



Defense Primer: Research, Development, Test, and Evaluation

Advanced technology plays a critical role in ensuring U.S. national security. To maintain technological superiority on the battlefield, the Department of Defense (DOD) relies on scientific and technical knowledge developed in large measure through research, development, test, and evaluation (RDT&E) funded by the department and performed by industry, universities, federal laboratories, and others. DOD also relies increasingly on technology developed by the private sector for commercial markets. This In Focus describes DOD’s RDT&E appropriations structure and funding levels.

DOD appropriations are provided annually through the defense appropriations act, 1 of the 12 regular appropriations acts. DOD RDT&E funding is generally provided in three of this act’s titles (see text box). Congress also sometimes provides DOD RDT&E funding through supplemental appropriations acts. In FY2024, the total obligational authority (enacted) for RDT&E through regular appropriations was \$152.3 billion. P.L. 118-50 provided \$640.4 million in supplemental appropriations for DOD RDT&E in support of Ukraine.

RDT&E by Organization

RDT&E Appropriations Under Title IV

Approximately 97% of DOD’s RDT&E funding is appropriated in Title IV (Research, Development, Test, and Evaluation), which includes appropriations for the Army, Navy, Air Force, Space Force (under the Air Force account), a Defense-wide RDT&E account, and the Director of Operational Test and Evaluation. The Defense-wide account includes the Missile Defense Agency (MDA), Defense Advanced Research Projects Agency (DARPA), Office of the Secretary of Defense, and 15 other DOD organizations, as well as classified funding. Within these accounts are program elements (PEs) that provide funding for particular activities.

RDT&E Under Other Titles

RDT&E funds are also appropriated for programs in other titles of the defense appropriations act. For example, RDT&E funds are also appropriated in Title VI as part of the Chemical Agents and Munitions Destruction Program, the Defense Health Program, and the Inspector General. In some years, RDT&E funds have been provided in Title V as part of the National Defense Sealift Fund.

In recent years, RDT&E funds have also been appropriated in Title IX as part of DOD’s funding for Overseas Contingency Operations (OCO). Typically, the RDT&E funds appropriated for OCO activities support specified PEs in Title IV, though they are requested and accounted for separately. Alternatively, they may be provided to a transfer fund. Congress establishes transfer funds for a particular purpose and may authorize DOD to transfer a portion of

these funds to other accounts, such as RDT&E, to help achieve that purpose. President Biden’s budget request does not include OCO funding for FY2025.

Defense Appropriations Act Titles That Fund RDT&E

Title IV: Research, Development, Test, and Evaluation

- Army
- Navy
- Air Force
- Space Force
- Defense-wide
- Operational Test and Evaluation

Title V: Revolving and Management Funds

- National Defense Sealift Fund

Title VI: Other Defense Programs

- Chemical Agents and Munitions Destruction
- Defense Health Program
- Inspector General

RDT&E by Character of Work

While DOD Title IV funds are appropriated only by organization, DOD budget justifications and congressional appropriations reports and explanatory statements also typically describe this funding by the character of the work to be performed. This characterization consists of eight categories, each with a budget activity code (6.1 through 6.8) and a description. (See **Table 1**.)

Table 1. DOD RDT&E Budget Activity Codes

Code	Description
6.1	Basic Research
6.2	Applied Research
6.3	Advanced Technology Development
6.4	Advanced Component Development and Prototypes
6.5	System Development and Demonstration
6.6	RDT&E Management Support
6.7	Operational Systems Development
6.8	Software and Digital Technology Pilot Programs

Source: Department of Defense, *Financial Management Regulation (DoD 7000.14-R)*, Volume 2B, September 2022.

Funding in codes 6.1 to 6.3 is referred to by DOD as the science and technology (S&T) budget. This portion of DOD RDT&E is often singled out for attention by analysts, as it is seen as the pool of knowledge necessary for the development of future military systems. In contrast, 6.4, 6.5, and 6.7 funds are focused on the application of existing scientific and technical knowledge to meet current or near-term operational needs. The funds in 6.6 are for RDT&E management and support work in any of the other RDT&E budget accounts. DOD added budget activity 6.8 in its

FY2021 budget request to support software and digital technology pilot programs.

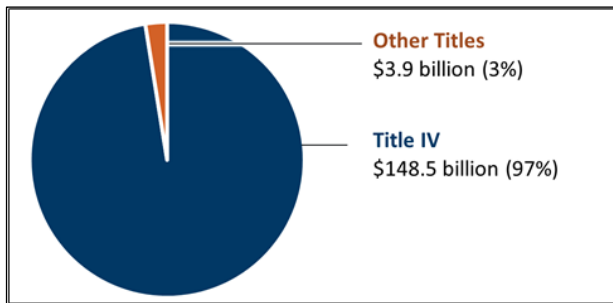
Within the S&T program, basic research (6.1) is singled out for additional attention, partly because of its perceived value in advancing breakthrough technologies. Nearly half of DOD’s funding for basic research in FY2022 went to universities (\$1.56 billion of \$32.18 billion).

In addition, DOD is a substantial source of federal funds for university R&D in certain fields, such as industrial and manufacturing engineering (64%); aerospace, aeronautical, and astronautical engineering (62%); electrical, electronic, and communications engineering (58%); metallurgical and materials engineering (48%); mechanical engineering (47%); and computer and information sciences (46%).

Funding Profile of DOD RDT&E

Total DOD RDT&E funding for FY2024 is \$152.3 billion, of which Title IV funding accounts for \$148.5 billion (97.5%). (See **Figure 1.**)

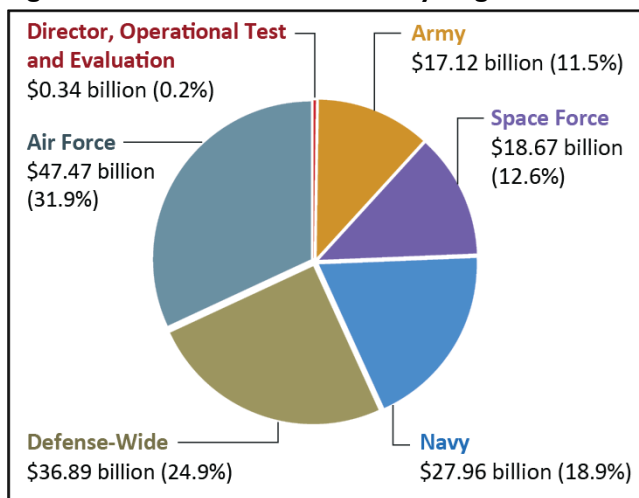
Figure 1. Title IV Share of FY2024 Total DOD RDT&E



Source: CRS analysis of H. Comm. Print 55-008, Legislative Text and Explanatory Statement on P.L. 118-47, Further Consolidated Appropriations Act, 2024.

The composition of FY2024 DOD RDT&E funds provided by Title IV is shown by organization in **Figure 2.**

Figure 2. FY2024 Title IV RDT&E by Organization



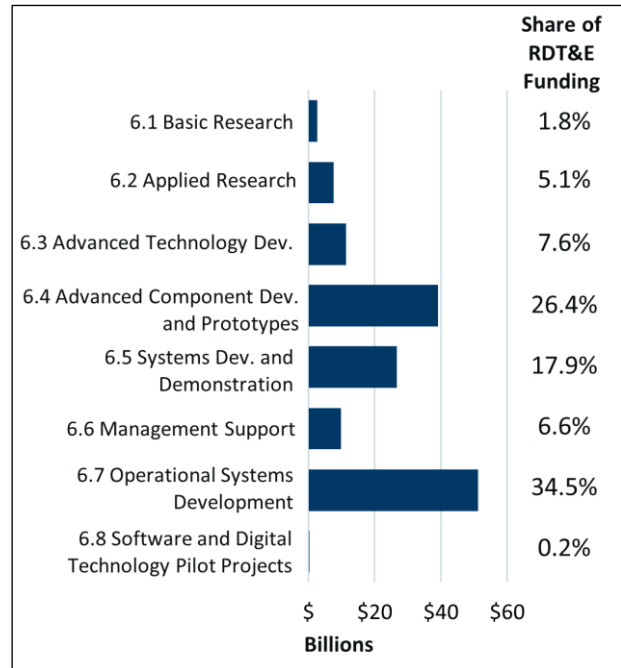
Source: CRS analysis of H. Comm. Print 55-008, Legislative Text and Explanatory Statement on P.L. 118-47, Further Consolidated Appropriations Act, 2024.

Notes: Dollar figures do not sum to total because of rounding.

Figure 3 illustrates FY2024 Title IV RDT&E funding by character of work. DOD S&T funding (6.1-6.3) accounted for \$21.5 billion (15%) of this funding. RDT&E funds provided in other DOD appropriations titles and supplemental acts are not included in this analysis as they are not parsed by character of work.

Figure 3. Title IV RDT&E by Character of Work, FY2024

Total obligational authority, in billions of current dollars



Source: CRS analysis of H. Comm. Print 55-008, Legislative Text and Explanatory Statement on P.L. 118-47, Further Consolidated Appropriations Act, 2024.

Notes: Funding for the Director of Operational Test and Evaluation is included in 6.6; funding for classified research is included in 6.7.

Relevant Statute

10 U.S.C. §4001—Research and development projects

CRS Products

CRS Report R44711, *Department of Defense Research, Development, Test, and Evaluation (RDT&E): Appropriations Structure*, by Marcy E. Gallo

CRS Report R45403, *The Global Research and Development Landscape and Implications for the Department of Defense*, by Marcy E. Gallo

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