Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army

**DATE:** February 2010

#### APPROPRIATION/BUDGET ACTIVITY

2040: Research, Development, Test & Evaluation, Army

BA 6: RDT&E Management Support

#### R-1 ITEM NOMENCLATURE

PE 0605326A: Concepts Experimentation Program

COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	33.178	26.407	17.704	0.000	17.704	29.576	28.193	26.492	24.851	Continuing	Continuing
308: Concepts Experimentation	5.741	3.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
312: Army/Joint Experimentation	10.158	11.698	5.907	0.000	5.907	9.581	8.586	7.815	5.951	Continuing	Continuing
317: CURRENT FORCE CAPABILITY GAPS	15.396	9.643	9.770	0.000	9.770	18.093	17.693	16.747	16.955	Continuing	Continuing
33B: SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE	1.883	1.982	2.027	0.000	2.027	1.902	1.914	1.930	1.945	Continuing	Continuing

## A. Mission Description and Budget Item Justification

The Army Experimentation mission enables integrated examinations with US Joint Forces Command (USJFCOM), Army Test and Evaluation Command (ATEC), Research, Development, and Experimentation Command (RDECOM), Army battle laboratories, operational units, research labs, materiel developers, industry and academia to collaborate in the development, refinement, and assessment of future force concepts. The intended outcome of this integrative effort is to develop concept capability plans that inform the Capabilities Integration Development System (CIDS) process and define future requirements, enabling identification and acquisition of critical Doctrine, Organization, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) capabilities for the future force to provide land power capabilities needed by Joint and Army commanders. In FY 2010 and FY 2011, RDT&E funding specifically enables the World Class Blue Force (subject matter experts overseeing and coordinating experiments efforts from ARCIC proper in collaboration with the Schools and Centers), support for Red Cell analysis, and support to Maneuver Brigade Experiments. Experimentation enables enhanced situational awareness, planning requirements, employment and management of accelerated decision cycles in a network-enabled force, and training requirements of new and emerging technologies. ARCIC, Accelerated Capabilities Division (formerly Asymmetric Warfare Division) develops immediate capability solutions in support of the CSA prioritized Current Force capability gaps (i.e. Force Protection, Networked Battle Command, Logistics and Medical in COIN and Soldier Protection). ACD conducts concept of operations (CONOPS) and DOTMLPF analysis required to ensure capability gap candidate solutions are properly integrated prior to being equipped to deployed forces. Supports pre-deployment and in-theater assessments to ensure capability to fill an identified gap. These assessments support determination of a path forward for equipped systems by identifying them

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

2040: Research, Development, Test & Evaluation, Army

PE 0605326A: Concepts Experimentation Program

BA 6: RDT&E Management Support

## **B. Program Change Summary (\$ in Millions)**

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Previous President's Budget	33.918	23.456	22.885	0.000	22.885
Current President's Budget	33.178	26.407	17.704	0.000	17.704
Total Adjustments	-0.740	2.951	-5.181	0.000	-5.181
<ul> <li>Congressional General Reductions</li> </ul>		0.000			
<ul> <li>Congressional Directed Reductions</li> </ul>		0.000			
<ul> <li>Congressional Rescissions</li> </ul>	0.000	0.000			
<ul> <li>Congressional Adds</li> </ul>		2.951			
<ul> <li>Congressional Directed Transfers</li> </ul>		0.000			
<ul> <li>Reprogrammings</li> </ul>	0.000	0.000			
<ul> <li>SBIR/STTR Transfer</li> </ul>	-0.740	0.000			
<ul> <li>Adjustments to Budget Years</li> </ul>	0.000	0.000	-5.181	0.000	-5.181

## **Change Summary Explanation**

Change Summary Explanation: Funding - FY 2011: Reduction due to funding being realigned to higher priority Army programs (-5,181).

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army									DATE: Febr	ruary 2010	
APPROPRIATION/BUDGET ACT 2040: Research, Development, Test & BA 6: RDT&E Management Support	esearch, Development, Test & Evaluation, Army  PE 0605326A: Concepts Experimentation Program   308: Concepts Experimentation										
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
308: Concepts Experimentation	5.741	3.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											

#### Note

Not applicable for this item.

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

Gunfire Detection System for Unmanned Aerial Vehicles: Radiance Technologies Inc. has developed a wide angle weapons detection sensor that can detect, classify and locate a variety of weapon fires including Rocket Propelled Grenades (RPGs), MANPADS, small arms, mortars, tanks and artillery. This Weapons Watch (WW) Technology can process these events in near real time (less than a second) and disseminate the information over existing command and control channels immediately. This sensor, detecting from a variety of airborne platforms can cue other sensors or weapon systems to positively identify and neutralize the hostile weapon system. The basic sensor technology has been demonstrated as part of the Overwatch ACTD and has also been deployed to support current operations. At less than 30 pounds, it has flown on both manned and unmanned aircraft proving its ability to accurately detect at extended ranges while on the move. The Army Aviation Center is ready to integrate this technology on both manned and unmanned aircraft to provide both enhanced targeting and aircrew survivability. In concert with AMRDEC- Huntsville), PM UAV (Huntsville) and the Directorate of Combat Developments (Ft. Rucker), Radiance Technologies will provide simulation software and WW hardware to the USAAVNC for testing and certification through the Aviation Technical Test Center (AATTC). Radiance will employ aviation experts from both the Wiregrass area and Huntsville to develop the techniques, tactics and procedures to fully employ the capabilities of this system. Arabic Language Training Program: This is a language tool that is interactive multimedia and mission focused. In this case the mission is to respond and report to an Improvised Explosive Devices (IED) event. This is the third in a series of language learning modules developed under the Tactical Language Online (TALON) platform developed by Little Planet Learning. The first was titled "Find a Suspect" and the second "Conduct a Census." Learning module topics throughout this ongoing project have been selected through a process of identifying language learning requirements by Army Military Intelligence (MI) Human Intelligence (HUMINT) operators. Feedback from the field is that these mission focused learning modules are of great benefit for HUMINT linguists. Automated Communications Support System for Warfighters, Intelligence Community, Linguist, and Analyst: This is new functionality to be developed for an existing information extraction software that is applied to live or taped audio. Specifically the software will be enhanced to automatically identify correctly among over 100 languages. The enormous amount of audio that has been recorded is far greater than the ability of the trained human linguist pool to fully exploit. Language identification (and other information extraction tools) are extremely important triage tools in order to fully exploit the intelligence in these materials. This software suite is the information extraction software of choice for National Security Agency (NSA) and the Central Intelligence Agency (CIA). This Language Identification capability requirement was articulated by several entities within the Intelligence Community to include NSA. Moving Vehicle Face Recognition Surveillance System: This proof of concept is a facial recognition using a moving vehicle mounted camera as the capture device. Current facial recognition technology is limited a full frontal capture of the face, and is thus limited to ideal conditions. This experiment extends 2D to 3D Normalization of a face captured at less than ideal angles and incorporates the capture by the camera from a moving vehicle. This is an extremely important capability to develop in

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			<b>DATE:</b> February 2010
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
2040: Research, Development, Test & Evaluation, Army	PE 0605326A: Concepts Experimentation Program	308: Concep	ts Experimentation
BA 6: RDT&E Management Support			

order to exploit the "face in the crowd" concept of facial capture/recognition. Technology for Rapid Foreign Language Acquisition for Specialized Military and Intelligence Purposes: This proof of concept takes a new approach targeted to adults learning a second language. The MI Audience is MOS 35M who are interrogators who no longer institutionally learn a foreign language until their first reenlistment. The MI Corps has learned that rudimentary language skills in specific interviews topics is a must for these newly minted interrogators to function. The proposed language learning tool is designed to get an individual with a Defense Language Proficiency Test (DLPT) score of 0/0 to 1+/1+. This project will provide training capabilities in five languages: Spanish, French, Pashtu, Modern Standard Arabic, and Persian Farsi. The FY 2010 project calls for the same courseware delivered in the following seven languages: Arabic-Iraqi, Indonesian, Korean, Portuese-Brazilian, Russian, Swahili, and Tagalog.

## B. Accomplishments/Planned Program (\$ in Millions)

FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
0.800	0.000	0.000	0.000	0.000
0.956	0.000	0.000	0.000	0.000
		0.800 0.000	FY 2009         FY 2010         Base           0.800         0.000         0.000	FY 2009         FY 2010         Base         OCO           0.800         0.000         0.000         0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimentation Pro	I	PROJECT 308: Concep	PROJECT 808: Concepts Experimentation		
B. Accomplishments/Planned Program (\$ in Millions)						
	FY	Z <b>2009</b>	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #3  Automated Communication Support System for Warfighters, Intelligence (Congressional Add)	Community, Linguist, and Analyst	1.593	1.492	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #4  Moving Vehicle BAT Face Recognition Surveillance System (Congression	al Add)	1.196	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimentation	on Program	PROJECT 308: Concep	ts Experiment	ation	
B. Accomplishments/Planned Program (\$ in Millions)	<u> </u>		I			
•		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #5		1.196	1.592	0.000	0.000	0.000
Technology for Rapid Foreign Language Acquisitions for Special (Congressional Add)	lized Military and Intelligence Purposes					
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
	Accomplishments/Planned Programs Subtotals	5.741	3.084	0.000	0.000	0.000
			*			

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		<b>DATE:</b> February 2010	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
2040: Research, Development, Test & Evaluation, Army	PE 0605326A: Concepts Experimentation Program	308: Concep	ts Experimentation
BA 6: RDT&E Management Support			
C. Other Program Funding Summary (\$ in Millions) N/A			
D. Acquisition Strategy N/A			
E. Performance Metrics  Performance metrics used in the preparation of this justification material may	be found in the FY 2010 Army Performance Budget Ju	astification B	ook, dated May 2010.

DATE: February 2010

Exhibit K-2A, KDT&E TTOJECT Justin	Zambit K-2A, KD 1 &E 110ject Justincation: 1 D 2011 Army								DATE. I COI	uary 2010					
APPROPRIATION/BUDGET ACTI 2040: Research, Development, Test & I BA 6: RDT&E Management Support		ту		<b>R-1 ITEM NOMENCLATURE</b> PE 0605326A: Concepts Experimentation Program											
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost				
312: Army/Joint Experimentation	10.158	11.698	5.907	0.000	5.907	9.581	8.586	7.815	5.951	Continuing	Continuing				
Quantity of RDT&E Articles															

#### Note

Not applicable for this item.

## A. Mission Description and Budget Item Justification

Exhibit R-2A RDT&E Project Justification PR 2011 Army

The Army Experimentation mission enables integrated examinations with US Joint Forces Command (USJFCOM), Army Test and Evaluation Command (ATEC), Research, Development, and Experimentation Command (RDECOM), Army battle laboratories, operational units, research labs, materiel developers, industry and academia to collaborate in the development, refinement, and assessment of future force concepts. The intended outcome of this integrative effort is to develop concept capability plans that inform the Capabilities Integration Development System (CIDS) process and define future requirements, enabling identification and acquisition of critical Doctrine, Organization, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) capabilities for the future force to provide land power capabilities needed by Joint and Army commanders. In FY 2010 and FY 2011, RDT&E funding specifically enables the World Class Blue Force (subject matter experts overseeing and coordinating experiments efforts from the Army Capabilities Integration Center (ARCIC) proper in collaboration with the Schools and Centers), support for Red Cell analysis, and support to Maneuver Brigade Experiments. Experimentation enables enhanced situational awareness, planning requirements, employment and management of accelerated decision cycles in a network-enabled force, and training requirements of new and emerging technologies.

## B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1	3.376	3.136	3.524	0.000	3.524
Experimentation - World Class Blue Force Analysts					
FY 2009 Accomplishments: FY 2009					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		<b>DATE:</b> February 2010					
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimentation	on Program	PROJECT 312: Army/Jo	ntation			
B. Accomplishments/Planned Program (\$ in Millions)							
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
FY 2010 Plans: FY 2010							
FY 2011 Base Plans: FY 2011 Base							
FY 2011 OCO Plans: FY 2011 OCO							
Program #2  Experimentation - Maneuver Brigade Experiments will address 1) integration (H-BCT)s with spin out capabilities; 2) integration of Interim Brigade Common Combat Team (SBCT) with Future Brigade Combat Team (FBCT) and H-I development of future IBCT, SBCT and HBCT capability DOTMLPF required and 4) acceleration and integration of capabilities for current force BCTs.	bat Team (IBCT) /Stryker Brigade BCTs with spin out capabilities; 3)	0.000	2.403	2.383	0.000	2.383	
FY 2009 Accomplishments: FY 2009							
FY 2010 Plans: FY 2010							
FY 2011 Base Plans: FY 2011 Base							
FY 2011 OCO Plans: FY 2011 OCO							
Program #3		0.423	0.000	0.000	0.000	0.000	

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimentati	on Program	PROJECT 312: Army/Jo	oint Experime	ntation	
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Experimentation - Functional Enabling Experiments designed to add Supply Support for the Future Modular Force.	ress Combat Health, Airlift Capabilities and					
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #4  Experimentation - This mission replicates the Operational Environme and strategies in each Training and Doctrine Command (TRADOC) e experiments and concept information would not be valid because the representation would be untested against credible threats.	experiment. Without the Red Cell effort,	1.400	0.000	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009  FY 2010 Plans: FY 2010						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimentation	Program	PROJECT 312: Army/Joint Experimentation			
B. Accomplishments/Planned Program (\$ in Millions)	'		I			
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #5		1.044	0.000	0.000	0.000	0.000
Experimentation - Subordinate Command Experiments designed to address maneuver from strategic distances and intra-theater operational maneuver absent.						
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #6  Experimentation - Support Brigade Experiments designed to provide situation understanding to all echelons in all conditions conducting complex and understanding to all echelons in all conditions.		3.915	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			<b>DATE:</b> Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT			
2040: Research, Development, Test & Evaluation, Army	PE 0605326A: Concepts Experimentation Program	312: <i>Army/J</i>	oint Experime	ntation	
BA 6: RDT&E Management Support					
B. Accomplishments/Planned Program (\$ in Millions)					
			FY 2011	FY 2011	FY 2011
	FY 2009	FY 2010	Base	осо	Total
FY 2009 Accomplishments:					
FY 2009					
FY 2010 Plans:					
FY 2010 Films.					
FY 2011 Base Plans:					
FY 2011 Base					
FY 2011 OCO Plans:					
FY 2011 OCO					
Program #7	0.00	5.832	0.000	0.000	0.000
Capstone Integration - Provides ramp up costs in support of the Army Con	cent Development and experimentation				
Campaign Plan (ACDEP) Phase I Capstone Experiment to include modelin					
scenario environment modifications; hardware and software upgrades that					
development. Experiment designed to conclude Phase I of the ACDEP wit					
initial 2017 Future Force capabilities for the Joint Warfighter; these finding					
support transitioning compelling capabilities to the Current Force, includin spinout of Future Combat Systems (FCS) capabilities to 2010 Modular-Bri					
spinout of Future Comout Systems (FCS) capabilities to 2010 Modular Bit	gade Combat Team (M BCT).				
FY 2009 Accomplishments:					
FY 2009					
FY 2010 Plans:					
FY 2010					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			<b>DATE:</b> February 2010
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
2040: Research, Development, Test & Evaluation, Army	PE 0605326A: Concepts Experimentation Program	312: Army/Jo	oint Experimentation
BA 6: RDT&E Management Support			
B. Accomplishments/Planned Program (\$ in Millions)			

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans:					
FY 2011 Base					
FY 2011 OCO Plans:					
FY 2011 OCO					
Program #8	0.000	0.327	0.000	0.000	0.000
Small Business Innovative Research/Small Business Technology Transfer Programs					
FY 2009 Accomplishments:					
FY 2009					
FY 2010 Plans:					
FY 2010					
FY 2011 Base Plans:					
FY 2011 Base					
FY 2011 OCO Plans:					
FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	10.158	11.698	5.907	0.000	5.907

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

N/A

# **D.** Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army	<b>DATE:</b> February 2010		
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
2040: Research, Development, Test & Evaluation, Army	PE 0605326A: Concepts Experimentation Program	312: Army/J	oint Experimentation
BA 6: RDT&E Management Support			
E. Performance Metrics			
Performance metrics used in the preparation of this justification material may	be found in the FY 2010 Army Performance Budget J	ustification B	ook, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army							DATE: Febr	ruary 2010			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support			R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimentation Program 317: CURRENT FORCE CAPABILITY OF THE PROJECT			GAPS					
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
317: CURRENT FORCE CAPABILITY GAPS	15.396	9.643	9.770	0.000	9.770	18.093	17.693	16.747	16.955	Continuing	Continuing
Quantity of RDT&E Articles											

#### <u>Note</u>

Not applicable for this item.

## A. Mission Description and Budget Item Justification

Army Capabilities Integration Center (ARCIC), Accelerated Capabilities Division (ACD) (formerly Asymmetric Warfare Division) develops immediate capability solutions in support of the Chief of Staff of the Army prioritized Current Force capability gaps (i.e. Force Protection, Networked Battle Command, Logistics and Medical in Counter-Insurgency and Soldier Protection). ACD conducts concept of operations and Doctrine, Organization, Training, Materiel, Leaders, Personnel, Facilities (DOTMLPF) analysis required to ensure capability gap candidate solutions are properly integrated prior to being equipped to deployed forces. Supports pre-deployment and in-theater assessments to ensure candidate solutions meet identified requirements, support tactics, techniques and procedures development for use by deployed forces, and ensure equipped systems provide the necessary capability to fill an identified gap. These assessments support determination of a path forward for equipped systems by identifying them as a potential program of record or sustain in theater. Concept of operations, DOTMLPF-Cost analysis, and assessments assist deployed forces by ensuring they are able to properly employ equipped systems and assist senior Army leadership in determining how best to resource solutions to high priority capability gaps.

#### B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1	5.893	3.653	4.935	0.000	4.935
Improvised Explosive Device (IED) Integrated Concept Development Team					
FY 2009 Accomplishments: FY 2009					

FY 2009   FY 2010   Base   OCO   Total	Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: Febr	ruary 2010	
FY 2010   FY 2010   FY 2011   Base   FY 2011   Total	2040: Research, Development, Test & Evaluation, Army					GAPS
FY 2009   FY 2010   Base   OCO   Total	B. Accomplishments/Planned Program (\$ in Millions)		1			
FY 2010  FY 2011 Base Plans: FY 2011 Base  FY 2011 OCO Plans: FY 2011 OCO  Program #2  Airborne Electronic Attack (AEA), Full Spectrum Effects Platform (FSEP), Land Warrior, Robotics  FY 2009 Accomplishments: FY 2010 Plans: FY 2010 Plans: FY 2011 Base Plans: FY 2011 Base Plans: FY 2011 OCO Plans: FY 2011 OCO Plans: FY 2011 OCO  Program #3  3.500 1.739 0.000 0.000		FY 2009	FY 2010			FY 2011 Total
FY 2011 Base  FY 2011 OCO Plans: FY 2011 OCO  Program #2  Airborne Electronic Attack (AEA), Full Spectrum Effects Platform (FSEP), Land Warrior, Robotics  FY 2009 Accomplishments: FY 2010 Plans: FY 2010 Plans: FY 2011 Base Plans: FY 2011 Base FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO Plans: FY 2011 OCO  Program #3  3.500 1.739 0.000 0.000						
FY 2011 OCO       0.000       0.000       1.377       0.000       1.377         Airborne Electronic Attack (AEA), Full Spectrum Effects Platform (FSEP), Land Warrior, Robotics       FY 2009 Accomplishments:       FY 2009       FY 2010 Plans:       FY 2010 Plans:       FY 2011 Base Plans:       FY 2011 Base       FY 2011 OCO Plans:       FY 2011 OCO Plans:       FY 2011 OCO       TY 2011 OCO Plans:       TY 2011 OC						
Airborne Electronic Attack (AEA), Full Spectrum Effects Platform (FSEP), Land Warrior, Robotics  FY 2009 Accomplishments: FY 2010 Plans: FY 2010 Plans: FY 2011 Base Plans: FY 2011 Base  FY 2011 OCO Plans: FY 2011 OCO Program #3  3.500 1.739 0.000 0.000						
FY 2009 Accomplishments:         FY 2010 Plans:         FY 2011 Base Plans:         FY 2011 Base         FY 2011 OCO Plans:         FY 2011 OCO         Program #3         3.500       1.739       0.000       0.000	Program #2	0.000	0.000	1.377	0.000	1.377
FY 2010 Plans: FY 2010 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO Program #3  3.500  1.739  0.000  0.000	Airborne Electronic Attack (AEA), Full Spectrum Effects Platform	(FSEP), Land Warrior, Robotics				
FY 2010  FY 2011 Base Plans: FY 2011 OCO Plans: FY 2011 OCO Program #3  3.500  1.739  0.000  0.000						
FY 2011 Base  FY 2011 OCO Plans: FY 2011 OCO  Program #3  3.500 1.739 0.000 0.000						
FY 2011 OCO Program #3 3.500 1.739 0.000 0.000 0.000						
Sniper Defeat Integrated Concept Development Team	Program #3	3.500	1.739	0.000	0.000	0.000
Simple Defend integrated concept Development ream	Sniper Defeat Integrated Concept Development Team					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				<b>DATE:</b> Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimental			PROJECT 317: CURRENT FORCE CAPABILITY		
B. Accomplishments/Planned Program (\$ in Millions)	'		1			
•		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #4		2.003	1.550	1.038	0.000	1.03
Demo/Assess Electronic Warfare - Base Expeditionary Target an	nd Surveillance System Combined (BETSS-C)					
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						

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1.200

0.744

0.000

0.000

0.000

Program #5

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimentation Program		PROJECT 317: CURRE	GAPS		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Demo/Assess Information Operations						
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #6		2.800	1.735	2.420	0.000	2.420
Demo/Assess Command and Control, Communications, Computers, Intell Reconnaissance (C4ISR)- Joint Integration and Non-Lethal Fires	igence, Surveillance and					
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			<b>DATE:</b> February 2010
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
2040: Research, Development, Test & Evaluation, Army	PE 0605326A: Concepts Experimentation Program	317: CURRI	ENT FORCE CAPABILITY GAPS
BA 6: RDT&E Management Support			

# B. Accomplishments/Planned Program (\$ in Millions)

	EX 2000	EV 2010	FY 2011	FY 2011	FY 2011
	FY 2009	FY 2010	Base	осо	Total
Program #7	0.000	0.222	0.000	0.000	0.000
Small Business Innovative Research/Small Business Technology Transfer Programs					
FY 2009 Accomplishments:					
FY 2009					
FY 2010 Plans:					
FY 2010					
FY 2011 Base Plans:					
FY 2011 Base					
FY 2011 OCO Plans:					
FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	15.396	9.643	9.770	0.000	9.770

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

N/A

# **D.** Acquisition Strategy

N/A

## **E. Performance Metrics**

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

**DATE:** February 2010

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support				PE 0605326A: Concepts Experimentation Program				PROJECT 33B: SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
33B: SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE	1.883	1.982	2.027	0.000	2.027	1.902	1.914	1.930	1.945	Continuing	Continuing

## A. Mission Description and Budget Item Justification

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army

ADDDODDIATION/DIDOET ACTIVITY

Quantity of RDT&E Articles

This project will provide early application of human performance and human figure modeling tools in the development of Soldier-focused requirements to shape technology for Army Transformation. Design analyses, constructive simulations and Soldier-in-the-loop assessments will ensure that manpower requirements, workload and skill demands are considered, avoid information and physical task overloads, and take optimum advantage of aptitudes, individual and collective training, and numbers of Soldiers for an affordable Future Force. The cited work is consistent with the Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work in this project is performed by the Army Research Laboratory (ARL).

## B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1	1.163	0.000	0.000	0.000	0.000
Manpower and Personnel Integration (MANPRINT) - Provide dedicated modeling and analysis cell for early and accurate MANPRINT estimates to Army Materiel Command (AMC), AMC Research, Development, and Engineering Command (RDECOM) and its Research, Development, and Engineering Centers (RDECs), TRADOC Centers, Schools and Battle Laboratories, Army Test and Evaluation Command (ATEC) and other service laboratories. In FY09, applied cross domain MANPRINT risk (i.e. manpower, personnel, training, systems engineering, safety) tradeoff tools to the user, acquisition and test & evaluation (T&E) communities for more cost effective risk mitigation.  FY 2009 Accomplishments: FY 2009					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	<b>R-1 ITEM NOMENCLATURE</b> PE 0605326A: Concepts Experimentati	tion Program PROJECT 33B: SOLDIER-CENTERED ANALYSES FOR FUTURE FORCE			ES FOR THE	
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #2  MANPRINT - FY10: Develop approaches to improve integration of Huma risks based on greater use of human performance modeling and simulation.	n System Integration (HSI) and T&E	0.000	1.183	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #3  MANPRINT - FY11 Base: Directly link HSI analyses to systems engineeri analyses.	ng, costs, and design trade study	0.000	0.000	1.263	0.000	1.263

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: Febr	ruary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605326A: Concepts Experimentation	on Program	PROJECT 33B: SOLDIER-CENTERED ANALYSI FUTURE FORCE			S FOR THE
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #4		0.720	0.000	0.000	0.000	0.000
MANPRINT Manpower, Personnel and Training (MPT). Provide MANPR determination support to TRADOC on selected systems. In FY09, develope to tailored and rapid acquisition.  FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army	<b>DATE:</b> February 2010								
APPROPRIATION/BUDGET ACTIVITY				ROJECT					
2040: Research, Development, Test & Evaluation, Army BA 6: RDT&E Management Support	PE 0605326A: Concepts Experimentation Program		n 33B: SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE						
B. Accomplishments/Planned Program (\$ in Millions)				FUTURE FORCE					
<b>b.</b> Accompnishments/Franned Frogram (\$ in Minions)				FY 2011	FY 2011	FY 2011			
		FY 2009	FY 2010	Base	OCO	Total			
Program #5		0.000	0.743	0.000	0.000	0.000			
MANPRINT MPT - FY10: Increase the efficiency of MPT analyses by inc	reasing use of modeling.								
FY 2009 Accomplishments: FY 2009									
FY 2010 Plans: FY 2010									
FY 2011 Base Plans: FY 2011 Base									
FY 2011 OCO Plans: FY 2011 OCO									
Program #6		0.000	0.000	0.764	0.000	0.764			
MANPRINT MPT - FY11 Base: Link MPT analyses and risks to other MA engineering, system safety, health hazards).	ANPRINT domains (i.e. human								
FY 2009 Accomplishments: FY 2009									
FY 2010 Plans: FY 2010									
FY 2011 Base Plans: FY 2011 Base									
	I								

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			<b>DATE:</b> February 2010
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
2040: Research, Development, Test & Evaluation, Army	PE 0605326A: Concepts Experimentation Program	33B: <i>SOLDI</i>	ER-CENTERED ANALYSES FOR THE
BA 6: RDT&E Management Support		FUTURE FO	DRCE

## B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans:					
FY 2011 OCO					
Program #7	0.000	0.056	0.000	0.000	0.000
FY10: Small Business Innovative Research/Small Business Technology Transfer Program					
FY 2009 Accomplishments:					
FY 2009					
FY 2010 Plans:					
FY 2010					
FY 2011 Base Plans:					
FY 2011 Base					
FY 2011 OCO Plans:					
FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	1.883	1.982	2.027	0.000	2.027

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

N/A

# **D.** Acquisition Strategy

N/A

## **E. Performance Metrics**

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.