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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Office of Secretary Of Defense	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604670D8Z: <i>Human Social Culture Behavior (HSCB) Modeling Research and Engineering</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	7.038	7.252	5.131	-	5.131	5.234	5.355	5.522	5.622	Continuing	Continuing
P670: <i>Human Social Culture Behavior (HSCB) Modeling Research and Engineering</i>	7.038	7.252	5.131	-	5.131	5.234	5.355	5.522	5.622	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Human Social Culture Behavior (HSCB) Modeling Program is a vertically integrated effort to research, develop, and transition technologies, tools, and systems to programs of record and users in need. The Program exists to optimize U.S. forces' ability to perform population-centric sensing, understand behaviors driven by social and cultural variables, and take effective courses of action in the full range of military operations. Program research enhances intelligence, surveillance, and reconnaissance (ISR) capabilities for understanding the Irregular Warfare environment and meeting the challenges of instability and violent extremism. Under three integrated program elements (PEs), the Program conducts applied research, matures and demonstrates advanced technology, and develops transition-ready components and prototypes. Work under PE 0604670D8Z creates transition-ready software tools that help intelligence analysts, operations analysts, operations planners, wargamers, and others represent, understand, and forecast sociocultural behavior at the strategic, operational and tactical levels. This program focuses on maturing, hardening, and validating human, social, culture, and behavior modeling software for transition to meet the needs of the warfighter, integration into the architectures of existing programs of record, and/or maturing software via open architectures to allow broad systems integration. The 6.4 program provides a development to product transition pathway for sociocultural models, tools, and capabilities to rapidly meet immediate and emerging warfighter needs. The work supports the testing, validation, and transition of model-based technology into existing and developing systems in coordination with Program Executive Offices/Program Managers, Combatant Commanders, Joint and Service organizations, warfighters in need, and other transition customers. The Program matures sociocultural relevant data and tools to provide essential sociocultural understanding and forecasting capabilities at the strategic, operational and tactical levels.

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0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)		PE 0604670D8Z: Human Social Culture Behavior (HSCB) Modeling Research and Engineering			
B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	7.459	10.309	12.926	-	12.926
Current President's Budget	7.038	7.252	5.131	-	5.131
Total Adjustments	-0.421	-3.057	-7.795	-	-7.795
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.800			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.194	-			
• SBIR/STTR Transfer	-0.161	-0.207			
• Economic Assumptions	-0.038	-	-	-	-
• FFRDC	-0.026	-0.050	-	-	-
• Other Program Adjustments	-0.002	-	-7.795	-	-7.795

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0604670D8Z: Human Social Culture Behavior (HSCB) Modeling Research and Engineering				P670: Human Social Culture Behavior (HSCB) Modeling Research and Engineering			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
P670: Human Social Culture Behavior (HSCB) Modeling Research and Engineering	7.038	7.252	5.131	-	5.131	5.234	5.355	5.522	5.622	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This Program creates transition-ready software tools that help intelligence analysts, operations analysts, operations planners, wargamers, and others represent, understand, and forecast sociocultural behavior at the strategic, operational and tactical levels. The Program focuses on maturing, hardening, and validating human, social, culture, and behavior modeling software for transition to meet the needs of the warfighter, integration into the architectures of existing programs of record, and/or maturing software via open architectures to allow broad systems integration. The 6.4 Program provides a development to product transition pathway for sociocultural models, tools, and capabilities to rapidly meet immediate and emerging warfighter needs. The work supports the testing, validation, and transition of model-based technology into existing and developing systems in coordination with Program Executive Offices/Program Managers, Combatant Commanders, Joint and Service organizations, warfighters in need, and other transition customers. The Program matures sociocultural relevant data and tools to provide essential forecasting capabilities at the strategic, operational and tactical levels.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2011	FY 2012	FY 2013
Title: Modeling Capabilities	2.463	3.406	3.041
Description: Mature and deliver sociocultural modeling capabilities for integration into existing DoD systems. Conduct validation testing of HSCB model based applications.			
FY 2011 Accomplishments: Integrated social network analysis tools to support International Security Assistance Force (ISAF) Network Effects Cell (NEC) operations. Also evaluated and began transition of other select tools to ISAF and implemented them as DCGS-A compliant "widgets". Delivered executable software for hybrid multi-modeling system for analysts and planners to assess the effects and implications of social strife, ethnic conflict, repression and insurgency. Demonstrated prototype "social radar" system for detecting leading indicators of instability. Integrated multiple technologies and supports geospatial visualization at multiple levels of granularity. Engineered and transitioned a data collection and hybrid modeling system for use by multiple users in monitoring and mitigating the spread of violent extremism.			
FY 2012 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2011	FY 2012
Mature and perform integration of models to enable forecasting of violent extremism at national level. Particular focus shall be on tools and systems that offer integrated, theoretically grounded hybrid modeling capabilities. Prototype components of a “social radar” system to support detection and tracking of indicators of instability, and exploration of mitigating courses of action.				
FY 2013 Plans: Mature and test transition-ready hybrid models to support forecasting of regional instability. Demonstrate social radar for operational decision support. Deliver operationally-testable methodology to support assessment of course of action (COA) impacts on the nature and extent of violent extremism.				
Title: Visualization Software Description: Mature and develop software that will visually and digitally represent cultural factors within existing and emerging command and control systems. FY 2011 Accomplishments: Engineered and delivered an operational prototype hybrid modeling system for analysis and forecasting of violent extremist threats. Prototyped dashboard for displaying multiple indicators of instability, using widget-based framework that enables drill down to supporting applications. FY 2012 Plans: Research and engineering of visualization software eliminated starting FY 2012.			1.760	-
Title: Data Collection Description: Develop and test methods and tools for collection of sociocultural behavior data, including and especially in denied areas. Demonstrate resources and tools for extraction, integrated analysis, and fusion of data from open sources at scale with particular focus on social media. Support development and testing of architectures and systems to enable access to structured, validated sociocultural behavior data across levels (tactical to strategic). FY 2011 Accomplishments: Created a Distributed Common Ground System-Army (DCGS-A) dataset for the Network Dynamics Team at the ISAF Joint Command. Open source data can be merged going forward. Prototyped data-related processing capabilities to support network analysis using the DCGS-A Cloud Ozone Widget Framework. Provides proof of concept for capabilities working together on common datasets. FY 2012 Plans:			1.408	1.923
				1.590

PE 0604670D8Z: *Human Social Culture Behavior (HSCB) Modeling*
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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013
Develop automated data collection, management, translation and extraction tools to service HSCB models, in order to facilitate the integration of current and emerging data sets into appropriate data stores and exploit data in forms appropriate for the models users need to address HSCB problem domains and applications. Demonstrate integration and operation of multiple HSCB Program-supported tools in Cloud environment (e.g. DCGS-A).				
FY 2013 Plans: Demonstrate transition-ready automated data collection, management, translation and extraction tools to service HSCB models. Work with Cultural Knowledge Consortium to define and support sociocultural behavior data needs of the Combatant Commands and the research and engineering community.				
Title: Risk Reduction Description: Conduct the risk reduction activities necessary to ensure that HSCB technologies are validated, accurate, and address user/program of record requirements.		1.407	1.923	0.500
FY 2011 Accomplishments: Evolved project-level metrics and assessment process. Developed innovative methodology for quantitative assessment of social science project metrics. Conducted full-day Technical Performance Evaluations of six projects. Refined multi-year Program level metrics, developed and began implementation of a process for applying them. Issued Broad Agency Announcement (BAA) to fill technical gaps and ensure the HSCB Program adapts appropriately to evolving operational needs. Completed selection of new projects.				
FY 2012 Plans: Conduct transition focused risk reduction activities designed to ensure that technologies targeted to end user and program of record requirements are brought through an appropriately scoped systems engineering and technical/theoretical assessment process.				
FY 2013 Plans: Continue to apply existing processes for evaluating discrete research projects. Gather data necessary to populate existing Program level measures of effectiveness.				
Accomplishments/Planned Programs Subtotals		7.038	7.252	5.131

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0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	PE 0604670D8Z: <i>Human Social Culture Behavior (HSCB) Modeling Research and Engineering</i>	P670: <i>Human Social Culture Behavior (HSCB) Modeling Research and Engineering</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0602670D8Z BA 2: <i>HSCB Applied Research</i>	7.199	8.602	6.771		6.771	6.923	7.100	7.305	7.438	Continuing	Continuing
• PE 0603670D8Z BA 3: <i>HSCB Advanced Development</i>	10.299	12.724	8.235		8.235	8.398	8.606	8.853	9.016	Continuing	Continuing

D. Acquisition Strategy

The Program produces software prototypes configured for use in programs such as the Distributed Common Ground System (DCGS). The program is executed by a BAA and a targeted RFP process. The BAA and RFPs were issued in FY 2011. Proposals were solicited from all DoD organizations, other federal agencies, and the commercial sector. Proposals were selected using review panels.

E. Performance Metrics

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Office of Secretary Of Defense

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APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604670D8Z: Human Social Culture Behavior (HSCB) Modeling Research and Engineering

PROJECT

P670: Human Social Culture Behavior (HSCB) Modeling Research and Engineering

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Test and transition tools to support COCOMs, focus on influence operations																												
Spiral 1 development of modeling and visualization framework																												
Solicitation and selection of new research/development of modeling and data tools																												
Spiral 2 of FY 2009/FY 2010 projects for influence analysis modeling, COA analysis, and decision support modeling tools																												
Spiral 2 of modeling and visualization framework																												
Transition-ready automated data collection and management tool																												
Spiral 1 of FY 2011 projects																												
Spiral 3 of modeling and visualization framework																												
Spiral 3 of FY 2009/FY 2010 influence analysis modeling, COA analysis, and decision support modeling tools																												
Spiral 2 of FY 2011 projects																												
Spiral 3 of FY 2011 projects																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Office of Secretary Of Defense			DATE: February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Test and transition tools to support COCOMs, focus on influence operations	1	2011	2	2011
Spiral 1 development of modeling and visualization framework	1	2011	2	2011
Solicitation and selection of new research/development of modeling and data tools	1	2011	3	2011
Spiral 2 of FY 2009/FY 2010 projects for influence analysis modeling, COA analysis, and decision support modeling tools	2	2011	1	2012
Spiral 2 of modeling and visualization framework	3	2011	3	2012
Transition-ready automated data collection and management tool	1	2011	4	2011
Spiral 1 of FY 2011 projects	1	2012	1	2013
Spiral 3 of modeling and visualization framework	3	2011	4	2012
Spiral 3 of FY 2009/FY 2010 influence analysis modeling, COA analysis, and decision support modeling tools	2	2012	2	2013
Spiral 2 of FY 2011 projects	2	2013	4	2013
Spiral 3 of FY 2011 projects	1	2014	4	2014