



FY2022 Electronic Warfare Funding Trends

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Many defense analysts consider [electronic warfare](#) (EW), which disrupts an adversary’s command and control networks, a critical 21st-century combat capability. During a March 19, 2021, House Armed Services Subcommittee on Cyber, Innovative Technologies and Information Systems [hearing](#), several EW experts noted that China and Russia have developed sophisticated EW expertise. Such expertise raises potential concerns that either country may challenge the U.S. military’s ability to access the electromagnetic spectrum. At the hearing, Representative Langevin remarked, “Future combat will be less about the capability of individual weapon systems and more about how a network of systems communicate and work together through the use of the electromagnetic spectrum.”

EW has become a priority issue for both the executive branch and Congress. To facilitate congressional oversight, this Insight analyzes changes in FY2019-FY2022 Research, Development, Test, and Evaluation (RDT&E) and procurement funding requests, tracks the proportions of RDT&E investments by budget activity, and examines funding trends within military departments.

In an effort to identify emerging EW technologies, the Deputy Secretary of Defense established the [EW Executive Committee \(EW EXCOM\)](#) in 2015. More recently, the FY2017 National Defense Authorization Act (NDAA) (P.L. 114-328) required the EW EXCOM to develop an EW strategy. The [2017 EW strategy](#) identified EW research and development programs in order to track their progress and gain insight into the overall EW portfolio. For a discussion of this approach to following EW programs, see the [U.S. Military Electronic Warfare Program Funding: Background and Issues for Congress](#).

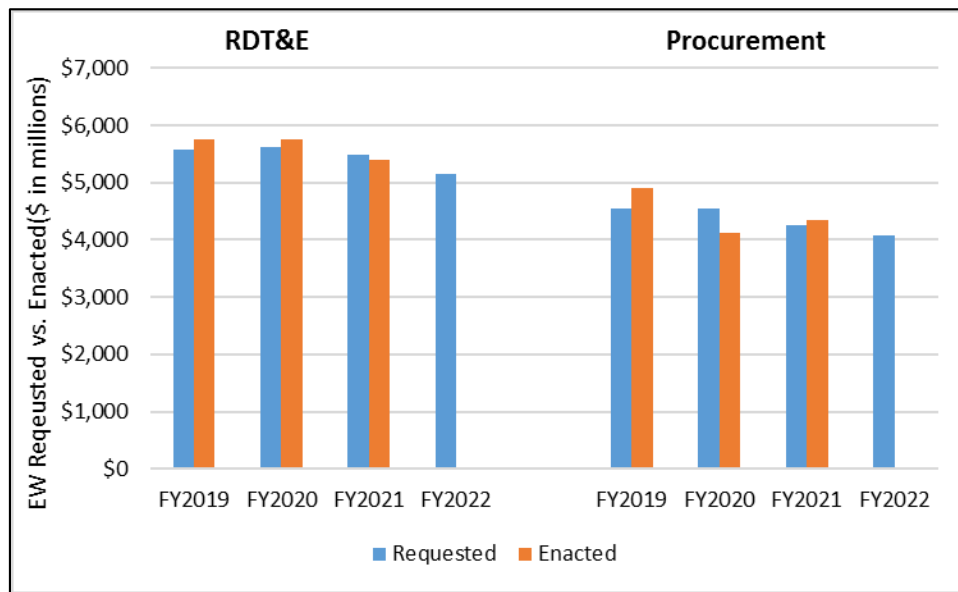
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EW Programs by Appropriation and Department

Figure 1. Electronic Warfare Funding, by Appropriation
Requested vs. Enacted

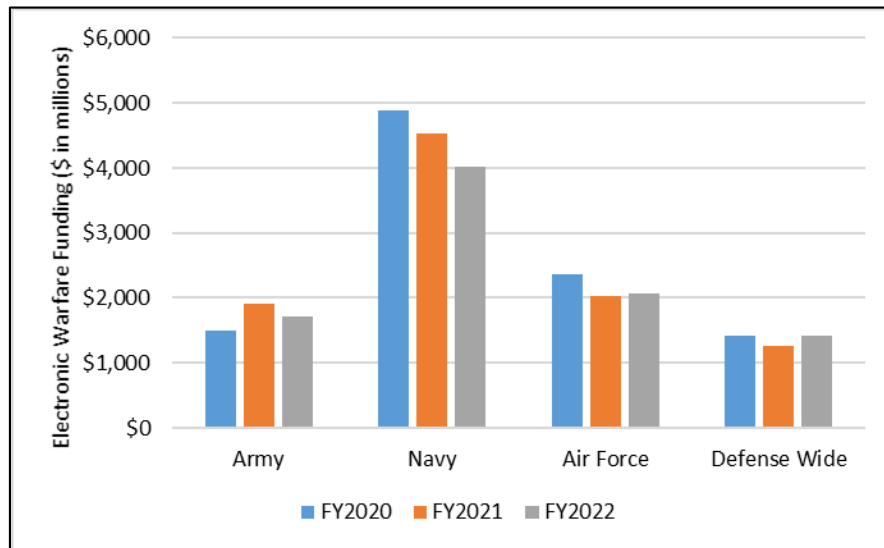


Source: CRS analysis of [Air Force](#), [Army](#), [Navy](#), and [Defense-wide](#) FY2019-FY2022 budget justifications.

RDT&E versus procurement funding is the key delineation within the EW portfolio. As **Figure 1** shows, there was an overall decrease in funding requests in FY2022 compared with FY2019. In FY2022 DOD requested \$9.231 billion, whereas in FY2019 the request totaled \$10.139 billion, representing a 9% decrease. The future year defense plan also projected RDT&E program funding decreases in FY2022. However, the future year defense plan anticipated an increase in procurement funding even as actual procurement funding decreased.

Over the past few years, the percentage decrease in both EW RDT&E and procurement funding requests has been approximately the same. However, Congress provided more funding in FY2019 for both procurement and RDT&E than DOD had requested. In FY2020, Congress allocated more funding to RDT&E than the DOD request, while providing less than requested for procurement programs. In FY2021, the reverse was true.

Figure 2. Electronic Warfare Funding Requests, by Department
FY2020-FY2022

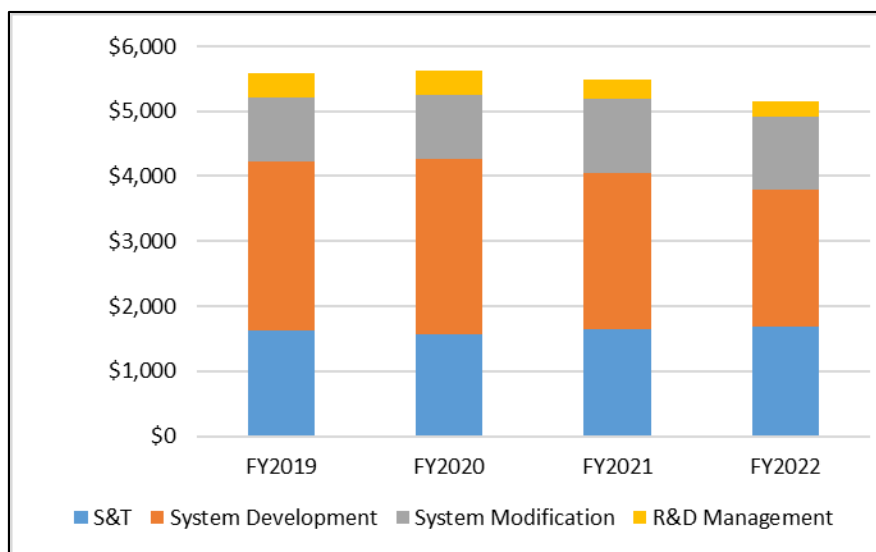


Source: CRS analysis of [Air Force](#), [Army](#), [Navy](#), and [Defense-wide](#) FY2019-FY2022 budget justifications.

Note: Depicts both RDT&E and procurement funding.

Figure 2 depicts funding requests from FY2020 to FY2022 categorized as Army, Navy, Air Force (including Space Force since FY2021), and Defense-Wide funding, which includes the Defense Advanced Research Projects Agency (DARPA), Defense Information Systems Agency (DISA), Joint Staff, the Office of the Secretary of Defense, Director of Operational Test and Evaluation, and Special Operations Command (SOCOM). The overall decrease in EW funding has not been evenly distributed across departments. The Navy, which has requested significantly more funding than other departments, has 71 EW programs, while the Air Force and Army have 59 and 92 programs, respectively. A department's dollar request does not necessarily reflect the number of programs the department manages or the size of each program.

Since FY2020, there has been a steady decrease in Navy EW funding requests. **Figure 2** also shows a decrease in the Air Force's requested funding, while the Army and Defense-Wide funding request has remained relatively stable. DARPA's funding request grew from FY2020 to FY2022, suggesting a renewed DOD interest in research.

Figure 3. EW RDT&E Funding Requests, by Budget Activity

Source: CRS analysis of [Air Force](#), [Army](#), [Navy](#), and [Defense-wide](#) FY2019-FY2022 budget justifications.

Figure 3 depicts four categories of RDT&E funding—divided by [budget activity](#)—from FY2019 to FY2022: science and technology (S&T) (RDT&E budget activities 1, 2, and 3), system development (budget activities 4 and 5), system modification (budget activity 7), and RDT&E Management Support (budget activity 6). This RDT&E breakdown models the development cycle, from a technology’s initial inception to its prototyping and manufacturing design implementation, and includes modernization and management costs.

The DOD dollar request for system development decreased over these four fiscal years. This may indicate some systems have matured and transitioned to procurement. Additionally, the R&D management costs decreased from 6.5% of the FY2019 EW RDT&E budget request to 4.7% in FY2022. The decrease in R&D management funding may suggest that DOD is more efficiently managing the EW test and evaluation enterprise.

Since FY2019, the S&T funding request has increased from \$1.627 billion in FY2019 to \$1.675 billion in FY2022, even as the overall EW RDT&E funding request has decreased. This trend suggests that more resources have been allocated for emerging technologies and research and development. Concurrently, there has been an increase in system modification funding, which is used to modify current weapons systems and keep them operationally relevant.

Potential Issues for Congress

- DOD has identified EW capabilities as a high priority, establishing the EW EXCOM. Do RDT&E and procurement funding trends suggest a DOD effort to invest in new EW technologies? To what extent are EW capabilities in the military dependent upon new technologies? Are these trends aligned with congressional intent?
- Both DOD and Congress have identified a need for new EW technologies. In what ways do changes in departmental funding requests indicate changes in policy priorities? For example, does DOD’s reallocation of resources to developing new technologies while reducing funding for established programs signify a change in the view of the operational environment?

- Funding of EW programs in the U.S. military has been roughly steady since FY2019. What would increasing requests/enactments for modernization efforts mean for the future of electronic warfare? What are the practical implications of directing additional funding to systems currently in use?

Katherine Leahy coauthored this product during her internship with the Congressional Research Service.

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