



WSTIAC

2008 PEO/PM Symposium

Weapon Systems Technology Information Analysis Center

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Information for the Defense Community 

Report Documentation Page

Form Approved
OMB No. 0704-0188

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|--|------------------------------------|-------------------------------------|----------------------------|--|---------------------------------|
| 1. REPORT DATE NOV 2008 | | 2. REPORT TYPE N/A | | 3. DATES COVERED - | |
| 4. TITLE AND SUBTITLE Weapon Systems Technology Information Analysis Center | | | | 5a. CONTRACT NUMBER | |
| | | | | 5b. GRANT NUMBER | |
| | | | | 5c. PROGRAM ELEMENT NUMBER | |
| 6. AUTHOR(S) | | | | 5d. PROJECT NUMBER | |
| | | | | 5e. TASK NUMBER | |
| | | | | 5f. WORK UNIT NUMBER | |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Alion Science and Technology | | | | 8. PERFORMING ORGANIZATION REPORT NUMBER | |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) | | | | 10. SPONSOR/MONITOR'S ACRONYM(S) | |
| | | | | 11. SPONSOR/MONITOR'S REPORT NUMBER(S) | |
| 12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited | | | | | |
| 13. SUPPLEMENTARY NOTES See also ADM202819. Acquisition and Life Cycle Management Symposium: Rapid Access to Technical Information Supporting Defense Acquisition held in Huntsville, Alabama on 18-19 November 2008, The original document contains color images. | | | | | |
| 14. ABSTRACT | | | | | |
| 15. SUBJECT TERMS | | | | | |
| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES | 19a. NAME OF RESPONSIBLE PERSON |
| a. REPORT unclassified | b. ABSTRACT unclassified | c. THIS PAGE unclassified | | | |



Agenda

- WSTIAC Mission Statement
- WSTIAC Team
- Customers/Work Performed
- WSTIAC 10
- Technical Information Resources
- Providing Relevant Support to Acquisition Community
- Success Stories : Elec. Warfare, Capability Plan, SOPMOD
- Summary
- Q&A

The logo for the Defense Technical Information Center (DTIC) is circular with a yellow border. It features a central shield with a blue background and a white eagle with wings spread. The shield is surrounded by a yellow ring with the words 'DEFENSE TECHNICAL INFORMATION CENTER' and 'INFORMATION SERVICE'. The outer ring of the logo contains the words 'DEFENSE TECHNICAL INFORMATION CENTER' and 'INFORMATION SERVICE'.

WSTIAC Mission

- **Mission**

- Provide DoD and user communities with timely and authoritative information and technical expertise on key weapon systems related R&D concepts, results, trends, applications and processes, and assessment of international R&D technology with a focus on conventional and directed energy weapons science, technology, and acquisition.
- Acquire, digest, analyze, evaluate, synthesize, store, publish and disseminate worldwide weapon systems STI and engineering data
- Systems and subsystems from satellites to aircraft to ground combat vehicles to ships and submarines and more...

- **Vision Statement**

- Transforming Weapon Systems Capabilities into Warfighter Superiority
- WSTIAC as the premier provider of weapon systems technology knowledge, information, and technical expertise

- **Goals**

- Aggressive information acquisition
- Relevancy of information and technical expertise
- Constant promotion of capabilities
- Demonstrate and promote success stories
- Strengthen Core activities (website, mailing list, metrics, newsletter)



THE WSTIAC TEAM

WSTIAC

Alion Science and Technology

Large Businesses

BAE Systems
Booz Allen and Hamilton
CAS, Inc.
Computer Science Corporation
Colsa Corporation
L-3 Communications
Lockheed Martin
Northrop Grumman
SAIC
SDS

Small Businesses

Andromeda Systems Inc.
Ausgar Technologies, Inc.
Engenuity, LLC
JL Marshall and Associates
Network and Simulation Technologies, Inc.
Portland Tacoma Consulting, LLC
RNB Technologies, Inc.
Valkyrie Enterprises, LLC
Wise Web Connections

Academic Institutions

Mississippi State University
Ohio State University
University of Central Florida
University of Dayton Research Institute



Customers/Work Performed

• Who are the WSTIAC Customers?

- Requirements developers/combatant organizations/operators
- Materiel developers (PMs)/acquisition community/contracting officers and their representatives
- Engineers and scientists

- AF Aeronautical Systems Center
- JFCOM
- ARDEC
- Picatinny PMs (PEO Ammo; PM CAS; PM CCS; PM MAS; PM - JS)
- USACOE

• What is the Type of Work Performed?

- Requirements analysis
- Assessment of weapon systems technologies and capabilities
- Sustainability assessment
- Project management and business management expertise
- Independent reviews
- Provide engineering and scientific expertise



With the Purpose of:

- Supporting weapons-system development And Enhancement
- Enhancing lethality, accuracy & affordability
- Providing subject matter expertise for consultation and analysis to solve problems



“WSTIAC 10”

Key Areas That WSTIAC Provides Capabilities...

- Power and Energy
- Lethality
- Weapon System Command and Control/Situational Awareness
- Non-Lethal
- Weapon Systems and Munition Readiness and Asset Visibility

- Target Identification and Engagement
- Asymmetric and Irregular Warfare Weapon Systems
- IED Defeat
- Embedded Training Systems
- Capabilities, Effectiveness, and Requirements Analyses

WSTIAC 10: Critical Focus Areas Across All Services Related to Weapon Systems



WSTIAC

TECHNICAL INFORMATION RESOURCES



Supporting the Warfighter with quick access to Scientific, Technical and Operational Information

WSTIAC Website <http://wstiac.alionscience.com>

- **Information Resource**
 - Over 97,000 records of scientific and technical information
 - WS library database search engine
 - Repository of 20,000 electronic report in the total electronic migration system (TEMS)
 - WS industry calendar of events
 - Related WS links
- **WSTIAC eNews**
 - Delivers the most up to date Weapons Systems information in real-time to user's desktop.

The complexity of modern weapon systems is such that no one component or technology can be addressed in isolation

WSTIAC
Weapon Systems Technology
Information Analysis Center

IED Defeat Target Identification & Engagement Lethality
Power & Energy Command & Control Asymmetric & Irregular Warfare
Weapon Systems & Munition Readiness & Asset Visibility Non-Lethal Weapons
Embedded Training Systems Capabilities Effectiveness & Requirements Analysis

Scientists & Engineers Material Developers Warfighters & Combatant Commanders Search

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GPS
Smart Weapons
Miniaturization
Sensors & Seekers
Weaponneering
High Energy Lasers
High-Power Microwaves
Directed Energy Weapons
Environment Protection
Inertial Navigation Systems

YOUR
4 FREE HOURS
Start Now

Training Weapons Experts
Technical Inquiries
Literature Searches

WSTIAC offers up to 4 HOURS FREE of technical expertise to our customers.
Drawing upon our weapon system experts, multiple databases, and vast information repositories,
WSTIAC supports today's research for tomorrow's war fighters.
It's like having your own team of experts.

IAC NEWS & EVENTS
WSTIAC QUARTERLY

- First MH-60R Weapons Load Trainer Delivered to Fleet
- Mobile Communications System Undergoes Final Tests
- USS Benfold Receives First Install of Shipboard Protection System
- Air Force Tests X-51 Antennas
- Fiscal 2008 New Start and Additional Fiscal 2007 Joint Capability Technology Demonstrations Announced
- More news...

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- **The WSTIAC Quarterly is delivered to over 18,000 DoD WS Professionals to provide the latest in Weapon Systems Technology.**
 - The war against IEDs
 - Small caliber lethality
 - Disruptive technologies for weapon systems
- **WSTIAC Products & Service**
 - **GENESIS SMART WEAPONS EVENT SIMULATOR**
 - **PROGRAM MANAGEMENT HANDBOOK ON NUCLEAR SURVIVABILITY** – A guide for a program manager and members of a program management office (PMO) in the development and acquisition of nuclear survivable systems.
 - **PRECISION GUIDED MUNITIONS HANDBOOK**
 - **INQUIRY SERVICES**
- **Publications and SOARs**
 - **ANTI-JAM GLOBAL POSITIONING SYSTEM TECHNOLOGY - STATE OF THE ART REPORT (SOAR).**

Fundamental features of GPS navigation for PGM applications, essential features of GPS signal reception, the potential jamming threat, and the main thrusts in electronic counter-countermeasures (ECCM) for an anti-jam GPS capability in current and future PGM systems





WSTIAC Training Program Provides the Understanding Needed for Today's Warfighter

- Provides a firm understanding of information related to conventional and directed energy weapons, their development, and production
- Open and on site venues
- Expert instructors
- Most of the weapon systems training is performed on site and is tailored to meet targeted needs

Training Courses

- Systems Engineering
- Directed Energy Weapons
- Smart/Precision Weapons
- Sensors/Seekers
- Weaponeering
- IEDs
- Customized Topics

Meet your challenges

Accelerate your progress

Train with our specialists

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- Bombs/missiles that operates at 1.5 microns
- Is the Latvian 120mm mortar NATO standard
- Environmental stress testing (EST) - power supplies
- Effects of high-powered rifle fire on infrastructures such as chemical storage containers, water towers, electrical transformers, grids, and oil components



WSTIAC

PROVIDING RELEVANT SUPPORT TO ACQUISITION COMMUNITY

Examples of contract work



Army Research Laboratory Experimental Fix (Ex-Fi) Program

- **Program developed to enable the maturation of medium to high risk counter improvised explosive device (CIED) technologies**
 - Design test facility
 - Implement automated test procedures
 - Develop data collection procedures
 - Conduct experimental tests on CIED systems
- **Coordinate a plan to inform team members of critical events. The “team” will be comprised of representatives from the army, joint IED defeat organization (JIEDDO) and other organizations.**





Advanced Threat Infrared Countermeasures (ATIRCM)

- WSTIAC is considered the SME for all sustainability activities associated with the program
- WSTIAC is in process of setting up a failure rate reduction IPT for the program. WSTIAC will be the chair of the committee
- WSTIAC received customer recognition (a certificate of appreciation from the US army, PM-IRCM) for our reliability demonstration test support activities (January 2008)
- The program has been identified as a number one priority in army aviation and fielding of hardware is being accelerated. Fielding currently planned for 2010.





Special Operations Engineering Team at Navy Crane (USSOCOM)

- Special operations weapons, munitions, enhanced optics and infrared targeting systems and visual augmentation systems
 - Identification, definition, and establishment of technical requirements
 - Test and evaluation data collection
 - Manufacturing processes and problem resolution
 - Design and analysis of system software and computerized data collection
 - Operational serviceability
 - Cost benefit analyses





WSTIAC

Success Stories



Electronic Warfare (EW) Capability Planning, Development and Analysis

Customer: Air Force Materiel Command

- Objectives
- Provide the Air Force Materiel Command with technical analysis and assistance with EW planning, development, acquisition and analysis.
- Help the Command mature critical sensor technology and guide system design needed to support the required warfighter capability.
- Provide decision support analyses for program new-starts, system modifications, & significant changes in DOTMLPF



Affordable Investment Decisions for World Class EW Capability

- Tasks
- Integrated roadmap and investment strategy development
- Strategic analyses for EW and Information Operations (IO) capability development
- Scientific and engineering support
- Senior level aerospace program management expertise
- Program documentation Knowledge management of AF EW systems & capabilities
- Facilitation of technology transfer
- Modeling, Simulation and Analysis specific to EW, IO, and Combat Identification (CID)

- Accomplishments
- Designed an AF-level EW business plan to address operating concepts and best practices.
- Provided executive-level awareness presentations to key Air Force (AF) leaders regarding EW capabilities and shortfalls to guide requirements development and AF investments.
- Guided the design & development of the new automated knowledge management system (Spiral 0), the foundation of the AF EW Roadmap and a centralized source for future EW study efforts.
- Focused Combat Identification (CID) developmental risks, concepts & issues for executive action.

Information for the Defense Community 



Capability Development Planning

Customer: AF Aeronautical Systems Center

• Objectives

- Provide critical link between desired warfighter capabilities and the acquisition of those capabilities
- Support the definition of future capability needs
- Define and evaluate alternative concepts
- Recommend preferred concepts
- Identify technology and risk drivers
- Define life cycle costs and issues
- Develop executable acquisition strategies
- Transition the capability development effort
- Manage and execute the capability development effort.



Assess and Develop Future Capabilities in Support of Early Acquisition Planning

• Tasks

- Provide Pre-Acquisition planning support
- Develop technology strategies and transfer plans
- Collect data and analyze weapon system performance
- Review and recommend policy revisions
- Develop integrated change roadmaps
- Develop affordable architecture migration plans
- Review and identify fleet total ownership costs
- Develop Modeling, Simulation, and Analysis (MS&A) methodologies and provide MS&A technical support
- Develop cost benefit analysis

• Accomplishments

- Developed the Technology Development Strategy for the Next Generation Long Range Strike (NGLRS) capability development effort
- Developed the NGLRS Courses of Action
- Drafted the NGLRS Life Cycle Management Plan
- Drafted the Joint Tactical Control Training and Rehearsal Systems (JTC TRS) Performance Specification
- Developed the effectiveness analysis approach and draft study plan for the Presidential Airlift Recapitalization Analysis of Alternatives

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Special Operations Peculiar Modification SOPMOD

Customer: US SOCOM Navy Crane

•Objective

•The Special Operations Peculiar Modification (SOPMOD) Program Management Office (PMO) at NSWC Crane is providing standardized, versatile weapons accessories to meet needs across SOF mission scenarios. These accessories increase operator survivability and lethality by enhanced weapon performance, target acquisition, signature suppression, and fire control. The SOPMOD PMO provides these accessories when they are operationally suitable, affordable, sustainable, and funded. There is a need for engineering analyses and process analyses to assure the new technology enhancements are implemented in an expedient manner. There are a broad number of technical issues that impact the SOPMOD Program.



Supporting the Warfighter by Providing an Enhanced Asymmetrical Advantage

•Tasks

- Perform engineering analysis on materials, mechanical, and electronic areas to support the development of advanced weapons systems accessories.
- Perform Manufacturers assessments to ensure the capability to provide sustained life cycle support.
- Research and analyze system requirements of SOPMOD accessories. Use research to provide templates for data collection and analysis.
- Perform data collection and analysis on user assessments

•Accomplishments

- Completed Data collection tool for the Weapons Shot Counter.
- Performed (5) Manufacturers evaluations to determine possible root cause of equipment failures.
- Collected data generated during the ECOS-GL Shoot with 2nd Battalion/75th Ranger Regiment.
- Briefed the history of suppression during the SOPMOD IPTs.
- Developed a Technology Transition process to provide a method to enhance current weapon accessory capability through the integration of emerging technologies.

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Summary



- WSTIAC provides weapon systems technology information and technical expertise
- “WSTIAC 10” summarizes the key strategic areas that WSTIAC provides support
- Extensive weapon systems technology database
- Large number of subject matter experts to assist you with your needs

Through WSTIAC, Can Get You The Expertise and Capabilities You Need Quickly and Effectively!



WSTIAC

Q&A

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