

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b> M67854-04-R-8000		1. CONTRACT ID CODE		PAGE	OF PAGES
				1	3
2. AMENDMENT/MODIFICATION NO. Amendment 0001		3. EFFECTIVE DATE See Block 16 C	4. REQUISITION/PURCHASE REQ. NO. N/A		5. PROJECT NO. (If applicable)
6. ISSUED BY PM TRASYS 12350 RESEARCH PARKWAY ORLANDO, FL 32826 POC: Fred Boehne 407-380-4269 E-MAIL: <a href="mailto:fred.boehne@navy.mil">fred.boehne@navy.mil</a>		CODE M67854	7. ADMINISTERED BY (if other than item 6) CODE John E. Lynch Contracting Officer 407-380-4197 E-Mail: <a href="mailto:john.e.lynch@navy.mil">john.e.lynch@navy.mil</a>		M67854
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(X)	9A. AMENDMENT OF SOLICITATION NO.	
N/A			X	M67854-04-R-8000	
				9B. DATED (SEE ITEM 11) 01 NOVEMBER 2002	
				10A. MODIFICATION OF CONTRACT/ORDER NO.	
				10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE				
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>					
(X) The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers ( ) is extended, ( X ) is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:					
(a) By completing Items 8 and 15, and returning ___ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. Accounting and Appropriation Data (if required)					
N/A					
<b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14</b>					
(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).				
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
XX	D. OTHER (Specify type of modification and authority) <i>Broad Agency Announcement Amendment</i>				
E. IMPORTANT: Contractor (X) is not, ( ) is required to sign this document and return ___ copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/ contract subject matter where feasible.)					
See Page 2.					
Except as provided herein, all terms and conditions of the document referenced in item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
			JOHN E. LYNCH, UNITED STATES MARINE CORPS		
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
<i>(Signature of person authorized to sign)</i>			BY <i>John E. Lynch</i> <i>(Signature of Contracting Officer)</i>		12/4/03

- I. The purpose of this modification is to add additional research areas and re-issue the revised BAA M67854-04-R-8000
- II. The following research areas are added to the current BAA.

- A. 2.4 Augmented Cognition

Research is needed to develop and demonstrate novel brain/machine symbiosis to augment human cognition and performance. The goal of the Augmented Cognition (AugCog) thrust is to enable asymmetric thinking, intuitive decision making, rapid pattern recognition, and dominant intellectual maneuver in volatile, uncertain, complex, and ambiguous warfare environments. Further, the objective is to develop and demonstrate that computational systems will be able to dynamically adapt to users by measuring cognitive state, manipulating cognitive state, exploiting human sensory channels, and optimizing information allocation. Research and development objectives include capabilities to augment cognition via multiple sensory modalities, map interaction of modalities, develop compensatory and training aids, enhance humans' natural perceptual and cognitive information processing abilities. Desired capabilities include improved performance for complex tasks, faster response times, reduced error rates, and enhanced task switching. These capabilities are desired in a closed loop computational system in which the computer adapts to the state of the Warfighter, rather than the Warfighter having to accommodate and adapt to the system.

Research is also needed to identify and exploit opportunities to apply this emerging technology in support of Naval operations within a joint campaign. Specifically, the Expeditionary Warfare thrust areas of: (1) C4ISR; (2) Mine Countermeasures; (3) Logistics; (4) Human Performance/Training and Education; (5) Maneuver; and (6) Firepower will be evaluated for opportunities to apply this technology.

- B. 2.5 Cognitive Task Analysis

The Synthetic Environment, Instrumentation and Situation Awareness, Tactical Decision-making Simulation (TDS), and Augmented Cognition thrusts require concurrent research and development in the application of cognitive task analysis (CTA) techniques to derive procedural and declarative knowledge making up targeted training applications to provide a principled approach to creating effective event-based training systems and scenarios for training applications and tasks that involve recognition, interpretation, and decision making based upon complex patterns and dynamic situations. An overall CTA framework is desired for deriving the unique stimulus characteristics and instructional strategies that will enhance cognitive skills and the meta-cognitive process to generate generalizable qualitative reasoning that will enhance decision-making in environments characterized by volatility, uncertainty, complexity, and ambiguity such as exist in military operations in urban terrain (MOUT).

### C. 2.6 Training Effectiveness Evaluation

The Synthetic Environment, Instrumentation and Situation Awareness, Tactical Decision-making Simulation (TDS), and Augmented Cognition thrusts require concurrent research and development to conduct training effectiveness evaluations to determine the utility of various training technologies and training interventions. Research is needed to solve the effectiveness question and provide guidance on methodology used to develop training applications. For each application, training objectives will be identified and performance measures developed for a specific candidate course. Where the structural design and instructional approach will be governed by the identified learning objectives, system effectiveness, usability and training effectiveness will be determined by performance measures. Research that produces transfer of training indices to context rich settings, such as field exercises, simulations, or on the job is most desirable.

- III. The attached BAA (Amendment #0001) replaces the original BAA in its entirety. (Total 44 pages.)
- IV. All other terms and conditions apply.