



AMMTIAC

2008 PEO/PM Symposium

Advanced Materials, Manufacturing and Testing Information Analysis Center

Mike Morgan, Director
Alion Science and Technology
mmorgan@alionscience.com
(937) 542-9908

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Information for the Defense Community 

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AMMTIAC's Core Focuses

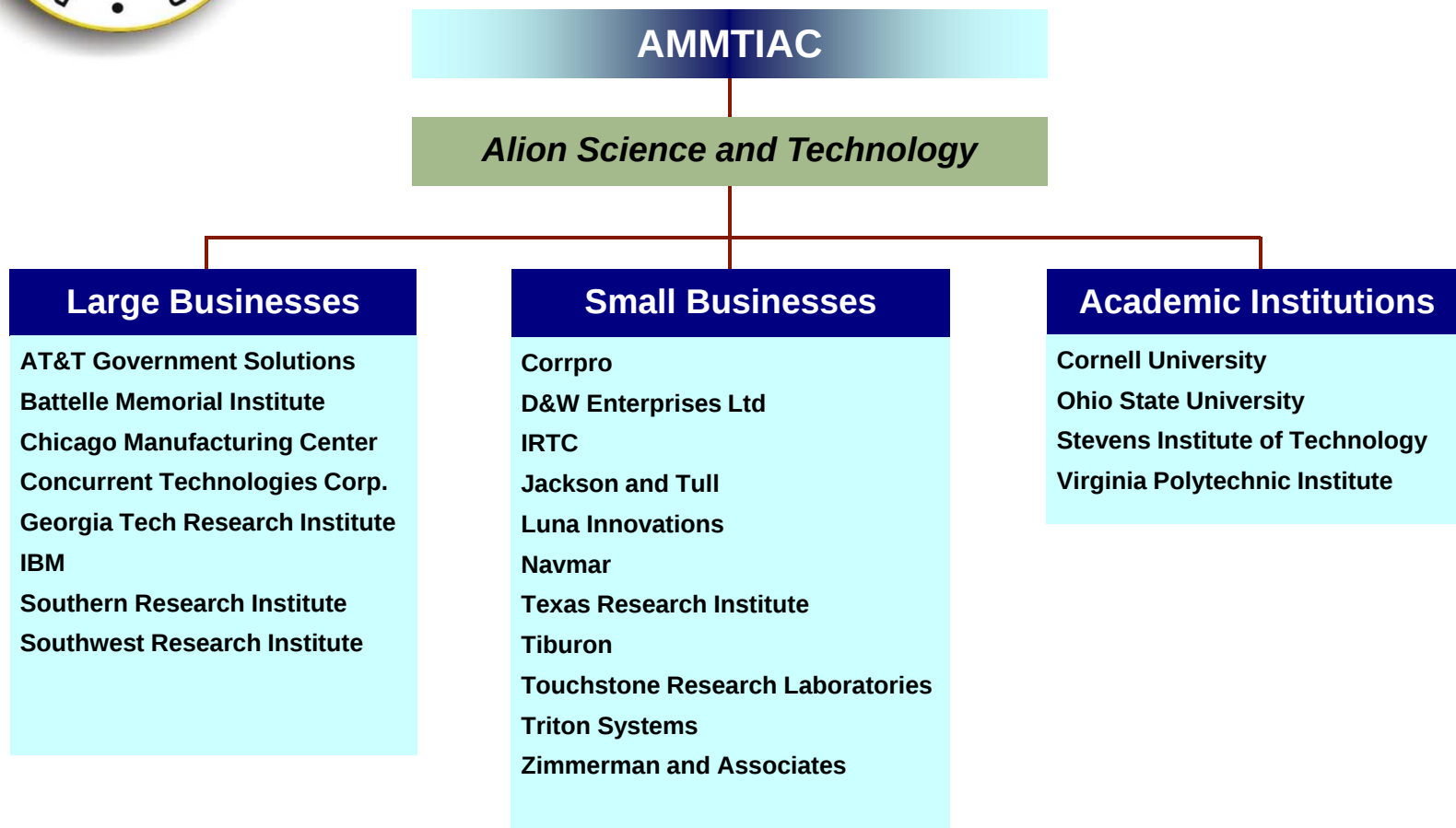
1. Life Cycle Management
 - Design review/optimization
 - Repair Practices
 - Re-engineering
2. Sustainment Technologies
 - Superfinishing, Specialty Coatings
 - NDI/NDE
 - Corrosion Prevention, Control & Mitigation
3. Acquisition Support
 - Corrosion Planning Review
 - Review for manufacturability
 - Review for sustainability
 - Manufacturing Readiness Review
4. System Engineering
 - Analysis of Alternatives
 - Requirements Allocation Review
5. Manufacturing Technologies
 - Design, Prototype & Process Optimization
6. Testing
 - Design & Execution
 - First Article Testing
 - Materials Through System Levels
7. Materials Engineering
 - Materials Selection, Failure Analysis & Technology Insertion
 - Blast Mitigation

AMMTIAC is the full life cycle solutions provider

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THE AMMTIAC TEAM



AMMTIAC's technically diverse and multi-faceted team spans all stages of the system life cycle, providing true "cradle to grave" support to the Warfighter.

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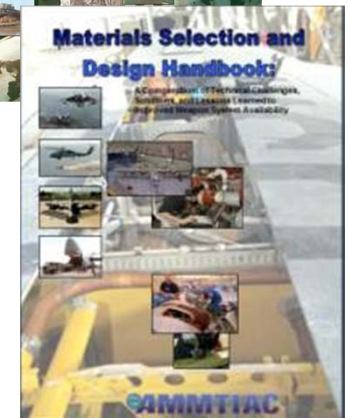
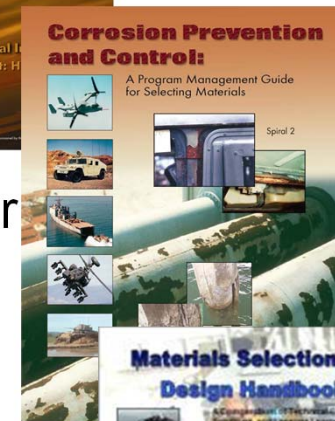
AMMTIAC

INFORMATION SERVICES



Supporting the Acquisition Community Through Focused Technical Information

- ***The AMMTIAC Quarterly*** - Our technical journal highlighting the latest in DoD acquisition and sustainment activities
 - E.g. F-35 production updates, detecting insulation defects in complex wiring systems, NDT/NDI
- ***Program Manager's Handbook for Corrosion Prevention & Control*** – First of its kind reference on major causes of corrosion, their impact to military systems, and preventative design and maintenance strategies.
 - For use by PMs, product centers, and maintenance orgs.
- ***Readiness Handbook*** – Material selection and design handbook that examines the root technical causes of readiness and availability shortfalls of military assets.
 - Written for program office engineering staffs, field & depot-level maintenance personnel





Supporting the Acquisition Community Through Ready Access to Quality Scientific, Technical, and Operational Support Information

The AMMTIAC Website

<http://ammtiac.alionscience.com>

- Information Resource
 - 300,000 Reports In AMMTIAC Library
 - Online Newsletter Articles
 - Portal to 30,000 Electronic Reports in TEMS
- Industry Locator (MatPro)
- AMMTIAC Products & Services
 - Handbooks & Databooks
 - Inquiry Service



Supporting the Warfighter

Through AMMTIAC's Technical Inquiry Service

Get rapid, reliable answers to your technical questions from AMMTIAC!



Contact us directly!



- Phone: (315) 339-7090
- Fax : (315) 339-7107
- E-mail: ammtiac@alionscience.com

- Modular Armor for Overhead Protection
- Modular Armor for Tent Structures
- B-2 Brakepad
- Galling of the Astern Throttle Valve on the USS John F Kennedy (CV-67)



AMMTIAC

PROVIDING SOLUTIONS RELEVANT TO ACQUISITION

Examples of contract work



PM Soldier Weapons Fielded System Study

- M4 Carbine Independent Assessment & Review
 - Design
 - Testing Approach
 - Quality, Manufacturing & Maintenance Data
 - Root Cause Analysis
- Recommend Corrective Actions
 - Technology Developments / Insertions
 - Design Improvements
 - Manufacturing Technology
 - Product Improvements
 - Changes Test Design and Execution
 - Improvements to Manuals
 - Lessons Learned to included Root Causes
 - Effects of Different Environments





Battery Research Network (BATTNET)

- AMMTIAC supports the Battery Research Network (BATTNET)
 - Defense/Industry consortium sponsored by DLA
 - Promote robust & reliable US-based battery manufacturing capability
- Promote better battery technology
 - More field-portable
 - Reduced size and weight
 - Greater endurance and service life
 - Quicker, more recharges
 - Lower costs
 - Improved performance in harsh environments



The battery power needs of today's soldier are great



Shock & Vibration Engineering Design & Testing

- Review & Evaluate Documents, for Compliance With Shock & Vibration Requirements
- Perform High-Impact Medium Weight Shock Testing for Naval Surface Warfare Center
 - DDG 1000 Integrated Deckhouse & Hangar Design
 - AN/SQQ-89A(V)15/(V)15 UNIT 804 Equipment Rack
 - NATO SEASPARROW MK 29 MOD 4 Guided Missile Launcher
 - Solid State Transmitter
 - Standard Missile
- Prepare Shock Deficiency Correction Plans
- Update MIL-STD-167-1A
- Predict Response of Systems to Shipboard Vibration Inputs
 - Conduct Frequency Response Vibration Analyses





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AMMTIAC Success Stories



Venom Penetrator

- Navy Surf-Zone De-Mining Program that Uses a Chemical to Neutralize the Explosives
 - Doesn't Leave Unexploded Ordinance
- Performed Life Assessment for Corrosion of Dart Body
 - Reduced Program Risk
 - Determined Dart Body Could Survive a 12 Year Storage Life
 - Recommended a Testing Approach
 - Recommended Dart Fill Procedures
- Re-design Penetrator Nose
 - Live Fire Tests Showed Best Performance (Highest Kill Ratio)
 - 2004 Admiral H. R. Stark Award for the Advancement of Ballistics, Penetrators & Projectiles.



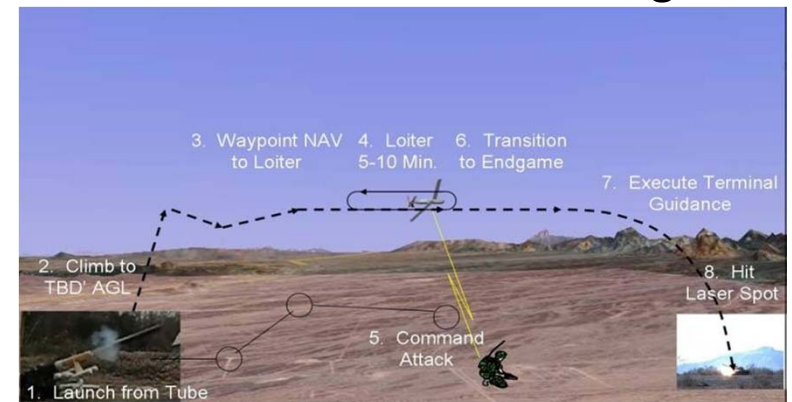
- Re-designed Nose Post Test Showing Penetrator Separation



Hellshot

Mortar Launched UAS Concept

- Army has need for a mortar-launched Unmanned Aerial System (UAS) capability with onboard laser seeker.
- AMMTIAC is demonstrating feasibility by constructing prototype and test launching from a mortar tube.
- AMMTIAC SMEs perform research, development and testing of prototype.
- Approach builds upon successful Navy SLADS UAS vehicle design.
 - Sonochute Launched Air Deployable Sensor (SLADS)
 - Reduces development costs
 - Assessing required design modifications, hardware adaptations, and changes in manufacturing practices
- Gives Army a new precision-guided munitions capability.

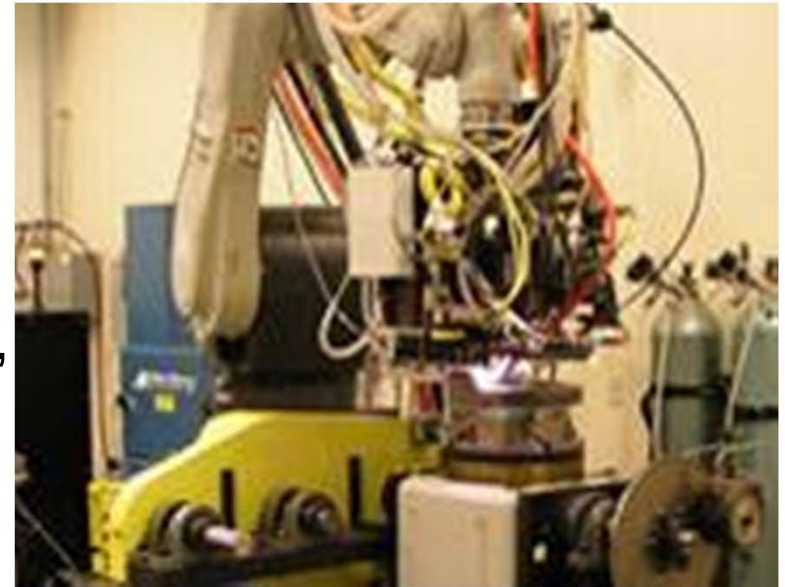




AMMTIAC

Low Volume Productivity

- High-power laser “cladding” to extend the useful life of metal parts
- Currently in use by US Navy for ship part refurbishment
- Economic alternative to replacing large, low-production-volume parts
 - Propeller shafts
 - Other large ship components
- Refurbishing worn parts using a custom robotic laser cell
- Robotic system improves productivity, reduces turn-around time
- Winner of two R&D Magazine “Top 100 Awards” for New Development





Contact Information

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