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

<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605604A / <i>Survivability/Lethality Analysis</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	-	36.001	36.370	36.500	-	36.500	37.353	37.319	37.332	37.695	0.000	258.570
675: <i>Army Survivability Analysis &amp; Evaluation Supp</i>	-	36.001	36.370	36.500	-	36.500	37.353	37.319	37.332	37.695	0.000	258.570

**A. Mission Description and Budget Item Justification**

This funding line supports testing of Army Modernization Priority Programs.

This Program Element (PE) funds objective vulnerability assessment products necessary for the inherently-governmental Army Test & Evaluation Command/Army Evaluation Center (ATEC/ AEC) mission and for the Research and Development and analysis communities. Products result from investigating, analyzing, assessing, experimenting and reporting on the survivability of Soldiers, and on the survivability, lethality and vulnerability (SLV) of the highest-priority Army and threat systems. Products are leveraged within the Army Futures Command (AFC), the Cross Functional Teams (CFTs) and Program Managers / Program Executive Offices (PM/PEO) to exercise constructive design influence over materiel development and to provide credible engineering-level underpinning and input to the Army Analytical Community.

This PE provides quantitative analyses and data for fielded and developmental systems as the Army pursues its modernization priorities and ensures readiness through the fielding of lethal and survivable systems for multi-domain operations. This PE funds engineering level analysis and experimentation supporting all CFTs including Long Range Precision Fires systems, Next Generation Combat Vehicles, Future Vertical Lift, Network / Command, Control, Communications (C3I), Air & Missile Defense, Soldier Lethality, and other high Army priority efforts. Principal data and analysis domains are integrated materiel performance, cyber resilience, human engineering and performance, Electronic Warfare threat defense, and mission threat analysis.

Assessments funded by this PE are conducted across the spectrum of multi-domain battlefield threats to include: guns, missiles, mines and other methods of inflicting physical damage; jammers, countermeasures, and other electronic warfare techniques; cyber threats from insiders to nation states; and directed energy weapons. Many different kinds of technical capabilities are used to generate these analyses, including specialized equipment, modeling & simulation, and experimental facilities. This PE ensures these capabilities can represent a live, virtual, or constructive hostile environment required for credible assessment, thus enabling evaluators, developers, users, and decision makers to make informed acquisition judgments. This technical data from earliest AFC experimentation to final operational test is retained and serves as AFC's repository of analysis and information for supporting an ever-improving body of evidence to drive Milestone Decisions. This body of evidence enables properly informed decisions concerning acquisition and production; maximizes Army overmatch in systems and tactics; informs investment priorities; and mitigates system weaknesses prior to actual combat.

Technical data and analysis results funded by this PE are efficiently leveraged for many different Army uses, reducing total cost to the Army by eliminating the need for duplicative capabilities funded by individual system developers. Central funding of this mission assures accurate and consistent technical treatment across all formal system Evaluations, and across the Army's analytical community as it conducts analyses of alternatives and other studies. The United States (U.S.) Army Combat Capabilities Development Command (DEVCOM) and ATEC/AEC integrate the results from the work program into Army's formal Evaluation process to ensure ATEC can comply with its legally-mandated responsibility to assess system survivability along with effectiveness and suitability.

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<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605604A / <i>Survivability/Lethality Analysis</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	36.001	36.389	0.000	-	0.000
Current President's Budget	36.001	36.370	36.500	-	36.500
Total Adjustments	0.000	-0.019	36.500	-	36.500
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	36.500	-	36.500
• FFRDC Transfer	-	-0.019	-	-	-

**Change Summary Explanation**

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Army										<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605604A / <i>Survivability/Lethality Analysis</i>				<b>Project (Number/Name)</b> 675 / <i>Army Survivability Analysis &amp; Evaluation Supp</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
675: <i>Army Survivability Analysis &amp; Evaluation Supp</i>	-	36.001	36.370	36.500	-	36.500	37.353	37.319	37.332	37.695	0.000	258.570
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This Project funds objective vulnerability assessment products necessary for the inherently-governmental Army Test & Evaluation Command/Army Evaluation Center (ATEC/ AEC) mission, and for the Research and Development and analysis communities. Products result from investigating, analyzing, assessing, experimenting and reporting on the survivability of Soldiers, and on the survivability, lethality and vulnerability (SLV) of the highest-priority Army and threat systems. Products are leveraged within the Army Futures Command (AFC), the Cross-Functional Teams (CFTs), and Program Managers / Program Executive Offices (PM/PEO) to exercise constructive design influence over materiel development and to provide credible engineering-level underpinning and input to the Army Analytical Community.

This Project provides quantitative analyses and data for fielded and developmental systems as the Army pursues its modernization priorities and ensures readiness through the fielding of lethal and survivable systems for multi-domain operations. PE funds engineering level analysis and experimentation supporting all CFTs including Long Range Precision Fires systems, Next Generation Combat Vehicles, Future Vertical Lift, Network / Command, Control, Communications (C3I), Air & Missile Defense, Soldier Lethality, and other highest Army priority efforts Principal data and analysis domains are integrated materiel performance, cyber resilience, human engineering and performance, Electronic Warfare threat defense, and mission threat analysis.

Assessments funded by this PE are conducted across the spectrum of multi-domain battlefield threats to include: guns, missiles, mines and other methods of inflicting physical damage; jammers, countermeasures, and other electronic warfare techniques; cyber threats from insiders to nation states; and directed energy weapons. Many different kinds of technical capabilities are used to generate these analyses, including specialized equipment, modeling & simulation, and experimental facilities. This PE ensures these capabilities can represent a live, virtual, or constructive hostile environment required for credible assessment, thus enabling evaluators, developers, users, and decision makers to make informed Acquisition judgments. This technical data from earliest AFC experimentation to final operational test is retained and serves as AFC's repository of analysis and information for supporting an ever-improving body of evidence to drive Milestone Decisions. This body of evidence enables properly informed decisions concerning acquisition and production; maximizes Army overmatch in systems and tactics; informs investment priorities; and mitigates system weaknesses prior to actual combat.

Technical data and analysis results funded by this PE are efficiently leveraged for many different Army uses, reducing total cost to the Army by eliminating the need for duplicative capabilities funded by individual system developers. Central funding of this mission assures accurate and consistent technical treatment across all formal system Evaluations, and across the Army's analytical community as it conducts analyses of alternatives and other studies. The United States (U.S.) Army Combat Capabilities Development Command (DEVCOM) and ATEC/AEC integrate the results from the work program into Army's formal Evaluation process to ensure ATEC can comply with its legally-mandated responsibility to assess system survivability along with effectiveness and suitability.

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p><b>Title:</b> Survivability, Lethality, Vulnerability Analyses (SLVA) for Ground, Aviation, Munitions, and Soldier Systems</p> <p><b>Description:</b> This activity provides integrated multi-domain SLV for highest priority Ground, Aviation, Munitions, and Soldier Systems.</p> <p><b>FY 2022 Plans:</b> Will conduct essential analysis on Long Range Precision Fires, Next Generation Combat Vehicle, Future Vertical Lift, and Soldier lethality systems, and on AFC's, AEC's, and CCDC's highest priority platform and weapon systems. For systems supported, working with materiel developers to constructively influence system design and providing relevant data to Army analytical community for supporting Analyses of Alternatives and other Army studies.</p> <p><b>FY 2023 Plans:</b> Will conduct essential SVLA on Long Range Precision Fires, Next Generation Combat Vehicle, Future Vertical Lift, and Soldier Lethality systems and technologies, and on AFC's, AEC's, and DEVCOM's highest priority platform and weapon systems. Will provide data and analysis support throughout the Project Convergence campaign of learning and Army Futures Command experimentation. For systems supported, will work with materiel developers to constructively influence system design and provide relevant data to Army analytical community for supporting Analyses of Alternatives and other Army studies.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Funding changes reflects planned lifecycle of this effort.</p>		16.370	16.093	16.567
<p><b>Title:</b> Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) System Survivability Assessments</p> <p><b>Description:</b> This effort produces assessments of the survivability of C4ISR systems in EW and cyber threat environments and conducts Electronic Attack (EA) and cyber analyses that reveal critical vulnerabilities in C4ISR systems. It also defines, demonstrates, and recommends mitigation options to proponents and evaluators of C4ISR. A cyber vulnerability database is maintained for the benefit of the community.</p> <p><b>FY 2022 Plans:</b> Will conduct cyber and EW analysis on network components as specified by the Network C3I CFT, AFC, AEC, and on CCDC's highest priority Network/C3 and other systems. For systems supported working with materiel developers to constructively influence system design and providing relevant data to Army analytical community to support Analyses of Alternatives and other Army studies. Cyber support includes resiliency assessments of systems and Soldiers together and verification of fixes to identified vulnerabilities.</p> <p><b>FY 2023 Plans:</b></p>		18.075	17.429	17.927

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>Will conduct essential cyber and EW analysis on network components and technologies as specified by the Network C3I CFT, AFC, AEC, and on DEVCOM's highest priority Network/C3 and other systems. Will provide data and analysis support throughout the Project Convergence campaign of learning and Army Futures Command experimentation. For systems supported, will work with materiel developers to constructively influence system design and provide relevant data to Army analytical community to support Analyses of Alternatives and other Army studies. Cyber support includes resiliency assessments of systems and Soldiers together and verification of fixes to identified vulnerabilities.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Funding changes reflects planned lifecycle of this effort.</p>				
<p><b>Title:</b> Survivability, Lethality, Vulnerability (SLV) Analyses for Developmental Air and Missile Defense Systems</p> <p><b>Description:</b> Conduct integrated SLV analyses for developmental air and missile defense systems, pre-planned product improvements of current systems, and recently fielded systems.</p> <p><b>FY 2022 Plans:</b> Will conduct high-priority measurements and analysis on AMD systems and components as specified by AFC, AEC, and CCDC. For systems supported working with materiel developers to constructively influence system design and providing relevant data to Army analytical community to support Analyses of Alternatives and other Army studies.</p> <p><b>FY 2023 Plans:</b> Will conduct high-priority measurements and analysis on AMD systems, technologies and components as specified by AFC, AEC, and DEVCOM. Will provide data and analysis support throughout the Project Convergence campaign of learning and Army Futures Command experimentation. For systems supported, will work with materiel developers to constructively influence system design and provide relevant data to Army analytical community to support Analyses of Alternatives and other Army studies.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Funding changes reflects planned lifecycle of this effort.</p>		1.556	1.520	2.006
<p><b>Title:</b> SBIR/STTR Transfer</p> <p><b>Description:</b> Funding transferred in accordance with Title 15 USC ?638</p> <p><b>FY 2022 Plans:</b> Funding transferred in accordance with Title 15 USC ?638</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b></p>		-	1.328	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
Funding transferred in accordance with Title 15 USC ?638			
<b>Accomplishments/Planned Programs Subtotals</b>	36.001	36.370	36.500

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A