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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2023 Army										<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 2: Applied Research</i>					<b>R-1 Program Element (Number/Name)</b> PE 0602134A / <i>Counter Improvised-Threat Advanced Studies</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>
Total Program Element	-	1.927	1.976	6.192	-	6.192	6.215	6.210	6.232	6.230	0.000	34.982
CD2: <i>Counter Improvised-Threat Advanced Studies</i>	-	1.927	1.976	6.192	-	6.192	6.215	6.210	6.232	6.230	0.000	34.982

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

This Program Element (PE) executes applied research into novel methods for detecting and defeating Improvised Explosive Devices (IED) through the application of emerging technologies as well as research into emerging IED threats to evaluate potential methods of defeat. The goal of this research is to increase the ability of deployed forces to positively identify IEDs with minimal false alarms and positively neutralize or mitigate the effects of IEDs with minimal collateral damage through the systematic identification and maturation of technologies capable of defeating IEDs.

This PE is executed by the Army Futures Command (AFC) in coordination with the Under Secretary of Defense for Research and Engineering (USD/R&E) and the Defense Threat Reduction Agency (DTRA).

Work in this PE was previously conducted under PE 0602134BR, Improvised Threat Reduction Applied Research.

<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	1.927	1.976	0.000	-	0.000
Current President's Budget	1.927	1.976	6.192	-	6.192
Total Adjustments	0.000	0.000	6.192	-	6.192
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	6.192	-	6.192

**Change Summary Explanation**

Fiscal Year 2023 (FY23) funding increase reflects the fact that the FY22 President's Budget request did not include out-year funding.

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

<b>Appropriation/Budget Activity</b> 2040 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602134A / <i>Counter Improvised-Threat Advanced Studies</i>	<b>Project (Number/Name)</b> CD2 / <i>Counter Improvised-Threat Advanced Studies</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
<i>CD2: Counter Improvised-Threat Advanced Studies</i>	-	1.927	1.976	6.192	-	6.192	6.215	6.210	6.232	6.230	0.000	34.982

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

This Project researches novel methods for detecting and defeating improvised explosive devices (IED) as well as research into emerging IED threats to evaluate potential methods of defeat of the same.

This Project is executed by the Army Futures Command (AFC) in coordination with the Under Secretary of Defense for Research and Engineering (USD/R&E) and the Defense Threat Reduction Agency (DTRA).

Work in this Project was previously conducted under PE 0602134, Improvised Threat Reduction Applied Research.

Work in this Project is related to, and fully coordinated with, PE 0603134A Counter Improvised-Threat Simulation.

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

	FY 2021	FY 2022	FY 2023
<b>Title:</b> Counter IED Emerging Technologies	1.927	1.904	6.192
<b>Description:</b> This effort investigates emerging technologies to include physics, chemistry, biology and computer science to identify applications to detect current and emerging IED threats and defeat their critical components. This effort investigates novel methods and technology solutions for the detection and defeat of IEDs through the systematic identification and maturation of technologies capable of defeating these threats. The goals include increasing the distance for standoff detection, improving the probability of positive identification and reducing the rate of false indications. This effort is informed by technology trends across the Department of Defense and by analysis of IED threats encountered in operational scenarios.			
<b>FY 2022 Plans:</b> Will investigate novel radio frequency (RF), electromagnetic (EM), electro-optical and infrared (EOIR), neutron-based sensing, and other emerging technologies and technology components. Will continue to investigate and develop multiple technologies to assess their ability to counter IED threats in laboratory environments and transition promising technologies to the sister Project, Program Element (PE) 0603134A (Counter Improvised-Threat Simulation) / Project CD3 (Counter Improvised-Threat Simulation).			
<b>FY 2023 Plans:</b>			

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<b>Appropriation/Budget Activity</b> 2040 / 2	<b>R-1 Program Element (Number/Name)</b> PE 0602134A / <i>Counter Improvised-Threat Advanced Studies</i>	<b>Project (Number/Name)</b> CD2 / <i>Counter Improvised-Threat Advanced Studies</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<p>Will investigate, research and validate emerging RF, EM, EO/IR and other novel IED detection technologies and technology components. Will investigate advanced neutralization techniques and components that can be applied to predicting threat emplacements. Will evaluate multiple technologies in a laboratory environment for their ability to counter IED threats.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Funding realigned from PE 0603134A (Counter Improvised-Threat Simulation) / Project CD3 (Counter Improvised-Threat Simulation) to enable longer-term applied research pipeline of novel methods for detecting and defeating IEDs for transition.</p> <p><b>Title:</b> SBIR/STTR Transfer</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> Funding transferred in accordance with Title 15 USC ?638</p>		-	0.072	-
<b>Accomplishments/Planned Programs Subtotals</b>		1.927	1.976	6.192
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				