

**OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3		PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>						
Cost (\$ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	168.851	162.201	0.000	0.000	0.000	0.000	0.000	0.000
P523 Advanced Concept Technology Demonstration (ACTD)	168.851	162.201	0.000	0.000	0.000	0.000	0.000	0.000

**A. Mission Description and Budget Item Justification:** The Department of Defense (DoD) initiated the Advanced Concept Technology Demonstration (ACTD) program in 1995 with the purpose of demonstrating new, mature technologies in an operational environment and the goal of getting new technology into the hands of the warfighter as quickly as possible. Early successes included the Predator and Global Hawk unmanned aerial vehicles (UAVs). As of year end FY06, DoD has started 150 ACTDs, a total of 70 ACTDs were in process, and 22 had been returned to the technology base or terminated. The program continues to demonstrate success in meeting urgent warfighter needs with 65 ACTDs contributing products that are/were employed in Operation Iraqi Freedom (OIF) and/or Operation Enduring Freedom (OEF). Some of these ACTDs are completing their operational demonstrations in a wartime environment. A non-exhaustive list of ACTDs deploying products to either OIF or OEF includes: Language and Speech Exploitation Resources (LASER), Expendable Unmanned Aerial Vehicle (XUAV), and the Joint Explosive Ordnance Disposal (JEOD) projects. The streamlined approach to ACTDs brings together technologists and military operators, who together insert advanced technologies into live demonstrations, evaluating their military utility in the field, while tailoring operational concepts and tactics, techniques, and procedures (TTPs) for warfighter employment.

In FY 2006, the Deputy Undersecretary of Defense for Advanced Systems and Concepts (DUSD(AS&C)) initiated a new business process, building on the successful ACTD program, to support the Department's transformational reform of addressing future threats from a capabilities focus versus the classical threat based viewpoint. The revised ACTD approach is called the Joint Capability Technology Demonstration (JCTD) program, and is based on proven, positive aspects of the ACTD program. The JCTD model specifically addresses congressional concerns and recommendations made by the General Accountability Office (GAO) regarding rapid development and transition of CoCom relevant capabilities to the joint warfighter in a more cost effective, timely and efficient model. Aligning closely with the thrust of with the Joint Staff's Joint Integration and Development System (JCIDS), JCTDs take a more balanced project candidate identification approach, shifting the overall program's focus to identifying specific warfighter capabilities needs up front (requirements pull), and then finding technology or concepts to address these needs, while maintaining the historical ACTD approach, where new technology is introduced to the warfighter to solve existing operational shortfalls (technology push). FY 2006 was the first year of a three to five year transition period from the current ACTD to the improved JCTD program. However, in FY08 all ACTD funding is being transferred to the JCTD program to complete this transition more quickly than anticipated. Beginning in FY07 all new starts will be JCTDs (replacing ACTD new starts). This will implement an even faster process that rapidly provides demonstrated solutions to joint warfighter needs, and unique transformational capabilities through the application of new operational concepts or technology from the Science and Technology (S&T) domain, with resources aimed at carrying successful projects through the difficult transition stage ("S&T valley of death"). The remaining ongoing ACTDs that were started in previous years but not yet complete will be funded to completion in the JCTD program element and will complete in two to three years. Beginning in FY07 there will be only JCTD new start projects. In FY 2006, the 13 ACTD/JCTD new start projects consisted of six ACTDs and seven JCTDs. To better support the rapid transition of joint, CoCom/coalition operational capabilities, the JCTD business model includes a JCTD Transition program element. While not all ACTDs and JCTDs require transition funding, these resources provide a "transition bridge" to enable sustainment for innovative, "joint-peculiar" and Combatant Commander (CoCom)/coalition capabilities until traditional programming and budgeting can provide a permanent solution.

The appropriation, Program Element (PE) and Budget Activity (BA) structure for the new JCTD process includes the following:

**OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY  
RDT&E/ Defense Wide BA# 3

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**0603750D8Z - Advanced Concept Technology Demonstrations**

- JCTD PE 0603648D8Z (RDT&E/DW BA-3)
- JCTD Transition Funding PE 0604648D8Z (RDT&E/DW BA-4)

In FY 2006, DUSD(AS&C) shifted an initial allocation of resources (\$40 million) from the ACTD PE 0603750D8Z into the JCTD program element (PE)s. In FY08 all remaining ACTD resources will be shifted into the JCTD BA 3 PE 0603648D8Z. This will initially establish a funding stream to support approximately five to ten new JCTDs each year. The BA-3 JCTD PE will replace the current ACTD BA-3 PE in FY08, all ACTD funding transfers to the JCTD program in FY08; The JCTD and ACTD projects will use the combined resources of both the JCTD and ACTD PEs in FY07. In FY08 and out ongoing ACTDs will be supported with funding from the JCTD PE until completion in two to three years. JCTDs may be funded from both the ACTD and JCTD PEs during in FY07 as the JCTD model shift reaches completion. During this period, the overall program will sometimes be referred to as the JCTD/ACTD program, to address the transitional nature of the process. JCTDs are initiated in Budget Activity three (BA-3) and are pre-acquisition demonstrations, characterized by Technology Readiness Levels 4, 5 or 6. Although not fully developed for production, new JCTDs can provide a path for transition of Science and Technology to acquisition and are low-to-moderate risk vehicles for pursuing those objectives. The Defense Wide RDT&E funding managed by DUSD(AS&C) will support demonstration of military utility and deployment of interim capability including a transition period to a program of record, providing the Combatant Commanders, Services, Agencies, and operators with adequate time to address transition issues of supportability, maintainability and training identified by the JCTD/ACTD. As described, the JCTD Program will pioneer a new model for Department of Defense acquisition with the addition of a transition arm through funding in the JCTD Transition BA4 which will provide a path for rapid fielding of successful, transformational capabilities that may require additional transition resources to "bridge" to a program of record.

FY 2007/2008 General Program Plan: DUSD (AS&C) will maintain oversight of the JCTD/ACTD program. The FY 2007 review and validation process began in February 2006, with JROC validation in June of 2006. Congressional notification followed in December 2006 with seven "new start" JCTDs and five potential "rolling starts". Rolling start projects were selected because they represent important warfighter concerns and potential capabilities. Three of the proposals, address issues with emerging technologies that could be significant "game changers". While these projects have been successfully vetted through the JCTD selection process, some additional proposal development must be addressed with the stakeholders, prior to project initiation. Funding available for initiating new FY 2007 JCTDs and Rolling Starts is be approximately \$47 million. For FY 2008, the selection process will begin in March 2007 and it is anticipated approximately \$50 million will be available for JCTD new/rolling start initiatives.

<b><u>B. Program Change Summary</u></b>	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	170.275	158.334	164.696	177.936
Current BES/President's Budget (FY 2008/2009)	168.851	162.201	0.000	0.000
Total Adjustments	-1.424	3.867	-164.696	-177.936
Congressional Program Reductions		-5.000		
Congressional Rescissions		-0.937		
Congressional Increases	2.600	9.800		
Reprogrammings	-0.390			

**OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)**

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APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3		PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>		
SBIR/STTR Transfer	-3.634			
Other		0.004	-164.696	-177.936

In FY06 there was a net congressional increase of \$9.4 million and congressional rescissions and other taxes such as Section 8125 and FFRDC of \$2.9 million that were reported in the FY07 President's Budget in February 2006. Since February changes to the ACTD FY06 budget year are shown above and include: Supplemental funding of \$2.6 million for two ACTDs directly impacting the GWOT, below threshold reprogrammings of a net reduction of \$390 thousand, and the SBIR and STTR tax \$3.6 million. The FY07 budget year shows congressional increases of \$9.8 million and a congressional decrease of \$5.0 million. The congressional increases fund the following enabling technologies: Processing Fuel Cell Components for Lightweight, Low Cost Transportation System; Special Operations Command Target Tracking and Knowledge Discovery System; Crossed-Field Radiation Technology (CFRT); Masking Shunt; and Spartan Advanced Composite Technology. There was a congressional reduction of \$5.0 million for "Reduction to New Start Projects". There were congressional rescissions of \$937 thousand for Section 8106 (1% reduction) and Section 8023 (FFRDC). Finally in FY08 and FY09 all ACTD funding is transferred to the JCTD Program (PE 0603648D8Z).

**C. Other Program Funding Summary:** Not Applicable.

**D. Acquisition Strategy:** Not Applicable.

**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
07	Selection focus					
07	Ability to spiral technologies					
07	Independent assessment of the technology					
07	Adequately resourced projects					
07	Complete a final demonstration					
07	Number of successful capabilities transitioned					

Comment: The majority of funding from this Program Element is forwarded to the Services/Defense Agencies that execute the individual ACTD projects. DUSD(AS&C) maintains and provides overall programmatic oversight for the ACTD program, to include the individual ACTD projects. The JCTD/ACTD performance metrics center on how fast relevant joint and/or

**OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)**

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RDT&E/ Defense Wide BA# 3

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**0603750D8Z - Advanced Concept Technology Demonstrations**

transformational technologies can be demonstrated and provided to the joint warfighter. These metrics are driven by the overall business process which includes six parts: (1) selection focus; (2) ability to spin-off spiral technologies; (3) time necessary to complete a final demonstration; (4) adequately resourced projects with appropriate oversight; (5) capability to complete an independent assessment of the technology; and (6) the number of successful capabilities that are actually transitioned to the warfighter. The table below defines these metrics and helps compare/contrast the current ACTD program with the new JCTD business process model.

A comparison of ACTD and JCTD metrics are:

1) Project Selection Focus:

a. ACTD - Threat based: shared military service and CoCom influence.

b. JCTD - Capability Based: Greater CoCom influence looking at nearer term joint/coalition needs.

2) Sprial Technologies:

a. ACTD - No metric

b. JCTD - 25% will provide an operationally relevant product demonstration within 24 months of ID signature.

3) Final Demonstation Completed

a. ACTD - 3 to 4 years after initiation

b. JCTD - 75% of projects complete final demonstration within three years of ID signature.

4) Shared Funding and Viability of resources:

a. ACTD - OSD provides no more than 30% of the budgeted resources. Funding provided form many different program elements.

b. JCTD - OSD provides significantly more funding, greater than 30% in some cases a majority of projected funding, especially in the first two years.

5) Military Utility Assessment (MUA)

a. ACTD - MUA traditionally tied to a specific planned excercise for evaluation.

b. JCTD - JCTDs not necessarily tied to an exercise. Greater flexibility to establish military utility via operational "real-world" demonstation or specifically designed test/venue.

6) Transition of Technology

a. ACTD - 70% of ACTDs transition at lease one product to sustainment.

b. JCTD - 80% of JCTDs transition at least 50% of their products to sustainment.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

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Cost (\$ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
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**B. Accomplishments/Planned Program:**

<b>Accomplishment/Planned Program Title</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>
Crossed Field Radiation Technology	0.000	3.200	0.000	0.000

Since 2006 Congress has provided additional resources for the Cross Field Radiation Technology (CFRT) project to explore antenna design concepts which may prove revolutionary in reducing antenna size and weight for possible application in manned and unmanned communications systems. The 2007 Congress had provided resources for CFRT in 2007. The expected outcome of CFRT is verification of antenna design concepts and limitations with respect to frequency band use, power versus range as a function of antenna pattern, and radio equipment interface characterization. CFRT efficiencies include performance measurements for comparison to existing antenna designs, manufacturability constraints for life cycle cost analysis, and power requirements and potential savings. While this enabling technology project is not yet directed at a specific Joint Capability Technology Demonstration, there are a number of low profile sensor and unmanned systems for which the technology may make a direct contribution if successful.

- FY 2006 - Output Year: CRFT focused on near and far-field testing of representative prototype antennas implemented with the CRF technology in test chambers. A prototype configuration was also field tested with the National and U.S. Coast Guard in June with significant performance enhancements achieved in power-to-transmission efficiencies. An early result showed potential efficiencies that may lead to extended battery life for a given desired communication range, an important consideration for remote, unmanned sensor systems. Further exploration of power efficiencies are planned in FY07, if Congress provides additional funds.

- FY 2007 - Planned Output: CRFT technical focus will be on performance measurements in field conditions for refined characterization of directivity and polarization; frequency response; linearity

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

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APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
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and harmonic distortion; and omni-directional radiation pattern analysis. Goals include further refinements to the prototype antenna design of a tunable antenna for application across a wider range of base radios. The design of the CFR antenna will continue to evolve in FY07 to designs for autonomous multi-sensor platform integration. Efficiencies will be measured in power required for given communications ranges or achievable bandwidth or throughput for digital communications. Programmatically, the technical team will use the results of the tests and field trials to identify potential projects or programs that may use the CRFT in future development spirals.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Platform Test bed for Advanced Sensors (PTAS)	3.000	3.000	0.000	0.000

The JCTD/ACTD program has a critical need for a medium-high altitude airborne platform test bed to support worldwide projects and demonstrations of various technologies ranging from scientific/experimental to operational/intelligence missions. NASA currently operates the sole remaining operational long-wing WB-57 aircraft. These aircraft have been determined useful to support the JCTD/ACTD program as a demonstration platform of new technologies. The JCTD/ACTD program will provide resources to NASA via the USAF using an Interagency Agreement. DUSD (AS&C) will help establish mission requirements & priorities, defining payload configurations, and the demonstration/testing schedule. NASA will provide maintenance support for the aircraft and engineering support for payload integration. The JCTD program estimates 200 flight hours will be required annually beginning in FY 2006. Support also includes use of hangar and office space for experiment planning/data processing.

- FY 2005 - Program initiation, commence flight hour program for demonstrations and testing.
- FY 2006 - Approximately 200 planned flight hours for technology demonstrations and testing.
- FY 2007 - Approximately 200 planned flight hours for technology demonstrations and testing

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Processing Fuel Cell Components	0.000	3.000	0.000	0.000

This congressional adjustment is being evaluated for consideration as a potential enabling technology for various ACTD/JCTDs. If an acceptable ACTD/JCTD project(s) cannot be identified, DoD will request the congressional committees approve the redirection of the funds to an appropriate program element under the "prior approval" process established for congressional interest line-items.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
SOC Target Tracking	0.000	1.000	0.000	0.000

USSOCOM intelligence analysts face unique challenges in the prosecution and support of the Global War on Terror. Critical needs include the capability to positively identify and track leadership and key individual targets, pinpointing specific individuals that pose a threat. The global nature of the terrorist threat overwhelms current internal resources; improved capabilities to access key intelligence data at the operational level are needed; getting digital "actionable data" to operators on the ground.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Masking Shunt	0.000	1.300	0.000	0.000

Masking Shunt provides a capability to hide Media Access Control (MAC) addresses. In computer networking a Media Access Control address (MAC address) is a unique identifier attached to most network adapters (NICs). It is a number that acts like a name for a particular network adapter, so, for example, the network cards (or built-in network adapters) in two different computers will have different names, or MAC addresses, as would

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an Ethernet adapter and a wireless adapter in the same computer, and as would multiple network cards in a router. SPAWARSYSCEN Charleston, SC, Critical Infrastructure Protection Center, will use the funding provided to integrate the Masking Shunt into first responder and other networking environments to develop the concepts, procedures and protection profiles to use the Masking Shunt to increase security for wireless and other highly vulnerable networks. The expected integration, trial and implementation approach will be complete in FY2007.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Advanced Tactical Laser (ATL)	1.200	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for ATL as a FY 2001 new start. The outcome, which specifically addresses emerging QDR GWAT and stability operations force requirements, is to develop and integrate an airborne, clandestine, day/night, multi-aspect, ultra-precision, effects based Chemical Oxygen Iodine (COIL) laser system. Coincident with laser development will be the design and testing of the integral battle management, optics, and fire-control subsystems onboard a specially modified C-130 aircraft. This capability will be used for bomber defense, concepts of operation (CONOPS) and tactics development, ground attack of non-personnel targets, assessing target vulnerability data, and possible operational use in the low threat environments typically encountered in special operations and anti-drug scenarios. Examples of low threat targets include; stopping fast boats, hostage release, and WSA defense. ATL ACTD will also provide the pathway for the laser of the future and greatly shorten the time needed to get this transformational capability to the battlefield. There are two main areas of efficiencies and outputs in ATL. The first being the integration of the COIL Laser into a fully integrated package (e.g. beam director, command and control, human in the loop) on a C-130 aircraft. This is a direct advancement of this technology. The second is the ability to destroy selected targets designated by USAF Special I Operations command; end product performance is measured by CPI and SPI classified values as defined in the Integrated Program Plan. End product performance measured by effects generated during two design reference missions. The user sponsor is U.S. Special Operations Command and AFSOC is the lead service.

- FY 2006 Output - Completed low power flight test configuration build-up, integration, and ground test and integrated the low power system on the C-130 test aircraft. Initiated low power flight tests. Continued high power laser assembly, integration, and subsystem test. Demonstrated high power laser "first light". Completed integration and test facilities modifications. ATL ACTD will complete in FY 2007. The program will: Complete low power tests; Complete high power flight test module build up; Ensure the integration of ground test and high power systems on the C-130 test aircraft; Complete high power ground and flight tests; and demonstrate system performance in design reference missions. The ACTD will complete the Military Utility Assessment and deliver the system to SOCOM and Air Force operational forces for an extended user evaluation. Transition program responsibility to the Air Force and support planning future ATL system applications and transition into System Development and Demonstration.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Coalition Combat Identification (CCID)	4.100	7.200	0.000	0.000

The JROC approved the capability need for CCID as an FY-01 new start. The outcome of CCID will demonstrate and transition CCID solutions that significantly reduce fratricide and enhance combat effectiveness of allied and coalition forces operating in both traditional and ad-hoc coalitions through the core ACTD, FY01-06 and Extension FY06-08. CCID addresses both Cooperative Target Identification (CTI) and Non-Cooperative (NCTI) technologies and systems focused on ground to ground and air to ground mission areas. The core ACTD culminated with the successful 2005 Operational Demonstration of CTI technologies / systems at Salisbury Plain Training Area, U.K. The objective of the Extension is to assess the coalition military utility (CMU) of the designated non-cooperative target identification (NCTI) technologies for coalition operations, and further inform U.S. and allied investment in the optimal CTI and NCTI combat identification capability. The CMU Assessment (CMUA) of technologies / systems will consider, as required, other relevant fielded or emerging devices in the Combat Identification-Blue Force Tracking/Joint Blue Force Situational Awareness (CID-BFT/JBFSA) family of systems. The Extension Coalition Military Utility Assessment (CMUA) will focus on the NCTI technologies rather than systems that have been previously assessed or fielded in the core. The ACTDs output and efficiencies will be correctness of ID, time to ID, range to ID, enemy targets engaged, fratricide minimized and the impact on the tempo of operations, specifically, demonstrate interoperability of U.S., U.K., and French vehicle-to-vehicle time to ID of 3 seconds (threshold)/ 1 second (objective), and range to identification (ID) of 3 kilometer (km) (threshold)/5 km (objective); demonstrate rotary-wing-to-ground beyond-line-of-sight (BLOS) and forward observer/forward air Controller time to ID of 10 seconds (threshold)/3 seconds (objective) and range of 5 km (threshold) (15 km for BLOS) / 10 km (objective) (25 km for BLOS). The User Sponsor is the U. S. Joint Forces Command (JFCOM) and the lead service is the Air Force. The Transition Strategy will be via a two-pronged

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approach consisting of an Extended User Evaluation (EUE), and Follow-On Development, Production and Sustainment through the JSTARS and select fixed wing aircraft programs. The strategy builds on the currently approved CCID ACTD Transition Plan and Strategy.

- FY 2006 Output - Completed core ACTD operational demonstration and CMUA of the NATO BTID, RBCI and RF Tags. Initiated Extension of ACTD including non-cooperative technologies (NCTI) as part of optimal mix of cooperative and NCTI systems. Developed and finalized requirements definition and architecture. Continued development of CONOP / TTP and training package, and updated transition plan in support of Extension objectives. Conducted technical tests of NCTI technologies.
- FY2007 Planned Output - Continue development of CONOP / TTP and training package. Complete technical tests and demonstrations. Conduct operational demonstration of optimal mix of CTI and NCTI technologies and systems. Planned NCTI technologies will be assessed at Exercise Bold Quest in Sep 07. In FY2008 the CCID ACTD will complete as it implements its transition plan including Extended Use of the residual package. The program will finalize CONOPs, TTPs and training package during this period.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Hunter Standoff Killer Team (HSKT)	1.500	0.000	0.000	0.000

The JROC approved the capability need for HSKT as an FY-01 new start. The outcome of HSKT is to integrate and demonstrate joint precision targeting of time sensitive targets at extended standoff ranges, while reducing sensor-to-shooter timelines using manned/unmanned aircraft teams and cognitive decision-aiding/battle management technologies, and transition capabilities into Programs of Record (POR). The User Sponsor is the U. S. Pacific Command (USPACOM) and the U. S. Forces Korea (USFK). The lead service is the Army. The outputs and efficiencies include increased identification range for manned rotorcraft systems and increased standoff range for weapons engagement; reductions in mission planning, execution and battle damage assessment timelines; increased lethality and survivability; and development of manned-unmanned (MUM) teaming, specifically: increase target identification range for manned helicopters to 30km; increase range of Level IV control of unmanned vehicles by tactical rotary wing manned aircraft out to 30km; reduce en route mission planning timeline by 35%; reduce battle damage assessment (BDA) timelines by 50%. Planned Transition status: Warfighter Associate (WA) is programmed for transition to the AH-64D Longbow Apache and some of the Mobile Commander's Associate (MCA) functionality will transition to the A2C2S Blackhawk. Tactical Common Data Link (TCDL) is planned for transition to AH-64D Block III, Hunter and Extended Range Multi Purpose UAV, and A2C2S. Link 16 capability is programmed in the A2C2S platform, and Link-16 J35C3 message (precision target) is being fielded in F/A-18C/D/E/F aircraft.

- FY 2006 Output - Completed systems integration, ground and flight testing. Conducted manned/unmanned team warfighter training, and operational exercise/demonstrations while executing warfighter assessments involving Hunter Unmanned Airborne System, AH-64D Warfighter's Associate, Army Airborne Command and Control X Maneuver Commander's Associate, JSTARS and multiple close air/strike platforms (A-10, F-15E, F-16B30, F/A-18E/F). Completed Joint Military Utility Assessment (JMUA). Continued coordination with joint and service organizations to refine / complete the Transformation Change Package, focusing on Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF) recommendations. Implemented and coordinated acquisition transition plan and recommendations for the various HSKT capabilities. Completed Extended User Evaluation (EUE) of residuals. Finalized CONOPS, TTPs and training plan. Completed the ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Network-Centric Collaborative Targeting (NCCT)	0.700	0.000	0.000	0.000

The JROC validated the capability need for NCCT as an FY-01 new start. The outcome of NCCT is to network operational intelligence, surveillance, and reconnaissance sensors to significantly improve the capability to detect, identify, and geo-locate time-critical targets. Transition milestones: Based upon the successful JEFX04 Interim Joint Military Utility Assessment (JMUA) results, the Air Force initiated NCCT transition to a Program of Record. Transition is funded for USAF's RC-135 RIVET JOINT; SIGINT components of the Distributed Common Ground System (DCGS), including the U2; the FALCONER Combined Air Operations Center (CAOC), and related Airborne Overheard Interoperability Office (AOIO) elements. Navy is considering FY2009 transition activities. The United Kingdom is also considering transition options.

- The user sponsor is U.S. Central Command, and the lead service is the Air Force.
- FY 2006 Outputs - Successfully completed final the final Military Utility Assessment (MUA) in December 2005, to include integration of coalition assets and US Navy and Army systems. Final MUA report in staffing. Continued support to fielding activities for the RC-135 RIVET JOINT, SENIOR SCOUT, FALCONER Combined Air Operations Center (CAOC), SIGINT components of the

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

Distributed Common Ground System (DCGS), including the U-2, and related Airborne Overheard Interoperability Office (AOIO) elements. Complete the ACTD. In FY 2007 the planned output will include Extended User Evaluation (EUE) and transition support.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Theater Integrated Planning Subsystem (TIPS)	0.300	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for TIPS as a FY01 new start. The outcome of TIPS will automate and network the current manual processes to produce decision documents to assist in weapons of mass destruction targeting for the theater Combatant Commanders (CoComs). TIPS will provide preplanned and adaptively planned options for CoCom nominated weapons of mass destruction (WMD) and nuclear/biological/chemical (NBC) targets, using nuclear and/or conventional weapons. TIPS has demonstrated: 1) dedicated/optimized suite of tools and equipment for planning; 2) web-based development of the support documents; web-based, interactive decision support and collaboration software. The TIPS ACTD has completed Final Report, Final ACTD demo conducted April 2005. TIPS transition status: Incorporated TIPS for inclusion into the USSTRATCOM Integrated Strategic Planning and Analysis System (ISPAN) modernization effort, beginning FY 2005. Outputs and efficiencies include: 1) Completion of "dynamic publish" capability (referred to as Strike Planning Project), which is a Java 2 Enterprise Edition (J2EE), NCES (net-centric) capability for customers to create the Global Strike Support Documents (GSSDs) 'on the fly'—dramatically reduced publish time of GSSD (June 2005); 2) Create Theater-specific objectives; 3) Select weapon combinations from pre-defined lists; 4) Delete targets from tree, selectively; 5) Incorporated Course of Action (COA) build and decision matrix tool. The user sponsor is U.S. Strategic Command (STRATCOM) and the lead service is Air Force.

- FY 2006 - Complete Web services interface as part of the ISPAN modernization effort, Allows users to "pull" specific target data for use in various applications. Complete development of TIPS application as a Web-based application. Complete residual support phase and complete the TIPS ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Active Denial System (ADS)	3.500	0.300	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for ADS as an FY-02 start. The outcome is to demonstrate a non-lethal, counter-personnel directed energy standoff weapon capable of producing non-lethal effects at ranges beyond effective small arms range. ADS functions by projecting a focused, speed-of-light millimeter-wave energy beam that induces an intolerable heating sensation on an adversary's skin, causing him to cease any military actions and be repelled without injury. The sensation immediately ceases when the individual moves out of the beam or when the system operator turns it off. Despite this sensation, the beam does not cause injury because of the shallow penetration depth of energy at this wavelength and the low energy levels applied. Thousands of shots involving hundreds of subjects have resulted in no more than minor, transitory effects, never requiring continued medical attention. Bio-effects have been validated by the USAF Surgeon General and also by independent assessments by experts outside DOD. Operationally, ADS will enable our forces to stop, deter and turn back an advancing adversary without applying lethal force. The ACTD produced a HMMWV-mounted field prototype and provided it to operational forces from all the services. The Services developed concepts of operation (CONOP's), and tactics, techniques, and procedures (TTP's), for employing the system and then evaluated its utility in representative military environments which included open terrain, urban environments, and over water operations. In addition to rigorous bio-effects testing, ADS has successfully undergone weapons legal and treaty compliance reviews, none of which identified any prohibitions to the employment. Outputs and efficiencies include: to demonstrate adequate reliability and discrete support requirements over multiple 2-3 day periods; over a 12-16 month period, the system must have remained available over 25% of time and must have demonstrated the ability to be used effectively and safely; provide operators with a non-lethal counter personnel capability that out-ranges effective small-arms fire using directed energy from a mobile platform; extension in the range of non-lethal capability over conventional non-lethal munitions greater than a factor of 10; a lower probability of damage than kinetic non-lethal munitions; performs line-of-sight targeting, and engages targets at light speed, enabling high probability of hit. The Technical Manager for ADS is the USAF Research Laboratory at Kirtland, AFB, NM. Combat Command sponsor is USJFCOM and the lead Service is the USAF/ACC. The Transition Manager is the USAF/ESC, Hanscom, AFB, MA.

- FY 2006 Output- Human effects testing completed. The third of three military utility assessments (MUA's) completed for the US Navy and Coast Guard. Independent assessment by AFOTEC continues. Work continues to optimize system/operator interfaces, and CONOP's and TTP development is ongoing. Review of legal, treaty, human effects, and exposure limits complete. Overall CONOPS approved by JROC. Initial planning for possible deployment completed.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

- FY 2007 Planned Output - ACTD extended one year to accommodate testing of smaller, prototype, 30 KW, system. Second, truck mounted and containerized ADS System (System 2), scheduled for delivery in January, 2007. ACTD will end and residual will be delivered to transition manager for extended user evaluation.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Contamination Avoidance at Seaports of Debarkation (CASPOD)	1.200	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for CASPOD as an FY 02 start. The outcome of CASPOD is to determine the capabilities that can be used prior to, during, and after an attack to mitigate the effects of chemical or biological agents, and/or toxic industrial chemicals/materials (TIC/TIM's) during the initial stages of power projection operations at sea ports with limited US presence. Mitigation is assumed to be on a 24/7 basis and will include workers on-and-off duty. The ACTD developed the essential concepts of operation (CONOP's), tactics, techniques, and procedures (TTP's) for deployment, employment, and redeployment worldwide. The military utility was assessed using "war fighting" personnel in realistic scenarios. Off-the shelf, prototype, and developing equipment was identified and procured for use by operational units during and after the extended user evaluation (EUE). The ACTD ended in FY04 with EUE extending into March FY07. Procured equipment involved 13 different items ranging from GL1800 "cherry pickers" to a command and control (PORTWARN) suite for use before, during, and after CB attack, to medical readiness equipment. Residual training was conducted in USCENTCOM AOR and CONOPS and TTP's are presently being used in theater, which, as a result, is better prepared to recover from Chemical/Biological attack. Combat Command sponsor is USCENTCOM. Executing Agent is DTRA and Transition Manager is JPEO/CBD. Operational evaluations were conducted by AFOTECH/ATEC/CNA.

- FY 2006 Output - The Extended User Evaluation (EUE) further refined existing CONOP's and TTP's. Several rotations of new personnel were trained. Equipment was propositioned and sustained as required. Consumables were replenished as needed. In FY07 the ACTD completes. During this timeframe the Extended User Evaluation (EUE) will end. Modifications to CONOP's, TTP's, and equipment will occur as needed at the field activity.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Homeland Security Command and Control (HLS C2)	2.000	0.000	0.000	0.000

The Joint Requirements Oversight Council validated the capability need for HLS/D C2 as an FY-02 new start. The outcome of HLS/D C2 is demonstration and transition of collaboration, visualization, and alerting tools for HLS/D mission participants; mobile command and control capability for incident responders; and a common operational picture capability for HLS/D applications. HLS/D C2 is a 5-year effort, originally sponsored by U.S. Joint Forces Command, then moved to U.S. Northern Command when U.S. Northern Command was created. The Lead Agency is the Defense Information Systems Agency (DISA). The outputs of this project are (1) mobile command and control capability for event responders, interoperable with existing military and civilian communications systems; (2) enhanced common operational picture capability for U.S. Northern Command support to civil authorities missions; and (3) web-based Area Security Operations Command and Control (WebASOCC) capability for event alerting and reporting. HLS/D C2 also supported the development of the Louisiana Regional Emergency Command Operations Network (LA RECON), for emergency wireless communications capability in key Louisiana areas. LA RECON provides a wireless network infrastructure for voice, video, and data communications in rural areas with significant critical national infrastructure. This effort, funded by Congressional direction, enables significant redundant communication capability, facilitating coordination between Department of Defense and civilian response partners.

- FY 2006 Output - With concurrence of the user sponsor, the HLS/D C2 project concludes with the completion of FY 2006 activities. Conducted InfraLynx mobile command and communications operations during Hurricane Katrina and Hurricane Rita relief operations. Supported Homeland Defense common operational picture operations during hurricane relief. Completed transition of the InfraLynx mobile command and control van to Joint Task Force North. Completed transition of successfully demonstrated homeland defense common operational picture capability into a Department of Defense program of record. Executed an operational assessment of the WebASOCC capability, and additional validation testing. A viable transition for WebASOCC has not been identified.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Hyperspectral Collection and Analysis (HYCAS)	2.600	0.000	0.000	0.000

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY  
RDT&E/ Defense Wide BA# 3

PE NUMBER AND TITLE

**0603750D8Z - Advanced Concept Technology Demonstrations**PROJECT  
**P523**

The Joint Requirements Oversight Council (JROC) validated the capability need for HyCAS as an FY02 new start. The outcome of HyCAS is to demonstrate the utility of a deployable hyperspectral system. HyCAS will showcase the ability of an airborne sensor to collect hyperspectral intelligence (HSI) and spectral data in a tactical environment. The primary outputs and efficiencies to be demonstrated in the ACTD Military Utility Assessment are (1) percent decrease in timelines for a Predator sensor operator to identify potential targets; (2) percent increase in Predator sensor operators ability to identify targets hidden by Camouflage, Concealment, and Deception (CC&D); (3) new capability for Predator sensor operators to identify targets using taggant paint; (4) identification of impacts associated with new sensor technology on DCGS Concept of Operations; and (5) percent decrease in intelligence resources required to meet CENTCOM EEI's by utilizing hyperspectral technology. HyCAS development will conclude with an operational demonstration in FY07, then transition to the Air Force Distributed Common Ground System (AF DCGS) and Predator UAB programs of record beginning in FY08. HyCAS is a five-year project which is being sponsored by the U. S. Central Command (CENTCOM). The lead service is the U.S. Air Force.

- FY 2006 Output - Finalized development of the real-time processor and algorithms used to process the HSI data. Continued building the hyperspectral sensor for integration into the Predator UAV. Executing a demonstration of a high-altitude hyperspectral sensor which can support some of CENTCOM's GWOT requirements. The ACTD will complete in FY 2007 with the Final operational demonstration of the HyCAS sensor and real-time processor. The scenario will show how hyperspectral technology can make the Predator UAV a more effective weapons system. Begin Extended User Evaluation (EUE) of HSI capability. and begin the transition of HyCAS sensor to operational Predator UAV and USAF DCGS programs of record. The Air Force is the Transition manager of the HyCAS ACTD.

**Accomplishment/Planned Program Title**

FY 2006

FY 2007

FY 2008

FY 2009

Joint Distance Support and Response (JDSR)

4.600

0.000

0.000

0.000

The JROC approved the capability need for JDSR as an FY02 new start. The outcome of JDSR will demonstrate and transition joint, common, interoperable, tele-maintenance environment using a collaborative knowledge center and tool suite, with reach-back capability. The JDSR ACTD focuses on timely employment of information, both automated and live, to the different service maintainers. Outputs and efficiencies include operational bandwidth in a common collaborative environment, access to multiple subject matter experts, technical information at point of maintenance, interoperable tool suites and maintainer productivity. Transition accomplishments to date: JDSR capabilities and products have transitioned to Navy's Distance Support Program for joint management and configuration control; the Navy and Marine Corps are procuring and fielding capability onto ships and Light Armored Vehicles (LAV) platforms. JDSR capability is fielded in the Air Force ATCALs system, Army CH-47, Marine Corps Third Echelon Test Sets (TETS). Planned transition will be to Distance Support (DS), Joint Aviation Technical Data Integration (JATDI), Integrated Maintenance Data System (IMDS), Third Echelon Test Set (TETS) and Technical Data Distribution (TEDD) programs. The User Sponsor is U. S. Joint Forces Command (JFCOM), the lead service is the Navy.

- FY 2006 Output - Completed Extended User Evaluation. Finalized CONOPS, TTPs, training package and DOTML-PF recommendations. Continued transition of JDSR products to the POR. Established Joint JDSR Steering Group for post ACTD configuration management. Complete the JDSR ACTD.

**Accomplishment/Planned Program Title**

FY 2006

FY 2007

FY 2008

FY 2009

Joint Explosive Ordnance Disposal (JEOD)

1.900

0.000

0.000

0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for JEOD-KTOD as an FY-02 new Start. The outcome of JEOD-KTOD has demonstrated a new integrated capability for joint and coalition explosive ordnance disposal forces to meet the evolving, asymmetrical, and sophisticated chemical, biological, radiological, nuclear, and high yield explosive terrorist threats. The JEOD ACTD demonstrated a Global Information Grid-compliant transport mechanism (JEODnet) to enable net-centric EOD capabilities with a supporting enterprise Knowledge Management Decision Support System. Outputs and efficiencies include: 1) existence of new CONOPS; 2) degree to which in-theater operatives can achieve operational reach-back connectivity to a JEOD MSC; 3) extent to which connectivity can be achieved to Subject Matter Experts (SME) and web sites; and 4) operational feasibility of CONOPS, TTP, and integrated equipment. Transition Accomplished to date: The JEOD ACTD has provided a 24/7 reach-back capability to EOD subject matter experts of all Services. It has also provided a Level 2 Defense Information Service Agency Domain (JEODnet) within SECRET and UNCLASSIFIED enclaves. JEOD Decision Support System is being established as a Program of Record and will coordinate EOD resources and provide products the tools and technologies demonstrated through this ACTD to the EOD community. The user sponsor is U.S. Pacific Command. The lead Service is the Navy.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

In addition in FY06 the Congress added \$1.0 million for Anit-Terrorist Explosive Ordnance Disposal Real Time Mission Support to design and develop the required component of the network infrastructure and applications required to increase situational awareness during EOD mission execution, specifically for the underwater mission. The Underwater Hazardous Devices (UHD) and limpet mine mission area are required to access multiple data sources for information. This information can be technical, procedural or mission oriented, including military intelligence. There is a need to make this information available to the diving supervisor and topside dive team during all facets of a mission. The information required by all dive teams consists of dive safety checklists, dive logs, underwater search plans, tactics, procedures, underwater safe blast distance calculators, vessel evacuation recommendations, and overall situational awareness.

- FY 2006 Output - Final report which included the results of the Joint Military Utility Assessment (JMUA) was completed. Fielded initial operational capability and provided interim capability support. Established a Program of Record - JEOD Decision Support System - in the Navy. Initial funding for transition \$5.5M was provided. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Micro Air Vehicle (MAV)	1.200	0.000	0.000	0.000

The JROC approved the capability need for MAV as an FY-02 new start. The outcome of MAV is to provide small, ground combat units with situational awareness of enemy activity using an affordable, responsive, easy-to-operate, backpackable reconnaissance and surveillance system as an organic asset at the platoon level. Outputs and efficiencies of MAV are: 1) provide a backpackable UAV hover and stare capability. This capability currently does not exist in fielded backpackable UAVs. 2) Logistical Efficiency - a UAV that does not add logistics burden to existing small units. The use of JP-8 for the fuel (the DOD's standard for heavy fuel) and an onboard generator to recharge batteries, allow the MAV to function in a small unit. Existing small UAVs require gasoline and/or batteries for operation - items that add logistics burden. The Micro Air Vehicle (MAV) will be transitioned in Fiscal Year 2007 by the Program Manager for Tactical Unmanned Air Vehicles. Planned Transition: 25 transitional (gasoline-powered) MAV (tMAV) systems and 25 diesel-powered dMAV systems (1 system = 2 vehicles + 1 ground station) will remain after evaluation with Army, Pacific 25th ID. DARPA is the executing agency. U.S. Pacific Command is the user sponsor and the lead service is Army.

- FY 2006 Output - Conducted laboratory evaluations, trainer training, and test flights of the Phase 1 development of the air vehicle with a commercial-off-the-shelf gasoline engine. Developed system tactics, techniques and procedures. Designed and developed a small, heavy fuel engine. The final demonstration is planned for FY 2006, and the program will complete in FY 2007. Activities that will occur prior to the completion include: Final field experiments of the Phase 1 MAV system; development of small, heavy fuel engine; and Integration of heavy fuel engine and feedback from Phase 1 field evaluations into the Phase 2 MAV system.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Pathfinder	0.800	0.000	0.000	0.000

The JROC approved the capability need for Pathfinder as an FY-02 new start. The outcome of Pathfinder is to integrate a modular system consisting of unmanned sensors and unmanned aerial and ground platforms, display components, and high-bandwidth wireless networks to provide system connectivity to provide real-time reconnaissance and surveillance data for early entry SOF operations. Metrics include the degree to which small reconnaissance teams can be assisted in emplacement of sensors and deployment of unmanned platforms for collecting information and relaying to inbound assault forces. Outputs and efficiencies include: 1) preparation of the battlefield and during the assault phase of an urban operation such as an airfield seizure; 2) during assaults provide high speed of action, knowledge and ability to rapidly adapt to fast paced, evolving situations; 3) increased C3 and situation awareness (SA) to achieve real-time SA. provide enhanced lethality, greater speed of action, precision, and reduced probability of friendly fire casualties or unintended collateral damage; 4) real-time information regarding location, movements, and disposition of all enemy forces within the covered geographic area; 5) real-time access to tactical imagery, alerted to potential threat activities in their immediate area by ground sensors, able to remotely identify, observe, and illuminate multiple targets, providing enhanced weapons delivery and immediate damage assessment. Effectiveness of ad hoc networking, offset surveillance, fire support coordination, UAV-directed close air support will be assessed. Transition Accomplished to date: 1) Raven Unmanned Aerial Vehicle (UAV) to USSOCOM PM-Unmanned Vehicles; 2) Raven UAV to U.S. Army PM-Ground Maneuver Unmanned Vehicles; 3) Pathfinder SuperCrumb Network Node fielded under the Rapid Fielding Initiative; 4) U.S. Army Natick Soldier Center Indefinite Delivery Indefinite Quantities contract for the Pathfinder Raven Small UAV (SUAV) in place for all DoD use. Planned Transition

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>		
will be to integrate Pathfinder Raven SUAV into the Future Force Warrior System. The user sponsor is U.S. Special Operations Command (USSOCOM) and the lead agency is USSOCOM.				
<ul style="list-style-type: none"> <li>FY 2006 Output - Continue to provide training and materiel support (maintenance and repair) for the Pathfinder EUE. It is anticipated that the system will require many repairs and updates to remain compatible with legacy equipment. Complete transition activities and bring the Pathfinder ACTD to completion.</li> </ul>				
<b>Accomplishment/Planned Program Title</b>	FY 2006	FY 2007	FY 2008	FY 2009
Space-Based Moving Target Indicator (SBMTI)	2.200	0.000	0.000	0.000
The Joint Requirements Oversight Council (JROC) validated the need for SBMTI capabilities as a FY-02 new start. The outcome of SBMTI will be to demonstrate space-based moving target indicator. This will permit development of concepts of operation to verify the collected information and to determine the system's military utility. The outputs, efficiencies and transition information is classified content only. The initial demonstrations and interim MUA was begun in FY05. The user sponsor is the U.S. Strategic Command (STRATCOM). The lead service is Army.				
<ul style="list-style-type: none"> <li>FY 2006 Output - Started MUA and final demonstration activity.</li> <li>FY 2007 Final MUA activity completed, final report to be delivered, capability transitioned to a baseline system. Complete the SBMTI ACTD.</li> </ul>				
<b>Accomplishment/Planned Program Title</b>	FY 2006	FY 2007	FY 2008	FY 2009
SPARTAN	3.700	2.100	0.000	0.000
The Joint Requirements Oversight Council (JROC) validated the capability need for SPARTAN as a FY02 start. The outcome is to provide a modular, multi-mission, unmanned surface vehicle (USV) used to deploy sensors and weapons as low-cost force multipliers with integrated expeditionary sensor and weapon systems for use against asymmetric threats. The expanded range provides a layered defense, early warning/intercept capability for incoming threats, thereby improving protection of surface combatants, noncombatants, and other national and strategic assets. The user sponsor is U.S. Pacific Command whose Operational Manager is the U.S. Third Fleet, lead service is the U. S. Navy. The primary outputs to be demonstrated to the users and evaluated in the Military Utility Assessment (MUA) are 1) Conduct critical missions Antisubmarine Warfare (ASW); Mine Warfare (MIW); Intelligence, Surveillance, and Reconnaissance/Force Protection/precision Engagement (ISR/FP/PE); 2) Prepare the waterspace for Amphibious and Sealift Ops; and 3) Provide port-protection when launched/operated from shore. The efficiencies to be gained are 1) force multiplication using low-cost deployable sensors and weapons; 2) provide a symmetric response to asymmetric threats; 3) expanded range to provide for a reduced risk to personnel and capital assets during the conduct of dangerous missions. The Transition Strategy: The SPARTAN USV Command and Control system and Concept of Operation (CONOPS) will transition to the U.S. Navy Littoral Combat Ship (LCS) (PEO-LMW, PMW 420) Program of Record (POR) for the LCS USV. Transition is scheduled to begin with LCS Flight Zero, Ship number One production in January 2007.				
<ul style="list-style-type: none"> <li>FY 2006 Output - Completed the final technical demonstration and final MUA. Begin Residual and Transition Phase. Supporting Navy program offices in the transition of SPARTAN's command and control system to a Program of Record (POR) within the Littoral Combat Ship (LCS) Program.</li> <li>FY 2007 Output - The ACTD will officially complete in FY 2006, however transition funding, including a \$1.3M congressional add, is provided in FY 2007 to support Navy and Coalition partner transition efforts to include incorporation into the LCS program of record.</li> </ul>				
<b>Accomplishment/Planned Program Title</b>	FY 2006	FY 2007	FY 2008	FY 2009
Thermobarics (TB)	2.500	0.000	0.000	0.000
The Joint Requirements Oversight Council (JROC) validated the capability need for Thermobarics (TB) as an FY-02 start. The need to extend the range that lethal effects can be propagated into a tunnel facility was addressed by the TB ACTD. The outcome is to demonstrate an energetic, thermobaric weapon that significantly improves the warfighter's capability to defeat military activities protected in tunnels. The primary outputs and efficiencies were to deliver residual weapons with an increased range-to-effect of 50% as compared to currently fielded weapons. The major demonstration was successfully				

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
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completed in August 2005. The user sponsor is U.S. Pacific Command. The lead service is US Air Force and the Transition Manager is the Air Armament Center.

- FY 2006 Output: Completed a Military Utility Assessment; Delivered residual Thermobaric warhead assets to theater; Provided sustaining support for residual weapons; Investigated alternate manufacturing technology to reduce cost/improve production efficiency for Bomb Live Unit (BLU)-121A/B warhead; Analyzed the suitability of alternate guidance kits for use with the BLU-121A/B warhead. In FY 2007 activities will continue using previous year funding. The ACTD will: Provide sustaining support for residual weapons; Validate alternate warhead manufacturing technology; Conduct interoperability demonstration with BLU-121A/B warhead and alternate guidance kit. The ACTD will complete in FY 2008 and transition to USAF.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Adaptive Joint C4ISR Node (AJCN)	0.800	0.800	0.000	0.000

The JROC approved the capability need for AJCN as an FY-03 new start. The outcome of the AJCN ACTD is to develop, integrate, demonstrate and transition a multi-mission radio frequency system that provides seamless interoperable communications, simultaneously with signal intelligence (SIGINT), electronic warfare (EW), and information operations (IO) capabilities. Outputs and efficiencies include number of simultaneous missions and reconfigurable levels of security, mission reconfigurable timelines, and number of scalable architectures and compliant radio transmissions. Transition accomplishments to date are two AJCN ACTD multi-function test stations transitioned to the Joint Tactical Radio System Joint Program Office. The U. S. Joint Forces Command (JFCOM) is the User Sponsor and the lead service is US Army.

- FY 2006 Output - Refined and updated CONOPS/TTPs based on lessons learned in JMUA. Prepared JMUA report based on JMUA results and staffed through JFCOM. Initiated Extended User Evaluation (EUE), and participated in two EUE exercises including C4ISR on the Move at Ft. Dix and Empire Challenge at China Lake. Drafted and began staffing of an MOA between the Army and Air Force supporting planned transition strategy. Drafted and initiated staffing of the Multi-Mission Payload (MMP) Capabilities Development Document (CDD) in support of follow-on acquisition of MMP [AJCN] capabilities. Completed AJCN payload maintenance as required by OM based on JMUA results.
- FY 2007 Planned Output - Complete EUE of AJCN ACTD residual package. Finalize CONOPS / TTPs, training package and recommendations for Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF). Transition AJCN ACTD products to programs of record / programs. Complete AJCN ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Counter Bomb/ Counter Bomber (CB2)	6.200	2.600	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for CB2 as a FY03 new start. The outcome is to provide improved capabilities for military installations against the threat posed by terrorist delivered bombs and improvised explosive devices (IEDs). The capabilities include technologies for detection, identification, mitigation, and command/ control/ communications (C3); along with tactics, techniques, and procedures, and concepts for operations. The sponsoring Combatant Commands (CoComs) are USSOUTHCOM and USEUCOM. Other organizations involved as participants, users of capabilities, and/or observers include USCENTCOM, Department of Homeland Security, and US Coast Guard. The lead service is the U. S. Navy. The primary outputs to be demonstrated to the users and evaluated in the Military Utility Assessment (MUA) are 1) ability to perform surveillance on the movements of people and vehicles near the installation as possible precursor to the threat, 2) detection and identification of the threat device prior to blast, 3) mitigation of the bomb, and 4) C3 to tie together the people, systems, and data critical to the accomplishment of the mission. The efficiencies to be gained are 1) the ability to perform an important and increasingly critical mission that had little priority until a few years ago, 2) the ability to perform that mission at little or no increase in manpower to military force protection organizations, 3) the ability to reduce the vulnerability and casualties of the force protection personnel while performing this dangerous mission. The transition strategy is to roll CB2 capabilities into existing programs of record (POR) and acquisition program elements of Service force protection projects, and also to utilize the J34 sponsored Combating Terrorism Readiness Initiative fund. User data packages for each of the systems will be developed, along with a users' guide on how to select and introduce new technology for force protection. Four critical products from this ACTD have already been deployed to Iraq: 1) van-mounted backscatter x-ray for vehicle inspection, 2) vehicle under carriage video inspection systems, 3) infra-red imaging system, and 4) off-leash trained canines for explosives detection. Transition plans will include program of records for Anti Terrorism/Force Protection acquisition agencies in each of the 3 services, GSA, and the J34 Combating Terrorism Readiness Initiative Fund.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

FY2006 Output - Completed the Spiral 2 demonstration at Naval Station Rota, Spain of scenarios supporting fixed base and expeditionary force protection missions. Prepared the Limited MUA report which recommended future action on 13 out of 17 technologies demonstrated. In FY06, also initiated planning of the Spiral 3 demonstration scheduled to be conducted during February, 2007 at Soto Cano Airbase, Honduras. This demonstration will consist of two scenarios for protection of forward operating locations of interest to both USSOUTHCOM and USEUCOM. Planning was also initiated for a demonstration of Counter-Maritime IED (CMIED) capabilities which was conducted in November, 2006 at Patuxent River Naval Air Station, MD with users from the Naval Expeditionary Combat Command. The CMIED demonstration addressed terrorist bomb threats to harbors and restricted waterways delivered by small boats and swimmers. The Extended User Evaluation (EUE) of capabilities demonstrated during Spiral 1 at Headquarters USSOUTHCOM, Miami, FL was initiated.

FY2007 Planned Output - Execute the final CB2 ACTD Spiral 3 demonstration at the Soto Cano HN, forward operating base. Initiate the Spiral 2 EUE at Naval Station Rota, Spain. Prepare Limited MUA reports and initiate EUE activities for Spiral 3 which will include a SOUTHCOM element and a EUCOM element. Initiate CMIED demonstration EUE activities. Initiate an analysis by the Defense Threat Reduction Agency (DTRA) of the quantitative improvement of introducing CB2 capabilities into one of the CB2 spiral demonstration venues.

FY08 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Deployable Cargo Screening (DCS)	1.400	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for DCS as a FY03 new start Advanced Concept Technology Demonstration. The outcome of the DCS ACTD will provide improved capabilities for military installations transporting cargo to detect explosives hidden in cargo. The capabilities include technologies for detecting trace amounts of several potential threat explosive types and the concepts of operations with associated tactics, techniques, and procedures to implement this new capability. The primary outputs to be demonstrated to the users and evaluated in the Military Utility Assessment (MUA) are: 1) ability to detect at least one pound of specific explosive types when explosives are hidden in a palletized skid of cargo; 2) provide detection capability with minimal impact on aerial port cargo handling operations; 3) provide the detection capability with minimal false positive alarms; 4) provide detection capability without interference of residual explosive particles from cross contamination of the cargo handling environment. The efficiencies to be gained: the ability to screen cargo for explosives in the aerial port operations, since no explosive screening is currently done. The transition strategy is to establish aerial port operating procedures including screening for explosives and make the detection devices part of standard aerial port operating equipment list, purchased by each facilities' operating funds. Critical products from this ACTD include improvements to the explosive-specific polymers used in the amplified fluorescing polymer technology and algorithms and calibration techniques to detect explosives without false positives. The sponsoring Combatant Command (CoCom) is U. S. Transportation Command (TRANSCOM). Other organizations involved as participants, users of capabilities, and/or observers include USAF Air Mobility Command and the Department of Homeland Security's Transportation Security Administration. The lead service is the Air Force.

FY2006 Output - Planned completion of the military utility assessment and final concept of operations and transition to aerial port operations. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Foliage Penetration Synthetic Aperture Radar (FOPEN)(FOPEN/SAR)	1.400	1.100	0.000	0.000

The JROC validated the capability need for the Foliage Penetrating Radar (FOPEN) ACTD as an FY-03 new start. The outcome of FOPEN is to provide real-time detection and cueing of stationary targets obscured by foliage and under camouflage using tactical sensors, and to document technical requirements to better describe the characteristics and technology needed to develop a fully operational sensor system. The primary outputs and efficiencies for this project are products that locate and help in the generation of actionable information for targets under foliage or camouflage, with significant reduction in the number of sorties or manned patrols currently required. Such output goals are: to provide actionable intelligence within 1 hour of mission completion, and complete analysis of an entire mission within 12 hours; to detect 50% of relocated vehicle-sized targets under double canopy; to geolocate points of interest and targets to within 10 meters; to map concealed terrain and lines-of-communications at rates of 150 km<sup>2</sup>/hr. Generate bald-earth digital elevation models to accuracies equivalent to NGA DTED Level-II or greater; to measure ability to map man-made infrastructure (roads, paths, etc.) and relevant geographic

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY  
RDT&E/ Defense Wide BA# 3

PE NUMBER AND TITLE

**0603750D8Z - Advanced Concept Technology Demonstrations**PROJECT  
**P523**

features (rivers, streams, etc.) through average Central/South American foliage with sufficient fidelity to support military operations; to measure ability to detect and locate relevant narco-terrorist related targets of interest with sufficient fidelity and timeliness to support military operations. The user sponsor is U.S. Southern Command and the lead service is the Army. Due to the immaturity of critical technological components, the start of the ACTD was delayed until FY 2005, when DARPA delivered the necessary advanced software products. The current transition strategy for FOPEN includes: funding to transition in limited quantities (estimated 2) to an unmanned aircraft system in the Army FY2007 President's Budget. Currently, Predator B is being considered as the primary host. The existing FOPEN-equipped RC-12D will be retained by the Army's Research and Development Command for continued development and operational applications (as needed on a fee-for-service basis).

- FY 2006 Output - FOPEN system successfully used in support of real world operations in the SOUTHCOM area of responsibility. Completed system engineering and modifications to remotely operate the radar (elimination of one operator position on aircraft) through the integration of the Tactical Common Data Link (TCDL). Improve the database management system and updated CONOPs to address these changes. Deployment schedule back to theater in 4QFY06 for Final Joint Military Utility Assessment.

- FY 2007 Planned Output - Provide for 1 operational deployment to theater. Provide refined technical characteristics of an operational FOPEN radar system to the Army for transition to an Unmanned Aircraft System (FY 2007 Army New Start). Return the FOPEN modified RC-12 aircraft to technical applications. Complete the ACTD.

**Accomplishment/Planned Program Title**

FY 2006

FY 2007

FY 2008

FY 2009

Joint Blue Force Situational Awareness (JBFSAs)

0.500

0.000

0.000

0.000

The JROC approved the capability need for JBFSAs as an FY-03 new start. The outcome of JBFSAs is to develop, demonstrate, and transition seamless integration of joint blue force situational awareness tracking device information for display on the Global Command and Control (GCCS) family of supported systems. Outputs and efficiencies supporting the Joint Military Utility Assessment (JMUA) include common operational picture track correlation, dissemination, filtering and manipulation, and interoperability with multiple devices and multiple displays. Transition status: JBFSAs ACTD products have transitioned to the GCCS Family of Systems programs of record, and SMDC/ARSTRAT Mission Management Center. The U. S. Strategic Command (STRATCOM) is the User Sponsor and the lead service is the Army.

- FY 2006 Output - Completed Extended User Evaluation (EUE). Finalized CONOPs, TTPs and training package based on EUE. Continued to operationalize the architecture with the support of JFCOM. Produced a JBFSAs ACTD Final Report package for distribution to COCOMs and other DOD organizations. Completed the JBFSAs ACTD.

**Accomplishment/Planned Program Title**

FY 2006

FY 2007

FY 2008

FY 2009

Night Vision Cave and Urban Assault (NVCUA)

2.600

0.000

0.000

0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for NVCUA as an FY-03 new start. The outcome of NVCUA is to demonstrate a suite of lightweight, soldier-borne sensor technologies, together with new Concepts of Operation (CONOPs) and Tactics, Techniques and Procedures (TTPs), to enable decisive overmatch for dismounted assault in subterranean and urban environments. Five-year project under sponsorship of U.S. Special Operations Command (USSOCOM), with completion of development and final demonstration in FY05, and final completion date in FY08. The lead service is U.S. Army. The primary outputs and efficiencies to be demonstrated in the Night Vision ACTD Military Utility Assessment are: 1) Increased capability for Special Operations Forces (SOF) to identify detected targets during Special Reconnaissance (SR) missions; 2) Increased capability for SOF during Direct Action (DA) missions; 3) Enhanced SOF capabilities to move and identify targets in low/no-light environments; 4) Enhanced SOF capabilities to move and identify targets in urban/restrictive terrain. Current Efficiency Goals: SWIR Standoff Identification Range - 2k = IR Detection Range; UCIR Detection Range (Cave Assault) 150m, 200m, 250m; UCIR Detection Range (Urban UGS) - 15m, 25m; Pd (Approach Sensors) -- 90% - 95%; STTW Detection Range -- 10m, 20m. The Transition status: Long Range Identification (LRID) system was successfully demonstrated and is currently undergoing an Extended User Evaluation in Iraq for consideration for transition to Army Programs of Record (POR). There are also classified capabilities that are being considered for transition. In addition, efforts are underway to provide selected items (e.g., Combat Periscope, ENV Goggles) for operational use on a rapid-equipping basis.

- FY 2006 Output- Deputy Chief of Staff G8, U.S. Army Special Operations Command (USASOC) completed the NVCUA ACTD Military Utility Assessment (MUA) report. The MUA covered two demonstrations: Demo I (Cave Operations) was conducted 4QFY04 at the National Training Center, Ft. Irwin, CA and Demo II (Urban Operations) was conducted 4QFY05 at the Joint Experimentation

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

Range Complex (JERC), Yuma Proving Grounds (YPG), AZ. During these demos, teams from the 7th Special Forces Group and the 1st Battalion, 75th Ranger Regiment performed a series of Direct Action (DA) and Special Reconnaissance (SR) missions using the NVCUA ACTD equipment. MUA results identified 8 of the 10 technologies evaluated as having utility for Special Operations Forces (SOF). The Long Range Identification (LRID) system's demonstrated capability to detect, recognize and identify targets exceeded current baseline imagers by a factor of four. Two LRID prototype systems were fielded to U.S. Army Special Operations Command (USASOC) to provide interim operational capability in support of Operation Iraqi Freedom (OIF). Pre-transition activities began in preparation for transition of LRID via Evolutionary Technology Insertion (ETI) into the Special Operations Tactical Video System/Reconnaissance Surveillance and Target Acquisition (SOTVS/RSTA) program. The ACTD Transition Manager is USSOCOM Program Executive Officer for Intelligence and Information Systems (PEO-IIS). The Digital Fusion Goggle demonstrated the best future promise for clear detailed vision in Low Light to "True Dark" operational use. Digital Fusion Goggle transitioned to the Advanced Digital Multi-Spectral Night Vision Goggle (ADM NVG) program, a FY06-07 Technology Transition Initiative (TTI) jointly funded by OSD and USSOCOM. The ADM NVG Transition Manager is Program Executive Officer Special Operations Forces - Warrior (PEO-SOF Warrior). Spiral output - Combat Periscope prototype adopted by U.S. Army Rapid Equipping Force (REF), with 3 systems fielded to OIF in 4QFY05, ten upgraded systems scheduled for delivery in 4QFY06. Remote Observation/Confirming Sensor (RO/CS) and Remote Urban Monitoring System (RUMS) residuals provided to U.S. Army Field Assistance in Science and Technology (FAST) program for quick reaction deployment to OIF in 1QFY06. RUMS prototype provided to U.S. Marine Corps under OSD Technical Support Working Group (TSWG) Counter-Insurgency Program for operational evaluation in OIF 2QFY06. Funding provided in FY 2006 will assist the beginning transition efforts in FY 2007, anticipated transition target is the U.S. Army.

- FY 2008 Planned Output - Refer to the JCTD R-2a. ACTD completes in FY 2008.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
OVERWATCH	1.200	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for Overwatch as an FY-03 start. The need to rapidly detect and locate hostile weapons fire was addressed by the Overwatch ACTD. The outcome is to demonstrate a sensor/targeting system that can detect, classify, and locate weapons fire in real time while stationary or on the move. This capability provides ground forces the ability to immediately direct precision fire support during land and urban warfare, peacekeeping, and peace enforcement missions. The primary ACTD outputs are to deploy two residual on-the-move capable sensor/targeting systems that will enhance both force protection and force application for the warfighter. Efficiencies and outputs include: percent of firing signatures detected; percent of firing signatures located; overall percent of successful detections resulting in accurate messages; false target rate; and percent of messages garbled or not received. The user sponsor is U.S. Pacific Command. The lead service is US Army and the Transition Manager is the Program Manager for Night Vision/Reconnaissance, Surveillance, and Target Acquisition (PM NV/RSTA).

- FY 2006 Output - A major demonstration of stationary and on-the-move capability to locate hostile fire with a HMMWV was completed in June 2006. While the stationary capability was effective, there was degraded performance on-the-move. The ACTD completes in FY 2007. Using FY 2006 funds, the ACTD will: Demonstrate improved on-the-move performance; Prepare to deploy residuals in theater to support military police operations; Complete Military Utility Assessment and interim support phase.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Urban Recon (UR)	0.000	0.300	0.000	0.000

The Joint Requirements Oversight Council validated the capability need for Urban Recon (UR) as an FY-03 new start. The outcome of Urban Recon is to provide advanced airborne and terrestrial 3-D reconnaissance capability to US Army Special Operations Command (USASOC) (Operational Manager) using LIDAR sensor with rapid processing software and decision aid software. Urban Recon will provide enhanced urban warfare survivability to early-entry forces by collecting revolutionary 3D urban databases supporting advanced mission planning and rehearsal, vulnerability assessment, high-fidelity route analysis, field of view, and line of sight. Rapid collection, processing, and visualization of complex urban environments. Outputs and efficiencies include: extent to which the Urban Recon ACTD sensors and software provide the high-resolution, 3-D data needed to support urban warfare operations; extent to which the equipment and software provided are easy to use and supportable by military

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY  
RDT&E/ Defense Wide BA# 3

PE NUMBER AND TITLE

**0603750D8Z - Advanced Concept Technology Demonstrations**PROJECT  
**P523**

personnel; and extent to which the Urban Recon Tactics, Techniques and Procedures (TTPs) can be effectively executed in meeting urban reconnaissance objectives. Urban Recon completed the objective laser systems development supporting vehicle-deployed, soldier-deployed, and UAV-deployed (surrogate vehicle) configurations. Finalized the CONOPS for each objective system configuration. Drafted and finalized a Capability Development Document for LIDAR Sensors. Completed the Military Utility Assessment (MUA). MUA results indicated that the data was very useful and beneficial, some additional modifications to vehicle hardware and software were required prior to fielding. Developed transition strategy supporting follow-on development, acquisition and fielding based on MUA results. Urban Recon will transfer to SOCOM. The user sponsor is U.S. Special Operations Command (SOCOM) through USASOC. The lead service is the National Geospatial-Intelligence Agency (NGA).

- FY 2007 Planned Output - Complete required capabilities documents (Capabilities Development Document, CDD, and/or Capabilities Production Document, CPD) for high-resolution terrain data acquisition and dissemination system to support programming activities. Complete required program upgrades to satisfy MUA and conclude EUE OCONUS activity. Complete the ACTD and transition capability.

**Accomplishment/Planned Program Title**

FY 2006

FY 2007

FY 2008

FY 2009

Advanced Tactical Targeting Technology (AT3)

4.900

0.000

0.000

0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for Advanced Tactical Targeting Technology (AT3) ACTD as an FY04 Air Force ACTD. The objective of the AT3 ACTD is to demonstrate the capability to target mobile and re-locatable surface-to-air missile (SAM) launchers with sufficient timeliness and accuracy to launch a coordinate-seeking weapon or cue another sensor and destroy the SAM, while conducting the normal threat situational awareness function. This capability is being developed using a digital radar warning receiver (RWR), precision position, velocity and time source, and a tactical datalink. The unclassified goal is to target these RF emitting SAMs to an accuracy of 50 meters from 50 miles away within 10 seconds after the enemy's radar turns on. The AT3 ACTD is a four-year project under the resource sponsorship of the U.S. Air Force's Air Combat Command (ACC) and the operational sponsorship of U.S. Central Command (U.S. CENTCOM) with completion of development and demonstration by the end of April 2008 and a military utility assessment (MUA) in June 2008. A residual phase in which approximately twenty Air National Guard F-16C aircraft will be equipped with this capability is planned pending the outcome of the operational assessment of the host AN/ALR-69A RWR and low rate initial production (LRIP) decision in March 2007, and the successful demonstration of the AT3 capability as reflected in the MUA in June 2008. Following the residual phase, during which AT3 tactics, techniques and procedures will be demonstrated and validated, the Air Force will transition this capability to other platforms as part of the FY10 POM process. The lead service is Air Force. The Navy has under development a digital host receiver as an adjunct to the AN/ALR-67(V)3 RWR, which will be installed in forward-fit F/A-18F aircraft. This receiver is capable of receiving the AT3 frequency and timing (FaT) card and the Navy may install this card in future F/A-18F aircraft pending the results of the AT3 MUA. The primary output and efficiencies to be demonstrated in the AT3 ACTD MUA are the percent of mobile and re-locatable Radio Frequency (RF) emitting SAMs that are detected, properly identified, and targeted at (classified) range. The transition manager for the AT3 ACTD is the ALR-69A Program Manager, 542 Combat Sustainment Group, Robins AFB, GA.

- FY 2006 Output - Installed and completed Group A (e.g., fiber optic cable and mounting brackets) check of host AN/ALR-69A RWR in first ANG F-16C in October 2005 and the second ANG F-16C in April 2006. Conducted a critical design review (CDR) of the AT3 ACTD instrumentation card hardware and software in January 2006. The first five FaT cards were delivered in December 2005. The remaining 10 FaT cards were delivered in June 2006. Global Positioning System / Inertial Navigation System (GPS/INS) units were characterized within error budget in April 2006. Initial bench integration testing of F-16C ALR-69A and ALQ-213 Countermeasures Control System commenced in January 2006. Laboratory integration of situation awareness datalink (SADL) and brass board AT3 system began in January 2006. Completed FaT card Design Verification Testing (DVT) in April 2006. Initial F-16C ALR-69A Core Operational Flight Program (OFP) was available for laboratory testing in February 2006, and Raytheon-Goleta completed system performance testing on the Core OFP in July 2006. Initial AT3 OFP was built in May 2006. Commenced full system integration testing in the Raytheon-Tucson Host Aircraft Simulator (HAS) in September 2006. Government developmental test and evaluation of F-16 ALR-69A Core system began in August 2006 with testing at the Electronic Warfare Avionics Integration Support Facility (EWASIF) (Robins AFB) and Integrated Demonstration and Application Laboratory (IDAL) (Wright-Patterson AFB) hardware in the loop (HITL) facilities. Multi-ship tactical network and position-velocity-time-frequency lab testing completed in August 2006.

Multi-ship software integration lab testing is expected to continue from summer 2006 and complete in April 2007. AT3 Instrumentation Card DVT is planned to complete in January 2007. The host ALR-69A RWR will be tested on the F-16C at the Benefield Anechoic Facility (BAF) in March/April 2007 and DT flight testing is expected to begin in May 2007. AT3 Tower testing at Raytheon-Tucson begins in November 2006 and will continue through August 2007. ALR-69A/AT3 will be tested at the F-16 System Integration Laboratory in January 2007 followed by on aircraft integration ground testing. AT3 hybrid tower/flight testing is planned to commence in February 2007 and will continue through May 2007. The third ANG F-16C was delivered for modification in November 2006 in order to be ready for

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

flight testing in May 2007. Delivery of this third aircraft for modification is key to full assessment of potential operational capability and transition to other Air Force platforms. Developmental flight testing over the Electronic Proving Ground (EPG) at Fort Huachuca with three ALR-69A/AT3 equipped aircraft will commence in October 2007 and will continue through January 2008. The ACTD will complete in FY 2008 using resources provided in FY 2006. During the demonstration phase, AT3 will be flight tested at the Nevada Test and Training Range. The Air Force (Air Combat Command) is planning to include the demonstration of AT3 capabilities in Joint Expeditionary Force Experiment FY08 (JEFX 08). The Air Force Operational Test and Evaluation Command (AFOTEC) will deliver the MUA in June 2008. Pending an LRIP decision and the identification of procurement funding, procurement of twenty AN/ALR-69A residual systems for ANG F-16C aircraft will be placed on contract for delivery fifteen months after receipt of order.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Agile Rapid Global Combat Support (ARGCS)	5.985	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for ARGCS as an FY-04 start which is using advanced technologies to demonstrate a family of testers for electronic components and provide unprecedented interoperability between weapon systems, Services, and levels of maintenance. This will reduce costs and the proliferation of testers while improving the availability and performance of weapon systems. In addition, ARGCS will demonstrate technologies to facilitate net-centric diagnostics by capturing historical logistics data and developing an expert support system that will further reduce repair times and costs, as well as future sparing requirements. Outputs and efficiencies will include increases in performance and test accuracy, interoperability between Services, reduced logistics and weapon system support costs, and reduced proliferation of automatic test systems in the future. (100% interoperability, Time to field - one year or less, 40% reduced time to diagnose and repair, proliferation of systems - reduce footprint by 50%, Scalability of systems - 100%). The ARGCS technology will be transitioned to the Services through existing automated test programs of record. The user sponsor is U.S. Pacific Command and the lead service is the Navy.

- FY 2006 Output - Completed fabrication and integration of system hardware/software and began system testing at the contractors facility. Refined Concept of Operations and initiated the development of Independent Assessment Plan that will be used to verify military utility of ARGCS. Transition of ARGCS technologies and products was initiated in select systems. In addition, began the development of a Joint Capabilities Document (JCD) that will guide transition ARGCS technologies and products to the Service's program of records. Using FY 2006 funding, the ARGCS ACTD will continue in FY 2007 completing the following activities: Complete systems integration and testing at the contractors facility; Conduct Limited Military Utility Assessment and a Joint Military Utility Assessment; Finalize Concept of Operations; and Initiate Extended User Evaluation (EUE). The ARGCS ACTD completes in FY 2008.
- FY 2008 Planned Output: Refer to the JCTD R-2a

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Coalition Shared Intelligence Network Environment (COSINE)	1.200	0.100	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for COSINE as a FY04 new start ACTD. The outcome will provide improved capabilities for coalition operations to share information across Community of Interests (COIs) in an ad hoc coalition member environment. COSINE enforces Need to Know or Need to Share rules by only publishing information to selected communities and preventing access to sensitive documents to members who are not authorized. The primary outputs to be demonstrated to the users and evaluated in the Military Utility Assessment (MUA) are: 1) ability to establish standards, concept of operations and associated tactics, techniques and procedures for sharing information products in NATO and non-NATO environments, while maintaining secure operations; 2) ability to quickly implement the connection of a secure coalition command, control and intelligence system; 3) ability to share intelligence information and coordinate with both allied and coalition partners in a timely secure manner, and 4) ability to rapidly alter the sharing environment when the operational situation changes, coalition membership changes or information release policies change. The efficiencies to be gained are 1) the ability to perform dynamic information security and management for sharing intelligence information in a dynamic coalition environment. The transition strategy is to implement the COSINE system design and standards into the ISAF (International Security Assistance Force) secret network for coalition operations in Afghanistan. COSINE is also a component of the NATO Intelligence Functional Area Service Capability Package as a broader NATO standard capability. The sponsoring Combatant Command (CoCom) is NATO Supreme Headquarters Allied Powers Europe (SHAPE). The lead agency is the NATO Command & Control Consultation Agency. Other participants include Allied Command Operations and Allied Command Transformation.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

FY2006 Output - Completed demonstration in the Coalition Warrior Interoperability Demonstrations and SHAPE approved action to perform security assessment of COSINE in preparation for ISAF final evaluation. Prepared the operating standards and technical manuals with procedures for implementation. The ACTD completes in FY 2007. Initial operating capability is planned for the ISAF Secret network.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Coalition Reception Staging & Onward Movement (CORSOM)	0.100	0.100	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for CORSOM as an FY04 new start. The outcome of CORSOM is to demonstrate a set of technologies, provide modeling and simulation support, and establish procedures to provide Joint Force Commanders with an enhanced Reception, Staging and Onward-Movement (RSOM) Planning and Execution Monitoring capability for coalition deployment operations. The primary outputs and efficiencies to be realized by CORSOM ACTD deliverables are: 1) percent decrease in delays of convoy movements caused by congestion, and as a result decreases in number of units that do not meet Required Delivery Dates 2) percent decrease in numbers of movement control personnel needed to manage RSOI efficiently; 3) average time to offload strategic movement assets, move assets through marshalling areas, and on to staging areas; 4) comparison of total cost of RSOI when using CORSOM deliverables compared to current costs; 5) identification of reductions in logistics response times, i.e., reduced sustainability requirements, and reductions in losses in supply chain.

Planned Transition: CORSOM products will transition into NATO's Logistics Functional Area Services (LOGFAS) with NATO Communications and Systems Operating and Support Agency providing operations and maintenance. Additional transition into Global Combat Control Systems (GCCS) through Defense Information Systems Agency (DISA) support is also planned. This is a four-year project under the sponsorship of six NATO nations, NATO Strategic Commands and Supreme Headquarters Allied Powers, Europe, are User Sponsors and the lead agency is the NATO C3 Agency.

- FY 2006 Output - Finalized prototypes and Coalition RSOM Tactics, Techniques and Procedures (TTPs). Final Military Utility Assessment (MUA) was conducted in Jan-Feb 2006 and successfully demonstrated the full range of both planning and execution functionality of software. Additionally, CORSOM was used successfully in Multi-national Experiment 4, as well as a field trial which was conducted in September 2006, taking advantage of one GE-NL Corps field exercise to display CORSOM tracking functionality. In addition, during 2006, began transition to inclusion of CORSOM in the NATO Logistics Functional Area Services of the Bi-Strategic Command Automated Information System, as well as exploring integration into the U.S. Global Combat Support System (GCSS). Transition manager is NC3A.

- FY 2007 Planned Output - Complete transition to NATO Logistics Functional Area Services, integration into GCSS, and demonstrate capability. CORSOM ACTD scheduled completion date is December 2007.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Future Tactical Truck System (FTTS)	1.200	0.600	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for FTTS as an FY-04 new start. The outcome of FTTS is to demonstrate new and emerging system capabilities for the Maneuver Sustainment Variant (MSV) and for the Utility Variant (UV) derived from Unit of Action concept drivers. The FTTS ACTD demonstrations will have the MSVs replacing two Heavy Expanded Mobility Tactical Truck Load Handling Systems in an Engineering Battalion and two UVs replacing High Mobility Multipurpose Wheeled Vehicles (HMMWV) in a Military Police (MP) Brigade. The demonstration aims to identify key elements of a seamless distribution system that has a reduced logistics footprint and reduced fuel dependency and supports both the current and future force. The primary outputs and efficiencies to be demonstrated in the ACTD Military Utility Assessment (MUA) are: 1) percent increase in fuel efficiency, and as a result increased operational range of up to 600 miles; 2) reduce Materiel Handling Equipment (MHE) from four to one and capable of transloading 463L pallets, flatracks, tankracks, other payloads (e.g. Non Line Of Sight-Container Launch Unit), and containers to/from the MSV, to another MSV, a MSV trailer, an aircraft, Theater Support Vehicle, and other Army and Navy watercraft, a flatdeck railcar, a semi-trailer, or the ground; 3) demonstrate on board exportable power of up to 75 kW; 4) demonstrate integral armor approach with capability to add up armor kit utilizing onboard MHE. Planned Transition Status: The FTTS ACTD is a critical piece of the Army's Tactical Wheeled Vehicle Transformation Strategy. Advanced technologies demonstrated in the ACTD may be incorporated into current and future tactical wheeled vehicles. In addition, PM Future Tactical Systems

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

(FTS) (Provisional) is leveraging the FTTS ACTD to feed the requirements development process for the Joint Light Tactical Vehicle (JLTV). This is a four-year project under sponsorship of US Pacific Command (USPACOM), with completion of development and demonstration by end of FY 2007. The lead service is Army.

- FY 2006 Output - Finalized the CONOPS, Tactics Techniques and Procedures, and MUA Plan. Awarded contracts for the UV hardware build phase in February 2006.
- FY 2007 Planned Output - Completed hardware build and delivered 2 UVs with trailer and 1 MSV and Companion Trailer (CT) in November 2006. Began safety assessment and operator training for the UVs and MSV. Final operational demonstrations of FTTS MSV and FTTS UV are for 2nd Qtr FY07. Initiated transition strategy and preparation for extended user evaluation. Spiral Output Planned - Leverage results from FTTS MSV for potential upgrade to current medium/heavy tactical fleet. Provide operational assessment results from FTTS UV to PM Future Tactical Systems (FTS) which will feed the Joint Light Tactical Vehicle (JLTV) requirements document. MS B decision for JLTV is Nov 2007. Transition manager is PM FTS. FTTS ACTD scheduled completion date is September 2007.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Unmanned Systems Common Control (JUSC2)	0.600	0.300	0.000	0.000

The JROC validated the capability need for JUSC2 as an FY-04 new start. The desired outcome of JUSC2 is to provide a reconfigurable and scaleable common control architecture, capable of concurrently managing large numbers of unmanned systems of all types, leveraging interoperability afforded by existing joint and coalition interfaces and message sets for unmanned systems. The primary outputs and efficiencies to be demonstrated by this project include more efficient management and improved overall operational effect through: (1) the ability to concurrently manage (in some cases, control) all unmanned systems deployed with Littoral Combat Ship (LCS) mission packages; (2) demonstration of NATO STANAG 4586 (UAV Control Standard) Level 3/4 control handoff of STANAG enabled unmanned aircraft between Army and Navy control stations; and (3) demonstrate the ability to hand-off control of unmanned surface vehicles (USVs) and unmanned ground vehicles (UGVs) to other services' Joint Architecture for Unmanned Systems (JAUS)-compliant control stations. Current transition plans include: JUSC2's Unmanned Vehicle Common Control (UVCC) software product - an integral component of the Navy's Littoral Combat Ship Flight 0. JUSC2 Common Unmanned Aerial Vehicle (UAV) Interface Segment (STANAG 4586 compliant ground station) - now a transition product that the Army's UAV Project Office will insert into the One System Acquisition Program. The user sponsor is U.S. Joint Forces Command and the lead service is the Navy.

- FY 2006 Output - Completed USV, UAV, and UGV interface segments. Successfully conducted limited at-sea test of Unmanned Undersea Vehicle (UUV) capability in Dec 05. Completed initial concept of operations documentation and initiated review process. Delivered initial UVCC software build to LCS Program Office for LCS Mission Package integration testing. Continue work on STANAG 4586 compliant version of Army "One System" common UAV ground control station.
- FY 2007 Planned Output - Due to now resolved funding delays, plan for and execute JMUA 2 (Border Patrol scenario - primarily unmanned aircraft based) in Feb-Mar 07. Plan for warfighting utility assessment with full at-sea test of LCS Flight 0 residual Sept-Oct 07.
- FY 2008 Plans - Complete residual final MUA activities. Complete reporting efforts; provide final engineering packages, software, and evaluation results to LCS program. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Precision Airdrop System (JPADS)	3.200	1.400	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for JPADS as an FY-04 new start. The outcome of JPADS is to demonstrate a fast, flexible, direct projection-based distribution system to sustain rapidly deployed forces at any global destination - strategically, operationally, and tactically. The primary output and efficiencies are to demonstrate a high-altitude (25,000 ft. Mean Sea Level (MSL)) autonomous offset airdrop capability (goal 8-25 miles offset) with the option to deliver separate and distinct payloads (up to 10,000 lb total, full rigged weight, minimum of 8.5Klbs of usable payload) to multiple locations from one release point to within a 250 meter (threshold) Circular Error Probable (CEP) (50 meter CEP objective). This effort focuses Army and Air Force programs and initiatives on meeting joint airdrop requirements. JPADS will provide a seamless and flexible system, providing materiel resupply capabilities to meet the dynamic operational requirements of the CoComs worldwide no later than 24 hours from the request. JPADS is a four-year project with completion of development and demonstration by end of FY 2008 transitioning to United States Army Program Manager Force Sustainment Systems (FSS) and U.S. Air Force Mobility Systems Wing systems by FY 2008. Transition accomplished to date: Ongoing integration of U.S. Air Force (USAF) Mission Planner (MP) into the Marine Corps C130J and into USSOCOM navigational aid for Military Free Fall (MFF).

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

Planned Transition: Transition high-altitude, aircraft deployable, autonomous, airdrop systems, and in-flight mission planning with wireless communication to guidance, navigation, and control systems to Army Product Manager - Force Sustainment Systems and Air Mobility Command's Combat Operations. The user sponsor is U.S. Joint Forces Command. The lead Service is U.S. Army.

- FY 2006 Output - Demonstrated airdrops of multiple 10Klb SCREAMER system deployments from both C-17 and C-130 aircraft from 25Kft Mean Seal Level (MSL) during numerous technical tests and exceeded threshold for system offset. Also demonstrated accuracies of within 200M on numerous occasions but not at desired reliability levels. Completed nearly all user desired JPADS Mission Planner (MP) and SCREAMER integration efforts and added built-in wireless communications to SCREAMER Airborne Guidance Unit. Conducted the first of three Joint Military Utility Assessments (First JMUA held in June 2006). JPADS-Mission Planner (MP) used for the first time by USAF aircrews for high altitude Container Delivery System (CDS) drops in the Area of Responsibility (AOR) in August 2006.
- FY 2007 Planned Output - Execute JMUA #2 rehearsal in December 2006, JMUA #2 in January 2007, JMUA #3 rehearsal in April 2007 and final operational demonstration, JMUA #3 in May 2007 based on US Joint Forces Command and user based scenarios. Distribute JMUA final reports and residual JPADS systems to JMUA users. Continue to support and monitor residual system performance and user feedback. Transition all capabilities to transition managers: US Army PM FSS and USAF (Mobility Systems Wing) program of records (PORs) during Third Quarter FY07. Assist in preparation for Milestone B and planned System Development and Demonstration (SDD) programs. Finalize and execute interim transition plan in conjunction with formal JPADS 10Klb PORs.
- FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
MAGNUM	2.300	0.000	0.000	0.000

Classified content only.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Man-Portable Threat Warning System (MANPACK)	5.200	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the need for MANPACK capabilities as a FY-04 new start. The outcome of MANPACK will be to develop a small, lightweight, modular threat warning and tactical SIGINT collection system that is rapidly scaleable based on operational requirements. The individual body worn system will provide a display of threat and friendly force data, automated data analysis to permit hands-free operation, and reach back capabilities through the Team Transportable node to access other operational or intelligence information available in the Regional Combatant Commander's Area of Operation. The ACTD uses emerging COTS capabilities in development, to include Small Business Innovative Research (SBIR) efforts. Outputs and efficiencies of MANPACK are: 1) meets essential weight, power and size requirements for use by individuals and small units; 2) significant improvement in threat warning information to the individual; 3) provides improved threat warning information to a wireless local area network (LAN)/wide area network (WAN). Quantifiable output: 1) Direction Finding (DF) performance goal is 22 ½ degrees or better; DF performance is measured by comparing lines of bearing (LOB) to a test emitter reported from the system to actual LOB calculated from ground truth information. 2) Total weight goal of the integrated system is 15 lbs. Planned transition: U.S. Special Operations Command (SOCOM) plans to transition MANPACK to the Joint Threat Warning System program of record. The user sponsor and lead agency is the SOCOM.

- FY 2006 Output - Take delivery of Demo II systems. Conduct four LOEs and Demo II (final). Complete Joint Military Utility Assessment (JMUA). Complete the ACTD and transition products having military utility to the Joint Threat Warning System (JTWS). ACTD residuals will be transferred to the JTWS Program of Record to provide interim operational capabilities. Complete the MANPACK ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

Multi-Sensor Aerospace/Ground Joint ISR Interoperability Coalition (MAJIIC)	3.100	2.200	0.000	0.000
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The JROC approved the capability need for MAJIIC as an FY-04 new start. The outcome of MAJIIC is to develop, test and transition a set of standards, eXtensible Markup Language (XML) formats, and information services to promote intelligence, surveillance and reconnaissance (ISR) interoperability between U.S. and Coalition ground stations and systems. MAJIIC will demonstrate near-real-time interoperability of data from electro-optical, infrared, motion video, moving target indicators, synthetic aperture radar, and other sensors; enhance collaborative targeting operations; improve ISR data accessibility and sense making to support U.S. Joint ISR operations. Outputs and efficiencies include: 1) Near real-time MAJIIC ISR mission and sensor data is available for discovery and smart pull within the Collateral Space in near real time (i.e. Post in Parallel); 2) MAJIIC services and data are readily discoverable via portals, C2 Visualization and other applications, and other Global Information Grid (GIG) service providers; 3) MAJIIC data pedigree is trustable by users; 4) MAJIIC service access is assured for authorized users and denied for unauthorized users; 5) MAJIIC data access is provided based on user clearance, country affiliation, and role and protected from those not meeting the minimum policy requirements. Transition is planned for FY 2008 by the U.S. Army Training and Doctrine Command (TRADOC) System Manager to the Service Distributed Command Ground Station (DCGS) programs, to satisfy their requirements for coalition ISR interoperability and Network Centric Enterprise Services compatibility. Transition already Accomplished: The MAJIIC Full-Motion Video ISR Information Services (ISRIS) capability deployed as part of JIOC-I to OIF, and is transitioning to the Army Distributed Common Ground System (DCGS-A). NATO is deploying the MAJIIC coalition shared database (CSD) as part of the NATO Intelligence Management and Reporting Tool (IMART) to OEF. Remaining transition: NATO, Supreme Headquarters Allied Power—Europe (SHAPE), and the U.S. will adopt demonstrated capabilities and concepts of operation into existing national and coalition systems. MAJIIC technology and lessons learned will transition to the Service DCGS programs to satisfy their requirements for Coalition ISR interoperability and Network Centric Enterprise Services compatibility. U.S. Joint Forces Command is the operational sponsor and the Air Force is lead service.

- FY 2006 Output - Demonstrate ISRIS capability in U.S. and Coalition environments. Support Coalition test and integration testing with connectivity from DGS-X and NATO C3 Agency. Conduct interim Military Utility Assessment (MUA). Expand ISRIS support to additional platform and sensors. Continue MAJIIC Project multinational working group participation. Participate in first coalition live-fire exercise to demonstrate and test interoperability standards.
- FY 2007 Planned Output - Participate in the annual MAJIIC coalition exercise with possible NATO Allied Command transformation with NATO Air Group IV ISR capability. Validate CONOPs and conduct MUA. Transition capability into the DCGS Integration Backbone spiral baseline.
- FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Psychological Operations Global Reach (PSYOP)	4.900	2.600	0.000	0.000

The JROC validated the capability need for PGR as an FY-04 new start. The outcome of PGR is to demonstrate a set of technologies, mission planning tools, and CONOPs to provide extended range over which the PSYOP message can be delivered. The primary outputs and efficiencies to be demonstrated are: Capabilities to disseminate products multi-dimensionally across extended ranges into denied areas, including over-the-air and new internet based methods and improved message content and focus through automated planning processes integrated into special operations forces (SOF) planning systems employing collaborative technologies. Specifically, to demonstrate the capability of delivering PSYOP message into simulated (or real if situation warrants) denied areas to a goal depth of 800nm. Transition milestones: The Short Messaging System (SMS) distribution system is currently available for operations. Transition to USSOCOM and components is planned in FY 2009 and out. The operational sponsor and lead agency is U.S. Special Operations Command. Planned ACTD completion is FY 2009.

- FY 2006 Outputs - Continued program management of the incremental design, engineering and technical integration of multiple technologies culminating with two Military Utility Assessments, one for a Spiral 2 FM broadcast payload and the second for a Spiral 3 FM broadcast payload. The Wind Supported Aerial Delivery System (WSADS) was utilized as the first UAV platform in a secession of other planned UAV platforms to include the Predator class vehicle and a High Altitude UAS (Global Observer or HALE). In addition, developed and demonstrated an airborne magnet-less loudspeaker system, along with air droppable loudspeakers on the WSADS UAV. Developed and demonstrated a tethered balloon broadcast system. Developed, demonstrated, and fielded a Short Messaging System dissemination tool. Continued development and spiral release of the PSYOP Planning and Analysis System (POPAS) which ultimately will be integrated into the SOF mission planning environment.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

- FY 2007 Planned Output - Continue management of the incremental design, engineering and technical integration of multiple technologies as the variants become more robust. Planned events include demonstrations of advanced broadcast payloads on Predator type UAV platforms; demonstration of TV payload; conducting an Extended User Evaluation (EUE) on WSADS UAV FM and loudspeaker broadcast payloads; transition WSADS FM broadcast payload; demonstration of electronic leaflets and media display systems; performing an EUE for Short Message Service for formal transition; and incremental fielding and software certification of advanced software for PSYOP Target Audience Analysis and PSYOP Worksheets, under the POPAS umbrella. These efforts will culminate in further military utility assessments for UAV payloads, scatterable media, and the POPAS.

- FY 2008/9 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Theater Effects-Based Operations (TEBO)	1.300	5.100	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for the TEBO ACTD as a new start in FY 04. The outcome of the TEBO ACTD is to provide Combatant Commanders with enhanced capabilities to analyze, plan, execute, and assess Effects-Based Operations (EBO) at the strategic and operational levels by integrating computer-aided decision support tools, Concept of Operations (CONOPS), and Tactics, Techniques and Procedures (TTPs) into the command's Mission Architectures. The TEBO ACTD is a six-year project under the sponsorship of Pacific Command and Combined Forces Command/U.S. Forces Korea (CFC/USFK) as the Operational User. Completion of development and demonstration is planned for by the end of CY 2009 with transition to the Net Enabled Command Capability (NECC) System of Record in 2010. The lead service is Army. The primary outputs and efficiencies to be demonstrated in the TEBO ACTD Military Utility Assessments are (1) Exploit existing knowledge base(s) of strategic, operational and tactical environments (e.g. Operational Net Assessments [ONA] - critical capabilities and vulnerabilities, centers gravity [COG] and nodal analysis, (2) Facilitate collaborative effects-based campaign planning within a combined/Joint environment, (3) Support execution with prioritization of strategic and operational levels of effort, synchronization of actions, and battle tracking, (4) Comprehensively assess and forecast progress toward the desired end state by analyzing observed direct and indirect effects.

- FY 2006 Output - Integrate COA planning capabilities into CFC architecture; enhance and integrate ONA capabilities into CFC Combatant Command architectures; integrate EBO execution enabling capabilities into CFC architecture; integrate DA capabilities into CFC architecture. A Limited Military Utility Assessment (MUA) was conducted in late August-early September 2006 to successfully demonstrate effects assessment, operational net assessment and planning functionality of the software. Additionally, military utility assessment of CFC EBO CONOPS was successfully conducted in May 2006, taking advantage of General Officer level subject matter experts from Joint Forces Command (JFCOM).

- FY 2007 Planned Output - Conduct Operational Demonstration 4 (Reception, Staging, Onward Movement and Integration (RSOI) 07 and Ulchi Focus Lens (UFL) 07) Enhance and integrate COA planning capabilities and EBO execution enabling capabilities into CFC architectures ; enhance and transition ONA capabilities into other COCOMs for use; enhance and integrate DA capabilities into CFC architectures.

- FY 2008/9 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Actionable Situational Awareness Pull (ASAP)	1.900	0.600	0.000	0.000

The JROC approved the capability need for ASAP as an FY-05 new start. The ASAP output will develop, integrate, demonstrate and transition software that provides a "Smart Pull" capability to the tactical, operational and / or strategic user on the Global Information Grid (GIG) for accessing critical situation awareness information resident on distributed databases. Utilizing the Net-Centric Enterprise Services (NCES) core service architecture and the Net-Enabled Command Capability (NECC), a "Smart Pull" service will be operationally demonstrated and transitioned into NECC and the Integrated Broadcast

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

System (IBS). ASAP's outputs and efficiencies include (1) increased percentage of useable data available to the user, (2) increased performance through decreased latency of data, (3) percentage of increase in data obtained via "pull" vice "push" procedures, and (4) increased interoperability with coalition forces by use of XML Common Message Format Standards. Expected efficiencies (to be measured and verified) will include response time performance on the return of data as a web service. Planned Transition: Software tools and documentation will transition to Net-Enabled Command Capability (NECC) and the Integrated Broadcast System (IBS) starting in FY 2007. The ASAP User Sponsor is the U. S. Pacific Command (PACOM) and the lead service/agency is the Defense Information Systems Agency (DISA).

- FY 2006 Output - Completed development and demonstration of three software builds around the "Smart pull" capability. Conducted initial Operational Demonstration and Interim Joint Military Utility Assessment (IJMUA). Added intelligent software agent technology to software builds to help tailor the "Smart pull" capability and an interface to the Command and Control Information Exchange Data Model (C2IEDM) database used by coalition forces. Continued training of operational users prior to conducting operational demonstration and JMUA. Initiated transition of ASAP ACTD to NCES architecture, User Defined Operational Picture (UDOP), and Integrated Broadcast System (IBS) programs. Continued development of CONOPs and TTPs.
- FY 2007 Planned Output - Complete Operational Demonstrations and JMUA. Initiate Extended User Evaluation of ASAP ACTD residual package. Initiate finalization of CONOPs / TTPs, training package and recommendations for Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF). Transition ASAP ACTD products to programs of record / programs pending results of JMUA.
- FY2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Coalition Secure Management and Operations System (COSMOS)	5.200	5.300	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for COSMOS as a FY05 new start. The COSMOS ACTD output will be a pilot implementation of the Multilateral Interoperability Program (MIP) specifications for C2 data sharing (specifically the Command and Control Information Exchange Data Model (C2IEDM) and the Information Exchange Mechanism (IEM)) in the Combined Enterprise Regional Information Exchange System (CENTRIXS) coalition network environment. COSMOS is planned for a final demonstration in the second quarter of FY08, with sustainment of the demonstrated capabilities by DISA through FY09. The expected output is identifying necessary and sufficient conditions for implementing the MIP specifications, leading to rapid, secure protected sharing of critical C2 information to and among coalition partners' organic command and control (C2) systems on a single and secure integrated coalition network. The expected efficiency is substantial reduction of textual message exchange required to establish and maintain situational awareness among coalition commanders, improved collaborative decision making, reduced confusion, uncertainty and delay in combat and crisis operations and effective bridging of coalition sourced information with US Global Information Grid (GIG) Network Centric Enterprise Services (NCES) for two-way information exchange, when approved cross domain solutions are available. Transition to programs of record is planned for FY09, targeted at the emerging Multinational Information Sharing (MNIS) initiative. A policy enforcement capability for discrete rapid information sharing will be implemented in enterprise and theater-level coalition networks (i.e., CENTRIXS migrating to an emerging program based on the Joint Requirements Oversight Council (JROC) approved Multinational Information Sharing (MNIS) Initial Capabilities Document (ICD)). The use of Open Source Code for software-based capabilities will enable improved capabilities to be inserted into programs of record for coalition information sharing, network services, and next generation command and control, including those of Allies and Coalition partners. COSMOS is a three year ACTD co-sponsored by U. S. Pacific Command (PACOM) and U. S. European Command (EUCOM). The Defense Information Systems Agency (DISA) is the lead agency.

- FY 2006 output year: The primary technical focus in FY06 was establishment of a MIP-compliant C2 application collaboration laboratory to interface exemplar C2 suites among participating partners. Through frequent technical exchanges and 'over-the-Internet' system interface testing between established and prototyped national C2 systems, the COSMOS technical team introduced the operational concept of "role- and policy-based protected information sharing" within US and coalition development efforts. A Security Working Group was established to address national concerns regarding information protection, co-led by US National Security Agency (NSA) and Canada. The operational management team observed USPACOM Exercise Cobra Gold '06 to establish understanding of the baseline information exchange capabilities. Planned demonstrations of interim capability were delayed by a lack of fieldable capability amongst the coalition partners. Since the foundational MIP exchange capabilities were not fully constituted, expected initial efficiency measures were not obtained. Programmatically the Management Plan was approved, and the governing project agreement between The Technical Cooperation Program (TCCP) Memorandum of Understanding (MOU) signatories was coordinated. Singapore joined the ACTD at the invitation of USPACOM.
- FY 2007 Planned Output: The technical focus for COSMOS in FY07 will be on establishing a stable and sustainable MIP specification based information exchange and demonstration of fundamental role- and policy-based sharing amongst coalition partners. US Army planned fielding of Army Battle Command System version 6.4 will provide the basis for technical implementation and assessment. Efficiency will be measured in coalition partner readiness and willingness to participate in MIP specification based information exchange, and improved network performance through reduced

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

textual message exchange for C2 coordination. Coordinate transition of assessed capability to program of record.  
 • FY 2008 Planned Output: Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
CBRN Unmanned Ground Reconnaissance (CUGR)	3.600	1.800	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for CUGR as an FY05 new start. The outcome of CUGR is to provide manned nuclear, biological and chemical (NBC) reconnaissance units with two new technology applications to be demonstrated in the Joint Service Light NBC Reconnaissance System's (JSLNBCRS) High Mobility Multipurpose Wheeled Vehicle (HMMWV) variant providing an unmanned capability. The first of these new systems (Thrust One) will replace the Double Wheel Sampling System (DWSS), currently in use, with a mobile Mass Spectrometer, using RAMAN technology. Since the DWSS can only be used when the vehicle is moving at a fast walk, replacing it with the RAMAN detector, which is producing reliable results at maximum vehicle speed, greatly increases mobility and flexibility for these units. The second technology (Thrust Two) is the incorporation of a small, remote controlled, sensor-equipped robot to be the recon crew's "point man" in high risk contamination reconnaissance. The efficiency of CUGR will be to utilize a machine rather than put a soldier at risk. CUGR addresses the capability gaps identified in the CBRN Baseline Capability Assessment, the JRO-CBRN Defense Mobilization Plan, and the supporting JCIDS Functional Area Analysis. Thrust One will transition as part of the Reconnaissance and Platform integration sensor block upgrade program and replace DWSS on Stryker, HMMWV and LAV vehicles. Thrust Two will become part of the Joint CBRN Dismountable Reconnaissance System (JCDRS). DTRA provides overarching program management. The Technical Manager is the U.S. Army Research, Development and Engineering Command's Edgewood Chemical and Biological Center. The Joint Program Executive Office for CBD assigned the Joint Product Manager for NBC Reconnaissance as the Transition Manager. The U.S. Pacific Command is the ACTD sponsor with Operational Manager responsibility with the U.S. Army Pacific who is providing the 95th Chemical Company as the ACTD demonstration unit. ACTD will complete in FY 07. Outputs will be: to increase maneuver speed to 45 kph vice 11-22 kph; allow detection/identification of various classes of substances simultaneously vice one at a time; reduce mission consumables; enable reconnaissance into areas that otherwise would be inaccessible by manned vehicles; can be deployed into hazardous environments; offer a point detection capability; and provide the ability to collect liquid, solid and aerosol samples.

- FY 2006 Output- Fully developed ACTD Management, Transition and Test Plans. Completed development of Concepts of Operations (CONOPS), Tactics, Techniques, and Procedures (TTP's) and Training Support Packages (TSP). Completed JCSD prototyping, systems engineering, technical testing and integration. Initiated modifications to JSLNBCRS shelter design, fabricate and integrate on HMMWV's. Initiated CUGV systems engineering and technical testing. Completed platform modeling and human factors evaluation, and integration of CBRN sensors. Conducted Market Survey, identification, selection and purchase of CBRN detection suite components and UGV platforms. Developed communication specifications for the CUGV.
- FY 2007 Planned Output - Complete JCSD/JSLNBCRS design integration, system technical manual and user training plan. Conduct user assessment on dismounted CUGV. Initiate system design and integration of mounted CUGV capability. Complete CUGV engineering design tests and system design, technical manual and user training plan. Conduct JCSD/ JSLNBCRS and dismounted CUGV technical and operational demonstrations. Receive JCSD/ JSLNBCRS independent military utility assessment (MUA). Complete ACTD.
- FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Gunship Standoff Precision Munition (Danger Close CAS - Viper Strike)	6.200	6.400	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the need for Standoff Precision Guided Munitions (SOPGM) capabilities as a FY05 new start. The outcome of the SOPGM ACTD is to evaluate the military utility of adding precision guided munitions capability to the AC-130 gunship armament suite. The assessment will be based on ground and flight demonstrations of a SOPGM weapon system employed from an AC-130 against representative gunship targets. Outputs for this project include: Initial Proof-of-Concept (IPOC) of the SOPGM weapon system and an interim Military Utility Assessment (MUA). The SOPGM IPOC weapon system will include a variant of the Viper Strike munition demonstrated on the Hunter Unmanned Aerial Vehicle, a battle management system (BMS) being developed as part of the ACTD, and physical, functional, and communications interfaces to integrate the munition and BMS on an AC-130 to safely and effectively employ the munition. The Viper Strike munition will be modified to incorporate GPS aiding of its inertial navigation system to maintain accuracy over longer flight times. The BMS development will leverage technology developed for the Navy's Naval Fire Control system to provide operators with engagement zones and fire control for employing the munition in top attack scenarios. The IPOC SOPGM weapon system will be demonstrated through ground and

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY  
RDT&E/ Defense Wide BA# 3

PE NUMBER AND TITLE  
**0603750D8Z - Advanced Concept Technology Demonstrations**

PROJECT  
**P523**

flight test and deployed OCONUS in an extended user evaluation on an AC-130 to demonstrate the potential military utility of providing the gunship with a precision guided munition capability. Outputs and efficiencies: Modify the Viper Strike munition to integrate GPS, improved warhead lethality and data link capability to enhance target effects and facilitate man-in-the-loop control throughout the kill chain. Demonstrate sub-meter Circular Error Probable from 10-50 kilometer standoff ranges against moving and stationary targets within the Gunship target set with terminal guidance provided by the launch aircraft, ground teams and/or Unmanned Aerial Vehicles (UAVs). Demonstrate ability to accept and act on digital fire commands against multiple targets nearly simultaneously. Demonstrate ability to conduct steep or shallow attack profiles with varied avenues of approach suitable for targets in all terrain including urban environments. Planned transition: Software and hardware configurations have been finalized for first ship installation and initial flight tests in late FY 2006. Military Utility Assessment and initial capability are planned for FY 2007 with subsequent integration into the AC-130 fleet. The Combatant Command/User Sponsor is U.S. Special Operations Command (SOCOM) and the lead service/agency is also SOCOM.

FY06 Output: Completed SOPGM Initial Proof-of-Concept (IPOC) weapon system development, ground integration and test. The SOPGM IPOC weapon system includes the Viper Strike munition, it's launch canister, a Battle Management System (BMS), munition carriage assembly, and aircraft integration components to support employment from the AC-130U. Verified physical, functional, and communication interfaces between the SOPGM IPOC system and the AC-130U and demonstrated electromagnetic compatibility of the SOPGM IPOC system and aircraft. Successfully validated SOPGM launcher assembly and demonstrated the Viper Strike munition safely separates from the aircraft. Obtained Nonnuclear Munition Safety Board approval of the system design and received flight certification for conducting the SOPGM IPOC weapon system end-to-end demonstrations. Built mass simulant munitions, instrumented SOPGM rounds, and SOPGM all up rounds to support the IPOC demonstration flights. Initiated engineering and ordered long lead parts for an extended user evaluation (EUE) of the SOPGM IPOC weapon system. The EUE will be conducted after successful completion of the IPOC demonstration flights to provide the warfighter an opportunity to refine SOPGM employment tactics in support of the Military Utility Assessment (MUA) and to employ the system in OCONUS operational scenarios in support of the Global War on Terror (GWOT).

FY07 Planned Output: Conduct the SOPGM IPOC flight demonstrations to validate end-to-end system performance and support an Initial MUA. Flight demonstrations will include joint operations with ground and 3rd party airborne platforms providing target designation. Following successful validation of the IPOC system in various test scenarios, the system will be turned over to the Air Force Special Operations Command (AFSOC) for an extended user evaluation (EUE). AFSOC will employ the SOPGM IPOC system in conjunction with training and OCONUS flight operations to refine tactics and collect data and gain operational experience in support of the GWOT. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Epidemic Outbreak Surveillance (EOS)	7.400	8.900	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for EOS as an FY 2005 start. The outcome of EOS is to demonstrate and transition solutions that are transformational dual use for operational and clinical medicine as well as bio-defense. EOS will incorporate as series of technologies to rapidly detect and identify a wide range of respiratory pathogens that are frequently and easily confuse in clinical encounters. It is intended to overcome two diagnostic challenges: 1) discrimination between diverse pathogens that present similar (i.e. fever & flu-like) symptoms; and 2) screening rapidly, accurately and simultaneously across multiple (20 - 30+) candidate pathogens. Clinically, a practitioner, if faced with 100 cases of flu will assume you also have the flu if you exhibit the same symptoms. EOS will ensure a correct diagnosis more quickly while running a series of pathogen tests in the background to look for biological attack. The overall goal is to develop a business case that makes the technology affordable for and integrated into the command structure for both routine and wartime scenarios. EOS will leverage sophisticated, advanced molecular biology procedures, bio-informatics, micro array and/or RT-PCR - based technologies integrating into medical command channels to provide all leadership levels key information needed to make time-critical decisions. Ultimately this situational awareness provides a high likelihood that correct diagnostic decisions will be made, potentially even prior to the onset of symptoms in some scenarios. In detect-to-warn and detect-to-treat applications, the EOS diagnostic supports sustainment of warfighter capabilities in biologically active domains by promoting earlier and targeted diagnosis, intervention, minimizing casualty losses, and reducing mission degradation. The first spiral of EOS has begun with the initiation of an avian flu (H5N1) warning network to established at 22 USAF sites worldwide. This system should be operational by the Fall, CY-2006, in time for the next flu season. DUSD/AS&C, USJFCOM (warfighter), AF/SG (technical manager), and JPEO/CBD (transition manager) are the principals for this ACTD. The ACTD will end in FY2008. Outputs and Efficiencies: Viral/Bacterial Agents per Chip Assay - 100 vice 20; Total Cycle Time per Individual Assay - 2 hours vice 8; Approximate Cost per Assay - \$40 vice \$500; Portability of Fully Capable System - 40 pounds vice 500; Rapid ID of Bio Agents vs. Backgrounds - 2 hours vice 1 day; Forensic Attribution of Agent Strains - days vice months; contain Outbreak and Reconstitute Forces - 2

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
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days vice weeks.

- FY 2006 Output- After an exhaustive due-diligence search, hardware was procured and initial monitoring of basic military trainees at Lackland AFB, TX, for outbreaks of candidate pathogens using level 5 research platforms, was begun. User training and concept of operations (CONOPS) and tactics, techniques, and procedures (TTP's) developed. Planning for technical demonstrations completed. Requirements for Level III prototype platform for small clinic venues (level III) established. Initial planning for avian flu warning network in progress, and interactions with CDC and FDA complete.
- FY 2007 Planned Output - Continue monitoring military trainees for outbreaks. Refine protocols and collect data for certification of EOS as a diagnostic tool. Continue refinement of CONOPS and TTP's. Continue previous activities and expand demonstrations to Joint arenas to include Carrier Battle Groups, Metro DC (NCR). Establish and monitor avian flu and provide warning as required.
- FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Enhanced Explosive Resistant Coating (JEERC)	1.000	0.000	0.000	0.000

The Joint Requirements Oversight Council validated the capability need for JEERCE as an FY-05 new start. The outcome of JEERCE is demonstration and transition of elastomer coating systems for protecting ships, vehicles, and building structures, while reducing personnel injuries from explosive and penetrating ordnance. The elastomer coatings offered the potential for affordable higher levels of personnel and asset protection at system weights comparable to existing approaches. JEERCE was planned as a 3-year project sponsored by U.S. Central Command. The lead Service is U.S. Navy. The outputs intended for demonstration in a JEERCE Military Utility Assessments are (1) cost and weight savings for vehicle, ship, and building protection; (2) increased protection for vehicle occupants against small arms fire, rocket propelled grenades, improvised explosive devices, and buried mines; (3) increased protection of personnel and equipment aboard ships against small watercraft delivered explosives, ballistic threats, and mines; and (4) increased protection of personnel and equipment in buildings against vehicle delivered explosives.

- FY 2006 Output - With the concurrence of the user sponsor, the JEERCE project was concluded in 2006. Testing of vehicle coatings did not show significant protection improvement, nor weight or cost savings, compared to currently fielded vehicle protection capabilities. The ship protection capability will be handled as a Office of Naval Research effort, returning this portion to the technology base. Therefore, the vehicle and land efforts in JEERCE are terminated. The land structure protection capability is mature, but requires demonstration and assessment in harsh environments in the U.S. Central Command area of responsibility. This demonstration and assessment will be conducted in late 2006, and the JEERCE project will be completed. U.S. Central Command will use results of this demonstration to decide on investments for facility protection at key sites associated with Operations Iraqi Freedom and Enduring Freedom.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Coordinated Real-Time Engagement (JCRE)	3.200	2.600	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for JCRE as an FY 2005 start. The outcome of JCRE will be to develop the CONOPS and the GIG-enabled software that enables Joint Real-Time Operations and Engagement across multi-Combatant Command (COCOM) Theaters and Echelons. JCRE will support Joint Operations by providing Net-Centric Command and Control Tools that greatly enhance Planning and Execution across multiple COCOMS. These tools will be provided as web services, so they can easily be extended to support Combined Operations as directed by the Operational Sponsor. The JCRE capability will be achieved by extending and integrating the following technologies: Joint Force Global Situational Awareness (SA) Tools; Joint Force Engagement Packages; and Joint Force Synchronization Tools. These JCRE technology components will be implemented using a Service Oriented Architecture (SOA) with distributed service orchestration. These JCRE technologies, tested on the Global Information Grid (GIG), will help validate whether the evolving GIG IP architecture and enterprise services can support the time sensitive performance requirements for global operations. Output and Efficiencies: % of relevant data that is properly synchronized; % of global operation centers that have Synchronization awareness; % of synchronization problems that go undetected for > 10 minutes; Average time to detect a synchronization problem; Average time to determine impact of synchronization problems on effects; time to assemble and organize global effects; workload to assemble and organize global effects; time to synchronize global actions, capabilities, and resources; workload to synchronize global actions, capabilities, and resources; number of resynchronizations / number of original synchronizations (synchronization robustness); time to create a globally synchronized operational plan. The lead service is the Navy and the lead CoComs are U.S. Strategic Command and U.S. Special Operations Commands.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

- FY 2006 Output - Demonstration #2. (Fall 2006) Demonstration of Joint Force Global Situational Awareness Tools, Joint Force Synchronization Tools, and Joint Force Engagement Packages in a Command Post exercise.
- FY 2007 Planned Output - Demonstration #3. (Fall 2007) Demonstration of Joint Force Global Situational Awareness Tools, Joint Force Engagement Packages, and Joint Force Synchronization Tools in a battle staff exercise. A Joint MUA will be performed in conjunction with the final demonstration. Demonstration goals may be changed based on Operational Manager's direction.
- FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Force Projection (JFP)	4.600	3.900	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for Joint Force Projection (JFP) as a Fiscal Year (FY) 2005 new start. The outcome of JFP is to provide the joint warfighter the capability to identify, source, schedule, move, maintain visibility of, and close force capabilities across the entire Force Projection process. This capability will support joint deployment planning and execution, and provide emerging adaptive planning and Net-Enabled Command Capability (NECC) capabilities. The primary outputs and efficiencies to be demonstrated are (1) 100% net-centric access to core deployment planning and execution systems; (2) develop, test, and demonstrate model-based decision support tools to give the Joint Force Commander the ability to be able to conduct rapid, dynamic course of action analysis and predictive assessment of the deployment flow on current operations; (3) develop, test, and demonstrate a common, joint toolset for Joint Reception, Staging, Onward Movement, and Integration (JRSOI) activities to coordinate the flow of forces and sustainment into a theater during execution; (4) ability to create, manage, and track capability-based force packages and link them to an operational plan (100%); (5) Crisis Action Planning and Execution (after release of deployment order) support development and maintenance cycle for Operations Order (OPORD) and associated products. Cycle time reduction from 2 weeks to less than 96 hours. (6) Go from less than 5% of a capability in the current systems to 80% ability with the Joint Capabilities Requirements Tool and JFP to create, manage, and track capability-based force packages and link them to an operational plan. (7) Increase the end-to-end visibility of forces as capabilities from zero in the current process to 80% with JFP. (8) Potential of reducing the primary thread of deployment systems from 193 to 34, with an industry standard Return on Investment of 30%.

Planned JFP transition: Improved capabilities will be provided to programs of record for the next generation of command and control and network services. JFP is planning a two-phase transition. Phase 1 will be to the Global Combat Support System followed by Phase 2 transition to the Net-Enabled Command Capability when it achieves Milestone B. The user sponsor is US Joint Forces Command (USJFCOM), and the lead Service/Agency is Defense Information Systems Agency (DISA).

- FY 2006 Output - Developed and demonstrated a portal linking together about 25% of Force Projection activities from initial planning and requirements for capabilities generation, through sourcing, movement, and delivery to the Joint Force Commander. Gained access to about 20% of the required authoritative data sources and developed initial data structures to link capabilities to forces and forces to capabilities. Focus was on visibility and integration of existing data through application of advanced net-centric web-technologies. Developed initial concept of operations (CONOPS).
- FY 2007 Planned Output - Finalize demonstration activities to complete the end-to-end Force Projection visibility capability; conduct two Joint Military Utility Assessments (JMUA) and an Extended User Evaluation; and begin to transition and deliver the new Force Projection capability into program of record, Global Combat Support System. The Final JMUA is scheduled for March, 2007. Complete the last two spirals of JFP ACTD deployment to include capabilities tracking throughout the deployment process and Joint Reception, Staging, Onward Movement, and Integration activities. After successful completion of the JMUA and subsequent recommendation of acceptance, DISA, as Transition Manager, will follow a two phase approach to transition. Phase one will be loosely coupled with the Global Combat Support System (GCSS) until Net-Enabled Command Capability achieves its Milestone B at which time JFP will begin its transition to DISA. Efficiencies gained are the initial technical development of up to 25% of the capability requirements for the Force Projection mission capability package of NECC. JFP fully integrated (100% of the capability that passed Military Utility Assessment) into NECC baseline capability for Force Projection. Efficiencies gained are the completion of the testing and evaluation and the certification of capabilities for NECC up to two years ahead of the program. The ACTD will complete in FY 2007.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
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<b>Accomplishment/Planned Program Title</b>	FY 2006	FY 2007	FY 2008	FY 2009
Medical Situational Awareness in Theater (MSAT)	5.600	1.900	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for MSAT as a FY05 new start. The outcome is to provide improved capabilities for medical situational awareness to commanders with integrated and timely health information fused with non-medical operational information incorporating a tailored decision support tool to make critical strategic and tactical decisions in a deployed environment. This capability will provide a fusion of medical data, personnel location information and health threat intelligence for situational awareness in theater. The capabilities include technologies for a web services environment fusing intelligence, chem.-bio threat, environmental health, unit location information; risk assessment; and decision support tools. The primary outputs to be demonstrated to the users and evaluated in the Military Utility Assessment (MUA) are 1) ability to perform surveillance of medical threats in deployed environments, 2) model threat dynamics, and 3) conduct risk assessment using decision support tools. The efficiencies to be gained are 1) the ability to provide commanders with a more complete medical situational awareness in an actionable time-frame, 2) the ability to make knowledge-based decisions with an automated decision-making tool tailored to medical operations. The transition strategy is to incorporate MSAT system tools and operational concepts, tactics, techniques and procedures into theater medical operations through the Global Combat Support System and Theater Medical Information Program programs of record. The sponsoring Combatant Command (CoCom) is U. S. Pacific Command (PACOM). Other organizations involved as participants, users of capabilities, and/or observers include: Armed Forces Medical Intelligence Center; OSD Health Affairs; Joint Staff Surgeon and the Defense Information Systems Agency. The executive agent is the Joint Staff, Logistics Directorate, Health Services.

- FY2006 Output - Completed the Spiral 1 demonstration during the PACOM Cobra Gold exercise using the prototype Medical Support Enhanced system. Reach agreement by principal participants on revised funding strategy and project approach. Plan integration with Global Combat Support System. Use Spiral 1 demonstration assessment in development of spiral 2 capability and integration into the Theater Medical Information Program presence in the GCSS Web Services Gateway.
- FY2007 Planned Output - Execute the Spiral 2 demonstration with modeling tools and decision support tools using medical operations, epidemiology, environmental, patient tracking, intelligence and syndromic surveillance information.
- FY2008/09 Planned Output - Refer to the JCTD R-2a.

<b>Accomplishment/Planned Program Title</b>	FY 2006	FY 2007	FY 2008	FY 2009
Rapid Airborne Reporting & Exploitation (RARE)	1.200	0.400	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for RARE as an FY-05 new start. The outcome of RARE is to enable the production of critical, time-sensitive, thermal IR, advanced geospatial intelligence (AGI) from existing airborne assets under control of theater commanders. The outcome will include documented capabilities to produce special measurements from the U-2 SYERS-2 and the Global Hawk ISS platforms / sensors. The three-year RARE ACTD will complete a JMUA in FY07 and then transition into U-2, Global Hawk and AF DCGS programs of record. The primary efficiency and output to be demonstrated is the increase in number and value of EEI's that can be provided to the users / data exploiters with negligible additional cost in the acquisition, operation and maintenance of the collection systems. In FY 2008 the RARE capability will transition to AF DCGS, U-2 and Global Hawk programs. The planned transition status is to integrate the RARE capability into the Common MASINT Exploitation Tool (COMET) software package and into the concept of operations of the Senior Year Electro-Optical Reconnaissance System-2 and Global Hawk sensor systems. The ACTD will also deliver documentation/lessons learned to enable capability for other airborne platforms. The lead service is the U.S. Air Force, and the ACTD User Sponsor is the U. S. Central Command (CENTCOM). Transition Manager is ACC/A2.

- FY 2006 Output - Conducted data collection and evaluation activities for both U-2 and Global Hawk systems. Conducted Limited Utility Assessment (LUA) at NASIC. Continued system performance characterization and beta operational activities at NASIC. Conducted planning and three week capability demonstration at DGS-3, leaving behind an initial RARE capability.
- FY 2007 Planned Output - Complete system performance characterization and formal exploitation software package. Plan and conduct a concluding Joint Military Utility Assessment. Complete detailed preparations for transition, including CONOPs and operational requirement documents. End beta operational support at NASIC and support stand-up of operations at DCGS locations. Complete the

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
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ACTD.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Sea Eagle	2.100	1.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for Sea Eagle as an FY 2005 start. The outcome of Sea Eagle will be to demonstrate and transition technologies to provide persistent, clandestine, and unattended monitoring of maritime areas in a Special Operations Forces (SOF) deliverable "system of systems". These sensors and systems will be deliverable by SOF and networked in a multi-media (sea, air, land) system-of-systems approach. Sea Eagle will greatly increase SOF's ability to clandestinely conduct persistent, intrusive Intelligence, Surveillance, and Reconnaissance (ISR) in maritime areas. The warfighter will tactically emplace Sea Eagle systems to provide targeted, tactical information that complements national and theater intelligence assets to enable a layered intelligence collection strategy. These funds will be used to support technical down-select, systems integration, and demonstrations of sensors and communication technologies. The funds will support: 1. Johns Hopkins University Applied Physics Lab (JHU APL) and Naval Surface Warfare Center Panama City (NSWC PC) as the technical integrators for Sea Eagle; 2. Operational Manager support and demonstration costs; and 3. procurement and integration of components for the demonstrations. Outputs and Efficiencies: The overarching output for Sea Eagle is persistence. This output incorporates a variety of initiatives such as power management, intelligent triggering, and signal discrimination to optimize system performance and persistence. Measures of persistence will be relevant for individual component, subsystem, and overall system performance. Quantitative metrics are classified. USSOCOM is the COCOM/User Sponsor; Navy is the Lead Service.

- FY 2006 Output - Demonstrated the land based network, sensors, clandestine maritime platform and gateway communications in January 2006. Conducted successful technology demonstration of maritime buoy in April 2006. All systems operated according to specification. The land network architecture sensors were demonstrated in a Limited Military Utility Assessment in June 2006. Demonstration was conducted by Seal Delivery Team Two, and evaluated by OPTEVFOR. Obtained valuable user feedback for incorporation into Spiral II. System has shown potential for military utility. Selected underwater networking protocol and acoustic sensor technology. Developed CONOPS and Tactics, Techniques, and Procedures (TTPs). Technologies that demonstrate military utility will be incorporated for transition as a Program of Record under USSOCOM's Global Sensor Network.
- FY 2007 Output: Sea Eagle Security Classification Guide approved. Demonstrate the undersea network and sensors. Demonstrate improved land network capabilities with enhanced networking capability, data rate, and persistence. Upgrade land network protocol and integrated additional land sensors. Incorporate underwater communications and sensors into a clandestine, close access, mesh network: Demonstrate Unattended Maritime System and improved Unattended Ground System. Transition capabilities with immediate military utility. Refine CONOPS and TTPs. Integrate Naval SOF assets (SDV and ASDS) with the Sea Eagle network.
- FY 2008/09: Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
SOF Long Endurance Demonstrator (SLED)	3.700	5.100	0.000	0.000

The JROC validated the capability need for SLED as an FY-05 new start. The outcome of SLED is to demonstrate an unmanned vertical take off and landing vehicle (the DARPA developed A160 Hummingbird VTOL UAV) capable of flying long range (2000+NM/24+ hours) and employing a wide variety of adaptable payloads, supporting combating terrorism (CT), counter proliferation (CP), special reconnaissance (SR), direct action (DA), psychological operations (PSYOP), and other mission areas. Efficiencies and outputs will be evaluate the A160 for its capability to perform designated functions. Platform performance must be compatible with payload and mission requirements in terms of altitude, endurance, range, weight (platform and payload), and payload power. The payloads must meet mission requirements and be compatible with A-160 capabilities and constraints. Planned Transition is to integrate with USSOCOM components. U.S. Special Operations Command is the user sponsor and lead agency.

- FY 2006 Outputs - Demonstrated LIDAR payload on surrogate vehicle. Successfully demonstrated PSYOP broadcast payload, resupply (hook) capability, JAVELIN missile integration, and video sensor on MAVERICK (A160 surrogate unmanned helicopter). Continued Hellfire payload integration on A160. Continued integration activity to prep for SAR/GMTI, SIGINT, Comm Relay, and Emergency Personnel Recovery (EPR) capabilities on A160. Delay in DARPA returning A160 aircraft to flying operations is pushing demonstration activity into FY 07. Use of MAVERICK surrogate is mitigating

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

impact.

- FY 2007 Planned Outputs - Complete CONOPs development. Select and demonstrate representative support payloads, such as SAR/GMTI, SIGINT, Comm Relay, and EPR. Demonstrate Hellfire on A-160. Develop slide on/slide off payload capability. Plan and perform final MUA. Final MUA activities may slip to first quarter FY 08 as a result of DARPA FY06 grounding and re-certification activity for A160.
- FY 2008 Planned Outputs - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Tactical Satellite (TacSat)-2 (Road-Runner)	2.800	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for Tactical Satellite (TACSAT) II as an FY-05 start. The outcome of TACSAT II is to demonstrate use of responsive, flexible and affordable tactical satellites to retain a space capabilities advantage in high threat environments and the concepts for dynamic theater tasking, high-rate theater downlinks and horizontal integration of space derived information via SIPRNET. It will demonstrate on-demand, cost-effective augmentation of space forces. Capabilities will be tailored to specific and emerging crises and use the latest, high-payoff technologies to avoid surprise and counter terrestrial and space threats. These attributes help rapidly reconstitute destroyed or degraded space capabilities to continue military action. TacSat-2 will be Internet Protocol addressable and function as a node within a network-centric architecture. Warfighters with Secret Internet Protocol Router Network access can task the satellite's sensors for geo-rectified signals information and one-meter resolution visible imagery on areas of interest. Outputs and efficiencies are: Spacecraft launch site arrival to launch - objective: 7 days, threshold: 14 days. Autonomous rapid on-orbit spacecraft and payload checkout and initialization - objective: 24 hours, threshold: 72 hours. Payload downlink data rate - objective: 274 Mbps, threshold: 1.15 Mbps. Planned transition: The Services will use the ACTD results to update their future operational concepts and to refine National Security Space Office's Responsive Space Operations Architecture. Proven technologies, such as the Common Data Link, will be integrated to increase data transmission rates from space to the warfighter and autonomous state of health processes to reduce satellite operations and maintenance costs. The lead Combatant Commander (CoCom) is the U. S. Strategic Command. The lead service is the Air Force.

- FY 2006 Output - Completed satellite testing, integration, launch vehicle construction and preparation. During FY 2007 the funding received in FY 2006 will facilitate the Launch satellite, fund the MUA initiation, and assist TacSAT to participate in military exercises.
- FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Weapon Data Link Network (WDLN)	4.900	0.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the need for WDLN capabilities as a FY-05 new start. The outcome of the Weapon Data Link Network (WDLN) will reduce risk for the integration of network-centric weapons in general, by defining architectures, interfaces, messages and tactics needed to allow weapons to function within the networks of today and tomorrow. The Military Services and Combatant Commanders have numerous standoff weapons programs entering SD&D Phase. Requirements are being identified for a weapon data link capability to enable inflight dynamic re-tasking of the weapons to improve time sensitive targeting and provide a counter-moving target capability. The joint warfighter lacks a currently defined weapons grid with specified standards for information exchange requirements and message sets to facilitate joint interoperability. The WDLN ACTD will define the requirement standards for future weapon data links to enable a fully integrated joint weapons grid where the combatant commanders can fully exploit the capabilities of inherent weapon data links. The residuals of this ACTD will be a defined standard that weapons programs will build to enable the combatant commander to take advantage of a fully integrated weapons grid. Outputs and efficiencies: WDLN will design and exercise a realistic tactical network that enables network-centric weapon operations, demonstrating the following: - Allocation of network time slots to weapons - UHF Satcom and L-band (Link-16) messaging via gateway to network - Inclusion of other network participants (e.g., CAOC, ground forward air controller, shooter) - Information transfer required to implement desired datalink benefits such as weapon inflight health/tracking, Bomb Impact Assessment (BIA), re-targeting, etc. - Candidate weapon specific issues through flight demonstrations of WDL components for Small Diameter Bomb, Joint Air to Surface Standoff Missile and Joint Standoff Weapon. Additional information will

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

be gained for integrating datalink capability on Miniature Air Launched Decoy - Jammer version. Transition Completed: Demonstration residuals including weapons networking message sets and standards were transitioned to the Air Armament Center PEO in FY 2006 for integration into Small Diameter Bomb Phase II, Wind Corrected Munitions Dispenser?Extended Range, Joint Standoff Weapon, Joint Air-to-Surface Standoff Missile, and other future munitions. The Combatant Command/User Sponsor is U.S. Joint Force Command (USJFCOM) and Central Command (USCENTCOM). The Lead Service/Agency is the Air Force.

- FY 2006 Output - The WDLN ACTD operational demonstration was successfully completed and a Joint Military Utility Assessment has been published. Activities include demonstration of: a viable network architecture including a communication equipment suite that accommodates network enabling hardware; and Line Of Sight (LOS) and Beyond Line Of Sight (BLOS) network configurations including a surrogate Combined Air Operations Center (CAOC) and other C2 platforms. Residual networking standards and message sets for weapons programs transitioned to the Air Armament Center Weapons PEO for incorporation into weapon programs including JASSM, SDB Increment 2, WCMD-ER, JSOW-C, and EW programs such as MALD-J. ACTD completed.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Counter Intelligence - Human Intelligence Architecture Modernization Program, Intelligence Operations Now (CHAMPION)	0.000	6.400	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for CHAMPION as a FY06 new start Joint Capability Technology Demonstration. The outcome will provide improved capabilities for the counter-intelligence, human-intelligence and special forces communities of interest. These improvements will provide an accessible and actionable information system for management of the CI/HUMINT/SOF collection, mission planning and asset management information. The capabilities include technologies for integration of biometrics and geospatial information. The primary outputs to be demonstrated to the users and evaluated in the Military Utility Assessment are: 1) joint data standard for human domain; 2) CHAMPION information collection tool and associated concept of operations (CONOPS), tactics, techniques and procedures (TTPs); 3) CI-HUMINT/SOF source management tools with federated search capability and data replication/access across multiple networks; and 4) integrated language translation collection, CIHUMINT source vetting tool and data access tools for multi-intelligence discipline fusion. The efficiencies to be gained are: 1) improved effectiveness of HUMINT operations; 2) elimination of Human domain data stovepipes; 3) joint human domain data standard; 4) improved web enabled data access across multiple networks and security levels; 5) Joint CONOPS/ TTPs; 6) Biometric and geo-spatially enabled mission and asst management tools. The transition strategy is to incorporate CHAMPION capabilities into the Distributed Common Ground Station program of record (POR). The sponsoring Combatant Command (CoCom) is the U. S. Central Command (CENTCOM). Other organizations involved as participants, users of capabilities, and/or observers include USSOCOM, USJFCOM, Counter-Intelligence Field Activity, Defense Intelligence Agency, National Geospatial Agency, and the National Security Agency. The lead service is the Army.

- FY2006 Output - Refer to the JCTD R-2a.
- FY2007 Planned Output - Complete Spiral 1 limited assessment report and Spiral 2 assessment plan. Execute the Spiral 2 demonstration and assessment of Spiral 2 deliverables. Prepare final assessment plan. Complete approval of transition plan. Secure funding for fielding of spiral deliverables and interim capabilities found to have military utility by operational sponsor.
- FY2008/09 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Comprehensive Maritime Awareness (CMA)	0.000	6.400	0.000	0.000

The Joint Requirements Oversight Council validated the capability need for CMA as an FY-06 new start. The outcome of CMA is demonstration and transition of technologies and operations concepts showing the value of information sharing and effective information management for improving global Maritime Domain Awareness. CMA will demonstrate the value of both interagency and international (Republic of Singapore) information sharing. CMA will demonstrate data management techniques such as automated anomaly detection and threat evaluation, and application of the Department of Defense Net-Centric Data Strategy. CMA is a 4-year project sponsored by U.S. Pacific Command, U.S. Northern Command, and U.S. European Command. Initial capabilities will be demonstrated and operated in

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

CY-06, with advanced capability spirals in FY07 and FY08, and transition support in FY09. The lead Service is U.S. Navy. The primary outputs and efficiencies to be demonstrated in CMA Military Utility Assessments are (1) percent increase in the number of maritime tracks and identified tracks in U.S. military, interagency, and coalition maritime operational pictures; (2) percent increase in numbers of maritime contacts with amplifying information (such as crew list, cargo manifest, port-of-call history, etc.); (3) percent increase in numbers of vessels of interest monitored by maritime intelligence analysts; (4) number of automated anomaly detections and threat alerts provided to maritime intelligence analysts; (5) increase in number of agencies (U.S. and international) engaged in information sharing across a common service oriented architecture.

- CY 2006 Output - Refer to the JCTD R-2a.
- FY 2007 Planned Output - Continue operating FY 2006 spiral capability. Integrate capabilities of the U.S. Coast Guard Vessel Tracking Program, and automated anomaly and threat assessment, at key regional sites determined by architecture decisions. Conduct interim military utility assessment. Complete planning for network services and architecture implementation for FY 2008 for interagency sharing.
- FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Event Management Framework (EMF)	2.500	2.600	0.000	0.000

The outcome of EMF is to demonstrate the ground breaking capability of vertical and horizontal sharing of heretofore stove-piped information among organizations within and outside of DOD by emphasizing EMF policies; operational concepts; and tactics, techniques and procedures. In handling a terrorist event or incident, a horizontal information focus among Federal agencies is necessary during the interdiction phase of an incident. During response and recovery phases, a vertical information sharing focus among Federal, state, and local agencies is needed.

A coherent interoperable information sharing mechanism is needed to: (1) Discover and share information resources throughout the incident based coalition domain; (2) Recognize the changing value of temporal information; and (3) Analyze and synchronize the large amounts of data relative to an event. All COCOMs, as well as their non-DoD partners, have made large investments in command and control (C2) and collaboration coordination tools. But, to date, effective integration of those investments has been sub-optimal. The event management framework consists of policies, operational concepts and technologies to ensure decision makers can build a situational picture of an event with all relevant facts. The primary outputs and efficiencies to be demonstrated in the ACTD Military Utility Assessment (MUA) are: 1) Integrated EMF policies; operational concepts; and tactics, techniques and procedures; 2) Improved and more timely incident and information correlation to "connect the dots"; 3) Faster visualization of analytic results to aid decision makers in event assessment; 3) Addition of EMF databases and engine servers to cache data; 4) Capability to share information and analytical results across COCOMs, Coalitions, Services, and its interagency partners; 5) Reduced time required for event based decision making. EMF is a three-year project under the sponsorship of the United States Northern Command. The lead agency is the Defense Information Systems Agency (DISA).

- CY 2006 Output - Develop draft EMF policy, user requirements and business rules to allow rapid information access. Execute MOAs for data sharing among regional and interagency partners. Develop Spiral 1 capabilities - information access and awareness prototype, integrated information pointers (GUIs and business rules), customized portal, smart agents, and cryptographic devices. Develop preliminary DOTMLPF required documents. Conduct command post exercise 1.
- CY 2007 Output - Develop Spiral 2 capabilities - incident and event reasoning prototype, ontology and data models. Develop portal interfaces. Add regional partners. Provide advanced cryptographic devices. Refine smart agents. Refine CONOPs and TTPs. Plan Joint Military Utility Assessment (JMUA). Conduct command post exercise 2.
- CY 2008/09 Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Extended Space Sensors Architecture (ESSA)	0.600	2.800	0.000	0.000

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

The Joint Requirements Oversight Council (JROC) validated the capability need for ESSA as a FY06 new start. The ESSA ACTD focuses on creating a joint, distributed, net-centric space surveillance framework. The expected outcome of the ESSA ACTD is a flexible, responsive and scalable command and control family of systems which enhance United States Strategic Command's (USSTRATCOM) Space Situational Awareness (SSA) capability. ESSA is a three-year ACTD sponsored by USSTRATCOM and Commander Joint Forces Component Command Space (CDR JFCC SPACE). ESSA is planned for a final demonstration in mid FY 2009 and transition to a Programs of Record (PORs) will occur by the end of FY 2009. The lead service is the U.S. Air Force. The expected outputs and efficiencies of the ESSA ACTD is to develop and demonstrate net-centric sensor architecture which provides more timely SSA information via the Secret Internet Protocol Router Network (SIPRNET) to decision makers. ESSA efficiencies will include: increased timeliness for delivering data products from sensor to command and control (C2) node; ability of netted sensors to perform more efficient strategies for searching, tracking, identifying and monitoring space object population; ability of C2 node to observe sensor operations in real-time and make rapid decisions in response to space events; and the ability of architecture to support both theater and strategic users. While this ACTD does not answer all of the SSA gaps and shortfalls identified in USSTRATCOM's Space Control Joint Capability Document (JCD), it does address the number one priority identified in the JCD of synergistically exploiting all available SSA data.

- FY 2006 Planned Output - There are two main focus areas for FY06: technical and programmatic. The technical has developed the initial ESSA Functional Requirements Document (FRD) and Technology Plan which details the merging of existing technologies into the ESSA sidecar. The technical team, lead by U.S. Army Space and Missile Defense Command (SMDC) is continuing work on Memorandums of Agreement (MOA) with sensor site participants at Reagan Test Site (RTS) - Kwajalein; Ground-based, Electro-Optical Deep Space Surveillance System (GEODSS) - Maui and Haystack Auxillary (HAX) at Westford, Massachusetts and is addressing security accreditation issues with getting access to the SIPRNET. Programmatically the Implementation Directive (ID) was written, coordinated and signed by all participating parties. The ESSA Management Plan is complete and currently in three-letter coordination. The Concept of Operations (CONOPS) and Demonstration Evaluation Documents are both complete for year one of the ACTD. The transition plan is currently under development.

- FY 2007 Planned Output - The focus in FY07 is on the first of three demonstrations. The first demonstration is scheduled to take place in Dec 06. This imaging demonstration will validate the ability of an ESSA sensor sidecar to provide web-based access to information and services. The objective is to expose operational-related information and data derived from the Haystack Auxiliary (HAX) radar located in Westford, MA. This will include pre-data collection operational information (e.g., sensor tasking, corresponding data collection plans, sensor status, etc.), real-time sensor data (i.e., imagery, metric observations, and sensor state) and post-data collection (e.g., user defined re-imaging service, archived mission data). From an operational viewpoint, this demonstration will provide Near Real Time (NRT) access to information on the stability of certain satellites and insight into the tasking of a particular sensor. The utility of having radar imagery available to the user along with a wire frame model is to provide a quick indicator as to the stability of the satellite. The demonstration will take place at three locations: The Space Innovation and Development Center (SIDC) at Schriever AFB, The Joint Space Operations Center (JSPOC) at Vandenberg AFB and Massachusetts Institute for Technology Lincoln Labs (MIT/LL).

- FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Enable Theater Access - Sea Ports of Debarkation (JETA-SPOD)	0.200	4.000	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the need for JETA-SPOD capabilities as a FY-06 new start. The outcome of JETA-SPOD is to develop and demonstrate: a Lightweight Modular Causeway System (LMCS) transportable by and employable from intra-theater sealift vessels such as the JHSV; and an austere port Decision Support Tool for selection of optimal sites from multiple austere SPOD options. The capabilities proposed for development in this ACTD will optimize the use of the Joint High Speed Vessel (JHSV), current Army/Naval watercraft, and Lines of Communication (LOC) bridging requirements by providing increased and more rapid flow of combat power and sustainment through multiple theater austere seaport locations. This provides to Joint/Combined Force (J/CFC) commanders a means to mitigate threat anti-access activities and increases flexibility to conduct operational maneuver from strategic distances. JETA-SPOD ACTD is a three-year project under sponsorship of U.S. Pacific Command, with completion of development and demonstration by end of FY2008; and transition to U.S. logistics systems by FY2009. The lead service is Army. The primary outputs and efficiencies to be demonstrated in the ACTD Military Utility Assessment (MUA) are: 1) the LMCS will reduce weight, volume, and deployment time compared to existing military causeway and bridging systems; 2) the operational parameters for evaluating the military utility of the LMCS are based on a quantitative and qualitative comparison to the capability provided by the existing Modular Causeway System (MCS); 3) LMCS will result in a reduction in weight and volume by 50% over the MCS; a reduction in deployment time by 50% over the MCS; and elimination of in-water connections; 4) the

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

Decision Support Tool capability equates to an increase in availability of throughput prediction information for 50-80% of worldwide small ports; and 5) the combination of LMCS and the Decision Support Tool includes a five-fold increase in the number of JHSV-compatible ports and doubling of the port throughput rate. LMCS Output includes incorporation of state-of-the-art connector and tensioning technology; innovative emplacement and recovery system applicable to multiple military/civilian platforms; innovative self-locking and strap tensioning technologies; high strength fabrics for robust, lightweight floatation technology that quickly inflates/deflates for rapid LMCS emplacement and recovery; puncture/abrasion resistant floatation components; lightweight decking materials; and common 8x20 rapid transport footprint design. The efficiency is that the transport (land/sea) cost of moving causeway capabilities into austere SPODs will be significantly reduced; and causeway capabilities will arrive in theater more rapidly with a smaller logistics footprint. Austere Port Decision Support Tool Output includes query-able austere world port data; a port characterization model; rapid port enhancement tool; austere port throughput simulation; a comprehensive set of environmental and physical factors affecting ingress/egress throughput rates; and parametric algorithms for throughput rates in small ports and rates for planning and execution of vessel offload operations; developed with an open source tool; user friendly Graphical User Interfaces (GUI); and runs on a laptop computer. The efficiency is that the warfighter will possess flexibility and a broader range of options to establish austere seaports as strategic or operational maneuver entry points with a greater assurance of success. The transition strategy for LMCS and the Decision Support Tool is to establish Programs of Record under the guidance of two Transition Managers: Product Manager, Army Watercraft Systems (PdM AWS) and USTRANSCOM, respectively.

- FY 2006 Output - Implementation Directive approved; developed ACTD Management Plan and initial CONOPS; developed engineering design tests and system design; completed prototype modeling and human factor testing; planned transition; developed Demonstration and Assessment Management Plan (DAMP); conducted early user assessment and incorporated key user required design changes; conducted component demonstrations; and identified Decision Support Tool geographic areas and collected small port data.
- FY 2007 Planned Output - Conduct early user evaluation and incorporate changes prior to testing; develop Training Plan and begin user training; complete full-scale component demonstration and testing, plan residuals and technical support, update Management Plan and CONOPS; refine DAMP; lock Decision Support Tool data requirements; develop Decision Support Tool Beta Version as Spiral Output to the field; and continue transition planning.
- FY 2008/09/10 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Modular Intermodal Distribution System (JMIDS)	0.000	8.900	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for JMIDS as an FY06 new start. The outcome of JMIDS is to demonstrate, analyze and transition joint service, all-mode containers and platforms that are equipped with Automatic Identification Technology (AIT). JMIDS will permit efficient, seamless, and visible movement of supplies through the distribution system from CONUS-based depots and vendor locations to tactical end users. This includes movement through the Seabase to support forward operating expeditionary and task force units. JMIDS technologies will enhance the ability to source load supplies that can move from origin to destination without the current intensive and inefficient handling and re-packing caused by: 1) incompatible air and ground cargo systems; and, 2) sorting, storing, and/or reconfiguring cargo. The goal of this JCTD is to improve the agility, flexibility, efficiency, effectiveness, responsiveness, and interoperability of the Joint Distribution System.

JMIDS is a three-year project under sponsorship of US Transportation Command, with JCTD completion by the end of FY 2008, and transition to selected Program Manager(s) / Program of Record(s) [Joint Modular Intermodal Platform (JMIP) and Joint Modular Intermodal Container (JMIC)] by FY 2009. The lead service is Army. The primary outputs and efficiencies to be demonstrated in the JCTD Limited and Capstone Military Utility Assessments are: (1) Timeliness of JMIDS technologies to deliver supplies to operating forces as compared to present distribution system; (2) Capability to support transportability across different modes by reducing re-handling/ packing time; (3) Improved supply flow through the available technologies- Tonnage processed per hour, Time per load-out of platform Wait times per load-out; and, (4) Capability to support Command Level Situational Awareness-Accuracy of AIT tracking technology (contents, position), percent of JMICS tracked correctly, overall improvement of situational awareness upon use of AIT.

- FY 2006 Output - Refer to the JCTD R-2a.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

- FY 2007 Planned output - Complete acquisition of JMIC, JMIP and AIT demonstration hardware. Conduct two Limited MUA Military Utility Assessments (MUAs) and a Capstone MUA. Conduct cost, weight, producibility trade studies for the JMIP and JMIC prototypes. Complete three Capability Development Documents (CDD) spirals, including Business Case Analysis and Integrated Logistics Support planning drafts. Commence CDD staffing through Joint Staff and Services. Final demonstration date is September 2007. Deliver hardware, conduct engineering tests, and plans for a Coalition Warfare Demonstration of the JMIDS hardware with the United Kingdom.
- FY 2008 Planned output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Large Data	0.000	6.400	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for the Large Data (LD) Joint Capability Technology Demonstration (JCTD) as an FY-06 new start. The outcome of Large Data is to demonstrate the military utility of a highly scalable, rapid, and secure integrated capability to retrieve, store and share massive amounts of information effectively between global users. It will provide increased situational awareness by displaying large, fused sets of geospatially-referenced data in a Joint Warfighting context using intuitive navigation techniques. Large Data is a three-year project under the sponsorship of the United States Strategic Command. The primary outputs and efficiencies to be demonstrated in the JCTD Military Utility Assessment are: 1) Synchronized databases across all major operational storage nodes, i.e. cache coherency; 2) Timely delivery and sharing of data - instant real time access and collaboration; 3) Intuitive way for users to navigate large data sets (petabytes to exabytes); 4) Ability to easily visualize huge amounts of data that is being generated; 5) Capability to perform "trackback" or change analysis on an unprecedented scale. The user sponsor is the U. S. Strategic Command and the lead agencies are the National Geospatial Agency (NGA) and Defense Systems Agency (DISA). Transition is planned for FY 09 after successful JMUA to National Geospatial Agency (NGA) and Defense Systems Agency (DISA). Both agencies are participating in the JCTD as Co-Transition Managers. The Large Data JCTD is scheduled to complete in December 2008.

FY 2006 Output - Refer to the JCTD R-2a.

FY 2007 Planned Output - Spiral 2: Develop holistic target characterization prototypes and deploy to USFK mini node. Add 4th CONUS node. Install Trans-PAC link. Develop capability for geo-temporally indexed multi-agency data, with security, identity management, and Continuity of Operations features. Perform multi-node testing on classified and unclassified networks. Provide large geospatial visualization displays and advanced data integration. Refine CONOPs and TTPs. Plan JMUA. Conduct demonstration in USFK and JEFX.

FY 2008 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
MASINT Tactical Intelligence Fusion (MASTIF)	4.900	6.400	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for MASCOT renamed MASTIF as an FY-06 new start. The outcome of MASTIF is to provide the warfighter with a set of Network Centric Intelligence, Surveillance and Reconnaissance (ISR) collection systems and management applications to employ traditional and non-traditional, distributed sensing against concealed/obscured targets, with the goal of enhancing detection, classification, characterization, and tracking of these targets. This five-year project is under the sponsorship of the United States Special Operations Command (USSOCOM) and United States Southern Command (USSOUTHCOM). The lead DOD agency is the Defense Intelligence Agency (DIA). The primary outputs and efficiencies to be demonstrated are: 1) exploit Measurement and Signatures Intelligence (MASINT) technologies and develop new sources and methods to counter adversary concealment and deception techniques, 2) develop new methodologies for sensor-to-sensor communications to enable tipping and cueing, and 3) seek new fusion processing systems to make maximum use of the data to solve the difficult problem of concealed/obscured targets.

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

- FY 2006 Output - Drafted, coordinated and completed a fully signed Implementation Directive (ID). Drafted, coordinated and refined specific user requirements that are used to identify useful applications and technology. ACTD Management IPT moved forward in understanding the intelligence operational concept and the system CONOPS. Worked with COCOMs and other government agencies to research and leverage ongoing fusion studies, intelligence initiatives/products that could bear on MASTIF ACTD capability leaning toward harmonization of fielded capabilities and a successful transition. Reached tentative agreement with NGA for future MASTIF participation in an Empire Challenge exercise during the Extended User Evaluation Period (EUEP). Began transition planning by examining interoperability requirements. Finalized critical operational issues for operational assessment. Began military utility assessment planning.
- FY-2007 Planned Output - Establish required minimum SETA technical support for Technical and other IPTs. Finalize system design. Establish necessary MOA's for demo and test equipment, and issue contracts to start development of fusion engine and system integration. Coordinate necessary MOA's for testing and demonstrating of single and dual sensors over FY07-08. Secure necessary airborne test platform, sensor systems and integrate systems onto test platform. Explore all-source sensor applications using MASTIF capability. Work with operational COCOM and transition sponsors to continue transition planning for FY 09.
- FY 2008/9/10 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Node Management and Deployable Depot (NoMaDD)	3.100	2.600	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for NoMaDD as a FY-06 new start which is demonstrating technologies to address critical delays in getting needed supplies to the warfighter. Loss of visibility of items in the distribution pipeline and the inability to provide realistic delivery dates or effectively adjust the flow of commodities for delivery at the right place at the right time continue to impact the effectiveness of our forces. Node Management will provide distribution node managers the visibility needed to make logistics decisions to positively affect the distribution system. Deployable Depot will provide the ability to quickly establish a supply and distribution center in theater to control the physical flow of materiel moving into and through the theater. Together, these capabilities will provide the logistic responsiveness necessary to support our warfighters in any theater of operation. NoMaDD's effectiveness will be measured through its contribution to sustained logistics for major military deployments. Specific outputs and efficiencies will include: 1) increased accuracy in accounting for supplies resulting in reductions in customer wait time; 2) improvements in required airlift to support sustainment; 3) reductions in container demurrage costs and repeat requisitions. The planned transition for NoMaDD: Node Management will transition to the Army's Battle Command Sustainment Support System. The Deployable Depot will become a program of record and be managed by DLA. The Combatant Command/User Sponsor is the U.S. Transportation Command (TRANSCOM) and the lead service/agency is Defense Logistics Agency (DLA).

- FY 2006 Output - Developed and demonstrated initial spirals of Node Management tools to monitor in-transit visibility of supplies moving through the pipeline. A Limited User Evaluation was conducted for Node Management. Design and equipment requirements were finalized for the Deployable Depot and the purchase of equipment was initiated. Development of Concepts of Operations, Tactics, Techniques and Procedures, and an Integrated Assessment Plan for both Node Management and Deployable Depot were initiated.
- FY 2007 Planned Output - Continue spiral development and demonstration of Node Management capabilities to include; mode and node capacity, worldwide inventory of supplies, fuels distribution, requisition status, container management, and joint asset visibility. Complete procurement of equipment for the Deployable Depot and deploy field-suitable communications and depot operating software. Concepts of Operations, Tactics, Techniques and Procedures, and Integrated Assessment Plan will be finalized for Node Management and Deployable Depot. Transition plans for both Node Management and Deployable Depot will be developed and transition of proven Node Management capabilities into the Army's Battle Command Sustainment Support System will begin. A Limited Utility Assessment of the Theater Consolidation and Shipping Point component of Deployable Depot will be held in April 2007. In addition, NoMaDD may participate in the Bright Star exercise in November.
- FY 2008/09 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Small UAV (SUAV)	1.900	3.200	0.000	0.000

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

The JROC approved the capability need for SUAS as an FY-06 new start. The outcome of SUAS is to address Joint operational concerns noted during on-going operations through the integration of new technology across the entire class of Small UAVs. The outputs and efficiencies to be demonstrated are: technology insertions to provided measurably improved performance/logistical support in the following areas: Command, Control and Communications (C3); Payload Integration; Targeting; Platform Related Issues (power, propulsion, etc.); improved operator training through the use of integrated training programs with emphasis on simulation; improved and more efficient Tactics, Techniques, and Procedures (TTP) across the Services for small unit real-time reconnaissance and surveillance capabilities. New operational capabilities will be evaluated and no less than once per year. Transition strategy: FY2009/2010 is the transition period. The capabilities will be integrated into USSOCOM systems, and available for integration into all SUAS customers assets (spiraled out of the ACTD into the field as they become available). The User Sponsor and Lead agency is U.S. Special Operations Command (USSOCOM).

- FY 2006 Outcome - Initiated ACTD. Began work and OSD approval process for a spectrally compliant and overall more data link and C3 structure (increase number of vehicles able to be controlled from the current 4 per geographical area). Began CONOP development. Evaluated PUMA long endurance small UAS, developed CONOP for flying 2 vehicles from one control station. Completed LMUA on AquaPUMA (marinized PUMA), supported deployment of High Speed Vessel. Anticipate early fielding of demonstration AquaPUMA system as a result of this demo.
- FY 2007 Planned Outcome - Continue technology definition and cut in (spiral fielding). Begin TTP development. Continue CONOP refinement. Perform two limited assessments and one Interim Military Utility Assessment to support fielding of capabilities.

- FY 2008/09 Planned Outcome - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Communications/Navigation Outage Forecasting System (C/NOFS)	0.400	0.000	0.000	0.000

The JROC approved the capability need for CCID as an FY-00 new start. The outcome of C/NOFS is to predict the satellite space environment and alert control operators to place satellites in protective mode when disturbed, ionospheric conditions are likely. Outputs and efficiencies of C/NOFS products will attempt to measure: 1) accurate and timely representation of ionospheric scintillation situational awareness impacting usage of UHF SATCOM and GPS for the nowcast, 1-3 hour, 4-6 hour and 24+ hour time periods; 2) reliably disseminate to warfighters that employ the products for military operations planning and execution; 3) acceptable dissemination times for warfighter employment; 4) Increase situational awareness to improve military operations planning and execution employing UHF SATCOM and GPS assets; 5) Increase the situational awareness to improve the ability to isolate asset degradation or outage due to scintillation effects; 6) Increase the situational awareness to determine potential impacts to unfriendly operations employing UHF SATCOM or GPS for navigation; Numerical values associated with applicable output and efficiency measures above are classified. The Transition status: The C/NOFS ACTD Scintillation Network Decision Aid (SCINDA) ground station is deployed and in operational use at six sites. Currently the satellite launch has been delayed due to problems with the solar array panels. A prototype operational demonstration of forecasting capability is planned during the first year of space operations, with planned transition in Fiscal Year 2006 to the DoD Space Test program of record and Air Force Research Laboratories. The User Sponsor is the U. S. Strategic Command, the lead service is the Air Force.

- FY 2006 Output - Satellite launch delayed due to electromagnetic interference testing problems. Using funds provided in FY 2006 and other components support, the C/NOF ACTD will conclude in FY 2007. Activities include: Perform prototype operational demonstration of forecasting capability and conclude an interim capability support phase.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Tactical Service Provider (TSP)	0.000	2.400	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for TSP as a FY07 new start. The TSP ACTD focuses on taking full advantage of emerging commercial technologies to significantly enhance and improve C2 and Net-Centric capabilities to meet critical present and near-term requirements until DoD's next generation communication systems (JTRS, TSAT, GBS, IP SATCOM) are at Full Operational Capability (FOC). TSP is planned for a final demonstration in the fourth quarter of FY08, with sustainment of the demonstrated capabilities by DISA through FY09 until transition to programs of record in FY10. TSP outcome will enable broadband communications between strategic information sources and tactical users as well as between tactical users. The expected output is wideband communications supporting two-way, high-bandwidth services for tactical users using a hybrid architecture of emerging, standards-based SATCOM and wireless technologies by delivering robust lightweight

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
---	---	------------------------

commercially available applications, DoD tactical applications, and emerging Net Centric Enterprise Services (NCES) applications through demonstration and testing in a simulated, mobile tactical environment. The expected efficiency is substantial increase in delivery of tactically relevant command and control and intelligence-related information products to land mobile troops, and the near real time delivery of tactically generated information to operational and strategic echelons. TSP is a two year ACTD co-sponsored by USCENTCOM and USJFCOM. The Defense Information Systems Agency (DISA) is the lead agency.

- FY 2007 Planned Output: The technical focus for TSP in FY07 will be on implementing emerging digital broadcast protocol standards for forward SATCOM link, using emerging Joint Internet Protocol (IP) Modem standard and a new satellite protocol standard for return SATCOM link, achieving two-way Bandwidth on Demand, and the addition of a Global Broadcast Service (GBS) terminal appliqué using IEEE standard 802.16 for two-way wireless communications extension. TSP expected efficiencies include a 38% improved bandwidth efficiency over existing digital broadcast standard in use today, decreased size and weight of equipment required by mobile tactical sources to send and receive relevant information, and measurable real- or near-real-time transmission of intelligence collection products from deployed forces back to operational and strategic users. Two demonstrations are planned for the fourth quarter of FY07: the first two-way IP SATCOM communications over the improved GBS terminal prototype; the second a "WiMax" (802.16) wireless extension of communications connectivity from the improved GBS terminal. From an operational viewpoint, these demonstrations will establish the new baseline for bi-directional high bandwidth satellite communications, and provide early limited military utility assessment of the technologies. Programmatically, the operational and technical teams will be obtaining approval of the Implementation Directive and developing the Concept of Operations (CONOPS) and the integrated assessment plan.

- FY 2008/09 Planned Output: Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Joint Multi-Mission Electro-Optic Sys (JMMES)	0.000	2.000	0.000	0.000

The Joint Requirements Oversight Council validated the capability need for JMMES as an FY-07 new start. The outcome of JMMES is demonstration and transition of airborne sensors and automated processing for automatic detection of itemstargets for Joint Service, Coalition, and Interagency partners. The JMMES project will demonstrate use of advanced multi-spectral sensors in an aircraft turret compatible with existing turret mounts in US Navy, US Army, Drug Enforcement Agency, and British and Canadian aircraft. The project will develop and demonstrate automatic processing and automated operator cueing for targets such as submarines, mines, targets under trees, illicit crops, and search-and-rescue targets at sea. The primary outputs and efficiencies to be demonstrated in JMMES Military Utility Assessments are (1) ability of JMMES to recognize targets of interest, in terms of (a) percent of auto detections and auto cues that are relevant, (b) distance error of auto detect and auto cue reports, (c) timeliness of reports (seconds) to decision makers; and (2) ability of JMMES to defeat denial and deception efforts, in terms of (a) percent of denial and deception efforts defeated, (b) where and when JMMES applies (operating environments, seasons, time of day, range, etc.), (c) percent of time operable during missions, and (d) reliability and logistic support requirements. JMMES is a 3-year project sponsored by U.S. Pacific Command and U.S. Southern Command. Initial capabilities will be demonstrated and operated in FY07, with demonstrations against additional targets with additional aircraft types in FY08 and FY09. Transition activities will begin in FY07, leading to firm transition to programs of record in Program Objective Memorandum 2010. The lead Service is U.S. Navy.

- FY 2007 Planned Output - Upgrade existing sensor suites for JMMES applications, integrate sensor and processing systems aboard selected aircraft. Conduct data collection and assessments for anti-submarine warfare missions, and begin algorithm development for other targets. Begin Concept of Operations and system architecture documentation. Support transition of initial capabilities for the Littoral Combat Ship.

- FY 2008/09/10 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Maritime Auto Super Track Enhance Reporting (MASTER)	0.000	2.500	0.000	0.000

The Joint Requirements Oversight Council (JROC) validated the capability need for MASTER (Maritime Automated Super Track Enhanced) as an FY-07 new start. The outcome of MASTER is to

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
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demonstrate a set of technologies and CONOPS to provide automatic tracking of ship traffic using unclassified methods, classified methods and National Technical Means which will provide a tangible improvement of United States maritime domain awareness on a global-basis. The MASTER JCTD will also provide Tactics, Techniques and Procedures (TTPs) to the Intelligence Community (IC) which will allow the IC the ability to use MASTER in Agency-specific environments. The primary outputs and efficiencies to be demonstrated in the Military Utility Assessment (MUA) are to develop and deploy an initial 24/7 operational capability to provide: (1) percent increase in an analysts ability to create a fully vetted, high quality ship tracks using additional information sources from SCI/Secret/Unclassified-levels and disseminate these "Super Tracks" including associated metadata, alerts, and notifications to operational users at all security levels using a standardized MDA report format, (2) percent decrease in the time required for an intelligence analyst to assemble a fully vetted, high quality coherent and thorough file of information of the ship(s) being tracked together with a time history and track of the vessel between any desired points between the departure point and arrival point and points in between, (3) percent increase in the ability of an analyst to determine ship threat profile (friend or foe) based on ship metadata and track history, (4) percent increase rate of automatic ship track generation per-day over current manual process, (5) percent increase in number of ship tracks per analyst in a given time period and a relative decrease in cost to create and assess a given number of tracks over a specific time frame. The JCTD Residuals include: 1) Multi-INT generation algorithm for worldwide MDA tracks and their metadata; 2) MLS Guards and accreditation (SCI, Secret, SBU); 3) Draft USMTF-type MDA message format for Super Track dissemination through MLS Guards; 4) Alarms/alerts notification methodology; 5) Operationally tested CONOP for a 24/7 worldwide capability.

MASTER is a three-year JCTD under the Sponsorship of Northern Command (NORTHCOM) and ONI, NRO (proposed), USCG (proposed) with completion of development and demonstration by the end of FY 2009 and transition to the IC through PEO-ISR/Space beginning in FY 2009. The lead service is Navy.

FY 2007 Planned Output - Integrate technologies & demonstrate initial automatic capability in a single AOR/AOI.

FY 2008/09 Planned Output - Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Coalition Mobility System (CMS)	0.000	2.500	0.000	0.000

The Joint Requirements Oversight Council validated the capability need for CMS as an FY-07 new start. The outcome of CMS is to develop the capability for rapid coordination of coalition movement execution. CMS will integrate selected, operationally relevant data from U.S. systems with data sources used by coalition partners to establish a working coalition environment, which meets the needs of U.S. and CTF decision makers. The primary outputs and efficiencies to be demonstrated in the JCTD are: 1) U.S. operators gain access to coalition movement data (military and commercial) using familiar U.S. national systems (Single Mobility System, Global Transportation Network, etc.), 2) Supports the Common Operating Picture for Deployment & Distribution (COP D2), 3) Coalition partners and CTF staff gain access to selected, operationally relevant information on U.S. and coalition airlift and sealift (military & commercial) supporting coalition activities. CMS is a 3-year project sponsored by U.S. Pacific Command. Key participants include the Quadrilateral Logistics Forum consisting of Australia, Canada, United Kingdom, and the United States. Initial capabilities will be demonstrated and operated in FY07, with full-scale demonstrations on coalition networks in FY08 and FY09. USTRANSCOM is the Transition Manager and transition activities will begin in FY07, leading to firm transition to Command and Control Information Exchange Data Model (C2IEDM) and multiple coalition networks by 2010.

FY07 output will: Identify the existing US SMS data elements to be made available in CMS and the appropriate queries for use by CMS users. The JCTD will also adjust the coalition data format as required to ensure operational efficiency

FY 2008/08/10 Output: Refer to the JCTD R-2a.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 3	PE NUMBER AND TITLE <b>0603750D8Z - Advanced Concept Technology Demonstrations</b>	PROJECT <b>P523</b>
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CoCom Direct Support, Pre-Transition, and Classified programs	13.137	23.495	0.000	0.000
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Direct support costs for the ACTD program averages between \$15-\$20 million annually. ACTD Direct Program Support is comprised of four programs broken-out separately from the specific ACTDs projects. The direct funding line is used to provide support for the entire ACTD program (versus individual ACTDs). These four programs include (1) Unified Combatant Commander; (2) ACTD Pre-Transition Support; (3) Interagency Classified Projects, and (4) Joint enabling technologies that are either directed by congress or initiated by DUSD (AS&C).

- 1) Unified Combatant Commander (UCC) Direct Support: The UCC's play an essential role in the selection, validation, demonstration, and transition of ACTDs. Many ACTDs have funding allocated for the UCCs from within their specific program funding lines. Additionally, in previous years DUSD (AS&C) would attempt to provide direct ACTD support from OSD if resources became available. This direct support allows for a timely allocation of resources to the UCCs, based on the number of ACTD projects being sponsored and the intensity of effort required. The Department also envisions that the UCCs will play a greater role in the development, support and coordination of JCTD/ACTDs that are coalition oriented (within their specific AOR). UCC direct program funding is estimated at \$5.0 million per year.
- 2) ACTD Pre-Transition Support: The ACTD program has been highly successful in rapidly developing and demonstrating new technologies and complementary concepts of operations for the warfighter. In order to successfully transition more ACTDs to the warfighter, the SECDEF established the goal of increasing the number of ACTDs evolving into formal acquisition programs. In order to enhance this transition effort and to respond to GAO recommendations in earlier years, the ACTD program continues to support a pre-transition line in the ACTD budget submission. Funding for pre-transition initiatives will be in the approximately \$3.0 million per year.
- 3) Special Capabilities Office (SCO)/Interagency Classified Support for ACTDs: ACTDs also support a limited number of classified efforts which are coordinated with other agencies and detailed in separate DoD budget exhibits. Funding for this direct program support is estimated \$11.0 million each year.
- 4) Joint Enabling Technologies: Over the past several years congressional committees have highlighted the potential of mature, joint technologies and provided resources to the ACTD program to investigate the military utility of these technologies. DUSD (AS&C) also becomes aware of promising technologies which may have transformational application to ACTDs. The need for these technologies may be realized until an ACTD is mid-way through its development or after a final demonstration. In most cases, these enabling technologies have broader application across several functional capabilities addressed by various ACTDs. Five enabling technologies were funded in FY 2005. Funding for the Enableling technologies is listed above and not included here.

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
FY 2006/2007 SIBR/STTR/Rescissions	3.629	3.406	0.000	0.000

FY06 rescissions for FFRDC, CAAS, Section 8131, 8122 and SIBR/STTR taxes. FY07 rescissions for FFRDC, Section 8023 and SIBR/STTR taxes.

<b>C. Other Program Funding Summary</b>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
Joint Capability Technology Demonstration (JCTD): PE 0603648D8Z, BA3	33.687	35.629	194.352	207.740	213.989	207.572	210.299	213.257	0.000	1316.525
JCTD Transition: PE 0604648D8Z, BA4	2.778	4.084	2.960	4.970	8.996	8.974	3.013	3.055	0.000	38.830

Comment: In FY08 all ACTD funding transfers to the JCTD program. This will complete the transtion to the JCTD model that began in the FY06 President's Budget. The new JCTD Program provides a "cradle to grave" path for transformational joint capabilities. The initial funding lines (program elements (PE)) are outlined in the table below. The PEs in the table (with the exception of the ACTD BA3 PE which will fully transfer to the JCTD BA3 PE in FY08) represent the JCTD model. The model contains a BA3 development arm as well as BA4 transition arm. Under the new JCTD process, only the ACTD/JCTDs that demonstrate the highest military utility will be considered for the transition funding in the JCTD BA4 Transition

**OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)**

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY  
RDT&E/ Defense Wide BA# 3PE NUMBER AND TITLE  
**0603750D8Z - Advanced Concept Technology Demonstrations**PROJECT  
**P523**

PE. Promising ACTDs may receive transition funding during the transition period to the JCTD program. Beginning in FY07 all new starts will be JCTD only. Refer to the specific Budget Exhibit for more details on each funding line.

**D. Acquisition Strategy** The strategy for ACTDs has always been to focus on developing a transition path into a program of record or to establish a new program for those projects that show significant military utility in the demonstration phase. Under the new JCTD program, only the ACTD/JCTDs that demonstrate the highest military utility will be considered for the transition funding in the JCTD BA4 Transition PE. Many JCTDs will transition smoothly into a well identified program of record and not require funding from the transition PE (the transition arm of the JCTD model). Promising ongoing ACTDs may also receive transition funding from the JCTD Transition arm as the ACTD program completes. All ACTD funding will transfer to the JCTD program element in FY08. Beginning in FY07 all new starts will be JCTD only. Some initiatives that are successful but are having smaller problems transitioning to an identified program of record may receive "pre-transition" funding from the JCTD BA3 PE.

- Capability Based: Greater CoCom influence looking at nearer term joint/coalition needs
- Provide Spiral Technologies - 25% will provide an operationally relevant product demonstration within 24 months of ID signature.
- Agile Demonstration - 75% complete final demonstration within three years of ID signature.
- OSD provide significantly more funding (often greater than 30%). In some exceptional cases a majority of project funding, especially during the first two years
- JCTDs not necessarily tied to an exercise. Greater flexibility to establish military utility via operational "real-world" demonstration or specifically designed test/venue
- 80% of JCTDs transition at least 50% of their products to sustainment

**E. Major Performers** Not Applicable.