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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army										Date: May 2017		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0603645A I Armored Systems Modernization Adv Dev							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	32.739	-	32.739	32.743	52.741	52.733	38.000	Continuing	Continuing
EV7: Combat Vehicle Prototyping	-	0.000	0.000	32.739	-	32.739	32.743	52.741	52.733	38.000	Continuing	Continuing

Note

Project EV7 (Combat Vehicle Prototyping) is a continuation of efforts previously executed under 0604115A, Technology Maturation Initiatives.

A. Mission Description and Budget Item Justification

Next generation combat vehicle / FFV prototyping provides focused investment for development of the next generation combat vehicles. The purpose of this funding is to integrate the next generation of technology enabled capabilities developed in the S&T portfolio to demonstrate new capabilities to meet emerging military needs, provide hardware for Soldier operational evaluation/feedback, to determine integration potential across the current Army portfolio of ground vehicles and to develop platform level prototypes

Prototyping allows for aggressive innovation (provides a bridge from Science and Technology (S&T) investment to vehicle integration and operational use), ensures Warfighter requirements are met, mitigates capability gaps, reduces risks (reduces acquisition programmatic technical risks, stabilizes requirements through user evaluation and helps Army senior leaders make informed decisions), enables affordability (minimizes changes during the Technology Maturation and Risk Reduction (TMRR) and Engineering & Manufacturing Development (EMD) acquisition phases), and has the potential to accelerates acquisition.

This Investment enables technology development and offers the potential to accelerate acquisition by reducing risk and possible time during the acquisition cycle. It will inform Army combat vehicle modernization decisions by informing Army leadership on cost, schedule, technical feasibility, and performance trade-offs. This will impact decisions on modification and modernization of existing platforms as well as decisions to develop new vehicles or critical subsystems. It will provide feedback and technological options for the requirements development to streamline the requirements and acquisition process. This funding will mitigate the risk of technology over reach, and enable the transition of technology from Government S&T investments and other potential technology development sources.

The funding in FY 2018 will support continued advanced concept development, trade studies, technology maturation/testing, technical/operational/affordability analyses, and prototyping and demonstration of combat vehicles to assess future concepts and designs that integrate emerging Science and Technology advancements.

This work is fully coordinated with and complementary to PE 0603005A (Combat Vehicle and Automotive Advanced Technology) and PE 0604115 (Technology Maturation Initiatives).

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Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)		PE 0603645A / Armored Systems Modernization Adv Dev			
B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.000	5.500	5.000	-	5.000
Current President's Budget	0.000	0.000	32.739	-	32.739
Total Adjustments	0.000	-5.500	27.739	-	27.739
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	0.000	-5.500	27.739	-	27.739

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Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603645A / Armored Systems Modernization Adv Dev				Project (Number/Name) EV7 / Combat Vehicle Prototyping			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
EV7: Combat Vehicle Prototyping	-	0.000	0.000	32.739	-	32.739	32.743	52.741	52.733	38.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project EV7 (Combat Vehicle Prototyping) is a continuation of efforts previously executed under 0604115A, Technology Maturation Initiatives.

A. Mission Description and Budget Item Justification

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The funding in FY 2018 will support continued advanced concept development, trade studies, technology maturation / testing, technical / operational / affordability analyses, and prototyping and demonstration of combat vehicles to assess future concepts and designs that integrate emerging Science and Technology advancements.

This work is fully coordinated with and complementary to PE 0603005A (Combat Vehicle and Automotive Advanced Technology) and PE 0604115 (Technology Maturation Initiatives).

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

	FY 2016	FY 2017	FY 2018
Title: Project Management	-	-	14.854

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Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603645A / Armored Systems Modernization Adv Dev	Project (Number/Name) EV7 / Combat Vehicle Prototyping		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
<p>Description: This effort conducts system level ground vehicle advanced concepting, prototyping and demonstration. This effort will partner Government organic capabilities and Industry for an iterative and integrated combat vehicle concepting and prototyping process to inform and stabilize future vehicle capability Requirements, inform current and future vehicle performance characteristics, inform affordability, reduce future acquisition risk, and evaluate and update Operational Concepts. Activity will include the integration and demonstration of a series of subsystem demonstrators building off of previous investment in ground combat acquisition and science and technology programs.</p> <p>FY 2018 Plans: Will build off of previous and current investments in Science and Technology and Acquisition efforts (PE's 0605625, 0604115, 0603005) to further concept development and system level risk reduction for the next generation of combat vehicles. The next generation combat vehicle team (PEO GCS in coordination with RDECOM) will oversee a continued public private partnership between organic Government and private Industry, monitoring and tracking technical progress related to the development concepts and designs for the next generation of combat vehicles. It will mature system level concepts and designs to integrate S&T developed advanced ground vehicle subsystem technologies such as active protection, powertrains, armors, and situational awareness suites into a system level experimental prototype. It will conduct experimental demonstration of closed hatch Infantry Fighting Vehicle and split-squad operations. It will leverage organic early synthetic prototyping capability to conduct soldier-in-the-loop virtual simulations of future combat vehicle concepts to assess next generation capabilities and conduct system level performance trades. The team will conduct analysis based on all the data currently available from the FFV and Squad Centric Mounted Maneuver (SCMM) efforts to inform investments in FY19 and beyond.</p>				
<p>Title: Test & Evaluation</p> <p>FY 2018 Plans: Test & Evaluation includes but not limited to safety, integration, and demonstration.</p>		-	-	7.981
<p>Title: Other</p> <p>FY 2018 Plans: Other efforts include software integration library (SIL), crew station SIL, power and data architecture, powerpack components, software support and development. The efforts also include integration and support services for the Squad Centric Mounted Maneuver (SCMM) project; ground movement target indicator radar, unmanned aerial system sensor, hardware for the head mount display subsystem, fabricates remaining hardware in support of SCMM vehicle integration, and hardware and support for the SCMM autonomy subsystem and vehicle electronics architecture subsystem.</p>		-	-	6.904
<p>Title: Modeling & Simulation</p> <p>FY 2018 Plans:</p>		-	-	3.000

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B. Accomplishments/Planned Programs (\$ in Millions)							FY 2016	FY 2017	FY 2018		
The modeling and simulation effort is to assess operational needs and operational employment by using the Maneuver Battle lab at Fort Benning and One Semi-Automated Forces (OneSAF) modeling. Results provide the analytical underpinnings to support development of requirements.											
Accomplishments/Planned Programs Subtotals							-	-	32.739		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• RDT&E,A: PE 0604115A	-	25.000	-	-	-	-	-	-	-	0	25.000
Remarks											
D. Acquisition Strategy											
Competitive contracts will be awarded. This project will continue to exercise competitively awarded contracts using best value source selection procedures.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army												Date: May 2017			
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603645A / Armored Systems Modernization Adv Dev				Project (Number/Name) EV7 / Combat Vehicle Prototyping							
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NGCV Contract(s)	C/TBD	TBD : TBD	0.000	-		-		5.671	Oct 2017	-		5.671	Continuing	Continuing	Continuing
SCMM Phase 1 Contracts	C/TBD	TBD : TBD	0.000	-		-		1.233	Oct 2017	-		1.233	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		6.904		-		6.904	-	-	-
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO/PEO Support	MIPR	PM/PEO : Warren, MI	0.000	-		-		14.854	Dec 2017	-		14.854	0.000	14.854	0.000
Subtotal			0.000	-		-		14.854		-		14.854	0.000	14.854	0.000
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SCMM User Evaluation	C/TBD	TBD : TBD	0.000	-		-		7.981	Oct 2017	-		7.981	Continuing	Continuing	Continuing
Modeling & Simulation	C/TBD	TBD : TBD	0.000	-		-		3.000	Jan 2018	-		3.000	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		10.981		-		10.981	-	-	-
Project Cost Totals			Prior Years 0.000	FY 2016 -		FY 2017 0.000		FY 2018 Base 32.739		FY 2018 OCO -		FY 2018 Total 32.739	Cost To Complete -	Total Cost -	Target Value of Contract -
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army																Date: May 2017																					
Appropriation/Budget Activity 2040 / 4										R-1 Program Element (Number/Name) PE 0603645A / Armored Systems Modernization Adv Dev										Project (Number/Name) EV7 / Combat Vehicle Prototyping																	
Event Name										FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
										1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SCMM Phase 1: Modified Bradley Fire Team IFV														SCMM Phase 1: Modified Bradley Fire Team IFV																							
(1) Live Experiment														Live Experiment																							
Operational Modeling														Operational Modeling																							
Requirements Development																																					
Operational Modeling/O&O																																					
Technologies Assessments and prioritization														Technologies Assessments and prioritization																							
Prototyping Phase																																					
																		NGCV Prototyping Phase (Design/Build/Test)																			

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army			Date: May 2017
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603645A / <i>Armored Systems Modernization Adv Dev</i>	Project (Number/Name) EV7 / <i>Combat Vehicle Prototyping</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SCMM Phase 1: Modified Bradley Fire Team IFV	1	2018	4	2018
Live Experiment	1	2019	1	2019
Operational Modeling	1	2018	4	2018
Requirements Development	1	2020	4	2022
Operational Modeling/O&O	3	2020	4	2022
Technologies Assessments and prioritization	1	2018	4	2018
Prototyping Phase	3	2018	4	2022