Exhibit R-2, **RDT&E Budget Item Justification:** PB 2015 Office of Secretary Of Defense	**Date:** March 2014

Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603670D8Z *I Human Social Culture Behavior (HSCB) Modeling Advanced Development*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	6.994	2.000	-	-	-	-	-	-	-	Continuing	Continuing
P370: *Human Social Culture Behavior (HSCB) Modeling Advanced Development*	-	6.994	2.000	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The OSD 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 select effective courses of action in the full range of military operations. Program research will enhance population-centric intelligence, surveillance, and reconnaissance (ISR) capabilities for understanding the increasingly complex global environment to address national strategic challenges such as instability, aggression, proliferation of weapons of mass destruction, and violent extremism. In three integrated program elements (PEs), the Program will conduct applied research, mature and demonstrate advanced technology, and develop transitionable methods, technology, tools and prototypes. Work under PE 0603670D8Z is focused on developing and demonstrating general-use, cross-domain tools in two areas: computational modeling; and sociocultural behavior data collection, management, and dissemination. Research will result in more effective cultural understanding in existing intelligence, influence operations, and operations planning systems; modeling capabilities for forecasting reactions to U.S./coalition actions; demonstration of strategic decision making tools that highlight political, religious, cultural, and related factors; tools and technologies enabling more widespread and effective use of sociocultural behavior models in operations and mission rehearsal; and toolsets that can be used as strategic decision making tools to account for sociocultural factors.

B. Program Change Summary ($ in Millions)

	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	8.235	-	-	-	-
Current President's Budget	6.994	2.000	-	-	-
Total Adjustments	-1.241	2.000	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-0.688	-			
• Congressional Rescissions	-0.011	-			
• Congressional Adds	-	2.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.312	-			
• SBIR/STTR Transfer	-0.227	-			
• Other Program Adjustments	-0.003	-	-	-	-

PE 0603670D8Z: *Human Social Culture Behavior (HSCB) Modeling Adva...*

Exhibit R-2A, RDT&E Project Justification: PB 2015 Office of Secretary Of Defense		Date: March 2014

Appropriation/Budget Activity 0400 I 3	R-1 Program Element (Number/Name) PE 0603670D8Z I Human Social Culture Behavior (HSCB) Modeling Advanced Development	Project (Number/Name) P370 I Human Social Culture Behavior (HSCB) Modeling Advanced Development

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
P370: Human Social Culture Behavior (HSCB) Modeling Advanced Development	-	6.994	2.000	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This program is focused on developing and demonstrating general-use, cross-domain tools in two areas: computational modeling; and sociocultural behavior data collection, management, and dissemination. Research will result in cultural understanding technologies and overlays to support intelligence, influence operations, and operations planning systems; modeling capabilities for forecasting reactions to U.S./coalition actions; demonstration of strategic monitoring and decision making tools that account for political, religious, cultural, and related factors; tools and technologies enabling more widespread and effective use of sociocultural behavior models in operations. The Program will ensure that supported research is clearly tied to warfighters and their needs.

B. Accomplishments/Planned Programs ($ in Millions)

	FY 2013	FY 2014	FY 2015
Title: Modeling Capabilities	5.465	1.000	-

Description: Develop and demonstrate computational models to support sensing and forecasting of non-US populations, including their reactions to U.S./coalition informational, military, economic, or political actions. The Program has emphasized development of tools to support forecasting of instability. In addition to refining and extending those tools, the Program is researching and developing comparable models and tools for analysis and forecasting of other events of interest. Work in this area also includes modeling to support analysis of alternative courses of action (COA). This is a challenging objective that requires research, development and integration of constituent technologies. Integrate and demonstrate decision making support tools useful within programs of record and operational user analysis, planning and execution systems for political, religious, cultural and other factors. Support specific operational planning tasks for selected government partners via limited technical demonstration in user settings. In addition, working with operational partners HSCB Program models will be tested in realistic environments by representative users.

FY 2013 Accomplishments:
Developed a wargaming and planning engine enabling Commanders and staff to more easily analyze the impact of sociocultural factors in determining optimal Courses of Action (COAs) for hybrid threat operation and irregular warfare. Developed a technology tool that provides Commanders with a capacity to monitor the velocity, scope, and magnitude of social change in politically fragile societies. Model-building instruments within Virtual Strategic Analysis and Forecasting (V-SAFT) tool double as situation awareness instruments for operators, featuring wiki-style windows into the human terrain of complex societies. Delivered 14

Exhibit R-2A, RDT&E Project Justification: PB 2015 Office of Secretary Of Defense		Date: March 2014
Appropriation/Budget Activity 0400 *I* 3	**R-1 Program Element (Number/Name)** PE 0603670D8Z *I Human Social Culture Behavior (HSCB) Modeling Advanced Development*	**Project (Number/Name)** P370 *I Human Social Culture Behavior (HSCB) Modeling Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
country models covering a variety of Combatant Command areas of responsibility and types of regimes. Released version 1.0 of Versatile Multiscale Strategist (vmSTRAT), a decision support tool that represents conflict interactions of nation-states. Incorporated social media into national level instability monitoring. Developed and implemented methods, techniques, standards and tools that support model selection and verification and validation. *FY 2014 Plans:* Extend the Worldwide Integrated Crisis Early Warning System (W-ICEWS) by developing and demonstrating sub regional forecasting models for finer grained event forecast and analytics. Develop, in iTRACE/iCAST, the ability for COCOM-specific focus into news event processing (e.g., trafficking, humanitarian efforts, economic events) and additional instability event forecasting (e.g. coups).			
Title: Sociocultural Data Collection and Management *Description:* Develop and demonstrate tools for improved collection of sociocultural behavior data for multiple operational echelons. Develop and demonstrate tools to support ingest of unstructured data and structuring of data for use in computational modeling for intelligence analysis, operations analysis, and decision support. Specifically address emerging media and other open source data. *FY 2013 Accomplishments:* Developed enhanced dynamic analytics for networks, including new tested dynamic metrics, visualization of key dynamics in networks, assessment of group dynamics, identification of stable emergent and dispersing groups, identification of stable emergent and degrading patterns of influence and trust, and automated workflows for dynamic data, all of which are robust and scalable for big data. Developed a collection and decision tool to aid an analyst or planner in rapidly evaluating and exploiting crowd contributions via an extensible, computational trust assessment framework. Incorporated non-English text data into a system for providing advance sensing of national and sub-national scale crisis. Demonstrated methods for collecting and analyzing HSCB-relevant data in denied areas using readily available commercial imagery. *FY 2014 Plans:* Extend the W-ICEWS capability by improving op-tempo for news event processing in iTRACE/iCAST (daily or even real-time as opposed to weekly). Develop finer grained geo-spatial news event coding in iTRACE/iCAST (region vs country). Develop capability to add new foreign languages support in the news event processing cycle.	1.529	1.000	-
Accomplishments/Planned Programs Subtotals	6.994	2.000	-

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Exhibit R-2A, **RDT&E Project Justification:** PB 2015 Office of Secretary Of Defense		**Date:** March 2014
Appropriation/Budget Activity 0400 *I* 3	**R-1 Program Element (Number/Name)** PE 0603670D8Z *I Human Social Culture Behavior (HSCB) Modeling Advanced Development*	**Project (Number/Name)** P370 *I Human Social Culture Behavior (HSCB) Modeling Advanced Development*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PE 0602670D8Z BA 2: *HSCB Applied Research*	5.049	2.000	-	-	-	-	-	-	-	Continuing	Continuing
• PE 0604670D8Z BA 4: *HSCB Research & Engineering*	4.492	2.000	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

 N/A

E. Performance Metrics

 N/A

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