

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY
RDTE, Defense Wide BA 03

PE NUMBER AND TITLE
0603122D8Z - Combating Terrorism Technology Support

COST (\$ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P484 Combating Terrorism Technology Support (CTTS) P484	104.880	117.628	79.970	82.402	85.511	86.861	88.203

A. Mission Description and Budget Item Justification: The Combating Terrorism Technology Support (CTTS) program develops and delivers capabilities that address needs and requirements with direct operational application in the national effort to combat terrorism. Projects are distributed among 12 mission categories: Blast Effects and Mitigation; Chemical, Biological, Radiological, and Nuclear Countermeasures; Concept Development; Explosives Detection; Improvised Device Defeat; Infrastructure Protection; Investigative Support and Forensics; Physical Security; Surveillance, Collection, and Operations Support; Tactical Operations Support; Training Technology Development; and VIP Protection. This program is a non-system, advanced technology development effort that demonstrates the utility or cost reduction potential of technology when applied to combating terrorism requirements. It includes technology capability development, proof-of-principle demonstrations in field applications, and coordination to transition from development to operational use.

<u>B. Program Change Summary</u>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	114.728	76.276	80.125
Current BES/President's Budget (FY 2009)	104.880	117.628	79.970
Total Adjustments	-9.848	41.352	-0.155
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		41.352	
Reprogrammings			
SBIR/STTR Transfer			
Other	-9.848		-0.155

Remarks: The FY 2007 program value reflects rounding adjustments at the Department level. The FY 2008 increase is due to Congressional Adds.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

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E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
08						
09						

Comment: Combating Terrorism Technology Support - PE 0603122D8Z

Long Term Strategies: Obtain adequate funding to support critical shortfalls; prioritize proposals that are deemed acceptable and allocate funding accordingly; establish outreach programs with the interagency to leverage institutional knowledge and expertise; utilize cooperative research and development (R&D) agreements with the United Kingdom, Canada and Israel to leverage technology investments; and initiate full cooperative R&D programs with two new foreign partners.

Performance Indicator and Rating:

FY 2008 Target:

- 70% of currently funded research projects are completed on time
- 5% increase in the number of research projects accepted
- Continue full R&D programs with existing and new foreign partners

Verification: The CTTS Program utilizes a database to track the status of the projects. Quarterly program reviews are conducted to assess project status. In addition, an annual report is produced that assesses the status of current projects and the ability to accept new projects.

Validation: Completed research products increase the capabilities of the DoD to effectively detect, deter, and defend against terrorist attacks; thus the Departments personnel and interests at home and abroad are safer from terrorism.

FY 2009 Target:

- 70% of currently funded research projects are completed on time
- 5% increase in the number of research projects accepted
- Continue full R&D programs with five existing foreign partners

Verification: The CTTS Program utilizes a database to track the status of the projects. Quarterly program reviews are conducted to assess project status. In addition, an annual

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report is produced that assesses the status of current projects and the ability to accept new projects.

Validation: Completed research products increase the capabilities of the DoD to effectively detect, deter, and defend against terrorist attacks; thus the Departments personnel and interests at home and abroad are safer from terrorism.

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B. Accomplishments/Planned Program:

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
BLAST EFFECTS AND MITIGATION	8.537	6.470	5.291

FY 2007 Accomplishments: Applied blast simulator test data for walls, columns, and other structural elements of buildings for validation of computer models and full-scale field test data. Published a best practices blast mitigation guide to be used by tunnel owners. Designed and tested, advanced material blast shield walls for checkpoints, entry control facilities, and overhead protection. Designed construction of a configurable half-scale urban city used to develop simplified, yet high-fidelity modeling codes to predict effects of terrorist bombings in an urban environment. Developed an expeditionary structure that provides both blast and ballistic protection. Developed a polymer application apparatus that is lightweight and uses a polymer material comparable to current polymers used for blast mitigation. Validated the use of the Blast Simulator to test larger structural components to be used in U.S. Central Command (CENTCOM). Investigated homemade terrorist explosive mixtures and their effects on buildings and mass transit infrastructure.

Developed urban environment blast test models. Tested bridge tower structures using Blast Simulator.

FY 2008 Plans: Develop rapidly deployable entry control point equipment package for forward operating locations. Refine and provide critical blast information to military, industrial, and civil engineers by performing experiments in a configurable urban city test facility. Promulgate engineering guidance and designs incorporating commercial technologies to protect critical U.S. infrastructure including tunnels and train/subway stations. Enhance existing software used in calculation of air blast loads from detonation of explosive sources to take into account the complex effects of the close-in blast environment. Test and evaluate a lightweight polymer application apparatus that uses existing polymer materials for blast mitigation.

Develop an advanced head form for measurements involving the effects of blast injury and head trauma.

FY 2009 Plans: Develop entry control point design software that adapts to the current threat. Develop commercial off-the-shelf (COTS) technologies for blast mitigation. Examine blast mitigation strategies to protect critical U.S. infrastructure to include electrical power sub-stations, dams, and maritime facilities. Demonstrate integrated systems to protect facilities from vehicle borne

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improvised explosive devices, suicide bombers on foot, and standoff weapons.				
<u>Accomplishments/Planned Program Title:</u>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR COUNTERMEASURES		9.491	10.169	6.204
<p>FY 2007 Accomplishments: Tested a small portable radio repeater system to maintain voice communication for combat forces and first responders operating in underground environments. Initiated lab testing of color-based sensor array for chemical agent detection. Tested and evaluated a self-contained escape respirator for both chemical and smoke protection. Designed a pocketsize, low-profile escape respirator capable of meeting the National Institute for Occupational Safety and Health (NIOSH) standards. Analyzed gaps in existing risk-based permeation criteria for toxic industrial chemicals (TICs). Designed a vehicle retrofit kit for emergency mass evacuation. Designed prototype total organic carbon detector for water. Designed a portable test kit for collective protection filters. Developed an advanced alpha and beta radiation detector prototype for water. Analyzed data gaps in chemical instrumental libraries for detection of threat agents. Deployed personal hydration system water filters into theater for test and evaluation for operational use. Tested, evaluated, and deployed food detection kits in support of the Global War on Terror. Tested and evaluated next-generation fire fighter turnout gear with integrated chemical protection.</p> <p>Successfully conducted DiCAST distributed chemical sensor field test installation in a mass transit station in a major metropolitan area. Conducted subject matter expert workshop on environmental sampling. Established testing center for bioterrorism operations and related public health preparedness.</p> <p>FY 2008 Plans: Complete lab testing and initiate user field evaluation of color-based sensor array for chemical agent detection. Submit self-contained escape respirator for NIOSH certification. Finalize design for a pocketsize, low-profile escape respirator capable of meeting NIOSH standards. Initiate testing for risk-based permeation criteria for TICs. Evaluate vehicle retrofit kit for emergency mass evacuation. Build and evaluate prototype total organic carbon detector for water. Build and evaluate advanced alpha and beta radiation detector for water. Populate database for chemical instrumental libraries for detection of threat agents. Develop a guide to assist explosive ordnance disposal and bomb squad personnel in recognizing radiological dispersion devices. Initiate design and development of a handheld, standoff victim triage device. Develop a hydration status monitor to assess personnel. Field a transportable gasifier unit for destruction of contaminated biomass. Develop methodology for the emergency decontamination of N95 facemasks. Field a portable test kit for collective protection filters. Conduct a personal protective equipment conference to determine needs of the emergency response and military communities. Evaluate additional potential foodborne threats. Develop a desalination capability to enhance the personal hydration system water filter kit.</p> <p>Develop and test optical fiber chemical indicators for two additional classes of chemicals with independent laboratory confirmation of performance. Conduct second subject matter expert workshop on environmental sampling. Initiate testing bio-terrorism operations and related public health preparedness.</p> <p>FY 2009 Plans: Test and evaluate the hydration status monitor. Test and evaluate the prototype standoff patient triage device. Evaluate effectiveness of decontamination methodologies for N95 facemasks. Conduct expert and end-user evaluation of a guide to assist Explosive Ordnance Disposal (EOD) and bomb squad personnel in recognizing radiological dispersion devices. Test and evaluate performance of advanced alpha and beta radiation detector for water. Test and evaluate performance of total organic carbon detector for water. Complete database for chemical instrumental libraries for detection of threat agents.</p>				
<u>Accomplishments/Planned Program Title:</u>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
EXPLOSIVES DETECTION		5.944	7.656	7.664
<p>FY 2007 Accomplishments: Conducted side-by-side evaluation of imaging and anomaly detection systems for personnel screening. Developed prototype systems for standoff detection of explosives worn on the body. Implemented optimization of trace explosives detection protocols for secondary screening of suspect individuals. Assessed technological feasibility of detecting explosives using laser photo-acoustic spectroscopy technique.</p>				

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FY 2008 Plans: Assess the feasibility of an X-ray system for real time imaging of vehicles for vehicle-borne improvised explosive device detection. Evaluate prototype systems for standoff detection of explosives worn on the body. Evaluate training methods for canine detection of explosives on humans. Continue development of an X-ray system for real time imaging of vehicles for vehicle-borne improvised explosive device detection. Assess prototype systems for standoff detection of suicide bombers using an orthogonal approach to sensor fusion. Develop vapor standards for the validation of explosives trace detectors. Develop improved sampling systems for enhanced explosives trace detection. Develop a ruggedized prototype for entry control point screening of personnel.

FY 2009 Plans: Continue development of improved sampling systems for enhanced explosives trace detection. Evaluate prototype X-ray system for real time imaging of vehicles for vehicle-borne improvised explosive device detection. Develop prototype systems for standoff detection of suicide bombers using an orthogonal approach to sensor fusion. Continue development of a ruggedized prototype for entry control point screening of personnel.

Accomplishments/Planned Program Title:

FY 2007

FY 2008

FY 2009

IMPROVISED DEVICE DEFEAT

7.562

9.592

7.174

FY 2007 Accomplishments: Developed and transitioned to commercial production an Improvised Explosive Device (IED) Diagnostics and Defeat Kit to assist bomb disposal technicians in the manual attack of wiring within an IED. Developed an initial prototype of the Multiple IED Disruption System for integration into existing robotic platforms. Characterized a select set of vehicle-borne IED (VBIED) disruption tools. Completed integration of the Power Hawk, a commercial-off-the-shelf (COTS) cutting system for robotic applications. Completed integration of a commercial drop camera with robotic platforms. Developed a prototype Body Bomb Tool Kit for integration with robotic applications. Designed a miniaturized Single Sided Imaging system for integration of suspect packages. Developed a multipurpose EOD cart to assist in the transportation of tools and VBIED disrupters. Developed a Joint Architecture for Unmanned Systems (JAUS) compliant interface for visual and X-ray targeting systems. Investigated the use of Caron nano-structures as a potential means to defeat IEDs.

FY 2008 Plans: Manufacture final prototypes and conduct field evaluation of the Multiple IED Disruption System. Build an initial prototype of the single Sided Imaging System. Design and build a utility cart with custom interface for the Single Sided Imaging System. Characterize additional sets of general disruption tools designed for use against IEDs and VBIEDs. Populate the electronic tool characterization decision-making database and guide. Demonstrate a plug-and-play capability for the integration of a JAUS compliant X-ray targeting system and components with JAUS compliant robotic platform. Develop new tools and end effectors for integration with current EOD robotic platforms. Develop a low cost user-friendly robotics package that allows integration with currently available all-terrain vehicles. Test, evaluate, and commercialize the EOD Tool Cart. Integrate a camera and Operator Control Unit with the New Explosive Ordnance Mover (NEOMOVER) prototype robotics platform, and deliver for evaluation. Demonstrate, test, and evaluate new classes of affordable mid-sized, two and four wheeled unmanned ground vehicles for military and homeland security applications.

FY 2009 Plans: Integrate a utility cart carried Single Sided Imaging System with a currently available robotics platform. Integrate JAUS compliant MIDS and X-ray Targeting with the NEOMOVER robotics platform and conduct a field demonstration. Define specifications and develop an initial design for a radio frequency (RF) receiver detection device. Design and develop a non-explosive IED defeat tool. Continue Tool Characterization of select IED/VBIED disruption charges, and populate the Tool Characterization Guide.

Accomplishments/Planned Program Title:

FY 2007

FY 2008

FY 2009

INFRASTRUCTURE PROTECTION

FY 2007 Plans: Moved to Physical Security.

FY 2008 Plans:

FY 2009 Plans:

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FY 2007

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INVESTIGATIVE SUPPORT AND FORENSICS

4.178

4.174

4.178

FY 2007 Accomplishments: Fielded a two-way multifunctional encrypted radio. Delivered an IED component identification database. Fielded ten heated and cooled portable canine kennels. Fielded Statistical Verification of Camouflage Clothing System based on pattern matching. Deployed three Master Trainers to Special Operations Forces (SOF) Groups in order to retain and augment the current canine and handler abilities in theater.

FY 2008 Plans: Distribute a system for automatic analysis of text for author attribution. Improve the performance and scientific defensibility of dog teams by improving the absorption materials used for collecting human scent. Improve the protocol for adsorption of triacetone triperoxide (TATP) from the gas phase to assist in evidence collection from post-blast exhibits. Field an automated three-dimensional ear identification system. Field a distributive network attack system for decrypting steganography. Distribute a forensic audio spectral analysis tool. Field a laser Doppler vibrometry system for the remote measurement of physiological activity. Field a data stream profiling database. Field computer intrusion data collection software.

FY 2009 Plans: Produce a canine human scent identification working protocol. Improve the protocols for remote biometric assessment. Improve forensic capabilities for retrieving data from electronic equipment. Field an electronic fast capture fingerprint scanner. Enhance operational canine technology. Distribute new protocols for fingerprint recovery from improvised explosive devices.

Accomplishments/Planned Program Title:

FY 2007

FY 2008

FY 2009

PHYSICAL SECURITY

11.776

19.967

12.050

FY 2007 Accomplishments: Developed an interoperable personnel identity management capability and conduct field tests. Developed and tested a paint that will reveal evidence of tampering when subjected to ultra-violet (UV) light. Concluded the operational assessment of an automated under vehicle inspection system. Conducted an interagency antiterrorism technology workshop. Developed crash tests of domestic and international vehicle security barriers. Evaluated the command and control station integrating multiple stand-alone optical systems designed to reduce labor and false alarms. Developed and published an updated vehicle inspection checklist to identify hidden explosives, contraband, and weapons in vehicles. Conducted field assessment of the integrated forward scatter and back scatter X-ray screening system to detect concealed explosives and metallic items in vehicles. Assessed technology to detect disassembled weapons and improvised explosives components in hand carried baggage. Developed a cyber security assessment tool. Developed a virtual cyber security testing capability. Updated the critical infrastructure database. Developed a transmission tower and line security monitor. Developed an evacuation simulation planning tool. Developed a secure software engineering guide. Developed a supervisory control and data acquisition cyber alert attack tool.

Developed remotely operated underwater screening to detect anomalies on submerged facilities and ship hulls. Developed and ruggedized high payoff commercial systems to enhance protection for coalition forces.

FY 2008 Plans: Evaluate next generation biometric identification technologies for inclusion with integrated access control systems. Conduct technology assessment of next generation weapons, explosives, and other contraband screening systems for facilities, public venues, and intermodal cargo terminals. Conduct crash tests of domestic and international vehicle security barriers and publish the results. Conduct field-tests of handheld devices to detect metallic and nonmetallic weapons on personnel. Develop a system to detect disassembled weapons and improvised explosives components. Develop an integrated personnel portal to detect concealed metallic threats. Conduct crash tests of nonstandard installation techniques of vehicle security barriers and update existing vehicle barrier guide. Conduct live-fire testing and intruder detection evaluations of a blast and ballistic protective system with integrated intrusion detection capabilities for remote substation protection. Conduct an international conference on Maritime Security Technologies. Complete an in-flight test of a secure means of data communications between military/commercial aircrafts and ground stations. Field a prototype early warning system for critical drinking water infrastructure. Develop an integrated cyber and physical assessment tool. Deploy and evaluate the performance of the evacuation simulation planning tool. Develop secure software engineering tools. Field an evacuation simulation planning tool. Convert the enhanced blast effects database into a web-based application. Identify critical infrastructure interdependency modeling technology gaps.

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Test and field remotely operated underwater screening to detect anomalies on submerged facilities and ship hulls. Test and field ruggedized, and deploy high payoff commercial systems to enhance protection for coalition forces. Develop a comprehensive maritime domain awareness capability.

FY 2009 Plans: Develop an integrated personnel-screening system with remote capability to detect metallic, nonmetallic, and improvised explosive devices. Assess and demonstrate entry point screening and force protection technology. Assess a system to detect disassembled handguns and improvised explosives devices. Commercialize a blast and ballistic protective system with integrated intrusion detection capabilities for remote substation protection. Integrate novel sensors to extend perimeter/border capabilities to increase situational awareness and provide earlier warning of potential adversary attack. Develop integrated physical/cyber security systems. Develop curriculum and text for the secure software engineering course. Develop critical infrastructure dependency modeling standards and tools. Deploy a web-based blast effects database.

Accomplishments/Planned Program Title:

FY 2007

FY 2008

FY 2009

CONCEPT DEVELOPMENT

4.326

2.748

FY 2007 Accomplishments: Several subcomponent efforts were transitioned to a new Project within the Special Operations/Low Intensity Conflict (SO/LIC) Advanced Development Program (PE 0603121D8Z), Asymmetric Warfare Support, which leverages ongoing research efforts of US Special Operations Command (USSOCOM), the Military Services, Defense agencies, and other federal agencies to analyze, modify, design, and demonstrate enduring technical and operational capabilities for counterterrorism and counterinsurgency.

Conducted a Maritime Counter-Terrorism Exercise Asymmetric Warfare Initiative 2007 North.

FY 2008 Plans: Develop improved analytical tools for entity, relationship, and organizational structures resolution. Design and implement advanced automated activity and plan recognition capabilities.

FY 2009 Plans: Move to VIP Protection.

Accomplishments/Planned Program Title:

FY 2007

FY 2008

FY 2009

SURVEILLANCE, COLLECTION AND OPERATIONS SUPPORT

13.884

26.598

9.287

FY 2007 Accomplishments: Integrated multiple tagging, tracking, and location technologies as a cue for other sensors or actions. Expanded existing geolocation and targeting capabilities. Evaluated and initiated biometric and other novel technologies to improve tagging, tracking, and locating effectiveness. Increased effectiveness of biometric technologies by studying and applying promising fusion techniques for the face, finger, and iris. Benchmarked and compared accuracy of machine and human face recognition. Developed automated tools and techniques to aid deployed forces in foreign language and cultural awareness.

Developed modular roll-on roll-off intelligence, surveillance, reconnaissance (ISR) capability for employment on nonspecialized aircrafts. Conducted a study on the available tools and equipment for information operations.

FY 2008 Plans: Improve access to open source media through new language processing technologies for multimedia information from degraded input sources. Continue to develop biometric and novel technology areas to improve tagging, tracking, and locating. Apply the gains in facial recognition technology to long-range video surveillance. Continue to investigate and improve biometric fusion techniques. Investigate methods and concepts for increasing the effectiveness of human identification at a distance when a person is aided by automated facial recognition algorithms. Continue to develop automated tools and techniques to aid deployed forces in foreign language and cultural awareness skills.

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Develop simulation tools for deployable units_ operational efforts. Continue to improve technology for airborne threat detection. Investigate and improve tunnel detection technology. Field-testing of hand-emplaced and Unmanned Aerial Vehicle (UAV) delivered sensor systems configured for aero-bodies in jungle environment. Continue to develop ISR package in roll-on/roll-off platform. Establish prototype ISR testbed for sensor development and evaluation. Improve surveillance of borders in high risk through remote sensors.

FY 2009 Plans: Enhance open source media through new language processing technologies for degraded input sources. Improve biometric and novel technology areas for tagging, tracking, and locating. Increase performance of facial recognition technology for long-range video surveillance and human identification at a distance. Transition language processing techniques including increasing support for additional languages and domains to deployable systems for use. Enhance geolocation and targeting capabilities.

Accomplishments/Planned Program Title:

FY 2007

FY 2008

FY 2009

TACTICAL OPERATIONS SUPPORT

16.015

11.053

9.338

FY 2007 Accomplishments: Delivered a High Performance In-Line Sniper Scope that will provide enhanced infrared images for sniper weapons for low rate initial production. Delivered the Eye Ball R-1 remote surveillance system for operational assessment. Developed an improved small laser target designator prototype for operational test and evaluation. Delivered a prototype weapon mounted video display for operational test and evaluation. Delivered a prototype lightweight, weapon-mounted, integrated laser rangefinder. Delivered a Dynamic Breaching Handbook for SWAT operations. Developed an integrated level IIIA Ballistic Helmet Prototype that supports modular tactical attachments and improves balance and wearer comfort. Delivered an enhanced tactical rope-ascending device for operational test and evaluation.

Conducted several scenario-based exercises and training events designed to increase the ability of local, State, and Federal agencies to respond to a terrorist event involving asymmetric threats. Developed and delivered tactical surveys for select high-risk facilities that will enable first responders to react to a crisis with enhanced safety, speed, and effectiveness.

FY 2008 Plans: Deliver a second generation Muzzle Flash Detection System for operational test and evaluation. Deliver initial integrated level IIIA Ballistic Helmets for operational test and evaluation. Develop an intrinsically safe distraction device for use by assault teams during shipboard operations. Develop low-profile fusion panoramic night vision goggles that provide enhanced situational awareness and ballistic eye protection. Finalize design for a portable countermeasure for remote controlled garage doors and conduct test and evaluation. Develop a remotely operated standoff vehicle stopping system that can be deployed from both a helicopter and vehicle. Finalize the design and deliver an improved small laser target designator prototype for operational test and evaluation. Deliver a deployable patient monitoring system for combat evacuations for operational test and evaluation. Deliver prototype of a portable, high bandwidth universal communications converter for initial testing. Deliver a prototype reusable non-pyrotechnic diversion device and conduct operational test and evaluation. Finalize the design and deliver a small tactical cutting torch for operational test and evaluation. Develop a high intensity tactical infrared headlight for military vehicles. Develop a next generation enhanced tactical rope-ascending device. Develop a compact amplifier and low-profile antenna to support use of the Multiband Inter/Intra Team Radio (MBITR) in military and civilian vehicles. Develop a projectile launched 40 mm listening system that can enhance situational awareness for SWAT teams. Develop next generation Front Line Viewing Units (FLVU) for local law enforcement agency operational test and assessment in their mobile command centers.

Analyze, design, and develop a program for tactical support surveys with civilian support teams.

FY 2009 Plans: Finalize the design, and deliver low-profile fusion panoramic night vision goggle for operational test and evaluation. Finalize, design, and deliver an intrinsically safe distraction device for operational test and evaluation. Finalize, design, and deliver a deployable patient monitoring system for operational test and evaluation. Finalize the design, and deliver a portable, high bandwidth universal communications converter for operational test and evaluation. Develop a portable system of wireless infrared illuminators with motion sensors to enhance site security for tactical forces. Finalize the design, and deliver a prototype standoff vehicle stopping system for initial operational test and evaluation. Finalize the design, and deliver high intensity tactical infrared headlights for military vehicles for operational test and evaluation. Finalize the design, and deliver next generation enhanced tactical rope-ascending device for operational test and evaluation. Deliver a low profile MBITR amplifier and antenna for operational testing and evaluation. Deliver a projectile launched 40 mm listening system for operational test and evaluation. Deliver next generation FLVU for local law enforcement agency operational tests and assessment. Develop a modular combat aiming system that provides a vertical continuously rectified target image in a near-

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eye projection for use in close quarter battle operations.				
<u>Accomplishments/Planned Program Title:</u>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
TRAINING TECHNOLOGY DEVELOPMENT		7.994	4.048	4.311
<p>FY 2007 Accomplishments: Developed an Advanced Distributed Learning (ADL) authoring tool to enable integration of 3-D models with online training. Developed the next generation ADL registry for combating terrorism related content and assets. Produced a distributed language learning system that provides accurate translations for common operational phrases.</p> <p>Analyzed, designed, and developed a program of training technologies focused on addressing port security. Designed and developed advanced distributed learning solutions to distribute focused training modules and innovative technological applications to counteract the effects of terrorist-employed CBRNE devices. Developed Training Support Packages (TSPs) on IED awareness for first responders, merchant vessel inspection, and on protecting the intermodal supply chain. Developed best practice guides on preparation for the suicide bomber, potential threats to bridges and on the retrieval of video evidence from digital closed circuit television (CCTV) systems.</p> <p>FY 2008 Plans: Improve the knowledge, skills, and abilities of bomb squads through improved curriculum, practical exercises, and quarterly training. Enhance the creation of adaptable, agent-based, adversarial models in simulations that model human behavior and social interactions. Develop adaptive, artificial intelligent (AI) crowd models to train warfighters in handling crowd-related scenarios (e.g. riot control, disaster management, emergency evacuation, rescue operations, urbanized conflicts, etc.), formulate strategies, answer "what-if" scenarios, and evaluate contingency plans. Develop a program of instruction for next generation canine capability.</p> <p>Implement a robust operations security (OPSEC) training program to develop an understanding of the OPSEC threat environment and of OPSEC techniques and practices. Design, develop, implement, and evaluate a model for an immersive cultural learning environment that provides warfighters, linguists, analysts, and language students with robust cultural awareness information and training.</p> <p>FY 2009 Plans: Develop a virtual-live fire simulation housed in a container that can duplicate the conditions of a long, known distance (KD) range complex and an urban environment. Design and develop a data standard to identify, extract, and configure S1000D technical data modules and Shareable Content Object Reference Model (SCORM) enabled sharable content objects from a common source database (CSDB) for use as content on mobile job aids. Conduct an analysis of irregular warfare (IW) operations and activities within the educational domain in order to support an increased interagency and international capability.</p>				
<u>Accomplishments/Planned Program Title:</u>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
VIP PROTECTION		5.890	4.564	6.856
<p>FY 2007 Accomplishments: Finalized prototype indirect laser detection system for early warning of laser targeting activity. Fielded the prototype vehicle tamper alerting system for evaluation. Integrated the VIP security kit components, conducted final testing, and deployed completed prototype systems. Characterized the ballistic performance of selected threats ammunition for inclusion in a previously developed projectile database. Developed modeling capabilities and performed testing to assess blunt trauma to the head and torso for selected ballistic helmets and body armor. Developed an IED blast/fragmentation test protocol to determine the effects on VIPs and protective detail armored vehicles. Constructed a field-installable inconspicuous vehicle armor system for a range of common civilian vehicles. Conducted state-of-the-art armor research for vehicle and body armors currently available to the Government. Compared commercially available wireless surveillance earpieces and assessed suitability for protective details.</p> <p>Developed enhancements for the deployable armor system, verified ballistic and blast protection against multiple threats, and deployed additional prototype units for operational evaluation.</p> <p>FY 2008 Plans: Deploy the updated projectile database with frangible and new threat ammunition information. Integrate an IED blast/fragmentation test protocol with the standards used by</p>				

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purchasers of armored vehicles. Design and evaluate improved inconspicuous body armor for operations where the detection of body armor presents an increased danger to the wearer. Deploy field-installable inconspicuous vehicle armor kits for operational evaluation. Package and release a database of state-of-the-art armor research for vehicle and body armors currently available to the Government. Develop a ruggedized version of the VIP security kit for indoor/outdoor surveillance. Miniaturize a mobile video processing system and integrate with various camera systems to enhance situational awareness and incident response capabilities. Develop a portable pre-launch Man-Portable Air Defense System (MANPADS) threat detection capability.

FY 2009 Plans: Deploy the ruggedized VIP security kit for operational evaluation. Test and evaluate integrated cameras and miniature video processing system in multiple operational scenarios. Develop and launch a protective services portal system to standardize operation plans and enhance interoperability between agencies. Deploy a portable pre-launch MANPADS threat detection capability for operational evaluation. Develop advanced methodologies and analytical tools to support threat assessment and protective intelligence activities.

Accomplishments/Planned Program Title:

FY 2007

FY 2008

FY 2009

PROGRAM MANAGEMENT

9.283

10.589

7.617

FY 2007 Accomplishments: Provided program management oversight and technical support for CTTS R&D projects. Augmented the CTTS program office with contract, financial, and security management personnel. Managed an additional \$62 million in funds from other agencies. Managed international cooperative R&D programs including the United Kingdom, Canada, Israel, Australia, and Singapore. Established goals, objectives, and plans to reinforce interagency participation for the identification and prioritization of CTTS mission area requirements. Solicited proposals via BAA for new projects and tasks based on prioritized requirements. Directed the program, planning, and execution of projects and associated contracts, including the daily management and reporting for more than 525 separate contracts and tasks. Developed and implemented improvements for the BAA Information Delivery System (BIDS) solicitation process including enhanced outreach via training to potential submitters on BIDS use. Developed and implemented process improvement initiatives for the Business Information System processes.

FY 2008 Plans: Provide program management oversight and technical support for CTTS R&D projects including funds from other agencies and management of international cooperative R&D programs. Establish goals, objectives, and immediate revisions to plans that will reinforce interagency participation for the identification and prioritization of CTTS mission area requirements. Direct the program, planning, and execution for projects and associated contracts using direct and indirect budget allocations. Review and revise existing process and execution plans for CTTS mission area management and reporting responsibilities.

FY 2009 Plans: Provide program management oversight and technical support for CTTS R&D projects including funds from other agencies and management of international cooperative R&D programs. Establish goals, objectives, and immediate revisions to plans that will reinforce interagency participation for the identification and prioritization of CTTS mission area requirements. Direct the program, planning, and execution for projects and associated contracts using direct and indirect budget allocations. Review and revise existing process and execution plans for CTTS mission area management and reporting responsibilities.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.