# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

**February 2003**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **3 - Advanced technology development** | **0603238A - Global Surveillance/Air Defense/Precision Strike T** | **177** |

| COST (In Thousands) | | FY 2002 Actual | FY 2003 Estimate | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate |
|---|---|---|---|---|---|---|---|---|---|
| 177 | JT ALS PS DEMO | 34963 | 29788 | 12660 | 8833 | 12609 | 12939 | 13246 | 13549 |

**A. Mission Description and Budget Item Justification:** Joint Precision Strike Demonstration's (JPSD) mission is to integrate and demonstrate innovative futuristic Operational Concepts and Tactics Techniques and Procedures (TTPs) with emerging technologies to significantly improve OSD/Joint Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) capabilities. JPSD horizontally integrates state of the art software applications and tools across the spectrum of C4ISR to optimize sensor to shooter operations and solve critical joint problems. The Integration and Evaluation Center (IEC) combines live and simulated entities into a Joint Virtual Battlespace (JVB) for conducting studies and demonstrations for measuring and evaluating systems designs and concepts for use in joint C4ISR and system solutions. The IEC is the foundation for JPSD's Simulation Based Acquisition process and is the basis for developing the JVB. JVB facilitates the assessments needed for smart and timely acquisition decisions on Future Combat System (FCS) and Objective Force (OF) while assessing the operational impact of concepts in a joint environment. JVB integrates existing OSD approved models and simulations in creating a joint battle space which is then used to evaluate and determine the best and most cost effective system-of-systems designs as compared to individual component systems solutions. No other tool is available in the Army to provide this operational, constructive and virtual, analysis support. JVB is the only Modeling & Simulation tool that measures the combat effectiveness of information and how it is used. The Theater Precision Strike Operations (TPSO) Advanced Concept Technology Demonstration (ACTD), by use of state of the art software applications/tools provides the Commander, Combined Forces Command (CFC), Korea with a significantly enhanced Theater-wide capability to plan, coordinate and conduct Counter fire, Precision Strike Engagements and Joint Battlespace Command and Control (C2). TPSO has also provided software applications for the worldwide Combatant Commanders and their component commanders to perform Near-Real-Time C2. These enhancements have been provided to CENTCOM, PACOM, SOCOM, EUCOM and JFCOM. The Joint Intelligence, Surveillance and Reconnaissance (JISR) ACTD implements a tactical networked sensor grid using internet web based technologies to horizontally integrate tactical and operational level ISR information from existing stove-piped legacy Service and joint C4ISR systems for CENTCOM (ARCENT and 1st Marine Expeditionary Force (MEF)). JISR also integrates nontraditional tactical sensors (i.e., FIREFINDER radar and unattended ground sensors) into an Intelligence, Sensor and Reconnaissance (ISR) picture which allows the Early Entry Force (EEF) Commander and his higher headquarters to access and geospatially visualize all available ISR information using any workstation equipped with a web browser. This capability will be integrated worldwide. The Joint Continuous Strike Environment (JCSE) ACTD provides the Combined/Joint Task Force (CJTF) with the capability to execute time critical targeting with four software modules (target prioritization; continuous weapons availability monitoring, optimized weapon-target pairing and dynamic airspace deconfliction). Key terrain elevation data is critical to Intelligence Preparation of the Battlefield (IPB), mission planning and rehearsal, and support to military operations. The JPSD is a member of the Program Executive Office, Intelligence, Electronic Warfare, and Sensors (PEOIEW&S), Fort Monmouth, NJ. These ACTD systems support the Objective Force transition path of the Transformation Campaign Plan (TCP).

Defense Emergency Relief Fund (DERF) funding of $4.5M was provided for Automated Deep Operations Coordination System (ADOCS) capability in the TPSO ACTD for Counter-Terrorism to increase situational awareness.

| **Accomplishments/Planned Program** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| TPSO ACTD - FY02: Participated in Combined Forces Command (CFC) component warfighting exercises to significantly enhance their C2 architecture through Automated Deep Operations Coordination System (ADOCS). Supported major CFC exercises, provided refined, expanded, and enhanced ADOCS support to the CFC Combined Effects Synchronization Cell (CESC). Provided major support to Joint Exercises through ADOCS to include Millennium Challenge 02, Navy Fleet Battle Experiment-JULIET, and Air Force activities Joint Expeditionary Force Experiment (JEFX) and combined Air Operations Center-Experiments (CAOC-X). Conducted ADOCS rapid software prototyping operations at the JPSD IEC to support training, upgrades and field support to major field exercises (RSO&I, UFL 02, Lucky Sentinel, MC02, MEFEX, FBE-J, JEFX). Continued to transition and sustain ADOCS applications in CFC combat units and applications worldwide (use of over 2,000 applications in CENTCOM, EUCOM, PACOM, SOCOM and JFCOM). Provided ADOCS to US engaged forces in Kosovo and Afghanistan. Prepared final transition and sustainment plans to support the TPSO "Leave Behind" Systems including a Battlespace Visualization system in the CFC CESC; upgraded software applications; integrated training support packages for 230+ ADOCS.<br>FY03: Participating and supporting major CFC exercises and component exercises to add ADOCS upgrades and new capabilities demonstrated in FY02 and planned for FY03. Conducting rapid ADOCS prototyping operations at the JPSD IEC to support training, upgrades and field support to major field exercises (RSO&I; UFL03, Lucky Sentinel, MC03, MEFEX, BFE-J, JEFX). Upgrading ADOCS worldwide with new capabilities based on critical CFC requirements (CENTCOM, EUCOM, SOCOM, PACOM and JFCOM). Executing transition and sustainment plans to support the TPSO "Leave Behind" systems during the final year of transition. Maturation of DII - COE Level Six compliant version of ADOCS. | 12269 | 9535 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| JISR ACTD - FY02: Upgraded the JISR prototype to accept more traditional sensor feeds and to more rapidly display ISR to the Commanders. Participated in Marine Expeditionary Force Exercises (MEFEX 02). Supported CENTCOM with JISR applications.<br>FY03: Expand ISR observed capability through the JISR prototype. Continuing to refine and enhance JISR interfaces and other JISR applications and participate in Lucky Sentinel 03 and MEFEX 03.<br>FY04: Mature JISR applications with other programs to include Tactical Exploitation Systems (TES), Joint Digital Fires Network and Distributed Common Ground System - Army (DCGS-A) to demonstrate JISR added value. Planning and executing military utility assessment with Joint Interoperability Test Center (JITC), Joint C4ISR Battle Center and warfighter assessments by CENTCOM and I MEF. Certify Defense Information Infrastructure/Common Operating Environment (DII/COE) compliance to authorities to include DISA. Initiate transition JISR ACTD applications to identified programs of record.<br>FY05: Mature and validate the DII certification. Finalize transition of JISR applications to programs of record. Provide sustainment support. | 1650 | 4785 | 12660 | 8833 |
| JVB - FY02: Developed software to model command, control and communications in a virtual man-in-the-loop environment. Integrated Joint Force-on-Force models with component simulations in the JVB framework. Incorporated FCS contractor concepts/models in JVB. Provided data and results from TRAC Analysis of Alternatives (AoA) study to the analysis community to support operational evaluations. Integrated additional models from the Department of Energy and other government agencies. Supported TRAC AoA study with hardware, software and technical expertise. Developed and porvided software infrastructure to support the FCS C4ISR Experiment at Ft. Knox and the FCS Lead System Integrator (LSI) Capstone Demonstration.<br>FY03: Supporting FCS C4ISR Experiment at Ft. Knox in Dec 2003 and FCS LSI Capstone Demonstration in March 2003 (key events for FCS Milestone B Decision in FY 2003). Developing software to integrate contractor virtual prototypes and conducting operational analysis of contractor final concepts in support of FCS program decision. Integrating dynamic environment, NBC component simulations and CONOPS/tactics into the JVB framework. Integrating federates from the Research, Development and Engineering Center community. Starting in FY04, funding for this effort is provided in PE 0603015A, Project S30. | 20319 | 15468 | 0 | 0 |
| JCSE ACTD – FY02: Upgraded, integrated and transitioned Joint Continuous Strike Environment (JCSE) software applications into the Joint Targeting Toolbox (JTT) program of record. | 725 | 0 | 0 | 0 |
| Totals | 34963 | 29788 | 12660 | 8833 |

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| **B. Program Change Summary** | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| Previous President's Budget (FY 2003) | 31986 | 31291 | 12930 | 12730 |
| Current Budget (FY 2004/2005 PB) | 34963 | 29788 | 12660 | 8833 |
| Total Adjustments | 2977 | -1503 | -270 | -3897 |
| Congressional program reductions | | | | |
| Congressional rescissions | | -487 | | |
| Congressional increases | | | | |
| Reprogrammings | 3857 | -171 | | |
| SBIR/STTR Transfer | -880 | -845 | | |
| Adjustments to Budget Years | | | -270 | -3897 |

Change Summary Explanation: Funding - FY 2002: Funds reprogrammed to support the FCS C4ISR experiment at Ft. Knox. FY 2005 - Funds realigned to higher priority requirements.