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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE June 2001		
BUDGET ACTIVITY 03 - Advanced Technology Development				PE NUMBER AND TITLE 0603106F Logistics Systems Technology					PROJECT 2745		
COST (\$ in Thousands)		FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
2745	Logistics Performance and Support Technology (S&T)	10,896	13,768	0	0	0	0	0	0	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: In FY 2002, efforts transfer to PE 0603231F, Crew Systems and Personnel Protection Technology, Project 634923, Logistics Readiness and Sustainment, to align resources with the Air Force Research Laboratory organization. FY 2003-FY 2007 budget numbers do not reflect the DoD strategy review results.

(U) **A. Mission Description**
 This program develops and demonstrates cost-effective technologies to improve the design, performance, security, and support of current and future weapon systems, including their support equipment. This effort also develops technology to incorporate human operator, maintenance, and support considerations into the weapon systems design process and to make engineering, product support, and maintenance data electronically available throughout weapon systems' life cycles. The program provides more realistic logistics planning and combat capability assessment tools, and provides technologies to reduce deployment airlift and footprint requirements, acoustic sensor and processing technologies to locate and identify threats, and two-way communication technologies for command and control. This program improves logistics information command and control and asset visibility, provides critical logistics risk reduction technology, and helps control total weapon systems' life cycle costs.

(U) **FY 2000 (\$ in Thousands)**

(U) \$713 Developed and demonstrated technologies to enhance and streamline aircraft maintenance processes to improve the Air Force's ability to meet Air Expeditionary Force (AEF) requirements by providing faster and more accurate methods of diagnosing and predicting component failures. Began development of a diagnostics capability to provide technicians with more effective tools for isolating faults on the software intensive, reconfigurable systems found on modern aircraft and advanced aircraft systems currently in development. Based on field test results, transitioned technology to support the assessment of battle damaged aircraft.

(U) \$3,631 Developed and demonstrated intelligent software agents and realistic human behavior models. These computer agents and models will add realism and fidelity to large-scale synthetic environments and war games, and improve the user interaction with information systems. Defined technology requirements for intelligent software agents that automate the setting-up and running of synthetic exercises to reduce the costs of running these simulations. Defined technology requirements for computer agents that improve the human interface effectiveness for airlift command and control systems.

(U) \$6,552 Developed and demonstrated logistics technologies for improved deployment operations and improved system supportability. These technologies will maximize the efficiency and effectiveness of Air Force deployments and mobility operations in support of agile combat support

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03 - Advanced Technology Development	0603106F Logistics Systems Technology	2745
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2000 (\$ in Thousands) Continued</u>	initiatives and the emerging Air Expeditionary Force (AEF) concepts. Continued to develop technology to provide wing commanders and senior logisticians with advanced information and management capabilities, including rapid access to real-time resources status information, proactive problem identification, decision support, and process tracking. Continued design and development of an integrated, easily deployable, waste management system to process all types of waste materials produced during deployed operations. Demonstrated agile/lean deployment capability, reduced airlift requirements, and reduced on-site footprint using highly reliable, modular, multi-function support equipment for flightline maintenance.	
(U) \$10,896	Total	
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$1,949	Develop and demonstrate technologies to enhance and streamline aircraft maintenance processes to improve the Air Force's ability to meet AEF requirements by providing faster and more accurate methods of diagnosing and predicting component failures. Continue development of diagnostics capability to provide technicians with more effective tools for isolating faults on the software intensive, reconfigurable systems found on modern aircraft and advanced aircraft systems currently in development.	
(U) \$4,900	Develop and demonstrate intelligent software agents and realistic human behavior models. Develop intelligent software agents that automatically translate and execute air tasking order inputs for synthetic exercises and war games. Develop software agents that enhance the users' ability to monitor and respond to asymmetric events during the planning and scheduling of airlift missions.	
(U) \$4,761	Develop and demonstrate logistics technologies for improved deployment operations and improved system supportability. Continue to develop technology to provide wing commanders and senior logisticians with advanced information and management capabilities, including rapid access to real-time resources status information, proactive problem identification, decision support, and process tracking. Continue to develop an integrated, easily deployable, waste management system to process all types of waste materials produced during deployed operations.	
(U) \$2,158	Develop and demonstrate logistics technologies for improved system supportability, deployability, and mobility. These technologies will greatly improve the flexibility and deployability of the flightline maintenance equipment, improve the airlift/mobility operations of the AEF, and ensure that weapon systems are more reliable and maintainable. Complete and transition specifications for the next generation of powered support equipment for more agile/lean flightline maintenance. Complete and transition specifications and technology for next generation ground refueling systems to support Air Force Special Operations Command.	
(U) \$13,768	Total	
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<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Effort moved to PE 060231F, Project 4923.</p> <p>(U) \$0 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates cost-effective technologies to improve the design, performance, and support of current and future weapon systems.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: right; width: 10%;"><u>FY 2000</u></th> <th style="text-align: right; width: 10%;"><u>FY 2001</u></th> <th style="text-align: right; width: 10%;"><u>FY 2002</u></th> <th style="text-align: right; width: 10%;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY 2001 PBR)</td> <td style="text-align: right;">10,651</td> <td style="text-align: right;">13,895</td> <td style="text-align: right;">11,367</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">10,786</td> <td style="text-align: right;">13,895</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: right;">-6</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: right;">-254</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td style="text-align: right;">-409</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: right;">892</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td style="text-align: right;">-113</td> <td style="text-align: right;">-127</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2001 PBR</td> <td></td> <td></td> <td style="text-align: right;">-11,367</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2002 PBR</td> <td style="text-align: right;">10,896</td> <td style="text-align: right;">13,768</td> <td style="text-align: right;">0</td> <td style="text-align: right;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <p>In FY 2002, efforts transfer to PE 0603231F, Crew Systems and Personnel Protection Technology, Project 634923, Logistics Readiness and Sustainment, to align resources with the Air Force Research Laboratory organization.</p> <p>(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u></p> <p>(U) Related Activities:</p> <p>(U) PE 0207219F, Advanced Tactical Fighter.</p> <p>(U) PE 0602201F, Aerospace Flight Dynamics.</p> <p>(U) PE 0602202F, Human Effectiveness Applied Research.</p> <p>(U) PE 0603721N, Integrated Diagnostic System.</p>				<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 2001 PBR)	10,651	13,895	11,367	TBD	(U) Appropriated Value	10,786	13,895			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-6				b. Small Business Innovative Research	-254				c. Omnibus or Other Above Threshold Reprogram	-409				d. Below Threshold Reprogram	892				e. Rescissions	-113	-127			(U) Adjustments to Budget Years Since FY 2001 PBR			-11,367		(U) Current Budget Submit/FY 2002 PBR	10,896	13,768	0	TBD
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03 - Advanced Technology Development	0603106F Logistics Systems Technology	June 2001 2745
<p>(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u></p> <p>(U) PE 0604708F, Generic Integrated Maintenance Diagnostics Systems.</p> <p>(U) PE 0604740F, Computer Resource Management Technology.</p> <p>(U) PE 0605801A, Pollution Prevention Research and Development.</p> <p>(U) PE 0708011F, Manufacturing Technology.</p> <p>(U) This project has been coordinated through the Reliance process to harmonize efforts and eliminate duplication.</p> <p>(U) <u>E. Acquisition Strategy</u> Not Applicable.</p> <p>(U) <u>F. Schedule Profile</u> Not Applicable.</p>		
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