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

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 1: Basic Research</i>	R-1 Program Element (Number/Name) PE 0601103A / <i>University Research Initiatives</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	-	88.797	107.160	75.672	-	75.672	78.009	79.750	81.458	83.809	0.000	594.655
AB3: <i>MURI/PECASE/DURIP</i>	-	63.797	70.160	75.672	-	75.672	78.009	79.750	81.458	83.809	0.000	532.655
D58: <i>URI ACTIVITIES (CA)</i>	-	25.000	37.000	-	-	-	-	-	-	-	0.000	62.000

A. Mission Description and Budget Item Justification

This Program Element (PE) supports the Multidisciplinary University Research Initiative (MURI), the Defense University Research Instrumentation Program (DURIP), and the Presidential Early Career Awards for Scientists and Engineers (PECASE) program. The MURI program funds university based basic research in a wide range of scientific and engineering disciplines pertinent to maintaining land combat technology superiority. Army MURI efforts involve teams of researchers investigating high-priority, transformational topics that intersect more than one traditional technical discipline (e.g., Intelligent Luminescence for Communication, Display, and Identification). For many complex problems, this multidisciplinary approach serves to accelerate research progress and expedite transition of results to application. The DURIP provides funds to acquire major research equipment to augment current, or devise new, research capabilities in support of Army transformational research. The PECASE program funds single-investigator research efforts performed by outstanding academic scientists and engineers early in their independent research careers.

Work in this PE provides a foundation for applied research initiatives at the Army laboratories and research, development and engineering centers.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	91.241	70.775	71.842	-	71.842
Current President's Budget	88.797	107.160	75.672	-	75.672
Total Adjustments	-2.444	36.385	3.830	-	3.830
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	37.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.444	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	3.830	-	3.830
• FFRDC Transfer	-	-0.615	-	-	-

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

Project: D58: *URI ACTIVITIES (CA)*

Congressional Add: *Program Increase - Defense University Research Instrumentation Program*

Congressional Add: *Program Increase - Missile Soldier Touch Point Center*

Congressional Add Subtotals for Project: D58

Congressional Add Totals for all Projects

	FY 2022	FY 2023
	25.000	30.000
	-	7.000
	25.000	37.000
	25.000	37.000

Change Summary Explanation

Increased funding due to revised economic assumptions.

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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
AB3: <i>MURI/PECASE/DURIP</i>	-	63.797	70.160	75.672	-	75.672	78.009	79.750	81.458	83.809	0.000	532.655

A. Mission Description and Budget Item Justification

This Project supports the Multidisciplinary University Research Initiative (MURI), the Defense University Research Instrumentation Program (DURIP), and the Presidential Early Career Awards for Scientists and Engineers (PECASE) program. The MURI program funds university based basic research in a wide range of scientific and engineering disciplines pertinent to maintaining land combat technology superiority. Army MURI efforts involve teams of researchers investigating high-priority, transformational topics that intersect more than one traditional technical discipline. For many complex problems, this multidisciplinary approach serves to accelerate research progress and expedite transition of results to application. The DURIP provides funds to acquire major research equipment to augment current, or devise new, research capabilities in support of Army transformational research. The PECASE program funds single-investigator research efforts performed by outstanding academic scientists and engineers early in their research careers. Work in this Project provides a foundation for applied research initiatives at the Army laboratories and centers.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

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

	FY 2022	FY 2023	FY 2024
Title: Multidisciplinary University Research Initiative	51.762	55.200	62.204
Description: The Multidisciplinary University Research Initiative (MURI) program is a tri-service Department of Defense (DoD) program that supports extra-mural teams whose basic research efforts intersect more than one traditional science and engineering discipline. A multidisciplinary team effort, usually from several collaborating universities, can accelerate research progress in areas particularly suited to this approach by cross- fertilization of ideas, hasten the transition of basic research findings to practical applications, and help to train students in science, technology and/or engineering in areas of importance to DoD. MURI programs are typically five years in length at a cost of \$1.25 million each per year.			
FY 2023 Plans: Will provide support for MURI awards made in prior years and initiate six to eight FY23 MURI new starts to enable advances in select interdisciplinary basic science and/or engineering research areas determined to be of critical importance to national defense			
FY 2024 Plans: Will provide continued support for active MURI efforts made in prior years, and award eight to ten FY24 MURI efforts at a cost of \$1.5 million each per year to enable advances in select interdisciplinary basic science and/or engineering research areas determined to be of critical importance to national defense.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Funding increase supports additional research investments in each new MURI awarded in FY2024.				
<p>Title: Presidential Early Career Awards for Scientists and Engineers</p> <p>Description: Supports Presidential Early Career Awards for Scientists and Engineers (PECASE) investigators started in prior years as well as new award recipients.</p> <p>FY 2023 Plans: Will support prior year awardees and assess and recommend four new PECASE candidates in FY23.</p> <p>FY 2024 Plans: Will assess and recommend two PECASE candidates in FY24 and continue support for prior year awardees.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase supports planned lifecycle of this effort.</p>		4.510	4.611	5.061
<p>Title: Defense University Research Instrumentation Program</p> <p>Description: Supports basic research through competitive grants for research instrumentation.</p> <p>FY 2023 Plans: Will assess and award competitive grants for research instrumentation to enhance universities' capabilities to conduct world-class research and enhance educational capabilities critical to Army transformation and modernization.</p> <p>FY 2024 Plans: Will assess and award competitive research instrumentation grants to enhance universities' capabilities to conduct world class research, and enhance educational capabilities critical to Army transformation and modernization.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase supports planned lifecycle of this effort.</p>		7.525	7.788	8.407
<p>Title: SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC §638</p> <p>FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p>		-	2.561	-

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Funding transferred in accordance with Title 15 USC §638			
Accomplishments/Planned Programs Subtotals	63.797	70.160	75.672

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

N/A

Remarks

D. Acquisition Strategy

N/A

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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
D58: <i>URI ACTIVITIES (CA)</i>	-	25.000	37.000	-	-	-	-	-	-	-	0.000	62.000

Note

Congressional Interest Item.

A. Mission Description and Budget Item Justification

Congressional Interest Item funding provided for University Research Initiatives.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

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

	FY 2022	FY 2023
Congressional Add: Program Increase - Defense University Research Instrumentation Program	25.000	30.000
FY 2022 Accomplishments: Congressional Interest Item funding provided for Defense University Research Instrumentation Program		
FY 2023 Plans: Congressional Interest Item funding provided for Defense University Research Instrumentation Program		
Congressional Add: Program Increase - Missile Soldier Touch Point Center	-	7.000
FY 2023 Plans: Congressional Interest Item funding provided for Missile Soldier Touch Point Center		
Congressional Adds Subtotals	25.000	37.000

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

N/A

Remarks

D. Acquisition Strategy

N/A