

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT/PURCH. ORDER/ AGREEMENT NO. DASG60-02-D-0011		2. DELIVERY ORDER/ CALL NO. 005707		3. DATE OF ORDER/CALL (YYYYMMDD) 2004 Oct 15		4. REQ./ PURCH. REQUEST NO. PP5CKN01-01		5. PRIORITY DX-A2		
6. ISSUED BY US ARMY SPACE & MISSILE DEFENSE COMMAND PO BOX 1500 HUNTSVILLE AL 35807-3801			7. ADMINISTERED BY DCMA HUNTSVILLE BUILDING 4505, SUITE 301 MARTIN ROAD REDSTONE ARSENAL AL 35898-0001		7. ADMINISTERED BY (if other than 6) CODE S0107A		8. DELIVERY FOB <input checked="" type="checkbox"/> DESTINATION <input type="checkbox"/> OTHER (See Schedule if other)			
9. CONTRACTOR TELEDYNE SOLUTIONS, INC 5000 BRADFORD DRIVE HUNTSVILLE AL 35805			9. CONTRACTOR CODE 1P9G8		FACILITY		10. DELIVER TO FOB POINT BY (Date) (YYYYMMDD) SEE SCHEDULE		11. MARK IF BUSINESS IS <input type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED	
14. SHIP TO SEE SCHEDULE			15. PAYMENT WILL BE MADE BY DFAS-COLUMBUS CENTER DFAS-CO/SOUTH ENTITLEMENT OPERATION P.O. BOX 182264 COLUMBUS OH 43218-2264		15. PAYMENT WILL BE MADE BY CODE HQ0338		13. MAIL INVOICES TO THE ADDRESS IN BLOCK See Item 15			
16. TYPE OF ORDER		DELIVERY/ CALL		X		This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.				
		PURCHASE				Reference your quote dated _____ REF _____ Furnish the following on terms specified herein.				
ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.										
NAME OF CONTRACTOR			SIGNATURE			TYPED NAME AND TITLE			DATE SIGNED (YYYYMMDD)	
<input type="checkbox"/> If this box is marked, supplier must sign Acceptance and return the following number of copies:										
17. ACCOUNTING AND APPROPRIATION DATA/ LOCAL USE See Schedule										
18. ITEM NO.		19. SCHEDULE OF SUPPLIES/ SERVICES				20. QUANTITY ORDERED/ ACCEPTED*		21. UNIT	22. UNIT PRICE	23. AMOUNT
		SEE SCHEDULE								
		24. UNITED STATES OF AMERICA								
									25. TOTAL	\$28,088,000.00
									26. DIFFERENCES	
27a. QUANTITY IN COLUMN 20 HAS BEEN <input type="checkbox"/> INSPECTED <input type="checkbox"/> RECEIVED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED										
b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE						c. DATE (YYYYMMDD)		d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE		
e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE						28. SHIP NO.		29. DO VOUCHER NO.	30. INITIALS	
f. TELEPHONE NUMBER		g. E-MAIL ADDRESS				<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		32. PAID BY	33. AMOUNT VERIFIED CORRECT FOR	
36. I certify this account is correct and proper for payment.						31. PAYMENT		34. CHECK NUMBER		
a. DATE (YYYYMMDD)		b. SIGNATURE AND TITLE OF CERTIFYING OFFICER				<input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		35. BILL OF LADING NO.		
37. RECEIVED AT		38. RECEIVED BY		39. DATE RECEIVED (YYYYMMDD)		40. TOTAL CONTAINERS		41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.	

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0001	SETAC - FP Labor COST	1	Lot	UNDEFINED	UNDEFINED
	Provide services outlined in the scope of work (SOW), as defined in a given task order (T/O), at the fixed prices/government labor category specified in Section B paragraph entitled, "GOVERNMENT LABOR CATEGORIES AND ASSOCIATED FIXED PRICES PER DPPH"				
	PURCHASE REQUEST NUMBER: PP5CKN01-01				
				MAX COST	\$26,466,000.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0003	Consultants COST	1	Lot	UNDEFINED	UNDEFINED
	Provide services outlined in the scope of work (SOW) at the cost reimbursable amounts as approved on a task-order-by-task-order basis. Total Fee, including prime and subcontractor/consultant, shall not exceed 3% of the estimated costs. This CLIN is valid during the three-year base period as well as any/all award term extensions earned by the contractor.				
	PURCHASE REQUEST NUMBER: PP5CKN01-01				
				MAX COST	\$0.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0004		1	Lot	UNDEFINED	UNDEFINED

Materials and STE

COST

Provide materials, special test equipment (STE), and associated services outlined in the individual task orders at the cost reimbursable amounts as approved by the T/OM and the Contracting Officer. NO FEE ON THIS CLIN. This CLIN is valid during the three-year base period as well as any/all award term extensions earned by the contractor.

PURCHASE REQUEST NUMBER: PP5CKN01-01

MAX COST

\$100,000.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0005		1	Lot	UNDEFINED	UNDEFINED

Travel

COST

Travel as directed in the individual task orders. Travel must be completed within the cost reimbursable amounts allowed per the Joint Travel Regulations and the DCAA-approved Company-Implemented Policy and Procedures. NO FEE ON THIS CLIN. This CLIN is valid during the three-year base period as well as any/all award term extensions earned by the contractor.

PURCHASE REQUEST NUMBER: PP5CKN01-01

MAX COST

\$1,500,000.00

FOB: Destination

BLOCK 17 CONTINUED

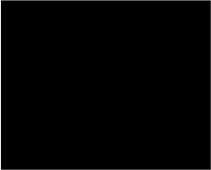
TASK ORDER FUNDS REQUIRED \$ 28,066,000

TASK ORDER FUNDS AVAILABLE \$ 6,316,306

UNFUNDED BALANCE \$ 21,749,694

BLOCK 18 (DD1155) CONTINUED: In the performance of this Task Order (T/O), the contractor shall provide the total Direct Productive Person Hours (DPPHs), plus or minus 10 percent, as stated for fixed-price labor categories stated in Section B of the contract listed in Block 1 of the DD Form 1155. These DPPHs shall be billed at the fixed price stated in Exhibit V of the contract. The contractor shall not exceed the DPPHs, nor the total dollars, stated for consultant below. The contractor is allowed to provide up to 10 percent less than the DPPHs stated for consultant and still expend the total dollars as stated in the T/O. Furthermore, under no circumstance shall the contractor exceed the dollars stated for Materials, Travel, or Total T/O.

LABOR CATEGORIES: Labor categories are as listed in the contract, Section B, paragraph entitled "GOVERNMENT LABOR CATEGORIES AND ASSOCIATED FIXED PRICES PER DPPH"

	DPPHs ORDERED	NTE AMOUNT
FIXED-PRICE LABOR TOTAL		\$ 26,466,000
*CONSULTANT TOTAL		\$ 0
T/O TOTAL LABOR		\$ 26,466,000
MATERIAL	NTE	\$ 100,000
TRAVEL	NTE	\$ 1,500,000
T/O TOTAL		\$ 28,066,000

*Consultant requirements must have prior written approval of the Administrative Contracting Officer (ACO) (via subcontract consent package) before any costs are incurred under the consultant CLIN.

Section C - Descriptions and Specifications

STATEMENT OF WORK

“Applied Data Analysis Center/Optical Data Analysis” Statement of Work

1.0 Introduction

1.1 Background - The Applied Data Analysis Center (ADAC) provides technical analysis support in the areas of flight test data collection planning, data reduction, data analysis, data exploitation, target model development and signature generation, algorithm development and evaluation, and special studies to the Missile Defense Agency (MDA) and the Services. The ADAC provides recommendations and analysis products to improve performance and reduce risk associated with the Ballistic Missile Defense System (BMDS) Elements.

1.2 Scope - The scope of ADAC's analysis activity includes missile/target ground tests, Ballistic Missile Defense (BMD) and Target of Opportunity flight tests (boost, midcourse, and terminal phases), Rest-of-the-World missile flight tests, and other agency flight tests. ADAC's mission is to provide comprehensive technical assessments, recommendations, analysis products, and critical lessons learned in a timely manner to the US Army Space and Missile Defense Command (SMDC), the MDA community, intelligence agencies, the BMDS Elements, and other appropriate organizations and agencies.

2.0 Requirements - The contractor shall support the following BMD areas: Pre-Mission Data Collection Planning, Data Reduction, Data Analysis and Exploitation, Target Modeling and Signature Generation, Algorithm Technology Development and Evaluation, and Special Studies.

2.1 Data Collection Planning - The contractor shall support pre-mission data collection planning activities to enhance the collection of high-quality data of interest to the MDA community. As part of this process, the contractor shall perform analysis and generate products, such as auxiliary sensor measurement requirements definition, test definition and mission planning, optimum sensor suite settings and locations, launch time recommendations, mission requirements planning, telemetry data reduction recommendations, thermocouple placement options, data handling plans, and on-site flight test sensor coordination and quick-look reporting. The contractor shall also participate in data requirements reviews, mission planning meetings, design reviews and other technical interchange meetings for each mission and perform sensor trade and cost studies.

2.2 Data Reduction - The contractor shall perform the reduction of relevant data from specified sensors [including, but not limited to, High-Altitude Observatory (HALO) II, and perhaps also HALO I, Wide-body Airborne Sensor Platform (WASP), Atmospheric Infrared Sounder (AIRS), etc] collected during Ground-Based Midcourse Defense (GMD), Aegis BMD, MDA Targets, Measurement Programs, etc. flight experiments. Flight data shall be reduced using flight calibration measurements to obtain the final calibrated data products within short timelines as dictated by the customer. Post-flight analyses shall include iterative processing to obtain the optimal parameters for the processing chain. Special requests from end users of the data for specific processing shall also be performed, as necessary. Data Reduction products include the following: final HALO II (and/or other sensors) reduced imagery and signatures, improvements to on-board processing routines, and data products produced by special request. Independent research of the sensor processing methods shall be conducted to determine if any improvements are recommended. Such improvements shall be tested and delivered to the HALO II (and/or other sensors) program for incorporation into on-board processors, as necessary.

2.3 Data Analysis and Exploitation - The contractor shall provide on-site flight and ground test support and perform data analysis to support the generation of a quick-look report. Data shall be reduced, as required, and detailed data analysis performed to characterize target scenes and investigate unexpected phenomena. These data are analyzed to identify the basic target phenomenology observed and to assess the data applicability to sensor function and algorithm validation. The contractor shall apply their experience to airborne and ground-based optical systems such as HALO, HALO-II, Fireball Sensor, WASP, Fly Along Sensor Package (FASP), Sea Lite Beam Director (SLBD), Reagan Test Site (RTS) Optics, Kwajalein Infrared Telescope (KIT), Theater High Altitude Air Defense (THAAD) seeker, GMD seeker, Arrow seeker, Standard Missile Defense (SMD) seeker, and overhead assets to

reduce (if necessary) and analyze critical data sets. Documentation of analysis results in the form of briefings and/or reports highlighting key findings are to be disseminated to the MDA community at data reviews and technical conferences.

2.3.1 The contractor shall apply advanced data analysis techniques on key data sets to address issues and advance technology in areas such as classical statistical pattern recognition, feature extraction, long-term energy dissipation analysis, image restoration, advanced data reduction and signal processing, and data fusion (via coupling of simultaneous data from optics with optics and/or radar). The contractor shall provide assessments of sensor function performance potential using available measured data and simulated data.

2.4 Target Modeling and Signature Generation - The contractor shall develop target models in order to define expected target radiometric and metric characteristics for flight test risk reduction activities. The preflight signatures shall be provided to data collection planners to help determine sensor settings, target support positions, and viewing requirements as well as to ensure target signature requirements are being satisfied. Subsequent to any flight or ground test, the target model shall be compared to relevant foreign and/or domestic data, verified/validated, and updated if necessary. The contractor shall employ primarily existing signature generation tools such as the latest release of the Optical Signatures Code (OSC), the Strategic Scene Generation Model (SSGM), and Battlespace Environments and Signature Toolkit (BEST); but other codes may be used as well. These tools shall be utilized to reconcile observed measurements with postulations regarding foreign target construction, verify the correctness of the codes via post-flight reconciliation with measurements on known domestic targets, perform pre-flight predictions on selected measurement experiments, and generate signature ensembles to support algorithm and performance evaluation efforts. Any anomalies discovered while using these codes are reported to the code developers. The contractor shall develop physical descriptions of models that best fit observed foreign measurements. Target models developed by the ADAC shall be documented and provided to the customer as directed by the Government Task Order Monitor (T/OM). The contractor shall interface/coordinate with intelligence agencies such as Missile and Space Intelligence Center (MSIC) and National Air and Space Intelligence Center (NASIC) to keep abreast of current threat model development activities.

2.5 Algorithm Technology Development and Evaluation - The contractor shall develop optical sensor function algorithm technology for direct application to new/improved algorithms viable for potential BMDS Element implementation. These algorithm technologies as well as associated documentation, are delivered to BMDS Elements and other organizations (such as Project Hercules), as appropriate. The contractor shall assist in the revision of the delivered algorithms/technology to ensure their proper performance in a system test-bed. Algorithms are used against a wide variety of threats, engagements, scenarios, and environmental conditions to adequately characterize the performance boundaries of the algorithms. New and existing algorithms are developed/modified to perform under system-like conditions, and algorithm performance is assessed using appropriate measured data sets. Performance calculations shall encompass the ability to conduct analysis for single and multiple defense elements, multiple feature spaces, multiple threat classes, and situations of data fusion in a system-like environment. The contractor shall develop/improve techniques for the characterization of algorithm performance. These techniques are utilized to conduct sensor function performance calculations appropriate to the BMDS Element being considered.

2.6 Quick Response Studies – As directed by the T/OM, the contractor shall respond to MDA-directed special analysis studies to address issues critical to the system elements. For a typical MDA special study, a technical literature search, as well as a detailed data analysis is performed. Potential impacts to system performance are identified and mitigation techniques are developed. Reports and/or briefing packages are generated to disseminate to the MDA community.

2.7 As directed by the T/OM, the contractor shall develop technical reports and present key technical analysis papers of interest to the MDA community at data reviews, working group meetings, and technical conferences sponsored by organizations such as, but not limited to, American Institute of Aeronautics and Astronautics (AIAA), Missile Defense Sensors, Environments, and Algorithms (MD-SEA), and International Society for Optical Engineering (SPIE).

3.0 Facilities - The contractor shall occupy a Government Operated facility in Huntsville, Alabama that houses a classified processing room, two conference rooms, and office space to accommodate ADAC contractor personnel.

The facility maintains furnished computer equipment consisting of silicon graphics workstations, personal computers, printers, and miscellaneous electronic equipment and software. Both classified SECRET/NOFORN/FGI and unclassified processing networks are available.

4.0 Program Management - The contractor shall conduct status meetings between SMDC Government and the contractor team at the ADAC in Huntsville, AL on a monthly basis. Accomplishments, status, issues, and plans for each funded analysis task are discussed. Subsequent to each meeting, briefing charts addressing each task shall be compiled and provided to SMDC personnel.

5.0 Security - Certain contractor personnel must possess TOP SECRET/Sensitive Compartmented Information (SCI) clearance access and/or be eligible for immediate adjudication by the cognizant security authority upon award of the contract. This contract may require access to, and clearance for, Special Access Programs (SAPs) up to and including the TOP SECRET/SCI level.

5.1 The ADAC will require access to SCI data in order to perform analysis and assess the adequacy of the work performed by other contractors. This data and other related information will be used to assist in the planning and the conduct of analyses, simulations, assessments, and other related tasks. The SCI-cleared contractors will be required in conjunction with their SCI contract monitor, to interface with key SMDC, MDA, BMDS Element and other Government personnel, and enter into SCI discussions to assist in assessment and decisions on the programs.

PERIOD OF PERFORMANCE

15 October 04 – 23 April 07

KEY PERSONNEL

DELIVERABLES

Item/Title	CDRL#	# Copies	Delivery Date
Task Order Management Plan	A001	1 *	Per CDRL
FMER	A003	1 *	Per CDRL
Progress Report	A004	1	As required by T/OM
Interim Technical Report	A004	1 *	As required by T/OM
Final Technical Report	A005	1 *	23 April 07
Conference Minutes	A006	1 *	Per CDRL
Quarterly Transmittal Listing	A007	1	Per CDRL

* Plus Electronic Version.

TRAVEL

The contractor has no authority to incur travel costs without explicit written approval (email acceptable) of the Task Order Monitor. The contractor is not authorized to travel outside the United States without the explicit written approval (email acceptable) of the Contracting Officer. Under no circumstance shall the contractor incur travel costs in excess of the NTE amount stated herein. NTE: \$ 1,500,000

MATERIAL

ESTIMATED COST FOR MATERIALS AND/OR SPECIAL TEST EQUIPMENT: The contractor has no authority to incur material costs without the explicit prior written approval of the contracting officer. Prior to forwarding requests to the contracting officer, the contractor shall obtain the Task Order Monitor's concurrence. Electronic Mail (email) shall be utilized for both steps in this process. Under no circumstance shall the contractor incur materials costs in excess of the NTE amount stated herein. NTE: \$ 100,000

SPECIAL INSTRUCTIONS

Cost data shall be segregated/reported/vouchered/paid at the ACRN level.

The "Limitation of Funds" is applicable at the ACRN level.

The effort described in the Task Order Statement of Work anticipated to be performed in FY05-FY07, is subject to the Clause at FAR 52.232-18, Availability of Funds.

All of the terms and conditions of the contract listed in Block 1 above are applicable to this T/O.

All of the provisions and clauses of the contract listed in Block 1 above are applicable to this T/O.

It is incumbent upon the contractor and/or subcontractor to ensure that appropriate Technical Assistance Agreements (TAAs) and/or applicable export licenses are in place before conducting any activity under the SOW which requires such approval and documentation.

The following Government Furnished Property or Test Facilities are available for use in performance of this Task Order:

On-Site Requirements: If required to work on-site at the government location, the contractor will have access to office space and equipment required to perform the task order (as determined to be necessary and available by the task order monitor). **Access includes Rent-Free-Non-Interference Use of MDDC equipment located in the AMP Facility - 106 Wynn Drive, Huntsville, AL - provided under contract number DASG60-99-D-0002.**

100% of day-to-day efforts will be performed at the Government-operated facility at 106 Wynn Drive, Huntsville, Alabama. **However, various classified/unclassified conferences/workshops may be held at contractor or subcontractor facilities at the direction of the Task Order Monitor.** Consultant work at contractor facilities may be required as necessary.

Effort completed under this T/O requires access to Sensitive Compartmented Information (SCI) data. The SCI access is allowable in accordance with the DD Form 254, Contract Security Classification Specification, incorporated into the contract under which this T/O is executed.

Performance of this T/O may require access to Special Access Program (SAP) information. SAP determination will be assessed on a case-by-case basis. If necessary, a revised DD254 will be incorporated into the task order.

The following contract clauses are applicable to this task order: FAR 52.228-3, Worker's Compensation Insurance (Defense Base Act); FAR 52.228-4, Workers Compensation and War Hazard Insurance Overseas; DFARS 252.228-7000, Reimbursement for War Hazard Losses; DFARS 252.228-7003 – Capture and Detention; DFARS 252.225-

7043, Antiterrorism/Force Protection Policy for Defense Contractors Outside the United States; DFARS 252.209-7001, Disclosure of Ownership or Control by the Government of a Terrorist Country; and Section H clauses entitled "Contingency/War Clause" and "Services Furnished by the Government". Prior to the contractor deploying any employee outside the Continental United States (CONUS) into an area of operations in support of a contingency operations or exercise under this task order, the contractor shall coordinate a Risk Assessment Plan (including a liability estimation) with the SETAC Contracting Officer.

DISTRIBUTION

TASK ORDER MONITOR: [REDACTED]
[REDACTED]

MAILING ADDRESS: [REDACTED]
[REDACTED]

ALTERNATE TASK ORDER MONITOR: [REDACTED]
[REDACTED]

MAILING ADDRESS: [REDACTED]
[REDACTED]

PROGRAM MANAGEMENT POC: [REDACTED]
[REDACTED]

MAILING ADDRESS: [REDACTED]
[REDACTED]

PROGRAM MANAGEMENT POC: [REDACTED]
[REDACTED]

MAILING ADDRESS: [REDACTED]
[REDACTED]

INTELLIGENCE AND SECURITY DIVISION DISTRIBUTION:
[REDACTED]

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 975 0400 0000 36 2216 40603888C00 2514 W31RPD5288KNNA 5HH07K S01021 W31RPD5288KNNA/5HH07K/H
AMOUNT: \$0.00

AB: 975 0400 2501 36 2216 40603888C00 2514 W31RPD5294JS1D 5HHK19 S01021
AMOUNT: \$237,000.00

AC: 975 0400 2501 36 2216 40603888C00 2514 W31RPD5302JS1H 5HHK19 S01021
AMOUNT: \$260,000.00

AD: 975 0400 2501 36 2216 40603888C00 2514 W31RPD5302JS2H 5HHK20 S01021
AMOUNT: \$395,000.00

AE: 975 0400 2501 36 2216 40603888C00 2514 W31RPD5302JS2K 5HHK20 S01021
AMOUNT: \$613,533.00

AF: 975 0400 2501 36 2216 40603889C00 2514 W31RPD5322DHPC 5HHG05 S01021
AMOUNT: \$395,000.00

AG: 975 0400 2501 36 2216 40603889C00 2514 W31RPD5322DHPA 5HHG05 S01021
AMOUNT: \$441,000.00

AH: 975 0400 2501 36 2216 40603888C00 255Y W31RPD5324JSMA 5HHK05 S01021
AMOUNT: \$250,000.00

AJ: 975 0400 2501 36 2216 40603886C00 2514 W31RPD5329DHKA 5HHJ98 S01021
AMOUNT: \$450,000.00

AK: 975 0400 2501 36 2216 40603888C00 2514 W31RPD5328JSMB 5HHK05 S01021
AMOUNT: \$525,000.00

AL: 975 0400 2501 36 2216 40603888C00 2514 W31RPD5328JSMC 5HHK05 S01021
AMOUNT: \$119,250.00

AM: 974 0400.2501 36 6011 40603888C00 2514 W31RPD4334JS32 4HHK17 S01021
AMOUNT: \$100,800.00

AN: 974 0400.2501 36 6011 40603888C00 2514 W31RPD4336JS33 4HHK17 S01021
AMOUNT: \$10,000.00

AP: 974 0400.2501 36 6011 40603888C00 2514 W31RPD4312JS35 4HHK17 S01021
AMOUNT: \$10,000.00

AQ: 974 0400.2501 36 6011 40603888C00 2514 W31RPD4312JS34 4HHK17 S01021
AMOUNT: \$9,723.00

AR: 975 0400 2501 36 2216 40603888C00 2514 W31RPD5348KNNA 5HHK07 S01021
AMOUNT: \$2,500,000.00