

NDIA



FY25 DoD S&T Budget Priorities

April 30, 2024 | 1:00 – 3:00 pm
www.emergingtechnologiesinstitute.org

Speakers

The Honorable Heidi Shyu, Under Secretary of Defense for Research & Engineering

The Honorable Dr. Aprille Ericsson, Assistant Sec. of Defense for Science & Technology

Mr. Christopher Manning, Deputy Assistant Sec. of the Army for Research & Technology

Dr. Thomas Fu, SES, Head of Sea Warfare and Weapons Dept., Office of Naval Research

Ms. Kristen Baldwin, Dep. Asst Sec. of the Air Force for Science, Technology & Engineering

Dr. Stefanie Tompkins, Director, DARPA

The Honorable Heidi Shyu

Under Secretary of Defense for Research and Engineering

FY25 President's Budget Request - DoD Science and Technology Priorities

Washington, DC
30 April 2024





Summary Take-Away Points

- Total FY25 S&T (6.1-6.3) PB (\$17.2B) is slightly lower, down 3.4% from FY24 PB (\$17.8B).

FY23 S&T PBR	FY24 S&T PBR	FY25 S&T PBR
\$16.5B	\$17.8B	\$17.2B
	7.8% Increase FY23 to FY24	3.4% Decrease FY24 to FY25
		4.2% Increase FY23 to FY25

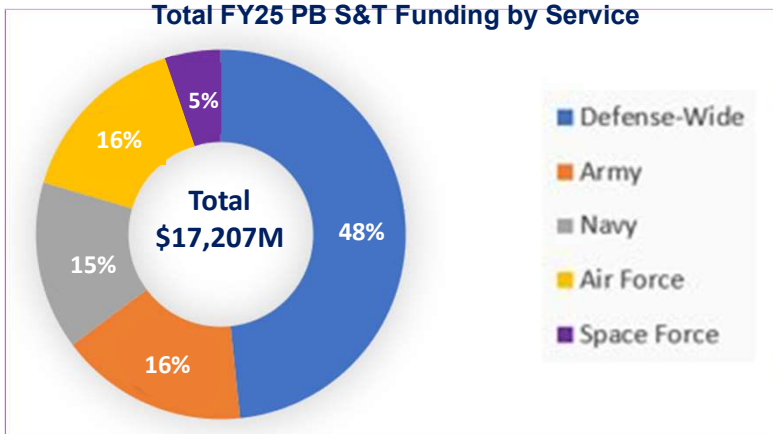
- FY25 S&T is 2% of total FY25 DoD PB and FY24 S&T was 2.1% of total FY24 DoD PB, so the FY25 percentage is a decrease of less than 0.1% within the Topline.
- FY23 data shows a 33% increase in SBIR/STTR transitions to Phase III since FY21 (\$954 M in FY23).
- FY23 data shows an increase in the number of new SBIR/STTR vendors by 53% since FY21.
- The majority of our S&T investments map into the 14 Critical Technology Areas (CTAs).
- We are actively working to improve tracking of our investments through the Transition Tracking Action Group (TTAG).



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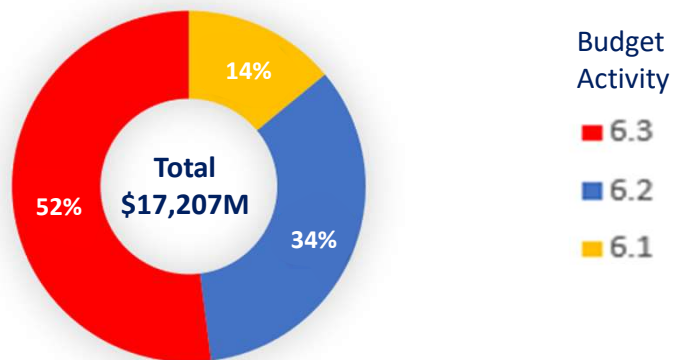
FY25 PBR DoD-Wide S&T Funding (6.1-6.3) Overview

Total FY25 PB S&T Funding by Service

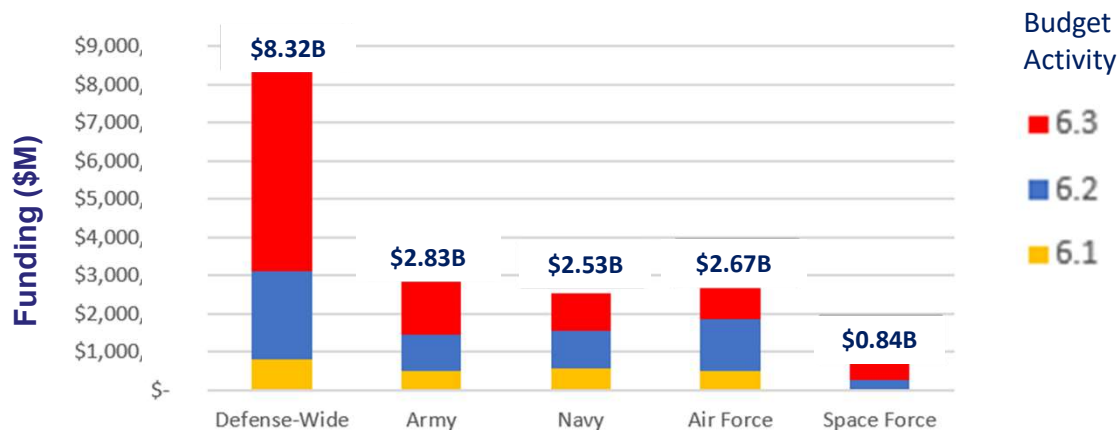


Total FY25 PB S&T Funding (\$17.2B) – 3.4% lower than FY24 PB (\$17.8B)
 The Percentage of S&T to DoD Topline was 2.1% in FY24, and is 2.0% in FY25, so a decrease of less than 0.1% in the Topline.

Total FY25 PB S&T Funding by Budget Activity



Total FY25 PB RDT&E DoD-Wide for S&T (BA 6.1-6.3)

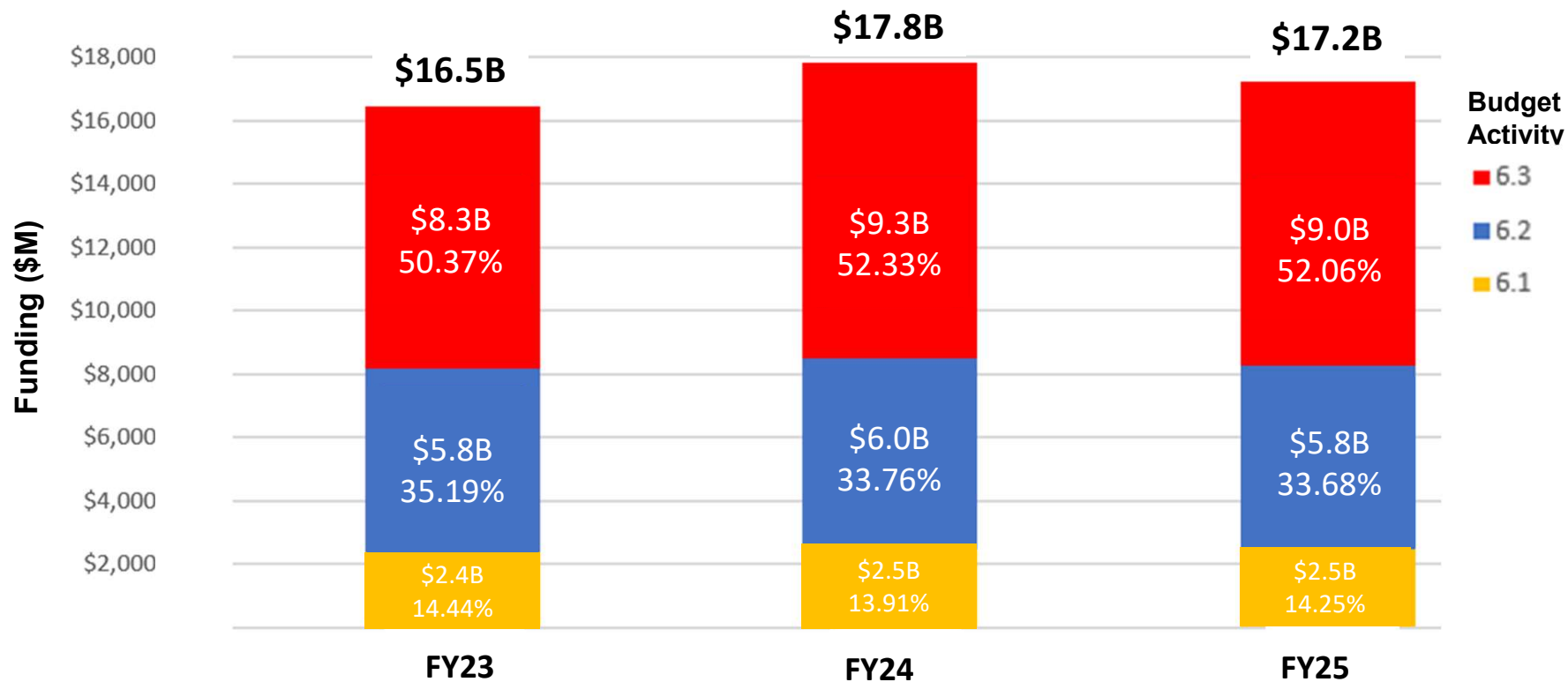


"DoD-Wide" includes cumulative "Defense-Wide/Fourth Estate" and Services.

"Defense-Wide /Fourth Estate" refers to OUSD(R&E) HQ, DIU, DARPA, SCO, MDA, and other Office of the Secretary of Defense agencies and field activities



FY23 to FY25 DoD-Wide S&T Funding (6.1-6.3) Trends



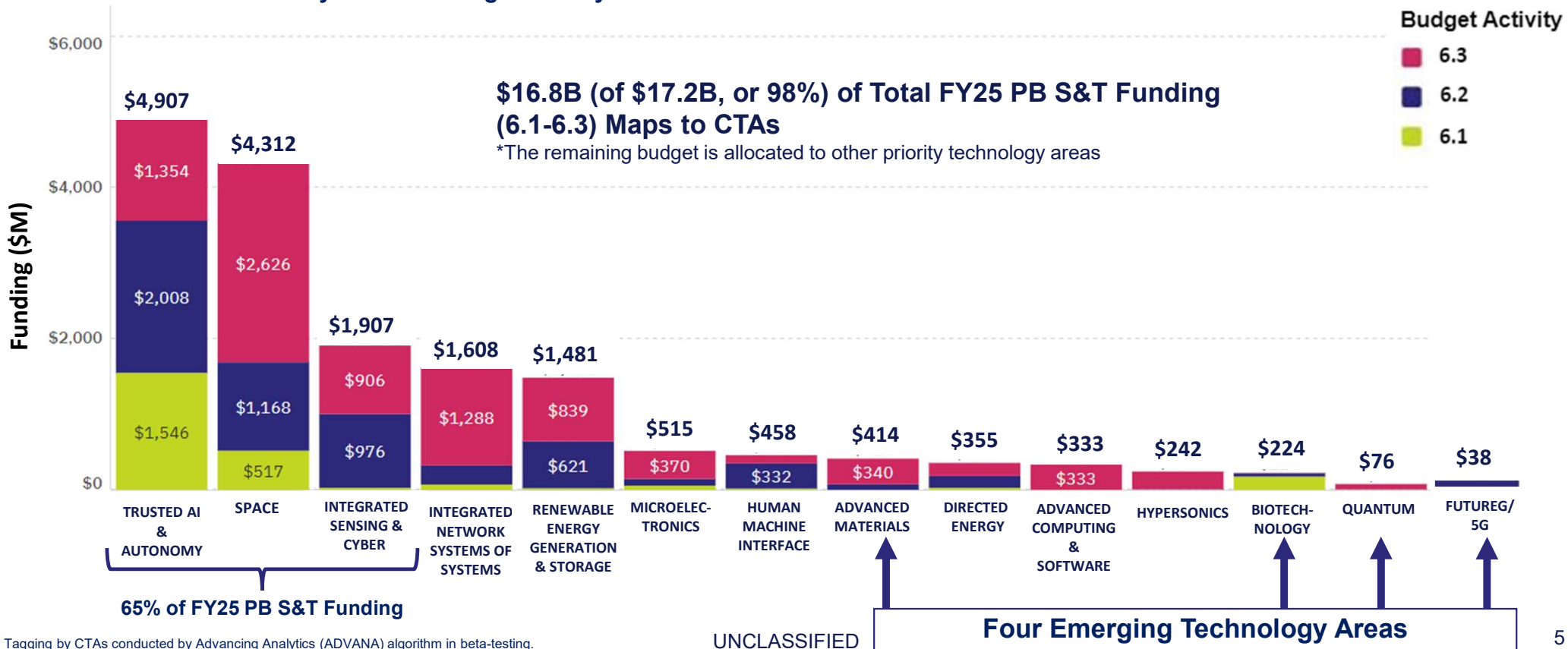
4.2% Increase in S&T Funding from FY23 PB to FY25 PB

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FY25 PBR DoD-Wide S&T Funding (6.1-6.3) Overview by CTA and Budget Activity

Total FY25 PB S&T by CTA and Budget Activity

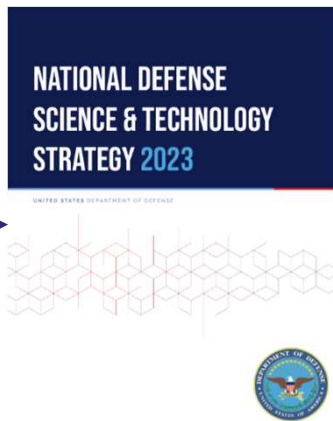
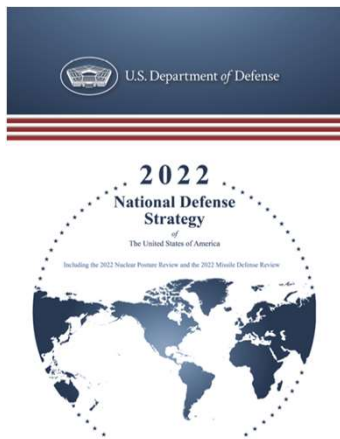


Tagging by CTAs conducted by Advancing Analytics (ADVANA) algorithm in beta-testing.

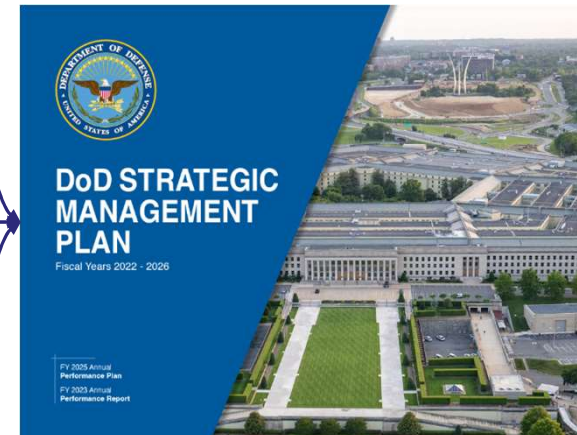
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National Defense S&T Strategy – Measuring Our Alignment with Priorities



- 1 Focus on the Joint Mission by investing in information systems and establishing processes for rigorous, threat informed analysis that will better enable the Department to make informed choices in its science and technology investments.
- 2 Create and field capabilities at speed and scale by fostering a more vibrant defense innovation ecosystem, accelerating the transition of new technology into the field, and communicating effectively inside and outside the Department.
- 3 Ensure the foundations for research and development by recruiting, retaining, and cultivating talent; revitalizing our physical infrastructure; upgrading our digital infrastructure; and nurturing stronger collaboration across all stakeholders.

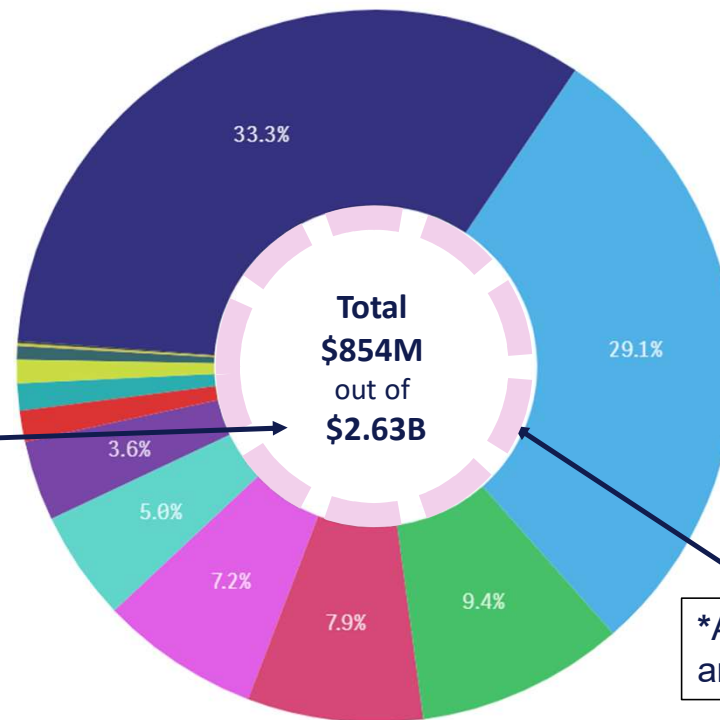




FY23 SBIR/STTR Phase I, II, and III Funding

FY 23 Total SBIR/STTR Phase I, II, and III Funding Mapped to CTAs

FY 23 Phase I-II Total:
\$1,670M
 FY 23 Phase III Total:
\$958M



- INTEGRATED SENSING & CYBER - \$284M
- TRUSTED AI & AUTONOMY - \$249M
- SPACE - \$80M
- RENEWABLE ENERGY GENERATION AND STORAGE - \$68M
- ADVANCED COMPUTING AND SOFTWARE - \$61M
- INTEGRATED NETWORK SYSTEMS OF SYSTEMS - \$43M
- HUMAN-MACHINE INTERFACE - \$31M
- DIRECTED ENERGY - \$12M
- MICROELECTRONICS - \$11M
- QUANTUM - \$9M
- FUTUREG/5G - \$5M
- HYPersonics - \$1M
- BIOTECHNOLOGY - \$1M
- ADVANCED MATERIALS - \$22M

*Advanced Materials is cross-cutting and not tagged separately.

\$854M out of \$2.63B Total FY23 SBIR/STTR Phase I, II, and III Funding Maps to CTAs

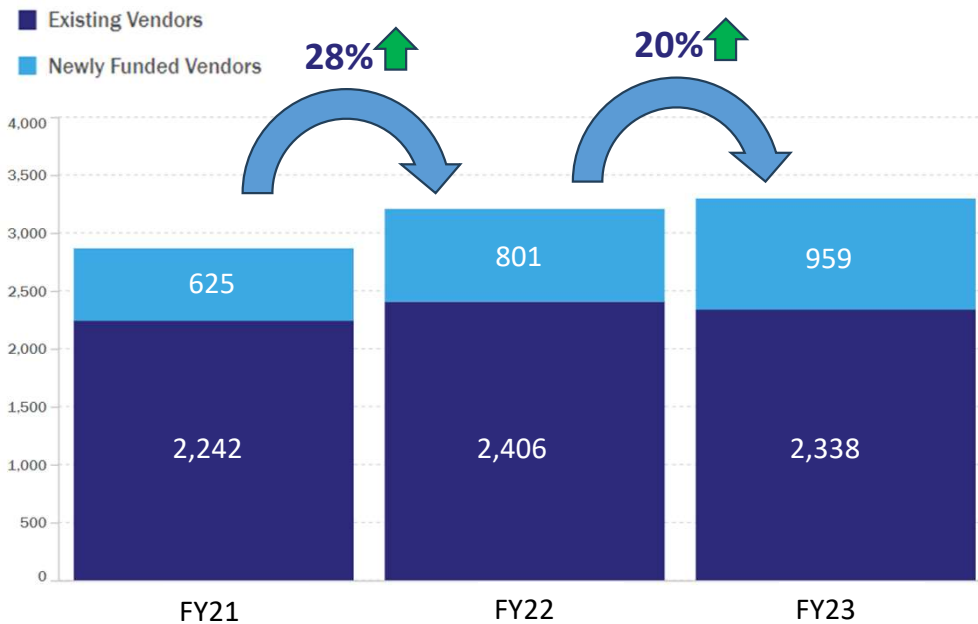
*The remaining budget is allocated to other priority technology areas

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Increases in SBIR/STTR Total New Vendors and in Phase III Funding

FY21-23 # of New SBIR/STTR Vendors



From FY21-FY23: 53% increase in SBIR/STTR vendors

FY 16-23 SBIR/STTR Phase III Funding

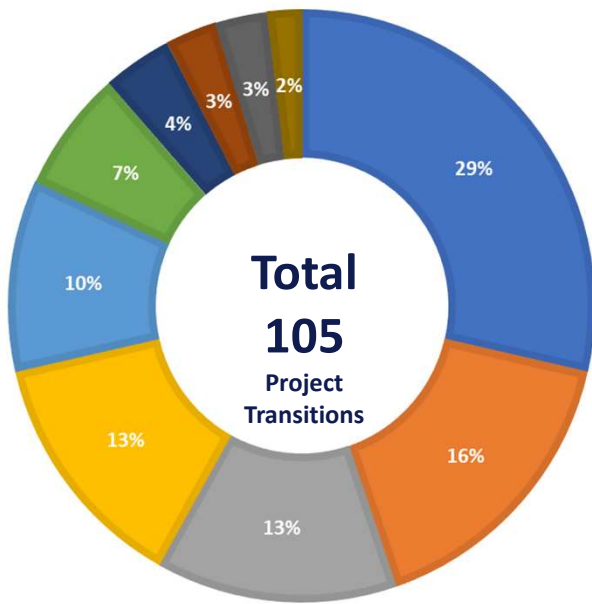


From FY21-FY23: 33% increase in annual Phase III transitions



Create and Field Capabilities at Speed and Scale: CTA Transitions

FY23 Technology Transitions by CTA¹



CRITICAL TECHNOLOGY AREAS

- Trusted AI & Autonomy - 30
- Microelectronics - 17
- Advanced Materials - 14
- Space Technology - 14
- Integrated Sensing & Cyber - 11
- Directed Energy - 7
- Integrated Network System-of-Systems - 4
- Biotechnology - 3
- Hypersonics - 3
- Quantum Science - 2

Technology transition pathways:

- A. Integrating technology into a DoD capability
- B. Fielding a new capability
- C. Transferring a technology from DoD into use in industry
- D. Transferring a technology from DoD into use in another government agency²

¹Does not count transferring a technology from DoD into use in another government agency

²Technology transition pathway definitions per 8 AUG 2022 Memorandum, Defining Core Terms Related to Technology Policy across the Department of Defense

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USD(R&E)

NDIA S&T Budget Priorities Webinar

HON Aprille J. Ericsson, PhD.
Assistant Secretary of Defense for Science and Technology
Office of the Under Secretary of Defense for Research and Engineering

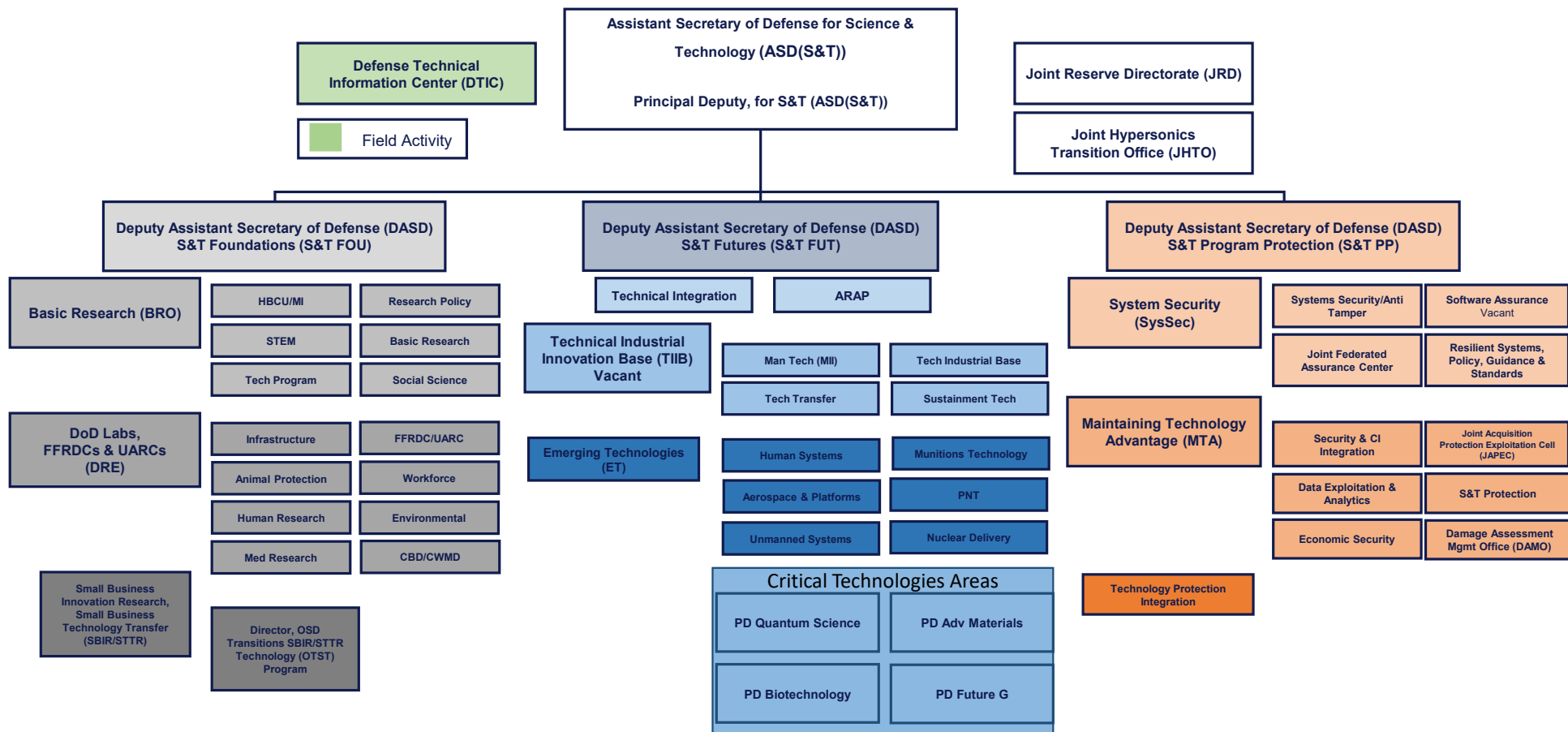
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Controlled by: ASD (S&T)
Limited Dissemination Control: FEDCON
POC: Dr. Aprille Ericsson.civ@mail.mil



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OASD (S&T) Organizational Chart





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National Defense Science Technology Strategy (NDSTS) Snapshot

“Building the future Joint Force that we need to advance the goals of this strategy requires broad and deep change in how we produce and manage military capability. U.S. competitors increasingly hold at risk our defense ecosystem – the Department, the defense industrial base, and the landscape of private sector and academic enterprises that innovate and support the systems on which the Joint Force depends.”

— 2022 National Defense Strategy

Purpose: To enhance national security and influence

Lines of Effort (LoE):

1. Focus on the Joint Mission
2. Create & Field Capabilities at Speed & Scale
3. Ensure the Foundations for R&D

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NDSTS: LoE 1 – Focus on the Joint Mission

- Develop asymmetric capabilities for the Joint Force, avoid wasteful tech races
- Build enduring advantages in a resource-constrained environment through **rigorous analysis**
- Accelerate our capacity to convert Joint Warfighting Concept to capabilities through **joint experimentation**





NDSTS: LoE 2 – Create and Field Capabilities at Speed & Scale

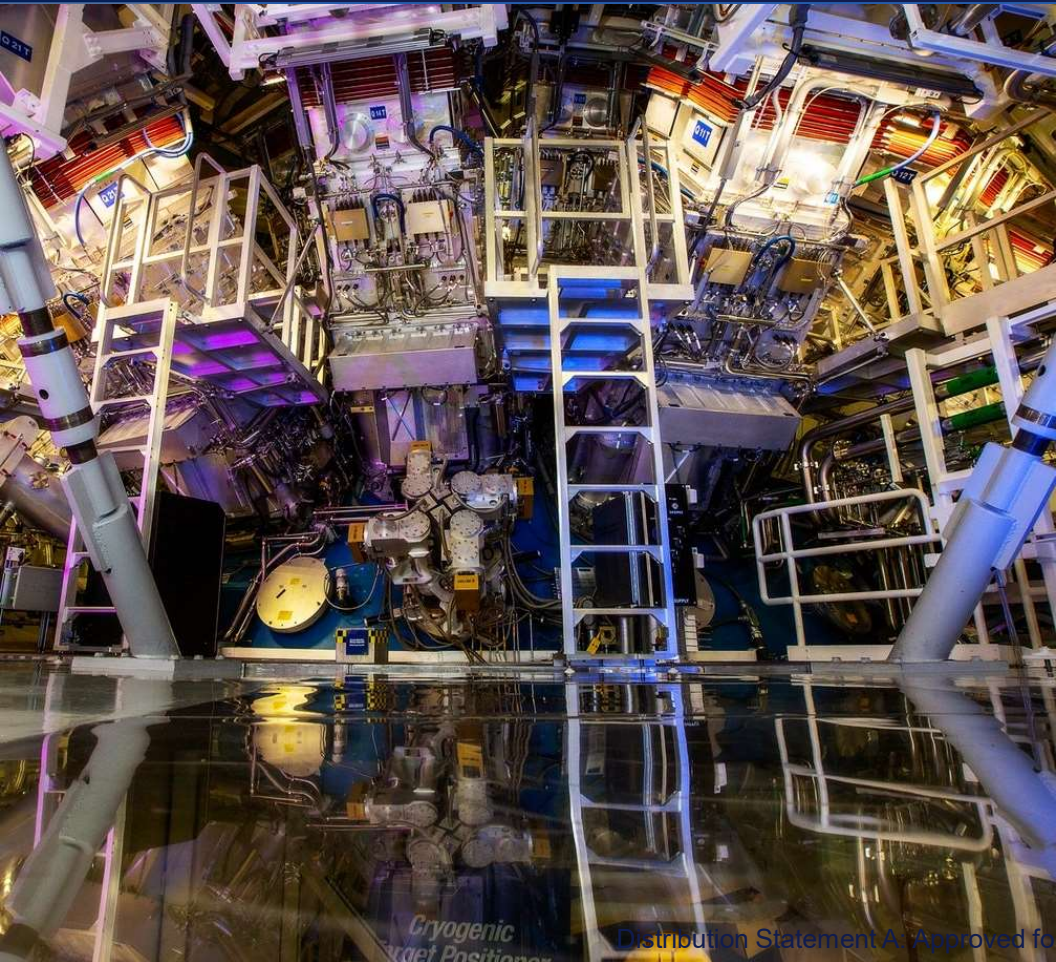
- Bridge the valleys of death in defense innovation
- Foster a vibrant defense innovation ecosystem
 - Strengthen collaboration with allies & partners
 - Establish new pathways for non-traditional partnerships
 - Innovate industrial processes
- Continuous transition of capabilities
- Tech protect

“The DoD cannot afford for useful research to languish in the laboratory, for bureaucratic processes to prevent engagement with innovative private companies, or to allow old paradigms to prevent collaboration with some of our most trusted partners.”





NDSTS: LoE 3 – Ensuring the Foundations for R&D



- Enhance lab & test infrastructure
- Upgrade digital infrastructure
- Cultivate the current workforce
- Invest in the workforce of tomorrow



OSD Basic Research Office: Overview



Research Policy

- Talent Retention
- Scientific Integrity
- Grants



Technical and International Programs

- Minerva
- Vannevar Bush Faculty Fellowship
- Laboratory-University Collaboration Initiative
- Future Direction Workshops
- International MURI
- Bilateral Academic Research Initiative (BARI)



Future Workforce

- SMART Scholarship
- STEM Education and Outreach



Research Oversight

- Multidisciplinary University Research Initiatives (MURI)
- National Defense Science and Engineering Graduate (NDSEG) Fellowship
- Service programs and budgets



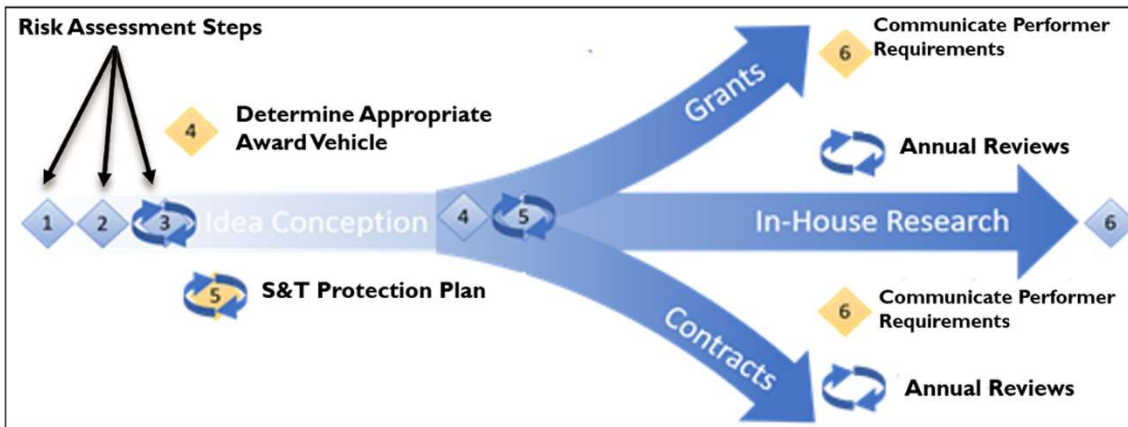
Inclusion

- HBCU/MI program
- Centers of Excellence
- Defense Established Program to Stimulate Competitive Research (DEPSCoR)



DoD Approach to Research Security: Starts Pre-Solicitation

- Informed choices on where to perform R&D
- Appropriate protections, including pre-award due diligence to achieve the greatest net technical advantage
- Early and continuous risk assessment to minimize exploitation of DoD funded R&D



- 1 Fundamental Research Review
- 2 Technology Element Identification
- 3 Upfront Risk Assessment
- 4 Determine Appropriate Award Vehicle
- 5 Draft S&T Protection Plan (if needed)
- 6 Communicate Performer Requirements

<https://www.cto.mil/news/sci-tech-protection-course/>

STM0020 Fundamentals of Science and Technology Protection released Jan 2023 on DAU



USD(R&E) Critical Technology Areas

Science and Technology

Seed Areas

- Advanced Materials
- Biotechnology
- FutureG
- Quantum Science

Critical Technologies

Effective Adoption Areas (Commercial Activity)

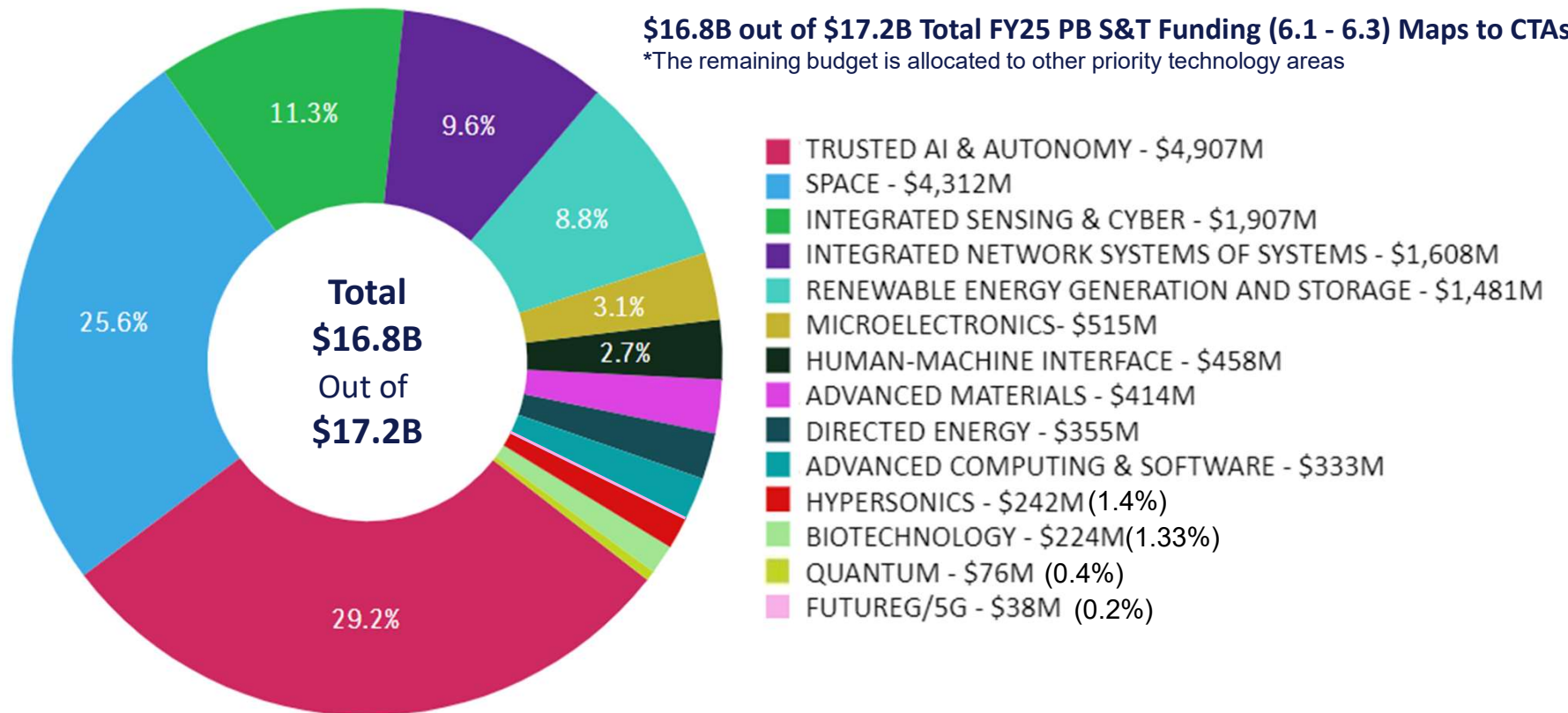
- Trusted AI/Autonomy
- Integrated Network System-of-Systems
- Microelectronics
- Space Technology
- Renewable Energy Generation & Storage
- Advanced Computing and Software
- Human-Machine Interfaces

Defense Specific Areas

- Directed Energy
- Hypersonics
- Integrated Sensing & Cyber



FY25 PBR DoD-Wide S&T Funding (6.1-6.3) Overview by Critical Technology Area (CTA)

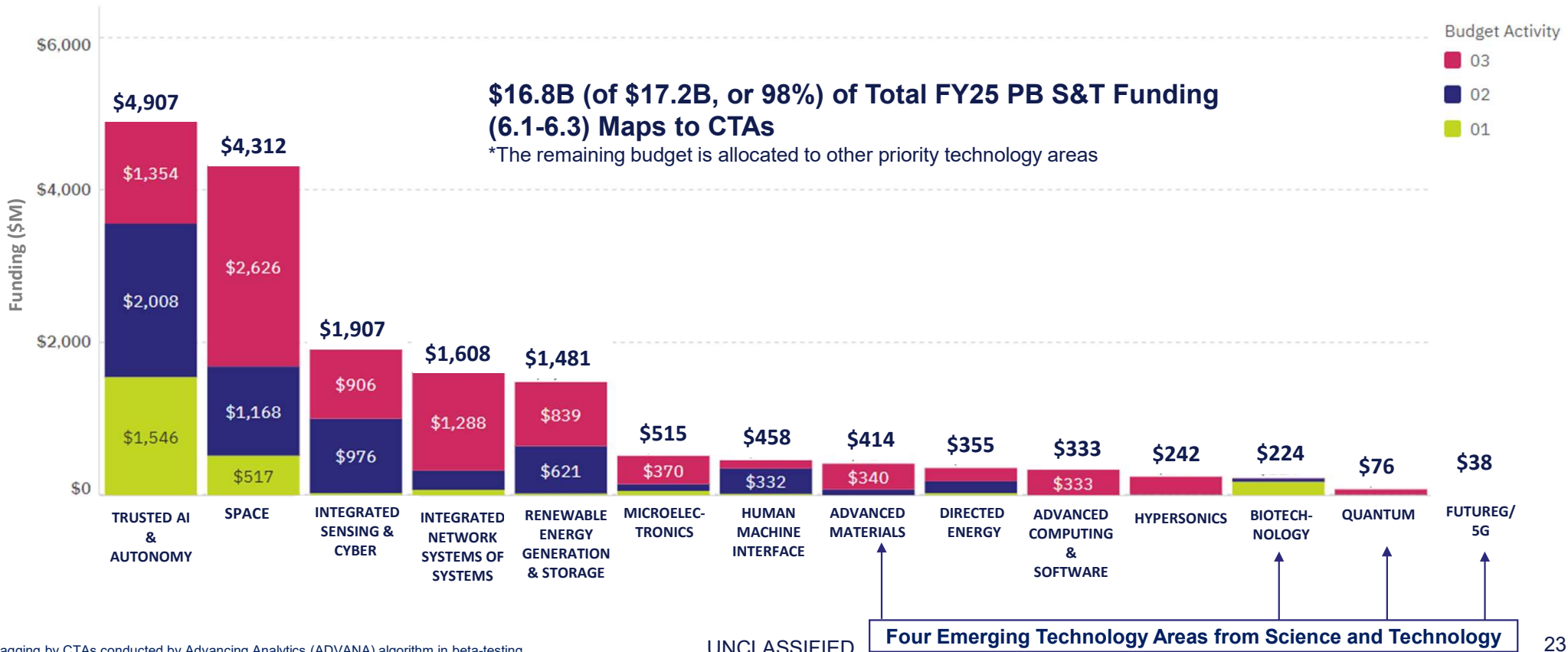


*This represents only CTA spend not RDT&E aligned to other technology areas.



FY25 PBR DoD-Wide S&T Funding (6.1-6.3) Overview by CTA and Budget Activity

Total FY25 PB RDT&E by CTA and Budget Activity



Tagging by CTAs conducted by Advancing Analytics (ADVANA) algorithm in beta-testing.



Reliance 21 and S&T Communities of Interest (COI)

Collaborative and Coordinated Efforts to Advance Cross Cutting S&T for the Department

- Engages the S&T workforce across all DoD labs
- Prioritizes gaps and opportunities to address Warfighter needs
- Provides coordinated S&T roadmaps and plans with the wider community (e.g. industry)
- Encourages multi-agency collaboration, programmatic synchronization, and joint planning



Autonomous



Space



Energy & Power Technologies



Directed Energy/ Non-Lethal Weapons (DE-NLW)



Biotechnology



Sensors & Processing



Air Platforms



Biomedical



Cyber



Materials & Manufacturing Processes



Command, Control, Communication, Computers and Intelligence (C4I)



Ground & Sea Platforms



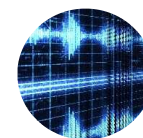
Human Systems



Kinetic Weapon Technologies



Advanced Electronics



Electronic Warfare



DoD Manufacturing Innovation Institutes (MII) Network

Since Launching in 2012...

- Committed Funding: \$1.25B+ Federal and \$1.99B+ Private/State Investments
- 1,534+ companies, universities, and non-profit members or partners
- DoD MII members across 49 states, Washington DC, and Puerto Rico

Data as of 30 June 2021

Flexible Hybrid Electronics
San Jose, CA



★ New DoD MII launched in October 2020



Status

- DoD- \$785 million
- Members (industry, academia, non-profits) \$1.8 billion in cost share
- 55,000 students, teachers, and workforce were trained in STEM and advanced manufacturing skills by the MIIs and their partner organizations

CUI



Office of the Assistant Secretary of the Army



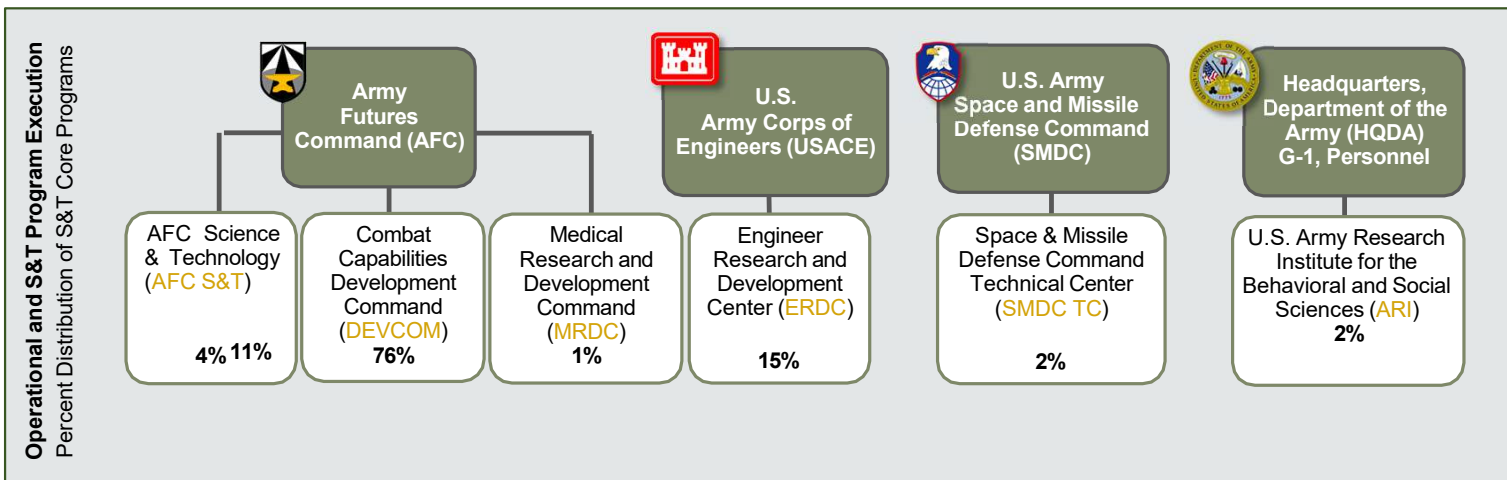
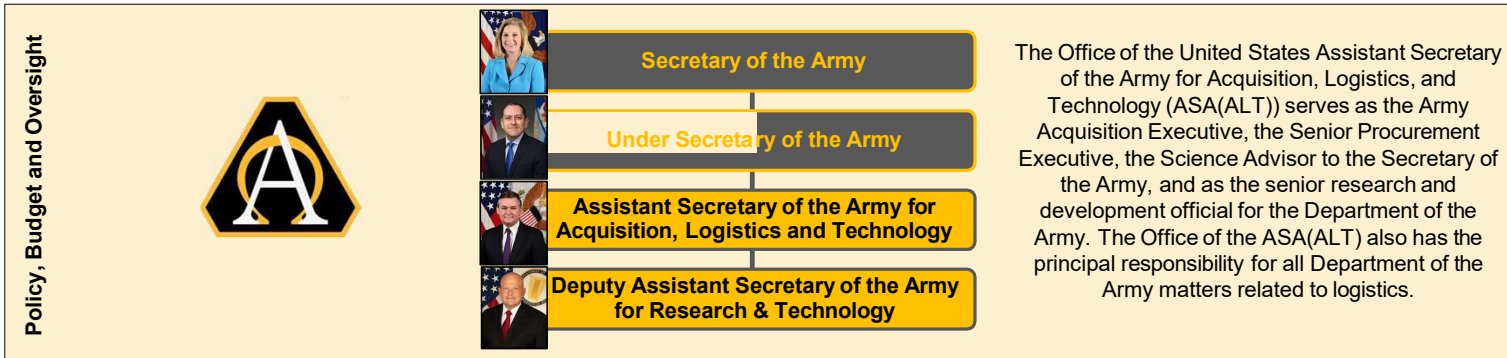
Acquisition, Logistics and Technology



Army Science and Technology PB25 Overview

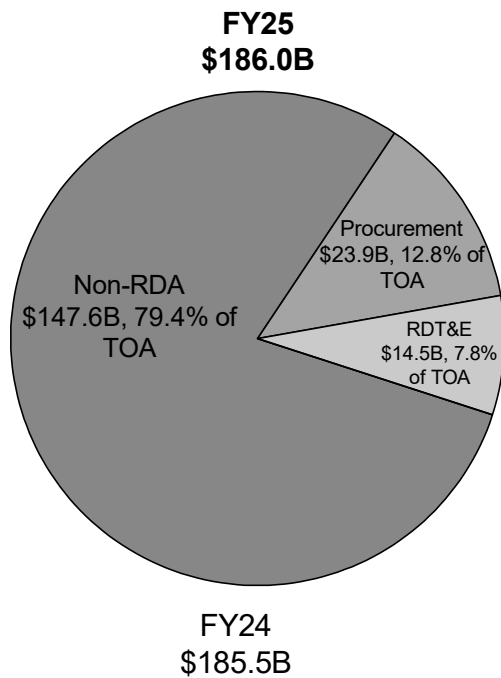
**Mr. Chris Manning, Deputy Assistant Secretary of the Army,
Research & Technology
April 30th, 2024**

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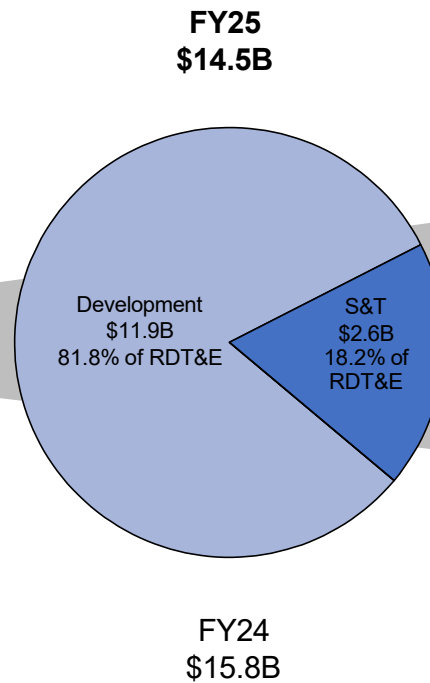


PB25 FY25 Army Funding

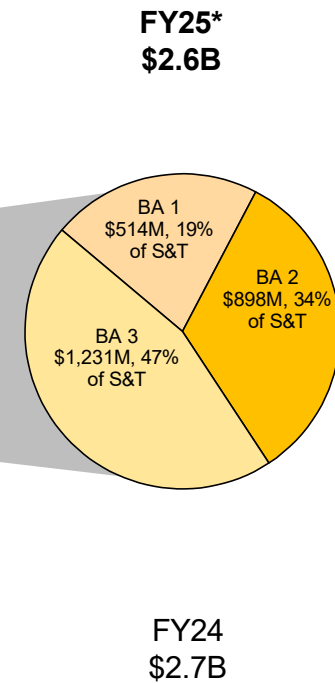
Total Obligation Authority (TOA)



Research, Development Test & Evaluation (RDT&E)

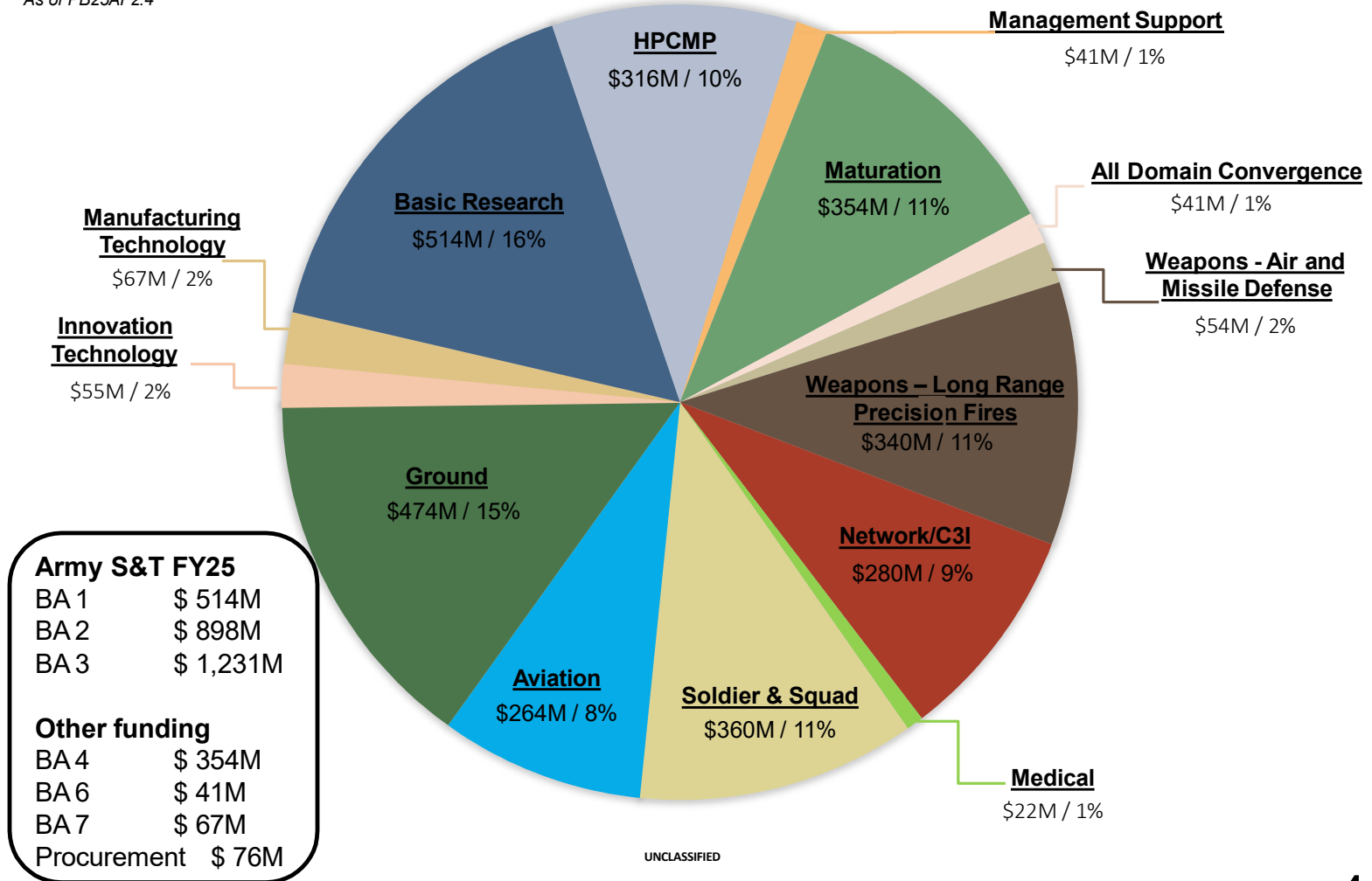


Science & Technology (S&T)

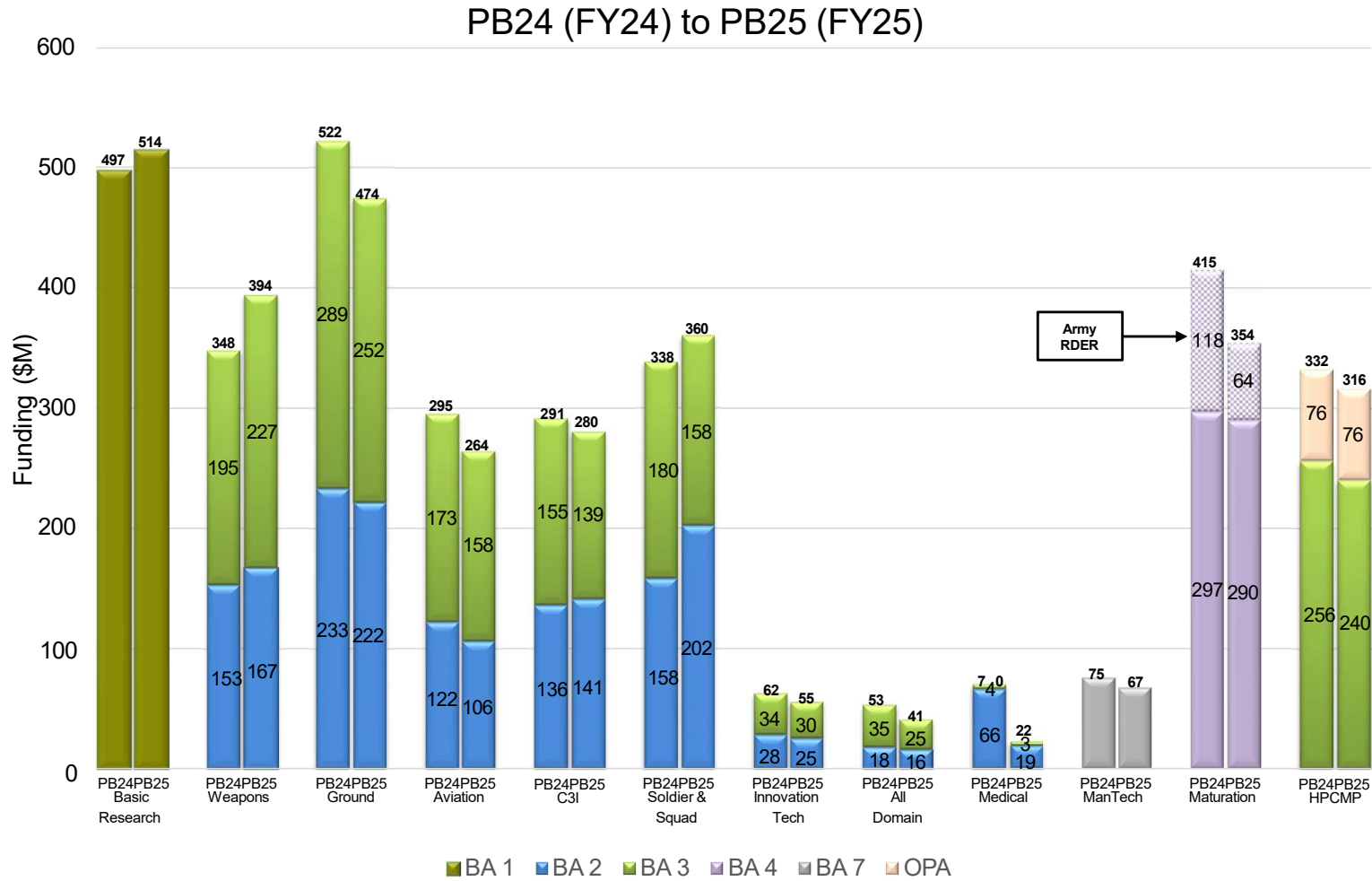


* + \$1.7B in Congressional Adds

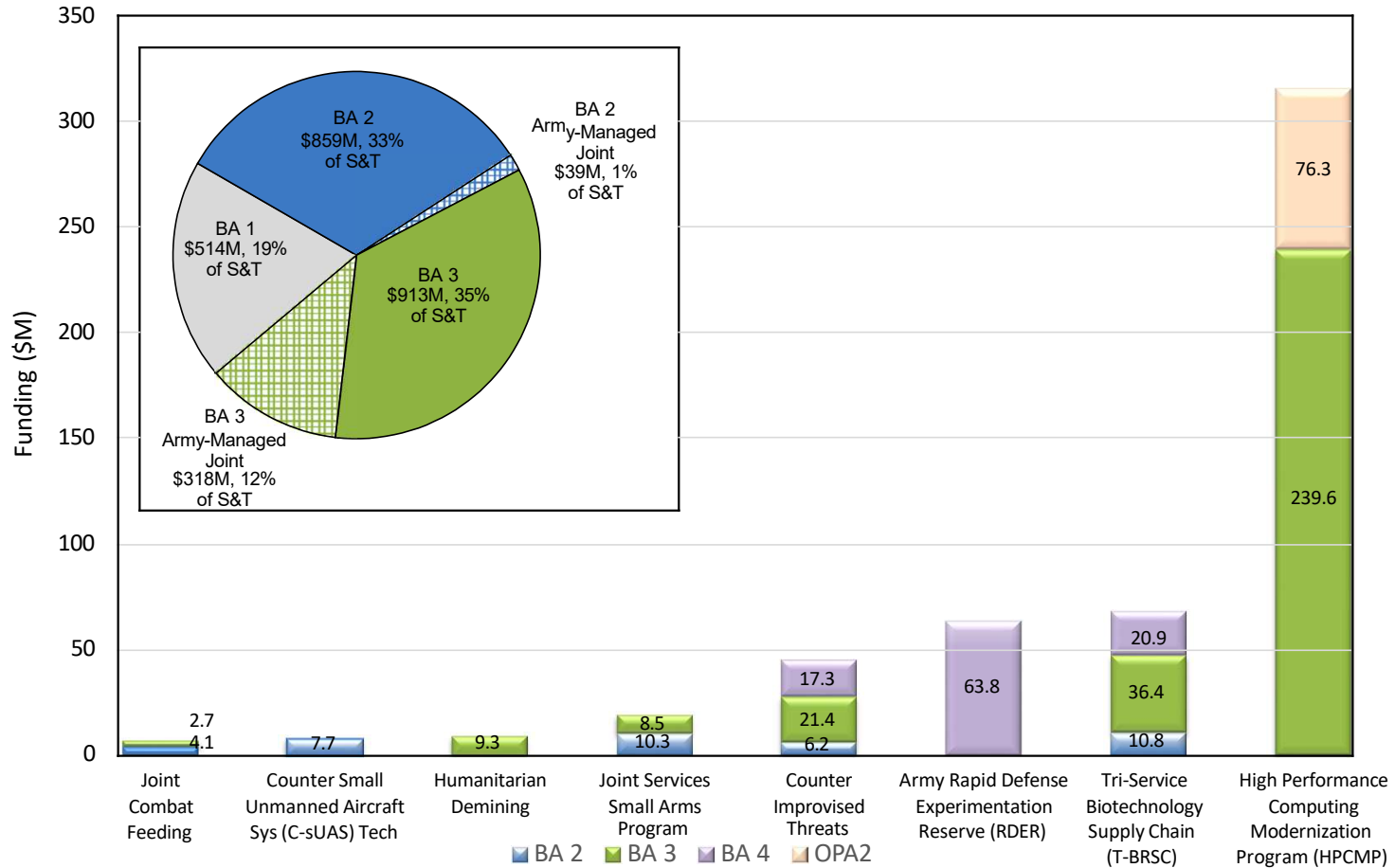
As of PB25AF2.4



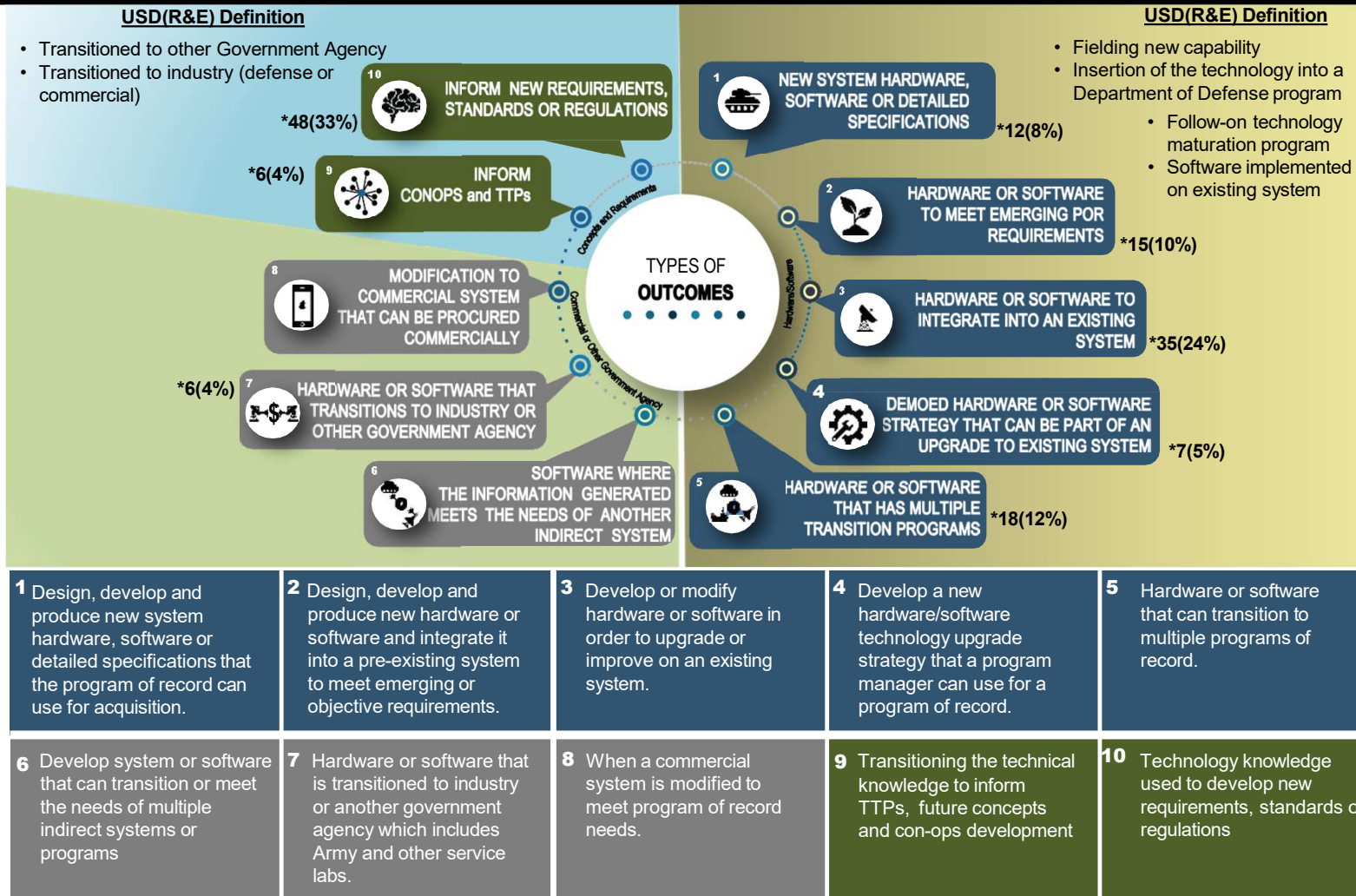
PB25 Funding Shifts by Portfolio

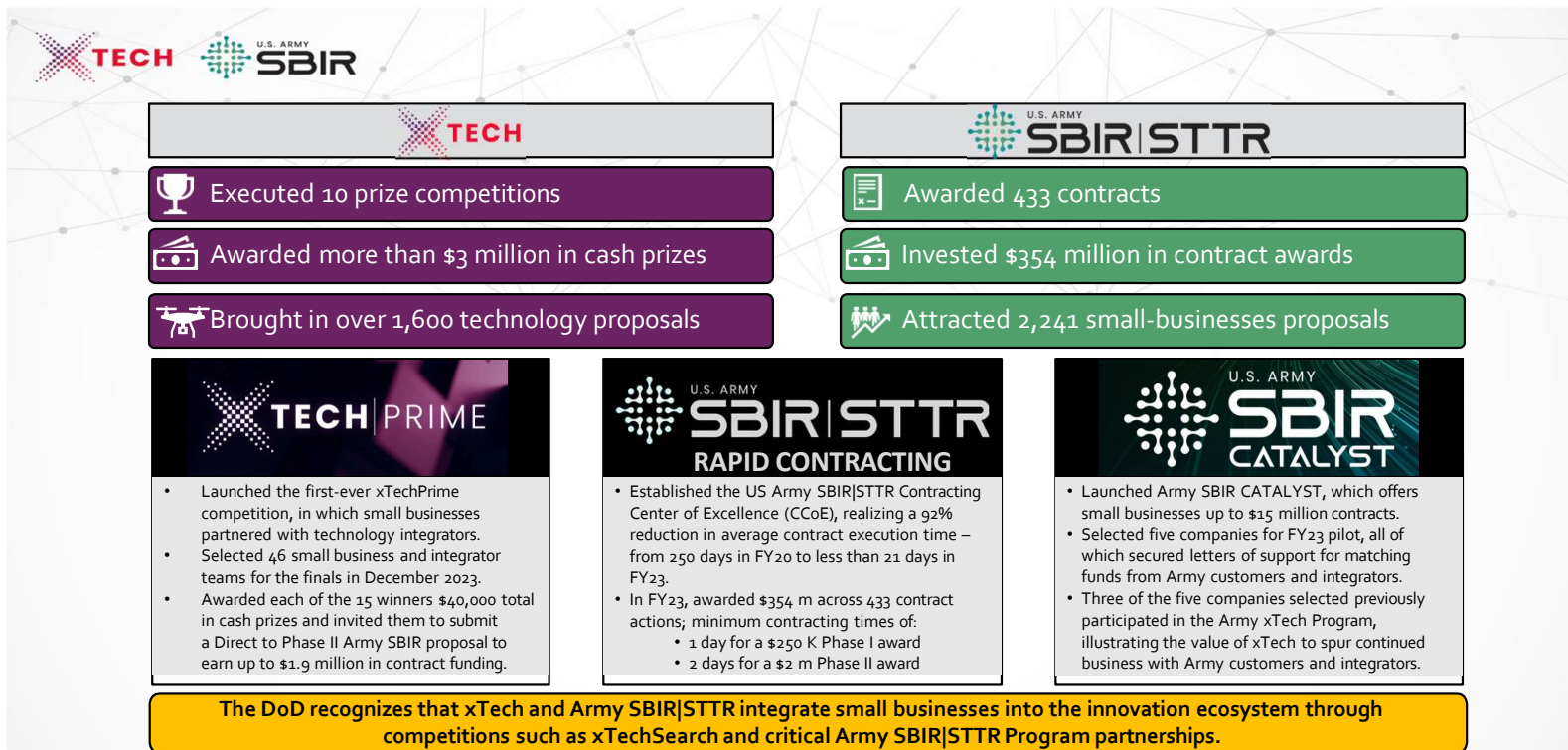


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TECH **U.S. ARMY SBIR**

TECH

- Executed 10 prize competitions
- Awarded more than \$3 million in cash prizes
- Brought in over 1,600 technology proposals

U.S. ARMY SBIR|STTR

- Awarded 433 contracts
- Invested \$354 million in contract awards
- Attracted 2,241 small-businesses proposals

TECH|PRIME

- Launched the first-ever xTechPrime competition, in which small businesses partnered with technology integrators.
- Selected 46 small business and integrator teams for the finals in December 2023.
- Awarded each of the 15 winners \$40,000 total in cash prizes and invited them to submit a Direct to Phase II Army SBIR proposal to earn up to \$1.9 million in contract funding.

U.S. ARMY SBIR|STTR RAPID CONTRACTING

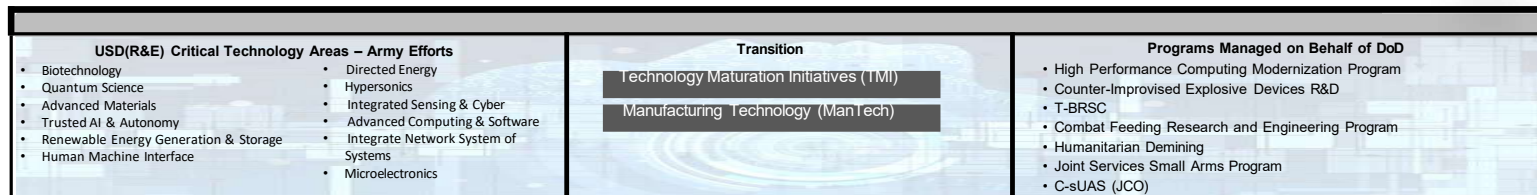
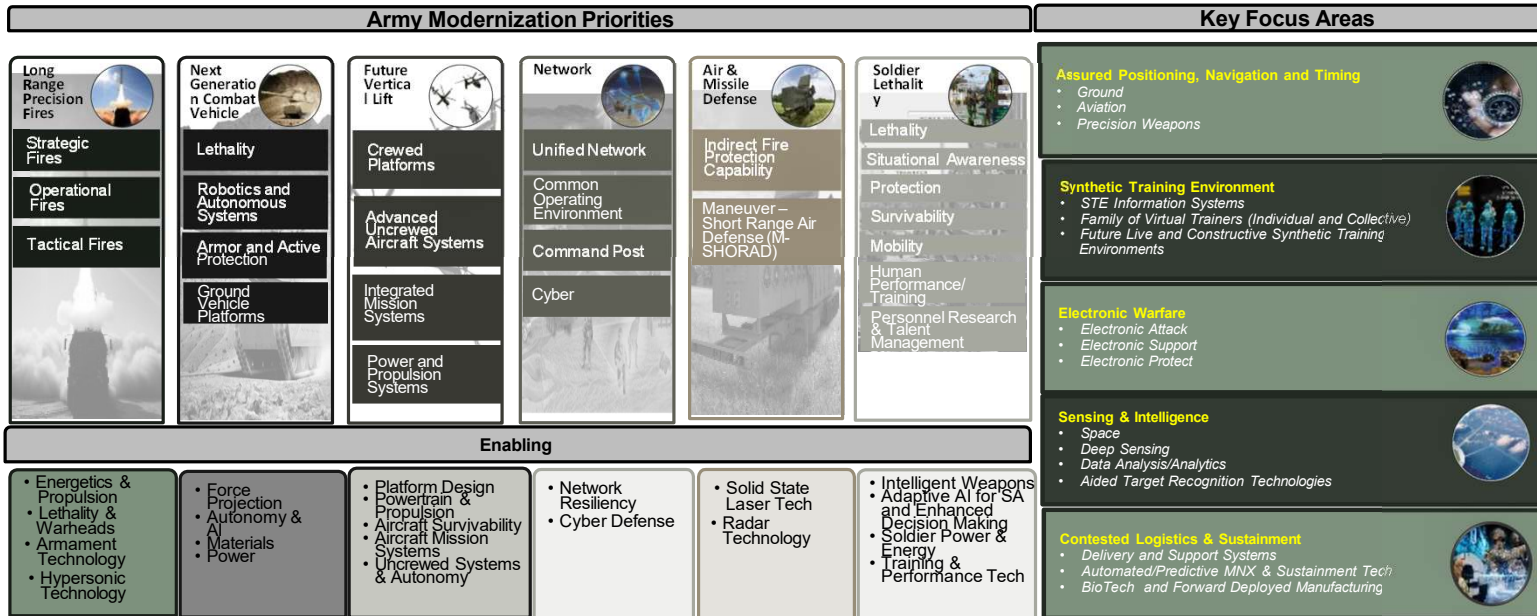
- Established the US Army SBIR|STTR Contracting Center of Excellence (CCoE), realizing a 92% reduction in average contract execution time – from 250 days in FY20 to less than 21 days in FY23.
- In FY23, awarded \$354 m across 433 contract actions; minimum contracting times of:
 - 1 day for a \$250 K Phase I award
 - 2 days for a \$2 m Phase II award

U.S. ARMY SBIR CATALYST

- Launched Army SBIR CATALYST, which offers small businesses up to \$15 million contracts.
- Selected five companies for FY23 pilot, all of which secured letters of support for matching funds from Army customers and integrators.
- Three of the five companies selected previously participated in the Army xTech Program, illustrating the value of xTech to spur continued business with Army customers and integrators.

The DoD recognizes that xTech and Army SBIR|STTR integrate small businesses into the innovation ecosystem through competitions such as xTechSearch and critical Army SBIR|STTR Program partnerships.

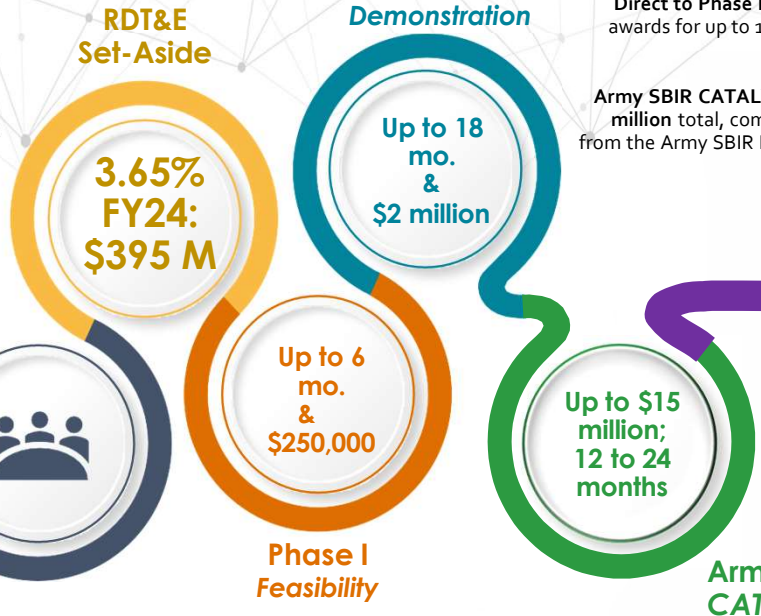
Army Major Commands **4** Army Laboratories **35** Army Civilian S&Es **13,000** Army Civilian S&E Degrees **10,000**



ARMY SBIR & STTR APPROACH

The Army's **transition-centric** SBIR program issues solicitation opportunities **throughout the year** on an **ad hoc, rolling basis** to drive the program's agility and impact to the Army.

- Open to U.S.-Based Small Businesses**
- Responds to the most critical Army capability needs.
 - Increases flexibility beyond the three pre-determined announcements at the DoD level.
 - Contract awards in < 30 days.



Contracts include **Phase I (feasibility)** awards for up to six months in development time and up to \$250,000; and **Phase II (demonstration), Direct to Phase II and Phase II Sequential** awards for up to 18 months in development time and up to \$2 million.

Army SBIR CATALYST awards are up to **\$15 million** total, comprised of matching funds from the Army SBIR Program, Army transition partners, and integrators.

Phase III Follow-on Awards
RDTE, Prototype, Procurement

No competition Required

NDIA Webinar
FY25 DoD S&T Budget Priorities
Navy R&D Budget Priorities



30 April 2024
Dr. Thomas Fu. SES
Head, Sea Warfare and Weapons Dept.



ONR Organization



ONR - To plan, foster and encourage scientific research in recognition of its paramount importance as related to the maintenance of future naval power.”
 – Public Law 588, 1 Aug 1946



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Sense of urgency and strategic patience

BA1 & BA2

Basic and Applied Research

- Improve and accelerate basic and applied research **to meet the challenge of strategic competition.**
- Improve **S&T Tradecraft** – Prevent technical surprise: prioritize and invest in high payoff efforts.

BA2 & BA3

Rapid Capability & ADV Development Transition

- Drive advanced technology development and experimentation to **address most pressing Fleet and Force challenges.**
- Better leverage **war gaming**, experimentation, red teaming, and Fleet and Force exercises.

Naval S&T Outreach and Partnerships

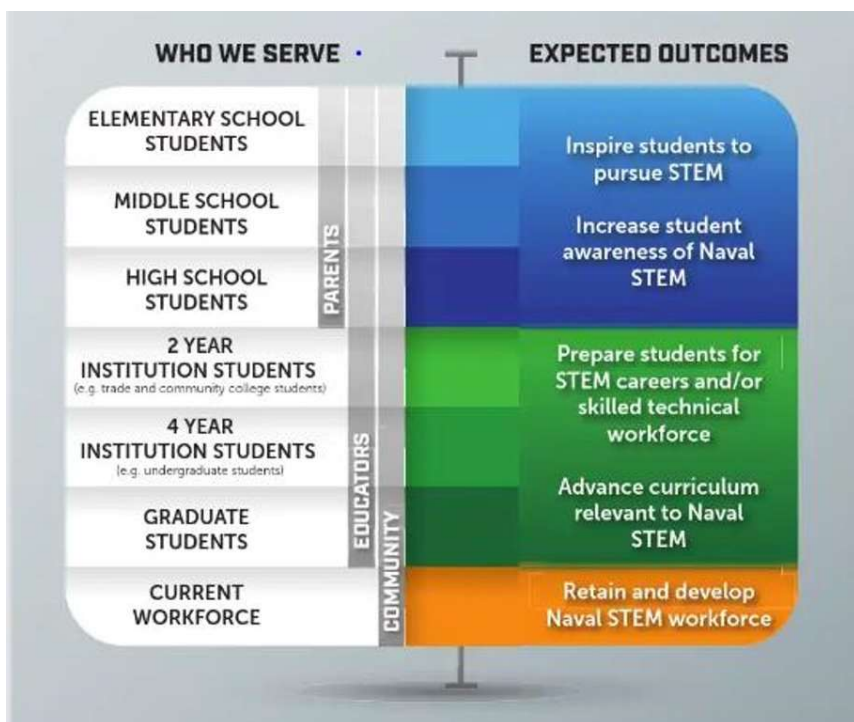
- Strengthen maritime **national and international partnerships** in Science and Technology.
- Support **rapid innovation** with new and existing partners.
- Develop the **next generation of scientists, engineers, and technicians** in support of maritime technical superiority.



Naval STEM



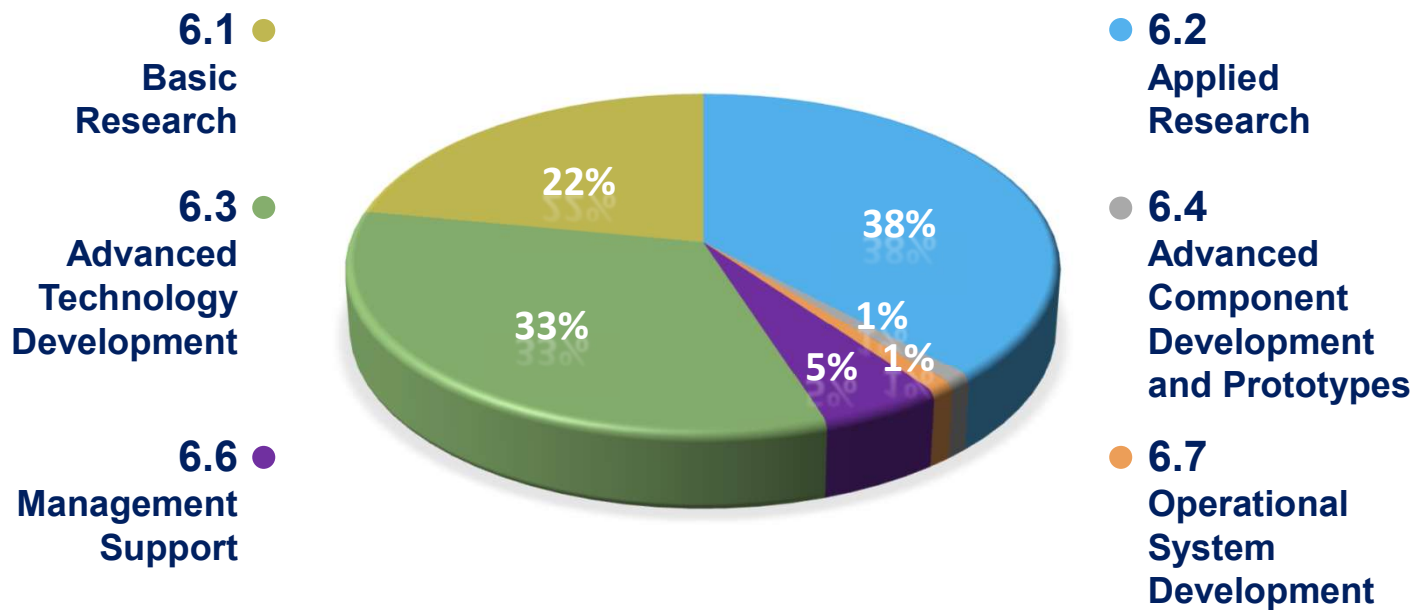
Foster and cultivate a diverse, world-class STEM workforce to maintain the U.S. Navy and Marine Corps' technological superiority.



Naval STEM includes both Navy and Marine Corps education and outreach programs from K-PhD to STEM Workforce Initiatives

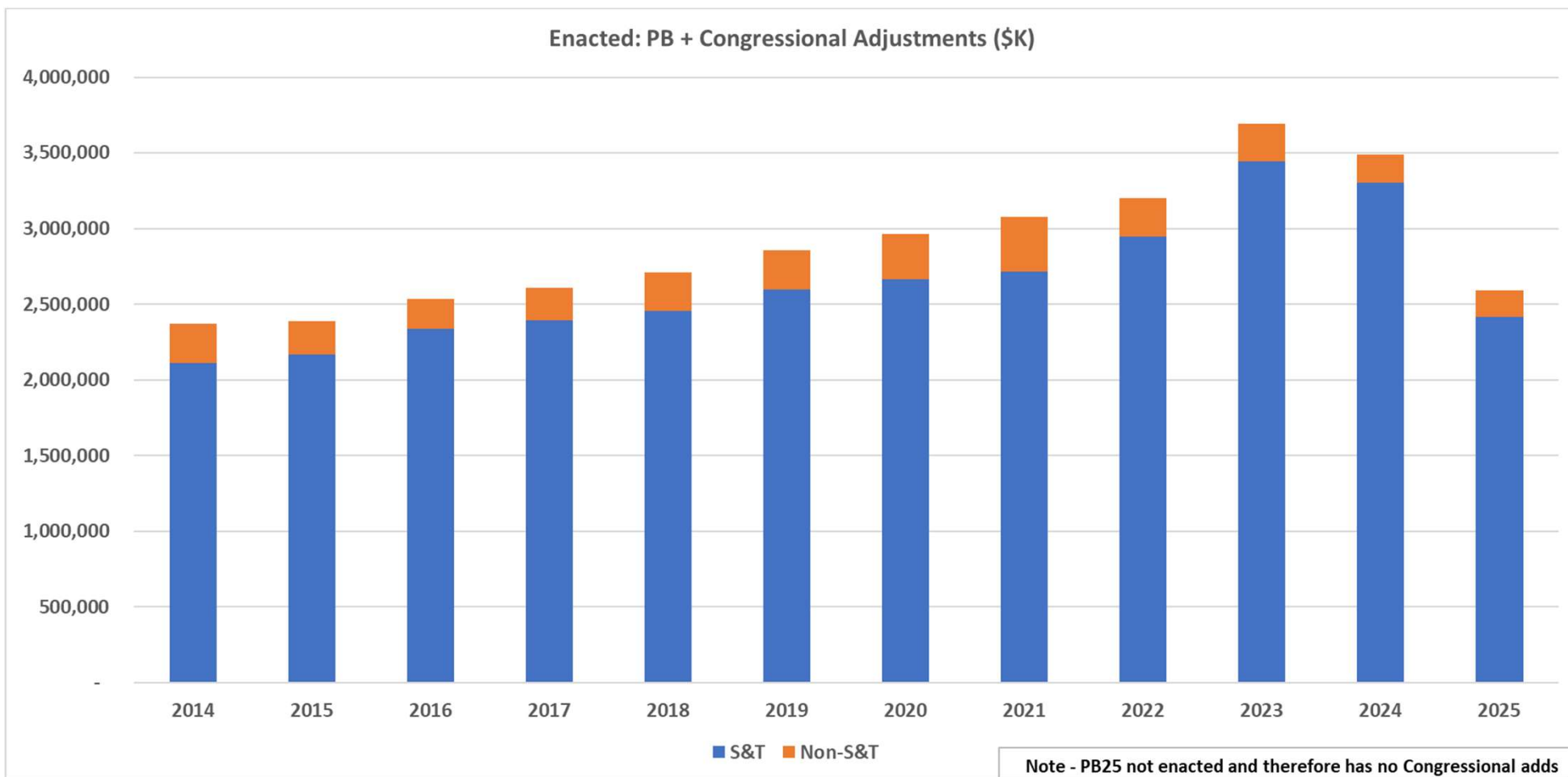


ONR PB25 Portfolio Investment





ONR Budget Enacted FY2014 – 2024



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Enduring Priorities – Enduring Excellence and Dominance



INTRODUCTION

A critical foundation of maritime dominance for America's Navy and Marine Corps is technological superiority. Our Sailors and Marines operate in a world of new security, economic and geopolitical challenges, and the DON must move faster than our adversaries to ensure success. Industry is a vital partner, and in an age of ubiquitous and commoditized technology and knowledge, we must more rapidly adopt and adapt private sector technologies. We must continue to invest in basic research that the commercial sector and academia will not. Finally, we must focus on the unique maritime needs of the Navy and Marine Corps, which are among the *most complex and challenging science, engineering and integration endeavors*.

SECNAV has established three enduring priorities to accomplish Navy and Marine Corps missions: Strengthening Maritime Dominance, Building a Culture of Warfighting Excellence, and Enhancing Strategic Partnerships.

SECNAV ENDURING PRIORITIES:

- STRENGTHENING MARITIME DOMINANCE
- BUILDING A CULTURE OF WARFIGHTING EXCELLENCE
- ENHANCING STRATEGIC PARTNERSHIPS

- Strengthening Maritime Technological Dominance
- Building a Culture of Science and Technology Excellence
- Enhancing Naval Scientific Diplomacy
- Naval Warfare Alignment

A composite photograph shows Coyote unmanned air vehicles (UAVs) being launched in rapid succession from the deck of advanced technology demonstration craft Sea Fighter (FSF 1) during an at-sea demonstration of the Office of Naval Research Low-cost UAV Swarming Technology (LOCUST) program. LOCUST can launch swarming UAVs to autonomously overwhelm an adversary. (U.S. Navy photos and composite by John Williams/released)

Department of the Air Force

Integrity - Service - Excellence

Department of the Air Force FY25 S&T Overview

**Ms. Kristen Baldwin
Deputy Assistant Secretary
Science, Technology and Engineering**

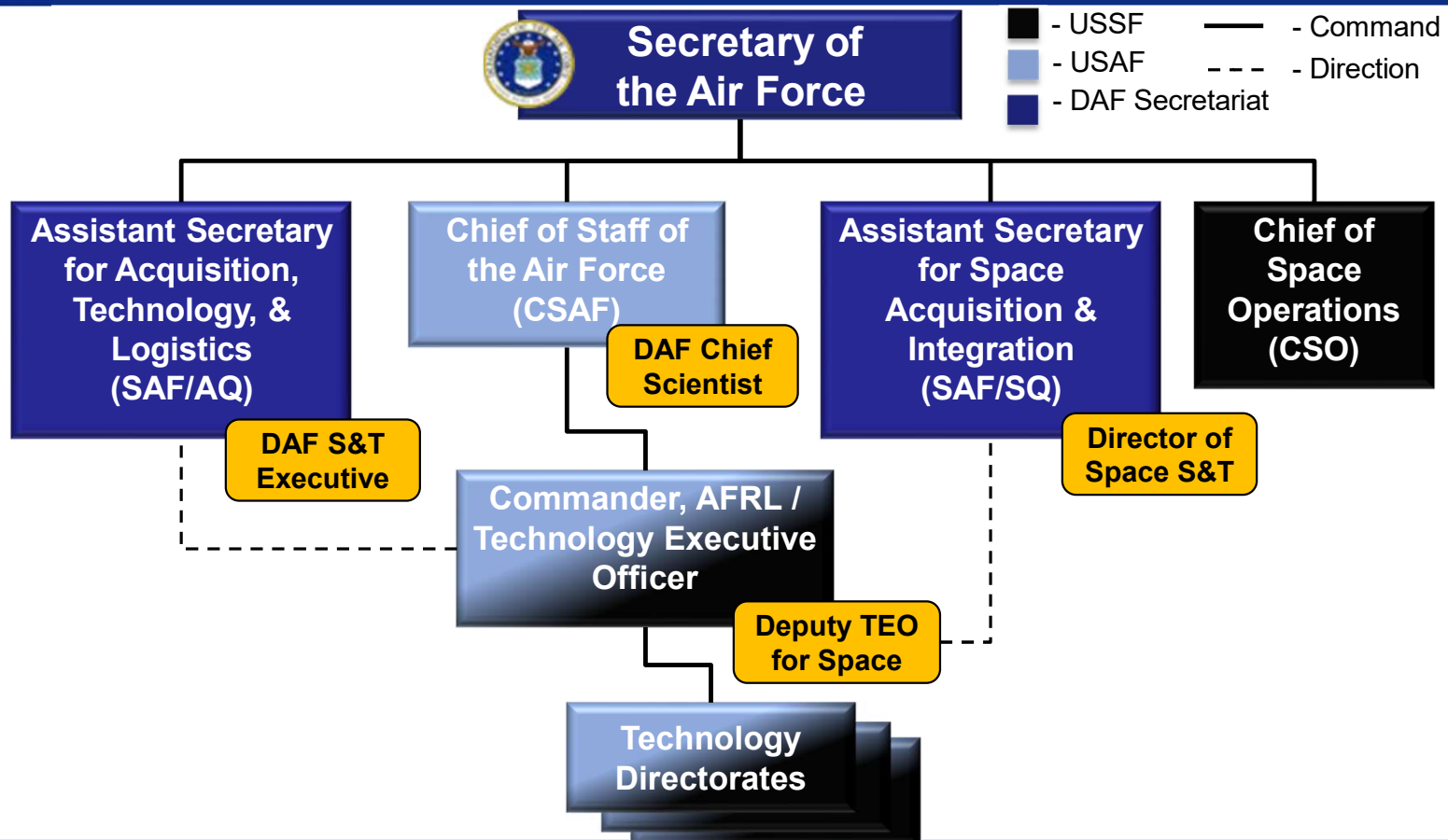
April 2024



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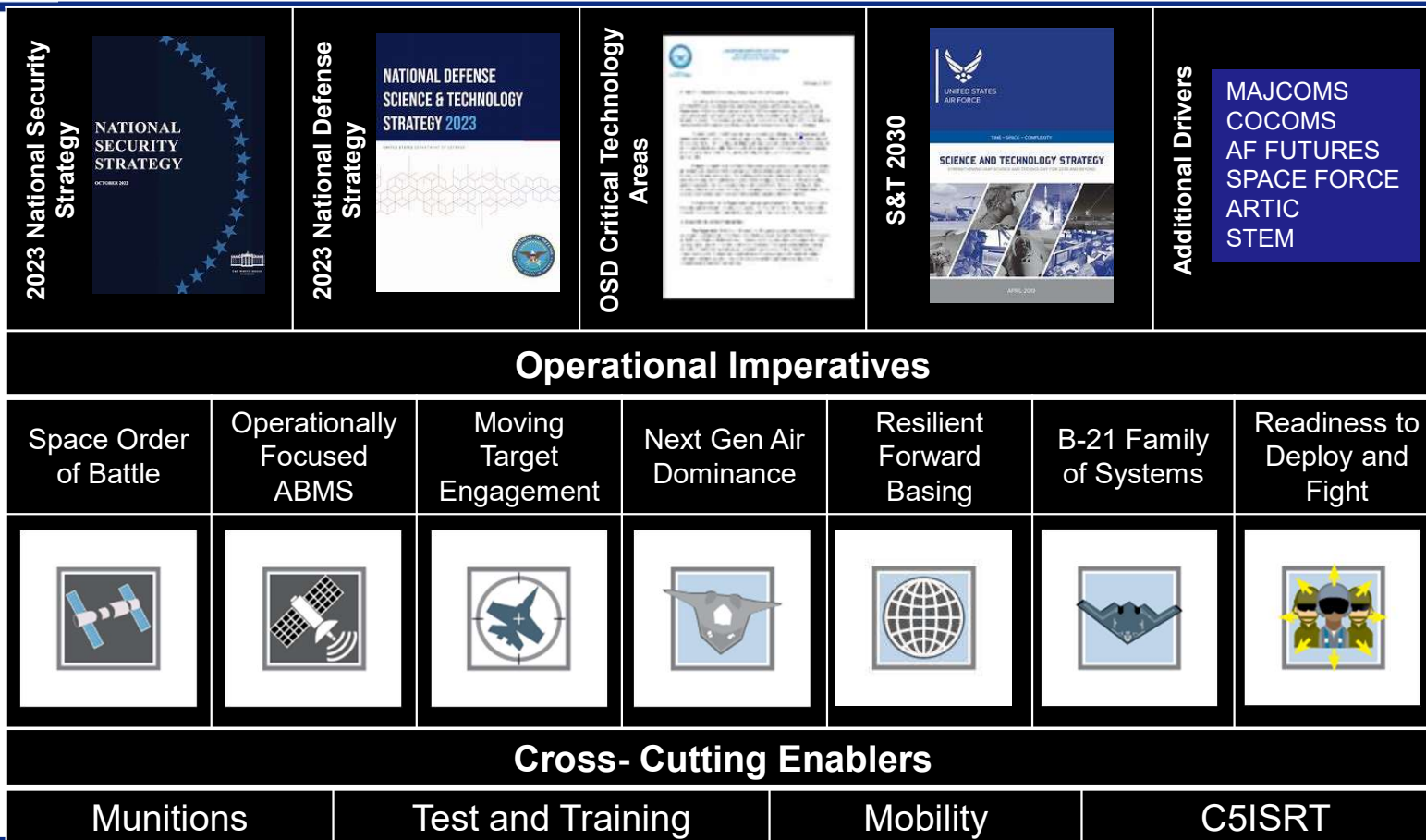


DAF S&T Enterprise





Strategic Imperatives





DAF S&T Focus Areas

OPERATIONAL IMPERATIVE DERIVED S&T FUNCTIONAL CAPABILITY FOCUS

SENSING	SENSE MAKING	COMMAND, CONTROL, COMMS	PLATFORMS	WEAPONS	RESILIENT BASING	READINESS
<ul style="list-style-type: none"> Microelectronics Multi-Mode Lidar Staring IR search & track Low-SWaP signal processing AI-enabled Object Tracking Missile warning & tactical ISR Weather satellites 	<ul style="list-style-type: none"> ISR exploitation & processing Multi-sensing platforms UAS geolocation / detection Targeting and characterization High Performance Computing 	<ul style="list-style-type: none"> Fully networked force Agile & assured communication Integrated on-board networking Resilient PNT & Data Transport Adaptive, distributed C2 Multi-Band Satellite Communications 	<ul style="list-style-type: none"> Survivability Low Observable Affordability Autonomous Collaboration Hypersonics Multi-Mission ISR/Strike Digital Transformation Spacecraft component tech 	<ul style="list-style-type: none"> Seekers, Ordnance, & Guidance Advanced Energetics Digital Twin Lab (WeaponOne) Digital Engineering Weapon Design Maritime weapons SWaP-C Collaborative Effects 	<ul style="list-style-type: none"> Base Defense Capabilities Digital Engineering 	<ul style="list-style-type: none"> Internet of Things & 5G Zero Trust Architectures, Cyber Semi-automated software assurance
					Blue: Air Force Black: Space Force	

LONGER TERM APPLIED RESEARCH FOCUS

- Integrated Networks
- Integrated Sensing & Cyber
- Advanced Materials
- Hypersonics
- Directed Energy
- Human-Machine Teaming
- Microelectronics
- Space Technology
- Quantum Science
- Trusted AI and Autonomy
- Munitions
- Aerospace Propulsion
- Aircraft Power & Thermal Mgt
- Nuclear Systems

FOUNDATIONAL BASIC RESEARCH

Exploring foundational research that extends functional capability:

Quantum, Cognitive/Machine Intelligence, Trust, Human Performance, Complex Networks, Multi-functional Materials, Space Science, Biotechnology

Building Future Scientists & Engineers: DAF K-16 STEM Outreach (FY23)

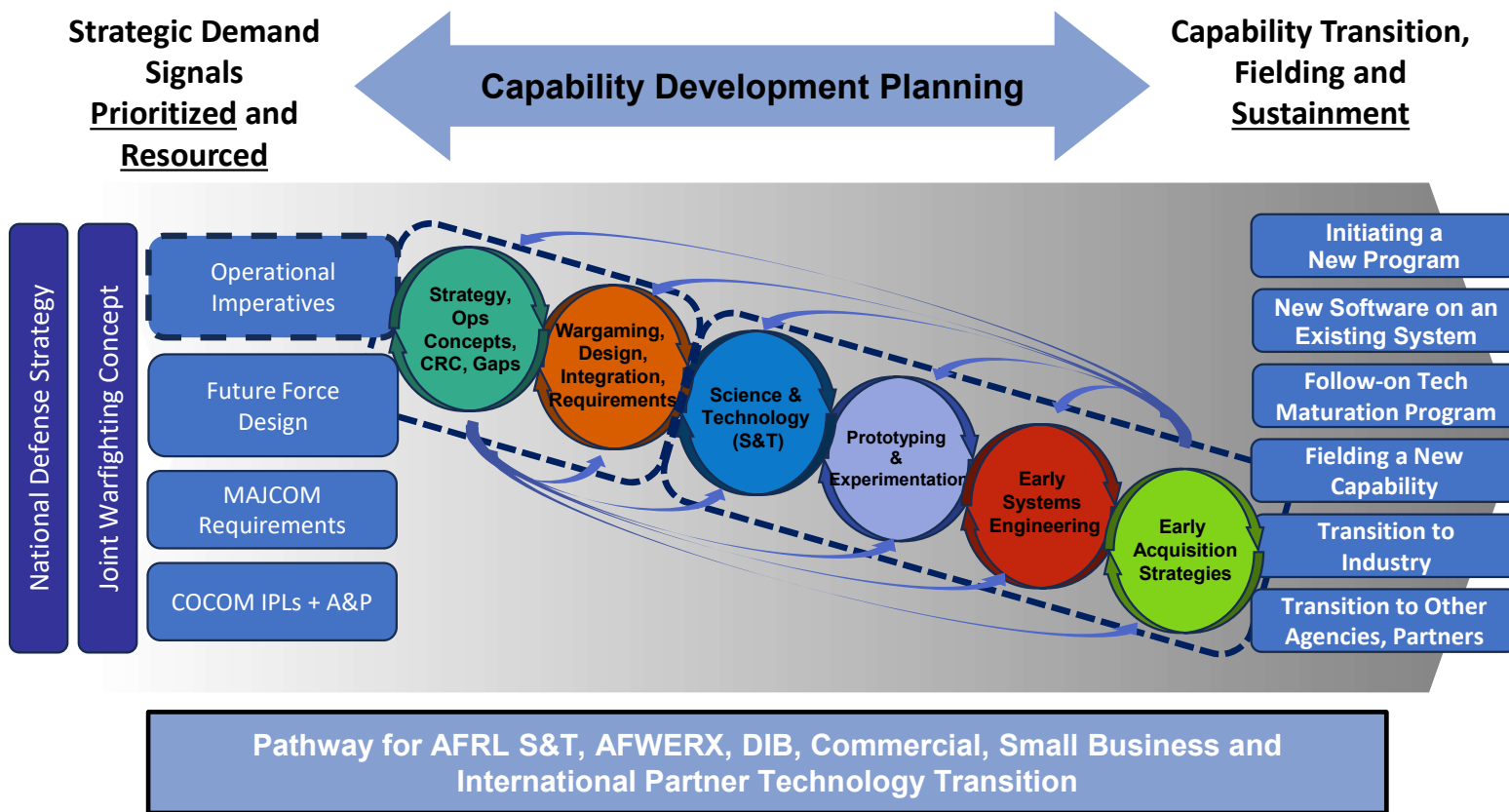
K-12 STEM Outreach impacts: 810K students, 16K teachers, 4K volunteers; Leadership Experience Growing Apprenticeships Committed to Youth (LEGACY): Craftsman (6th-8th) – Jr. Apprentice (9th-12th) – Apprentice (College) 368 students across 5 DAF installations

Distribution Statement A. Approved for public release:
Distribution unlimited.

Integrity - Service - Excellence

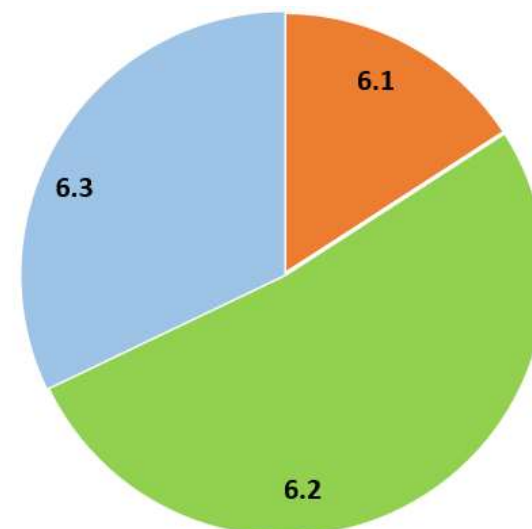
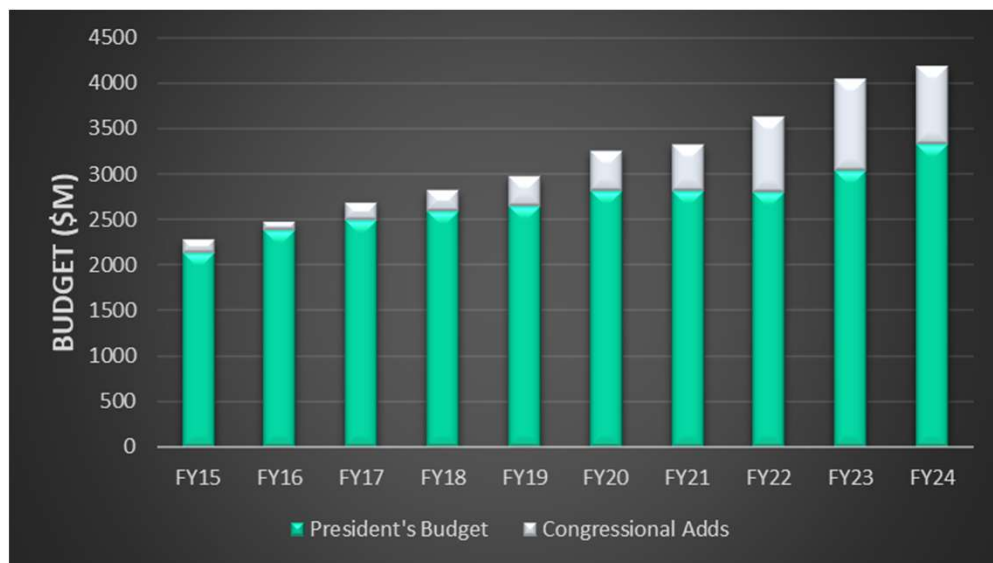


Improve Enterprise Integration Capability Development Pipeline – Iterative Approach





DAF S&T FY25 PB by Budget Activity - Total



DESCRIPTION	BAC	FY24*	FY25	FY26	FY27	FY28	FY29	FY25-29 TOTAL
FY25 PB (\$M)	6.1	601.36	541.38	444.70	482.46	546.75	590.15	2,605.44
	6.2	2,185.43	1,596.40	1,583.90	1,682.00	1,826.08	1,854.70	8,543.08
	6.3	1,383.69	928.77	945.66	1,084.81	1,146.85	1,166.19	5,272.27
FY25 PB Total		4,170.48	3,066.55	2,974.26	3,249.27	3,519.68	3,611.03	16,420.79

*Enacted

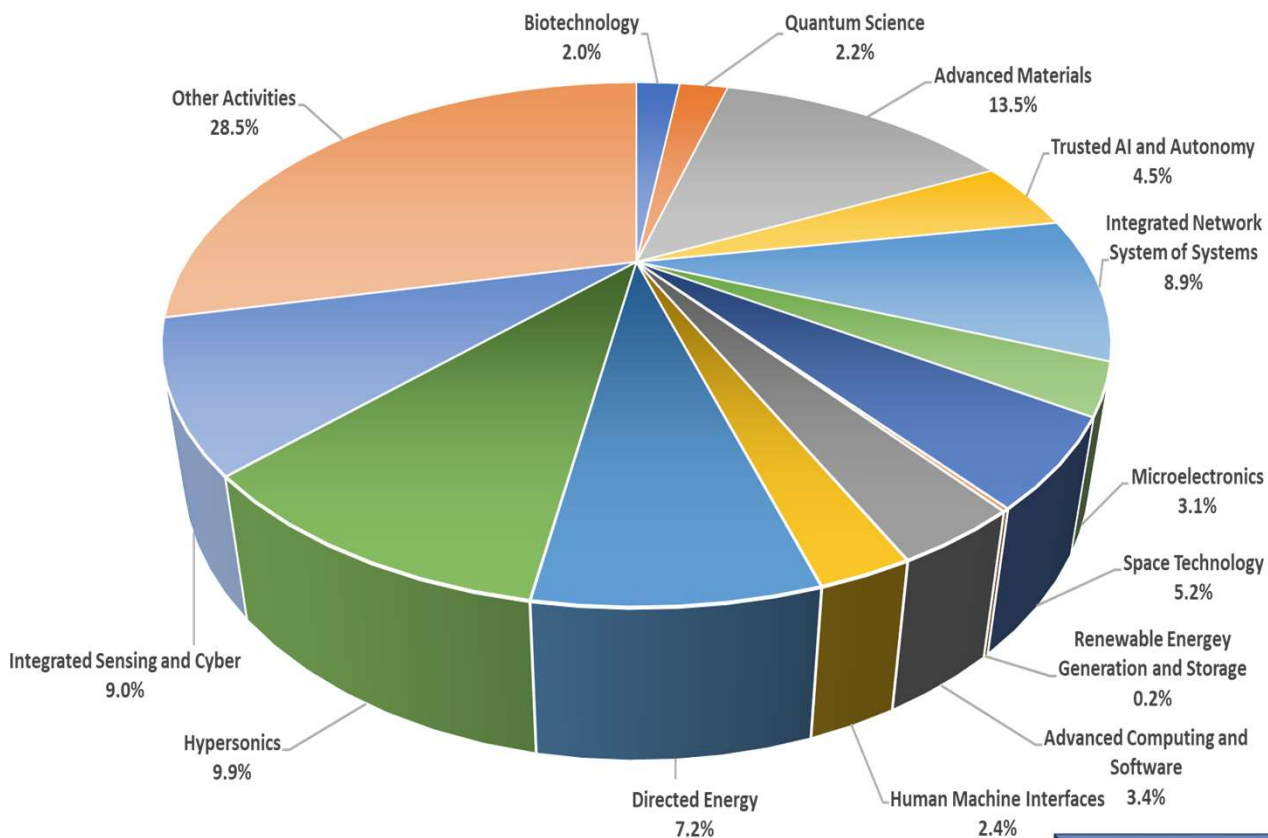
Includes Space Force S&T



FY25 DAF Investment Alignment to Critical Technology Areas

DAF S&T not explicitly aligned to OSD Critical Technology Areas

- Munitions
- Turbine Engines
- Aircraft Power, Control & Thermal Mgt
- Next Generation Mobility
- Nuclear Delivery System

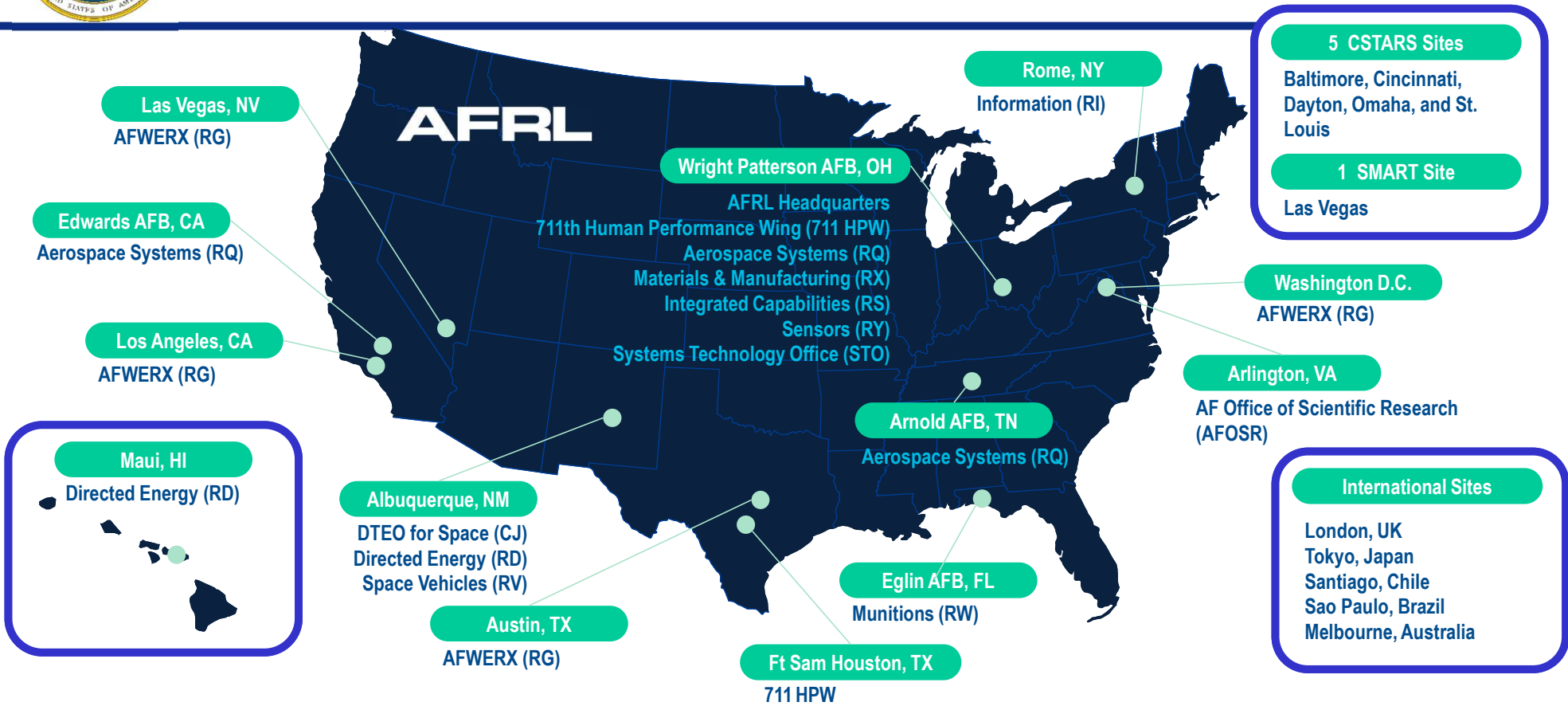


Includes Space Force S&T

* S&T that spans multiple categories was only counted in the most relevant category



Locations



*C-STARS: Center for the Sustainment of Trauma and Readiness Skills
 *SMART: Sustained Medical and Readiness Trained



Non-Traditional Partnerships



- Through the SBIR/STTR program, AFWERX has successfully expanded the number of small businesses working with the DAF, enabling cutting-edge technology from small businesses that may otherwise never have worked with the DoD.
- Grown the DAF's small business portfolio by over 2,200 companies and is rapidly adding new companies



Leverage Tools and Authorities

- Creative use of CRADAs & Education Partnership Agreements
- Management of DAF and DoD Partnership Intermediaries



Leverage DoD through support of DIU and NSIN

- Access to Venture Capital Community and Academia
- Prize Authority Challenges & Transition Support
- Share relevant enterprise services to accelerate data sharing and eliminate duplicative costs
- Allow DIU to leverage existing Spark cell connections to COCOMs and the DIB
- Prime infrastructure is flexible/expandable
- Mission Acceleration Centers can use AFWERX Hub structure (including relationships to academia, partnership intermediaries, international partnerships, etc)
- Move DIU-funded NSIN billets to within the AFWERX organization (w/restructured MOA)



Air & Space STEM Outreach

STEM Outreach Impact (2023)

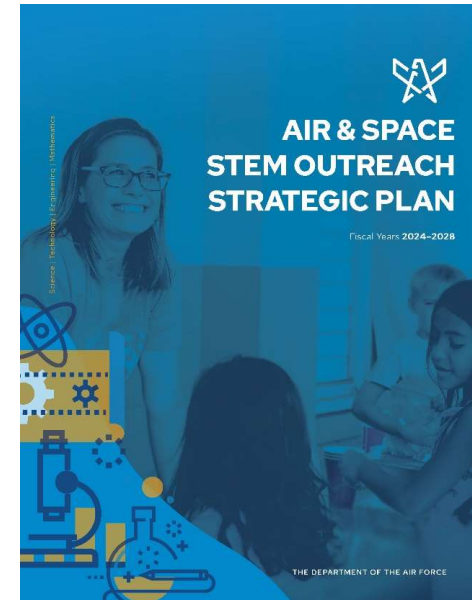
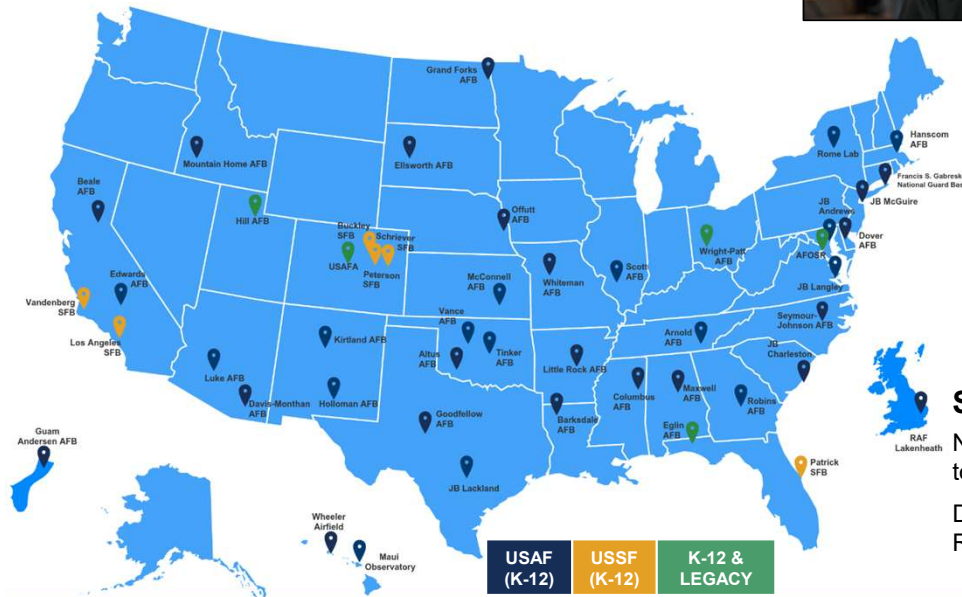
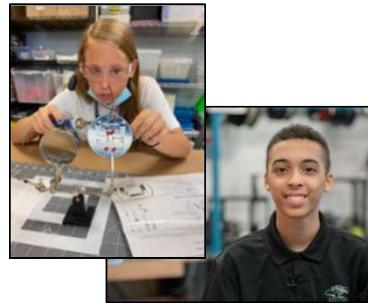
Air & Space STEM Outreach Program (K-12)

45 Base Sites impacted **807K students** & **16K teachers**

DAF LEGACY Program

5 Base Sites with **368 students** in 3 phases of program

37% of eligible students outplaced to DoD mil/civ positions



STEM Outreach Strategic Plan

Newly signed Air & Space STEM Outreach Strategic Plan to help guide efforts and programs

Dedicated STEM Outreach Project within Defense Research Sciences Program Element (0601102F)



Summary

- DAF S&T Portfolio supports the National Defense S&T Strategy and aligned with DAF priorities
- DAF committed to “One Lab, Two Services” construct to develop technologies to support Airmen and Guardian requirements
- DAF is focusing on S&T as a key element in optimizing for Great Power Competition
- DAF S&T enterprise is focused on rapidly and effectively transitioning technology to capability for the Warfighter



Defense Advanced Research Projects Agency

Stefanie Tompkins, Ph.D.
Director

DOD FY25 S&T Budget Request

April 30, 2024



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Role in S&T ecosystem

- **Create breakthrough, paradigm-shifting solutions.**
- **Accept and manage significant technology risk.**
- **Disrupt or massively accelerate technology roadmaps.**





PREVENT AND IMPOSE TECHNOLOGICAL SURPRISE

Create New Options for National Security Leaders



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Space • Air • Land • Sea • Subsurface
Virtual • Electromagnetic • Social

- YEARS**
66
- GOV EMPLOYEES**
283
- FY24 BUDGET**
\$4.4B
- ACTIVE PROGRAMS**
300+
- YEARS OF AVG. PM TENURE**
<5

Example Portfolios



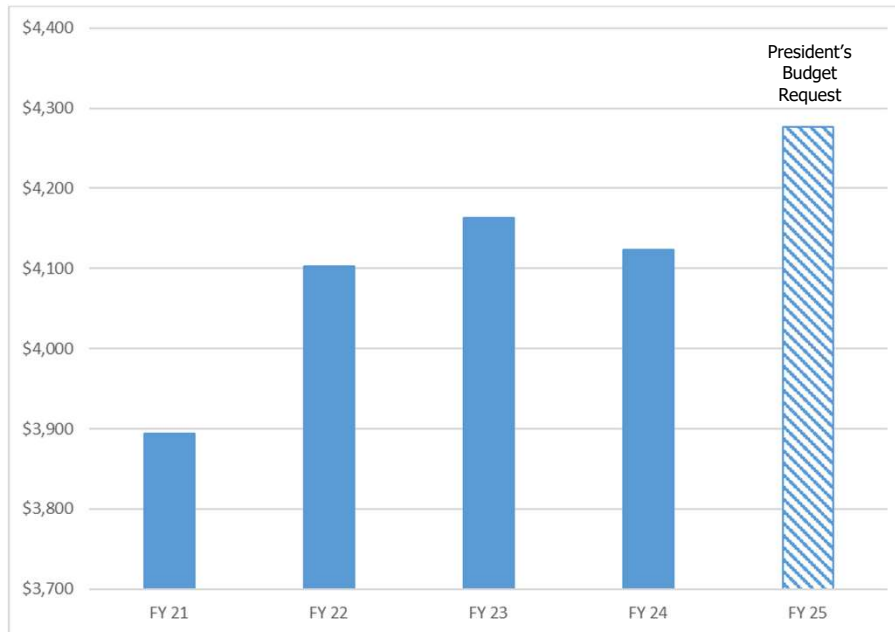
Emerging Opportunities

Biotechnology • Complexity • Chemistry • Data Science
Human-Machine Symbiosis • Interoperability • Machine Learning
Materials • Microelectronics • Quantum • Social Science ...



DARPA's Budget

Constant FY24 \$



Example FY25 Investment Areas

- Microelectronics: \$891M
- Biotech & Warfighter Protection and Performance: \$428M
- Artificial Intelligence: \$310M
- Cyber: \$294M
- Space: \$225M

90%
of funding to
projects

68%
to industry

17%
to universities

25%*
of total DoD
S&T funding



Industry and DoD have different priorities in AI/ML development

	Industry	DoD
Data and compute	Access to massive amounts	Access to limited amounts
Motivation	Profit-driven	Purpose-driven
Consequence	Low	High
Interaction model	Competitive	Cooperative



Breaking Down Barriers to Entry for Nontraditional Performers

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NDIA

Q&A

April 30, 2024 | 1:00 – 3:00 pm
www.emergingtechnologiesinstitute.org

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