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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603112F / <i>Advanced Materials for Weapon Systems</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	57.221	63.378	29.116	0.000	29.116	34.883	35.753	36.351	37.160	Continuing	Continuing
632100: <i>Laser Hardened Materials</i>	-	0.000	16.083	12.646	0.000	12.646	15.921	16.557	16.602	16.972	Continuing	Continuing
633153: <i>Non-Destructive Inspection Development</i>	-	0.000	4.436	4.806	0.000	4.806	8.811	8.931	9.163	9.366	Continuing	Continuing
633946: <i>Materials Transition</i>	-	57.221	42.859	11.664	0.000	11.664	10.151	10.265	10.586	10.822	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program develops and demonstrates advanced materials and process technologies to satisfy Department of the Air Force requirements in areas such as survivability, readiness, affordability, and new processes and materials. These projects ensure the Department of the Air Force weapon systems are ready and able when needed.

The Department of the Air Force technologies in this program are both enabling and enduring as we invest in maturing emerging technologies that address established mission gaps, and transformational technologies that address integrated enterprise capabilities intended to reshape the future force across air, space, and cyber warfighting domains. Development of transformational operational capabilities through advanced technology solutions focuses on five strategic capabilities: Global Persistent Awareness; Resilient Information Sharing; Rapid, Effective Decision-Making; Complexity, Unpredictability, and Mass; and Speed and Reach of Disruption and Lethality.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver science and technology capabilities. The use of program funds in this PE would be in addition to the civilian pay expenses budgeted in program elements 0601102F, 0602020F, 0602102F, 0602201F, 0602202F, 0602203F, 0602204F, 0602602F, 0602605F, 0602788F, 1206601SF, and 0602298F.

This program is in Budget Activity 3, Advanced Technology Development because this budget activity includes development of subsystems and components and efforts to integrate subsystems and components into system prototypes for field experiments and/or tests in a simulated environment.

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B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	60.059	31.905	0.000	0.000	0.000
Current President's Budget	57.221	63.378	29.116	0.000	29.116
Total Adjustments	-2.838	31.473	29.116	0.000	29.116
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	-0.327			
• Congressional Adds	0.000	31.800			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.431	0.000			
• Other Adjustments	-1.407	0.000	29.116	0.000	29.116

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 632100: *Laser Hardened Materials*

Congressional Add: *Program increase - laser protective eyewear*

Congressional Add Subtotals for Project: 632100

Project: 633153: *Non-Destructive Inspection Development*

Congressional Add: *Artificial intelligence enhanced life cycle management*

Congressional Add Subtotals for Project: 633153

Project: 633946: *Materials Transition*

Congressional Add: *Program increase - Metals Affordability Research*

Congressional Add: *Program Increase - Composites technology*

Congressional Add: *Additive manufacturing for aerospace components*

Congressional Add: *Advanced ballistic eyewear*

Congressional Add: *Program increase - polymer printing technology for additive manufacturing*

Congressional Add: *Program increase - certification for advanced materials*

Congressional Add Subtotals for Project: 633946

Congressional Add Totals for all Projects

	FY 2021	FY 2022
	0.000	1.800
Congressional Add Subtotals for Project: 632100	0.000	1.800
	0.000	0.000
Congressional Add Subtotals for Project: 633153	0.000	0.000
	9.762	10.000
	5.857	0.000
	4.881	0.000
	3.904	0.000
	0.000	5.000
	0.000	15.000
Congressional Add Subtotals for Project: 633946	24.404	30.000
Congressional Add Totals for all Projects	24.404	31.800

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Change Summary Explanation

Decrease in FY 2021 reflects adjustments to support Research and Development Projects, 10 U.S.C. Section 2363, an amendment to PL 110-417, 10 U.S.C. Section 2358 and 10 U.S.C. 2805(d)(1)(B).

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY2023 cannot be made in a relevant manner.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force										Date: April 2022		
Appropriation/Budget Activity 3600 / 3					R-1 Program Element (Number/Name) PE 0603112F / <i>Advanced Materials for Weapon Systems</i>				Project (Number/Name) 632100 / <i>Laser Hardened Materials</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
632100: <i>Laser Hardened Materials</i>	-	0.000	16.083	12.646	0.000	12.646	15.921	16.557	16.602	16.972	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops and demonstrates advanced materials technologies that enhance protection for Department of the Air Force personnel to ensure safety and to enable them to perform required missions in threat environments. Advanced materials technologies also enhance protection for Department of the Air Force sensors and systems to ensure safety, survivability, and operability in threat environments.

This project includes the initiation and development of programs addressing Department of the Air Force capability gaps and provides technologies for transformational future force capabilities. Transformational efforts will be identified through a competitive process and be responsive to Department of the Air Force design priorities. Selected efforts will be designated as transformational, indicating enterprise-level priority.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2021	FY 2022	FY 2023
Title: Aerospace Systems Protection	0.000	8.224	6.620
Description: Develop and demonstrate materials technologies that enhance hardening for sensors, avionics, and components to increase survivability and mission effectiveness of Department of the Air Force systems.			
FY 2022 Plans: Continue to validate and assess the demonstrated results and transition the use of protection technologies for future sensor designs and strategies to mitigate directed energy damage for visual/near, short-wave, and mid-wave infrared detectors. Continue transitioning new technologies and integrate the developments into light, operator friendly survivable electro-optic sensors that provide full spectrum protection for missile warning. Continue analyzing the high-performance properties of damage limiting semiconductor materials designed to harden electro-optic imaging sensors. Continue to transition developed laser countermeasures for survivability of dynamic electro-optic/infrared imagers. Continue to advance the employment and integration of evolved computational materials science to model materials characteristics to increase accuracy and shorten design cycle time of coatings development for use in sensor hardening. Transition and continue technology development and maturation to develop defensive capability for air systems airframe and anti-access munitions hardening assessments and solutions. Continue development of materials for survivable next generation aircraft sensor systems.			
FY 2023 Plans: Continue to validate and assess the demonstrated results and transition the use of protection technologies for future sensor designs and strategies to mitigate directed energy damage for visual/near, short-wave, and mid-wave infrared detectors.			

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Appropriation/Budget Activity 3600 / 3	R-1 Program Element (Number/Name) PE 0603112F / <i>Advanced Materials for Weapon Systems</i>	Project (Number/Name) 632100 / <i>Laser Hardened Materials</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p>Continue transitioning new technologies and integrate the developments into light, operator friendly survivable electro-optic sensors that provide full spectrum protection for missile warning. Continue analyzing the high-performance properties of damage limiting semiconductor materials designed to harden electro-optic imaging sensors. Continue to transition developed laser countermeasures for survivability of dynamic electro-optic/infrared imagers. Continue to advance the employment and integration of evolved computational materials science to model materials characteristics to increase accuracy and shorten design cycle time of coatings development for use in sensor hardening. Continue development of materials for survivable next generation aircraft sensor systems. Completed technology development and maturation of anti-access munitions hardening.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 funding decreased compared to FY 2022 by \$1.604 million. Funding decrease is due to decreased emphasis on structural hardening.</p>			
<p>Title: Aircrew Protection</p> <p>Description: Develop and demonstrate materials technologies that enhance protection for Department of the Air Force personnel to ensure safety and to enable crews to perform required missions in a threat environment.</p> <p>FY 2022 Plans: Continue to develop, validate, demonstrate, and transition laser protection materials and technologies for personnel protection. Continue to validate and develop light-weight helmet-mounted sensor hardening materials focusing on next-generation nighttime specialized sensors. Continue to advance transition efforts and development of visor based aircrew protection materials with agile protection. Continue to evaluate and assess new materials and advances in characterization and demonstration of eye protection technologies using computational materials science tools. Continue to transition, validate, mature, and test improvements to functionality and performance of personnel protection technologies in expected operational conditions. Continue development and testing of materials technologies to protect against nuclear flash blindness.</p> <p>FY 2023 Plans: Continue to develop, validate, demonstrate, and transition laser protection materials and technologies for personnel protection. Continue to validate and develop light-weight helmet-mounted sensor hardening materials focusing on next-generation nighttime specialized sensors. Continue to advance transition efforts and development of visor based aircrew protection materials with agile protection. Continue to evaluate and assess new materials and advances in characterization and demonstration of eye protection technologies using computational materials science tools. Continue to transition, validate, mature, and test improvements to functionality and performance of personnel protection technologies in expected operational conditions. Continue development and testing of materials technologies to protect against nuclear flash blindness.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p>	0.000	6.059	4.782

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
FY 2023 decreased compared to FY 2022 by \$1.277 million. Funding decreased due to decreased emphasis on aircrew protection.				
<p>Title: Transformational Technology Development</p> <p>Description: Continually funded effort. This funding allocation will initiate new and continue existing Transformational Technology Development efforts. The Transformational Technology Development program will select new projects, in alignment with mission focused areas which include, but are not limited to: Intelligent Planning and Wargaming, Battlespace Awareness, Integrated Base Defense, and Hypersonic Multi-Mission Aircraft. Investments focus on technology development efforts including, but are not limited to technologies to enhance survivability, operability and performance of personnel, sensors, and structures in a threat environment through advanced materials technologies for hardening avionics, sensors, and components and increasing personnel protection. This investment is overseen by senior representatives from Air and Space Forces who participate in the submission, initial review, and down-selection of Transformational Technology Development proposed efforts. Final selections will be reviewed by the Air Force Deputy Assistant Secretary for Science, Technology, and Engineering before a final recommendation for Congressional approval is made.</p> <p>FY 2022 Plans: N/A. This effort is starting in FY 2023.</p> <p>FY 2023 Plans: Continue investments leveraging Artificial Intelligence and gaming technologies to accelerate Department of the Air Force capability to create theatre-scale operational plans within hours. Initiate projects selected from the annual WARTECH process that investigate Department of the Air Force prioritized topics. Continue to perform modeling, simulation, and analyses to establish the future force effect of candidate Transformational Component investments and continue the next cycle of WARTECH process.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 increased compared to FY 2022 by \$1.244 million. Funding is increased due to to scaling investment toward the Department of the Air Force target outlined in the Air Force 2030 Science and Technology (S&T) Strategy.</p>		-	0.000	1.244
Accomplishments/Planned Programs Subtotals		0.000	14.283	12.646
		FY 2021	FY 2022	
Congressional Add: Program increase - laser protective eyewear		0.000	1.800	
FY 2021 Accomplishments: Not applicable				
FY 2022 Plans: Conduct Congressionally directed efforts.				
Congressional Adds Subtotals		0.000	1.800	

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force										Date: April 2022		
Appropriation/Budget Activity 3600 / 3					R-1 Program Element (Number/Name) PE 0603112F / <i>Advanced Materials for Weapon Systems</i>				Project (Number/Name) 633153 / <i>Non-Destructive Inspection Development</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
633153: <i>Non-Destructive Inspection Development</i>	-	0.000	4.436	4.806	0.000	4.806	8.811	8.931	9.163	9.366	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops and demonstrates advanced nondestructive inspection and evaluation technologies to monitor performance integrity and to detect failure causing conditions in weapon systems components and materials. Nondestructive inspection and evaluation capabilities greatly influence and/or limit many design, manufacturing, and maintenance practices. This project provides technology to satisfy Department of the Air Force requirements to extend the lifetime of current systems through increased reliability and cost-effectiveness at field and depot maintenance levels. Equally important is assuring manufacturing quality, integrity, and safety requirements are built in.

This project includes the initiation and development of programs addressing DAF capability gaps and provides technologies for transformational future force capabilities. Transformational efforts will be identified through a competitive process and be responsive to DAF design priorities. Selected efforts will be designated as transformational, indicating enterprise-level priority.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2021	FY 2022	FY 2023
Title: Special Material Inspection Technologies	0.000	0.751	0.895
Description: Develop and demonstrate advanced inspection technologies supporting low-observable (LO) systems to enhance affordability and ensure full performance and survivability.			
FY 2022 Plans: Continue the transition process to depots and flight lines for improved methods to acquire and analyze data to facilitate improved characterization, registration, and tracking of degradation and damage to special materials that enables/ensures more affordable coatings assessment. Continue to validate tools to improve characterization and failure modes of specialty multilayer coatings. Continue to develop automation for robotic technologies for visual inspections that will realize human-assisted inspection capabilities and begin to provide capabilities for automated multi-spectral characterization.			
FY 2023 Plans: Continue the transition process to depots and flight lines for improved methods to acquire and analyze data to facilitate improved characterization, registration, and tracking of degradation and damage to special materials that enables/ensures more affordable coatings assessment. Continue to validate tools to improve characterization and failure modes of specialty multilayer coatings.			

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Appropriation/Budget Activity 3600 / 3	R-1 Program Element (Number/Name) PE 0603112F / <i>Advanced Materials for Weapon Systems</i>	Project (Number/Name) 633153 / <i>Non-Destructive Inspection Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
Continue to develop automation for robotic technologies for visual inspections that will realize human-assisted inspection capabilities and begin to provide capabilities for automated multi-spectral characterization. FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 increased compared to FY 2022 by \$0.144 million. Funding increased due to increased emphasis on automation of specialty materials inspection technologies.				
Title: Advanced System Monitoring Technologies Description: Develop and demonstrate advanced systems status monitoring technologies to provide on-board and embedded sensing to gain continuous awareness of the state of key subsystems. FY 2022 Plans: Continue to demonstrate advanced analytical methods to more accurately assess the location, and register spatial location, of damage detected using nondestructive inspection data and results. Develop augmented reality technologies to improve the process of performing non-destructive evaluation tasks, acquiring and archiving data and reporting results, and enabling improved inspector guidance and visualization. Continue development and transition of novel approaches to collect, analyze, transport, archive, and use digital nondestructive inspection data and information. Continue enhanced methods for compiling, reporting, collecting and rapidly analyzing digital nondestructive testing and evaluation data necessary for improved damage detection and characterization. Demonstrate and transition technologies to locate damage to composite structures without coating removal and to inspect composite structures with complex geometry. Continue the transition and integration of computational materials science tools with provide data necessary for life prediction methods to enable risk-based life management. FY 2023 Plans: Continue to demonstrate advanced analytical methods to more accurately assess the location, and register spatial location, of damage detected using nondestructive inspection data and results. Develop augmented reality technologies to improve the process of performing non-destructive evaluation tasks, acquiring and archiving data and reporting results, and enabling improved inspector guidance and visualization. Continue development and transition of novel approaches to collect, analyze, transport, archive, and use digital nondestructive inspection data and information. Continue enhanced methods for compiling, reporting, collecting and rapidly analyzing digital nondestructive testing and evaluation data necessary for improved damage detection and characterization. Demonstrate and transition technologies to locate damage to composite structures without coating removal and to inspect composite structures with complex geometry. Continue the transition and integration of computational materials science tools with provide data necessary for life prediction methods to enable risk-based life management. FY 2022 to FY 2023 Increase/Decrease Statement:		0.000	2.212	2.638

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
FY 2023 increased compared to FY 2022 by \$0.426 million. Increased funding due to increased emphasis on augmented reality technologies.				
Title: Transformational Technology Development		0.000	1.473	1.273
Description: Description: Continually funded effort. This funding allocation will initiate new and continue existing Transformational Technology Development efforts. The Transformational Technology Development program will select new projects, in alignment with mission focused areas which include, but are not limited to: Intelligent Planning and Wargaming, Battlespace Awareness, Integrated Base Defense, and Hypersonic Multi-Mission Aircraft. Investments focus on technology development efforts including, but are not limited to technologies to enhance survivability, operability and performance of personnel, sensors, and structures in a threat environment through developments in nondestructive inspection and evaluation technologies to monitor performance integrity and detect failures before they affect they system. This investment is overseen by senior representatives from Air and Space Forces who participate in the submission, initial review, and down-selection of Transformational Technology Development proposed efforts. Final selections will be reviewed by the Air Force Deputy Assistant Secretary for Science, Technology, and Engineering before a final recommendation for Congressional approval is made.				
FY 2022 Plans: Fund the follow-on efforts for Transformational Technology Development projects selected in prior FYs. Select Transformational Technology Development efforts starting in FY 22 that support the National Defense Strategy and Department of the Air Force priorities.				
FY 2023 Plans: Continue nondestructive inspection and evaluation technology efforts for development and demonstration of the capability for high speed delivery of area effects. Initiate projects selected from the WARTECH 3.0 process that investigate Department of the Air Force prioritized topics and initiate timely launch of Transformational Component Vanguard Prospect programs. Continue to perform modeling, simulation, and analyses to establish the future force effect of candidate Transformational Component investments and continue the next cycle of WARTECH process.				
FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 decreased compared to FY 2022 by \$0.200 million. Funding is decreased due to scaling investment toward the Department of the Air Force target outlined in the Air Force 2030 Science and Technology (S&T) Strategy.				
Accomplishments/Planned Programs Subtotals		0.000	4.436	4.806
		FY 2021	FY 2022	
Congressional Add: Artificial intelligence enhanced life cycle management		0.000	0.000	

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		FY 2021	FY 2022
<i>FY 2021 Accomplishments:</i> Not applicable			
<i>FY 2022 Plans:</i> Not applicable			
Congressional Adds Subtotals		0.000	0.000

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Appropriation/Budget Activity 3600 / 3					R-1 Program Element (Number/Name) PE 0603112F / <i>Advanced Materials for Weapon Systems</i>				Project (Number/Name) 633946 / <i>Materials Transition</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
633946: <i>Materials Transition</i>	-	57.221	42.859	11.664	0.000	11.664	10.151	10.265	10.586	10.822	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops and demonstrates advanced materials and processing technologies for fielded and planned Department of the Air Force weapon, airframe, and propulsion applications. Advanced materials and processes that have matured beyond applied research are characterized, critical data are collected, and critical evaluations in the proposed operating environment are performed. This design and scale-up data improves the overall affordability of promising materials and processing technologies, providing needed initial incentives for their industrial development.

This project includes the initiation and development of programs addressing DAF capability gaps and provides technologies for transformational future force capabilities. Transformational efforts will be identified through a competitive process and be responsive to DAF design priorities. Selected efforts will be designated as transformational, indicating enterprise-level priority.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2021	FY 2022	FY 2023
Title: Air Vehicle Materials Technologies	18.048	10.999	9.830
Description: Develop and demonstrate materials and processes technologies for air vehicle and subsystems to enhance lift, propulsion, Low Observable (LO) performance, power generation management, survivability, and affordability of air vehicles.			
FY 2022 Plans: Continue development of technologies for organic engine lifing analysis for enhanced engine component risk management capability. Continue development and characterization for transitioning materials to protect infrared apertures on next generation hardened assets. Continue to validate and verify results of microstructure sensitive lifing methodologies that lower life cycle cost and advance performance characteristics of airframe and engine components in order to initiate development of next generation modeling tools that incorporate residual stress effects on component life. Continue development and characterization of materials for application in nuclear systems and protected infra-red apertures for next-generation hardened assets.			
FY 2023 Plans: Continue development of technologies for organic engine lifing analysis for enhanced engine component risk management capability. Continue development and characterization for transitioning materials to protect infrared apertures on next generation hardened assets. Continue to validate and verify results of microstructure sensitive lifing methodologies that lower life cycle cost and advance performance characteristics of airframe and engine components in order to initiate development of next generation			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
<p>modeling tools that incorporate residual stress effects on component life. Continue development and characterization of materials for application in nuclear systems and protected infra-red apertures for next-generation hardened assets.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 decreased compared to FY 2022 by \$1.169 million. Funding decreased due to decreased emphasis on air vehicles materials technology.</p>				
<p>Title: High Temperature Material Technologies</p> <p>Description: Develop and demonstrate affordable, novel high temperature materials/structures and thermal management concepts to enable future defense capabilities for the Department of the Air Force global strike concepts.</p> <p>FY 2022 Plans: Work in this effort completed in FY 2021.</p> <p>FY 2023 Plans: Work in this effort completed in FY 2021.</p>		14.769	0.000	0.000
<p>Title: Transformational Technology Development</p> <p>Description: Continually funded effort. This funding allocation will initiate new and continue existing Transformational Technology Development efforts. The Transformational Technology Development program will select new projects, in alignment with mission focused areas which include, but are not limited to: Intelligent Planning and Wargaming, Battlespace Awareness, Integrated Base Defense, and Hypersonic Multi-Mission Aircraft. Investments focus on technology development efforts including, but are not limited to technologies to enhance survivability, operability and performance of personnel, sensors, and structures in a threat environment through characterization and data evaluation of advanced materials in potential operational environment in order to improve affordability. This investment is overseen by senior representatives from Air and Space Forces who participate in the submission, initial review, and down-selection of Transformational Technology Development proposed efforts. Final selections will be reviewed by the Air Force Deputy Assistant Secretary for Science, Technology, and Engineering before a final recommendation for Congressional approval is made.</p> <p>FY 2022 Plans: Fund the follow-on efforts for Transformational Technology Development projects selected in prior FYs. Select Transformational Technology Development efforts starting in FY 22 that support the National Defense Strategy and Department of the Air Force priorities.</p> <p>FY 2023 Plans:</p>		0.000	1.860	1.834

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Continue advanced materials and processing technology efforts for development and demonstration of a capability for high speed delivery of area effects. Initiate projects selected from the annual WARTECH process that investigate Department of the Air Force prioritized topics. Continue to perform modeling, simulation, and analyses to establish the future force effect of candidate Transformational Component investments and continue the next cycle of WARTECH process.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> FY 2023 decreased compared to FY 2022 by \$0.026 million. Funding is decreased due to scaling investment toward the Department of the Air Force target outlined in the Air Force 2030 Science and Technology (S&T) Strategy.			
Accomplishments/Planned Programs Subtotals	32.817	12.859	11.664

	FY 2021	FY 2022
<i>Congressional Add:</i> Program increase - Metals Affordability Research <i>FY 2021 Accomplishments:</i> Conduct Congressionally directed efforts. <i>FY 2022 Plans:</i> Conduct Congressionally directed efforts.	9.762	10.000
<i>Congressional Add:</i> Program Increase - Composites technology <i>FY 2021 Accomplishments:</i> Conduct Congressionally directed efforts. <i>FY 2022 Plans:</i> Not applicable	5.857	0.000
<i>Congressional Add:</i> Additive manufacturing for aerospace components <i>FY 2021 Accomplishments:</i> Conduct Congressionally directed efforts. <i>FY 2022 Plans:</i> Not applicable	4.881	0.000
<i>Congressional Add:</i> Advanced ballistic eyewear <i>FY 2021 Accomplishments:</i> Conduct Congressionally directed efforts. These efforts will be executed in project 632100 of this program. <i>FY 2022 Plans:</i> Not applicable	3.904	0.000
<i>Congressional Add:</i> Program increase - polymer printing technology for additive manufacturing <i>FY 2021 Accomplishments:</i> Not applicable <i>FY 2022 Plans:</i> Conduct Congressionally directed efforts.	0.000	5.000
<i>Congressional Add:</i> Program increase - certification for advanced materials	0.000	15.000

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force	Date: April 2022
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Appropriation/Budget Activity 3600 / 3	R-1 Program Element (Number/Name) PE 0603112F / <i>Advanced Materials for Weapon Systems</i>	Project (Number/Name) 633946 / <i>Materials Transition</i>
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	FY 2021	FY 2022
FY 2021 Accomplishments: Not applicable		
FY 2022 Plans: Conduct Congressionally directed efforts.		
Congressional Adds Subtotals	24.404	30.000

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

N/A

Remarks

D. Acquisition Strategy

N/A