Defense Logistics Agency

Fiscal Year (FY) 2009 Budget Estimates

February 2008

Research, Development, Test and Evaluation, Defense-Wide

DEFENSE LOGISTICS AGENCY
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE
Fiscal Year (FY) 2009 Budget Estimates
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UNCLASSIFIED
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE
FISCAL YEAR (FY) 2009 BUDGET ESTIMATES
PROGRAM ELEMENT SUMMARY (R-1)
(Dollars in Millions)

February 2008

R-1 Line Item No.	Program Element Number	Title	Budget Activity	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate
41	0603712S	Logistics R&D Technology Demonstrations	03	56.532	55.859	19.375	19.473
42	0603713S	Deployment and Distribution Enterprise Technology	03	15.036	14.905	30.000	29.750
44	0603720S	Microelectronics Technology Development And Support	03	90.285	47.138	00.000	00.000
58	0603805S	Dual Use Technology (DUAP/CTMA)	03	5.200	00.000	00.000	00.000
138	0605502S	Small Business Innovation Research	06	4.309	00.000	00.000	00.000
141	0605798S	Defense Technology Analysis	06	7.763	00.000	00.000	00.000
225	0708011S	Industrial Preparedness	07	34.142	57.347	20.480	20.803
226	0708012S	Logistics Support Activities	07	2.901	2.828	2.846	2.837
		TOTAL - DIRECT		**216.168**	**178.077**	**72.701**	**72.863**

DEFENSE LOGISTICS AGENCY
RDT&E, Defense-Wide
Fiscal Year (FY) 2009 Budget Estimates
Exhibit R1C - Comparison Report
(Dollars in Millions)

RDT&E, Defense-Wide

R-1 Line Item #	Program Element Number		Budget Activity	FY 2007 Cost	FY 2008 Cost	FY 2009 Cost	FY 2010 Cost	FY 2011 Cost	FY 2012 Cost	FY 2013 Cost
41	0603712S	Logistics R&D Technology Demonstration	3							
		FY 2008 President's Budget		58.838	18.736	19.314	19.637	20.362	20.790	21.137
		FY 2009 President's Budget		56.532	55.859	19.375	19.473	20.183	20.607	20.951
		Total Adjustment		-2.306	37.123	0.061	-0.164	-0.179	-0.183	-0.186
42	0603713S	Deployment and Distribution Enterprise Technology	3							
		FY 2008 President's Budget		15.158	25.000	30.000	30.000	30.000	30.000	30.000
		FY 2009 President's Budget		15.036	14.905	30.000	29.750	29.737	29.737	29.737
		Total Adjustment		-0.122	-10.095	0.000	-0.250	-0.263	-0.263	-0.263
44	0603720S	Microelectronics Technology Development and Support	3							
		FY 2008 President's Budget		92.554	0.000	0.000	0.000	0.000	0.000	0.000
		FY 2009 President's Budget		90.285	47.138	0.000	0.000	0.000	0.000	0.000
		Total Adjustment		-2.269	47.138	0.000	0.000	0.000	0.000	0.000
58	0603805S	Dual Use Technology (DUAP/CTMA)	3							
		FY 2008 President's Budget		0.000	0.000	0.000	0.000	0.000	0.000	0.000
		FY 2009 President's Budget		5.200	0.000	0.000	0.000	0.000	0.000	0.000
		Total Adjustment		5.200	0.000	0.000	0.000	0.000	0.000	0.000
138	0605502S	Small Business Innovation Research	6							
		FY 2008 President's Budget		0.000	0.000	0.000	0.000	0.000	0.000	0.000
		FY 2009 President's Budget		4.309	0.000	0.000	0.000	0.000	0.000	0.000
		Total Adjustment		4.309	0.000	0.000	0.000	0.000	0.000	0.000
141	0605798S	Defense Technology Analysis	6							
		FY 2008 President's Budget		7.947	0.000	0.000	0.000	0.000	0.000	0.000
		FY 2009 President's Budget		7.763	0.000	0.000	0.000	0.000	0.000	0.000
		Total Adjustment		-0.184	0.000	0.000	0.000	0.000	0.000	0.000
225	0708011S	Industrial Preparedness	7							
		FY 2008 President's Budget		33.570	20.114	20.627	20.978	21.475	21.880	22.207
		FY 2009 President's Budget		34.142	57.347	20.480	20.803	21.286	21.688	22.012
		Total Adjustment		0.572	37.233	-0.147	-0.175	-0.189	-0.192	-0.195
226	0708012S	Logistics Support Activities	7							
		FY 2008 President's Budget		2.901	2.846	2.866	2.861	2.901	2.959	3.005
		FY 2009 President's Budget		2.901	2.828	2.846	2.837	2.876	2.933	2.979
		Total Adjustment		0	-0.018	-0.02	-0.024	-0.025	-0.026	-0.026
	Total	FY 2008 President's Budget		210.968	66.696	72.807	73.476	74.738	75.629	76.349
		FY 2009 President's Budget		216.168	178.077	72.701	72.863	74.082	74.965	75.679
		Total Adjustment		5.200	111.381	-0.106	-0.613	-0.656	-0.664	-0.670

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-Wide Budget Activity BA: 3			R-1 Item Nomenclature: PROGRAM: Logistics R&D Technology Demonstration PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	56.532	55.859	19.375	19.473	20.183	20.607	20.951
Project 1: Medical Logistics Network (MLN)	2.882	2.882	2.945	2.822	2.896	2.953	3.000
Project 2: Weapon System Sustainment (WSS)	5.335	5.395	5.550	5.599	5.758	5.872	5.965
Project 3: Supply Chain Management (SCM)	3.637	2.655	2.931	3.041	3.271	3.337	3.387
Project 4: Strategic Distribution & Reutilization (SDR)	3.023	3.369	3.513	3.553	3.679	3.776	3.854
Project 5: Energy Readiness Program (ERP)	1.801	2.050	2.152	2.165	2.226	2.270	2.306
Project 6: Defense Logistics Information Research (DLIR)	2.282	2.267	2.284	2.293	2.353	2.399	2.439
Project 7: Other Congressional Adds (OCAs)	33.670	33.266	0	0	0	0	0
Project 8: Continuous Acquisition Lifecycle Support (CALS)	3.902	3.975	0	0	0	0	0

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3	R-1 Item Nomenclature: PROGRAM: Logistics R&D Technology Demonstration PROGRAM ELEMENT: 0603712S

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009	FY2010
Previous PB 08	58.838	18.736	19.314	19.637
Current BES	56.532	55.859	19.375	19.473
Total Adjustments	-2.306	37.123	0.061	-0.164
SBIR	-1.106			
Reprogram to PE 0708011S PRO-ACT	-1.200			
Congressional Adds		33.480		
Reprogram from BA 6 PE 0603712S		4.000		
Adjustments for Economic Assumptions and Inflation Savings			0.061	
Adjustment for Economic Assumptions				-0.164

Change Summary Explanation:
FY 2007: $1.200 Reprogrammed from Agent Based Logistics Processes to PRO-ACT project in IP/Mantech PE 0708011S. $1.2M moved to Small Business Innovative Research program PE 0605502S

FY2008 - $.357M reduction due to Economic Assumptions and Contractor Efficiencies, plus Congressional Adds of $33.266M.
FY2009 - $.061M increase due to a decrease for Economic Assumptions, offset by an increase for Inflation Savings.
FY2010 - $.164M reduction due to Economic Assumptions.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Medical Logistics Network (MLN), Project 1 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Medical Logistics Network	2.882	2.882	2.945	2.822	2.896	2.953	3.000
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

Defense Medical Logistics Transformation (DMLT) provides a comprehensive, standardized, unified, and policy compliant enterprise architecture, plan and implementation of initiatives to further unify the Medical Logistics Enterprise. The medical logistics community requires a multi-organizational, multi-disciplinary approach to future healthcare supply that spans the military services, the Office of the Secretary of Defense, our coalition partners, and commercial industry and involves diverse, yet complimentary functional disciplines such as cost estimating/financial management, system architecture and design, functional process mapping, transportation, telecommunication, networking, program management, contracting, engineering, and supply chain management.

Netcentric Infrastructure and Implementation (NII) The Netcentric Infrastructure and Implementation initiative will provide DOD Medical enterprise with a .NET web service provisioning framework based on Service-Oriented Architecture. A services-based information environment extends effectively to outer reaches of the network, and allows the timely exchange of data among the various business systems and databases in an efficient and effective manner. Authoritative data sources distributed throughout the Enterprise can be leveraged, and unnecessary replication of data repositories will be reduced. Data services will reach a broader customer base compared to current technical solutions because data access will no longer be limited to the capabilities that are under direct command; rather, the partnering systems will benefit from a global, trusted, and reliable network. Adherence to the guidelines of Netcentric Operations will limit ad hoc design, discourage stove-pipe development, and reduce the development lifecycle. Metrics will provide feedback on value added and support the identification of further enhancement of this capability.

Average Cost for Alternate Commercial Product Ordering Program (ACPOP) for Medical and Surgical Items: DLA emphasizes centralized procurement to reduce overall procurement costs. Some medical products are purchased locally although the same items may be available on centralized contracts or through Alternate Commercial Product Ordering Program (ACPOP). This project will develop a pilot to compare the average cost per transaction for items purchased through ACPOP to local purchase of items through distributors to determine the cost avoidance for purchases under ACPOP. It is anticipated that the results of this project will support future DLA initiatives to procure medical supplies in the most cost effective manner.

Controlled Room Temperature Cold Chain Packaging Protocol Development: DLA purchases a large variety of pharmaceutical products requiring special environmental handling from distributor to the battlefield. This project will develop a pilot protocol to control packaging and shipping conditions for these medical items. Examples of these products are TamiFlu and Nerve Agent Antidote Auto-Injectors. These procedures will ensure that medical items reach the Warfighter in useable condition.

Frozen Material Packaging Protocol Development To develop an Engineered/Third Party validated packaging protocol for frozen materials that can not be shipped on dry ice (-80 degrees C). Protocol would adhere to FDA-defined range of -25 to -10 degrees C. Currently, DLA Cold Chain Packaging locations only have the option to maintain frozen materials for shipment at Dry Ice temperatures (-80 degrees C), which is frequently

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
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Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Medical Logistics Network	2.882	2.882	2.945	2.822	2.896	2.953	3.000
RDT&E Articles Quantity - N/A							

too cold for many items due to physical structure weaknesses. As a result, we are forced to "borrow" resources from non-DLA entities to support shipping these types of materials. This protocol would allow us to use an FDA/USP compliant packaging protocol to move ALL temperature sensitive materials within DLA supply chains.

Optimize Source Identification for DoD Readiness Requirements: Optimize identification and integration of best commercially available medical readiness items and provide a proactive approach to NSN management coupled with operational changes in DMLIIS processing, to enable focused and ongoing review and cleanup of NSN sourcing data. Develop and implement system data services that will review and evaluate, by NSN, current FLIS source references and compare against MEDPDB and automatically create source reference change actions (add, update and delete) in the DMLIIS application for review and approval by the NSN management community. Work with Theaters (Warfighters) to identify and standardize relationships between NSNs used in theater, TEWLS and in readiness assemblages, and provide best available commercial items and most advantageous procurement contract. This initiative will enhance bridging the gap between theater requirements and the commercially sourced wholesale supply chain also greatly improving the quality of NSN source reference information with associated impacts in downstream systems. Directly supports DLA Strategic Plan FY07-FY13; Goals 1 (Warfighter) and Goal 2 (Internal Process).

B. Accomplishments/Planned Program:

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	2.882	2.882	2.945	2.822
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments: ($2.882) -

- Continued Defense Medical Logistics Transformation (DMLT) Initiatives to incorporate the structure and architecture necessary to support expeditionary, modular force concepts integrating the end-to-end Medical Logistics Supply Chain. ($2.659)
    - Completed architectural models to support BRAC-related integration of medical logistics activities. Analysis results being implemented at San Antonio Military Medical Center (SAMMC) BRAC location. Process improvements were implemented to enable more effective shared equipment procurement and lay foundations for regional consolidation of equipment requirements. Systems changes to DMLSS were identified to realize manpower efficiencies. The SAMMC equipment requirements initiative supports DoD and VA collaboration on shared procurement of medical capital equipment.

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Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Medical Logistics Network	2.882	2.882	2.945	2.822	2.896	2.953	3.000
RDT&E Articles Quantity - N/A							

- Completed initial phase of Defense Medical Materiel Standardization Program (DMMSP) to improve commonality of medical products used in institutional and operational missions. Identified common process and data-sharing needs to enable coordinated efforts among TRBOs, PEC and DMSB. Engaged DLIS in planning for more effective use of UDR data to support standardization activities. DMMSP supports DLA's Medical Materiel Executive Agent (MMEA) responsibilities for improving efficiency and effectiveness of Class VIII supply chain.
- Completed Assemblage Life-Cycle Management (ALCM) process reengineering to coordinate efforts of Service Combat Developers, Service Materiel Developers, DSCP and DMSB in design, production and sustainment of medical sets, kit outfits and deployable assemblages. Resulting processes enable increased standardization of common medical capabilities for similar phases of care, and improved interoperability of clinical capabilities and assemblages in joint operations. ALCM supports the MMEA by reducing duplication and redundancy in the Class VIII supply chain for expeditionary operations as well as in management of surge and sustainment requirements.
- Integrated process and systems architectural requirements from the MMEA Requirements Work Group into the DML Enterprise Architecture to support surge and sustainment planning.
- Completed initial planning and methodology for Master Data Management (MDM), the implementation of Service-Oriented Architecture and web-services applications for future linkage of DSCP medical data to retail customers.

- Initiated Average Cost for Alternate Commercial Product Ordering Program (ACPOP) pilot to develop an independently determined average cost to customers per item ordered via Prime Vendor ACPOP vs. local purchase direct from manufacturers or distributors. This pilot will support future DLA initiatives to procure medical supplies in the most cost effective manner. ($.196)
- Initiated Controlled Room Temperature Cold Chain Packaging Protocol Development pilot to create procedures to control packaging and shipping conditions for pharmaceutical products requiring special environmental handling from distributor to the battlefield. This pilot will result in protocols that will ensure that medical items reach the Warfighter in useable condition, and reduce the spoilage and loss rate. ($0.027)

FY 2008 Plans: ($2.882)

Provide Medical Logisticians the architecture capabilities to support future Medical Logistics operations and ultimately the Defense Medical Logistics Transformation. Continue Defense Medical Logistics Transformation Initiatives to incorporate the structure and architecture necessary to support expeditionary, modular force concepts integrating the end-to-end Medical Logistics Supply Chain. Continue design and development of net-centric sharing of authoritative medical product data, support to standardization process, sharing of business intelligence and warehouse data, and support to Combatant Commanders' logistics dashboards. Complete enterprise architectural support for planning,

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Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Medical Logistics Network	2.882	2.882	2.945	2.822	2.896	2.953	3.000
RDT&E Articles Quantity - N/A							

- execution and sustainment phases of medical logistics expeditionary operations. This work will document and improve processes and data-sharing requirements to link activities of COCOM medical planners and logisticians, DSCP, Theater Lead Agents for Medical Materiel (TLAMMs), TRANSCOM and forward medical logistics elements to improve end-to-end supply chain management in Joint and Coalition Operations. Develop architectural products supporting the establishment of authoritative sources for medical product data and linking those sources to the order fulfillment processes use in institutional and operational environments. Continue architectural support for DMMSP development and assemblage life-cycle management. ($2.357)
- Develop Netcentric Infrastructure and Implementation to provide DOD Medical enterprise with a .NET web service provisioning framework based on Service-Oriented Architecture. This initiative will support the timely exchange of data among the various business systems and databases in an efficient and effective manner effectively throughout the outer reaches of the network. Authoritative data sources distributed throughout the Enterprise can be leveraged, and unnecessary replication of data repositories will be reduced. Data services will reach a broader customer base than through current technical solutions because data access will no longer be limited to the capabilities that are under direct command; rather, the partnering systems will benefit from a global, trusted, and reliable network. ($0.425)
- Develop and validate packaging protocol for frozen materials within the FDA-defined range of -25 to -10 degrees C. Currently, DLA Cold Chain Packaging locations only have the option to maintain frozen materials for shipment at Dry Ice temperatures (-80 degrees C), which is frequently too cold for many items due to physical structure weaknesses. This protocol would allow us to use an FDA/USP compliant packaging protocol to move ALL temperature sensitive materials within DLA supply chains. . ($0.035)
- Optimize identification and integration of best commercially available medical readiness items and provide a proactive approach to NSN management coupled with operational changes in DMLIIS processing, to enable focused and ongoing review and cleanup of NSN sourcing data. Develop and implement system data services that will review and evaluate, by NSN, current FLIS source references and compare against MEDPDB and automatically create source reference change actions for review and approval by the NSN management community. Work with Theaters (Warfighters) to identify and standardize relationships between NSNs used in theater, TEWLS and in readiness assemblages, and provide best available commercial items and most advantageous procurement contract. ($0.065)

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Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Medical Logistics Network	2.882	2.882	2.945	2.822	2.896	2.953	3.000
RDT&E Articles Quantity - N/A							

FY 2009 Plans: ($2.945)

- Provide Medical Logisticians the architecture capabilities to support future Medical Logistics operations and ultimately the Defense Medical Logistics Transformation. Continue Defense Medical Logistics Transformation Initiatives to incorporate the structure and architecture necessary to support expeditionary, modular force concepts integrating the end-to-end Medical Logistics Supply Chain. Continue design and development of net-centric sharing of authoritative medical product data, support to standardization process, sharing of business intelligence and warehouse data, and support to Combatant Commanders' logistics dashboards. Identify system architecture requirements to enable medical logistics capabilities in a net-centric operational warfighting environment. Plan enterprise architectural requirements for increased integration of DMLSS family of systems to include those in DMLSS-DLA, DMLSS retail and TEWLS systems. ($2.448)
- Continue to develop and expand capabilities of Netcentric Infrastructure . ($0.497)

FY 2010 Plans: ($2.822)

- Complete architectural planning for an enterprise-wide DMLSS solution that fulfills the DLA's MMEA responsibility for integration of systems supporting end-to-end Class VIII supply chain management. ($2.273)
- Continue to develop and expand capabilities of Netcentric Infrastructure operational capability. ($.549)

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: Karta Technologies, Inc of San Antonio, TX is developing the architectural artifacts and process maps of the current and future Medical Logistics Supply Chain. These artifacts will guide the transformation of DMLSS-DLA and the medical logistics supply chain to meet the requirements of the future. Option 2 of the contract was exercised in April 2007 and the next Option is scheduled for January 2008.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Weapon System Sustainment (WSS), Project 2 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 2: Weapon System Sustainment	5.335	5.395	5.550	5.599	5.758	5.872	5.965
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification: Support Defense Logistics Agency (DLA) Strategic Plans Goals 1 and 2. The program spans multiple weapon systems and supply chains to improve internal processes, provide methods, reduce costs and lead times, and ultimately, improve readiness for DLA customers.

The program is focused in four initiatives:

- Planning Process Improvement: The program improves elements of current inventory policy models, assesses potential benefits of new technologies and seeks more efficient approaches to deliver customer requirements while reducing inventory and order fulfillment costs.
- Weapon System Supply Chain Improvement: The program will reduce the effects of supply chain constraints to reduce production lead time (PLT) and backorders by focusing on particular classes of items whose performance is heavily impacted by market, materials and processes factors external to DLA.
- Technical/Quality Process Improvement: The program improves internal efficiency and customer satisfaction through new tools and methods to proactively address supply issues resulting from current technical/quality processes.
- Supplier Collaboration Process Improvement: The program will demonstrate tailored business processes for well-defined subsets of suppliers to improve quality and reduce cycle time and cost.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	5.335	5.395	5.550	5.599
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments: ($5.335)

- Planning Process Improvement: Accomplishments in this initiative were headlined by DLA acceptance of the Peak Policy for infrequently-demanded items to be used all high priority weapon systems for reduced inventory costs, backorders and procurement workload. Initial phases of projects to improve lead-time demand estimates, to assess the potential of a next generation inventory model and to investigate stocking options for very low cost items were completed successfully. Follow-on activities for lead-time demand and stocking low cost items were initiated because of their potential to reduce backorders and inventory cost. The next generation inventory model shows enormous potential to reduce backorders and inventory cost, and development will be continued in FY2008 after substantial socialization. Activities were initiated to harmonize the peak policy with the economic retention policy, to establish the basis for a new non-stocked versus "N" boundary and "N" versus "R" boundary so as to make the desired tradeoffs between customer service, inventory investment, and procurement actions, and to

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Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 2: Weapon System Sustainment	5.335	5.395	5.550	5.599	5.758	5.872	5.965
RDT&E Articles Quantity - N/A							

establish the feasibility of a new approach to forecasting system usage, subsystem replacements, and associated Class IX maintenance parts consumption for Army helicopters in variable operating environments. ($2.161)

- Weapon System Supply Chain Improvement: The joint effort with Warner Robins ALC (WRALC) to identify the root causes of Awaiting Parts (AWP) conditions with DLA-managed parts was successfully completed, and a follow-on effort to pursue its key recommendations in the area of improved forecasting was initiated. An effort was initiated to understand the supply chain constraints in production of high temperature turbine engine parts and to make recommendations for actions DLA could take to mitigate the financial impact within DSCR of long production lead-times for these parts. ($.839)
- Technical/Quality Process Improvement: The Generic Compound Analysis Tool (GCAT) was completed and is already in daily use at DSCP to make substitution and item reduction recommendations on O-rings. DSPO and J-334 accepted the responsibility for ownership, operation and maintenance of GCAT, and efforts were initiated to plan activities to broaden the utility of the GCAT concept across many different DLA commodities. A simulation model was completed and used to forecast savings of approximately $20M annually from the use of modern technical data rather than the paper documents used today. Efforts were initiated to pilot a new business process to eliminate, or reduce the impact of, long backorders for FSC 5340 orders at DSCP, to develop recommendations for improvements to the Source Approval Request (SAR) process at DSCR, to recommend improvements to reduce the impact of other sources of cost, time and/or backorders such as: packaging and marking problems; disconnect between managing NIINs and managing customer orders; workload/budget/production/prioritization; and data scrubbing. ($1.745)
- Supplier Collaboration Process Improvement: A fast-paced effort was initiated and concluded to determine the potential value of adding selected vendors having catalogs containing commodity Class IX parts to the DoD EMALL. The conclusion was that Class IX commodity items could easily be added to the EMALL, and if these sources were accessed through the EMALL, savings in excess of $30M annually could be realized instead of stocking these items and purchasing them through PACE or manual purchase. An effort was initiated to understand how the DLA and Boeing processes address solicitations for sole or restricted-source parts and to make recommendations for changes that will reduce the number of no-bid situations. Another effort was initiated to determine if and how DLA can contract for parts support for a group of FMS parts whose sole or principal customers are foreign countries. ($.590)

FY 2008 Plans: ($5.395)

- Planning Process Improvement: The projects initiated in FY2007 will be completed and several new projects will be initiated. Successful results in leadtime demand, economic retention and peak policy and stocking thresholds will be advocated for acceptance and implementation. A follow-on effort to the next generation inventory policy project completed in FY2007 will be initiated to mature this technology quickly so

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Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 2: Weapon System Sustainment	5.335	5.395	5.550	5.599	5.758	5.872	5.965
RDT&E Articles Quantity - N/A							

that the Agency can begin realizing the benefits sooner. New efforts will begin a thrust into aspects of inventory holding cost valuation and inclusion of storage volume considerations in stock level determination. ($2.041)

- Weapon System Supply Chain Improvement: The projects initiated in FY2007 will be completed and advocated for implementation in DSCR. Two new joint efforts with WRALC will be initiated. One of those efforts will address identified deficiencies in collaboration on demand issues, and the other will focus on piloting benefits to DLA and the Air Force from joint sustainment planning with the C-5 program office. Constraints on the supply chain providing specialized bearings or fasteners likely also will be assessed and recommendations made to reduce the effects of current long lead-times. ($.972)
- Technical/Quality Process Improvement: Five projects initiated in FY07 will be completed and successful results advocated for implementation in DSCP, DSCR and DSCC. Several new projects will be initiated including an effort to pilot the use of modern technical data as part of an effort to expand access to organic manufacturing sources where industrial capability is lacking. Another new effort will provide a tool to focus management attention on PQDRs that indicate particular source or industrial base sector trends. ($2.152)
- Supplier Collaboration Process Improvement: The project focused on FMS parts will be completed and a pilot test of the recommended approach conducted. If successful, implementation of the pilot approach will be pursued at DSCP, and implementation potential assessed at DSCC and DSCR. If the FY2007 project with Boeing to assess how to reduce the incidence of no bids from OEMs is successful and implementation is proceeding at DSCR, consideration will be given to broadening the approach, with modifications as required, to other OEMs whose circumstances and part portfolios are substantially different from those of Boeing. ($.230)

FY 2009 Plans: ($5.550)

- Planning Process Improvement: The projects initiated in FY2007 and 2008 will be completed and efforts instituted where warranted to assist in their implementation within DLA. New projects will continue to focus on improvements to internal processes, especially those involving demand planning, forecasting and inventory management. Benefits will continue to be better support to weapon systems with reduced inventory procurement and holding costs. ($1.655)
- Weapon System Supply Chain Improvement: This initiative will continue to focus on uniquely constrained supply chain situations within the industrial base and on particular customers where unique situations exist. The focus on program office centric joint sustainment planning will continue, applying lessons learned from the FY2008 project with the C-5 program office. Benefits will be realized in improved support to weapon systems through reduced backorders and reduced customer wait time. ($1.599)
- Technical/Quality Process Improvement: The prior emphasis on reducing backorder ages through better prediction of upcoming backorder and resolution of root causes will diminish. New projects will greatly expand the aspect of implementing modern technical data capabilities

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Weapon System Sustainment (WSS), Project 2 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 2: Weapon System Sustainment	5.335	5.395	5.550	5.599	5.758	5.872	5.965
RDT&E Articles Quantity - N/A							

and streamlining the current procedures for securing and funding required engineering support from the Service Engineering Support Activities (ESAs). Benefits from this new emphasis principally will be reduced PLT and parts costs, along with access to additional sources. ($1.799)

- Supplier Collaboration Process Improvement: The on-going process of EBS maturation is expected to open up consideration of improvements identified by functional users in new business processes associated with EBS. Particular emphasis will be placed on tailoring supply chain management processes for particular situations and needs. Benefits are expected in shorter ALTs and PLTs, lower acquisition unit costs, and reduced incidence of quality problems. ($.497)

FY 2010 Plans: ($5.599)

- Planning Process Improvement: The emphasis on forecasting and demand and supply planning in this initiative will diminish in FY2010, with efforts in those areas largely consisting of any wrap-up activities to foster implementation of the next generation inventory model. New projects will emphasize innovative approaches to improving inventory cost and performance through consideration of weapon system usage experience and plans by customers. ($.793)
- Weapon System Supply Chain Improvement: This initiative will continue to focus on uniquely constrained supply chain situations within the industrial base and on particular customers where unique situations exist. The focus on program office centric joint sustainment planning will increase with involvement of program offices in all three Services. ($2.293)
- Technical/Quality Process Improvement: This initiative will continue an emphasis on the use of modern technical in parts acquisition and on specific tools for specific tech/quality functions. Included in the latter category could be policies and enabling tools to harmonize parts ordering between managing NIINs and managing customer orders. ($1.993)
- Supplier Collaboration Process Improvement: by 2010 the program will move into piloting improvements to the business processes which manage the relationship between the customer-facing organizations, the supplier-facing organizations and the budgeting functions in order to demonstrate efficiencies that could be realized by implementing alternate strategies. ($.520)

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Supply Chain Management, Project 3 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 3: Supply Chain Management	3.637	2.655	2.931	3.041	3.271	3.337	3.387
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification: DLA has organized along Supply Chains to provide an integrated, combat logistics solution that is coordinated among the services and across DoD. There is a need for the Agency to stay abreast of the latest supply chain management principals and techniques that will improve the supply availability of DLA-managed items by managing supply chains to shorten lead times and reduce costs. The dynamic nature of DLA's mission requires a flexible R&D mechanism to rapidly take advantage of the evolving supply chain improvements and innovations.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	3.637	2.655	2.931	3.041
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments: ($3.637)
- TentNet Efforts to enhance the supply chain for portable shelters so that peacetime and wartime supply availability can be raised to reasonable levels. ($.833)
- Support DLA's Advanced Concept Technology Demonstration by developing supply requirements for Node Management from the perspective of the DLA Logistics Operations Center. ($2.804)

FY 2008- 2010 Plans: Supply Chain Initiatives and opportunities continue to develop and pursue emerging Supply Chain Management opportunities as they evolve.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Supply Chain Management, Project 3 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 3: Supply Chain Management	3.637	2.655	2.931	3.041	3.271	3.337	3.387
RDT&E Articles Quantity - N/A							

E. Major Performers:

- Bondcote Corporation – Coated Industrial Fabrics
- Omnova Solutions – Coated Industrial Fabrics
- Johnson Outdoors – Eureka! Tents
- TopTec Tents – Tent Manufacturing
- Outdoor Venture Corporation – Tent Manufacturing
- Anchor Industries – Tent Manufacturing
- FTL Design Engineering Studio – Design

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Strategic Distribution & Reutilization (SDR), Project 4 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 4: Strategic Distribution & Reutilization	3.023	3.369	3.513	3.553	3.679	3.776	3.854
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification: This project consists of two thrusts: Node Management and Deployable Depot (NoMaDD) and Reutilization Risk Reduction (R3). NoMaDD is an approved FY 2006-FY 2008 Advanced Concept Technology Demonstration (ACTD) that will develop, integrate, demonstrate, and transition Information Technology (IT) and field-operable material management that transforms logistics support of expeditionary warfare and humanitarian operations. Reutilization Risk Reduction is focused on reducing risks that militarily-sensitive equipment will be sold to potential enemies or other parties that could use the surplus material for nefarious purposes.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	3.023	3.369	3.513	3.553
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments: Continued spiral development/demonstration of NM capabilities, including tools for distribution pipeline management, fuels distribution, and joint asset visibility. Completed procurement of Deployable Distribution Center (DDXX) equipment and continue training, test, and evaluation. CONOPS, TTPs, IAPs, and transition plans were refined. Proven NM capabilities will move into the Army's Battle Command Sustainment Support System (BCS3) for disconnected users and into USTRANSCOM's Intelligent Road/Rail Information Server (IRRIS) for those with worldwide web access. ($3.023)

FY 2008-2010 Plans: Conduct NoMaDD Military Utility Assessments and Extended User Evaluations, correct deficiencies, and complete transition. Test and implement baseline retrograde and reutilization capabilities. Develop tools to extend and improve deployable distribution capabilities, including retrograde, inventory planning tools, and systems to synchronize supply chain and distribution center workloads. ($10.435)

C. Other Program Funding Summary: NoMaDD is jointly funded with United States Transportation Command (USTRANSCOM) funding (Program Element 0603713) in FY 2006 ($1.5M), FY 2007 ($2M), FY2008 ($2.95M), and FY2009 ($2.6M). The program has been approved as an Office of the Secretary of Defense (OSD) sponsored Advanced Concept Technology Demonstrations (ACTD) and OSD will contribute $6M through FY 2008.

D. Acquisition Strategy: N/A

E. Major Performers: PMO BCS3, PMO IRRIS and NSWC CRANE

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Energy Readiness Program (ERP), Project 5 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 5: Energy Readiness Program	1.801	2.050	2.152	2.165	2.226	2.270	2.306
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

- Program Management Office Support (PMO) for developing program strategies and goals, preparing documentation for the program, and performing quick reaction studies and analysis.
- Alternate Energy Development (AED) to include synthetic fuel specifications and acquisition plan; renewable fuels studies and planning, continued study of the use of hydrogen by DoD, and other directives specified in the Energy Policy Act (EPA) of 2005.
- Testing and approving of additional +100 Thermal Stability Additives (TSA) for use in Jet Propulsion Fuel (JP-8), and additional additive studies for +100 Low Temperature and Static Dissipater.
- Study and implementation of Automated Information and Data Collection (AIDC) to Defense Energy Supply Center (DESC) business processes, and automated adaptive planning tool to optimize the class III supply chain.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	1.801	2.050	2.152	2.165
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments: ($1.801) - Continued PMO support in program implementation and planning ($.326 PMO), Operational Manager (OM) support to the NoMaDD ACTD ($.400) Final report of the Additive Study and initial testing of Low Temperature additive and Static Dissipater additive ($.1.075 TSA)

FY 2008 Plans: ($2.050) - Continued PMO support in program implementation and planning ($.223 PMO), Operational Manager (OM) support to the NoMaDD ACTD ($.400)

FY 2009 Plans: ($2.158) - Continued PMO support in program implementation and planning ($.232 PMO), Full scale testing of synthetic fuel under assured fuels initiative and continued implementation of Hydrogen Logistics Strategy ($1.498 AED), Conduct studies and analysis on initial roll out and deployment of RFID capability ($.428 AIDC).

FY 2010 Plans: ($2.152) This is still in development

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Energy Readiness Program (ERP), Project 5 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 5: Energy Readiness Program	1.801	2.050	2.152	2.165	2.226	2.270	2.306
RDT&E Articles Quantity - N/A							

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers:

- Logistics Management Institute (awarded 04/06) - Supporting DLA/DESC with general office support coupled with detailed studies and analysis (PMO), as well as hydrogen and fuel cells related studies and strategic planning (AED).
- Air Force Research Lab (AFRL) and NAVAIR - Supporting studies and testing of thermal stability additive (TSA) and additive detection.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Defense Logistics Information Research (DLIR), Project 6 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 6: Defense Logistics Information Research	2.282	2.267	2.284	2.293	2.353	2.399	2.439
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification: The Defense Logistics Information Research (DLIR) program objective is to research, identify, and implement potential or existing technologies using high-risk, high-payoff tools, methods, techniques, and products. The DLIR program partners with commercial industry to perform short-term projects (STPs) in various logistics business areas which align with the Defense Logistics Agency's (DLA's) strategic vision. DLIR improves functional and business processes using the latest technologies available, which support the nation's warfighter. The technical areas of interest are:

- Enhancement of Federal Catalog & Related Logistics Information: Researches and identifies avenues to increase the technical value and quality of logistics data while the core process is applying customer-focused advancements to the supply chain.
- Development of Logistics Data Interoperability & Availability. Enhances the functionality and compatibility of data in a complex data environment using supply chain relationships and lifecycle management to allow flexible visibility.
- Relate Government/Commercial Item Descriptions & Taxonomies to Supplier Capabilities: Enhances DLA's visibility, functionality, and compatibility of end items to allow automated sourcing to commercial industry. It further focuses on the taxonomies to enable a diverse and comprehensive understanding to deliver supply chain excellence.

B. Accomplishments/Planned Program. Three Technical Solutions Council meetings in each of the focus areas involving the 17 industry partners were held. The purpose of these council meetings was to exchange information on technology problems facing both government and industry and to discuss possible solutions using new technology.

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	2.282	2.267	2.284	2.293
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments: ($2.282)

- Continued focus on Technical Solutions Councils to address new technology and methodology in each area.
- Focused on capability gap areas which included customer-focused supply chain and logistics data and addressed the best-of-breed processes, practices and technology, and supply chain visibility and availability.
- Awarded seven (7) STPs based on industry opportunity briefings. The STPs goals are to:
  - Use intelligent technologies (focused web crawlers, ontology directed extraction, and optical character recognition) to enrich the Federal Cataloging System (FCS).

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Defense Logistics Information Research (DLIR), Project 6 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 6: Defense Logistics Information Research	2.282	2.267	2.284	2.293	2.353	2.399	2.439
RDT&E Articles Quantity - N/A							

- Apply standards-based semantic technology to revolutionalize the DLA cataloging processes and to enable net-centrics.
- Develop a web site which collects part information and to automate the acquisition, interpretation, and transfer of key product information by extracting structured information from unstructured technical documents, drawings, and standards.
- Use deep domain data management to identify data structures, target key subject areas, analyze data location (structured and unstructured), and manage data quality.
- Develop a part interoperability coherent view website to extract information from manufacture's websites.
- Align FCS taxonomies with supplier taxonomies exploring the Open Technical Dictionary (eOTD) and Web Ontology Language (OWL).
- Develop a multi-catalog taxonomy extraction and unification tool to optimize comparisons between catalogs using clustering and swarming technologies.

FY 2008-2010 Plans: ($6.844)

- Re-solicit the Broad Agency Announcement (BAA) for new project ideas. The Defense Logistics Information Service (DLIS), as a corporate entity, will review the impact and effectiveness of the Technical Solutions Councils and address possible new technical areas. Continue the focus on capability gap areas such as:
  - Customer-focused supply chain & logistics data and best-of-breed processes, practices, and technology.
  - Comprehensive supply chain visibility & availability.
  - Logistics data functionality and compatibility to commercial industry data.
  - Award new STPs each technical area of interest after industry opportunity briefings.
  - Logistics data functionality and compatibility to commercial industry data.
  - Plan to award four additional short-term R&D projects in the technical area of interest.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Defense Logistics Information Readiness (DLI), Project 6 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 6: Defense Logistics Information Readiness	2.282	2.267	2.284	2.293	2.353	2.399	2.439
RDT&E Articles Quantity - N/A							

FY 2008-2010 Plans, con't:

- Re-solicit Broad Agency Announcement (BAA). The Defense Logistics Information Service (DLIS), as a corporate entity, will review progress and impact of Technical Solutions Councils and address possible new technical areas and continue to focus on capability gap areas such as:
    - Customer-focused supply chain & logistics data and best-of-breed processes, practices & technology
    - Comprehensive supply chain visibility & availability
    - Logistics data functionality and compatibility to commercial industry data.
    - Environmental and Green programs
- Award short-term R&D projects in each reviewed technical area of interest after opportunity briefings.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Other Congressional Adds (OCAs), Project 7 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 7: Other Congressional Adds	33.670	33.266	0	0	0	0	0
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification: Congressionally added programs for the Logistics Research and Development (Log R&D) program element, along with explanation, are provided below.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	33.670	33.266	0	0
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments:

- **E/CIT Program - Embedded Passives R&D Testbed (EPT)** - Funds provided for the Emerging/Critical Interconnection Technology (ECIT) program. The ECIT program facilitates the emergence of new interconnect technologies within North America and accelerates application into Warfighter applications through industrial and academic extension.
- **Vehicle Fuel Cell (VFC) -** Commercialized the use of fuel cells in transportation applications to promote early adoption among military administrative vehicles.
- **New England Manufacturing (NEM) -** Improve DoD access to Small and Medium sized Manufacturers (SMEs) in the New England area; This includes Maine, Vermont, New Hampshire, Massachusetts, Rhode Island and Connecticut.
- **Distributed Inventory Management System (DIM) -** Cal State University Long Beach (CSULB) has developed an innovative approach to managing large-scale ad hoc inventory environments known as the Distributed Inventory Management System (DIMS). DIMS combine proprietary location techniques with distributed information nodes to form a self-organized network to track inventory. The combination of these techniques can provide decision makers, material handling workers, and operational personnel with location information within a staging area or warehouse as well as essential information about content and status of the inventory.
- **Hydrogen Logistics Fuel Initiative (HLF) -** Funds provided for awards against for H2 forklift Pilots and the Solid Hydrogen
- **Solid Hydrogen Storage and Fuel Cell Systems (SHS) -** Forklift/GSE Solid Hydrogen Storage and Fuel Cell technologies. Integration, demonstration, evaluation and manufacturing readiness assessment of components and systems for DoD adoption
- **Solid Hydrogen Storage Initiative (SHI) -** Funds provided for awards against for H2 forklift Pilots and the Solid Hydrogen
- **Spray Technique Analysis & Research/Defense (STR) -** Funds are provided to extend the Spray Technique & Research for Defense (STAR4D) effort through January 2009, exercising the first contract option.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number Other Congressional Adds (OCAs), Project 7				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 7: Other Congressional Adds	33.670	33.266	0	0	0	0	0
RDT&E Articles Quantity - N/A							

Defense Tech Showcase Initiative (DTS) – TBD

- **Forida Defense Manufacturing Initiative (FDM) -**
- **Advanced Mobile Gas-to-Liquid Fueler (GTL) -** Funds are provided for the Defense Base Operating Power task.
- **Defense Fuel Cell Locomotive (FCL) -** Phase 1 - Fuel Cell Hybrid Locomotive
- **High Energy Battery Development for Aerial Vehicles (HEB) -** Develop an experimental High Energy lithium rechargeable battery for miniature Unmanned Aerial Vehicles (UAV). The battery will incorporate new cell technology referred to as ANLCC which will combine cathode material developed from research by Argonne National Laboratory and couple it with high capacity carbon material developed by EnerDel.
- **Next Generation Manufacturing Tech Initiatives (NGT) -** The purpose of the NGMTI is to accelerate the development and implementation of breakthrough manufacturing technologies in support of the transformation of the defense industrial base. The NGMTI plan targets the Defense industry (cross-service/DoD-wide) from the perspective of providing quantifiable benefits to the warfighter. This is for work in the fuel cells area. Contract # N0016406D6655
- **Emergence Power Source for National Guardsmen (EPS) -** Emergency Back up Power Supply - 5KW Fuel Cells

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: See information associated with each project provided under 2007 Plans.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Continuous Acquisition Lifecycle Support (CALS), Project #8 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project #8: Continuous Acquisition & Lifecycle Support	3.902	3.975	0	0	0	0	0
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification: Information and information technology impact almost every functional component of the DoD, from tactical units to the supply lines that support them. In fact, Joint Vision 2020's central goal is the capability of collecting, processing, and disseminating a steady flow of information to U.S. forces, while exploiting or denying an adversary's ability to access that information.

To this end, the DoD has embarked on a set of critical and ambitious programs. These programs are to insure that information technology plays a key role in achieving war fighter superiority in the 21st century. Embodied in the DoD 2020 logistics vision are integrated supply chains focused on meeting war fighter requirements at the point of need. This, in turn has caused the DoD to insure that all automated information systems have a degree of "interoperability".

The main goal of the DoD's Information Technology initiatives is a shared data environment. This environment supports the DoD 2020 Logistics Vision and all five key logistics initiatives. It provides users the capability to employ automated tools that accomplish tasks more effectively and efficiently and that exchange current and accurate information in a timelier manner across enterprises.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	3.902	3.975	0	0
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments ($3.902):
- On-going support to the Joint Logistics Vision 2020.
- Continuation of the DoD Future Logistics Enterprise (FLE) initiative.
- Supply Chain Management and Operational Reference Modeling implementation
- DoD Enterprise Modeling and Performance Based Logistics
- Net Centric Enterprise Services
- DoD Corrosion Exchange Initiative
- Satisfied the customer requirements at the point of need
- Continue the initiative to reduce cycle times to meet dynamic warfighting requirements (i.e., customer wait time)
-

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3			Project Name and Number Continuous Acquisition Lifecycle Support (CALS), Project #8 PROGRAM ELEMENT: 0603712S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project #8: CALs	3.902	3.975	0	0	0	0	0
RDT&E Articles Quantity - N/A							

- On-going efforts to replace large investments in infrastructure with information superiority, interoperability, information assurance, security, and accuracy
- Continual support to provide a high degree of information security and audit capabilities

FY 2008 Plans ($3.975):

- Continued support for TC AIMS II Single User Representative and Joint Requirements Support
- Defense Collaboration Network/International Collaboration Network (DCN/ICN):
- Internet Technologies Support
  - Continued support for DoD IT Standards Governance Support, the Joint
- Logistics Vision 2020 and the DoD FLE Initiative
  - Ongoing effort for the DoD DISA Net Centric Enterprise Services Web
- Services Technology Support
  - DoD Leverage Point Modeling and Dynamic Simulation Assessment
  - DoD Enterprise Modeling and Performance Based Logistics
  - Complete DoD Corrosion Exchange Initiative

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			R-1 Item Nomenclature: Program Title: Deployment and Distribution Enterprise Technology Program Element: PE0603713S			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	15.036	14.905	30.000	29.750	29.737	29.737	29.737
Project 1: Capabilities Based Logistics	1.929	2.204	4.530	3.106	5.772	5.561	4.476
Project 2: Deployment and Distribution Velocity Management	9.208	6.951	5.700	6.350	5.400	5.687	5.989
Project 3: Cross Domain Intuitive Planning	3.899	1.090	1.775	2.210	1.830	1.768	1.893
Project 4: End-to-End Visibility	0	0.500	2.779	4.416	4.834	3.986	4.764
Project 5: Distribution Planning and Forecasting	0	0	3.000	2.874	2.793	2.917	3.128
Project 6: Joint Transportation Interface	0	3.857	10.491	9.869	7.983	8.343	7.987
Project 7: Distribution Protection/Safety/Security	0	0.303	1.725	0.925	1.125	1.475	1.500

A. Mission Description and Budget Item Justification: Global War On Terrorism (GWOT) lessons learned and daily operations indicate that current distribution and logistics processes remain outdated and are rarely capable of providing required warfighter support in an agile, efficient and economical manner. Designation of United States Transportation Command (USTRANSCOM) as the Distribution Process Owner (DPO) and shift within the Department to transform the distribution and logistics processes, demands the examination and improvement of the entire supply chain. Unpredictable and extended global distribution routes, limited visibility of sustainment requirements, force packaging limitations, lift constraints, complex supply chains, as well as non-networked battlefield command and control (C2), planning, and decision support tools impede timely warfighter logistical support. The centralization of distribution and logistics intermodal research and development facilitates the development/fielding of transformational enhancements to validated distribution capability gaps. The USTRANSCOM RDT&E program explores and matures promising technologies to enhance support to combatant commanders and other customers of Department of Defense's (DOD's) distribution and transportation systems.

B. Program Change Summary:

	FY 07	FY 08	FY 09	FY 10
Previous PB 08	15.158	0.000	0.000	0.000
Current FY 09 BES	15.036	14.905	30.000	29.750
Total Adjustments	-0.122	-10.095	0.00	-0.250

Change Summary Explanation:
FY07 – Reprogrammed to fund Small Business Innovative Research (SBIR) PE 0605502S.
FY08 - Defense Appropriation cut ($10M) and Economic Assumption and Contractor Efficiency cuts ($0.095M).
FY10-13 – Economic Assumption Cuts.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			R-1 Item Nomenclature: Program Title: Deployment and Distribution Enterprise Technology Program Element: PE0603713S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	15.036	14.905	30.000	29.750	29.737	29.737	29.737
Project 1: Capabilities Based Logistics	1.929	2.204	4.530	3.106	5.772	5.561	4.476
Project 2: Deployment and Distribution Velocity Management	9.208	6.951	5.700	6.350	5.400	5.687	5.989
Project 3: Cross Domain Intuitive Planning	3.899	1.090	1.775	2.210	1.830	1.768	1.893
Project 4: End-to-End Visibility	0	0.500	2.779	4.416	4.834	3.986	4.764
Project 5: Distribution Planning and Forecasting	0	0	3.000	2.874	2.793	2.917	3.128
Project 6: Joint Transportation Interface	0	3.857	10.491	9.869	7.983	8.343	7.987
Project 7: Distribution Protection/Safety/Security	0	0.303	1.725	0.925	1.125	1.475	1.500

C. Other Program Funding Summary: Displayed on R-2a.

D. Acquisition Strategy: N/A for budget activity 3.

E. Performance Metrics/Major Performers: Displayed on R-2a.

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Capabilities Based Logistics, Project 1				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Capabilities Based Logistics	1.929	2.204	4.530	3.106	5.772	5.561	4.476
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

The Department requires procedures and technologies which provide enterprise-level capabilities critical to the distribution system to improve performance of the end-to-end DOD supply chain in direct support of the full range of military operations. Ability to rapidly respond to customers' changing demands, with a reliably high level of service. These needs include: capabilities which enhance any supply or transportation mission (aeromedical, air refueling, joint logistics over-the-shore, seabasing); analysis, tailoring and implementation of selected best enterprise-level practices from industry; and tools/procedures to optimize transportation plus supply (distribution) plans and schedules in support of an entire operation. This project addresses the required mission support to combatant commanders and other customers in the area of capability-based logistics.

B. Accomplishments/Planned Program:

	FY 2007	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	1.929	2.204	4.530	3.106
RDT&E Articles Quantity – N/A				

FY 07 Accomplishments:

- Continue spiral development and demonstration of Node Management capabilities to include tools for distribution pipeline management, fuels distribution, and joint asset visibility. Support transition activities of approved spirals into program of record.

FY 08 Plans:

- Continue spiral development and demonstration of NoMaDD capabilities. Support overall transition activities to include Doctrine, Organization, Training, Materiel, Leadership/education, Personnel, and Facilities (DOTMLPF) change recommendations.

FY 09 Plans:

- Complete NoMaDD development/transition proven technologies.
- Fund Office of Research and Technology Applications operations.

C. Other Program Funding Summary: FY08 funds support Program Management Office (PMO) Battle Command Sustainment Support System (BCS3) and Tapestry Solutions. Funds modified existing Tapestry Solutions contract, with other expenses paid from OSD and Defense Logistics Agency (DLA) sources. Funds also support DLA's NoMaDD ACTD program under PE # 0603712S.

D. Acquisition Strategy: N/A

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Capabilities Based Logistics, Project 1				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Capabilities Based Logistics	1.929	2.204	4.530	3.106	5.772	5.561	4.476
RDT&E Articles Quantity - N/A							

E. Major Performers:

Contractors:	Location:	Description of Work	FY08 Award Date/$:	FY09 Estimated Award Date/$:
Tapestry Solutions	San Diego, CA	Software Development (NoMaDD/BCS3)	Dec 07 $1.500M	Nov 08/$2.600M
Stanley/LMI	Alexandria, VA	RDT&E program support	Oct 07/$0.432M	Oct 08/$0.438M
MITRE	Ft Monmouth, NJ	RDT&E program support	Oct 07/$0.508M	Oct 08/$0.510M
MITRE	Ft Monmouth, NJ	ORTA		Oct 08/$0.255M

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Deployment and Distribution Velocity Management, Project 2				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 2: Deployment and Distribution Velocity Management	9.208	6.951	5.700	6.350	5.400	5.687	5.989
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

DOD requires procedures/technologies targeted at optimizing throughput at the nodes and through the conduits of the deployment and distribution supply chains, from origin to point of use and return to include: inventory management enhancers (includes node cargo management/tracking); materiel handling innovations (including methods of reducing handling); improved physical access to nodes (includes aircraft all-weather visual systems); port throughput enhancements (includes in-port time reduction methods); and innovative delivery methods (for example, precision airlift, autonomous re-supply). This project addresses required mission support to combatant commanders and other customers of DOD's distribution and transportation systems in the area of deployment/distribution velocity management.

B. Accomplishments/Planned Program:

	FY 2007	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	9.208	6.951	5.700	6.350
RDT&E Articles Quantity – N/A				

FY 07 Accomplishments:

- Conduct of Joint Modular Intermodal Distribution System (JMIDS) Joint Capabilities Technology Demonstration (JCTD) limited military utility assessment (LMUA) to evaluate intermodal enhancements and increased agility/flexibility in joint distribution system.
- Building prototype and assessing utility of a unique, FedEx-like Transportation Tracking Number (TTN) to increase assurance of planned-vs.-actual tracking of unit movements required by Combatant Commanders in the Joint Operational Planning and Execution System (JOPES).
- Ascertain if specialized containers can be used to transport unit equipment via container ships/provide support comparable to roll on/roll off ships.
- Complete the development and successfully demonstrate a system capable of selectively retrieving fully loaded 20FT containers from at sea container ships (in up to sea state 5) for selected onward movement.

FY 08 Plans:

- Develop capability for Service/Joint watercraft to rapidly/independently conduct vessel offload operations at austere seaports of debarkation (Joint Enable Theater Access – Sea Port Of Debarkation (JETA-SPOD) Advanced Concept Technology Demonstration (ACTD).
- Continue to develop a cost effective method of transporting and storing military cargo for rapid deployment using conventional container ships.
- Continue TTN development and implementation.
- Design, create and test prototype air skid based mechanisms to move cargo and vehicles, including Medium Tactical Vehicle Replacement and Twenty-foot Equivalent Units in an environment equivalent to an LMSR cargo hold in conditions up to Sea State 5.
- Conduct JMIDS JCTD End User Evaluation (EUE) and develop transition support documentation.

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Deployment and Distribution Velocity Management, Project 2				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 2: Deployment and Distribution Velocity Management	9.208	6.951	5.700	6.350	5.400	5.687	5.989
RDT&E Articles Quantity - N/A							

FY 09 Plans:

- Complete developmental work and transition technologies developed via the JMIDS JCTD.
- Prototype air-skid to allow the movement of cargo and vehicles around the cargo hold without having to move vehicles with drivers or use forklifts/other material handling equipment.
- Provide end-to-end visibility by linking cargo, mail and passengers transiting to/through the Sea-base.
- Commence development of a common joint cargo handling system that meets or exceeds the requirements for multiple joint operational concepts (including major combat, global war of terror, and stability operations).

C. Other Program Funding Summary: FY08 funds supporting ACTD/JCTD initiatives: JMIDS JCTD (PEs 0633001/0665805), JETA-SPOD ACTD (PEs 0602784A/0603804A/0603640M/0604567N/0603750D8Z).

D. Acquisition Strategy: N/A

E. Major Performers:

Contractors:	Location:	Description of Work	FY08 Award Date/$:	FY09 Estimated Award Date/$:
ITLT Solutions Inc.	Jacksonville, FL	Contrail/Beam System Dev	Dec 07/$1.500M	Oct 08/$0.250M
NGC	McClean, VA	JMIDS Support	Oct 07/$0.200M	Oct 08/$0.200M
MITRE Corporation	Ft Monmouth, VA	Engineering and development of Transportation Tracking Number	Oct 07/$0.254M	
JFCOM	Suffolk, VA	Support prototype construction and conduct experimentation/integration for Transportation Tracking Nr (TTN)	Dec 07/$0.180M	
Various	Multiple	Multiple individual contracts to Incorporate TTN into numerous deployment/distribution IT systems	Jan 08/$1.000M	
TBD	TBD	Shipboard Air-skid Prototype Development	Jun 08/$0.550M	Oct 08/$2.000M
TBD	TBD	Improved Cargo Handling		Oct 08/$0.450M
ERDC	Alexandria, VA	Develop tool to optimize projection and sustainment from the seabase into austere ports of opportunity	Dec 07/2.000M	

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Cross Domain Intuitive Planning and Execution, Project 3				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 3: Cross Domain Intuitive Planning and Execution	3.899	1.090	1.775	2.210	1.830	1.768	1.893
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

Procedures/technologies which improve decision-making and collaboration within the supply chain, from the planning stage to real-time execution and retrograde operations, without need for highly specialized operators of the tools. Projects in this area address following areas: decision support tools for any echelon of the supply chain or decision-maker, distribution process simulations and models for analysis and training, distribution demand forecasting/execution monitoring tools, on-line training, automated decision-maker support (e.g., queuing, alerting, recommended courses of action), automated status monitoring with information fusion and drilldown capability, and resilient C2 infrastructure capabilities. This project will provide required mission support to combatant commanders and other distribution/transportation customers in the area of collaborative planning/execution/information sharing/decision support tools.

B. Accomplishments/Planned Program:

	FY 2007	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	3.899	1.090	1.775	2.210
RDT&E Articles Quantity – N/A				

FY 07 Accomplishments:

- Modify Global Decision Support System 2 (GDSS 2) and Global Air Transportation Execution System (GATES) to globally share command and control and transportation info with all (Joint, Service) users .
- Complete development/testing of enhanced capability to model all distribution scenarios/methods within existing programmatic systems Complete the development/testing of an enhanced geospatial awareness/logistics operating picture within the USTRANSCOM Deployment Distribution Operations Center (DDOC).
- Design, development, integration, documentation and testing of the Joint Air Logistics Information System – Next Generation (JALIS NG) prototype and its infrastructures. This includes improvements and upgrades to the Scheduler's Workbench, enhanced Request Validation Routing capabilities, and optimizing command and control processes related to the requesting, validating, scheduling, and monitoring of worldwide operations support airlift missions.
- Commence two year effort to develop and incorporate an air refueling module planning/execution capability within the Joint Flow and Analysis System for Transportation (JFAST).

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Cross Domain Intuitive Planning and Execution, Project 3				
Cost ($ in millions)	FY2007	FY2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project 3: Cross Domain Intuitive Planning and Execution	3.899	1.090	1.775	2.210	1.830	1.768	1.893
RDT&E Articles Quantity - N/A							

FY 08 Plans:
- Complete and transition JALIS-NG.
- Complete development and transition capability to model, within Joint Flow and Analysis System for Transportation (JFAST), the strategic air refueling of all joint service combat aircraft, including the USTRANSCOM/AMC inter-theater airlift fleet.
- Leveraging AFRL expertise, commence efforts to enhance Deployment and Distribution Operations Center (DDOC) operations through work flow engineering.

FY 09 Plans:
- Commence efforts to enhance DDOC operations through work flow engineering.
- Develop a logistics predictive planning/operations service for theater forward sustainment points, bases and transportation networks.
- Commence development of cross domain suite of tools for joint warfighter with text chat language, translation, whiteboard, audio and XML guard functionality (Cross Domain Collaborative Info Environment (CDCIE) JCTD).

C. Other Program Funding Summary: FY09 funds supporting JFCOM sponsored/DISA supported CDCIE JCTD (PEs 0603828D8Z/PE574E51/0603750D8Z).

D. Acquisition Strategy: N/A

E. Major Performers:

Contractors:	Location:	Description of Work	FY08 Award Date/$:	FY09 Estimated Award Date/$:
Federated Software Group	St. Louis, MO	Develop software to allow for optimizing operations airlift	Oct 07/$0.267M	
TBD	Suffolk, VA	Developing software to allow info exchange between U.S. and Coalition logistic systems – CDCIE JCTD		Oct 08/$0.500M
DPRA	Knoxville, TN	Develop JFAST model to include air refueling	Oct 07/$0.448M	
TBD	TBD	Develop automated linkage between tactical and operational logistics mesh-networks to strategic distribution systems		Dec 08/$0.900M

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – End-to-End Visibility, Project 4				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 4: End-to-End Visibility	0	0.500	2.779	4.416	4.834	3.986	4.764
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

The warfighter requires end-to-end visibility of all aspects of the projection and sustainment of forces and equipment to enable operations. This requires technology investigation into next generation Automated Information Technology (AIT)/Total Asset Visibility (TAV) technologies and/or container security to improve end-to-end distribution visibility and enhance planning and execution and transform sustainment operations. Includes the development of the ability to determine immediate, reliable, and accurate shipment status through system access or event management. Develop an over-arching process and system architecture which will automate and integrate existing and innovative new programs across the supply chain to provide complete In Transit Visibility (ITV) data.

B. Accomplishments/Planned Program:

	FY 2007	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	0	0.500	2.779	4.416
RDT&E Articles Quantity – N/A				

FY 07 Accomplishments: N/A.

FY 08 Plans: Develop automatic system that captures container numbers without relying on additional tagging, human intervention, battery life, and ambiguous dynamic, non-static, associations of tag numbers within a database.

FY 09 Plans:

- Investigate advanced automated identification technology (AIT) devices to determine their ability to function in harsh climates and austere environments.
- Commence development with Army/Logistics Info Agency of a mobile AIT capability in a military environment in all environments.
- Test and evaluate military utility of COTS satellite tracking devices to enhance in transit visibility.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers:

Contractor:	Location:	Description of Work	FY08 Award Date/$:	FY09 Estimated Award Date/$:
TBD	TBD	Demonstrate automatic system that captures ISO container numbers and links that info to ITV database to capture cargo visibility lost in last tactical mile	Feb 08/$0.500M	
SAVI	Sunnyvale, CA	Provide Theater Distribution Management (TDM) Portable Deployment Kit training		Oct 08/ $0.286M

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Distribution Planning and Forecasting, Project 5				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 5: Distribution Planning and Forecasting	0	0	3.000	2.874	2.793	2.917	3.128
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

There is a lack of collaborative distribution planning, based on an understanding of aggregated customer requirements, for optimizing the end-to-end distribution process. Planning, forecasting and collaboration are insufficiently advanced to fully synchronize people, processes and assets to execute planned operations. Automated tools should be able to dynamically analyze/predict demand and provide input to advanced distribution planning systems. This project investigates the need for flexible end-to-end enhanced modeling and simulation and collaborative decision support tools.

B. Accomplishments/Planned Program:

	FY 2007	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	0	0	3.000	2.874
RDT&E Articles Quantity – N/A				

FY 07 Accomplishments: N/A.
FY 08 Plans: N/A.
FY 09 Plans:

- Commence two year effort to build a highly configurable, agile Distribution Process Nodal Model (DPNM) capable of expressing ansd analyzing complex and detailed distribution processes to support operational planning and execution.
- Commence effort with USJFCOM and Services to develop a Single Load Planning Capability (SLPC) that enables load planners across the enterprise to collaborate to provide end-to-end load plans.

C. Other Program Funding Summary: N/A.
D. Acquisition Strategy: N/A.
E. Major Performers:

Contractor:	Location:	Description of Work	FY08 Award Date/$:	FY09 Estimated Award Date/$:
BBNT Solutions	Cambridge, MA	Develop operational distribution planning tool		Nov 08/$1.750M
NCI	O'Fallon, IL	Contractor support for development of distribution nodal model planning tool		Nov 08/$0.250M
CVM Technologies	San Luis Obispo, CA	SLPC software development		Nov 08/$1.000M

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Joint Transportation Interface, Project 6				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 6: Joint Transportation Interface	0	3.857	10.491	9.869	7.983	8.343	7.987
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

Synchronizing strategic/theater delivery capabilities to meet increasingly dynamic customer needs. Transportation information exchange across the DOD is inhibited by the disparity of systems, differing data standards, and insufficient interfaces. Queries and retrieval of status and shipment information cannot be executed due to lack of connectivity between the various components of the supply chain. Required is the ability to maintain situational awareness of movements at macro/micro (drill down) levels, with associated force and sustainment cargo on board; to track force packages progress, and rapidly determine the impact of any delays or changes to sailing progress and arrival at port of debarkation; and to conduct "what -if" impact assessment of possible changes to delivery asset's course, speed or departure/arrival information as it relates to force or force package delivery/impact of any change on the closure of force packages in theater. The ability of USTRANSCOM to supply transportation support for homeland defense and/or disaster relief depends on effective ways to link with other governmental and civilian agencies. Also need to explore the many barriers across the Joint Deployment and Distribution Enterprise (JDDE), to include non-DOD government entities, coalition partners, non-government organizations, and commercial industry, which can create confusion/conflict or detract from the optimization of the JDDE.

B. Accomplishments/Planned Program:

	FY 2007	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	0	3.857	10.491	9.869
RDT&E Articles Quantity – N/A				

FY 07 Plans: N/A.

FY 08 Plans:

- Commence multi-year development/integration of systems for Common Operational Picture for Distribution and distribution-related Deployment (COP D2) that will mitigate effect of multiple, overlapping functional legacy systems and business processes, and provide timely, relevant, and actionable information to enhance the warfighters' level of confidence in joint distribution processes.
- Commence development of database/query tool to exchange air and sealift schedules to support Coalition Task Force operations enhancing logistics information exchange between coalition partners – effort supporting Coalition Mobility System (CMS) JCTD.

FY 09 Plans:

- Continue COP(D2) effort
- Continue development of database/query tool to exchange air and sealift schedules to support Coalition Task Force operations enhancing logistics information exchange between coalition partners (CMS JCTD).
- Develop the Community of Exchange (CoEx) for JDDE that will enable interoperability among heterogeneous systems and facilitate exchange of knowledge within the context of formalized JDDE processes.
- Commence multi-year development of an automated data quality analysis capability linked to the Enterprise Data Warehouse (EDW) that will enable end-to-end analysis of data quality and system performance.
- Software prototype containing mathematical and/or heuristic-based optimization engines will make optimal/near optimal resource allocation, transportation, and distribution decisions in both planning (proactive) and re-planning/recovery (reactive) modes of operation for a wide range of operations scenarios.

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Joint Transportation Interface, Project 6				
Cost ($ in millions)	FY2007	FY2008	FY 2009	FY2010	FY2011	FY2012	FY2013
Project 6: Joint Transportation Interface	0	3.857	10.491	9.869	7.983	8.343	7.987
RDT&E Articles Quantity - N/A							

C. Other Program Funding Summary: FY 08 & 09 funding supporting PACOM sponsored CMS JCTD, (PEs 0603750D8Z/0603648D8Z).

D. Acquisition Strategy: N/A.

E. Major Performers:

Contractors:	Location:	Description of Work	FY08 Award Date/$:	FY09 Estimated Award Date/$:
CVM	San Luis Obisbo, CA	Provide thin client capability to the Node Management portion of NoMaDD ACTD/DDOC Requirements Support	Dec 07/$2.857M	
TBD	TBD	Address data quality issues across the Joint Deployment and Distribution Enterprise		Dec 08/$1.058M
FSG	O'Fallon, IL	CMS JCTD Software Development to enable efficient transportation/ logistics related information exchange between coalition partners	Dec 07/$1.000M	Oct 08/$2.450M

Exhibit R-2a, RDT&E Project Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3			Project Name and Number – Distribution Protection/Safety/Security, Project 7				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 7: Distribution Protection/Safety/Security	0	0.303	1.725	0.925	1.125	1.475	1.500
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

The Theater Commander has not always been able to provide the appropriate security in a timely manner during deployment. In some cases there are insufficient security assets to oversee convoy security in-country; therefore, all movement requirements are competing for the same limited resources. Additionally need to explore new, portable methods of detecting hazardous/asymmetric materials in very small quantities to support safe logistics operations. Also explore technologies to enhance the capability to deliver personnel/materiel to anti-access/austere airfields and seaports.

B. Accomplishments/Planned Program:

	FY 2007	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	0	0.303	1.725	0.925
RDT&E Articles Quantity – N/A				

FY 07 Accomplishments: N/A.

FY 08 Plans:

- In collaboration with C-130 J Program Office increase technology level readiness (TRL) level of Wireless Gate Release System (WGRS) prototype to provide required capability and facilitate transition activites.
- Commence two year effort to develop a light-weight trauma module to enhance initial care for the injured.

FY 09 Plans:

- Develop, integrate and test advanced sensors, guidance approaches, and control system technologies relevant to all weight classes of JPADS precision airdrop systems.
- Complete light-weight trauma module development/commence transition activities into program of record.

C. Other Program Funding Summary: N/A.

D. Acquisition Strategy: N/A.

E. Major Performers: N/A.

Contractors:	Location:	Description of Work	FY08 Award Date/$:	FY09 Estimated Award Date/$:
Wamore Inc.	Prescott, AZ	Refine/test WGRS	Jan 08/$0.103M	
Army Medical Mat'l Development Activity	Ft Detrick, MD	Develop light-weight trauma module prototype to aid in patient initial care and evacuation	Dec 07/$0.200M	Oct 08/$0.800M

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				R-1 Item Nomenclature: Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	90.285	47.138	0.000	0.000	0.000	0.000	0.000
Defense Microelectronics Activity (DMEA)	90.285	47.138	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Budget Item Justification:

DMEA was established in 1997 by the Office of the Secretary of Defense to act as the joint DoD Center for microelectronics acquisition, transformation, and support. The DMEA mission is to design, develop, and demonstrate microelectronics concepts, advanced technologies, and applications to extend the life of weapon systems and to solve operational problems (e.g., reliability, maintainability, performance, and assured supply). This includes providing for the development and long-term support structure necessary to ensure rapid prototyping, insertion, and support of microelectronics technologies into fielded systems. The Defense Microelectronics Activity **(**DMEA) provides technical and application engineering support for the implementation of advanced microelectronics research technologies from design through assembly and installation. The DMEA provides an organic capability to support these strategically important technologies within the DoD. These advanced technologies are translated into solutions for military needs. The DoD is increasingly reliant on the use of "smart" weapons based on microelectronics. All future engagement scenarios depend on the use of these systems. Likewise, the use of microelectronics has exploded in the commercial world, driving the semiconductor industry to supersede successive generations of semiconductor technologies with new technologies every 18 months. The growth in commercial products has driven DoD's share of the semiconductor market below 0.1%. DoD must rely on technologies that become obsolete every 18 months and an industry in which DoD has no influence due to low market share. This is a Defense-wide issue since many systems across the Department use the same microelectronic process technologies. Therefore, the DMEA mission includes providing for the development and long-term support structure necessary to ensure rapid prototyping, insertion, and support of advanced microelectronics technologies into fielded systems. The DMEA applies both available leading-edge technologies and innovative applied research and development (R&D) approaches to develop solutions to current problems. DMEA's RDT&E program is comprised of a mix of studies, investigations, planning efforts, developments, fabrications, and the insertions of solutions. This effort applies to all DoD systems using electronics e.g., F-22, B-2, Airborne Warning And Control System, F-16, F-15, F-14, Global Positioning System, USQ-113, Joint Strike Fighter, EA-6B, M-65, AN/TSC-93B, and AN/GSC-49 (V). Funds are required for technical and analytical support, equipment, supplies, travel, and publications.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				R-1 Item Nomenclature: Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	90.285	47.138	0.000	0.000	0.000	0.000	0.000
Defense Microelectronics Activity (DMEA)	90.285	47.138	0.000	0.000	0.000	0.000	0.000

B. Program Change Summary: (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 07	FY 08	FY 09	FY 10
PB 08	92.554	0.000	0.000	0.000
Current BES	90.285	47.138	0.000	0.000
Total Adjustment	-2.269	0.000	0.000	0.000
Congressional Program Reductions	0.000	0.000	0.000	0.000
Congressional Rescissions	0.000	0.000	0.000	0.000
Congressional Increases	0.000	0.000	0.000	0.000
Reprogramming	0.000	0.000	0.000	0.000
SBIR PE 0605502S	-2.269			

Change Summary Explanation:
FY07: $2.269M was reprogrammed to PE0605502S to fund Small Business Innovative Research (SBIR)
FY08: $1.050M to fund Small Business Innovative Research (SBIR) is included in the total FY08 BES

C. Other Program Funding Summary: Provided at the Project Level.

D. Acquisition Strategy: N/A.

E. Performance Metrics: Included in the R2a.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification: The Microelectronics Technology Development and Support efforts are to design, develop, and demonstrate microelectronics concepts, technologies, and applications to extend the life of weapon systems and to solve operational problems (e.g., reliability, maintainability, and performance) while addressing diminishing manufacturing sources. This includes providing for the development and long-term support structure necessary to ensure rapid prototyping, insertion, and support of microelectronics technologies into fielded systems. The Defense Microelectronics Activity **(**DMEA) provides technical and application engineering support for the implementation of advanced microelectronics research technologies from design through assembly and installation. The DMEA provides an organic capability to support these strategically important technologies within the DoD. These advanced technologies are translated into solutions for military needs. DMEA's RDT&E program is comprised of a mix of studies, investigations, planning efforts, developments, fabrications, and the insertions of solutions. This effort applies to all DoD systems using electronics e.g., F-22, B-2, Airborne Warning And Control System, F-16, F-15, F-14, Global Positioning System, USQ-113, Joint Strike Fighter, EA-6B, M-65, AN/TSC-93B, and AN/GSC-49 (V). Funds are required for technical and analytical support, equipment, supplies, travel, and publications.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2007 Accomplishments

- The Advanced Beam Steering Program efforts are developing next generation beam steering technology. By combining existing technology with novel smart materials, a faster more robust technology will be available for insertion into numerous platforms for increased Warfighter capability. FY07 efforts investigated and developed proof of concept advance beam steering devices using both lenslet and ionorefractive technologies and demonstrated the applicability of these technologies to the beam steering problem. ($0.971)

- Advanced Dynamic Technology Optics Program efforts are developing a new class of smart materials that will provide nanosecond switching speed shutter devices and variable index of refraction devices. These devices will be operated with a microelectronics controller system to ensure that delay in signal processing within the microelectronics will not delay or hamper speed of the device operation. The FY07 efforts are continuing to develop, fabricate, characterize and demonstrate electronically tunable optical filters. ($0.971)

- Advanced Filter Program efforts are combining new materials with existing optic technology for a nanosecond speed switchable band block/band pass technology over a wide wavelength range. This will provide instantaneous band blocking of damaging radiation of rapidly varying intensity and rapidly varying wavelength to make a nanosecond speed switchable band block/band pass technology optical switch to provide an enhanced level of protection for numerous DoD and Homeland defense systems. The FY07 program is investigating and performing theoretical modeling of the Rapid Optical Shutter in order to provide a more thorough understanding of the quantum physics governing the performance of the devices ($0.971)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2007 Accomplishments

- Advanced Surface Radar Technologies efforts are to supporting development and adaptation of electronic components to new form factors by expanding surface ship radar electronics miniaturization and packaging methodologies to demonstrate low cost, scalable radar designs. Candidate electronics are being evaluated for potential benefit to supporting the Navy's next generation surface ship radar systems. Presently, the Navy's surface radar systems are monolithic in their design/implementation, requiring the Service to purchase new radar systems (or extensively upgrade existing systems) for any change in the threat they face. New innovations derived from DOD airborne radar development are promising lower cost, modular surface ship radar designs that can be quickly and inexpensively scaled to meet the Service's needs. ($5.391)

- Feature Size Migration efforts at DMEA's Foundry are providing the fabrication technology, infrastructure modifications and facilitization to build microelectronics with increased functional density using digital, analog and mixed signal processes for military systems in DMEA's foundry. ($4.420)

- Forbes Field Air National Guard (ANG) Regional Defense Command Integration Center efforts are performing a baseline survey and analysis of ANG capabilities and threats and to correct deficiencies, redundancies and technology gaps relating to emergency disaster management amongst the distributed mission systems of these ANG organizations. ($1.943)

- Foliage-penetrating Acoustically Cued Imagery Sensor efforts are developing a miniature digital acoustic array subsystem, imaging subsystem, sensor controller, Line Of Sight (LOS) and Non-LOS communications subsystem, Global Positioning System, chute and payout subsystem, and power subsystems that can be cued to take pictures automatically, compress, encrypt, and infiltrate the image for further analysis and situational awareness at a remote location. Miniaturization through advanced packaging and design of the prototypes to achieve covertness for the system. Conduct further jungle environment experiments to refine the design and expand the operational characteristics of the system. ($3.506)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2007 Accomplishments

- Locust Miniature Air Vehicle (MAV) Enhancement efforts are upgrading the Locust's already exceptional capability to provide full digital communication and video link, ground control station interoperability, increased flight duration, and true multiple plane interoperability. The Locust is an 18 inch unmanned air vehicle (UAV) that is launched by hand. With a range of 5km (3mi) and a flight time approaching 1 hour, the Locust carries an onboard video camera for surveillance. The Locust is completely autonomous and requires no user interaction after launch. ($1.948)

- Mode 5/Mode S Identification Friend or Foe (IFF) System Technology Development efforts are accelerating technology development and planned implementation of the Mode 5/Mode S Identification Friend or Foe (IFF) System for the Navy's E-2D Advanced Hawkeye (AHE) aircraft. Accelerated technology development of this system in FY07 is helping to ensure that all deliverable IFF systems for the E-2D will have Mode 5/Mode S incorporated prior to delivery, significantly shortening the deployment cycle for this capability while allowing for synergy with all phases of program production. Early implementation of Mode 5/Mode S is benefiting program risk reduction through analysis and testing while realizing cost savings. ($0.971)

- Superlattice Nanotechnology efforts are developing and characterizing Silicon Carbide (SiC) wafers grown from SiC templates using low-temperature processes and molecular beam epitaxy with minimum defects that will form the basis for the next generation of radio frequency and radiation-hardened microelectronics. The researchers are developing growth techniques for fabricating 3C-SiC and 4H-SiC superlattices on Silicon substrates. In addition, they will characterize the material by fabricating and analyzing power devices using the SiC wafers. This will lead to developing large SiC epitaxial substrates with processes comparable in cost to standard Silicon wafers. ($1.943)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2007 Accomplishments

- Semiconductor Photomask Technology Initiative efforts are accelerating the development of state-of-the-art mask making tools and the formation of a domestic mask blank source for future applications in the 45 nanometer and below regime. ($3.504)

- University Materials Characterization and Metrology Center efforts are identifying the chemical and structural elements of materials and devices, as well as chemical, optical, electrical, and physical principles in measurement science and to be an enabler to the nanotechnology industry by providing expertise, training, and making available shared diagnostics equipment. The FY07 efforts are researching advanced materials for semiconductor nanowire synthesis, characterization and device development for electronics, thermoelectric cooling and chemical sensing. ($0.971)

- DMEA Core Research efforts are designing, developing, and demonstrating microelectronics concepts, technologies, and applications to extend the life of weapon systems and to solve operational problems (e.g., reliability, maintainability, and performance).and to ensure rapid insertion of transformational technologies into fielded weapon systems by providing the necessary development, manufacturing engineering, and long-term support structure. Researching and assessing the potential impact to DoD operational systems caused by decreasing microelectronics feature sizes and increasing complexity and developing a mitigation or solution strategy; defining and executing a viable long-term solution strategy for access to technologies and processes that are key enablers in the strategy. Proactively determining and developing the potential benefits of utilizing advances in science and technology (e.g., microelectronics, optoelectronics, nanosciences, molecular electronics, etc) to solve DoD microelectronics support issues. Developing and testing advanced science and technology applications to acquire in-depth knowledge that is critical in developing solutions to weapons system performance and support problems. Evaluating, and integrating key commercial microelectronics foundry processes and innovative advanced engineering, design, and fabrication process tools to enhance the DMEA capabilities to provide solutions for weapon systems performance and support problems. ($15.541)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2007 Accomplishments

- Ultra-High Energy Micro Fuel Cell efforts are evolving fuel cell components to reduce size and weight. The core fuel cell engine is being reduced by design optimization and advanced materials. Electrode materials are being developed to allow the use of advanced high energy liquid fuels to increase performance. The evolution will be focused to make the fuel cell manufacturable in high volume. ($2.525)

- Secure Digital Coherent Optical Communications efforts are developing secure optical/radio frequency architecture and operational concepts, study key performance-enhancing algorithms and protocols, and demonstrate key components leading to a secure, high-performance optical communications in fiber, air, and space. FY07 efforts are further developing architectures and operational concepts from prior phases into a functional transceiver prototype to demonstrate key sub-system concepts needed to meet the goals of a secure, high-performance optical communications approach for fiber, air, and space. ($2.326)

- Chameleon Miniaturized Wireless Communications System Efforts are developing a covert self-contained microsensor package with on-board real-time mission critical information processing and an ultra-sensitive high temperature super-conducting transceiver. FY07 efforts include another spiral of major sensor miniaturizations; e.g. reduce by a factor of 10 to 20. To achieve a focused product; three aspects of the Chameleon software are being addressed; 1) the software must be transitioned from a demonstration prototype to field quality product; 2) the data link reliability must be addressed to communicate sensor findings to the command and control; 3) addition of a real-time data streaming mode to augment the current store and forward strategy. ($8.725)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2007 Accomplishments

- Ultra-low Power Battlefield Sensor Communication System (ULBPSCS) efforts are developing a netted battlefield sensor system with a combination of ultra-sensitive receivers, ultra-low power miniature sensors, advanced manufacturing processes, and a real-time mission critical distributed information system. Transitioning prototype hardware and software to a production ready status. Completing all qualification testing, and supporting the execution of a military utility assessment to ensure the system is ready for transition to a military user. Coordinating with military user on the interface of the system into the existing C4ISR network. Developing training and operation material for the military user. ($14.540)

- Spintronics Memory Storage Technology efforts are to achieve a breakthrough in magnetic random access memory (MRAM) technologies together with companion programs in electronics packaging and advanced materials in order to develop a technology that will be produced domestically and will transition from the lab to the battlefield in a timely and cost effective manner ($7.755)

- California Center for Nanoscience Innovation for Defense (CalCNID) efforts are to systematically clarify the feasibility of applying nanoscience and technology to defense requirements. The universities are conducting advanced technology research on nanoscale material and devices with applications in electronics, spintronics, nanophotonics, nanosensors and nanobiology. They are investigating the feasibility of applying nanoscience and technology to defense requirements. ($9.306)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2008 Plans

- 3D Electronics efforts are to increase the density of interconnects (pins) between stackable 2-D chip packages and focus on advanced chip packaging and thermal interface materials in order to dissipate the heat resulting from device densification. This will allow us to take advantage of recent advances in nanomaterials and nanodevices to begin to address the issue necessary to take the electronics industry beyond the two-dimensional silicon based devices and wiring that have served it so well for the last 60 years and to develop 3D electronics technology together with associated packaging and thermal interface materials. FY 2008 funds are required to increase the pin count in packaging technologies, to implement Random Access Memory on processor technologies and construct devices, circuits and thermal solutions based on carbon materials. ($0.969)

- Advanced Dynamic Technology Optics Program efforts are continuing development of a new class of smart materials that will provide nanosecond switching speed shutter devices and variable index of refraction devices. These devices will be operated with a microelectronics controller system to ensure that delay in signal processing within the microelectronics will not delay or hamper speed of the device operation. The FY08 efforts are to continue system integration, field demonstration, and prototype testing of electronically tunable optical filters. ($1.162)

- Advanced Surface Radar Technologies efforts are to supporting development and adaptation of electronic components to new form factors by expanding surface ship radar electronics miniaturization and packaging methodologies to demonstrate low cost, scalable radar designs. Candidate electronics are being evaluated for potential benefit to supporting the Navy's next generation surface ship radar systems. Presently, the Navy's surface radar systems are monolithic in their design/implementation, requiring the Service to purchase new radar systems (or extensively upgrade existing systems) for any change in the threat they face. New innovations derived from DOD airborne radar development are promising lower cost, modular surface ship radar designs that can be quickly and inexpensively scaled to meet the Service's needs. ($5.325)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2008 Plans

- Forbes Field Air National Guard (ANG) Regional Defense Command Integration Center efforts are performing a developing an architecture and beginning development of improved mission systems to enhance ANG capabilities and to correct deficiencies, redundancies and technology gaps relating to emergency disaster management amongst the distributed mission systems of these ANG organizations. The FY08 plan is to evolve the demonstrated Proof of Concept design for the Eisenhower Center, developed in FY07 into an Operational/Deployed system of systems. ($0.968)

- Foliage-penetrating Acoustically Cued Imagery Sensor efforts are developing a miniature digital acoustic array subsystem, imaging subsystem, sensor controller, Line Of Sight (LOS) and Non-LOS communications subsystem, Global Positioning System, chute and payout subsystem, and power subsystems that can be cued to take pictures automatically, compress, encrypt, and infiltrate the image for further analysis and situational awareness at a remote location. Miniaturization through advanced packaging and design of the prototypes to achieve covertness for the system. Conduct further jungle environment experiments to refine the design and expand the operational characteristics of the system. ($2.327)

- Superlattice Nanotechnology efforts are developing and characterizing Silicon Carbide (SiC) wafers grown from SiC templates using low-temperature processes and molecular beam epitaxy with minimum defects that will form the basis for the next generation of radio frequency and radiation-hardened microelectronics. The FY08 plans are to advance the infusion of superlattice nanotechnology into the growth of SiC substrates; minimize growth defects; grow crystalline, defect-free SiC-on-Si, utilizing superlattice and superlattice-like atomic layer growth control; produce full wafer, full thickness SiC with device-appropriate dopants for high-voltage applications; fabricate and test large-area power devices, with performance targets of 5-10 kV and 50,000 Amps. ($1.549)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2008 Plans

- Semiconductor Photomask Technology efforts are accelerating the development of state-of-the-art mask making tools and the formation of a domestic mask blank source for future applications in the 45 nanometer and below regime. ($2.327)

- University Materials Characterization and Metrology Center efforts are identifying the chemical and structural elements of materials and devices, as well as chemical, optical, electrical, and physical principles in measurement science and to be an enabler to the nanotechnology industry by providing expertise, training, and making available shared diagnostics equipment. The FY08 efforts are continuing research in advanced materials for semiconductor nanowire synthesis, characterization and device development for electronics, thermoelectric cooling and chemical sensing. ($1.162)

- Spintronics Memory Storage Technology efforts are to achieve a breakthrough in magnetic random access memory (MRAM) technologies together with companion programs in electronics packaging and advanced materials in order to develop a technology that will be produced domestically and will transition from the lab to the battlefield in a timely and cost effective manner ($2.324)

- Network Micro-Sensors Technology Testbed efforts are to establish a national testbed asset to develop and test large-scale sensor network protocols and applications. In FY08, the team will fabricate hardware and develop software necessary to implement the completed system design. A universal interface will be designed to accommodate many different micro-sensor types. Special consideration will be given to storage of data generated by the test bed because this data will in all likelihood be ITAR controlled. ($1.549)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2008 Plans

- End to End Semiconductor Fabrication Alpha Tool efforts are to develop a novel semiconductor processing capability to manufacture semiconductors in a single tool. This new, non liquid chemical, multi-activation processing technique allows high resolution patterns of process layered material to be fabricated directly on semiconductor wafers in a single step. This industry disruptive process eliminates the need for billion dollar facilities and million dollar mask for each chip design. The FY08 funds are to ($1.549)

- Demonstrations, Test and Evaluation of Mini-Sensor efforts are to support demonstrations, operational tests and evaluations of state-of-the-art sensor technology. One technology uses microsensors to improve the military's awareness of potential threats and the defense of high-value targets. The other features miniature wireless components that collect and transmit information using very little power. ($4.647)

- Electronics and Materials for Flexible Sensors and Transponders (EMFST) efforts are to employ state-of-the-art materials and manufacturing processes to design and create prototypes of flexible, low-cost, disposable radio-frequency sensors and transponders. Such components can be used covertly in the war on terrorism. ($2.904)

- Feature Size Migration efforts at DMEA are providing the fabrication technology, infrastructure modifications and facilitization to build microelectronics with increased functional density using digital, analog and mixed signal processes for military systems in DMEA's foundry. ($3.877)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2008 Plans

- Rapid Prototyping / Low Rate Production of Mini-Sensor efforts are to develop and prototype advanced wireless components for U.S. government customers to facilitate their transition into operational use. This includes developing a netted battlefield sensor system with a combination of ultra-sensitive receivers, ultra-low power miniature sensors, advanced manufacturing processes, and a real-time mission critical distributed information system. Transitioning prototype hardware and software to a production ready status. Completing all qualification testing, and supporting the execution of a military utility assessment to ensure the system is ready for transition to a military user. Coordinating with military user on the interface of the system into the existing C4ISR network. Developing training and operation material for the military user. ($3.485)

- High Specific Energy Rechargeable Battery efforts are to improve the delivered energy and cycle life of Li-S cells and optimizing cathode primer to lower cell resistance to generate higher power. The DoD relies heavily on microelectronics for the effectiveness of its combat systems (Ex: Unmanned Aerial Vehicles (UAVs), unattended ground sensors, etc). These systems, inturn have increased demands for power to operate. While there has been exponential growth in integrated circuit performance since 1970, battery technology has been lagging and has reduced growth potential of digital devices. This new work, creates a new battery technology, utilizing lithium sulfur (Li-S) and implementing improvements in cell chemistry and cell design. ($1.551)

- Carbon Nanotube Thin Film Near Infrared Detector efforts are to build on the revolutionary discovery of the broad spectrum bolometric response of carbon nanotube thin films to develop a new generation of near infrared detectors. FY 2008 funds are to refine the production, processing and purification of single-walled carbon nanotubes (SWNT). In order to optimize the temperature coefficient of resistivity which is an important parameter in the bolometric performance of these films, techniques will be developed to chemically process and functionalize the SWNTs. The thin film technology will be developed for the demonstration focal plane arrays. ($0.969)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2008 Plans

- Self-Sensing Array Container Pre-Screening Sensor System efforts are to develop robust, compact, low-cost, low-power sensor units for unattended sensing applications. The microcantilever-based Self-Sensing Array (SSA) technology is a strong candidate for such units. SSA technology is expected to provide the selectivity, sensitivity, durability, low cost, and low power needed for unattended sensors and sensor networks. The FY08 funds will be used to develop a combined system prototype of a chemical sensor system to be evaluated in laboratory and field tests and analyze the data. ($1.394)

- Agile JTRS Integrated Circuits program efforts are to develop electrically tunable circuits integrated monolithically with wireless circuits. The resultant circuits will provide a significant new capability to the military and enable tunable wireless circuits on a single chip. Systems such as the Joint Tactical Radio System (JTRS) require significant frequency tunability and could make immediate use of this technology to both improve performance and reduce cost of the systems. This capability will significantly increase the ability of the military to provide high-performance and cost-effective communications systems to the warfighter. ($1.549)

- Next Generation Supercomputer IA Prototype for the NRL efforts has not been identified at this time. A request has been made to either move the funds to an NRL PE or to obtain further direction from the responsible congressional office. ($4.500)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

B. Accomplishments/Planned Program

FY 2008 Plans

- Small Business Innovative Research (SBIR) efforts are to use the SBIR community to address the challenges of current and emerging microelectronics issues which adversely impact the reliability, performance, maintainability, or operational life of DOD weapon systems, and to investigate opportunities for application of advanced microelectronics technologies in DOD weapon systems. DMEA will generally participate in one or two SIBR solicitations per year depending on the quality and quantity of responses received. The mission of the DMEA is to research current and emerging microelectronics issues, with a focus on warfighters needs, and to leverage advanced technologies to extend the life of weapon systems by improving their reliability, maintainability and performance, while addressing the problem of diminishing manufacturing sources. This mission includes providing for the development and long-term support structure necessary to ensure rapid prototyping, insertion, and support of advanced microelectronics technologies into fielded systems. ($1.050)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 3				Microelectronics Technology Development and Support Program Element: 0603720S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	90.285	47.138	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

C. Other Program Funding Summary : N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3				R-1 Item Nomenclature: Program Title: Dual Use Applications Program (DUAP) Program Element: 0603805S				
Cost ($ in millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		5.200	0	0	0	0	0	0
Project 1: National Center for Manufacturing Sciences (NCMS)/Commercial Technology & Maintenance Activities (CTMA)		5.200	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

The Commercial Technology and Maintenance Activities (CTMA) program is a cooperative agreement between National Center for Manufacturing Sciences (NCMS) and the Deputy Under Secretary of Defense for Logistics and Materiel Readiness to co-sponsor technology development, deployment and validation with DoD organic maintenance activities and NCMS member companies. NCMS is a not-for-profit collaborative research consortium of North American corporations. It is the largest cross-industry consortium in the United States (240 member companies with an annual R&D project portfolio exceeding $80 million). The primary goals of the program are to transfer best commercial technologies and best practices to DoD maintenance activities via NCMS member companies. By partnering with NCMS members, the DoD maintenance activities are able to assess the benefits of new manufacturing technologies in their own facilities, working with industry leaders in solving manufacturing problems through collaboration. The Department of Army, Defense Supply Service Washington (DSSW) is the contracting office for the program. The statement of work in the CTMA contract, DASW01-98-0002, remains essentially unchanged since the original contract was issued in FY 1998, and subsequent year funding has been added to the contract by modification.

B. Program Change Summary:

	FY 07	FY 08	FY 09	FY 10
Previous PB 08	0.000	0.000	0.000	0.000
Current BES	5.200			
Total Adjustments	5.200			

Change Summary Explanation:

FY 07: Reprogramming: These funds were a congressional addition to the FY 2007 President's Budget under Operations and Maintenance, Defense-Wide, Commercial Technology for Maintenance Activities. These funds were intended for the Commercial Technology for Maintenance Activities for the Research, Development, Test and Evaluation, Defense-Wide. An Internal Reprogramming Action - DD 1415-3 was prepared and approved.

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 3				R-1 Item Nomenclature: Program Title: Dual Use Applications Program (DUAP) Program Element: 0603805S				
Cost ($ in millions)		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost		5.200	0	0	0	0	0	0
Project 1: National Center for Manufacturing Sciences (NCMS)/Commercial Technology & Maintenance Activities (CTMA)		5.200	0	0	0	0	0	0

C. Other Program Funding Summary: N/A

D. Acquisition Strategy. N/A

E. Performance Metrics:
Repair Cost Reduction-DoD Wide, Total Repair Cycle Days Eliminated, Total Industry Investment Obtained, Number of Industry Technology Providers Involved, Number of DoD Maintenance Activities Involved, Number of CTMA Projects Funded, Funding Obligation Dates, Contract Award Dates.

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 6				R-1 Item Nomenclature: PROGRAM: Small Business Innovation Research PROGRAM ELEMENT: 0605502S			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	4.309	0.000	0.000	0.000	0.000	0.000	0.000
Project 1: DMEA	2.269	0.000	0.000	0.000	0.000	0.000	0.000
Project 2: DLA	2.040	0.000	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Budget Item Justification:

Small Business Innovation Research (SBIR). The purpose of DoD's SBIR program is to harness the innovative talents of our nation's small technology companies for U.S. military and economic strength. The Small Business Innovation Research program funds early-stage R&D at small technology companies and is designed to stimulate technological innovation, increase private sector commercialization of federal R&D, increase small business participation in federally funded R&D, and foster participation by minority and disadvantaged firms in technological innovation

B. Program Change Summary:

	FY 07	FY 08	FY 09	FY 10
Previous PB 08	0.000	0.000	0.000	0.000
Current BES	4.309	0.000	0.000	0.000
Total Adjustment	4.309			
SBIR Transfer	4.309			

Change Summary Explanation:
FY07 - $2.269M from Microelectronics Technology Development and Support, PE 0603720S
$1.106M from Logistics R&D Technology, PE 0603712S
$0.122M from Deployment and Distribution Enterprise Technology PE 0603713S
$0.184M from Defense Technology Analysis PE 0605798S
$0.628M from Manufacturing Technology PE 708011S

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 6				Project 1, DMEA Small Business Innovative Research (SBIR) Program Element: 0605502S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Defense Microelectronics Activity	2.269	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

The Microelectronics Technology Development and Support efforts are to design, develop, and demonstrate microelectronics concepts, technologies, and applications to extend the life of weapon systems and to solve operational problems (e.g., reliability, maintainability, and performance) while addressing diminishing manufacturing sources. This includes providing for the development and long-term support structure necessary to ensure rapid prototyping, insertion, and support of microelectronics technologies into fielded systems. The Defense Microelectronics Activity **(**DMEA) provides technical and application engineering support for the implementation of advanced microelectronics research technologies from design through assembly and installation. The DMEA provides an organic capability to support these strategically important technologies within the DoD. These advanced technologies are translated into solutions for military needs. DMEA's SBIR program is comprised of a mix of studies, investigations, planning efforts, developments, and the fabrication of solutions.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	2.269	0.000	0.000	0.00
RDT&E Articles Quantity – N/A				

FY 2007 Plans: ($2.269)

- Topic DMEA07-1: High-Throughput Experimentation Physical Vapor Deposition (PVD) Chamber for Accelerated Microelectronics Materials Research and Development:

  The goal of this effort is to determine the feasibility of developing a PVD chamber capable of placing 100 or more tests sites on a single wafer. The deposition process at each site will be independently controlled. This will enable incremental variations in semiconductor process parameters. If successful, this will result in orders of magnitude reduction in both time and cost for the microelectronic research and development efforts. The objective of this topic is to develop a PVD chamber capable of depositing multiple material conditions in isolated areas on a single silicon wafer, enabling multiple experimental

data points to be accomplished rapidly on a single silicon wafer.

- Topic DMEA07-2: In-Line Characterization System for Advanced High K Dielectric / Metal Gate CMOS Transistor Stack for the Development of High Speed, Low Power Microelectronics:

- The key metrics necessary to accelerate the development and integration of advanced gate stacks are primarily electrical (e.g. work function, leakage, etc.). In order to measure these parameters today, wafers must be processed through the first metal layer in order to form electrical contacts. This measurement delay slows down the learning rate, which, in turn, impedes progress toward the effective integration of these high-performance structures. Using non-contact probes such as e-beams and specially designed test structures will enable these electrical measurements to be made in-line, immediately after the gate stack formation. Moving these measurements in-line will accelerate learning and result in more effective and cost-efficient integration of these new structures. The objective of this topic is to develop a contactless, in-line system to electrically characterize advanced high-K dielectric / metal gate CMOS transistor stacks

- Topic DMEA07-3: Ultra Low-Power Miniaturized Flexible Radio Optimized for Long-Term Battery Operation:

  A perfected ultra-low power flexible reconfigurable radio will enable timely fielding of task-specific radio transceivers, with the major development effort in software rather than hardware. The objective of this topic is to develop and demonstrate the design for a flexible, reconfigurable radio transceiver implemented on a microelectronic device that is suitable for long term operation (one year or more) on battery power.

C. Other Program Funding Summary: none

D. Acquisition Strategy: SBIR posting for Phase 1 and subsequent Phase 2 selection based on progress made and promise of approach. Proposals are being evaluated at this time

E. Major Performers: Unknown at this time

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 6				Project 2, DLA Small Business Innovative Research (SBIR) Program Element: 0605502S			
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Project 1: (Title & Acronym)	2.040	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

A. Mission Description and Budget Item Justification:

DLA's ability to deliver Americans the right logistics solution in every transaction requires more than successful management of the Department's wholesale supplies and suppliers. It requires supply chain excellence. Our military's ability to generate and sustain combat readiness indefinitely, anywhere on the globe requires that DLA-managed materiel flow seamlessly and as needed from the nation's industrial base to where it is ultimately used.

DLA's SBIR program seeks to solicit high-risk research and development proposals from the small business community. All selections shall demonstrate and involve a degree of technical risk where the technical feasibility of the proposed work has not been fully established. Phase I proposals should demonstrate the feasibility of the proposed technology and the merit of a Phase II for a prototype or at least a proof-of-concept demonstration. Phase II selections will be strongly influenced on future market possibilities and commercialization potential demonstrated.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	2.040	0.000	0.000	0.00
RDT&E Articles Quantity – N/A				

FY 2007 Plans: ($2.040) DLA Topic 07-01 Advanced Technologies for Discrete Parts Manufacturing seeks drastically lower unit costs of support through manufacturing revolutions that also have applicability to low and high volume production from commercial sales. This will result in an improvement in the affordability of these innovations to DLA and its customers and the development of cost effective methods to sustain existing defense systems while potentially impacting the next generation of defense systems

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: DLA was part of DoD SBIR solicitation 7.2. Proposals are being evaluated now.

E. Major Performers: To be determined

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 6				R-1 Item Nomenclature: Program Title: Defense Technology Analysis (DTA) Program Element: 0605798S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	7.763	0.000	0.000	0.000	0.000	0.000	0.000	
Project 1: DoD Technology Analysis Office (DTAO)	4.720	0.000	0.000	0.000	0.000	0.000	0.000	
Project 2: Technology Integration (TI)	0.697	0.000	0.000	0.000	0.000	0.000	0.000	
Project 3: Commodity Management System Consolidation (CMSC)	2.346	0.000	0.000	0.000	0.000	0.000	0.000	

A. Mission Description and Budget Item Justification:

This program element provides mission support to the Office of the Deputy Under Secretary of Defense (Science and Technology) (ODUSD(S&T)). It covers a wide range of studies and analyses in support of the RDT&E program and impacts the Department's decision to fund efforts to sustain operations for general R&D.

Project 1: The Defense Technology Analysis Office is responsible for providing engineering, scientific, and analytical support to the ODUSD(S&T) in its responsibility for direction, overall quality, and content of the Science and Technology program and ensuring that the technology being developed is affordable and minimizes systems development risk. Science and Technology is defined as consisting of Basic Research, Exploratory Development, and Advanced Technology.

Project 2: Technology Integration activities advance international S&T cooperation of specific projects of bilateral or multilateral interest. It provides the management support for U.S. participation in NATO's Research and Technology Organization (RTO) and "The Technical Cooperative Program" (TTCP). Technology Integration oversees coordinates, and reviews RTO and TTCP activities in which the U.S. has an interest including ongoing and proposed collaborative programs, technical symposia and conferences, and standard operating procedures.

Project 3: The Commodity Management System Consolidation and Integration team is charged with transitioning Commodity Systems to support the DOD Logistics Transformation Vision. This plan includes reducing response time, operational costs, and inventory and enhances customer satisfaction. To support this, the existing commodity management systems, in use by the Defense Logistics Agency (DLA), must migrate to a common operating environment, which utilizes shared data, and business rules that are accessible to DLA, its customers and its suppliers. Requirements include: 1) Development of an automated parts ordering tool allowing a technician working off an Interactive Electronic Technical Manual (IETM) to requisition parts interactively from the technical manual, 2) Perform a Business Case Analysis (BCA) to determine economic feasibility of the use of Freight on Board (FOB) origin contracts in the Distribution Planning and Management System (DPMS), 3) Research and perform digital (DVD) Conversion. 4) Other studies that will aid DLA in the transition to a paperless enterprise.

Exhibit R-2, RDT&E Budget Item Justification							Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 6				R-1 Item Nomenclature: Program Title: Defense Technology Analysis (DTA) Program Element: 0605798S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	7.763	0.000	0.000	0.000	0.000	0.000	0.000	
Project 1: DoD Technology Analysis Office (DTAO)	4.720	0.000	0.000	0.000	0.000	0.000	0.000	
Project 2: Technology Integration (TI)	0.697	0.000	0.000	0.000	0.000	0.000	0.000	
Project 3: Commodity Management System Consolidation (CMSC)	2.346	0.000	0.000	0.000	0.000	0.000	0.000	

B. Program Change Summary:

	FY 07	FY 08	FY 09	FY 10
Previous PB08	7.947	0.000	0.000	0.000
Current BES	7.763	0.000	0.000	0.000
Total Adjustments	-.184			
SBIR	-.184			

Change Summary Explanation:
FY07: $184K reprogrammed to PE 0605502S, Small Business Innovative Research

After FY 2007, DTAO will no longer be serviced by DLA and will no longer be included in DLA's budget exhibits.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 6				Project Name and Number – Defense Technology Analysis Office (DTAO), Project 1				
Cost ($ in millions)		FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Project 1. Defense Technology Analysis Office (DTAO)		4.720	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A								

A. Mission Description and Budget Item Justification:

This project provides engineering, scientific and analytical support to the Office of the Deputy Under Secretary of Defense (Science and Technology) (ODUSD(S&T)) in its responsibility for direction, overall quality, and content of the Science and Technology (S&T) program and ensures that the technology being developed is affordable and minimizes system development risk. The primary purpose of this program element is to facilitate the development of the S&T program and conduct assessments and analyses of the S&T program to ensure maximum utilization of Research and Development funds to accomplish the overall objectives of the S&T program. Funds are required for technical and analytical support, equipment, supplies, travel, and publications.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	4.720	0.000	0.000	0.000
RDT&E Articles Quantity – N/A				

FY 2007 Plans: ($4.720)

- Provide engineering, scientific, analytical, and managerial support to the ODUSD(S&T) in developing strategies and plans to exploit and develop technology. (0.661)
- Provide engineering, scientific, analytical, and managerial support to the ODUSD(S&T) in conducting analyses, developing policies, making recommendations, and developing guidance for science and technology plans and programs. (1.400)
- Provide engineering, scientific, analytical, and managerial support to the ODUSD(S&T) in reviewing proposed and approved science and technology programs and make recommendations to optimize effectiveness of the DoD investments in science and technology. (0.909)
- Provide engineering, scientific, analytical, and managerial support to the ODUSD(S&T) in oversight of science and technology issues and initiatives and responding to Congressional special interests. (1.750)

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide BA: 6				Project Name and Number – Technology Integration, Project 2				
Cost ($ in millions)		FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Project 2: Technology Integration		.697	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A								

A. Mission Description and Budget Item Justification:

Technology Integration activities advance international science and technology (S&T) cooperation of specific projects of bilateral or multilateral interest. It provides the management support for U.S. participation in NATO's Research and Technology Organization (RTO) and "The Technical Cooperative Program" (TTCP). Technology Integration oversees, coordinates and reviews RTO and TTCP activities in which the U.S. has an interest including ongoing and proposed collaborative programs, technical symposia and conferences, and standard operating procedures. This effort will leverage Tri-Service S&T dollars through new and ongoing international partnerships. Technology Integration also provides selective funding support for administration, travel, conferences, and technical evaluations related to RTO activities carried out by the Services and other organizations.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	0.697	0.000	0.000	0.000
RDT&E Articles Quantity – N/A				

FY 2007 Plans: ($0.697)

- Through an international technology watch effort, identify ongoing and proposed S&T efforts that could complement efforts or fill shortfalls in meeting U.S. S&T requirements, objectives and goals. (0.079)
- Fostered international bilateral and multilateral cooperative agreements in high value science & technology areas with allies, nonaligned nations and former Soviet Block nations. Then establish data exchange agreements, engineer and scientist exchange program visits, international technology assessments and new cooperative programs. (0.358)
- Seek international cooperation in high priority S&T. Conduct intradepartmental coordination to achieve goals. (0.260)

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity (BA): 6			Project Name and Number – Commodity Management System Consolidation, Project 3				
Cost ($ in millions)	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
Project 3: Commodity Management System Consolidation (CMSC)	2.346	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Quantity - N/A							

A. **Mission Description and Budget Item Justification:** The Commodity Management System Consolidation (CMSC) and Integration team is charged with transitioning Commodity Systems to support the DOD Logistics Transformation Vision. This plan includes reducing response time, operational cost, and inventory, and enhancing customer satisfaction. To support this, the existing commodity management systems, in use by the Defense Logistics Agency (DLA), must migrate to a common operating environment, which utilizes shared data, and business rules that are accessible to DLA, its customers and its suppliers. Requirements include: 1) Development of an automated parts ordering tool allowing a technician working off an Interactive Electronic Technical Manual (IETM) to requisition parts interactively from the technical manual. 2) Capturing NSN application data from the IETM and supplying that data to other authoritative sources

Successes with developing the IETM parts ordering tool include fielding at pilot sites in Air Force and Navy locations. Ongoing research includes seeding the project at each of the remaining Services and fostering the development and expansion across the Service. Expanding the Knowledge Management Capability will enable DLA to better serve the warfighter.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	2.346	0.000	0.000	0.000
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments ($2.346)

- Develop Ordering "Leave-in Place" Prototype for the Army
- Expand Ordering "Leave-in-Place" Prototype for the Air Force
- Expand Knowledge Management Capabilities)
- Become DLA lead in weapon system application data

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: West Virginia ManTech located in Fairmont West Virginia. Development of an automated parts ordering tool allowing a technician working off an Interactive Electronic Technical Manual (IETM) to requisition parts interactively from the technical manual to the retail supply system. This capability will extend to DOD EMALL.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			R-1 Item Nomenclature: Program Title: Industrial Preparedness Manufacturing Technology Program Element: 708011S				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	34.142	57.347	20.480	20.803	21.286	21.688	22.012
Project 1: Combat Rations (CR)	1.998	1.952	1.957	1.946	1.967	2.007	2.039
Project 2: Customer Driven Uniform Manufacturing (CDUM) (Previously called Apparel Research Network)	3.713	3.883	4.041	4.226	4.314	4.401	4.470
Project 3: Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT)	1.303	2.584	2.615	2.627	2.666	2.692	2.717
Project 4: Procurement Readiness Optimization-Forging Advanced System Technology (PRO-FAST)	1.112	1.202	1.216	1.226	1.258	1.283	1.304
Project 5: Material Acquisition: Electronics (MAE)	10.551	10.365	10.651	10.778	11.081	11.305	11.482
Project 6: Other Congressionally Added Programs (OCAs)	15.465	37.361	0	0	0	0	0

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	R-1 Item Nomenclature: Program Title: Industrial Preparedness Manufacturing Technology Program Element: 708011S

Mission Description and Budget Item Justification:

The Defense Logistics Agency (DLA) Manufacturing Technology (ManTech) Program supports the development of a responsive, world-class manufacturing capability to affordably meet the warfighters' needs throughout the defense system life cycle. ManTech:

- Provides the crucial link between invention and product application to speed technology transitions.
- Matures and validates emerging manufacturing technologies to support low-risk implementation in industry and DoD facilities, e.g. depots and shipyards.
- Addresses production issues early by providing timely solutions.
- Reduces risk and positively impacts system affordability by providing solutions to manufacturing problems before they occur.

DLA ManTech includes Combat Rations Network for Technology Implementation (CORANET), Customer Driven Uniform Manufacturing (CDUM), Procurement Readiness Optimization—Advanced Casting Technology (PRO-ACT), Procurement Readiness Optimization—Forging Advance System Technology (PRO-FAST), and Material Acquisition: Electronics (MAE). DLA is not involved with execution of this program. Other Congressional Adds (OCA) programs are Congressionally Directed efforts.

B. Program Change Summary:

	FY 2007	FY 2008	FY 2009	FY 2010
Previous PB08	33.570	20.114	20.627	20.978
Current BES	34.142	57.347	20.480	20.803
Total Adjustments	.572	37.233	-0.147	- 0.175
Reprogramming	1.200			
SBIR Transfer	-.628			
Congressional Adds, Econ Assumptions, Contractor Efficiencies		37.233		
Economic Assumptions			-0.147	-0.175

Change Summary Explanation:

FY 2007: Reprogrammed $1.2M from PE 0603712S to PRO-ACT, Project 3, to provide a critical level of research activity. 628K was reprogrammed to Small Business Innovative Research program (SBIR), PE 0605502S.

FY2008: Increase due to Congressional Adds of $37.6M, offset by $.367M for Economic Assumptions and Contractor Efficiencies.

FY2009/2010: Decrease due to Economic Assumptions.

Exhibit R-2, RDT&E Budget Item Justification	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	R-1 Item Nomenclature: Program Title: Industrial Preparedness Manufacturing Technology Program Element: 708011S

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics: N/A

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Combat Rations (CR), Project 1				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Combat Rations	1.998	1.952	1.957	1.946	1.967	2.007	2.039
RDT&E Articles Quantity- N/A							

A. Mission Description and Budget Item Justification: In FY 2005 the Defense Supply Center Philadelphia (DSCP) sold $3.9B in subsistence goods and services to the Department of Defense, making it DSCP's largest supply chain. Sales in subsistence continue to grow, largely due to requirements for operations Iraqi Freedom and Enduring Freedom. The Combat Rations Program is focused on improving the manufacturing technologies related to the production and distribution of the combat rations that are at the forefront of these operations, including Meals Ready to Eat (MREs) as well as unitized group rations. The objectives are increased readiness, improved quality, increased ration variety, decreased cost. The CORANET program engages all elements of the supply chain including producers, military services, Army Natick, USDA, FDA, DLA, DSCP and academia to research and transition improved technologies for operational rations. To insure technology validation and transition, the CORANET program also maintains a demonstration site.

B. Accomplishments/Planned Program:

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	1.998	1.952	1.957	1.946
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments: ($1.998)
- Ultra High Pressure Processing Eggs-Improved processing and formulation for MRE egg entrees to increase soldier acceptance ($.147)
- Quality Improvement Cheese Spread-Improved formulations for MRE item to reduce discoloration and improve shelf life ($.138)
- Technology Transition Retort Racks-Validation and transition of technology for reduced defects and failures in retort racks ($.104)
- Microbial Studies MRE Shelf Stable Pocket Sandwich-Acceptance of microbiological growth data by regulatory agencies ($.146)
- Knurled Seal Heat Bar Technology-Improved strength and increased production yield for MRE pouches ($.099)
- Oxygen Absorbing Packaging Materials-Elimination of scavenger sachets and improved shelf life ($.315)
- Four Sided Seal Tester-Improved testing process for reduced testing time and sample size ($0.149)
- Identify, define, review and implement research activities ($0.500)
- Demonstration site ($0.400)

FY 2008 Plans: ($1.952)
- Partner support, identify, define, review and transition research activities ($0.490)
- Demonstration site ($0.440)
- Bakery Shelf Life Extension-Improved formulations, processes and packaging for increased shelf life and improved acceptance. ($0.312)
- Wet Pack Fruit Quality Improvement-Process and formulation improvement for increased shelf life. ($0.390)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Combat Rations (CR), Project 1				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 1: Combat Rations	1.998	1.952	1.957	1.946	1.967	2.007	2.039
RDT&E Articles Quantity- N/A							

- Improving Insulated Beverage Dispenser-Improved process and materials for increased production, decreased cost and reduced lead-time ($0.240)
- Addition of Antioxidants to Combat Rations-Improved nutritional quality, reduced production costs and processing time. ($0.080)

FY 2009 Plans ($1.957)
- Transition to CORANET 3 ($0.485)
- New Short Term Projects and Partner support ($1.472)

FY 2010 Plans ($1.946)
- Identify, define, review and implement research activities ($0.500)
- New Short Term Projects and Partner support ($1.446)

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Project Name and Number - Combat Rations (CR), Project 1

A. Project Cost Breakdown

Combat Rations

Project Cost Categories	FY 2007	FY 2008	FY 2009	FY2010
a. Manufacturing Process Support Costs	1.998	1.952	1.957	1.946

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contractor Method/Type Or Funding Vehicle	Award or Obligation Date	Performing Project Activity BAC	FY 2007	FY 2008	FY 2009	FY2010	Budget to Complete	Total Program
				Cont	Cont	Cont.	Cont.		
Ameriqual	Cost, No Fee	12/2001	Partner						
Georgia, Univ of	Cost, No Fee	12/2001	Partner, STP*						
NCFST	Cost, No Fee	12/2001	Partner, STP						
Ohio State Univ	Cost, No Fee	12/2001	Partner, STP						
R&D Associates	Cost, No Fee	12/2001	Partner, STP						
Rutgers	Cost, No Fee	12/2001	Partner, STP, Demo						
SOPAKCO	Cost, No Fee	12/2001	Partner, STP						
Sterling	Cost, No Fee	11/2001	Partner						
TEES (TAMU)	Cost, No Fee	12/2001	Partner, STP						
Tennessee, Univ of	Cost, No Fee	12/2001	Partner, STP						
Wornick	Cost, No Fee	12/2001	Partner						
Wash State U	Cost, No Fee	12/2001	Partner, STP						
Michigan State U	Cost, No Fee	7/2006	Partner						
Virginia Tech	Cost, No fee	7/2006	Partner						
Diversapak	Cost, No Fee	7/2006	Partner						
Truitt	Cost, No Fee	7/2006	Partner						
Oregon Freeze Dry	Cost, No Fee	7/2006	Partner						
				1.998	1.952	1.957	1.946		

Government Furnished Property: None.

*STP = "Short Term Project"

Exhibit R-4, Schedule Profile																												Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7					Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology								Project Name and Number - Combat Rations (CR), Project 1																	
Fiscal Year	**2007**				**2008**				**2009**				**2010**				**2011**				**2012**				**2013**			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Quality Improvement Cheese Spread	**X**	**X**																										
Ultra High Pressure Processing Eggs	**X**	**X**																										
Acceptance Test for Retort Pouch Material																												
Technology Transition Retort Racks	**X**	**X**	**X**	**X**	**X**	**X**																						
Microbial Studies MRE Shelf Stable Pocket Sandwich	**X**	**X**	**X**	**X**	**X**	**X**																						
Knurled Seal Heat Bar Technology	**X**	**X**	**X**	**X**	**X**	**X**																						
Oxygen Absorbing Packaging Materials	**X**	**X**	**X**	**X**	**X**	**X**																						
New Short Term Projects					**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Demonstration Site	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Identify, define, review and implement research activities	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**

Exhibit R-4a, Schedule Detail							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology			Project Name and Number - Combat Rations (CR), Project 1			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Quality Improvement Cheese Spread	1-2Q						
Ultra High Pressure Processing Eggs	1-2Q						
Acceptance Test for Retort Pouch Material							
Technology Transition Retort Racks	1-4Q	1-2Q					
Microbial Studies MRE Shelf Stable Pocket Sandwich	1-4Q	1-2Q					
Knurled Seal Heat Bar Technology	1-4Q	1-2Q					
Oxygen Absorbing Packaging Materials	1-4Q	1-2Q					
New Short Term Projects		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Demonstration Site	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Identify, define, review and implement research activities	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Customer Driven Uniform Manufacturing (CDUM), Project 2				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 2: Customer Driven Uniform Manufacturing	3.713	3.883	4.041	4.226	4.314	4.401	4.470
RDT&E Articles Quantity- N/A							

A. Mission Description and Budget Item Justification:

The Department of Defense, through the Defense Logistics Agency, purchased $2.54 billion of clothing and textile items in 2005. The lead-time is up to 15 months and the current inventory acquisition value is over $1 billion. The current focus of DLA military clothing research is Customer Driven Uniform Manufacturing (CDUM). CDUM explores the application of advanced manufacturing and information technologies to the end-to-end management of non-recruit clothing (NRC). Each NRC supply chain has unique requirements not typically found in apparel industrial operations. CDUM will experiment with ways to help manufacturers meet the requirements specific to NRC (i.e. raw material tracking). It will also explore ways to account for NRC after it has left the wholesale system. The benefits will include improved asset visibility, accountability, and shelf-life management throughout an items' life cycle, reduced item cost, reduced operational costs, and improved readiness. Experimentation will identify promising technical solutions, prototype alternative solutions, and validate user requirements.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	3.713	3.883	4.041	4.226
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments: ($3.713)
- Non-recruit clothing (NRC) business process baseline analyses ($0.375)
- Life cycle management for NRC ($1.080)
- Identification of Radio Frequency Identification Device (RFID)/Advanced Identification Technology (AIT) technologies for application to NRC ($1.000)
- Demonstration of RFID (Radio Frequency Identification Device) technology for recruit items at Lackland AFB ($1.258)

FY 2008 Plans: ($3.883)
- RFID/AIT pilots for the NRC supply chain including Joint Service Lightweight Integrated Suite Technology (JSLIST), Individual Body Armor, and the Advanced Combat Uniform (ACU) at Lackland AFB and Travis VPVSC($1.172)
- NRC Prototype Demonstrations for items at Army Ft. Carson. ($1.022)
- Expanded 3D Body scanning demonstration for NRC ($.722)
- Explore RFID alternatives for Individual Protective Equipment (IPE) including near field technologies, active RFID, sensory networks, motes ($.967)

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Customer Driven Uniform Manufacturing (CDUM), Project 2				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 2: Customer Driven Uniform Manufacturing	3.643	3.883	4.041	4.226	4.314	4.401	4.470
RDT&E Articles Quantity- N/A							

FY 2009 Plans ($4.041)
- Expanded RFID/AIT Prototype Demonstrations ($2.061)
- Expanded NRC Prototype Demonstrations ($1.490)
- Extend from end-item manufacturers to fabric suppliers ($.490)

FY 2010 Plans ($4.226)
- Transition to CDUM II ($.252)
- Roadmap New Initiatives ($0.991)
- Prototype Implementations for NRC ($1.491)
- Prototype Implementations for RFID/AIT ($1.492)

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: AdvanTech, Inc., Annapolis, MD. Award Date 3/2003, Cost Plus Fixed-Fee (CPFF), 3 Year base, 2 two year options. Contractor performs research and development in the area of supply chain management and integration.

Product Data Integration Technologies, Inc. (PDIT), Inc., Long Beach, CA, Award Date 3/2002, CPFF, 3 year base, 2 two year options. Contractor performs research and development in the area of data base development for real time asset visibility and automated processing of electronic transactions.

Human Solutions NA, Inc., Dearborn, MI, Award Date 3/2002, CPFF, 3 year base, 2 two year options. Contractor performs research and development in the area of 3D body scanning integration into supply chain management systems.

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Project Name and Number - Customer Driven Uniform Manufacturing (CDUM), Project 2

A. Project Cost Breakdown

Customer Driven Uniform Manufacturing

Project Cost Categories	FY 2007	FY 2008	FY 2009	FY2010
a. Manufacturing Process Support Costs	3.713	3.883	4.041	4.226

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contractor Method/Type Or Funding Vehicle	Award or Obligation Date	Performing Project Activity BAC	FY 2007	FY 2008	FY 2009	FY2010	Budget to Complete	Total Program
				3.713	3.883	4.041	4.226		
PDIT	Cost Plus Fixed Fee/Contractor	03/2002							
AdvanTech	Cost Plus Fixed Fee/Contractor	03/2002							
Human Solutions	Cost Plus Fixed Fee/Contractor	03/2002							

Government Furnished Property: None.

Exhibit R-4, Schedule Profile																												Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7					Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology												Project Name and Number - Customer Driven Uniform Manufacturing (CDUM), Project 2												
Fiscal Year	**2007**				**2008**				**2009**				**2010**				**2011**				**2012**				**2013**			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
NRC business process baseline analyses.	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**																				
RFID/AIT pilots for the NRC supply chain including JSLIST, Individual Body Armor and the ACU	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**																				
Life cycle management for NRC	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**																				
Extend from end-item manufacturers to fabric suppliers	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**																				
Expansion, enhancement and refinement of RFID/AIT initiatives			**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**												
Expansion, enhancement and refinement of non-recruit clothing (NRC) initiatives			**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**												
RFID/AIT prototype demonstration							**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**		
NRC prototype demonstrations							**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**		

Exhibit R-4a, Schedule Detail							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology			Project Name and Number - Customer Driven Uniform Manufacturing (CDUM), Project 2			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Non-recruit clothing (NRC) business process baseline analyses.	1-4Q	1-4Q					
RFID/AIT pilots for the NRC supply chain including JSLIST, Individual Body Armor and the ACU	1-4Q	1-4Q					
Life cycle management for NRC	1-4Q	1-4Q					
Extend from end-item manufacturers to fabric suppliers.	1-4Q	1-4Q	1-4Q	1-4Q			
Expansion, enhancement and refinement of RFID/AIT initiatives	3-4Q	1-4Q	1-4Q	1-4Q			
Expansion, enhancement and refinement of non-recruit clothing initiatives	3-4Q	1-4Q	1-4Q	1-4Q			
RFID/AIT prototype demonstrations		3-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-2Q
NRC prototype demonstrations		3-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-2Q

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT), Project 3				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 3: Procurement Readiness Optimization-Advanced Casting Technology	1.303	2.584	2.615	2.627	2.666	2.692	2.717
RDT&E Articles Quantity- N/A							

A. Mission Description and Budget Item Justification: Weapon system spare parts which use castings are responsible for a disproportionate share of backorders. Cast parts are 2% of National Stock Numbered parts but represent 4% of all backorders, and when only the oldest backorders are considered, up to 19% of them are castings. This program develops innovative technology and processes to improve the procurement, manufacture, and design of weapon system spare parts which use castings. The Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT) program takes a systems view and considers not only the Defense Logistics Agency (DLA) perspective but also the Military Service Engineering Support Activities (ESA) which DLA works with to solve technical issues, as well as the industrial supply base. The program has three components: Rapid Acquisition, Quality, and Cost Effectiveness

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	1.303	2.584	2.615	2.627
RDT&E Articles Quantity – N/A				

FY2007 Accomplishment: (1.303)

- Rapid Acquisition
  - Procurement Solutions for Castings – Through June, sent out 620 solicitations matched to tooling records to over 51 different companies (47 foundries, 4 machine shops). Total estimated dollar value of the 620 solicitations: $5,069,157.
  - Casting Procurement Support – Provided direct technical / procurement support to 47 DLA NSNs.
  - Casting Procurement Tools - Conducted Metalcasting Technology Transfer events at DLA, ESA, and industry locations for over 250 DoD and industry procurement personnel.
  - Computational Tools for Short Run Insert Production and Improved Yield - Completed review of part quality/die design constraints. Started visualization approach to shot yield improvement.
  - Rapid Tooling for Short Run Metal Mold Applications and Increased Productivity – Evaluating high thermal conductivity materials Anviloy and copper-based materials for improving cycle times.
  - Productivity Improvements for Spare Part Components - Received two parts for evaluation of reserve evaluation technologies from DLA Supply Center Richmond through AMC CAST-IT Team. Conducted White Light and Laser Scanning. X-ray scheduled next. Initiated the design of an electronic reverse engineering guidance tool for die casters.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT), Project 3				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 3: Procurement Readiness Optimization-Advanced Casting Technology	1.303	2.584	2.615	2.627	2.666	2.692	2.717
RDT&E Articles Quantity- N/A							

- Quality
  - Cast Part Performance Prediction in the Presence of Discontinuities - Developed the software interfaces necessary to couple the casting simulation output to the casting performance prediction.
  - Casting Design, Inspection and Quality Standards for Military and Aerospace Aluminum Castings – In the development of reference radiographs for investment steel castings, master prints have been produced and reference images have been produced from the master prints.
  - Casting Specifications and Standards – Scanning metalcasting technical documents for web-accessibility.
  - High Performance Die Casting Alloys – Conducted studies to optimize the selected alloys and develop new alloys with better mechanical properties to meet these requirements.
  - Optimizing Corrosion Performance of Welds on 6 wt% Molybdenum (Mo) Super Austenitic Stainless Steel Castings - Preparation of test plates completed.
  - E356 Statistical Properties – Presented project plan and received approval of Metallic Materials Properties Development and Standardization (MMPDS) Handbook committee.
- Cost Effectiveness
  - Cost-Effective Casting Applications - Demonstrated cost reduction of mortar cleaning mesh-holder through casting redesign
  - High Production Rate Process for Metal Matrix Composite Components - Samples been prepared for SSM casting trials at Vforge in Denver.

FY2008 Plans: (2.584)

- Rapid Acquisition
  - Procurement Solutions for Castings – Over 250 casting suppliers in the Casting Suppliers Database.
  - Casting Procurement Support – Provide direct technical / procurement support to 50 DLA NSNs.
  - Casting Procurement Tools - Conduct Metalcasting Technology Transfer events to four DLA, ESA, and/or industry locations.
  - Computational Tools for Short Run Insert Production and Improved Yield - Increase shot yield using modular tooling

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT), Project 3				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 3: Procurement Readiness Optimization-Advanced Casting Technology	1.303	2.584	2.615	2.627	2.666	2.692	2.717
RDT&E Articles Quantity- N/A							

- Rapid Tooling for Short Run Metal Mold Applications and Increased Productivity – Evaluate die life and cycle time of dies with laser-deposited cores.
- Productivity Improvements for Spare Part Components - Implementation Strategies for each new technology.

• Quality
- Cast Part Performance Prediction in the Presence of Discontinuities - Begin to investigate effects of inclusions on static and fatigue properties.
- Casting Design, Inspection and Quality Standards for Military and Aerospace Aluminum Castings – Prepare digital reference images with standard for ASTM balloting. Determine effect of chill and increased pressure on solidification under pressure.
- Casting Specifications and Standards – Revision and publication of SFSA Handbook Supplement #2 Summary of Steel Casting Specifications.
- High Performance Die Casting Alloys - Evaluate selected target alloys.
- Optimizing Corrosion Performance of Welds on 6 wt% Molybdenum (Mo) Super Austenitic Stainless Steel Castings – Report on influence of welding parameters and post-weld heat treatments on weld microstructure.
- E356 Statistical Properties – Test and analyze samples for properties.

• Cost Effectiveness
- Cost-Effective Casting Applications –.Demonstrate two applications of cost / weight / time reduction through casting redesign / reverse engineering / new technology application.
- High Production Rate Process for Metal Matrix Composite Components – SHS material property testing.

FY2009 Plans: (2.615)

• Rapid Acquisition
- Procurement Solutions for Castings – Directing over $750k/month worth of solicitations to foundries/suppliers.
- Casting Procurement Support – Provide direct technical / procurement support to 50 DLA NSNs.
- Casting Procurement Tools - Conduct Metalcasting Technology Transfer events to four DLA, ESA, and/or industry locations.
- Computational Tools for Short Run Insert Production and Improved Yield - Reduce required holder block inventories for short run producers from one holder for every two dies to one holder for every four dies..
- Rapid Tooling for Short Run Metal Mold Applications and Increased Productivity – In-plant trials.
- Productivity Improvements for Spare Part Components – Deployment of implementation strategies for new technologies.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT), Project 3				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 3: Procurement Readiness Optimization-Advanced Casting Technology	1.303	2.584	2.615	2.627	2.666	2.692	2.717
RDT&E Articles Quantity- N/A							

- Quality
  - Cast Part Performance Prediction in the Presence of Discontinuities - Stress and durability modeling
  - Casting Design, Inspection and Quality Standards for Military and Aerospace Aluminum Castings – Simulate solidification of the casting without gating system or risers to identify porosity-prone areas due to design.
  - Casting Specifications and Standards – Deploy new electronic documentation library.
  - High Performance Die Casting Alloys - Test and analyze results; adjust alloy compositions for beta trials.
  - Optimizing Corrosion Performance of Welds on 6 wt% Molybdenum (Mo) Super Austenitic Stainless Steel Castings – Report on influence of filler metal composition on corrosion resistance.
  - E356 Statistical Properties - Compile Test Data.
- Cost Effectiveness
  - Cost-Effective Casting Applications - Demonstrate two applications of cost / weight / time reduction through casting redesign / reverse engineering / new technology application.
  - High Production Rate Process for Metal Matrix Composite Components – Correlation of parameters, structures, and properties of SHS-cast components.

FY2010 Plans: (2.627)

- Rapid Acquisition
  - Procurement Solutions for Castings – Over 25,000 records in the Defense Tooling Database.
  - Casting Procurement Support – Provide direct technical / procurement support to 50 DLA NSNs.
  - Casting Procurement Tools - Conduct Metalcasting Technology Transfer events to four DLA, ESA, and/or industry locations.
  - Computational Tools for Short Run Insert Production and Improved Yield – Integrated system and documentation.
  - Rapid Tooling for Short Run Metal Mold Applications and Increased Productivity – Guidelines for materials selection and fabrication methods of rapid tooling.
  - Productivity Improvements for Spare Part Components – Electronic tool for productivity improvements.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT), Project 3				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 3: Procurement Readiness Optimization-Advanced Casting Technology	1.303	2.584	2.615	2.627	2.666	2.692	2.717
RDT&E Articles Quantity- N/A							

- Quality
  - Cast Part Performance Prediction in the Presence of Discontinuities - Casting Design Recommendations and Inspection Guidelines
  - Casting Design, Inspection and Quality Standards for Military and Aerospace Aluminum Castings – ASTM digital radiography reference standard for investment steel castings. Solidification under Pressure (SuP) tensile property data.
  - Casting Specifications and Standards - Four additional casting design tutorials.
  - High Performance Die Casting Alloys – Industry trials. New premium grade alloys.
  - Optimizing Corrosion Performance of Welds on 6 wt% Molybdenum (Mo) Super Austenitic Stainless Steel Castings – Guidelines for optimized weld corrosion performance.
  - E356 Statistical Properties - Correlate NDE, structure, and properties.
- Cost Effectiveness
  - Cost-Effective Casting Applications - Demonstrate two applications of cost / weight / time reduction through casting redesign / reverse engineering / new technology application.
  - High Production Rate Process for Metal Matrix Composite Components – In-plant trials.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: Competitive Broad Agency Announcement (BAA) evaluations complete

E. Major Performers: N/A

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide BA: 7	Project Name and Number - Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT), Project 3

A. Project Cost Breakdown

Procurement Readiness Optimization—Advanced Casting Technologies (PRO-ACT)

Project Cost Categories	FY 2007	FY 2008	FY 2009	FY 2010
a. Manufacturing Process Support Costs	1.303	2.584	2.615	2.627

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contractor Method/Type Or Funding Vehicle	Award or Obligation Date	Performing Project Activity BAC	FY 2007	FY 2008	FY 2009	FY 2010	Budget to Complete	Total Program
				1.303	2.584	2.615	2.627		
AdvanTech, Inc	Cost Share Contract	6/23/00	12.585						
AdvanTech, Inc	Cost share	10/1/05	14.442						

Government Furnished Property: None.

Exhibit R-4, Schedule Profile																												Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7					Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology												Project Name and Number - Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT), Project 3												
Fiscal Year	**2007**				**2008**				**2009**				**2010**				**2011**				**2012**				**2013**			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
New Program - will demonstrate readiness improvements by developing and applying innovative methods of designing, manufacturing and buying weapon systems spares through advanced casting technology.	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**

Exhibit R-4a, Schedule Detail							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology			Project Name and Number - Procurement Readiness Optimization-Advanced Casting Technology (PRO-ACT), Project 3			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
New Program - will demonstrate readiness improvements by developing and applying innovative methods of designing, manufacturing and buying weapon systems spares through advanced casting technology.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Procurement Readiness Optimization-Forging Advanced System Technology (PRO-FAST), Project 4				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 4: Procurement Readiness Optimization-Forging Advanced System Technology	1.112	1.202	1.216	1.226	1.258	1.283	1.304
RDT&E Articles Quantity- N/A							

A. Mission Description and Budget Item Justification: Weapon system spare parts which use forgings are responsible for a disproportionate share of DLA backorders. Forged parts are 3% of National Stock Numbers (NSNs) but 6% of backorders. This program develops methods and technology to improve the supply of forged parts. This program takes a holistic view of the problem and attacks root causes inside DLA, at DLA's engineering support activity partners in the Services, and at DLA forging suppliers. The program has three thrusts: Business Enterprise Integration to improve supply support approaches; FORGE-IT to develop and improve technical problems; and R&D which develops new technology for forging suppliers, including new methods for making forge dies (typically the longest lead time item) and for simulation of metal flow inside the forge die (to eliminate trial and error development of the die).

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	1.112	1.202	1.216	1.226
RDT&E Articles Quantity – N/A				

Forging Technology for Lead Time Reduction

FY 2007 Accomplishments: ($1.112)

- Value stream analysis of shop floor and acquisition processes – The Ohio State University – Continued development of Production Flow Analysis Simplification Toolkit for application by forges throughout the US.
- Best practices for forging supplier selection and forging tooling database development – University of Toledo, MVTS, Information Handling Systems, and Plexus On Line – Increased the number of forging dies in the National Forging Tooling Database (NFTD) to over 200,000 dies representing over 70 forges in the country. Developed Dynamic Partnering software that helps forging users find suppliers that are technically capable of producing work in a timely and affordable manner. Dynamic Partnering is based on a hierarchical series of questions about material, geometry, and application that enhances the ability of procurement personnel to consistently and objectively make best value source selection decisions for highly engineered forged product forms.
- Continued to upload forge company tooling databases into the National Forge Tooling Database, so DoD can source forged parts to companies which already possess existing tooling, saving lead time, cost and technical risk.
- Deployed the FORGE-IT process in addressing forging technical and enterprise problems. Provided forging procurement assistance to DLA and DOD Services.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Procurement Readiness Optimization-Forging Advanced System Technology (PRO-FAST), Project 4				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 4: Procurement Readiness Optimization-Forging Advanced System Technology	1.112	1.202	1.216	1.226	1.258	1.283	1.304
RDT&E Articles Quantity- N/A							

FY 2008 – 2010 Plans: A new competitive Broad Area Announcement for forging manufacturing technology will be issued. This BAA will result in the implementation of forging technology programs based on project teams with substantial interaction among all of the elements of the forging acquisition and supply chain. All aspects of forging manufacturing technology are of interest, which will result in faster, more producible and more affordable forgings, especially for older weapon systems which have been out of production for a number of years and the original producer has gone out of business.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: A Broad Agency Announcement (BAA) evaluations complete

E. Major Performers: N/A

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Project Name and Number - Procurement Readiness Optimization-Forging Advanced System Technology (PRO-FAST), Project 4

A. Project Cost Breakdown

Procurement Readiness Optimization—Forging Advanced System Technology (PRO-FAST)

Project Cost Categories	FY 2007	FY 2008	FY 2009	FY 2010
a. Manufacturing Process Support Costs	1.112	1.202	1.216	1.226

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contractor Method/Type Or Funding Vehicle	Award or Obligation Date	Performing Project Activity BAC	FY 2007	FY 2008	FY 2009	FY 2010	Budget to Complete	Total Program
AdvanTech, Inc	Contract	10/13/05	13.006	1.112	1.202	1.216	1.226		

Government Furnished Property: None.

Exhibit R-4, Schedule Profile																												
Date: February 2008																												
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7					Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology												Project Name and Number - Procurement Readiness Optimization-Forging Advanced System Technology (PRO-FAST), Project 4											
Fiscal Year	**2007**				**2008**				**2009**				**2010**				**2011**				**2012**				**2013**			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Business Enterprise Integration	**X**	**X**	**X**	**X**																								
"FORGE-IT" projects	**X**	**X**	**X**	**X**																								
Forging R&D	**X**	**X**	**X**	**X**																								
New Forging Program					**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**

Exhibit R-4a, Schedule Detail							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology			Project Name and Number - Procurement Readiness Optimization-Forging Advanced System Technology (PRO-FAST), Project 4			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Business Enterprise Integration	1-4Q						
FORGE-IT Projects	1-4Q						
Forging R&D	1-4Q						
New Forging Program		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Material Acquisition: Electronics (MAE), Project 5				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 5: Material Acquisition: Electronics	10.551	10.365	10.651	10.778	11.081	11.305	11.482
RDT&E Articles Quantity- N/A							

A. Mission Description and Budget Item Justification:

Develop a capability to emulate most obsolete digital integrated circuits (ICs) in the federal catalog using a single, flexible manufacturing line. DoD has estimated that $2.9 billion is spent every five years in redesigning circuit card assemblies. Much of these redesigns are driven by IC obsolescence. Commercial ICs have short Product Life Cycles (often available only 18 months), prior to moving on to the next generation of ICs.

DoD maintains weapons systems much longer, resulting in an obsolescence problem. In order to avoid the excess costs and potential readiness issues associated with buying excessive inventories before commercial availability ceases, or redesigning the next higher assembly to eliminate the obsolete part, DLA (as the manager of 88% of the IC supply class) must have a capability to manufacture IC devices. This project develops that capability and will expand to succeeding generations of obsolete ICs through the Advanced Microcircuit Emulation program. In addition there has been increased concern over trusted sourcing issues, as most IC design and production has migrated to over seas suppliers and we have taken measures to address that issue in accordance with OSD direction.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	10.551	10.365	10.651	10.778
RDT&E Articles Quantity – N/A				

The Material Acquisition Electronics program continues to cover development and expansion of IC fabrication technology to emulate succeeding generations of discontinued or otherwise non available commercial technology. This includes transitioning to Low Rate Initial Production capability. Development of IC design capability and population of our design model library for efficient IC fabrication capability will continue to expand in order to accommodate both in-house and third-party (principally Original Equipment Manufacturer) design requirements. Continued development of IC characterization capability will mitigate lack of tech data issues commonly encountered in emulation of obsolete devices. In FY2007 we completed development of Silicon On Sapphire based Radiation Hardened IC's for B2 aircraft, Emitter Coupled Logic devices for F-18 aircraft and developed several other devices applicable to a wide range of DoD weapons systems. Another significant achievement was obtaining Trusted Foundry Certification from the National Security Agency (NSA) to meet evolving critical application needs. FY2008 plans include development of high performance 0.5 micron arrays, complete a needs assessment for, and possible begin development of, Field Programmable Arrays (FPGA's). We will continue development of Deep Trench Isolated Schotkey Radiation Hardened IC devices and focus on specific weapons system applications for more recent non-commercially procurable Application Specific Integrated Circuits (ASIC's).

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Material Acquisition: Electronics (MAE), Project 5				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 5: Material Acquisition: Electronics	10.551	10.365	10.651	10.778	11.081	11.305	11.482
RDT&E Articles Quantity- N/A							

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Major Performers: N/A

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Project Name and Number - Material Acquisition: Electronics (MAE), Project 5

A. Project Cost Breakdown

Material Acquisition: Electronics (MAE)

Project Cost Categories	FY 2007	FY 2008	FY 2009	FY2010
a. Manufacturing Process Support Costs	10.551	10.365	10.651	10.778

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contractor Method/Type Or Funding Vehicle	Award or Obligation Date	Performing Project Activity BAC	FY 2007	FY 2008	FY 2009	FY2010	Budget to Complete	Total Program
				10.551	10.365	10.651	10.778		
Sarnoff Corp.									
LMI									
ARINC									
SPAWARSYSCEN									

Government Furnished Property: None.

Exhibit R-4, Schedule Profile			Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology	Project Name and Number - Material Acquisition: Electronics (MAE), Project 5	

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Perform Gap Analysis (GA) of Commercial Technology.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Perform Base array designs required to fill GA.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Update design Library	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Develop prototypes for test and insertion.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Develop Low Rate Initial Production (LRIP) capability.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Transition new microcircuit designs to LRIP.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Perform process review	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Plan required process improvements.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Implement process improvements.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Monitor and adjust process improvements.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Exhibit R-4a, Schedule Detail							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Program Element Number and Name PE 0708011S Industrial Preparedness Manufacturing Technology			Project Name and Number - Material Acquisition: Electronics (MAE), Project 5			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Perform Gap Analysis (GA)of Commercial Technology.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Perform base array designs required to fill GA.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Update design library.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Develop prototypes for test and insertion.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Develop Low Rate Initial Production (LRIP) capability	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Transition new microcircuit designs to LRIP	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Perform process review	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Plan required process improvements.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Implement process improvements.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Monitor and adjust process improvements	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Other Congressionally Added Programs (OCAs), Project 7				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 7: Other Congressionally Added Programs (OCAs)	15.465	37.361	0	0	0	0	0
RDT&E Articles Quantity- N/A							

Mission Description and Budget Item Justification: This R2 is for all the Congressionally added programs to the DLA Manufacturing Technology Program.

B. Accomplishments/Planned Program

	FY 07	FY 08	FY 09	FY 10
Accomplishment/ Effort/Subtotal Cost	15.465	37.361	0	0
RDT&E Articles Quantity – N/A				

FY 2007 Accomplishments:

- **Advanced Microcircuit Emulation Program:** ($1.320) Utilized for transferring the development of an advanced capability to extract design data from sample microcircuits to the Sarnoff Corporation, Princeton NJ.
- **Copper-Based Castings Technology Program:** ($1.956) Copper Based Casting Technology (CBCT) has successfully developed and transitioned a method to die cast copper into super efficient electric motors. CBCT motors will be used in the latest generation of the Army High Mobility Equipment Transporter (HEMTT) and in the latest generation of Air Force aircraft ejection seats. Advanced Technology Institute, North Charleston, NC
- **Lithium Battery Systems for Asset Tracking:** ($1.759) Develop new experimental lithium rechargeable batteries for use in Global Active Asset Tracking devices. The new cell technology referred to as ANLCC will combine cathode material developed from research by Argonne National Laboratory and couple it with high capacity carbon material developed by EnerDel. The program will also integrate battery circuitry that controls heaters, cell balancing, thermal management and charge/discharge control to produce a battery that can operate at -40 degrees C and provide a long service life.
- **Next Generation Manufacturing Tech Initiative:** ($3.811) The purpose of the NGMTI is to accelerate the development and implementation of breakthrough manufacturing technologies in support of the transformation of the defense industrial base. The NGMTI plan targets the Defense industry (cross-service/DoD-wide) from the perspective of providing quantifiable benefits to the warfighter.
- **Northwest Manufacturing Initiative:** ($2.444) Conduct of research and development (R&D) to encourage defense industrial base development in support of defense logistics methods, and weapons systems engineering, manufacturing, and technology. GCAP proposes to achieve this goal through the Northwest Manufacturing Initiative to develop the defense industrial base through the application of systems engineering in support of the Defense Logistics Agency (DLA) and other DoD commands.

Exhibit R-2a, RDT&E Project Justification							Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7			Project Name and Number - Other Congressionally Added Programs (OCAs), Project 7				
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project 7: Other Congressionally Added Programs (OCAs)	15.465	37.361	0	0	0	0	0
RDT&E Articles Quantity- N/A							

- **4 Ship Network Training Center**: ($1.907) Funds provided to support an R&D effort at Springfield Oh Air National guard. These funds will purchase two Simusphere for F-16 training. L-3 Communications Corporation Link Simulation and Training Division, Arlington, TX.
- **Joint Diminishing Manufacturing Capabilities**: ($1.418) Joint DMSMS (diminishing manufacturing sources and material shortages) Mitigation Capabilities Design the Joint DMSMS Mitigation Capability (JDMC) to offer a wide range of DMSMS management support to joint and allied customers. The Joint DMSMS Mitigation Capability (JDMC) shall be designed to offer a wide range of DMSMS management capabilities to joint and allied Foreign Military Sales (FMS) customers. The JDMC should leverage and integrate the many existing DMSMS tools, processes, training, and tracking capabilities at little to no cost to customers.

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: Funds are provided to executing agencies and placed on existing contracts with the intended recipient of the Congressional Addition.

E. Major Performers: See information associated with each project provided under 2007 Accomplishments.

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7	Project Name and Number - Other Congressionally Added Programs (OCAs), Project 7

A. Project Cost Breakdown

Other Congressionally Added Programs (OCAs)

Project Cost Categories	FY 2007	FY 2008	FY 2009	FY 2010
a. Manufacturing Process Support Costs	15.465	37.361	0	0

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contractor Method/Type Or Funding Vehicle	Award or Obligation Date	Performing Project Activity BAC	FY 2007	FY 2008	FY 2009	FY2010	Budget to Complete	Total Program
TBD				15.465	37.361	0	0		

Government Furnished Property: None.

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E, Defense-wide Budget Activity BA: 7				R-1 Item Nomenclature: PROGRAM: Logistics Support Activities PROGRAM ELEMENT: PE: 0708012S			
Cost ($ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	2.901	2.828	2.846	2.837	2.876	2.933	2.979
Project 1:	2.901	2.828	2.846	2.837	2.876	2.933	2.979

A. Mission Description and Budget Item Justification: This is a classified program.

B. Program Change Summary:

	FY 07	FY 08	FY 09	FY 10
Previous PB 08	2.901	2.846	2.866	2.861
Current BES	2.901	2.828	2.846	2.837
Total Adjustments	0.000	-0.018	- 0.020	-0.024
Economic Assumptions Cut		-0.018	-0.020	-0 024

Change Summary Explanation:

FY 2008-2010: Decreases due to Economic Assumption cuts

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics: N/A

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown	Date: February 2008
Appropriation/Budget Activity RDT&E, Defense-wide BA 7	Project Name and Number - Logistics Support Activities, Project 1

A. Project Cost Breakdown

Combat Rations

Project Cost Categories	FY 2007	FY 2008	FY 2009	FY 2010
Manufacturing Process Support Cost	2.901	2.828	2.846	2.837

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contractor Method/Type Or Funding Vehicle	Award or Obligation Date	Performing Project Activity BAC	FY 2007	FY 2008	FY 2009	FY 2010	Budget to Complete	Total Program
				2.901	2.828	2.846	2.837	Cont	Cont

*STP = "Short Term Project"