

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2007

APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 2		PE NUMBER AND TITLE 0602670D8Z - Human, Social and Culture BehaviourModeling (HSCB)Applied Research						
Cost (\$ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total Program Element (PE) Cost	0.000	0.000	7.300	7.700	9.700	10.000	16.700	19.000
P270 Human, Social and Culture BehaviourModeling (HSCB)Applied Research	0.000	0.000	7.300	7.700	9.700	10.000	16.700	19.000

A. Mission Description and Budget Item Justification: (U). Current military operations need and future operations will demand the capability to understand the social and cultural terrain and the various dimensions of human behavior within those terrains. Behaviors in the social and cultural terrain context extend across the spectrum, from adversaries to our joint U.S. forces, with our coalition partners, and with government and non-government organizations. USG and DoD capstone policy and guidance are driving this need -- as articulated in NSPD-44, QDR 2006, and DoDD 3000.05 (Stability, Security, Transition and Reconstruction (SSTR)). Science and resulting technologies form a resource and base enabler for success in this area. Applied Research in Human Social Culture Behavior Modeling (HSCB) and its counterparts in BA3 and BA4 will develop technologies for human terrain understanding and forecasting in four application pillars: intelligence analysis; operations analysis/planning; training; and joint experimentation. Early priorities to develop the science and technology base will include work in the areas of: Database Infrastructure/Framework; Human behavior based theory for DoD Models; Visualization Infrastructure; and Situationally-relevant education and training tools.

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)				
Current BES/President's Budget (FY 2008/2009)	0.000	0.000	7.300	7.700
Total Adjustments	0.000	0.000	7.300	7.700
Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other			7.300	7.700

C. Other Program Funding Summary: Not Applicable.

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D. Acquisition Strategy: Not Applicable.

E. Performance Metrics: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)	Date: February 2007
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APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 2	PE NUMBER AND TITLE 0602670D8Z - Human, Social and Culture Behaviour Modeling (HSCB)Applied Research	PROJECT P270
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
P270 Human, Social and Culture Behaviour Modeling (HSCB)Applied Research	0.000	0.000	7.300	7.700	9.700	10.000	16.700	19.000

A. Mission Description and Project Justification: (U). This project is focused on developing an applied science base and general-use , cross-domain capabilities/tools to support all HSCB applications. The program work will focus on computational/analytical anthropological data collection, theory development, and application methodologies and tools. It will create validated software tools to allow decision makers (Intelligence analysts, operations analysts, operations planners, wargamers) to have available forecasting tools for socio-cultural (human terrain) responses at the strategic, operational and tactical levels. This program will provide data infrastructure/frameworks that will facilitate subsequent model development and validation, human behavior based theory for DoD-relevant models; visualization infrastructures to rapidly assess the human terrain at strategic to tactical levels, and development and mature situationally-relevant education and training tools for disparate user communities.

Database Infrastructure/Framework will facilitate subsequent model development and validation.

Human behavior based theory, for DoD relevant Models, from created software that will allow decision makers to have available forecasting tools for socio-cultural (human terrain) responses at the strategic, tactical and operational levels.

Visualization Infrastructure to rapidly assess the human terrain at strategic levels, and development and mature situationally relevant education and training tools for disparate user communities.

Situationally-relevant education and training tools will focus on computational/analytical anthropological data collection, theory development, and application methodologies and tools.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2006	FY 2007	FY 2008	FY 2009
Data Infrastructure/Framework	0.000	0.000	2.000	2.000

Generation of functional architectures for managing and disseminating socio-cultural data, information and analysis products vertically and horizontally within DoD. Strategies to collect cultural and societal information in denied or difficult to penetrate areas. Development of hand-held/portable tools to collect cultural and societal information.

FY2008 Plan - Development of the methods and tools to allow remote and 'boots on the ground' collection of pedigreed social and cultural information relating to a population (local, regional, global), including the print, voice, and video media, social networks, and cultural, religious and tribal alliances. This work will be focused on areas operation in CENTCOM, PACOM, and EUCOM. The work will identify methods to collect relevant socio-cultural data for Phase 0 - Phase 4 operations.

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**0602670D8Z - Human, Social and Culture Behaviour Modeling
(HSCB)Applied Research**PROJECT
P270

FY 2009 Plan - Develop technologies capable of collecting and storing multi-source data needed for, storing, displaying and manipulating the massive amounts of data required to conduct the analysis and forecasting of human social and cultural behaviors related to local, regional and global conflict. This will provide DoD with the capability to broadly disseminate socio-cultural data across operational levels (Strategic to Tactical) and between user communities (Intelligence, Influence Operations, Planners).

Accomplishment/Planned Program Title

FY 2006

FY 2007

FY 2008

FY 2009

Human behavior based theory for DoD Models

0.000

0.000

3.000

3.000

Validation techniques for modeling across the spectrum of applications (Intelligence, Influence Operations, Planning)with quantitative models of social-cultural factors in coalition warfare, as well as those social cultural factors of military significant for emerging threats. A human behavior modeling framework that is independent of specific sociocultural values, attitudes and beliefs.

FY 2008 Plan - Creation of validated, human terrain forecasting models that enable examination of 2nd, 3rd, and higher order effects of kinetic and non-kinetic actions within a theater in support of Effects Based Operations. Current modeling is limited to immediate action/reactions and heavily focused on kinetic effects. This work will provide an initial DoD capability to model intended or unintended Political, Military, Economic, Societal, Infrastructure and Information (PMESII) effects of military actions.

FY 2009 Plan - Most models and forecasting tools are built upon experiences in a single region, a single coalition force, etc. and are not generalizable. This project will develop more generalizable models and tools that can be transposed/reused for other regions of interest, allowing DoD to give more consideration to human, social and cultural factors in early (Phase 0) planning.

Accomplishment/Planned Program Title

FY 2006

FY 2007

FY 2008

FY 2009

Visualization Infrastructure

0.000

0.000

1.150

1.350

Common categorization of meta-information (i.e., the data source and pedigree, what types of uncertainty are associated with it, how old is the data, etc.) in existing visualization tools/decision aiding systems. Methods for visually and digitally depicting the incomplete, subjective, volatile, and/or imprecise nature of cultural information to support manual and automated analysis.

FY2008 Plan - Development of data tagging schemes that support network enabled, collaborative geospatial visualization displays. Within DoD there are multiple sources and venues for the creation and distribution of information and data on human, social and cultural behavior (HSCB). To reuse and represent this data across systems/applications requires the development of new meta-data standards that support visualization/mapping. This effort will investigate the optimal 'common' meta-data standards for the HSCB area.

FY 2009 Plan - Development of visualization methods for displaying uncertainty in common geospatial tools currently used by DoD. The dynamic complexity of human behavior, beliefs and cultures means that there will always be some level of uncertainty to forecasting and mapping the human terrain. It is vital to accurately represent this degree of uncertainty in geospatial toolsets, decision aids, etc. This project will develop generalizable methods/tools for displaying this uncertainty.

Accomplishment/Planned Program Title

FY 2006

FY 2007

FY 2008

FY 2009

Situationally-relevant education and training tools

0.000

0.000

1.150

1.350

Prototypes of training systems capable of using flexible underlying cultural models to train at the operational/tactical level. Training prototype focused on operational scenarios involving negotiation with Middle-Eastern civilian and military forces.

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FY 2008 Plan - Current methods and procedures for integrating cultural information into military operations do not satisfy the requirements for ongoing operations and are not flexible enough to rapidly deliver Just In Time training for complex new regions of interest, and relatively new mission areas (e.g. transition and reconstruction). This project will design training and supporting technologies to speed the development of socio-cultural understanding and the skills needed by individuals, small units, and coalitions in current and future military operations.

FY 2009 Plan -Tactical level kinetic and non-kinetic actions can have a large impact on green force behaviors and beliefs. This project will develop technologies, models, and skills to increase operational effectiveness through the rapid integration of socio-cultural factors into social influence tactics and information operations in current military conflicts. This work will accelerate the development of nontraditional, field capable technologies that enable the training/mission rehearsal of non-technical, adaptive skills related to cultural understanding, interpersonal communication, and teamwork.

C. Other Program Funding Summary			FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
R&D BA 3	0603670D8Z	HSCB Advanced Development	0.000	0.000	0.009	0.009	0.011	0.012	0.020	0.023	0.000	0.086
R&D BA 4	0604670D8Z	HSCB Research and Engineering	0.000	0.000	0.005	0.006	0.007	0.007	0.013	0.015	0.000	0.055

Comment:

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.