

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

APPROPRIATION/ BUDGET ACTIVITY
RDTE, Defense Wide BA# 4

PE NUMBER AND TITLE
0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development

COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate				
P670 Human, Social and Culture Behavior Modeling (HSCB) Advanced Development	0.989	5.958	7.006				

A. Mission Description and Budget Item Justification:

(U) This program focuses on maturing, hardening, and validating human, social, culture, and behavior modeling (HSCB) related software for integration into the architectures of "existing programs of record", or maturing software via open architectures to allow broad systems integration. The work provides a development-to-product transition pathway for socio-cultural models, tools, and visualization products. The work serves to certify that HSCB model-based technology can be transitioned into existing and developmental systems in coordination with Program Executive Offices/Program Managers, Joint users, and other identified transition customers. The program will port relevant data and tools from one system to other applications to provide forecasting capabilities for socio-cultural (human terrain) responses at the strategic, operational and tactical levels. It will mature and integrate technologies that provide training and mission rehearsal capabilities at the strategic to tactical level.

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<u>B. Program Change Summary</u>	FY 2008	FY 2009	FY 2010					
Previous President's Budget (FY 2008/2009)	0.991	5.991	7.132					
Current BES/President's Budget (FY 2010)	0.989	5.958	7.006					
Total Adjustments	-0.002	-0.033	-0.126					
Congressional Program Reductions								
Congressional Rescissions		-0.033						
Congressional Increases								
Reprogrammings								
SBIR/STTR Transfer								
Other	-0.002		-0.126					

<u>C. Other Program Funding Summary:</u>	FY 2008	FY 2009	FY 2010					
PE 0602670D8Z BA 2 HSCB Applied Research	6.074	7.643	9.446					
PE 0603670D8Z BA 3 HSCB Research & Engineering	2.960	9.330	11.480					

Comment:

D. Acquisition Strategy:

The program will produce software prototypes configured for use in programs such as the Distributed Common Ground Station (DCGS). The program will be executed via a Broad Agency Announcement (BAA) as well as via targeted request for proposals (RFP). RFPs and the BAA will be issued in the first quarter of FY09. Proposals will be solicited from all DoD organizations, other Federal Agencies and the commercial sector. Proposals will be competed using review panels.

E. Performance Metrics: Not Applicable.

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 (U) This program focuses on maturing, hardening, and validating human, social, culture, and behavior modeling (HSCB) related software for integration into the architectures of "existing programs of record", or maturing software via open architectures to allow broad systems integration. The work provides a development-to-product transition pathway for socio-cultural models, tools, and visualization products. The work serves to certify that HSCB model-based technology can be transitioned into existing and developmental systems in coordination with Program Executive Offices/Program Managers, Joint users, and other identified transition customers. The program will port relevant data and tools from one system to other applications to provide forecasting capabilities for socio-cultural (human terrain) responses at the strategic, operational and tactical levels. It will mature and integrate technologies that provide training and mission rehearsal capabilities at the strategic to tactical level.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Data collection tool	0.899	1.996	2.970

Transition first generation data collection tool and decision support tools.

FY 2008 Plan: Matured first generation data collection tool and software to support tactical level collection and dissemination of socio-cultural data. Military planners and intelligence units relied on data from front-line forces to augment their own data collection efforts. The information was often not stored, tagged or disseminated to higher level planners nor was it generally available or accessible to other forces. The toolset provided near real-time electronic, tagged data and actionable information for analysis and distribution.

Accomplishments:
 Completed technical feasibility study for the operational use of HSCB models.
 Initiated projects developing data collection tools to leverage ongoing investments, understand user needs, and build on previous successes.
 Leveraged ongoing classified efforts focused on automated data extraction.

FY 2009 Plan: Matured and delivered first generation data collection tool and software to support tactical level collection and dissemination of socio-cultural data. Established the TTPs, hardware, and software necessary to support the development and transition of technologies to DCGS-A and transition HSCB technologies to DCGS-A. Developed a standards-based data model along with associated cultural map and tabular data sets and assess application modeling activities utilizing relevant operational scenarios and realistic data to highlight technology gaps and transition possibilities.

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PROJECT
P670

FY2010 Plan: Develop a second generation data collection and decision support tool to support tactical to operational collection and dissemination of socio-cultural data. Leverage lessons learned from Human Terrain Teams and others to focus the effort. Develop a tool that is specifically designed to support unit transitions (RIP/TOA) by storing data in a way that facilitates knowledge transfer.

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Visualization Software	0.090	1.981	2.018

Mature and deliver software that will visually and digitally represent cultural factors within existing C2 systems.

FY 2008 Plan: Identify the software modification/integration issues related to the maturation of software that supports the visualization of cultural information within existing operational-tactical level command and control (C2) and decision aiding systems. The output from ongoing visualization and human, social, culture, and behavior modeling (HSCB) projects needs risk reduction support for integration into existing C2 systems (e.g. Distributed Common Ground Station Army (DCGS-A), Intelligence analyst systems).

Accomplishments:

Initiated efforts devoted to further hybrid socio-cultural and geospatial visualization designed to transition to US Army and COCOM programs.

FY 2009 Plan: Mature and deliver software that supports the visualization of cultural information within existing operational-tactical level C2 and decision aiding systems. The output from ongoing visualization and human, social, culture, and behavior modeling (HSCB) projects need risk reduction support for integration into existing C2 systems (e.g. DCGS-A; Intelligence analyst systems). The work will deliver the capability for existing decision aids/C2 systems to visually or digitally depict cultural information to support manual or automated analysis. Demonstrations of alternative modeling approaches will be demonstrated via plugfest events.

FY2010 Plan: Develop a visualization capability targeted to user requirements and programs to support specific transitions. Include visualization capabilities that support the visualization of multi-media data, message diffusion across cultural groups, and message resonance. Develop a visualization capability that allows model outputs to be translated to human decision space and allows the rank ordering and understanding of DIME actions.

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Modeling Capabilities		1.981	2.018

Mature and deliver socio-cultural modeling capabilities within existing DoD systems. Utilize HSCB technical testbed to conduct validation testing of HSCB model based applications.

FY2008 Plan: Deferred to FY2009 due to funding constraints.

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FY2009 Plan: Built upon operation experiments with USPACOM and USEUCOM, developed a prototype capability designed to support COCOM determinations of regional stability, as well as prototype capability focused on operational planning and intelligence analysis. Developed COMPOEX framework capability and assess transition path to DCGS-A of tested models. Initiated development of a target audience analysis and influenced analysis capability to support USSOCOM and DoD strategic communication requirements and demonstrate prototype capability via plugfest events.

FY2010 Plan: Develop a modeling capability targeted to influence and PSYOP operations to support specific transitions including capability focused on operational planning and intelligence analysis. Include capabilities that support target audience analysis, message diffusion and message resonance and insert into USSOCOM testbed for transition. Develop a modeling and analysis capability that allows model outputs to be translated to human decision space and allows the rank ordering and understanding of human actions. Develop a modeling capability that supports DCGS-specific socio-cultural analysis and integrate the capability into the DCGS-A SIL.

C. Other Program Funding Summary:	FY 2008	FY 2009	FY 2010					
R&D 0602670D8Z HSCB Applied Research BA 2	6.074	7.643	9.446					
R&D 0603670D8Z HSCB Advanced Development BA 3	2.960	9.330	11.480					

Comment:

D. Acquisition Strategy:

The program will produce software prototypes configured for use in programs such as the Distributed Common Ground Station (DCGS). The program will be executed by Broad Agency Announcement (BAA) and a targeted request for proposals (RFP) process. RFPs and the BAA will be issued in the first quarter of FY09. Proposals will be solicited from all DoD organizations, other Federal Agencies and the commercial sector. Proposals will be competed using review panels.

E. Major Performers: Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT				
4 - Advanced Component Development and Prototypes (ACDP)			0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development							P670				
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
System Design	MIPR	NAVSEA						7006	1-4Q					
Subtotal:								7006						
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
Subtotal:														
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
Subtotal:														
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
Program management	TBD	TBD		989	1-4Q	5958								
Subtotal:				989		5958								
Project Total Cost:				989		5958		7006						

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes (ACDP)

PE NUMBER AND TITLE
0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development

PROJECT
P670

Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	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	1	2	3	4
(1) FY 2008 Projects Identified	▲1																															
(2) Data Tool Project Begins		▲2																														
Architecture Software Developed			■																													
(3) SOCPAC Software Project Begins		▲3																														
Software Tool Developed				■																												
(4) SOCPAC Tool transitioned								▲4																								
(5) FY 09 Projects Identified								▲5																								
(6) FY 09 Projects Funded								▲6																								
FY 09 Projects Developed and Transitioned									■																							

Schedule Profile (R4a Exhibit)

May 2009

BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes (ACDP)	PE NUMBER AND TITLE 0604670D8Z - Human, Social and Culture Behavior Modeling (HSCB) Advanced Development	PROJECT P670
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<u>Schedule Detail</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>					
FY 2008 Projects Identified	2Q							
Data Tool Project Begins	2Q - 4Q							
Architecture Software Developed	3Q - 4Q							
SOCPAC Software Project Begins	2Q - 4Q							
Software Tool Developed	4Q	1Q - 2Q						
SOCPAC Tool transitioned		2Q						
FY 09 Projects Identified		1Q						
FY 09 Projects Funded		2Q						
FY 09 Projects Developed and Transitioned		2Q - 4Q	1Q - 4Q					
Spiral 1 Delivery			4Q					
FY 09, and 10 Projects Developed and Transitioned			4Q					
Spiral 2 Delivery								
FY 11 and 12 Projects Developed and Transitioned								
Spiral 3 delivery								