Department of Defense
Fiscal Year (FY) 2024 Budget Estimates

March 2023

Operational Test and Evaluation, Defense

Defense-Wide Justification Book Volume 5 of 5

Operational Test and Evaluation, Defense

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Department of Defense
FY 2024 President's Budget
Exhibit R-1 FY 2024 President's Budget
Total Obligational Authority

(Dollars in Thousands)

Mar 2023

Appropriation	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
Operational Test and Evaluation, Defense	276,591	446,122		446,122	331,489
Total Research, Development, Test, & Evaluation	**276,591**	**446,122**		**446,122**	**331,489**

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Department of Defense
FY 2024 President's Budget
Exhibit R-1 FY 2024 President's Budget
Total Obligational Authority

Mar 2023

(Dollars in Thousands)

Summary Recap of Budget Activities	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
Management Support	276,591	446,122		446,122	331,489
Total Research, Development, Test, & Evaluation	**276,591**	**446,122**		**446,122**	**331,489**
Summary Recap of FYDP Programs					
Research and Development	276,591	446,122		446,122	331,489
Total Research, Development, Test, & Evaluation	**276,591**	**446,122**		**446,122**	**331,489**

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Defense-Wide
FY 2024 President's Budget
Exhibit R-1 FY 2024 President's Budget
Total Obligational Authority

Mar 2023

(Dollars in Thousands)

Summary Recap of Budget Activities	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
Management Support	276,591	446,122		446,122	331,489
Total Research, Development, Test, & Evaluation	**276,591**	**446,122**		**446,122**	**331,489**
Summary Recap of FYDP Programs					
Research and Development	276,591	446,122		446,122	331,489
Total Research, Development, Test, & Evaluation	**276,591**	**446,122**		**446,122**	**331,489**

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Defense-Wide
FY 2024 President's Budget
Exhibit R-1 FY 2024 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Mar 2023

Appropriation: 0460D Operational Test and Evaluation, Defense

Line No	Program Element Number	Item	Act	Sac	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
1	0605118OTE	Operational Test and Evaluation	06	U	105,394	133,579		133,579	169,544
2	0605131OTE	Live Fire Test and Evaluation	06	U	103,549	167,953		167,953	103,252
3	0605814OTE	Operational Test Activities and Analyses	06	U	67,648	144,590		144,590	58,693
	Management Support				**276,591**	**446,122**		**446,122**	**331,489**
Total Operational Test and Evaluation, Defense					**276,591**	**446,122**		**446,122**	**331,489**

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0460: Operational Test and Evaluation, Defense

Line #	Budget Activity	Program Element Number	Program Element Title	Page
1	06	0605118OTE	Operational Test and Evaluation (OT&E)	Volume 5 - 1
2	06	0605131OTE	Live Fire Test and Evaluation (LFT&E)	Volume 5 - 7
3	06	0605814OTE	Operational Test Activities and Analyses	Volume 5 - 19

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Program Element Title	Program Element Number	Line #	BA	Page
Live Fire Test and Evaluation (LFT&E)	0605131OTE	2	06	Volume 5 - 7
Operational Test Activities and Analyses	0605814OTE	3	06	Volume 5 - 19
Operational Test and Evaluation (OT&E)	0605118OTE	1	06	Volume 5 - 1

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Operational Test and Evaluation, Defense	Date: March 2023
Appropriation/Budget Activity 0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605118OTE / *Operational Test and Evaluation (OT&E)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	113.133	105.394	133.579	169.544	-	169.544	184.985	200.615	223.288	251.093	Continuing	Continuing
000310: *OTE*	113.133	105.394	133.579	169.544	-	169.544	184.985	200.615	223.288	251.093	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Office of the Director, Operational Test and Evaluation (DOT&E) was created by Congress in 1983. The Director is prescribed, by authority of the Secretary of Defense, policies and procedures for the conduct of operational test and evaluation (OT&E) in the Department of Defense (DOD). The Director provides guidance to and consults with the Secretary of Defense, the Under Secretary of Defense for Acquisition and Sustainment, and the Under Secretary of Defense for Research and Engineering, and the Service Secretaries with respect to OT&E. DOT&E's oversight list fluctuates, but generally has around 235 programs, including Major Defense Acquisition Programs (MDAP) and programs from across each of the six adaptive acquisition pathways.

Programs identified as MDAPs for the purposes of test and evaluation may not proceed beyond low-rate initial production (BLRIP) until OT&E of the program is complete. DOT&E is involved early in the planning phase of each program to ensure adequate testing is planned and executed. Key elements of DOT&E's oversight authority include:

- Approval of component Test and Evaluation Master Plans (TEMPs).

- Approval of component OT&E Test Plans (TPs).

- Oversight of military department preparation and conduct of field operational tests; analysis and evaluation of the resultant test data; the assessment of the adequacy of the executed test and evaluation; and assessment of the operational effectiveness, suitability, and survivability of the defense business and weapon systems.

- Reporting results of OT&E that support BLRIP decisions to the Secretary of Defense and Congress, and providing an annual report summarizing all OT&E activities and the adequacy of test resources within the DOD during the previous fiscal year.

- Review of DOD budgets and financial matters related to OT&E, and recommendations to the Secretary of Defense on all matters relating to operational test facilities and equipment.

DOT&E also oversees and resources OT&E community efforts to plan and execute joint cybersecurity assessments of fielded systems and networks during major Combatant Command (CCMD) and Service exercises, and reports the trends and findings in the annual report. DOT&E is also involved in assessing and increasing the capacity of realistically advanced cyber warfighting capabilities to keep pace with heightened demand, advancing technologies, and the growing cyber threat.

This Program Element includes funds to obtain Federally Funded Research and Development Center (FFRDC) support in performing the described tasks, travel funds to carry out oversight of the OT&E and cyber assessment programs, funds for Service teams performing information assurance and interoperability assessments during exercises, administrative support services, DFAS support, and engineering and technical support services.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Operational Test and Evaluation, Defense	Date: March 2023
Appropriation/Budget Activity 0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605118OTE / *Operational Test and Evaluation (OT&E)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	105.394	119.529	123.601	-	123.601
Current President's Budget	105.394	133.579	169.544	-	169.544
Total Adjustments	0.000	14.050	45.943	-	45.943
• Congressional General Reductions	-	-0.950			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Additional funding for MTA/Rapid Prototyping oversight	-	-	10.601	-	10.601
• Transformation of the T&E Enterprise Tools, Processes, and Workforce	-	-	35.342	-	35.342

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 000310: *OTE*		
Congressional Add: *Browser plug-in security research*	-	5.000
Congressional Add: *Red Team Automation*	-	10.000
Congressional Add Subtotals for Project: 000310	-	15.000
Congressional Add Totals for all Projects	-	15.000

Change Summary Explanation

Increased funding will provide the workforce capacity and talent required to leverage the department's modernization efforts by supporting the Congressional requirements for increased oversight and insight of test strategies for programs using section 804 middle tier acquisition authorities and/or rapid prototyping authorities. Funding will also support developing and implementing an enterprise-level T&E data management solution, integrates T&E in model-based system engineering, increases the use of credible digital twins in T&E, and provides support to the T&E enterprise workforce by identifying and tracking T&E workforce capabilities, establishing core T&E competencies, and supplying training and education resources across the department.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense			Date: March 2023
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605118OTE / *Operational Test and Evaluation (OT&E)*	Project (Number/Name) 000310 / *OTE*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
000310: *OTE*	113.133	105.394	133.579	169.544	-	169.544	184.985	200.615	223.288	251.093	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Office of the Director, Operational Test and Evaluation (DOT&E) was created by Congress in 1983. The Director is prescribed, by authority of the Secretary of Defense, policies and procedures for the conduct of operational test and evaluation (OT&E) in the Department of Defense (DOD). The Director provides guidance to and consults with the Secretary of Defense, the Under Secretary of Defense for Acquisition and Sustainment, and the Under Secretary of Defense for Research and Engineering, and the Service Secretaries with respect to OT&E. DOT&E's oversight list fluctuates, but generally has around 235 programs, including Major Defense Acquisition Programs (MDAP) and programs from across each of the six adaptive acquisition pathways.

Programs identified as MDAPs for the purposes of test and evaluation may not proceed beyond low-rate initial production (BLRIP) until OT&E of the program is complete. DOT&E is involved early in the planning phase of each program to ensure adequate testing is planned and executed. Key elements of DOT&E's oversight authority include:

- Approval of component Test and Evaluation Master Plans (TEMPs).

- Approval of component OT&E Test Plans (TPs).

- Oversight of military department preparation and conduct of field operational tests; analysis and evaluation of the resultant test data; the assessment of the adequacy of the executed test and evaluation; and assessment of the operational effectiveness, suitability, and survivability of the defense business and weapon systems.

- Reporting results of OT&E that support BLRIP decisions to the Secretary of Defense and Congress, and providing an annual report summarizing all OT&E activities and the adequacy of test resources within the DOD during the previous fiscal year.

- Review of DOD budgets and financial matters related to OT&E, and recommendations to the Secretary of Defense on all matters relating to operational test facilities and equipment.

DOT&E also oversees and resources OT&E community efforts to plan and execute joint cybersecurity assessments of fielded systems and networks during major Combatant Command (CCMD) and Service exercises, and reports the trends and findings in the annual report. DOT&E is also involved in assessing and increasing the capacity of realistically advanced cyber warfighting capabilities to keep pace with heightened demand, advancing technologies, and the growing cyber threat.

This Program Element includes funds to obtain Federally Funded Research and Development Center (FFRDC) support in performing the described tasks, travel funds to carry out oversight of the OT&E and cyber assessment programs, funds for Service teams performing information assurance and interoperability assessments during exercises, administrative support services, DFAS support, and engineering and technical support services.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
Appropriation/Budget Activity 0460 / 6	**R-1 Program Element (Number/Name)** PE 0605118OTE / *Operational Test and Evaluation (OT&E)*	**Project (Number/Name)** 000310 / *OTE*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Operational Test and Evaluation (OT&E)	105.394	118.579	169.544

Description: OT&E Oversight

This effort is in direct support of the Director's Title 10 responsibilities and is a continuing effort. Funding for FY 2023 provides OT&E inputs for TEMPs, TPs, System Acquisition Reports, and Defense Acquisition Executive Summary Reports for those programs designated for oversight by DOT&E. The key elements are identified in the DOD Instructions signed by the DOT&E and the Under Secretary of Defense for Research & Evaluation. This also includes funding for congressionally mandated test & evaluation (T&E) oversight of all Middle Tier of Acquisition programs and programs utilizing other accelerated acquisition authorities. This includes the development of independent T&E concepts for such programs; review of programs' T&E strategies; observation of relevant test events to ensure compliance with TPs; independent data analysis; and development of reports to Secretary of Defense and Congress on all matters related to test adequacy and demonstrated operational effectiveness, suitability, and survivability of the defense business and weapon systems.

DOT&E also oversees and resources OT&E community efforts to plan and execute joint operational evaluations of information assurance (cyber survivability) and interoperability of fielded systems and networks during major CCMD and Service exercises. DOT&E reports the mission-focused trends and findings in the annual report, and provides a mission risk assessment each fiscal year. DOT&E also supports efforts to increase the capacity for assessments of advanced cyber warfighting capabilities, to keep pace with heightened demand for those capabilities, advancing technologies, and the growing cyber threat.

FY 2023 Plans:
Cyber Evaluations

DOT&E plans to sponsor approximately 50 CCMD and Service cybersecurity assessments and Cyber Readiness Campaign (CRC) events in FY 2023. Each assessment will continue to include "Find-Fix-Verify" efforts to facilitate the remediation of identified vulnerabilities and verify that solutions and mitigations improve warfighter mission assurance. DOT&E plans to continue working with the CCMDs and Services to develop multiyear plans for exercise cyber assessments and CRC events. These plans will focus on assessing the CCMD's or Service's ability to complete missions and be resilient in a cyber-contested environment. DOT&E will perform year-round and long-duration assessments of six CCMDs and Services with Global PCO authorities. DOT&E will begin assessing AI and Machine-Learning technologies for cybersecurity as they are deployed to CCMDs. Objectives for DOT&E assessments in FY 2023 will include the portrayal of advanced cyber threats and the assessment of operational missions during realistic cyber attacks, with supporting offensive fires and cyber-range events included in the evaluation. Expanded table-top exercises and wargames to stress senior-leader decisions with advanced threats not suitable for exercises will also be performed. DOT&E will assess Cyber Protection Teams and Cyber Mission Teams when they participate during PCO, CRC,

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
Appropriation/Budget Activity 0460 / 6	**R-1 Program Element (Number/Name)** PE 0605118OTE / *Operational Test and Evaluation (OT&E)*	**Project (Number/Name)** 000310 / *OTE*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
or exercise events. DOT&E will continue assessments of offensive cyber capabilities. DOT&E will continue expanded efforts on focused assessments in multiple additional mission and technology areas that are receiving extensive upgrades or becoming more prevalent in warfighter systems, including Nuclear Command, Control, and Communications (NC3); commercial clouds; AI and Machine-Learning technologies; and non-internet protocol platform cyber risks. DOT&E will transmit critical findings to DOD leadership and Congress along with recommended actions to improve DOD's cybersecurity posture. ***FY 2024 Plans:*** DOT&E plans to sponsor approximately 60 CCMD and Service cybersecurity assessments and CRC events in FY 2024. Each assessment will continue to include "Find-Fix-Verify" efforts to facilitate the remediation of identified vulnerabilities and verify that solutions and mitigations improve warfighter mission assurance. DOT&E plans to continue working with the CCMDs and Services to develop multiyear plans for exercise cyber assessments and CRC events. These plans will focus on assessing the CCMD's or Service's ability to complete missions and be resilient in a cyber-contested environment. DOT&E will perform year-round and long-duration assessments of all CCMDs and Services with Global PCO authorities. DOT&E will continue assessing Artificial Intelligence and Machine-Learning technologies for cybersecurity as they are deployed to CCMDs, and for their contribution to mission accomplishment and their potential increase of the cyber-attack surface. Objectives for DOT&E assessments in FY 2024 will include the portrayal of advanced cyber threats and the assessment of operational missions during realistic cyber attacks, with supporting offensive fires and cyber-range events included in the evaluation. Expanded table-top exercises and wargames to stress senior-leader decisions with advanced threats not suitable for exercises will also be performed. DOT&E will assess Cyber Protection Teams and Cyber Mission Teams when they participate during PCO, CRC, or exercise events. DOT&E will continue assessments of offensive cyber capabilities. DOT&E will continue expanded efforts on focused assessments in multiple additional mission and technology areas that are receiving extensive upgrades or becoming more prevalent in warfighter systems, including Nuclear Command, Control, and Communications (NC3); commercial clouds; AI and Machine-Learning technologies; and non-internet protocol platform cyber risks. DOT&E will transmit critical findings to DOD leadership and Congress along with recommended actions to improve DOD's cybersecurity posture. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding will provide the workforce capacity and talent required to leverage the department's modernization efforts by supporting the Congressional requirements for increased oversight and insight of test strategies for programs using section 804 middle tier acquisition authorities and/or rapid prototyping authorities. Funding will also support developing and implementing an enterprise-level T&E data management solution, integrates T&E in model-based system engineering, increases the use of credible digital twins in T&E, and provides support to the T&E enterprise workforce by identifying and tracking T&E workforce capabilities, establishing core T&E competencies, and supplying training and education resources across the department.			
Accomplishments/Planned Programs Subtotals	105.394	118.579	169.544

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
Appropriation/Budget Activity 0460 / 6	**R-1 Program Element (Number/Name)** PE 0605118OTE / *Operational Test and Evaluation (OT&E)*	**Project (Number/Name)** 000310 / *OTE*

	FY 2022	FY 2023
Congressional Add: Browser plug-in security research ***FY 2023 Plans:*** Congressional add funding supports continued development of cyber security research for defense browser plug-in capabilities.	-	5.000
Congressional Add: Red Team Automation ***FY 2023 Plans:*** Congressional add funding supports acquisition and employment of AI/autonomy for red teaming for the combatant commands.	-	10.000
Congressional Adds Subtotals	-	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Operational Test and Evaluation, Defense	Date: March 2023
Appropriation/Budget Activity 0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	74.048	103.549	167.953	103.252	-	103.252	107.037	106.465	104.821	106.931	Continuing	Continuing
000311: *LFT&E*	74.048	103.549	167.953	103.252	-	103.252	107.037	106.465	104.821	106.931	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element consists of three programs: Joint Live Fire (JLF), Joint Aircraft Survivability Program (JASP), and Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME).

This Program Element directly supports the Congressional statutory requirements for oversight of LFT&E. The primary objective of LFT&E is to assure that the vulnerability and survivability of Department of Defense (DOD) crew-carrying platforms and the lethality of our conventional munitions are known and acceptable before entering full-rate production. LFT&E encompasses realistic tests involving actual U.S. and foreign threat hardware or, if not available, acceptable surrogate threat hardware. The objective is to identify and correct design deficiencies early in the development process. A completed LFT&E program and test report is required before programs proceed beyond low-rate initial production (BLRIP). LFT&E also includes realistic modeling and simulation (M&S) to examine survivability and lethality attributes not assessed during testing.

This Program Element supports DOD's JLF Program, initiated in 1984 under an Office of the Secretary of Defense charter to test fielded front-line combat aircraft and armor systems for their vulnerabilities as well as fielded weapons, both U.S. and foreign, for their lethality against their respective targets. Funds are also used to support other initiatives related to quick reaction requests from theater and other areas of personnel survivability.

JASP is the DOD's focal point for joint service enhancement of military aircraft non-nuclear survivability. The JASP is chartered by the Commander of the U.S. Navy Naval Air Systems Command, the U.S. Assistant Secretary of the Army (Acquisition Logistics and Technology), and the Commander of the U.S. Air Force Life Cycle Management Center to increase the affordability, readiness, and effectiveness of Tri-Service aircraft through joint coordination and development of survivability technologies, design tools and assessment methodologies. The JASP coordinates and conducts RDT&E to improve military aircraft survivability, develop and standardize aircraft survivability M&S, facilitate information exchange on aircraft survivability, and support aircraft survivability education for the DOD and U.S. aircraft community. Each chartering command provides a senior aircraft survivability expert for the JASP Principal Members Steering Group, which guides the program and approves projects for funding. The JASP assesses and reports on combat damage incidents through the Joint Combat Assessment Team (JCAT).

JTCG/ME was chartered to serve as DOD's focal point for munitions effectiveness information. The JTCG/ME produces Joint Munitions Effectiveness Manuals (JMEMs) that are the sole source for all Joint Service authenticated non-nuclear weapons effectiveness data and methodology for the DOD. The JMEMs are the "how to" manuals for putting ordnance on target and as such, directly impacts combat readiness, effectiveness, and survivability. JMEMs are used by the Warfighters in operational weaponeering and collateral damage estimation (CDE) calls in direct support of operations, mission planning, and training; by the DOD, Joint, and Service planners in force-on-force M&S, mission area analysis, requirements studies, and weapon procurement planning; and by the service acquisition community in performance assessment, analysis of alternatives, and survivability enhancement studies. The JTCG/ME continually evolves weapons effectiveness and target vulnerability data, standards, methodologies, and processes based on the strategic environment for better munitions effectiveness evaluation and support to a more lethal force. JTCG/ME

also increases efficiency by leveraging ongoing DOD efforts and supporting the DOD's intent to complement U.S. interest and capabilities by providing weaponeering and targeting capability to coalition partners.

The JMEM requirements and development processes are driven by operational lessons learned (e.g. Inherent Resolve, Resolute Support, and Freedom Sentinel); Joint Staff data calls, and the needs of Combatant Commands (CCMDs), the Services, the Military Targeting Committee (MTC) guided by Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5140.01, Munitions Requirements Process (MRP) - DOD Instruction (DODI) 3000.04 and Operational Users Working Groups (OUWGs) input for specific weapon-target pairings and methodologies. Considerable effort goes into these user forums to establish Warfighter requirements for current and future JTCG/ME products, as well as continued training events and day-to-day support - all with the goal of enabling greater force lethality, strengthened partner capabilities, and optimal use of resources.

This program element also includes funds to obtain Federally Funded Research and Development Center (FFRDC) expertise in performing analyses in support of described LFT&E tasks, as well as travel funds to carry out the LFT&E, JASP, and JTCG/ME programs.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	68.549	99.947	101.661	-	101.661
Current President's Budget	103.549	167.953	103.252	-	103.252
Total Adjustments	35.000	68.006	1.591	-	1.591
• Congressional General Reductions	-	-1.194			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	35.000	69.200			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation/Travel Adjustments	-	-	1.591	-	1.591

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 000311: *LFT&E*		
Congressional Add: *Program Increase: Lab and Test Range Upgrades*	35.000	-
Congressional Add: *Program Increase: Test Capabilities Acceleration - Electromagnetic Spectrum*	-	41.000
Congressional Add: *Program Increase: Test Capabilities Acceleration - Hypersonics*	-	10.000
Congressional Add: *Program Increase: Test Capabilities Acceleration - Space Systems*	-	15.000
Congressional Add: *Program Increase: Test Capabilities Acceleration - Data Management*	-	3.200

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Operational Test and Evaluation, Defense	Date: March 2023
Appropriation/Budget Activity 0460: *Operational Test and Evaluation, Defense I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605131OTE *I Live Fire Test and Evaluation (LFT&E)*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Congressional Add Subtotals for Project: 000311	35.000	69.200
Congressional Add Totals for all Projects	35.000	69.200

Change Summary Explanation

Increased funding reflects inflation cost growth in programs.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense			Date: March 2023
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)*	Project (Number/Name) 000311 / *LFT&E*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
000311: *LFT&E*	74.048	103.549	167.953	103.252	-	103.252	107.037	106.465	104.821	106.931	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Program Element consists of three programs: Joint Live Fire (JLF), Joint Aircraft Survivability Program (JASP), and Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME).

This Program Element directly supports the Congressional statutory requirements for oversight of LFT&E. The primary objective of LFT&E is to assure that the vulnerability and survivability of Department of Defense (DOD) crew-carrying platforms and the lethality of our conventional munitions are known and acceptable before entering full-rate production. LFT&E encompasses realistic tests involving actual U.S. and foreign threat hardware or, if not available, acceptable surrogate threat hardware. The objective is to identify and correct design deficiencies early in the development process. A completed LFT&E program and test report is required before programs proceed beyond low-rate initial production (BLRIP). LFT&E also includes realistic modeling and simulation (M&S) to examine survivability and lethality attributes not assessed during testing.

This Program Element supports DOD's JLF Program, initiated in 1984 under an Office of the Secretary of Defense charter to test fielded front-line combat aircraft and armor systems for their vulnerabilities as well as fielded weapons, both U.S. and foreign, for their lethality against their respective targets. Funds are also used to support other initiatives related to quick reaction requests from theater and other areas of personnel survivability.

JASP is the DOD's focal point for joint service enhancement of military aircraft non-nuclear survivability. The JASP is chartered by the Commander of the U.S. Navy Naval Air Systems Command, the U.S. Assistant Secretary of the Army (Acquisition Logistics and Technology), and the Commander of the U.S. Air Force Life Cycle Management Center to increase the affordability, readiness, and effectiveness of Tri-Service aircraft through joint coordination and development of survivability technologies, design tools and assessment methodologies. The JASP coordinates and conducts RDT&E to improve military aircraft survivability, develop and standardize aircraft survivability M&S, facilitate information exchange on aircraft survivability, and support aircraft survivability education for the DOD and U.S. aircraft community. Each chartering command provides a senior aircraft survivability expert for the JASP Principal Members Steering Group, which guides the program and approves projects for funding. The JASP assesses and reports on combat damage incidents through the Joint Combat Assessment Team (JCAT).

JTCG/ME was chartered to serve as DOD's focal point for munitions effectiveness information. The JTCG/ME produces Joint Munitions Effectiveness Manuals (JMEMs) that are the sole source for all Joint Service authenticated non-nuclear weapons effectiveness data and methodology for the DOD. The JMEMs are the "how to" manuals for putting ordnance on target and as such, directly impacts combat readiness, effectiveness, and survivability. JMEMs are used by the Warfighters in operational weaponeering and collateral damage estimation (CDE) calls in direct support of operations, mission planning, and training; by the DOD, Joint, and Service planners in force-on-force M&S, mission area analysis, requirements studies, and weapon procurement planning; and by the service acquisition community in performance assessment, analysis of alternatives, and survivability enhancement studies. The JTCG/ME continually evolves weapons effectiveness and target vulnerability data, standards, methodologies, and processes based on the strategic environment for better munitions effectiveness evaluation and support to a more lethal force. JTCG/ME

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
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also increases efficiency by leveraging ongoing DOD efforts and supporting the DOD's intent to complement U.S. interest and capabilities by providing weaponeering and targeting capability to coalition partners.

The JMEM requirements and development processes are driven by operational lessons learned (e.g. Inherent Resolve, Resolute Support, and Freedom Sentinel); Joint Staff data calls, and the needs of Combatant Commands (CCMDs), the Services, the Military Targeting Committee (MTC) guided by Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5140.01, Munitions Requirements Process (MRP) - DOD Instruction (DODI) 3000.04 and Operational Users Working Groups (OUWGs) input for specific weapon-target pairings and methodologies. Considerable effort goes into these user forums to establish Warfighter requirements for current and future JTCG/ME products, as well as continued training events and day-to-day support - all with the goal of enabling greater force lethality, strengthened partner capabilities, and optimal use of resources.

This program element also includes funds to obtain Federally Funded Research and Development Center (FFRDC) expertise in performing analyses in support of described LFT&E tasks, as well as travel funds to carry out the LFT&E, JASP, and JTCG/ME programs.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Live Fire Test and Evaluation	68.549	98.753	103.252
Description: LFT&E of Major DOD Acquisition Programs The FY 2024 request will enable DOT&E to assess the adequacy of LFT&E strategies/plans and generate new LFT&E policies to support systems' acquisitions and rapid fielding. The FY 2024 request will ensure adequate execution of the LFT&E plans and subsequent ability to conduct independent analysis of survivability and lethality test and M&S data in support of OSD LFT&E reports to Congress. ***FY 2023 Plans:*** JLF The FY 2023 budget will align with DOT&E's Science &Technology Strategic Plan/Update, National Defense Strategy (NDS) objectives, and the Secretary of Defense's priorities. It will support a more lethal force by increasing the accuracy and capability of critical M&S tools to support T&E efficiency and ensure credibility of DOD assessments and weaponeering tools. The FY 2023 program will continue to focus on multi-year initiatives such as Verification, Validation and Accreditation (VV&A) standardization through collaborative efforts with the Department of Energy (DOE) national labs that incudes model uncertainty quantification and experimentation measurement uncertainty, warhead lethality, data analytics, and expand non-kinetic efforts to include Electronic Warfare (EW) effects. JLF efforts will also resolve survivability and lethality related system design challenges of currently fielded U.S. systems while maintaining awareness of LFT&E challenges across all air, ground, and sea domains. Finally, JLF will continue to lead innovation in LFT&E methods to increase LFT&E efficiency and support rapid fielding.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Specifically, the FY 2023 program will continue development of new tools and methods to advance lethality evaluation of kinetic weapons (to include hypersonic weapons) through the sustained advanced warhead characterization program, updating multi-phased blast explosive (MBX) M&S through Arbitrary Lagrangian-Eulerian 3D (ALE3D) high-fidelity modeling, further analyze blast test data and model predictions from unique 1/9th scale experimentation, and accelerate and expand projects to support hypersonic weapons in the areas of testing and M&S of nod-ideal aluminized explosives. JLF plans to advance the evaluation of survivability of U.S. weapon systems and forces against kinetic threat engagements by adopting the Virtuous circle of Modeling-Experiment-validated Model (VMEM) process to validate a behind armor debris high-fidelity penetrator target model with unique high-speed camera optical tracking methods. JLF plans to advance the assessment of traumatic brain injuries (TBI) due to kinetic threat engagements through combat data analysis with the Joint Trauma Analysis and Prevention of Injury in Combat Program (JTAPIC) and contract support with the University of Virginia to develop TBI injury risk curves for operational relevant scenarios. JLF will develop new tools & methods to enhance the S/L evaluation of non-kinetic threats for cyber and EW effectors. JLF plans to advance the use of digital engineering tools to support Survivability/Lethality (S/L) evaluations through a framework capable of consolidating available and future LFT&E data in support of a range of data mining and data analytics intended to inform requirements and performance evaluations more effectively. JASP In FY 2023, the JASP will work on multi-year RDT&E projects and initiate several new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. The JASP will support the NDS objectives to “Defend the Homeland” and “Prevail in Conflict Worldwide” by developing measures to improve threat situational awareness, defeat adversary advanced radio frequency and infrared guided threats, and provide quantifiable improvements in digital and hardware-in-the-loop M&S capability and credibility. JASP will improve aircraft force protection by advancing system hardening against kinetic and non-kinetic threats. Funding will support the NDS objective to ‘Build a Resilient Joint Force’ through the development of more efficient capabilities to develop, test and evaluate aircraft survivability against kinetic and non-kinetic threats. The JCAT will continue to support the Air Force, Army, Marine Corps and Navy by assessing combat damage incidents, training operators on threat effects and combat damage assessment, and reporting their findings to combatant commanders and the DoD science and technology and acquisition communities. The JASP will continue supporting aircraft survivability education and information exchange through internet sites (restricted access and classified), by publishing the Aircraft Survivability Journal,			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
Appropriation/Budget Activity 0460 / 6	**R-1 Program Element (Number/Name)** PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)*	**Project (Number/Name)** 000311 / *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
developing educational materials and conducting training for the DoD and their contractors. The JASP will initiate, continue and complete other projects as approved by the JASP Principal Members Steering Group and OSD/DOT&E. JTCG/ME In FY 2023, JTCG/ME plans to finish JMEM Weaponeering Software (JWS) v3.0 capabilities plugin allowing a combined JWS/ Digital Exploitation Engine (DIEE) v3.0 product, allowing DIEE to directly call the Tri-service approved weaponeering calculations engine to support Advanced Target Development (ATD) functions (weaponeering, CDE, target coordinate mensuration (TCM)) at CCMD level in accordance with Joint Staff Policy. Development events include Technical Previews (TPs) to finish JWS/DIEE v3.0 and transition to JWS/DIEE v3.1 development. JTCG/ME plans to develop/accredit Collateral Effects Radii (CER) reference tables for latest weapons inventory in accordance with the latest CJCSI 3160.01, “No-Strike and the CDE Methodology” for air-to-surface and surface-to-surface weapons, which are the basic data that support the CDE methodology implemented in DIEE. JTCG/ME will host JMEM training sessions, OUWGs, and user help desk. FY will include ~40 training sessions with ~400 students. JTCG/ME will collect user requirements and product use cases, to process and codify in capability needs statements used for planning and JMEM product development. JTCG/ME will continue to support/deliver reachback analysis packages for collateral damage mitigation, post-forensic, and force protection analyses packages to operational users for high value targets in current operations. JTCG/ME plans to facilitate coalition interoperability and information exchange agreement (IEA) forums. JTCG/ME will continue to support/deliver JWS version releases and Probability of Kill Lookup tools (PKLUTs) to multiple key coalition partners in support of current operations under Foreign Military Sales (FMS). JTCG/ME plans to continue to enhance Joint Effects Library (JEL) and Joint Analysis Repository and Visual Interface System (JARVIS) capabilities to serve as the foundation of JTCG/ME product line Tri-service approved methodology/data. JTCG/ME will continue the Enhanced Weaponeering and CDE testing program supporting improvements in weaponeering and CDE methodology to minimize risk to mission and friendly forces, while not increasing risk of collateral damage. The program provides foundational data for the development of higher fidelity predictive tools.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
JTCG/ME will continue the multi-year effort to improve Battle Damage Assessment (BDA), enabling credible post-strike analysis to ensure Commander's intent has been achieved in accordance with Chairman of the Joint Chiefs of Staff Manual. JTCG/ME continues to collect BDA data to not only analyze strikes and inform reach back support, but also to support weaponeering tool training and expenditure analysis. Efforts will continue automated data collection tools for strikes and store in Joint Battle Damage Analysis Repository (JBAR). JTCG/ME will support fielded J-ACE v5.4, which includes multiple training/ user forums. These forums are pivotal for J-ACE developers to understand requirements and align development with other external debrief/analytical capabilities that use J-ACE as the underlying analytical engine for underpinning results and enabling air combat Tactics, Techniques, and Procedures (TTP) development at test and training ranges. JTCG/ME has plans to develop/field J-ACE v6.0. The new J-ACE v6.0 product line will leverage Air Combat Effectiveness Library (ACEL) v1.0 capabilities. The architecture allows for greater leveraging/ sharing of Service and Intel community based model and simulation capabilities. J-ACE v6.0 will include new data sets/models and initial rotary wing, low altitude combat weapons, and high-fidelity air-to-air missile (AAM) modeling capabilities. JTCG/ME will continue to enhance Cyber JMEM capabilities in new versions of Cyberspace Operations Lethality and Effectiveness (COLE) tool and deployment gateway, to include collecting requirements from OUWGs, such as greater automation, pattern of life analysis, user experience, and connection to other JMEMs for greater all domain capability. A continued focus will continue to be expanding user base, as well as leveraging other Cyber T&E assessments. JTCG/ME plans to support fielding the Joint Laser Weaponeering Software (JLaWS) tool v2.0, and develop/field the JLaWS tool v3.0 to include new weapon systems, target vulnerability characterization, and enhancements from continued test and analytical events. Increase connectivity to other JMEMs for greater all domain capability. JTCG/ME will be involved in the development and fielding of the High-Power Microwave (HPM) Weaponeering Software (HPMWS) v1.0, with plans to develop HPMWS v2.0 to include enhancements from HPM lethality testing, target vulnerability analysis, and data collection. JTCG/ME will develop EMS Fires & JMEM capabilities to include fielding of initial Joint Electronic Attack (EA) Prediction (JEAP) tool v1.0, as well as refining EA effectiveness (offensive jamming) data standards, collect/approve data, enhance capabilities, and user community requirements. ***FY 2024 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
Appropriation/Budget Activity 0460 / 6	**R-1 Program Element (Number/Name)** PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)*	**Project (Number/Name)** 000311 / *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
JLF The FY 2024 budget will continue to align with DOT&E's S&T Strategic Plan/Update, NDS objectives, and the Secretary of Defense's priorities. It will support a more lethal force by increasing the accuracy and capability of critical M&S tools to support T&E efficiency and ensure credibility of DOD assessments and weaponeering tools. The FY 2024 program will continue to focus on multi-year initiatives such as VV&A standardization through collaborative efforts with the Department of Energy (DOE) national labs that incudes model uncertainty quantification and experimentation measurement uncertainty, warhead lethality, data analytics, and further expand non-kinetic efforts beyond cyber to include EW effects. JLF efforts will also resolve survivability and lethality related system design challenges of currently fielded U.S. systems while maintaining awareness of LFT&E challenges across all air, ground, and sea domains. Finally, JLF will continue to lead innovation in LFT&E methods to increase LFT&E efficiency and support rapid fielding. JASP In FY 2024, the JASP will continue work on multi-year RDT&E projects and initiate new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. The JASP will support the NDS objectives to "Defend the Homeland" and "Prevail in Conflict Worldwide" by developing measures to improve threat situational awareness, defeat adversary advanced radio frequency and infrared guided threats, and provide quantifiable improvements in digital and hardware-in-the-loop M&S capability and credibility. Improve aircraft force protection by advancing system hardening against kinetic and non-kinetic threats. Support the NDS objective to 'Build a Resilient Joint Force' by funding the development of more efficient capabilities to advance, test and evaluate aircraft survivability against kinetic and non-kinetic threats. The JCAT will continue to support the Air Force, Army, Marine Corps, and Navy by assessing combat damage incidents, training operators on threat effects and combat damage assessment, and reporting their findings to combatant commanders and the DOD science and technology and acquisition communities. The JASP will continue supporting aircraft survivability education and information exchange through internet sites (restricted access and classified), by publishing the Aircraft Survivability Journal, developing educational materials and conducting training for the DOD and their contractors. The JASP will initiate, continue and complete other projects as approved by the JASP Principal Members Steering Group and OSD/DOT&E. JTCG/ME In FY 2024, JTCG/ME plans to support the development of JWS/DIEE v3.1 capabilities to support ATD (Weaponeering, CDE, TCM) at CCMD level in accordance with Joint Staff Policy. JTCG/ME development events will include TPs to finish JWS/DIEE v3.1 and transition to JWS/DIEE v3.2 capability development.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
JTCG/ME will work to develop/accredit CER reference tables for current weapons inventory and in accordance with the latest CJCSI 3160.01, “No-Strike and the CDE Methodology” for air-to-surface and surface-to-surface weapons. JTCG/ME plans to support/host JMEM training sessions, OUWGs, and User help desk. Support ~40+ training sessions with about 400+ students. There is expected increase in training due new JWS/DIEE v3.0 and J-ACE v6.0 fielding in FY23. JTCG/ME will collect User requirements and product use cases, to support JMEM product development. JTCG/ME will continue to support/deliver reach back analysis packages for collateral damage mitigation, post-forensic, and force protection analyses packages to operational Users for high value targets in current operations. JTCG/ME plans to facilitate coalition interoperability and IEA forums. JTCG/ME will continue to support/deliver JWS version releases and standalone PKLUTs to multiple key coalition partners in support of current operations under FMS. JTCG/ME will enhance JEL and JARVIS capabilities that serve as the foundation of Tri-service approved methodology and data. JTCG/ME plans to continue to support Enhanced Weaponeering and CDE Program improving weaponeering and CDE methodology. FY efforts will continue to foster coordination for gaps and priorities. Data from the multiple tests will be transitioned for enhancing, developing, and validating methodology used in JMEM products and T&E efforts. JTCG/ME will continue the multi-year program intended to improve BDA. FY 2024 efforts will enhance automated data collection, DIEE/STARLORD front end interface, and JBAR. JTCG/ME plans to support fielded J-ACE v6.0, which includes multiple training and OUWGs. Develop J-ACE v6.1 leveraging ACEL v2.0 capabilities that will include increased data sets and more enhancements for rotary wing, low altitude combat weapons, and high-fidelity AAM modeling capabilities. JTCG/ME will continue enhancement of Cyber JMEM capabilities in new versions of COLE tool and deployment gateway, to include collecting requirements at OUWGs and enhancing User experience. JTCG/ME will support fielded JLaWS tool v3.0. Develop/field JLaWS tool v4.0 to include new weapon systems, target vulnerability characterization, and enhancements from continued test and analytical events.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
Appropriation/Budget Activity 0460 / 6	**R-1 Program Element (Number/Name)** PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)*	**Project (Number/Name)** 000311 / *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
JTCG/ME will also support fielded HPMWS v2.0, and develop/field HPMWS v3.0 to include enhancements from HPM lethality testing, target vulnerability analysis, and data collection. JTCG/ME will support fielded JEAP v1.0. Develop JEAP tool v2.0, as well as refining EA effectiveness (offensive jamming) data standards, collect/approve data, enhance capabilities, and OUWGs. JTCG/ME will continue multi-year program support for JTIM and enhancements for maritime weaponeering tools. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding reflects inflation cost growth in programs			
Accomplishments/Planned Programs Subtotals	68.549	98.753	103.252

	FY 2022	FY 2023
Congressional Add: Program Increase: Lab and Test Range Upgrades	35.000	-
FY 2022 Accomplishments: The FY 2022 Congressional Add increased funding for OT&E investments in test infrastructure to demonstrate new capabilities under operationally relevant conditions against realistic threats for lab and test range upgrades in the following domains: space, electromagnetic spectrum, hypersonics, and targets. In FY22 DOT&E kicked off initiatives to: 1. Verify, validate and accredit modeling and simulation tools that will provide a virtual environment to complement the physical ranges and enable evaluation of aircraft defensive systems against enemy radar-guided and infrared guided missile threats. 2. Verify, validate and accredit modeling and simulation capabilities to evaluate lethality effects, delivery accuracy and collateral damage effects unique to hypersonic weapons. 3. Deliver capability to evaluate the lethal effects of high energy lasers and high power microwave (HPW) – characterize the beam, effect on targets, increased mobility of the equipment. 4. Develop modeling and simulation capabilities applicable to space targets. Develop space target data required for verification, validation and accreditation of digital technologies and modeling and simulation capabilities. Delivered data and capabilities will support development of joint policy and requirements.		
Congressional Add: Program Increase: Test Capabilities Acceleration - Electromagnetic Spectrum	-	41.000
FY 2023 Plans: Congressional add funding provides test capabilities acceleration for the development of radar emulators, testing capabilities in 5G environment, and the modernization of laboratories and digital technologies		

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
Appropriation/Budget Activity 0460 / 6	**R-1 Program Element (Number/Name)** PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)*	**Project (Number/Name)** 000311 / *LFT&E*

	FY 2022	FY 2023
to include high-fidelity hardware and modeling and simulation to support credible evaluation of countermeasures effectiveness.		
Congressional Add: Program Increase: Test Capabilities Acceleration - Hypersonics ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration for the delivery of several hypersonic test capabilities and continues the development and validation of digital technologies in support of hypersonic operational effectiveness, lethality evaluations, and weaponeering tools.	-	10.000
Congressional Add: Program Increase: Test Capabilities Acceleration - Space Systems ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration to deliver additional modalities for space system weaponeering capabilities, collateral damage estimation, and support full spectrum space survivability and lethality evaluations.	-	15.000
Congressional Add: Program Increase: Test Capabilities Acceleration - Data Management ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration in the development and implementation of enterprise-level T&E data management solutions and accelerate the use of digital technologies in T&E.	-	3.200
Congressional Adds Subtotals	35.000	69.200

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Operational Test and Evaluation, Defense	Date: March 2023
Appropriation/Budget Activity 0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605814OTE / *Operational Test Activities and Analyses*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	113.133	67.648	144.590	58.693	-	58.693	59.477	59.455	60.226	61.431	Continuing	Continuing
000920: *OTA&A*	113.133	67.648	144.590	58.693	-	58.693	59.477	59.455	60.226	61.431	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Operational Test Activities and Analyses (OTA&A) programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DOD). The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Test and Evaluation Threat Resource Activity (TETRA); and Center for Countermeasures (CCM).

JT&E projects are T&E activities conducted in a joint military environment that develop process improvements. These multi-Service projects, chartered by the Office of the Secretary of Defense and coordinated with the Joint Staff, CCMDs, and the Services, provide non-materiel solutions that improve the following: joint interoperability of Service systems, technical and operational concepts, joint operational issues, development and validation of joint test methodologies, and test data for validating models, simulations, and test beds. New projects are also encouraged to align their efforts to support the National Defense Strategy (NDS). The JT&E projects address relevant joint warfighting issues in a joint test and evaluation environment by developing and providing new tactics, techniques, and procedures to improve joint capabilities and methodologies.

TETRA, based on a memorandum of agreement between the DOT&E and the Defense Intelligence Agency, provides DOT&E support in the areas of threat resource analysis, intelligence support and threat systems investments. As DOT&E's agent, TETRA provides threat resource analyses on the availability, capabilities and limitations of threat representations (threat simulators, targets, models, U.S. surrogates, and foreign materiel) and analysis of test resources used for operational testing to support DOT&E's assessment of the adequacy of testing for those programs designated for oversight by DOT&E and the Office of the Under Secretary of Defense Acquisition and Sustainment. TETRA provides DOT&E action officers and other DOT&E activities with program-specific threat intelligence support. TETRA also funds management, oversight, and the actual development of common-use threat specifications for threat simulators, threat representative targets, and digital threat models used for T&E.

CCM, a Joint Service Countermeasure (CM) T&E activity, directs, coordinates, supports, and conducts independent countermeasure/counter-countermeasure (counter-CM) T&E activities of U.S. and foreign weapon systems, subsystems, sensors, and related components. CCM accomplishes this work in support of DOT&E, weapon system developers, and the Services.

CCM's testing and analyses directly supports evaluations of the operational effectiveness and suitability of CM/counter-CM systems, such as aircraft survivability equipment (ASE) used on rotary-wing and fixed-wing aircraft. CCM's mission to support T&E of ASE enables the survivability of aircraft in a high threat environment to enable mission success. In addition, CCM provides test support for Directed Energy Weapons (DEW) and Counter-Unmanned Aircraft Systems (C-UAS) programs. CCM improves Service member exercises, training, and pre-deployment activities with expertise in CM/counter-CM technology and capabilities. Also, cooperative Allied efforts are supported in the areas of ASE T&E, DEW T&E, and threat M&S development.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Operational Test and Evaluation, Defense	Date: March 2023
Appropriation/Budget Activity 0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605814OTE / *Operational Test Activities and Analyses*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	42.648	57.718	58.693	-	58.693
Current President's Budget	67.648	144.590	58.693	-	58.693
Total Adjustments	25.000	86.872	0.000	-	0.000
• Congressional General Reductions	-	-1.028			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	25.000	87.900			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 000920: *OTA&A*		
Congressional Add: *Program Increase: Lab and Test Range Upgrades*	25.000	-
Congressional Add: *Program Increase: Test Capabilities Acceleration - Directed Energy*	-	7.500
Congressional Add: *Program Increase: Test Capabilities Acceleration - Space Systems*	-	7.500
Congressional Add: *Program Increase: Test Capabilities Acceleration - Targets*	-	25.000
Congressional Add: *Program Increase: Test Capabilities Acceleration - Data Management*	-	16.400
Congressional Add: *Program Increase: Test Capabilities Acceleration - Artificial Intelligence*	-	17.500
Congressional Add: *Program Increase: Test Capabilities Acceleration - AI/Autonomous Systems*	-	6.000
Congressional Add: *Program Increase: Test Capabilities Acceleration - Innovation Hub*	-	8.000
Congressional Add Subtotals for Project: 000920	25.000	87.900
Congressional Add Totals for all Projects	25.000	87.900

Change Summary Explanation

No change in this program element from FY 2023 President's Budget submission.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense			Date: March 2023
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / *Operational Test Activities and Analyses*	Project (Number/Name) 000920 / *OTA&A*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
000920: *OTA&A*	113.133	67.648	144.590	58.693	-	58.693	59.477	59.455	60.226	61.431	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Operational Test Activities and Analyses (OTA&A) programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DOD). The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Test and Evaluation Threat Resource Activity (TETRA); and Center for Countermeasures (CCM).

JT&E projects are T&E activities conducted in a joint military environment that develop process improvements. These multi-Service projects, chartered by the Office of the Secretary of Defense and coordinated with the Joint Staff, CCMDs, and the Services, provide non-materiel solutions that improve the following: joint interoperability of Service systems, technical and operational concepts, joint operational issues, development and validation of joint test methodologies, and test data for validating models, simulations, and test beds. New projects are also encouraged to align their efforts to support the National Defense Strategy (NDS). The JT&E projects address relevant joint warfighting issues in a joint test and evaluation environment by developing and providing new tactics, techniques, and procedures to improve joint capabilities and methodologies.

TETRA, based on a memorandum of agreement between the DOT&E and the Defense Intelligence Agency, provides DOT&E support in the areas of threat resource analysis, intelligence support and threat systems investments. As DOT&E's agent, TETRA provides threat resource analyses on the availability, capabilities and limitations of threat representations (threat simulators, targets, models, U.S. surrogates, and foreign materiel) and analysis of test resources used for operational testing to support DOT&E's assessment of the adequacy of testing for those programs designated for oversight by DOT&E and the Office of the Under Secretary of Defense Acquisition and Sustainment. TETRA provides DOT&E action officers and other DOT&E activities with program-specific threat intelligence support. TETRA also funds management, oversight, and the actual development of common-use threat specifications for threat simulators, threat representative targets, and digital threat models used for T&E.

CCM, a Joint Service Countermeasure (CM) T&E activity, directs, coordinates, supports, and conducts independent countermeasure/counter-countermeasure (counter-CM) T&E activities of U.S. and foreign weapon systems, subsystems, sensors, and related components. CCM accomplishes this work in support of DOT&E, weapon system developers, and the Services.

CCM's testing and analyses directly supports evaluations of the operational effectiveness and suitability of CM/counter-CM systems, such as aircraft survivability equipment (ASE) used on rotary-wing and fixed-wing aircraft. CCM's mission to support T&E of ASE enables the survivability of aircraft in a high threat environment to enable mission success. In addition, CCM provides test support for Directed Energy Weapons (DEW) and Counter-Unmanned Aircraft Systems (C-UAS) programs. CCM improves Service member exercises, training, and pre-deployment activities with expertise in CM/counter-CM technology and capabilities. Also, cooperative Allied efforts are supported in the areas of ASE T&E, DEW T&E, and threat M&S development.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Operational Test Activities and Analyses (OTA&A)	42.648	56.690	58.693

Description: OTA&A programs are continuing efforts that provide management and oversight of T&E functions and expertise to the DOD. The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Test and Evaluation Threat Resource Activity (TETRA); and, the Center for Countermeasures (CCM).

FY 2023 Plans:
JT&E

In FY 2023, JT&E plans to start one new Joint Test project and five new Quick Reaction Test projects. Once the program's funding stream stabilizes, JT&E plans to convene senior leader boards to find efficiencies in the program's processes and start new projects that address relevant joint warfighting issues in a joint test and evaluation environment. The Joint Integrated Fire Control – Directed Energy Weapons for Air Defense Joint Test closed in October 2022. It developed and tested a concept of employment to integrate directed energy weapons systems with kinetic weapons systems to provide a layered defense against a mix of air threats in the defense of critical assets. Four Quick Reaction Test projects that started in FY 2022 will continue through FY 2023.

TETRA

In FY 2023, TETRA will continue test planning working group participation and perform technical analyses to identify threat shortfalls; aligns with the NDS requirements; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisitions based on the availability of funding. TETRA will:
- Continue to create standard operating procedures for DOT&E Action Officer intelligence support to reduce risk and capability.
- Execute initiatives that directly influence or improve the areas of software intensive systems and cybersecurity by moving to Digital engineering via accredited models and simulation while continuing to "Shift Left" with integrated developmental and operational testing. TETRA plans to improve the Test Environments of growing importance on Human-System Interaction and adapting T&E for emergent technologies.
- Execute initiatives to understand and develop test capability for emerging technologies, T&E infrastructure, tools and processes for emerging capabilities and threats (space, hypersonics, directed energy, artificial intelligence, machine learning, infrared and radio frequency, 5th Generation Aerial Target (5GAT), automated & autonomous cybersecurity testing, neural networks to address current and potential threats.
- Continue to support the reduction in acquisition and test timelines while increasing test capabilities against Great Power threats.

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue to foster rapid technological advancements in the areas of threat representation for T&E and threat test resources by incorporating innovative technologies from the intelligence community into threat test assets to provide improved test fidelity and performance with cost savings. - Continue identifying initiatives to improve cyberspace threat representation and prediction, cyber-economic threats to DOD systems and scalable cyberspace threat test environments that can interface with cyber test networks; and to conduct offensive cyber operations (OCO) and defensive cyber operations (DCO) without significantly impacting critical operational capabilities. - Complete the development of an Advanced Satellite Navigation Receiver (ASNR) for an open service Global Positioning System / Inertial Measurement Unit (GPS/IMU) coupled high-fidelity, high dynamic next generation Time Space Position Information (TSPI) system to support future missile tests and Joint Standard Instrumentation Suite (JSIS) flight testing. - Develop and build threat representative decoys and shells to support tests conducted on the ranges. - Complete development of cognitive radar definition and white paper to develop model for testing against advanced cognitive radar threats. - Continue to pursue initiatives for improving satellite and space threat representations and developing alternatives for conducting threat realistic operational testing in response to environmental limitations. - Continue to support the U.S. warfighter by providing threat intelligence relevant to emerging threats such as artificial intelligence, autonomy, robotics, directed energy, hypersonic and biotechnology to ensure operational and developmental testing occurs against realistic threat representations, including (but not limited to) threats from both revisionist powers such as China and Russia threats from rogue regimes such as North Korea and Iran, and threats from non-state actors. - Continue to conduct threat intelligence investigations that support use of innovative technologies in the areas of artificial intelligence AI, autonomy, robotics, machine learning, quantum computing, lasers, nanotechnology, chemical and biological, directed energy, hypersonic and biotechnology being developed by nation states to improve threat representation in the contested domain of air, land, sea, space and cyberspace. - Continue to support initiatives for the development of Great Power threat representative jammers, for use in terrain constricted tests as a directional active electronically steered array jammer that will limit Federal Aviation Administration and other common jammer restrictions/acceptance/endorsement for T&E use. - Continue to sustain and manage threat M&S to support test and evaluation by overseeing and coordinating intelligence community developed threat models, performing threat model anomaly resolution resolving differences from live fire testing, integrating threat models into T&E facilities and distributing performance and signature models to T&E users. - Continue to represent DOT&E at foreign material exchanges, inter-agency coordinating groups, and non-proliferation groups to raise awareness of T&E needs for foreign materiel, coordinate service requirements, and de-conflict and prioritize foreign materiel requirements for T&E. - Continue to provide intelligence support to DOT&E staff to address specific questions on threat systems affecting programs on the OSD T&E Oversight list and provide briefings and special intelligence reports when necessary.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue providing DOT&E representative support at the Threat Steering Group (TSG) in support of the Validated Online Lifecycle Threat (VOLT) Report process. - Continue to represent DOT&E interests on the Intelligence Acquisition Agility Working Group (IAAWG) and the Intelligence Mission Data Oversight Board responsible for development, production and sharing issues affecting the intelligence data supporting weapons systems acquisition. - Continue to serve DOT&E's interests on the Executive Steering Group (ESG) and provide access to the Intelligence Mission Data Management Analysis & Reporting System (IMARS). - Continue to manage Integrated Technical Evaluation and Analysis of Multiple Sources (ITEAMS) efforts supporting programs on the OSD Oversight T&E List by conducting intelligence "deep dives" to produce intelligence in sufficient detail to develop new threat test assets/threat systems for T&E. - Continue the independent review of validation reports to ensure the correct threat data and critical parameters are presented in the reports to assess the threat representations' capabilities to replicate a real-world threat system. - Continue to provide threat intelligence and validation support at the Joint Aircraft Survivability Program (JASP) reviews to ensure there is no duplication of effort and independently ensure the correct threat data and critical parameters are presented to assess the real-world threat representations. - Continue to serve as the T&E Resources and Infrastructure Working Group (RIWG) DOT&E lead for targets and threat systems investments. - Continue to serve as the DOT&E agent for oversight in the coordination, development and execution of all Test Resource Management Center (TRMC)-funded projects within RIWG's Strategic & Foundational Portfolios and legacy project investments. - Continue reviewing Threat Systems investments to prevent any duplication of effort and encourage cost savings by the sharing or multi-service use of newly developed threat representations to T&E. - Continue leading Allied / NATO initiatives, tests, intelligence, and modeling & simulation collaborative capability. Threat Systems will continue its efforts to improve significantly the standards set of threat performance models as the global threat environment evolves. These activities help DOT&E carry out its Title 10 responsibilities to assess test adequacy and determine whether testing is threat realistic and suitable, promotes common solutions to Service threat representation needs and ultimately supports the warfighter. CCM CCM will emphasize support of the DOT&E enterprise, with a clear focus on Title 10 oversight programs, ASE, DEW, C-UAS, and warfighter training events. CCM expects to increase focus on additional DOD critical technology areas that may have T&E gaps, which will contribute to the testing of future weapons and the understanding of emerging threats. CCM will support the DOT&E Space Electronic Warfare (EW) and Cyber Working Group. CCM's ability to provide unique test equipment and expertise will			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
remain a benefit to all Services, and the ongoing Improvement and Modernization plans will ensure test capabilities are provided at a cost savings across the DOD. Additional instrumentation, personnel, and training will be key to ensuring our ongoing test support continues to add significance in emerging technology areas. CCM will build critical test and evaluation capabilities and the workforce necessary to evaluate emerging war fighting technologies. This includes mobile, open-air data collection and analysis capabilities that will support the T&E of the rapid prototyping and fielding needs of these systems. The mobile test capability will allow T&E of operational representative test scenarios in an open-air environment to support the accelerated development and fielding of CM systems within the DoD. ***FY 2024 Plans:*** JT&E In FY 2024, JT&E plans to start one new Joint Test project and five new Quick Reaction Test projects. JT&E plans to close the five Quick Reaction Test projects that started in FY 2023. One Joint Test project expected to start in FY 2023 will continue through FY 2024. TETRA In FY 2024, TETRA will continue test planning working group participation and perform technical analyses to identify threat shortfalls; aligns with the NDS requirements; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisitions based on the availability of funding. TETRA will: - Continue to create standard operating procedures for DOT&E Action Officer intelligence support to reduce risk and capability. - Execute initiatives that directly influence or improve the areas of software intensive systems and cybersecurity by moving to Digital engineering via accredited models and simulation while continuing to “Shift Left” with integrated developmental and operational testing. TETRA plans to improve the Test Environments of growing importance on Human-System Interaction and adapting T&E for emergent technologies. - Execute initiatives to understand and develop test capability for emerging technologies, T&E infrastructure, tools and processes for emerging capabilities and threats (space, hypersonics, directed energy, artificial intelligence, machine learning, infrared and radio frequency, 5th Generation Aerial Target (5GAT), automated & autonomous cybersecurity testing, neural networks to address current and potential threats. - Continue to support the reduction in acquisition and test timelines while increasing test capabilities against Great Power threats. - Continue to foster rapid technological advancements in the areas of threat representation for T&E and threat test resources by incorporating innovative technologies from the intelligence community into threat test assets to provide improved test fidelity and performance with cost savings.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Operational Test and Evaluation, Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue identifying initiatives to improve cyberspace threat representation and prediction, cyber-economic threats to DoD systems and scalable cyberspace threat test environments that can interface with cyber test networks; and to conduct OCO and DCO without significantly impacting critical operational capabilities. - Continue to develop and build threat representative decoys and shells to support tests conducted on the ranges. - Support initiatives based on the cognitive radar definition results of the white paper study to develop models for testing against advanced cognitive radar threats. - Continue to pursue initiatives for improving satellite and space threat representations and developing alternatives for conducting threat realistic operational testing in response to environmental limitations. - Continue to support the US warfighter by providing threat intelligence relevant to emerging threats such as artificial intelligence, autonomy, robotics, directed energy, hypersonic and biotechnology to ensure operational and developmental testing occurs against realistic threat representations, including (but not limited to) threats from both revisionist powers such as China and Russia threats from rogue regimes such as North Korea and Iran, and threats from non-state actors. - Continue to conduct threat intelligence investigations that support use of innovative technologies in the areas of artificial intelligence, autonomy, robotics, machine learning, quantum computing, lasers, nanotechnology, chemical and biological, directed energy, hypersonic and biotechnology being developed by nation states to improve threat representation in the contested domain of air, land, sea, space and cyberspace. - Continue to support initiatives for the development of Great Power threat representative jammers, for use in terrain constricted tests as a directional active electronically steered array jammer that will limit Federal Aviation Administration and other common jammer restrictions/acceptance/endorsement for T&E use. - Continue to sustain and manage threat M&S to support test and evaluation by overseeing and coordinating intelligence community developed threat models, performing threat model anomaly resolution resolving differences from live fire testing, integrating threat models into T&E facilities and distributing performance and signature models to T&E users. - Continue to represent DOT&E at foreign material exchanges, inter-agency coordinating groups, and non-proliferation groups to raise awareness of T&E needs for foreign materiel, coordinate service requirements, and de-conflict and prioritize foreign materiel requirements for T&E. - Continue to provide intelligence support to DOT&E staff to address specific questions on threat systems affecting programs on the OSD T&E Oversight list and provide briefings and special intelligence reports when necessary. - Continue to provide DOT&E representation at the Threat Steering Group (TSG) in support of the Validated Online Lifecycle Threat (VOLT) Report process. - Continue to represent DOT&E interests on the IAAWG and the Intelligence Mission Data Oversight Board responsible for development, production and sharing issues affecting the intelligence data supporting weapons systems acquisition. - Continue to serve DOT&E's interests on the ESG and provide access to the IMARS. - Continue to manage ITEAMS efforts supporting programs on the OSD Oversight T&E List by conducting intelligence "deep dives" to produce intelligence in sufficient detail to develop new threat test assets/threat systems for T&E.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue the independent review of validation reports to ensure the correct threat data and critical parameters are presented in the reports to assess the threat representations' capabilities to replicate a real-world threat system. - Continue to provide threat intelligence and validation support at the JASP reviews to ensure there is no duplication of effort and independently ensure the correct threat data and critical parameters are presented to assess the real-world threat representations. - Continue serving as the T&E RIWG DOT&E lead for targets and threat systems investments. - Continue serving as the DOT&E agent for oversight in the coordination, development and execution of all TRMC-funded projects within RIWG's Strategic & Foundational Portfolios and legacy project investments; review Threat Systems investments to prevent any duplication of effort and encourage cost savings by the sharing or multi-service use of newly developed threat representations to T&E. - Continue to lead Allied / NATO initiatives, tests, intelligence, and modeling & simulation collaborative capability. Threat Systems will continue its efforts to significantly improve the standards set of threat performance models as the global threat environment evolves. These activities help DOT&E carry out its Title 10 responsibilities to assess test adequacy and determine whether testing is threat realistic and suitable, promotes common solutions to Service threat representation needs and ultimately supports the warfighter. The Center for Countermeasures (CCM) In FY 2024, while continuing to support the T&E of ASE, DEW, C-UAS, and warfighter training events, CCM will evaluate its current capabilities and test instrumentation gaps in high priority technology areas for possible solutions to support future T&E modernization. CCM will continue to work with the DOT&E Resource and Infrastructure Working Group and the Test Resource Management Center to identify test capability gaps and propose solutions. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding reflects inflation cost growth in programs			
Accomplishments/Planned Programs Subtotals	42.648	56.690	58.693

	FY 2022	FY 2023
Congressional Add: Program Increase: Lab and Test Range Upgrades	25.000	-
FY 2022 Accomplishments: The FY 2022 Congressional Add increased funding for OT&E investments in test infrastructure to demonstrate new capabilities under operationally relevant conditions against realistic threats for lab and test range upgrades in the following domains: directed energy and targets. In FY22 DOT&E kicked off initiatives to:		

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	FY 2022	FY 2023
Deliver verified and validated adversary threat surrogates accredited for use in T&E (ballistic missiles, surface-to-air missiles, torpedoes). Deliver verified and validated digital tool capability to enable evaluation of lethal effects against adversary maritime targets.		
Congressional Add: Program Increase: Test Capabilities Acceleration - Directed Energy ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration for the development of instrumentation needed to evaluate high power microwave (HPM) systems and emerging higher beam powers.	-	7.500
Congressional Add: Program Increase: Test Capabilities Acceleration - Space Systems ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration to deliver additional modalities for space system weaponeering capability, collateral damage estimation, and support full spectrum space survivability and lethality evaluations.	-	7.500
Congressional Add: Program Increase: Test Capabilities Acceleration - Targets ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration to develop aerial target capabilities, extend the undersea training range capabilities, and accelerate the development of the next phase of threat specific and threat capable models for the purposes of operational and live fire T&E.	-	25.000
Congressional Add: Program Increase: Test Capabilities Acceleration - Data Management ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration for the development and implementation of enterprise-level T&E data management solutions and accelerate the use of digital technologies in T&E.	-	16.400
Congressional Add: Program Increase: Test Capabilities Acceleration - Artificial Intelligence ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration for the technology and infrastructure development, as well as T&E methods, tools and processes to support artificially intelligent-reliant cognitive electronic warfare systems models development.	-	17.500
Congressional Add: Program Increase: Test Capabilities Acceleration - AI/Autonomous Systems ***FY 2023 Plans:*** Congressional add funding provides test capabilities acceleration for the technology and infrastructure development, as well as T&E methods, tools and processes to support artificial intelligence/ autonomous systems test and evaluation.	-	6.000
Congressional Add: Program Increase: Test Capabilities Acceleration - Innovation Hub	-	8.000

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	FY 2022	FY 2023
FY 2023 Plans: Congressional add funding provides test capabilities acceleration for the DOT&E FY22 Strategy Plan which will address software and cyber related T&E challenges by increasing the cyber survivability posture, effectiveness, suitability, and survivability of software reliant systems.		
Congressional Adds Subtotals	25.000	87.900

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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