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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 2: Applied Research</i>	R-1 Program Element (Number/Name) PE 0602622A / <i>Chemical, Smoke and Equipment Defeating Technology</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	4.884	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.884
552: <i>Smoke/Novel Effect Mun</i>	-	4.884	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.884

Note

In Fiscal Year (FY) 2020, this Program Element (PE) is realigned with continuity of effort to:

- * PE 0602144A (Ground Technology)
- * PE 0602145A (Next Generation Combat Vehicle Technology)

A. Mission Description and Budget Item Justification

This PE investigates and evaluates obscurant technologies to increase personnel and platform survivability and develop and validate forensic analysis methods for military and homemade explosive devices, including their precursors and residue. Project 552 (Smoke/Novel Effects Munitions) pursues research in materials science as well as dissemination methodologies, mechanisms, technologies, and techniques to enable forensic analysis of explosive signatures.

Work in this PE is related to, and fully coordinated with, PE 0603004A (Weapons and Munitions Advanced Technology), Project L97 (Smoke and Obscurants Advanced Technology) and PE 0603606A (Landmine Warfare and Barrier Advanced Technology), Project 608 (Countermines & Bar Dev).

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

This work is performed by the United States Army Futures Command

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	5.027	0.000	0.000	-	0.000
Current President's Budget	4.884	0.000	0.000	-	0.000
Total Adjustments	-0.143	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.143	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army										Date: February 2020		
Appropriation/Budget Activity 2040 / 2					R-1 Program Element (Number/Name) PE 0602622A / <i>Chemical, Smoke and Equipment Defeating Technology</i>				Project (Number/Name) 552 / <i>Smoke/Novel Effect Mun</i>			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
552: <i>Smoke/Novel Effect Mun</i>	-	4.884	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.884

Note

In Fiscal Year (FY) 2020 this Project was realigned to:
 Program Element (PE) 0602145A Next Generation Combat Vehicle Technology
 * Project BG8 Obscuration Technology
 PE 0602144A Ground Technology
 * Project BL2 Explosive Forensics Technology

A. Mission Description and Budget Item Justification

This Project investigates and evaluates obscurant technologies that degrade threat force surveillance sensors and defeat the enemy's target acquisition devices, missile guidance, and directed energy weapons. This Project focuses on advanced infra-red and multi-spectral obscurant materials that provide effective, affordable, and efficient screening of deployed forces, while being safe and environmentally acceptable. Additionally, it researches and investigates forensic analysis technology in explosives and explosives-related chemical signatures, and develops and validates field sampling and forensics methods for use in a forward-deployed laboratory.

This Project sustains Army Science and Technology efforts supporting the Ground Maneuver portfolio.

In FY18/19, work in this Project is related to, and fully coordinated with, PE 0603004A (Weapons and Munitions Advanced Technology) / Project L97 (Smoke and Obscurants Advanced Technology) and PE 0603606A (Landmine Warfare and Barrier Advanced Technology) / Project 608 (Countermine & Bar Dev).

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

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

	FY 2019	FY 2020	FY 2021
Title: Advanced Obscurants	1.514	-	-
Description: This effort investigates new materials and compounds to enable safe, effective screening of personnel and equipment.			
Title: Obscurant Enabling Technology	1.950	-	-
Description: This effort investigates distribution technologies for various obscurants.			
Title: Forensic Analysis of Explosives	1.418	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 2	R-1 Program Element (Number/Name) PE 0602622A / <i>Chemical, Smoke and Equipment Defeating Technology</i>	Project (Number/Name) 552 / <i>Smoke/Novel Effect Mun</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
Description: This effort investigates forensics analytical methods for military explosives, homemade explosives (HME), HME precursors, and residue analysis for attribution.			
Title: FY 2018 NDAA SEC 825 MDAP Cost Overrun Description: FY 2018 NDAA SEC 825 MDAP Cost Overrun	0.002	-	-
Accomplishments/Planned Programs Subtotals	4.884	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A