

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY
RDTE, Defense Wide BA 03

PE NUMBER AND TITLE
0603121D8Z - SO/LIC Advanced Development

COST (\$ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total Program Element (PE) Cost	34.813	39.815	32.832	32.172	32.776	33.294	33.808
P206 Explosive Ordnance Disposal/Low-Intensity Conflict/P206	9.200	7.167	7.401	7.308	7.448	7.564	7.680
P207 Special Reconnaissance Capabilities/P207	21.862	27.472	20.168	19.668	20.033	20.351	20.666
P208 Information Dissemination Concepts/P208	3.264	3.106	3.125	3.085	3.145	3.194	3.243
P209 Irregular Warfare Support (IWS)/P209	0.487	2.070	2.138	2.111	2.150	2.185	2.219

A. Mission Description and Budget Item Justification: P206, Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC). The EOD/LIC Program develops and delivers advanced capabilities for military Explosive Ordnance Disposal (EOD) operators and Special Operations Forces (SOF) to meet the challenges of improvised explosive devices (IEDs), force protection, and the war on terrorism. EOD/LIC efforts focus in two areas: support to SOF to combat terrorism; and access, detection, identification, and neutralization of all types of conventional explosive ordnance and improvised explosive devices. Requirements submitted by the Joint Service EOD and Service Special Operations communities are prioritized and approved by OASD (SO/LIC).

P207, Special Reconnaissance Capabilities (SRC). The SRC Program exploits, leverages, and integrates DoDs service and agency efforts to improve surveillance and reconnaissance tools (unattended sensors, tagging devices, data infiltration/exfiltration, remote delivery, and mobility/delivery of sensors), while providing risk reduction for DoD and other agency technology and development programs. The SRC Program identifies, integrates, and operationalizes the technical tools for the collection of actionable information against a variety of targets and mission requirements, including Global War on Terrorism (GWOT), and maintains DoDs on-line catalog of tools in order to minimize crisis response time for special reconnaissance and surveillance.

P208, Information Dissemination Concepts (IDC). The IDC Program addresses technology capabilities necessary to enable sustained information dissemination campaigns in denied areas. The IDC program, working as necessary with DoD and the interagency, develops, modifies, and demonstrates concepts, mechanisms, platforms and payloads to propagate themes and messages that convince target audiences to take action favorable to the United States and its allies.

P209, Irregular Warfare Support (IWS). The IWS Program develops cross-domain blended capabilities necessary to enable sustained, counterterrorism operations. This program leverages ongoing research efforts of US Special Operations Command (USSOCOM), the military departments, Defense agencies, and other federal agencies to analyze, modify, design, prototype and demonstrate enduring technical and operational capabilities. Projects support efforts to: conduct counter organization warfare, develop counter motivation capabilities, coordinate infrastructure and sanctuary denial options, and provide counter enterprise and counter financing capability to the warfighter. The Program blends several disciplines including surveillance, operations, policy, information, training and technology.

<u>B. Program Change Summary</u>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	35.670	32.669	32.896

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Current BES/President's Budget (FY 2009)	34.813	39.815	32.832
Total Adjustments	-0.857	7.146	-0.064
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		7.146	
Reprogrammings			
SBIR/STTR Transfer			
Other	-0.857		-0.064

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.

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: Performance Metrics:

SO/LIC Advanced Development - PE 0603121D8Z; Explosive Ordnance Disposal & Low-Intensity Conflict/P206; Special Reconnaissance Capabilities/P207; Information Dissemination Concepts/P208; Irregular Warfare Support/P209

Long Term Strategies: Obtain adequate funding to support critical shortfalls; prioritize proposals that are deemed acceptable and allocate funding accordingly; and establish outreach to leverage institutional knowledge and expertise.

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Performance Indicator and Rating:

FY 2008 Target:

70% of currently funded research projects are completed on time and within budget

5% increase in the number of research projects accepted

Transition scheduled projects to user communities

FY 2009 Target:

70% of currently funded research projects are completed on time and within budget

5% increase in the number of research projects accepted

Basis of FY 2007 to Date Performance Rating:

Currently the number of funded research projects are on track to be completed per the target.

Verification: The SO/LIC Advanced Development Program projects each track the status of their efforts. Reviews are conducted to assess project status. Oversight of the entire effort is undertaken by ASD SO/LIC.

Validation: Completed research products increase the capabilities of the DoD to effectively detect, deter and defend against terrorist attacks; defeat improvised explosive devices and unexploded ordinance; enable sustained information operations in denied areas; and contribute to resolution of hostile, unconventional conflicts.

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APPROPRIATION/ BUDGET ACTIVITY RDTE, Defense Wide BA 03		PE NUMBER AND TITLE 0603121D8Z - SO/LIC Advanced Development					PROJECT P206	
COST (\$ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	
P206 Explosive Ordnance Disposal/Low-Intensity Conflict/P206	9.200	7.167	7.401	7.308	7.448	7.564	7.680	

A. Mission Description and Budget Item Justification: P206, Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC). The EOD/LIC program develops and delivers advanced capabilities for military EOD operators and Special Operations Forces (SOF) to meet the challenges of improvised explosive devices (IEDs), force protection, and the war on terrorism. EOD/LIC efforts focus in two areas: support to SOF to combat terrorism; and access, detection, identification, and neutralization of all types of conventional explosive ordnance and improvised explosive devices. Requirements submitted by the Joint Service EOD and Service Special Operations communities are prioritized and approved by Office of the Assistant Secretary of Defense (OASD) (SO/LIC).

B. Accomplishments/Planned Program:

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
2007 Accomplishments:	9.200		
Developed night vision capability for the bomb suit helmet. Designed a portable pen to sustain marine mammals in extreme environments. Assessed an unmanned aerial vehicle to support EOD combat operations. Conducted initial testing of a high power ordnance and IED standoff laser disruption system. Evaluated a roadside IED detection system. Designed a weapon-mounted robotic platform. Designed low cost, disposable robotic platforms for reconnaissance and tactical missions. Developed unmanned surface craft for reconnaissance of waterways and littoral regions.			

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2008 Plans:		7.167	
Improve portable unmanned aerial vehicle for EOD and combat missions. Evaluate sensors to detect threats through foliage and other obscurants. Develop an integrated dual modem interpreter to support underwater networking of sensors and vehicles. Evaluate a bladderless lift balloon to lift ordnance off the sea floor. Investigate wireless, non-radio frequency technologies for command and control of robotic platforms. Develop tools and technologies to enhance performance of robotic platforms in EOD and SOF missions. Improve unmanned surface vessels for reconnaissance of waterways and littoral regions. Develop tactical X-ray film for EOD and SOF missions. Evaluate an ordnance penalty simulator for objective performance evaluation of personnel undergoing EOD training at the Naval Explosive Ordnance Disposal School. Develop improved dive mask for combat and EOD divers.			

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2009 Plans:			7.401
Test and evaluate unmanned aerial vehicle with improved sensors for IED detection. Evaluate prototype undersea communications systems. Develop wireless, nonradio frequency technology for command and control of robotic platforms. Integrate sensors to detect threats through foliage and other obscurants. Evaluate tools that enhance capability of robotic platforms to support EOD and SOF missions. Evaluate performance of unmanned surface vehicles to reconnaissance of waterways and littoral regions. Evaluate improved dive mask for combat and EOD divers.			

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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.

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APPROPRIATION/ BUDGET ACTIVITY RDTE, Defense Wide BA 03		PE NUMBER AND TITLE 0603121D8Z - SO/LIC Advanced Development					PROJECT P207	
COST (\$ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	
P207 Special Reconnaissance Capabilities/P207	21.862	27.472	20.168	19.668	20.033	20.351	20.666	

A. Mission Description and Budget Item Justification: The SRC program primary goal is to seek out and identify technical tools for the collection of actionable data which will assist DoD in its execution of the Global War on Terrorism (GWOT). To accomplish this task, the program leverages emerging and existing developmental technologies from government and commercial ventures and operationalize them to meet near term reconnaissance and surveillance operational requirements. The operational tools transition unattended sensors, tagging devices, data transfer, remote delivery, and mobility/delivery of sensors into established Programs of Record throughout the DoD. The program evaluates new and existing technical surveillance technologies into a reference data base.

B. Accomplishments/Planned Program:

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2007 Accomplishments: The SRC Program	21.862		

FY 2007 Accomplishments: The Special Reconnaissance Capabilities (SRC) Program conducted end-to-end testing of a wide variety of small, power efficient beacons and sensors technologies to satisfy Global War on Terrorism (GWOT) requirements. The program conducted training for unattended ground sensors for maritime and ground persistence surveillance. These capabilities and equipment were inserted into operator training exercises to vet tactics, techniques and procedures for employment. The program office identified, evaluated, and directed enhancements to existing tagging, tracking, and locating (TTL) equipment in support of other government agencies to meet emerging requirements. In addition, the office provided enhancements, fielding and conducted operational assessment of an airborne interrogator-transponder prototype system. Delivered several prototypes of a sensor-less visible camera system and begin integrating night capabilities. Continued to improve data infiltration and exfiltration capabilities through the integration of advanced technology and new communications links. Continued to improve special reconnaissance (SR) optic capabilities through the integration of advanced optic technology and processing. Improved SR power capabilities through the integration of advanced power technologies and device redesign. Explored and exploited remote control capabilities by reducing form factors, improving power management, and integrating air droppable and maritime capabilities. Performed field evaluations of selected SR technologies and documented results in the on-line SRC knowledgebase. Supported cooperative projects and evaluated technology maturity for new capabilities with the DoD and OGA that accelerates the transition of advanced SR and TTL technology to the operational community.

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
2007 Plans		27.472	

FY 2008 Plans: Provide technology support to DoD with emerging special reconnaissance (SR) precise location prototype technologies. Develop micro sensor controller for hand emplacement and air and maritime employment. Continue the following projects: provide technology support to the Global War on Terrorism to include, technology training and variants of tagging, tracking, and locating (TTL) and unattended ground sensor prototypes for maritime and ground persistence surveillance; engage the research and development community for technical solutions and candidate technologies to improve DoD SR mission capabilities; evaluate and operationalize sensor and TTL capabilities through insertion of maturing mini and micro technologies to enhance the technical performance of SR missions; insert operationally capable prototypes into operator training exercises to vet technologies and to develop tactics, techniques and procedures for employment; research, evaluate and integrate enhanced tagging and sensing capabilities to enable remote and standoff emplacement; research, evaluate and integrate emerging netted sensor technologies into remote capabilities; integrate improved SR data infiltration and exfiltration capabilities through the development and integration of advanced technology and new communications links; perform field

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PROJECT
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evaluations of selected SR technologies and document results in on-line SRC knowledgebase; and support cooperative projects with DoD and OGA to accelerate the transition of advanced SR technologies to the operational community.

Accomplishments/Planned Program Title:

FY 2007

FY 2008

FY 2009

2009 Plans

20.168

FY 2009 Plans: Insert operationally capable prototypes into operator training exercises to vet technologies and new develop tactics, techniques and procedures for employment. Continue to: provide technology support to the Global War on Terrorism to include, technology training and variants of tagging, tracking and locating (TTL) and unattended ground sensor prototypes for persistence surveillance; engage the research and development community for technical solutions and candidate technologies to improve DoD special reconnaissance (SR) mission capabilities; evaluate and operationalize sensor and TTL capabilities through insertion of mini and micro maturing technologies; research, evaluate, and integrate enhanced tagging and sensing capabilities to extend mission life and standoff emplacement; integrate extended life mission sensors, micro optics, fingerprinting, emerging precise location technologies, and improved netted SR data infiltration and exfiltration capabilities; research, evaluate, and integrate emerging netted sensor technologies into remote capabilities; perform field evaluations of selected SR technologies and document results in on-line SRC knowledgebase; and support cooperative projects with the DoD and OGA Intelligence Agencies to accelerate the transition of advanced R&S technology to the operational community.

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.

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APPROPRIATION/ BUDGET ACTIVITY RDTE, Defense Wide BA 03		PE NUMBER AND TITLE 0603121D8Z - SO/LIC Advanced Development					PROJECT P208	
COST (\$ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	
P208 Information Dissemination Concepts/P208	3.264	3.106	3.125	3.085	3.145	3.194	3.243	

A. Mission Description and Budget Item Justification: P208, Information Dissemination Concepts (IDC). The IDC Program addresses technology capabilities necessary to enable sustained information dissemination campaigns in denied areas. The IDC Program, working as necessary with DoD and the interagency, develops, modifies, and demonstrates concepts, mechanisms, platforms and payloads to propagate themes and messages that convince target audiences to take action favorable to the United States and its allies.

B. Accomplishments/Planned Program:

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2007 Accomplishments:	3.264		

USPACOM's Multimedia Alert Processing Systems (MAPS): Begin the process to transition MAPS to Services and COCOMS for procurement and support. Support counter-terrorism and combating terrorism operations by continuing development of information operations tools and technologies, and expanding translation capabilities and monitoring of local radio and Internet dissemination of foreign news services. Develop information dissemination requirements in support of instability and counter-narcotic operations. Start new projects defined through collaboration efforts to address technology shortfalls. USSOCOM's PSYOP Global Reach (PGR) Advanced Concept Technology Demonstration (ACTD): Continued management of the incremental design, engineering, and technical integration of multiple technologies as the variants become more robust. Planned events included continued development of advanced broadcast/rebroadcast payloads for Predator type UAS platforms, demonstrations of WSADS UAS FM and loudspeaker broadcast payloads, demonstrating the Compact Airborne Amplitude Modulated (AM) Transmitter, transitioning WSADS FM broadcast payload, demonstrating electronic leaflets and media display systems, and incremental fielding of POPAS. These efforts will culminate next FY in MUAs for scatterable media and the POPAS. Space and Naval Warfare Systems Center (SPAWAR), in FOUO text, started a new technology development to extend the state-of-the-art to understand cognitive processes used to disseminate and react to information. Defined techniques and minimized options for testing the interaction of cognitive decision making, cultural biases and technology effects. Designed experimental test sets. Started new capability to stand-off from target and deliver messages clandestinely. Started a new effort to investigate ability to receive messages using commercial low power electronics.

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2008 Plans:		3.106	

USPACOM's Multimedia Alert Processing Systems (MAPS): Continue transitioning MAPS to Services. Support counter-terrorism and combating terrorism operations by improving upon existing tools and expanding technologies to enhance monitoring and translation capabilities across the full spectrum of communication media. Develop new projects to address technology shortfalls in building partnership capacity for distribution of themes and messages favorable to Coalition operations. USSOCOM's PSYOP Global Reach (PGR) Advanced Concept Technology Demonstration (ACTD): Continues development of advanced broadcast/rebroadcast payloads designed for Predator/Extended Range Multi Purpose (ERMP) type UAS platforms. Continues POPAS development and incremental fielding and transition software/hardware. Conduct MUAs and EUEs of scatterable media and the POPAS. Space and Naval Warfare Systems Center (SPAWAR), in FOUO text, continues development effort to track messages globally. Initiate transition to COCOM and Services. Initiate transition cognitive decision making to COCOMs. Continue effort to develop stand-off

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technology for message delivery. Address limitations of deployment con-ops. Develop tool to deliver the message. Also, investigate potential for messages to be intentionally redirected by adversary. Continue effort to use commercial low power electronics for message reception. Begin size reduction effort.

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2009 Plans:			3.125

USPACOM's Multimedia Alert Processing Systems (MAPS): Continue to provide technology support the Global War on Terrorism. Develop Information Operation tools and techniques that assist in the analysis and planning phase of Information Operations. Investigate additional mechanisms, platforms, and payloads to provide IO planners with multiple means of delivering themes and messages to targeted audience. USSOCOM's PSYOP Global Reach (PGR) Advanced Concept Technology Demonstration (ACTD): Execute further development, demonstrate and perform evaluations for the AM, FM, and TV broadcast payload pods to integrate and support Predator/Extended Range Multi Purpose (ERMP) type UAS platforms. Transition scatterable media to include scatterable loudspeaker broadcast systems and electronic leaflet systems. Demonstrate, evaluate, and transition Small Business Innovative Research (SBIR) Phase II FM/TV antenna, POPAS, and related software technologies. In addition, transition remaining software/hardware for POPAS. The transition of residuals with a focus on Milestone B will be completed by the ACTD as it conducts close-out procedures and fully integrates with the program of record by the end of the FY. Space and Naval Warfare Systems Center (SPAWAR), in FOUO text, transitions stand-off technology for message delivery to the COCOMs and Services. Develops capabilities to monitor and control delivery of messages by adversaries. Develops new projects that will allow the distribution of themes and messages from stand-off systems building upon collaboration across the Department and Agencies.

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.

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P209 Irregular Warfare Support (IWS)/P209	0.487	2.070	2.138	2.111	2.150	2.185	2.219	

A. Mission Description and Budget Item Justification: P209, Irregular Warfare Support (IWS). The IWS Program develops cross-domain blended capabilities necessary to enable sustained, counterterrorism operations. This program leverages ongoing research efforts of US Special Operations Command (USSOCOM), the military departments, Defense agencies, and other federal agencies to analyze, modify, design, prototype and demonstrate enduring technical and operational capabilities. Projects support efforts to: conduct counter organization warfare, develop counter motivation capabilities, coordinate infrastructure and sanctuary denial options, and provide counter enterprise and counter financing capability to the warfighter. The Program blends several disciplines including surveillance, operations, policy, information, training and technology.

B. Accomplishments/Planned Program:

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2007 Accomplishments: Transitioned Clandestine Close Access Surveillance (CCAS) modular training support capability to Special Forces Command Program of Record; published video depicting research on terrorist prevention and disengagement strategies.	0.487		
<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2008 Plans: Research and develop capabilities that support the Military and Interagency Irregular Warfare mission. This will include conducting operational analysis of requirements and capability design of surrogate network enhancement, counter-human network operations, and critical cooperation nodes between U.S. Government communications activities.		2.070	
<u>Accomplishments/Planned Program Title:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2009 Plans: Research and develop capabilities that support the Military and Interagency Irregular Warfare mission. This will include further operational analysis of completed FY08 plans; assessment of effectiveness; solutions for systems integration, new operational analysis, and capability design for pilot Irregular Warfare (IW) training and education programs across the Interagency; enhanced counter-human network operations, and novel information age operational concepts.			2.138

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

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D. Acquisition Strategy Not applicable for this item.

E. Major Performers Not applicable for this item.