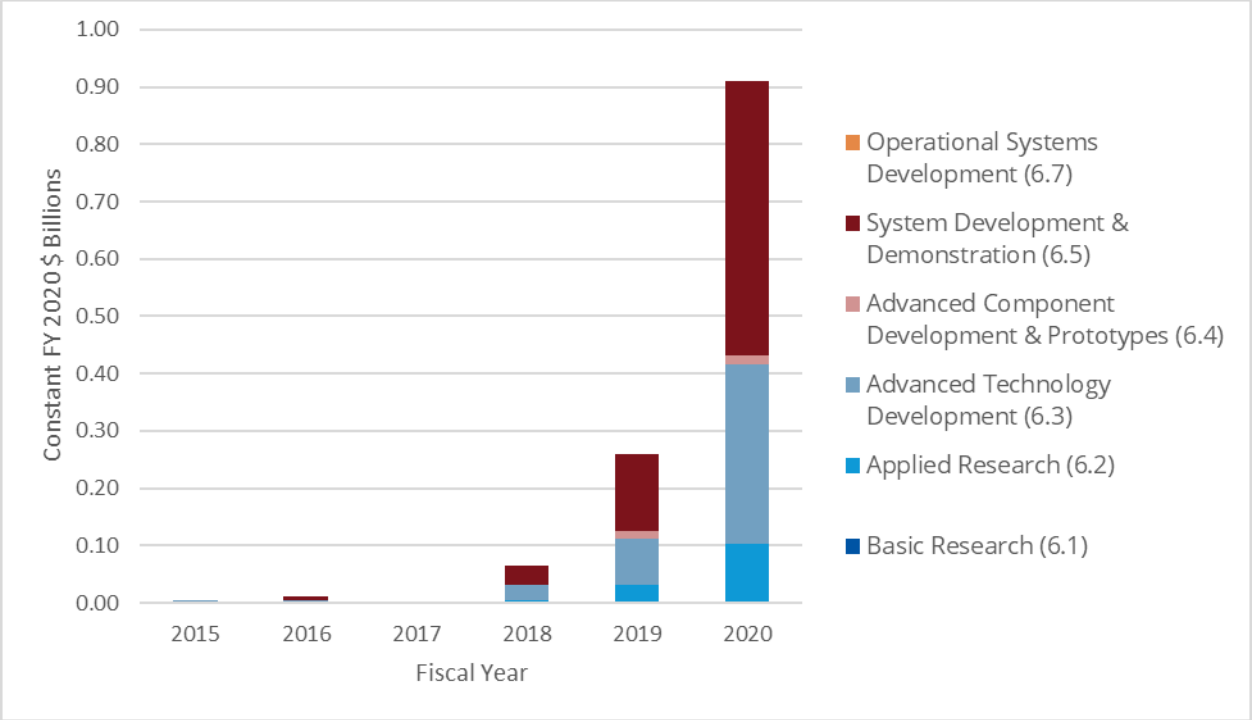
Systems Development & Demonstration (6.5), the largest share of Navy R&D activities, accounted for roughly 50 percent of Navy OTA obligations over the last five years. Following the general Navy trends, growth in Navy SD&D OTA obligations was comparatively small, but steady between FY 2016 and FY 2018 but has grown more rapidly in recent years. Navy SD&D increased from $0.03 billion to FY 2018 to $0.13 billion in FY 2019. Navy SD&D OTA obligations continued growing in FY 2020, increasing to $0.48 billion, a 257 percent increase from the previous year.

Advanced Technology Development (6.3), the second largest share of Navy R&D activities, accounted for roughly 34 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 of slow, but steady growth between FY 2016 and FY 2018 before seeing more rapid growth in the last two 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 $0.00 billion to $0.31 billion, a 12277 percent increase.

Unlike SD&D and Advanced Technology Development which saw sustained market share over the entire FY 2015 to FY 2020 period, it's only in the last three years that Navy Applied Research OTA obligations have taken off. Over the last three years, Navy Advanced Technology Development OTA obligations increased from $0.01 billion in FY 2018 to $0.1 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 8 percent in FY 2018 and 11 percent in both FY 2019 and FY 2020.

Figure 5 - 3 shows Navy OTA obligations by Stage of R&D between FY 2015 and FY 2020.

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



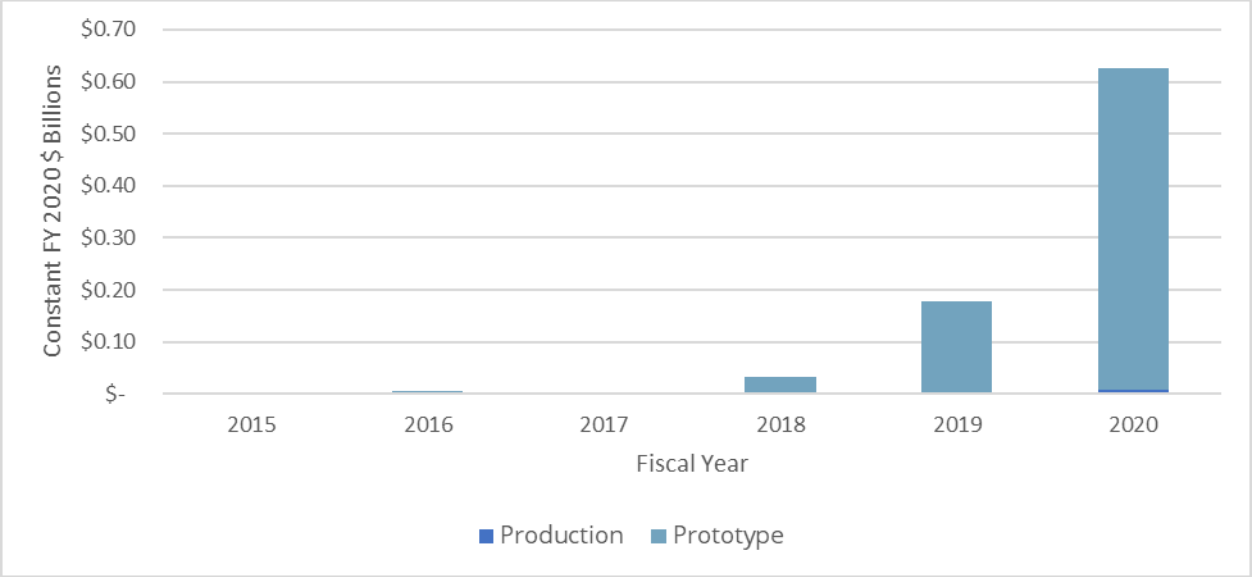
Source: FPDS; CSIS analysis

NAVY OTA OBLIGATIONS BY TYPE OF AGREEMENT

The data show that Navy production OTA agreements remain in their infancy, accounting for $0.01 billion, 1 percent of Navy OTA obligations, in FY 2020. This share of Navy OTA obligations going to productions 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 4-4 below shows Air Force OTA obligations by type of agreement between FY 2015 and FY 2020.

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



Source: FPDS; CSIS analysis

NAVY OTA OBLIGATIONS BY PLATFORM PORTFOLIO

Figure 5- 5 below shows Navy OTA obligations by platform portfolio between FY 2015 and FY 2020.

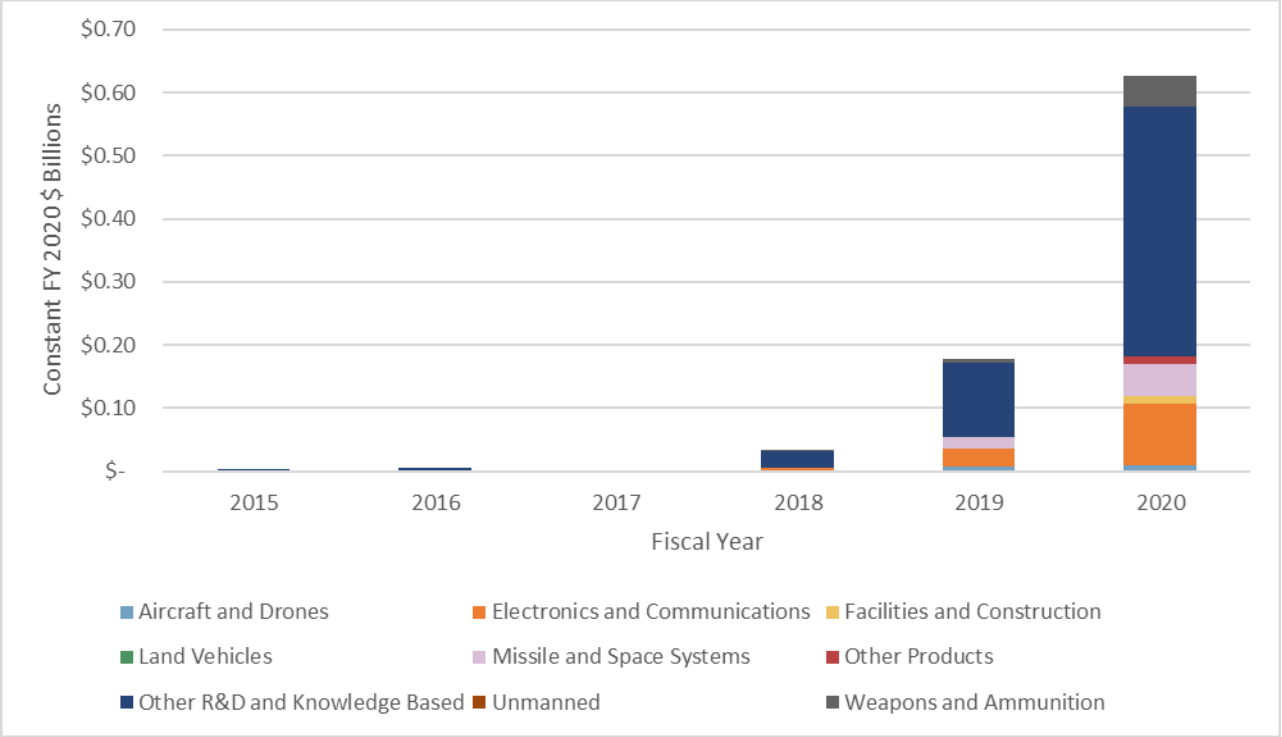
Other R&D and Knowledge Based historically has been the Navy's largest platform portfolio, and while that has remained true in recent years it has seen its market share declining despite increases in total OTA obligations. Navy Other R&D and Knowledge Based OTA obligations increased from $0.03 billion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

Electronics and Communications, the second largest Navy platform portfolio, has 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 257 percent increase. As a share of Navy OTA obligations, EC&S has accounted for between 15 to 16 percent annually between FY 2018 and FY 2019.

Missile and Space Systems, the Navy's third largest platform, has seen notable growth in the last two years. Navy Missile and Space Systems OTA obligations increased from less than $0.00 billion in FY 2018 to $0.02 billion in FY 019 before increasing 206 percent in FY 2020 to $0.05 billion. As a share of Navy OTA obligations, Missile and Space Systems accounted for 1 percent of Navy OTA obligations in FY 2018, rose to 10 percent in FY 2019 before falling to 8 percent in FY 2020.

After accounting for just 3 percent of Navy OTA obligations in FY 2017 and FY 2018, Navy Weapons and Ammunition OTA obligations increased 755 percent in FY 2020. Navy Weapons and Ammunition OTA obligations increased from $0.01 billion in FY 2019 to $0.05 billion FY 2020 and subsequently rose as a share of Navy OTA obligations to 8 percent.

Figure 5-5: Navy OTA Obligations by Platform Portfolio



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 the FY2015 and FY2020, the work is more evenly distributed between the different contracting offices than for the Army of the Air Force. The Navy's largest contracting office, Naval Surface Warfare Center (NSWC) Crane, accounted for $0.25 billion in OTA obligations between FY2015 and FY2020, 30 percent of Navy OTA obligations. Rounding out the top five Navy contracting officers 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 15 percent and 10 percent of total Navy OTA obligations between FY2015 and FY2020. In total, the top five Navy contracting offices accounted for 78 percent of Navy OTA obligations between FY2015 and FY2020.

Table 5-1 shows the top five Navy OTA contracting offices between FY2015 and FY2020.

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

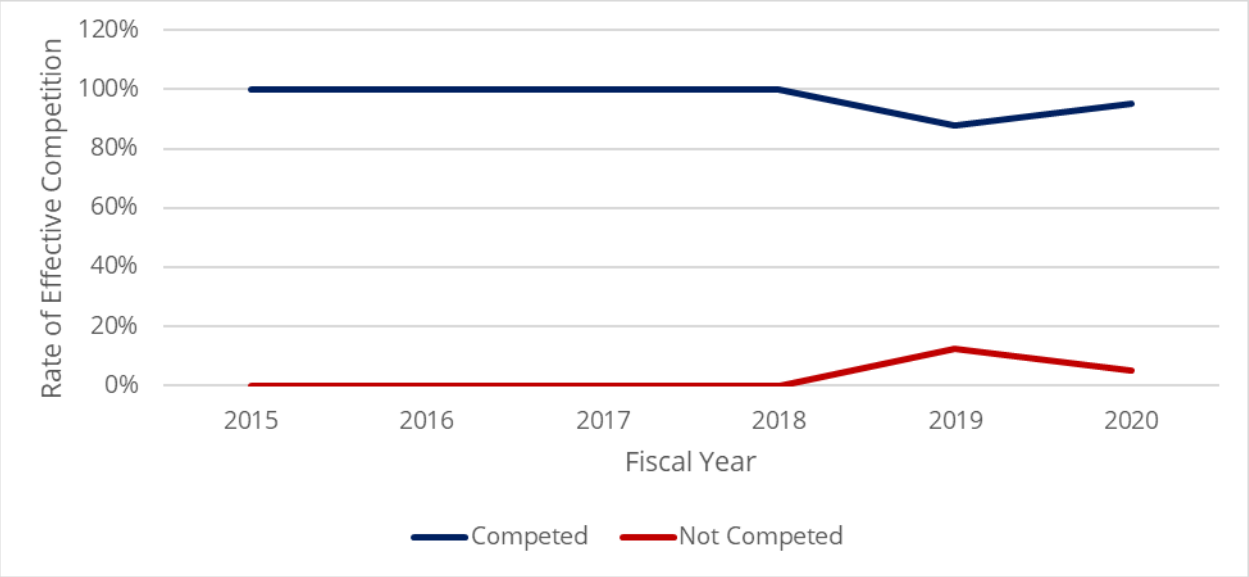
Contracting Office Rank	Contracting Office	FY 2020 Obligations (Billions)	Total Obligations 2015-2020 (Billions)
1	NSWC: Crane	0.21	0.3
2	Marine Corps Systems Command	0.10	0.1
3	NUWC: Newport	0.08	0.1
4	NIWC: Atlantic	0.06	0.1
5	Office of Naval Research (ONR)	0.02	0.1
Top 5 Total		0.5	0.7
Top 5 Share of Total Navy		76%	78%

Source: FPDS; CSIS analysis

5.2 | Competition for Navy OTA Awards

Despite the relative immaturity of the Navy's OTA usage compared to the 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 of reported competition further rebounded to 95 percent in FY 2020. Figure 5- 6 shows the reported rate of competition for Navy OTA obligations between FY 2015 and FY 2020.

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



Source: FPDS; CSIS analysis

5.3 | Whom is the Navy Buying From?

NAVY OTA OBLIGATIONS BY NONTRADITIONAL GOVERNMENT CONTRACTOR PARTICIPATION

As shown in Figure 5-7 below, that prior to the growth in Navy OTA obligations starting in FY2018, 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 amongst 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 FY2015 and FY2017, and just 7 percent in FY 2016. As Navy OTA obligations have grown in the last three years, that share of Navy OTA obligations jumped to 76 percent in FY2018 and totaled 96 percent in both FY2019 and FY2020. This has growth has occurred both in terms of market share, but also total obligations. Navy OTA obligations awarded to vendors categorized as having nontraditional significant participation has grown from $0.03 billion to FY2018 to $0.63 billion in FY2020, a 1,782 percent increase. In FY2020, Navy OTA obligations awarded to vendors categorized as having nontraditional significant participation 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 amongst the top 20 Navy vendors than either the Army or Air Force. Amongst the top 20 Navy OTA vendors, there were 7 consortiums, ac counting for 67 percent of total Navy OTA obligations between FY 2015 and FY 2020. Northrop Grumman joined Raytheon and Boeing amongst the top 20 Navy OTA vendors, and these three of Big Five defense vendors accounted for 11 percent of total Navy OTA oblig ations. Compared to the other components, the Navy was the only service to have a university research institute amongst its top 20 vendors with the George J. Kostas Research Institute for Homeland Security at Northeastern Univer sity coming in at number 10 amongst top 20 Navy vendors between FY 2015 and FY 2020 accounting for $0.01 billion, or 2 percent of total Navy OTA obligations over that period. Otherwise, the top Navy vendors was rounded out by 4 Large defense firms that accounted for 5 percent of Navy OTA obligations, 3 small nontraditional firms that accounted for 2 percent of Navy OTA obligations, and 1 small defense firm that accounted for 1 percent of Navy OTA obligations.

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

Vendor Rank	Global Vendor Name	Vendor Type	Total Obligations 2015-2020 (Billions)
1	National Security Technology Accelerator	Consortium	0.23
2	Analytic Services Inc.	Consortium	0.20
3	Consortium Management Group Inc.	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 Inc.	Consortium	0.02
8	Deloitte Consulting Llp	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 Univer	Non-Profit	0.01
11	Northrop Grumman Systems	Big Five Defense	0.01
12	Elbit Systems Ltd.	Large Defense	0.01
13	Honeywell International Inc.	Large Defense	0.01
14	Aerojet Rocketdyne Holdings	Large Defense	0.01
15	Spin Systems Inc.	Small Nontraditional	0.01
16	American Systems	Medium	0.01
17	Cole Engineering Services Inc.	Small Nontraditional	0.01
18	Logistic Services International Inc.	Small Nontraditional	0.01
19	Mistral Inc.	Small Defense	0.01
20	Battelle Memorial Institute Inc	Consortium	0.01
	Top 20 Total		0.75
	Overall Navy Total		0.84

Source: FPDS; CSIS analysis

Chapter 6 | Chapter 7 | Conclusion

DEFENSE OTA OBLIGATIONS CONTINUED TO GROW AT STAGGERING RATES

The data show that the rapid growth in DoD's usage of OTAs did not slowdown in FY 2020. Driven by the response to the coronavirus DoD OTA obligations increased 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 1 percent last year suggesting we could see some slow - down in the same level of year - over - year growth that we've seen 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 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 (CBRN) Defense Consortium. Although classified under a single product or service code, this OTA empower ed not only DoD's effort to support the development of vaccines, but also 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 the n eed 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 greater 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 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 LATE-STAGE R&D FALLS OFF

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

THE ARMY REMAINS THE PREDOMINANT USER OF OTAS ACROSS DOD

The Army remains the predominant user of OTAs across all of DoD, but other components, notably the Navy have made more extensive use of OTAs in recent years than they previously did. Army OTA obligations increa sed 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 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 Navy's obligations.

NONTRADITIONAL SIGNIFICANT PARTICIPATION REMAINS DOMINANT AS COST-SHARING DECLINES

For a f ew 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 14 percent and fell as a sha re of OTA obligations to 6 percent from 14 percent.

Chapter 7 | About the Authors

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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 M.A. in international studies from the University of Denver and a B.A. in government and politics, as well as a B.S. in computer science, from the University of Maryland.