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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>
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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	-	50.669	50.066	49.613	0.000	49.613	54.326	54.937	56.322	58.326	Continuing	Continuing
675066: <i>Anti-Tamper Technology Executive Agent</i>	-	50.669	50.066	49.613	0.000	49.613	54.326	54.937	56.322	58.326	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): N42

A. Mission Description and Budget Item Justification

The Anti-Tamper (AT) Technology Executive Agency budget funds activities related to the DoD Executive Agent for AT (ATEA) responsibilities required by DoD Directive 5200.47E, "Anti-Tamper (AT)." These responsibilities are unique to the DoD ATEA and the Air Force Component Office of Primary Responsibility (OPR) for AT. The DoD ATEA is responsible for developing and enforcing AT policy and guidance, assessing AT technologies (hardware and software), maintaining and developing new AT technology products and assessment capabilities, maintaining and maturing AT laboratory equipment and infrastructure, establishing and maintaining a library of AT technologies, providing security guidance and support mechanisms, providing outreach and education to the DoD AT community, providing intelligence support, and evaluating AT implementations across all DoD acquisition programs, foreign military sales (FMS), and direct commercial sales (DCS). The AF OPR for AT evaluates AT on applicable AF acquisition programs, FMS, and DCS as well as manages AF AT technology development.

AT directly enables CPI resilience. AT protects critical program information (CPI), also known as Technology Advantage Elements (TAE), in U.S. weapon systems that are no longer under U.S. control (e.g., lost/left on the battlefield or sold to a foreign government) from hands-on, reverse engineering (RE) attacks. AT protections enable the U.S. to preserve its technological advantage and the combat capabilities of critical weapons systems while supporting the warfighters' mission requirements. Furthermore, AT adds longevity to DoD weapon systems by deterring or delaying RE attacks, and thus reducing an adversaries' ability to obtain the CPI and/or develop weapon countermeasures against the system. All DoD acquisition programs, FMS, and DCS with CPI require a validated AT Plan.

The AT program includes resources required for subject matter experts (SMEs) to evaluate AT Plans and conduct AT validation on all DoD Weapon Systems. Additionally, the AT program provides resources for SMEs to perform AT assessments of both commercial off the shelf (COTS), contractor funded government only use (CFGO) and government off the shelf (GOTS) products. As the COTS, CFGO and GOTS technologies advance, the AT program includes the resources required to mature AT hardware/software assessment capabilities. These capabilities include the acquisition of specialized equipment, maintenance and/or renovations to support the integration of this equipment, and modifications to new and/or existing laboratory facilities to meet equipment and security requirements.

The DoD ATEA coordinates technology development among the DoD Services/Agencies, National Laboratories, and Industry. These technology development efforts fund development of new AT technology, as well as enhance existing AT technology efforts to increase the technology readiness level (TRL) and facilitate transition for programs to implement. The AT technology development and enhancement efforts include: advanced AT sensor hardware, secure processing, crypto-analysis, tamper penalties, modifying and developing technology to address vulnerability and susceptibility of fielded parts, and other AT enablers.

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The Air Force AT OPR conducts AT technology and product development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems. Technology and product development priorities are given to those technologies/products that most benefit AF acquisition programs while aligning to the overall DoD ATEA technology and product development strategy. These activities are coordinated through the ATEA as a part of the ATEA technology and product development roadmap and to coordinate with Navy and Army AT technology development efforts.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 \$1.9M was expended for civilian pay expenses in this program element and in FY23 \$2.8M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	51.492	50.066	53.561	0.000	53.561
Current President's Budget	50.669	50.066	49.613	0.000	49.613
Total Adjustments	-0.823	0.000	-3.948	0.000	-3.948
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.823	0.000			
• Other Adjustments	0.000	0.000	-3.948	0.000	-3.948

Change Summary Explanation

The FY 2024 President's Budget submittal was reduced \$3.948M from the FY 2023 submission due to DAF execution review.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Title: DoD Anti-Tamper Technology Executive Agent (DoD ATEA)	37.829	36.686	35.298
Description: AT technology and product development/coordination and evaluations, hardware/software vulnerability assessments, capability development, laboratory equipment and infrastructure improvements; outreach and education to the AT Community, AT implementation validation and evaluation as well as AT policy development.			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>FY 2023 Plans: - Continue to validate and evaluate AT implementations on all DoD Acquisition programs; initiate early product development activities to include studies and requirements generation, conduct vulnerability assessments, develop advanced assessment capabilities, improve laboratory equipment and infrastructure, and provide intelligence support. Develop AT policy and continue to train the acquisition workforce on AT policy and technology.</p> <p>FY 2024 Plans: - Continue to validate and evaluate AT implementations on all DoD Acquisition programs; initiate early product development activities to include studies and requirements generation, conduct vulnerability assessments, develop advanced assessment capabilities, improve laboratory equipment and infrastructure, and provide intelligence support. Develop AT policy and continue to train the acquisition workforce on AT policy and technology.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase reflects baseline/inflation growth within the PE.</p>				
<p>Title: DoDATEA Program Management Support</p> <p>Description: Includes civilian pay, A&AS, outreach and education, travel, supplies, and AFLCMC/XA-AT support.</p> <p>FY 2023 Plans: Support program office efforts, including civilian pay, A&AS, intelligence support, outreach and education, travel, and supplies.</p> <p>FY 2024 Plans: Support program office efforts, including civilian pay, A&AS, intelligence support, outreach and education, travel, and supplies.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase reflects baseline/inflation growth within the PE.</p>		6.744	6.943	7.430
<p>Title: Air Force Anti-Tamper Office Technology and Product Development</p> <p>Description: The Air Force AT office conducts Anti-Tamper technology and product development to meet AF service needs to mature promising AT technologies to transition to AF weapon systems. The AF AT office will fund and manage new technology development efforts, to include studies and requirements generation, all targeted to protect AF CPI. These new AT technology requirements will be obtained from AF programs and these new AT technologies will then transition to Air Force and DoD programs.</p> <p>The AT technology and product development and enhancement efforts include: advanced AT sensor hardware, secure processing, crypto-analysis, tamper penalties, and other AT enablers.</p>		6.096	6.437	6.885

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p><i>FY 2023 Plans:</i> The Air Force AT office conducts Anti-Tamper technology development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems.</p> <p><i>FY 2024 Plans:</i> The Air Force AT office conducts Anti-Tamper technology development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems.</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Increase reflects baseline/inflation growth within the PE.</p>			
Accomplishments/Planned Programs Subtotals	50.669	50.066	49.613

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

E. Acquisition Strategy

The DoD ATEA acquisition strategy is to coordinate DoD AT technology and product developments, including associated studies and requirements generation activities across the Services which fund development and assessments of new AT technology, as well as enhance existing AT technology efforts by increasing TRL. The output of the studies and requirements generation will also poise the ATEA for ATEA-funded product and technology development. The ATEA will coordinate the Technology and Product Development Roadmap with major Prime vendors. Evaluating their AT CRADA projects is of major importance. The ATEA will also coordinate with the Service AT personnel to foster communication and understand what programs Services are developing for their AT implementation. Emerging research areas such as materials, cryptography and electronic circuits have the potential to bring new AT capabilities with increased processing power, reduced power draw, and smaller form factor. The goal of the research and ultimate technology and product development is to mature promising technologies to the point they can be transitioned to a program office or industry for integration and implementation in DoD weapon systems. Priorities will be given to those technologies that most benefit the DoD AT community.

The Air Force AT Office will fund and manage new technology and product efforts to protect Air Force and DoD CPI. These new AT technology requirements will be obtained from AF and DoD programs and these new AT technologies will then transition to Air Force and DoD programs.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force												Date: March 2023			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)						
3600 / 7				PE 0605024F / Anti-Tamper Technology Executive Agency					675066 / Anti-Tamper Technology Executive Agent						
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force AT Technology and Product Development	Various	Not specified. : Dayton, OH	-	6.096	Oct 2021	6.437	Oct 2022	6.671	Oct 2023	-		6.671	Continuing	Continuing	-
Air Force Anti-Tamper Technology and Product Development	Various	Not specified. : Huntsville, AL	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			-	6.096		6.437		6.671		-		6.671	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DoD Anti-Tamper Technology Executive Agent (DoD ATEA)	Various	Not specified. : Dayton, OH	-	9.666	Oct 2021	8.558	Oct 2022	9.500	Oct 2023	-		9.500	Continuing	Continuing	-
DoD ATEA Technology Executive Agent	Various	Not specified. : Huntsville, AL	-	7.440	Oct 2021	7.688	Oct 2022	7.700	Oct 2023	-		7.700	Continuing	Continuing	-
DoD AT Executive Agent Technology	Various	Not specified. : Crane, IN	-	10.761	Oct 2021	8.715	Oct 2022	8.000	Oct 2023	-		8.000	Continuing	Continuing	-
DoD Anti-Tamper Executive Agent	Various	Not specified. : Albuquerque, NM	-	7.979	Oct 2021	9.097	Oct 2022	8.102	Oct 2023	-		8.102	Continuing	Continuing	-
Subtotal			-	35.846		34.058		33.302		-		33.302	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DoDATEA Program Management Support	Various	Not specified. : Dayton, OH	-	8.345	Oct 2021	9.183	Oct 2022	9.250	Oct 2023	-		9.250	Continuing	Continuing	-
Air Force Tech Development Management Support	Various	Not specified. : Dayton, OH	-	0.382	Oct 2021	0.388	Oct 2022	0.390	Oct 2023	-		0.390	Continuing	Continuing	-
Subtotal			-	8.727		9.571		9.640		-		9.640	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force							Date: March 2023				
Appropriation/Budget Activity 3600 / 7			R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>				Project (Number/Name) 675066 / <i>Anti-Tamper Technology Executive Agent</i>				
	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals	-	50.669	50.066	49.613	-	49.613	Continuing	Continuing	N/A		

Remarks
 Additional funding breakout and award dates are classified per the Anti-Tamper Security Classification Guide. Please contact the ATEA if additional information is required.

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>	Project (Number/Name) 675066 / <i>Anti-Tamper Technology Executive Agent</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ATEA				
ATEA Program Office	1	2022	4	2028
AT RDT&E	1	2022	4	2028
AT Technology Development	1	2022	4	2028