Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army											Date: February 2015	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603774A / *Night Vision Systems Advanced Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	8.760	3.050	7.292	-	7.292	9.152	5.626	4.908	6.949	Continuing	Continuing
VT7: *Soldier Maneuver Sensors - Adv Dev*	-	8.760	3.050	7.292	-	7.292	9.152	5.626	4.908	6.949	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element focuses on efforts to evaluate and integrate technologies and representative prototype systems that facilitate the development of Soldier-borne sensor devices transitioning from the laboratory to operational use. Efforts focus on proving out commonality across as broad a spectrum of users as possible to provide enhanced Soldier products, giving them superiority on the battlefield.

Project VT7 (Soldier Maneuver Sensors-Advanced Development): This project supports efforts to evaluate and integrate technologies and representative prototype systems for the development of Soldier-borne sensor devices, transitioning from the Science and Technology (S&T) arena to operational use. Efforts focus on providing enhanced products to give Soldiers superiority on the battlefield by providing the capability to detect enemy snipers using precise target information to mitigate operational risk before sniper fire occurs. This project integrates higher resolution thermal focal plane arrays, integrated ballistic solutions to auto-adjust reticles for range, wireless technology with weapon sights, improved range, performance, and capability, while decreasing system size and weight. These integration efforts enhance Soldier situational awareness, lethality, survivability, mobility, and comfort in combat and training environments.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	9.061	3.052	5.181	-	5.181
Current President's Budget	8.760	3.050	7.292	-	7.292
Total Adjustments	-0.301	-0.002	2.111	-	2.111
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-0.301	-0.002	2.111	-	2.111

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603774A / *Night Vision Systems Advanced Development*	Project (Number/Name) VT7 / *Soldier Maneuver Sensors - Adv Dev*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
VT7: *Soldier Maneuver Sensors - Adv Dev*	-	8.760	3.050	7.292	-	7.292	9.152	5.626	4.908	6.949	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports efforts to evaluate and integrate technologies and representative prototype systems for the development of Soldier-borne sensor devices, transitioning from the Science and Technology (S&T) arena to operational use. Efforts focus on providing enhanced products to give Soldiers superiority on the battlefield by providing the capability to detect enemy snipers using precise target information to mitigate operational risk before sniper fire occurs. This project integrates higher resolution thermal focal plane arrays, integrated ballistic solutions to auto-adjust reticles for range, wireless technology with weapon sights, improved range, performance, and capability, while decreasing system size and weight. These integration efforts enhance Soldier situational awareness, lethality, survivability, mobility, and comfort in combat and training environments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Family of Weapon Sights (FWS)	7.660	1.230	3.616

Description: FWS is a family of weapon sights that enable combat forces to acquire and engage targets with small arms and to conduct surveillance and Enhanced Target Engagement under day/night obscurants, no-light, and adverse weather conditions. The family utilizes advancements in thermal and low light level sensor to produce Individual (I), Crew-Served (CS), and Sniper (S) weapon sights operable in-line with a day optic or in stand-alone mode. This project integrates a smaller pixel focal plane array in multiple large format sizes to improve sensitivity, clarity, and range, while simultaneously reducing the size, weight and power consumption of both the Crew-Served and Sniper variants. The FWS-I variant is a weapon mounted long-wave infrared sensor that enables Soldiers to fire quickly and accurately from any carry position and with significantly reduced exposure to enemy fire by providing a wireless zeroed weapon aimpoint in the Soldier's goggle. Leveraging the success of the Individual variant development, the FWS-CS variant operates as the primary sight; it includes a wireless Helmet Mount Display (HMD) and provides the Soldier, with input from a laser range device, a more accurate aimpoint that adjust automatically for range, ammunition characteristics, and vertical angle.The FWS-S variant will provide Snipers with a large format high-definition display enabling forces to acquire and engage targets faster with small arms at longer ranges.

FY 2014 Accomplishments:

Continue development of FWS-CS including integration of 12 micron thermal focal plane arrays, integrated ballistic solutions for auto-adjusting reticles, wireless technology, and HMDs resulting in demonstration of these technologies at an Early User Assesment (EUA)

FY 2015 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603774A / *Night Vision Systems Advanced Development*	**Project (Number/Name)** VT7 / *Soldier Maneuver Sensors - Adv Dev*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue Technology Maturation Risk Reduction of the FWS-CS. Continue Technology Maturation Risk Reduction of the FWS-S to integrate sensor and system technologies into a sight that can be clipped onto high magnification sniper day sights and provide increased identification and engagement ranges. ***FY 2016 Plans:*** CompleteTechnology Maturation Risk Reduction of the FWS-CS and FWS-S prototypes. Continue sensor development efforts for P3I of all FWS variants in support of the Fused Vision Mobility Device (FVMD) and initiate the development of digital low-light technologies with the potential to replace analog tubes for night vision.			
Title: Fused Vision Mobility Device ***Description:*** The FVMD is the next generation night vision goggle that will reduce the Soldier burden by allowing them to keep hands on their weapons. The FVMD will provide automatic adjustment of imagery and matched sensor Fields of View. It will reduce or eliminate the need to adjust focus and will allow for the transmission of fused imagery throughout the battlefield. ***FY 2016 Plans:*** FY16 Description: Post the Materiel Development Decision in 2Q FY16, initiate pre-MS A activities to include the Analysis of Alternatives.	-	-	0.636
Title: Pre-Shot Threat Detection (PTD) ***Description:*** PTD provides dismounted units, at the squad level, with pre-shot counter sniper-counter shooter-counter surveillance capabilities. Detecting enemy weapon and surveillance optics increases the dismounted leader's situational awareness/understanding (SA/SU) in complex environments. The objective of PTD is to provide pre-shot threat detection and increase survivability and lethality for dismounted Soldiers through battle systems integration. ***FY 2014 Accomplishments:*** Complete Analysis of Alternatives. ***FY 2015 Plans:*** Support completion of Performance Specification, multiple contract awards to build technology demonstrators for Pre-Shot Threat Detection. ***FY 2016 Plans:*** Continue Technology Maturation Risk Reduction and begin component development. Continue with lab laser development. Begin EUA, with Soldiers, based on the acquisition approach.	1.100	1.820	3.040
Accomplishments/Planned Programs Subtotals	8.760	3.050	7.292

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603774A / *Night Vision Systems Advanced Development*	**Project (Number/Name)** VT7 / *Soldier Maneuver Sensors - Adv Dev*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• Night Vision Systems -Eng Dev: *Night Vision Systems - Eng Dev (PE 604710 L67)*	10.951	15.249	20.440	-	20.440	20.070	19.851	24.549	28.793	Continuing	Continuing
• Helmet Mounted Enhanced Vision Devi: *Helmet Mounted Enhanced Vision Devices (HMEVD) (SSN K36400)*	109.548	134.365	97.968	-	97.968	133.853	125.149	76.822	91.465	Continuing	Continuing
• Thermal Weapon Sight (TWS): *Thermal Weapon Sight (TWS) (SSN K22900)*	10.074	2.000	-	-	-	-	-	-	-	-	12.074
• Family of Weapon Sights (FWS) - I: *Family of Weapon Sights - Individual (FWS-I) (SSN K22002)*	-	29.205	53.453	-	53.453	74.955	75.304	88.454	108.134	Continuing	Continuing
• Family of Weapon Sights (FWS) - CS: *Family of Weapon Sights - Crew Served (FWS-CS) (SSN K22003)*	-	-	-	-	-	-	35.943	61.502	75.975	Continuing	Continuing
• Family of Weapon Sights (FWS) - S: *Family of Weapon Sights - Sniper (FWS-S) (SSN K22004)*	-	-	-	-	-	-	10.558	15.620	26.471	Continuing	Continuing

Remarks

D. Acquisition Strategy

The various developmental programs in this project continue to exercise competitively awarded contracts using best value source selection procedures.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603774A / *Night Vision Systems Advanced Development*	Project (Number/Name) VT7 / *Soldier Maneuver Sensors - Adv Dev*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Allot	Various : Various	0.336	2.273	Jan 2014	0.331	Jan 2015	1.307	Oct 2015	-		1.307	Continuing	Continuing	-
		Subtotal	0.336	2.273		0.331		1.307		-		1.307	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Weapon Sights-Crew Served (FWS-CS)	Various	NVESD : FT BELVOIR, VA	7.591	-		-		1.020	Feb 2016	-		1.020	Continuing	Continuing	-
Family of Weapon Sights-Sniper (FWS-S)	MIPR	NVESD : FT BELVOIR, VA	0.000	5.300	Mar 2014	0.123	Jun 2015	0.630	Feb 2016	-		0.630	Continuing	Continuing	-
Fused Vision Mobility Device (FVMD)	MIPR	NVESD : FT BELVOIR, VA	0.000	-		-		0.636	Dec 2015	-		0.636	-	0.636	-
Pre-Shot Threat Detection (PTD)	MIPR	NVESD : FT BELVOIR, VA	0.500	0.809	Jan 2014	1.492	Apr 2015	1.625	Dec 2015	-		1.625	Continuing	Continuing	-
		Subtotal	8.091	6.109		1.615		3.911		-		3.911	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	NVESD : FT BELVOIR, VA	0.744	0.308	Feb 2014	0.404	Feb 2015	0.674	Dec 2015	-		0.674	Continuing	Continuing	-
		Subtotal	0.744	0.308		0.404		0.674		-		0.674	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603774A / *Night Vision Systems Advanced Development*	Project (Number/Name) VT7 / *Soldier Maneuver Sensors - Adv Dev*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Support Test Activity	MIPR	Army Test and Evaluation Command : Varrious	0.385	0.070	Jun 2014	0.700	Jan 2015	1.400	Jan 2016	-		1.400	Continuing	Continuing	-
		Subtotal	0.385	0.070		0.700		1.400		-		1.400	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.556	8.760		3.050		7.292		-		7.292	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603774A / *Night Vision Systems Advanced Development*	**Project (Number/Name)** VT7 / *Soldier Maneuver Sensors - Adv Dev*

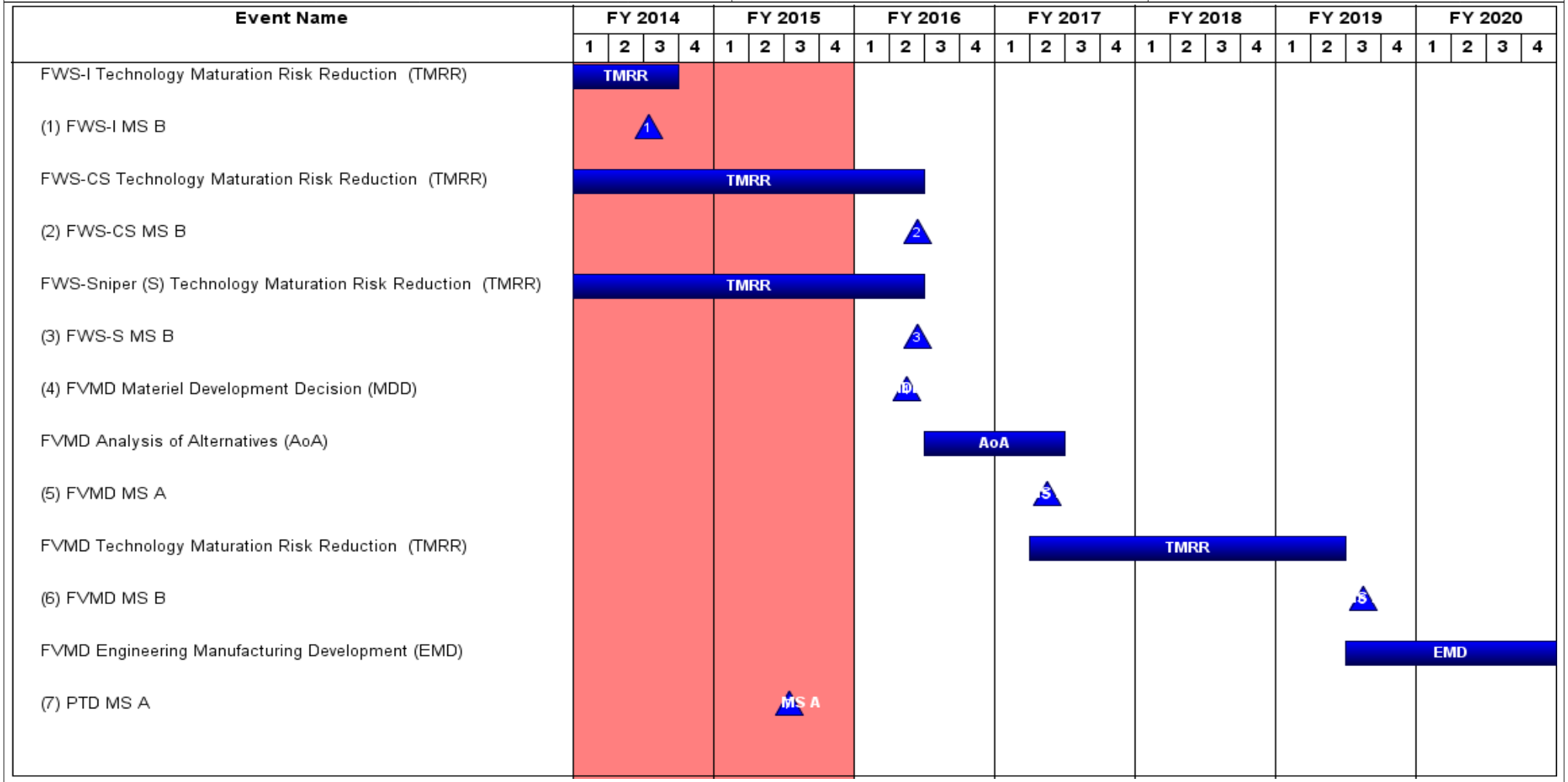

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603774A / *Night Vision Systems Advanced Development*	**Project (Number/Name)** VT7 / *Soldier Maneuver Sensors - Adv Dev*

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603774A / *Night Vision Systems Advanced Development*	**Project (Number/Name)** VT7 / *Soldier Maneuver Sensors - Adv Dev*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FWS-I Technology Maturation Risk Reduction (TMRR)	4	2011	3	2014
FWS-I MS B	3	2014	3	2014
FWS-CS Technology Maturation Risk Reduction (TMRR)	4	2011	2	2016
FWS-CS MS B	2	2016	2	2016
FWS-Sniper (S) Technology Maturation Risk Reduction (TMRR)	4	2011	2	2016
FWS-S MS B	2	2016	2	2016
FVMD Materiel Development Decision (MDD)	2	2016	2	2016
FVMD Analysis of Alternatives (AoA)	3	2016	2	2017
FVMD MS A	2	2017	2	2017
FVMD Technology Maturation Risk Reduction (TMRR)	2	2017	2	2019
FVMD MS B	3	2019	3	2019
FVMD Engineering Manufacturing Development (EMD)	3	2019	4	2020
PTD MS A	3	2015	3	2015
PTD Technology Maturation Risk Reduction (TMRR)	3	2015	2	2017
PTD MS B	2	2017	2	2017
PTD Engineering Manufacturing Development (EMD)	2	2017	3	2019
PTD MS C	4	2019	4	2019
Sense Through The Wall (STTW) Technology Maturation Risk Reduction (TMRR)	2	2019	4	2020