Department of Defense Unmanned Systems Budget Report

2022 Interactive Report

We are pleased to offer our members unprecedented access to the source data along with enhanced analysis of multi-year spending trends. **Log-in to access the Interactive Budget Report** and explore the data for all unmanned programs of record as we track funding throughout the appropriations process — from the President's proposed budget through the National Defense Authorization Act (NDAA).

While AUVSI's preferred term for the technologies referenced in this report is "uncrewed systems," the U.S. Department of Defense continues to use the legacy term "unmanned systems" for programs of record and procurement processes. Given the focus of this report and to avoid confusion for the reader, the term "unmanned systems" will be used throughout this analysis. Click here to read more about **AUVSI's commitment to inclusive language**.

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Executive Summary of Interactive Report

The United States (U.S.) Armed Forces are a primary adopter of unmanned systems, and numerous facets of unmanned systems and robotics — in the air, ground, and maritime domains — are currently being used to support deployed forces and counter a range of threats posed to national security. To support the continued adoption of new technologies that maintain competitiveness in an ever-developing security landscape, the Fiscal Year (FY) 2022 budget for the U.S. Department of Defense (DOD) includes an estimated $8.2 billion to support the research, development, test, and evaluation (RDT&E) and procurement of these technologies. This represents an increase of about $700 million for unmanned vehicles (UxV) relative to the budget from FY 2021.

Historically, UxV were considered simple tools which required the supervision and control of a remote operator to complete the "dull, dirty, and dangerous" tasks on the battlefield. While some of these basic forms of operation still exist, recent advancements in autonomy, sensors, energy/propulsion systems, and navigation/control systems have improved the efficiency and effectiveness of UxV, allowing them to function for long periods of time with minimal human input and oversight. Sustained investments in UxV systems will expand their uses, enabling DOD to more effectively allocate resources and speed response times in a hybrid fleet system. In fact, UxV have also ingrained themselves in the daily missions of soldiers to the extent that they are deemed an essential component of the operations team by their human operators.

The Association for Uncrewed Vehicle Systems International (AUVSI) manages a range of programs and events to support the unmanned industry, and consistent feedback from members and attendees reflects their desire for more information on how DOD funds are spent in the unmanned arena. The purpose of this research is to present information on the range of technologies being developed and acquired by the U.S. DOD to support current and future UxV operations. With the U.S. Armed Forces at the forefront in advancing unmanned systems, understanding which technologies and capabilities are being procured and developed provides a strong understanding of the current direction of the industry and can help inform future investments. This analysis highlights the various unmanned vehicle RDT&E and procurement focus areas of the U.S. DOD Defense Budget.

In FY 2022, AUVSI has identified and captured data on over 280 RDT&E Program Elements (PEs) and more than 140 Procurement Line Items (LIs). These programs are associated with 15 different departments and agencies that seek to develop and deploy UxS in support of U.S. troops. The parameters captured for each of these efforts include domain(s) of operation (air, ground, maritime surface/sub-surface, counter-UAV, counter-UMV); funding type (procurement or RDT&E); funding amount for FY 2020 – 2022; and specific technologies supported (autonomy, communications/data management, cyber, electronic warfare, mobility, manned-unmanned teaming (MUM-T), navigation/control, platform, propulsion/energy, sensors/payloads, simulation, training, and weapons). We then plugged this data set into Tableau allowing users to manipulate the infographics and find the information of interest. Please click on the link below to explore the range of infographics that we have created. Also, please reference the notes below which provide explanations for each of the infographics.

Engaging the Data

Filters

Each dashboard offers up to five filter categories that will allow you to identify data specific to:

1. Departments/agencies in the DoD
2. Domain(s) supported by each effort
3. Technologies supported by each effort
4. Specific PEs / LIs / Contractors

Data Structure

- **RDT&E** — Each overall effort is identified as a PE which is then broken down into projects and even further parsed into sub-projects. For the current fiscal year, each project provides funding estimates from FY 2020 through FY 2022 as well as all prior year funding. RDT&E sub-projects often describe detailed plans for FY 2021 and FY 2022 efforts and provide funding levels for FY 2020 through FY 2022.
- **Procurement** — Each overall effort is identified as a LI which is then broken down into cost elements. For the current fiscal year, each LI provides funding estimates from FY 2020 through FY 2022 as well as all prior year funding.
- **Domain and Technology Funding Infographics** — Some projects support multiple domains and technologies and the funding does not identify the relative value of each specific initiative. For example, the "Detection of Explosive Hazards (EH) Advanced Technology" project in FY 2021 describes plans of developing an EH threat detection payload for integration on UAS and UGVs. The relative funding for the UAS payload versus the UGV payload is not known. Therefore, these charts represent the estimated total funding for projects which involve the support of a given domain or technology. These charts should NOT be interpreted as the total funding for a given domain or technology. The actual values would be somewhat lower.

Available Dashboards

- **UxV RDT&E** — This dashboard represents the FY 2022 RDT&E funding request relative to the organization in the DoD; the domains being supported; and the technologies being supported. Reference the Notes page at the start of this workbook to understand what these totals represent for technologies and domains.
- **UxV RDT&E Cross-Tabulated** — This dashboard represents the FY 2022 RDT&E funding request cross-referenced between (1) organizations and the domains supported; (2) organizations and the technologies supported; (3) and technologies supported in each domain. Reference the Notes page at the start of this workbook to understand what these totals represent for technologies and domains.
- **UxV FY22 Funding Project Details** — This dashboard lists all the PEs, projects, and sub-projects that feed into the totals displayed on the previous RDT&E dashboards. The efforts are grouped based on the associated PE. Also included is the FY 2022 funding for each effort. If you mouse over the numerical data in the last column, the pop-up box will show notes which describe specific plans for how the funding will be utilized.
- **UxV Procurement by Program** — This dashboard shows FY 2022 procurement requests for each overarching line item and then sectioned into smaller boxes based on the relative funding of each cost element.
- **UxV Funding Trends (FY20-FY22)** — This dashboard provides the funding estimates from FY 2020 to FY 2022 relative to the domains, organizations, and technologies associated with each category. The funding totals have been separated by RDT&E and procurement. Each category includes a linear regression line or "line of best fit" developed from the three data points (FY 2020, FY 2021, FY 2022) to show the trend in funding over the three-year period.
- **NDAA Committee Changes** — The House and Senate Armed Services Committees (HASC and SASC) review the President's Budget and develop their versions of the National Defense Authorization Act (NDAA). These two committees convene and develop a compromise between their versions to form the final NDAA. The NDAA compromise is represented on this dashboard. Some sections of this dashboard also show the recommended changes from various iterations of the congressional review process including the House Appropriations Committee - Defense (HAC-D) and the Senate Appropriations Committee - Defense (SAC-D). Though the final appropriations bill for FY 2022 has not yet been passed at the time of creating these infographics, it should match the final NDAA compromise.

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