

**UNCLASSIFIED**

PE NUMBER: 0603444F  
 PE TITLE: MAUI SPACE SURVEILLANCE SYSTEM

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	DATE <b>February 2008</b>
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BUDGET ACTIVITY <b>03 Advanced Technology Development (ATD)</b>	PE NUMBER AND TITLE <b>0603444F MAUI SPACE SURVEILLANCE SYSTEM</b>
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	49.502	42.160	4.838	5.902	6.029	5.704	5.683	Continuing	TBD
4868 Maui Space Surveillance System	49.502	42.160	4.838	5.902	6.029	5.704	5.683	Continuing	TBD

**(U) A. Mission Description and Budget Item Justification**

This program funds space situational awareness technology development and demonstration at the Maui Space Surveillance System (MSSS) in Hawaii, as well as the operation and upgrade of the facility. Note: In FY 2008, Congress added \$5.2 million for the High Accuracy Network Determination System (HANDS), \$23.0 million for MSSS Operations and Research, and \$9.0 million for the Panoramic Survey Telescope and Rapid Response System (PanSTARRS). This program is in Budget Activity 3, Advanced Technology Development, since it enables and demonstrates technologies for existing system upgrades and/or new system developments that have military utility and address warfighter needs.

**(U) B. Program Change Summary (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	50.383	5.237	5.338
(U) Current PBR/President's Budget	49.502	42.160	4.838
(U) Total Adjustments	-0.881	36.923	
(U) Congressional Program Reductions			
Congressional Rescissions		-0.277	
Congressional Increases		37.200	
Reprogrammings	0.053		
SBIR/STTR Transfer	-0.934		

**(U) Significant Program Changes:**

Not Applicable.

**C. Performance Metrics**

Under Development.

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2008**

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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4868 Maui Space Surveillance System	49.502	42.160	4.838	5.902	6.029	5.704	5.683	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

- (U) **A. Mission Description and Budget Item Justification**  
 This program funds space situational awareness technology development and demonstration at the Maui Space Surveillance System (MSSS) in Hawaii, as well as the operation and upgrade of the facility. Note: In FY 2008, Congress added \$5.2 million for the High Accuracy Network Determination System (HANDS), \$23.0 million for MSSS Operations and Research, and \$9.0 million for the Panoramic Survey Telescope and Rapid Response System (PanSTARRS). This program is in Budget Activity 3, Advanced Technology Development, since it enables and demonstrates technologies for existing system upgrades and/or new system developments that have military utility and address warfighter needs.
- (U) **B. Accomplishments/Planned Program (\$ in Millions)**
- |   |                |                |                |
|---|----------------|----------------|----------------|
|   | <u>FY 2007</u> | <u>FY 2008</u> | <u>FY 2009</u> |
| (U) MAJOR THRUST/CONGRESSIONAL ADD: Develop, demonstrate, and integrate space situational awareness technology at the Maui Space Surveillance System (MSSS) in Hawaii, as well as operate and upgrade the facility. Note: This effort includes Congressional Adds of \$25.0 million in FY 2007 and \$23.0 million in FY 2008. | 30.436         | 28.052         | 4.838          |
- (U) In FY 2007: Continued MSSS infrastructure contributions for research, development, and operations that supported customers and experimenters. Upgraded and modernized facilities, telescopes, and sensors. Maintained site safety and security. Continued development and implementation of self-sufficiency plan. Developed concepts to provide operational support for space situational awareness (SSA), space system characterization, and active tracking. Assessed military utility, enhanced mission effectiveness, and transitioned technology to user commands. Initiated development of advanced adaptive optics system for improved imaging performance, reliability, and characterization of dim objects. Provided health/status, identification, and anomaly resolution for selected satellites using ultra-precise astrodynamics techniques and electro-optic characterization.
- (U) In FY 2008: Continue MSSS research, development, and operational contributions supporting various customers and experimenters. Continue refurbishing and upgrading MSSS and maintaining site safety and security in accordance with Air Force regulations. Continue development and implementation of self-sufficiency plan. Develop concepts for SSA, space system characterization, and active tracking. Continue development of a state-of-the-art, high-performance sodium beacon adaptive optics system. Provide health/status, identification, and anomaly resolution for selected satellites using ultra-precise astrodynamics techniques and electro-optic characterization.
- (U) In FY 2009: Continue MSSS infrastructure contributions in research, development, and operations that support various customers and experimenters. Continue refurbishing and upgrading MSSS to accommodate those missions and maintaining requirements for safety and security in accordance with Air Force regulations. Continue development and implementation of self-sufficiency plan.

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>		DATE <b>February 2008</b>
<b>BUDGET ACTIVITY</b> <b>03 Advanced Technology Development (ATD)</b>	<b>PE NUMBER AND TITLE</b> <b>0603444F MAUI SPACE SURVEILLANCE SYSTEM</b>	<b>PROJECT NUMBER AND TITLE</b> <b>4868 Maui Space Surveillance System</b>

<b>(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) CONGRESSIONAL ADD: Panoramic Survey Telescope And Rapid Response System (Pan-STARRS). In FY 2007: Completed Maui single telescope Pan-STARRS including system integration and testing. Initial demonstration completed. Began military utility demonstration. Provided information on Mauna Kea site strategic planning to support installation of Pan-STARRS four-telescope system. In FY 2008: Maui telescope will transition into routine use for sky surveys. Complete utility demonstration. Initiate four-telescope system design and development based on lessons learned from Maui installation/operations. In FY 2009: Not Applicable.	11.244	8.941	0.000
(U) CONGRESSIONAL ADD: High Accuracy Network Determination System (HANDS). In FY 2007: Developed small autonomous operating telescopes linked into a network to provide a testbed in support of space situational awareness. Supported precision satellite metrics, photometry, and hand-off. Initiated foreign operating rights request to deploy telescope to Australia. In FY 2008: Support research activities and data collection to improve persistent space situational awareness capabilities. Complete foreign operating rights process and deploy a small telescope to Australia. Develop improved small autonomous telescope with increased data collection capabilities. In FY 2008: Not Applicable.	7.822	5.167	0.000
(U) Total Cost	49.502	42.160	4.838

<b>(U) <u>C. Other Program Funding Summary (\$ in Millions)</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Related Activities:									
(U) PE 0602605F, Directed Energy Technology.									
(U) PE 0603605F, Advanced Weapons Technology.									
(U) PE 0601108F, High Energy Laser Research Initiatives.									
(U) PE 0602890F, High Energy Laser Research.									
(U) PE 0603924F, High Energy									

## Exhibit R-2a, RDT&amp;E Project Justification

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BUDGET ACTIVITY

03 Advanced Technology Development (ATD)

PE NUMBER AND TITLE

0603444F MAUI SPACE  
SURVEILLANCE SYSTEM

PROJECT NUMBER AND TITLE

4868 Maui Space Surveillance System

(U) **C. Other Program Funding Summary (\$ in Millions)**Laser Advanced Technology  
Program.(U) PE 0603883C, Ballistic Missile  
Defense Boost Phase Segment.(U) This project has been  
coordinated through the  
Reliance process to harmonize  
efforts and eliminate duplication.(U) **D. Acquisition Strategy**

Not Applicable.