

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY		PE NUMBER AND TITLE			
5 - System Development and Demonstration		0604780A - Combined Arms Tactical Trainer (CATT) Core			
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	34684	30566	26243	Continuing	Continuing
571 CLOSE CBT TACT TRAINER	1553	2876	4858	Continuing	Continuing
577 Gaming Technology in Support of Army Training			950	Continuing	Continuing
582 SYNTHETIC ENVIR CORE	22339	26330	17944	Continuing	Continuing
585 AVIATION COMBINED ARMS TACTICAL TRAINER	10792	1360	2491	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Combined Arms Tactical Trainers (CATT) is a family of combined arms simulation systems designed to support the Army's simulation-based Combined Arms Training Strategy. CATT enables units, from crew to the battalion task force level, to conduct a wide variety of combat tasks on a realistic, interactive, synthetic battlefield. CATT's combination of manned simulators and staff officer workstations enables units to train as a combined arms team in a cost effective manner. CATT reinforces the successes and corrects the shortcomings of the Simulator Network (SIMNET) and Aviation Network (AIRNET) Demonstration Programs executed by the Defense Advanced Research Projects Agency (DARPA). The initial CATT system is the Close Combat Tactical Trainer (CCTT) which provides the underlying baseline architecture and After Action Review (AAR) for CATT expansions, Pre-Planned Product Improvements (P3I) and system enhancements. The Reconfigurable Vehicle Simulator (RVS) variants supports CCTT fixed sites to train combat convoy operations. Synthetic Environment (SE) Core provides for the expansion of the Synthetic Environment baseline to include enhanced interoperability and the products and infrastructure to support current and future combat operations and Mission Rehearsal required by the Contemporary Operating Environment (COE). The first synthetic environments to be expanded are the Aviation Combined Arms Tactical Trainer (AVCATT) and the CCTT for both the Active and Reserve components. Gaming Technology provides an application to train and rehearse convoy-operations, platoon level mounted infantry tactics, dismounted operations, Rules-of-Engagement training, cross-cultural communications training, IED defeat training, route clearance, ground-air coordination, UAV integration, and other small unit and individual training and mission rehearsal requirements. Platoon members can train in a common environment on geotypical or geospecific terrain. It is also possible to link Gaming technology to actual C4I systems and other CATT simulation systems to increase the utility and realism of the training. By practicing skills in CATT, units are able to make more effective use of scarce resources and costly live fire and maneuver exercises as well as train tasks deemed too hazardous to conduct in a live training environment. Fielded in both fixed site and mobile versions, CATT enables both Active and Reserve component units to prepare for real world contingency missions. By being able to use a wide array of training terrain databases and modify the behavior of the computer generated opposing forces, CATT offers an unlimited array of training options to support the Army's many regional contingency missions. The combination of tough field and live fire training, and realistic simulation training in CATT, is the catalyst to prepare Soldiers and their Leaders for the uncertainties they face in current combat operations in Iraq and Afghanistan, and larger Overseas Contingency Operations (OCO).

Project 571 includes a Congressional Add of \$1,196K for the Light Utility Helicopter Simulator. This was moved from Project 571 to 585 subsequent to the database lock for proper execution.

FY2010 funding for Gaming Technology will provide the Army with a low cost capability to train Soldiers as individuals and teams in a realistic, semi-immersive environment at Homestation, the Institution, or while deployed. The RDTE for the program will provide the capability to rapidly introduce lessons learned and maintain concurrency of fielded

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY

5 - System Development and Demonstration

PE NUMBER AND TITLE

0604780A - Combined Arms Tactical Trainer (CATT) Core

and new game systems for Leader and Soldier training and mission rehearsal.

FY2010 funding for CCTT will enable the development of additional variants for the Reconfigurable Vehicle Simulator (RVS) in support of Infantry Brigade Combat Teams and Stryker Brigade Combat Teams; development of Dismounted Soldier Systems in support of the Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger, and Special Forces Units and Heavy Brigade Combat Teams. It will also provide for the replacement of obsolete components.

FY2010 funds for SE Core will provide the U.S. Army with continued development of a series of interoperable software and hardware components that will enable an Army Common Virtual Environment to train with integrated, virtual simulations. The result will be a "Fair Fight" capability; no simulator will have an inherent advantage over another, thus allowing for air and ground coordination and integrated training missions that accurately replicate combat operations being experienced in the Contemporary Operational Environment (COE). SE Core will provide a standardized, rapid terrain generation process, a master terrain database facility, OneSAF Integration, and Common Virtual Components (CVCs).

FY2010 funding will develop refinements to the AVCATT system to include SE Core integration and Non-Rated Crew Member Manned Module (NCM3) interoperability with other combined arms simulators. These refinements will improve readiness by providing more realistic collective training in support of current and future combat operations, OCO and the flexibility to support the ARFORGEN.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - Combined Arms Tactical Trainer (CATT) Core

<u>B. Program Change Summary</u>	FY 2008	FY 2009	FY 2010
Previous President's Budget (FY 2009)	36800	29468	20927
Current BES/President's Budget (FY 2010)	34684	30566	26243
Total Adjustments	-2116	1098	5316
Congressional Program Reductions		-102	
Congressional Rescissions			
Congressional Increases		1200	
Reprogrammings	-1104		
SBIR/STTR Transfer	-1012		
Adjustments to Budget Years			5316

Change Summary Explanation:
 FY09 includes Congressional Add for the Light Utility Helicopter Simulator

FY10 includes increases for the following:
 Gaming Technology in Support of Army Training - Project 577 (new program)
 Close Combat Tactical Trainer - Project 571
 Aviation Combined Arms Tactical Trainer - Project 585

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core			PROJECT 571	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
571 CLOSE CBT TACT TRAINER	1553	2876	4858	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program provides for Engineering and Manufacturing Development (EMD), Pre-Planned Product Improvements (P3I), and Reconfigurable Vehicle Simulator (RVS) variants for the Close Combat Tactical Trainer (CCTT), which will enhance readiness for both Active and Reserve component forces to support the execution of current and future combat operations including Overseas Contingency Operations (OCO). The program develops a networked system of interactive computer driven simulators, emulators, and semi-automated forces that replicate combat vehicles and weapon systems, combat support systems, combat service support systems, and command and control systems to create a fully integrated, real-time collective task training environment. This trainer will allow Soldiers to practice Tactics, Techniques and Procedures (TTP) that, if performed on real equipment, would be too hazardous, time-consuming and expensive. These trainers enhance realism and allow Soldiers and Units to learn tactical combat lessons on maneuver, command and control, convoy operations, and improved teamwork for increased survivability. The P3I enhance CCTT's capabilities as a tactical trainer and maintain concurrency with fielded tactical equipment and force structure. These improvements will provide interoperability with the Aviation Combined Arms Tactical Trainer (AVCATT), Army Battle Command System (ABCS), including Force XXI Battle Command Brigade and Below (FBCB2), and other simulation systems needed to execute training for current and future combat operations.

Project 571 includes a Congressional Add of \$1,196K for the Light Utility Helicopter Simulator. This was moved from Project 571 to 585 subsequent to the database lock for proper execution.

FY2010 funding for CCTT will enable the development of additional vehicle variants for the Reconfigurable Vehicle Simulator (RVS) in support of Infantry Brigade Combat Teams and Stryker Brigade Combat Teams, the development of Dismounted Soldier Systems in support of Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger and Special Forces Units and Heavy Brigade Combat Teams. It will also address the obsolescence of components.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY08-FY10: Supports government program management, engineering, technical, and contracting support, and continues operational evaluation support.	129	228	236
FY08-FY10: Development of the CCTT Dismounted Soldier System.	1424		1200
FY09: Development of the Up-Armored HMMWV vehicle variant of the Reconfigurable Vehicle Simulator.		1424	
FY10: Development of the TOW and Knight vehicle variants of the Reconfigurable Vehicle Simulator.			3422
FY09: Congressional Add for initial Light Utility Helicopter (LUH) simulator development.		1196	
FY09: Small Business Innovative Research/Small Business Technology Transfer Programs		28	
Total	1553	2876	4858

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core			PROJECT 571
<u>B. Other Program Funding Summary</u>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
OPA3, Appropriation NA0170 SIMNET/CCTT	60204	62890	65155	Continuing	Continuing

Comment:

C. Acquisition Strategy FY2010 will continue development of RVS vehicle variants, Dismounted Soldier System and obsolescence through Small Business 8A Set Asides and competitive awards.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
5 - System Development and Demonstration			0604780A - Combined Arms Tactical Trainer (CATT) Core							571		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
P3I , RVS Vehicle Variants and Dismounted Soldier	C/CPFF	TBS						1200	1Q	Cont.	Cont.	Cont.
Development of Dismounted Soldier System Component	8A Set Aside/CPFF	Applied Visual Technologies		1424	1Q						1424	1344
Development of Up-Armored HMMWV Vehicle Variant for RVS	CPFF	Lockheed Martin Corporation, Orlando, FL				1424	3Q				1424	1458
Development of TOW and Knight Vehicle Variants for RVS	C/8A Set Aside/CPFF	TBS						3422	2Q		3422	3500
Light Utility helicopter Simulator - Add	C/CPAF	L3 Communications Corporation, Arlington, Texas				1196	2Q				1196	1196
Subtotal:				1424		2620		4622		Cont.	Cont.	Cont.
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core							PROJECT 571		
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Project Office Support	Various	PEO STRI, Orlando, FL	16157	129	1-4Q	228	1-4Q	236	1-4Q	Cont.	Cont.	Cont.
SBIR/STTR						28					28	
Subtotal:			16157	129		256		236		Cont.	Cont.	Cont.
Project Total Cost:			16157	1553		2876		4858		Cont.	Cont.	Cont.

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - Combined Arms Tactical Trainer (CATT) Core

PROJECT
571

Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	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	1	2	3	4
Develop the Dismounted Soldier System																																
Develop the Up-Armored HMMWV Vehicle Variant for the RVS																																
Develop the TOW and Knight Variant for the Reconfigurable Vehicle Simulator																																
Development of P3I for the Dismounted Soldier System																																

Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core					PROJECT 571		
<u>Schedule Detail</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	
Develop the Dismounted Soldier System	1Q - 4Q	1Q - 4Q							
Develop the Up-Armored HMMWV Vehicle Variant for the RVS		3Q - 4Q	1Q - 3Q						
Develop the TOW and Knight Variant for the Reconfigurable Vehicle Simulator			2Q - 4Q	1Q					
Development of P3I for the Dismounted Soldier System			1Q - 4Q	1Q - 4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core			PROJECT 577	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
577 Gaming Technology in Support of Army Training			950	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Games for Training Program will provide a commercial-off-the-shelf (COTS) product line of personal computer based gaming applications to train Soldiers in decision-making, team and individual tasks at different skill levels, using multiple mission scenarios. The program will leverage the commercial game industry to provide state of the art training solutions. The program will provide Army-wide licenses from the commercial market or from Research and Development agencies and the hardware required to operate the systems. The individual products will permit Soldiers and units to conduct training in a real-time, semi-immersive environment that will leverage Synthetic Environment Core capabilities.

FY2010 funding will integrate SE Core products and new commercial and government technology into the current gaming systems.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY10: Funding will provide modifications to the system to integrate and provide interoperability with battle command systems and other simulators and simulations in support of Overseas Contingency Operations (OCO).			805
FY10: Funding will provide Government program management, engineering, technical contract and test support for Gaming.			145
Total			950

<u>B. Other Program Funding Summary</u>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
OPA 3, Appropriation NA0176 Gaming Technology in Support of Training			7870	Continuing	Continuing

Comment:

C. Acquisition Strategy Competitive contract against approved Capabilities Production Document (CPD), 29 Oct 08.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core			PROJECT 582	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
582 SYNTHETIC ENVIR CORE	22339	26330	17944	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports the Synthetic Environment Core (SE Core) Program. SE Core is a key U.S. Army initiative specifically designed to enhance the training capability we provide our Warfighters. SE Core's mission is to ensure the Army's virtual training systems and simulators are fully integrated and interoperable. The result will be a "Fair Fight" capability; no simulator will have an inherent advantage over another, allowing for air and ground coordination and integrated training missions that accurately replicate combat operations being experienced in the Contemporary Operational Environment (COE). SE Core provides the capability that is sufficient for current and future combat operations, Mission Rehearsal, and COE training. SE Core will reduce redundancy and increase realism. SE Core is building the Army's Common Virtual Environment (CVE) that provides the linkage between simulators and the common environment for interoperability. Additionally, SE Core will link to the Live and Constructive environments for an integrated capability to support ARFORGEN and the Combined Arms Training Strategy. SE Core is a key element in the Army's Training Transformation Plan linking the Future Combat System's (FCS) embedded, multi-mode Live, Virtual, Constructive (LVC) training capability with current systems.

SE Core will enable the Army to execute combined arms and joint training, mission planning and rehearsals at home station and deployed locations critical to training for COE operations. SE Core consists of a series of interoperable software components that will be integrated into the Army's CVE and will facilitate interoperability in a LVC Training Environment (TE). The components are One Semi-Automated Forces (OneSAF) integration; a Standard Terrain Database Generation Capability (STDGC); a Master Terrain Database; an extensive Library of Common Visual Models in open format; Dynamic Terrain; Atmospheric Effects; Chemical, Biological, Radiological, Nuclear and High Explosive (CBRNE) effects; common After Action Review (AAR); a Long Haul Networking capability; Command, Control, Communications, Computers, Intelligence Surveillance and Reconnaissance (C4ISR) interfaces; Training Support Packages and Exercise Management Tools. The STDGC uses automated tools, processes and standard source data to create a Master Database (MDB). The MDB provides open format data that can be translated into correlated runtime terrain databases to support the LVC TE and for mission planning/rehearsal/execution in support of Overseas Contingency Operations (OCO). SE Core's Common Virtual Components (CVCs) reduce redundancy, increase realism and facilitate an integrated LVC TE.

FY2010 funds for SE Core will provide for common terrain databases to be generated by the Central Terrain Database Center (CTDC). The CTDC will continue development and refinement of the STDGC. FY2010 funds will continue the integration and enhancement of OneSAF into the SE Core Architecture, CCTT and AVCATT baselines. Integration of OneSAF as the SAF for virtual simulations enables interoperability with the LVC TE and reduces costs as CCTT and AVCATT will no longer develop and maintain separate SAFs. The SE Core Product Line of Common Virtual Components will continue with upgrades, integration and refinement, and the continued development of common visual models.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY08-FY10: Provides program management, engineering, technical, contract, and test support for development of SE Core.	2953	3080	3160
FY08-FY10: SE Core will provide common terrain databases from the Central Terrain Database Center and the establishment of the Primary Production Terrain Database Center. Continued refinement of the STDGC will be made with the incorporation of advanced	19386	22512	14784

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core	PROJECT 582
automated processing tools. Planned enhancements to OneSAF will continue to be integrated into the SE Core Architecture. SE Core will continue work to meet the six Key Performance Parameters defined in the Increment 1 Capability Development Document: OneSAF Integration, Standard Terrain Process Capability, Dynamic Terrain, Atmospheric Effects, Net Ready, and C4ISR. Common Moving Model development will also continue.		
FY08: Small Business Innovative Research/Small Business Technology Transfer Programs		738
Total		22339 26330 17944

<u>B. Other Program Funding Summary</u>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer	66931	23038	12794	Continuing	Continuing
OPA3, Appropriation NA0170 Close Combat Tactical Trainer (CCTT)	60204	62890	65155	Continuing	Continuing
RDTE, Appropriation 654760 One Semi-Automated Forces (OneSAF)	12490	11680	11637	Continuing	Continuing

Comment:

C. Acquisition Strategy An extension to the Architecture & Integration (A&I) contract was awarded to Science Applications International Corp (SAIC) in 2Q09. A competitive, CPFF type contract for the development of SE Core Database Virtual Environment Development (DVED) project was awarded in FY06 to CAE with yearly options until FY11. The PM is considering an Acquisition Strategy which will combine the future A&I and DVED contracts, potentially reducing the number of Prime Vendors to one.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
5 - System Development and Demonstration			0604780A - Combined Arms Tactical Trainer (CATT) Core							582		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Architecture and Integration	C/CPFF	Science Applications International Corporation, Orlando, FL	23165	10191	1-2Q	8721	1-2Q	4942	1-2Q	Cont.	Cont.	Cont.
Database Virtual Environment Development	C/CPFF	CAE, USA, Tampa, FL	14939	9195	1-2Q	13791	1-2Q	9842	1-2Q	Cont.	Cont.	Cont.
Subtotal:			38104	19386		22512		14784		Cont.	Cont.	Cont.
Remarks: Not Applicable												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services & Technical Support	C/FPF/T&M	Stanley Corporation, Orlando, FL	1554	488	1-4Q	536	1-4Q	550	1-4Q	Cont.	Cont.	Cont.
Subtotal:			1554	488		536		550		Cont.	Cont.	Cont.
Remarks: Not Applicable												
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test Support	MIPR	Test Community		125	2Q						125	125
Subtotal:				125							125	125
Remarks: Not Applicable												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
5 - System Development and Demonstration			0604780A - Combined Arms Tactical Trainer (CATT) Core							582		
Project Office Support	Various	PEO STRI/NAVAIR Orlando	5291	2340	1-4Q	2544	1-4Q	2610	1-4Q	Cont.	Cont.	Cont.
SBIR/STTR						738					738	
Subtotal:			5291	2340		3282		2610		Cont.	Cont.	Cont.
Project Total Cost:			44949	22339		26330		17944		Cont.	Cont.	Cont.

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - Combined Arms Tactical Trainer (CATT) Core

PROJECT
582

Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	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	1	2	3	4
Architecture and Integration Development	[Redacted]																															
Database Virtual Environment Development	[Redacted]																															
	[Redacted]																															

Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY		PE NUMBER AND TITLE						PROJECT
5 - System Development and Demonstration		0604780A - Combined Arms Tactical Trainer (CATT) Core						582
<u>Schedule Detail</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>
Architecture and Integration Development	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Database Virtual Environment Development	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
OneSAF Integration (KPP #1)	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Standard Terrain Process Capability (KPP #2)	1Q - 4Q	1Q - 4Q	1Q - 4Q					
Dynamic Terrain (KPP #3)	1Q - 4Q	1Q - 4Q	1Q - 2Q					
Atmospheric Effects (KPP #4)	1Q - 4Q	1Q - 4Q	1Q - 2Q					
Net Ready (KPP #5)	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 2Q				
C4ISR (KPP #6)	1Q - 4Q	1Q - 4Q	1Q - 4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core			PROJECT 585
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
585 AVIATION COMBINED ARMS TACTICAL TRAINER	10792	1360	2491	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports the Aviation Combined Arms Tactical Trainer (AVCATT) which is the Army's Aviation Collective training system for Active, Reserve and Army National Guard components to provide mission rehearsal and training in support of Overseas Contingency Operations (OCO). AVCATT completed Initial Operational Test & Evaluation (IOT&E) on 1 August 2003 and received a Full Rate Production Decision on 19 December 2003. A single suite of equipment consists of two (2) mobile trailers housing six (6) reconfigurable networked simulators that support the AH-64A/D, UH-60A/L, CH-47D, and OH-58D aircraft. Supporting roleplayer, Semi-Automated Forces (SAF), and after action review (AAR) workstations are also provided as part of each suite. AVCATT is a fully mobile system capable of using shore and generator power and is transportable worldwide. The AVCATT system permits aviation units to conduct collective task training on a real-time, virtual battlefield in a combined arms scenario by leveraging Synthetic Environment Core (SE Core) capabilities. Other required elements that are present on the modern, high intensity battlefield, such as the Combat Support (CS) and Combat Service Support (CSS) elements, are an integral part of the simulation database. AVCATT is designed to provide realistic, high intensity collective and combined arms training to aviation units as well as the full spectrum of operations in support of current and future contingency operations. AVCATT supports the Aviation Combined Arms Training Strategy, the Army Campaign Plan and OCO. AVCATT also supports the Aviation Functional Area Assessment (FAA), providing collective, combined arms training for aviation units. This system is designated a complementary program for the Future Combat Systems (FCS).

Project 571 includes a Congressional Add of \$1,196K for the Light Utility Helicopter Simulator. This was moved from Project 571 to 585 subsequent to the database lock for proper execution.

FY2010 funding will develop refinements to the AVCATT system to include SE Core and Non-Rated Crew Member Manned Module (NCM3) integration and interoperability with other combined arms simulators.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY08-10: Continue refinements to the system to include: interoperability enhancements through implementation of SE Core common products such as OneSAF, Environmental Runtime Control (ERC), Common Virtual Components (CVC), and common terrain databases. In addition, provide improved interoperability and interaction between live and virtual systems by adopting real world, digital messaging formats. Integration of NCM3 First Article into the AVCATT program baseline.	10407	1007	2324
FY08-10: Provides Government program management, engineering, technical, contract, and test support for AVCATT refinements.	385	282	167
Small Business Innovative Research (SBIR)/Small Business Technology Transfer Programs (STTR)		71	
Total	10792	1360	2491

<u>B. Other Program Funding Summary</u>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604780A - Combined Arms Tactical Trainer (CATT) Core				PROJECT 585
OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer	66931	23038	12794	Continuing	Continuing

Comment:

C. Acquisition Strategy Engineering and Manufacturing Development (EMD) competitive contract against a performance specification.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
5 - System Development and Demonstration			0604780A - Combined Arms Tactical Trainer (CATT) Core							585		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
AVCATT	C/CPAF	L3 Communications Corporation, Arlington, Texas	28579	10407	2Q	1007	2Q	2324	2Q	Cont.	Cont.	Cont.
Subtotal:			28579	10407		1007		2324		Cont.	Cont.	Cont.
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Project Office Support		PEO STRI, Orlando, Florida	506	385	1-4Q	282	1-4Q	167	1-4Q	Cont.	Cont.	Cont.
SBIR/STTR						71					71	
Subtotal:			506	385		353		167		Cont.	Cont.	Cont.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY

5 - System Development and Demonstration

PE NUMBER AND TITLE

0604780A - Combined Arms Tactical Trainer (CATT) Core

PROJECT

585

Project Total Cost:

29085

10792

1360

2491

Cont.

Cont.

Cont.

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - Combined Arms Tactical Trainer (CATT) Core

PROJECT
585

Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	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	1	2	3	4
Synthetic Environment Core (SE Core) Integration (includes OneSAF Integration)	█				█				█																							
Mission Rehearsal Capability/ Enhanced Image Generator (IG)	█				█				█																							
Required Interoperability With Other Combined Arms Simulators	█				█				█				█																			
Life Cycle Baseline Enhancements to the Infrastructure and Techn. Obsolescence	█				█				█																							
Classified Operations	█				█				█																							
Gunner Chief Crew Station	█				█				█																							
Longbow Block III	█				█				█																							
Light Utility Helicopter Simulator Development					█				█																							

Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY		PE NUMBER AND TITLE						PROJECT	
5 - System Development and Demonstration		0604780A - Combined Arms Tactical Trainer (CATT) Core						585	
<u>Schedule Detail</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	
Synthetic Environment Core (SE Core) Integration (includes OneSAF Integration)	1Q - 4Q	1Q - 4Q	1Q - 4Q						
Mission Rehearsal Capability/ Enhanced Image Generator (IG)	1Q - 4Q	1Q - 2Q							
Required Interoperability With Other Combined Arms Simulators	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q					
Life Cycle Baseline Enhancements to the Infrastructure and Techn. Obsolescence	1Q - 4Q	1Q - 4Q							
Classified Operations	1Q - 4Q								
Gunner Chief Crew Station	1Q - 2Q								
Longbow Block III	1Q - 2Q								
Light Utility Helicopter Simulator Development		3Q - 4Q	1Q - 3Q						
NCM3 Integration				1Q - 4Q					