

**Robotics Consortium
Organizational Meeting
Hosted by NDIA Robotics Division**

17 January 2008

**George Washington University
Marvin Conference Center
800 21st Street, NW, Room 402/404
Washington, DC 20052**

- **Welcome Comments**
- **Administrative Comments**
- **Meeting Organization Leadership Acknowledgement**
- **Introduction of Attendees**
 - **Agenda Participants**
 - **Companies Attendees**
 - **Other Attendees**
- **Other Comments**

Agenda

- | <u>Time</u> | <u>Topic</u> | <u>Moderator</u> |
|-------------|---|------------------|
| • 0900 | Welcome, Introductions | J. Dyer |
| • 0915 | Review Agenda, Outcome, Purpose | J. Dyer |
| • 0930 | Overview of Current Small Arms Consortium (NSATC) | Dave Broden |
| • 1000 | Review of Key Elements of Government Proposal for Defense Robotics Consortium | Dave Broden |
| • 1030 | Break | |

Agenda

- | <u>Time</u> | <u>Topic</u> | <u>Moderator</u> |
|-------------|---|------------------|
| • 1100 | Discuss Benefits of Robotics Consortium to Robotics Community—Government and Industry | Dave Broden |
| • 1145 | Discuss Key Issues and Concerns | Dave Broden |
| • 1200 | Finalize List of Issues for Government and Industry Follow-Up | Dave Broden |
| • 1230 | Box Lunch/Break | |

- | <u>Time</u> | <u>Topic</u> | <u>Moderator</u> |
|-------------|--|------------------|
| • 1300 | Potential Consortium Models, Conops, and Structure | Dave Broden |
| • 1400 | Path Forward and Formation of NDIA Steering Group | Dave Broden |
| • 1430 | Wrap-Up | J. Dyer |
| • 1500 | Meeting Conclusion | |

- **Overview Defense Ground Robotics Consortium Purpose, Approach, and Benefits**
- **Determine Interest in Forming and Participating in Proposed Consortium**
 - **Industry—Large and Small Business**
 - **Academia**
- **Identify Issues and Concerns and Address/Establish Actions**
- **Discuss Prospective Models, Conops, Structures**
- **Address Organization of a Unified Response to Government RFP and related Organizational Considerations**

- **Effective Communication of Robotics Consortium and Related Benefits –Enabling Industry and Academia to Become Members when Consortium is Formed.**
- **Establish a List of Issues and Concerns to Addressed—Answered and Communicated to the Interested Industry/Academia**
 - Directed to Government
 - Directed to Industry/Academia
- **Form Steering Group under NDIA Robotics Division**
 - Liaison with Government
 - Communication with Interested Industry/Academia
- **Establish Framework and Process Which will Forge Collaboration among Industry and Academia**
 - Form Organization
 - Program Collaboration
 - Administration

- **David (Dave) Broden ---Background**
 - **NDIA Armament Division Chairman**
 - **Member of Committee of Small Arms Producers**
 - **Member of National Small Arms Technology Consortium (NSATC) Executive Committee**
 - **NSATC Facilitator**
 - **Business Background:**
 - **Broden Resource Solutions LLC—President—A Systems/Technology Consultant—2004 ---Present**
 - **Retired from ATK (Alliant Techsystems—2004)**
 - **Honeywell—1066 to Start of ATK—1990**
 - **Positions at Honeywell and ATK**
 - **Program Management**
 - **Technical Director**
 - **Business Area Manager**
 - **Systems Engineering**

Small Arms Consortium (NSATC)

- **Current Operational Consortiums**
 - National Energetic and Warheads Consortium (NEWC)
 - National Small Arms Technology Consortium (NSATC)
- **Administrative Location and Agency**
 - US Army Picatinny Arsenal –New Jersey
- **Years of Operation (estimated)**
 - NEWC—since approximately—2000
 - NSATC—since approximately—2003
- **Key Status Observations**
 - Significant Growth in Membership and Participation
 - Increase in Congressional Funding for Each Consortium

- **NSATC Scope:**
 - Technology
 - Systems
 - Production meet Specific Criteria
 - International Members and Participation
- **NEWC Scope:**
 - Primarily Technology Focused
- **Scope Impact Considerations:**
 - **Emphasis on Identifying and Evolving Innovative Solutions**
 - NSATC Inclusion of Systems etc. Impacts Collaboration Opportunities---Partnerships are evolving.
 - ITAR Issues Impact Collaboration

- **Innovative Technology and Systems – Identified and Enabled**
 - Requirements Pull
 - Technology Push
- **Enabling Organization for Collaboration to Enable Solutions**
 - Linking Government and Industry with Common Objectives
 - Major Companies, Small Business, Academia, Non-Profits etc.
- **Establishing a Multi-Year Plan Address Needs and Innovation**
- **Ensuring Adequate Funding to Meet the Warfighter Needs**
 - Congressional and DOD Support
- **Demonstrate Innovative Technology and New Concept Readiness for Transfer to Programs and Subsequent Maturity**

NSATC Organization Development Approach

- NDIA—Oversight of DOD Committee of Small Arms Producers(CSAP)
 - **CSAP Members of Small Arms Community and Selected Members of NDIA Small Arms Committee**
 - **CSAP Assessed Alternatives to Strengthen the Small Arms Industrial Base—Development and Production**
 - **Realization that Innovative and Changes in Systems and Technology are Critical**
 - **CSAP Committee Chose Consortium as the Preferred Organization**
 - **CSAP Committee Acted as NSATC Organizing Committee and Evolved to be the NSATC Executive Committee**
 - **Consortium Agreement Support from EME as Administrative Agent**
 - **Annual Membership Fee of \$1000 Established**
 - **NSATC Selected Picatinny as Location-(Note location was not competed)**
 - **Subcommittee Structure Established by Organizing Committee**
 - **Research Director Selected by US Army—Picatinny Arsenal**
 - **Procurement of Other Transaction Agreement etc. –via Picatinny Arsenal**
 - **Facilitator Added to Enable Executive Committee Activity**
 - **Website—Initiated by Picatinny transferred to Industry Lead**

- **Executive Committee**
 - **Nine (9) Industry/Academia Members**
 - Annual Elections—Two Year Terms
 - **Seven (7) Government Members**
 - **Industry Chairman Elected by Industry Executive Committee Members**
- **General Membership**
 - **Eighty (80+) Members**
 - **Large and Small Companies**
 - DOD Key Companies in Small Arms and Related
 - Small Business with Relevant Technologies
 - Small Business with Interest in Collaboration and Networking
 - Academia

NSATC Structure Overview

- **NSATC Management**
 - Executive Management—EME Management Consultants
 - Research Director—Picatinny Arsenal Civilian
 - Consortium Facilitator—Dave Broden
- **Research Committee and Subcommittees**
 - Research Committee—Coordinates and Defines Detailed Plans
 - Subcommittees—Government and Industry Members-Co-Chairs—
Industry Bias in Number of Members
 - Small Arms and Ammunition
 - Grenade Systems and Ammunition
 - Advanced Technology
 - Materials and Processes
 - Business Development—Industry Members Only

NASTC Structure Overview

- **Executive Committee Activity (Examples)**
 - Monthly Telecoms
 - Quarterly (objective) Meetings
 - Organize General Membership Meetings
 - Establish Strategic Multi-Year Plan/Objective (In Process)
 - Review Annual Plans
 - Guide Business Development
 - Foster Collaboration
 - Resolve Issues

- **Objective:**
 - “The Voice of The Consortium to Congress etc.”
 - Prepare and Communicate Consortium Message to Congress
 - Executive Committee Approval
 - Present Budget/Funding Request to Congress and Others
- **Membership:**
 - Industry Only
 - Multiple Members
 - Executive Management Consultant Support (e.g. EME)
- **NSATC Plans Utilized:** (Prepared by Research Director, Approved by Executive Committee)
 - Multi-Year Roadmap
 - Annual Plan

- Annual Membership Fee--\$1000
- Contract Tax —One (1) Percent of Contract Value
- Funding Level:
 - Sources
 - Congressional
 - PEO's and PM's
 - Special
 - Increasing Level Based on Detailed Annual Plan
 - Business Development Committee Action

NSATC System/Technology Needs and Requirements Definition Approach

- **Requirements Pull:**
 - **Joint Service Small Arms Program (JSSAP)**
 - Defines Needs/Deficiencies—GAP's
 - GAP Analysis
 - White Paper Review and Prioritization
 - **Various PEO's and PM's**
 - **Periodic "Muddy Boots" User Dialogue—Significant Value Added**
- **Technology Push:**
 - **Member Innovation—Submittal as White Papers and/or RPP Response**
- **Subcommittee Activity**
 - **Review, Priority, Initiation of White Papers**

- Picatinny Arsenal Procurement—Lead Contracting
- Contract Approach:
 - Other Transaction Agreements (OTA)
 - Goals: Reduced Procurement Cycle Time, No FAR Criteria
 - Proposals in Response to Request for Project Proposals (RPP's)
 - Periodic Other RPP's or other Procurement Actions
 - Open Solicitations allow Submittals at any time
- OTA Considerations:
 - OTA Criteria— *Needs to be Address and Communicated to Members*
 - Cost Sharing
 - Non-Traditional Contractor Participation
 - Other Participation Mechanisms—CRADA, Government Lab Participation etc.
 - Need to Address Intellectual Property—Government Purpose Rights etc.

NSATC Challenges (Examples)

- **Involving the General Membership**
- **Collaboration**
 - Exchange and Dialogue of Ideas
 - Awareness of Contract Activity Status
 - Intellectual Property Concern
 - ITARS
- **Number of White Papers**
- **OTA Contracting Criteria—Cost Sharing—Non-Traditional Contractors etc.**
- **Procurement Time Line from Solicitation thru Award**
- **Guidelines and Communication of Status of Funded Programs to Enable Collaboration and Technology Sharing**

- **NSATC General Membership Meetings (2 per year minimum)**
 - Opportunity for Briefing to all Attendees
 - Capabilities
 - Funded Program Status
 - Exhibit Space—no cost
 - Workshops to Facilitate Collaboration
 - Business Process Briefings to Enable the Small Business etc.
- **Subcommittee Membership**
 - Members Asked to Identify Subcommittee of Interest
 - Members Asked to Participate
 - Subcommittee Activity Throughout the Year –not Just when Needed
 - White Paper Format and Content Workshops
 - White Paper Review
- **NSATC Website**
 - Evolving a Page of Member Company Profile and Interests
 - Member Capability and Interest Matrix
 - Considering adding a Page of Members Seeking Collaboration

- **Contractors Receiving Awards:**
 - Large Traditional Major Contractors---appox. - ____%
 - Non-Traditional Contractors---approx.-- ____%
- **Contracting Issues:**
 - OTA Requirements
 - Cost Sharing
 - Non-Traditional Work Share— “Significant Content”
 - Intellectual Property
- **Communicating Contract Status to Enable Collaboration and Use of Technology Funded Must become More Effective**

- **Intellectual Property Approach and Understanding is Key to Consortium Success**
 - Enabling Effective Open Collaboration
 - In Contracts
- **Collaboration is Dependent on Openness of Ideas but a Challenge to IP Considerations**
 - *Collaboration is Critical to Effective Innovation*
- **Approach Considerations:**
 - Communicate Company Capability
 - Describe the *“What of New Technology or Concept”—Do not Disclose the “How”*
 - Establish Non-Disclosure Agreement based on “What and Capability”

Overview

- **Vision:**
 - A DOD and Industry Consortium to partner in Development and Execution of the Joint Ground Robotic Enterprise (JGRE) Annual Research Plan.
- **Mission:**
 - Industry working together in partnership with the JGRE to accelerate the development and integration of Ground Robotic Technologies for Warfighter capability needs, and assess/mature selected ground robotic technologies to meet identified capability gaps.
- **Vision and Mission Statements are Framework for Consortium Structure and Operation—**
 - Advancing Robotic Technology and Systems Thru Innovation in Technology and Systems Enabled by Collaborative Partnerships of Industry—Academia—Non-Profits and Government

- **Benefits to JGRE:**
 - **Direct Links to Industry and Academic Resources with Robotic Application— Enabling Partnerships**
 - **Visibility and Access to Innovation in Technology and Innovative Response to Specific Needs**
 - **Improved Technology Readiness through Leveraging of Technical and Operational “Lesson Learned”– User Dialogue and Interface**
 - **Enable Increased Technology, System, and Operational Interoperability.**
 - **Reduced System Cost and Sustainability through re-use and commonality—facilitate integration, upgrade, spiral development, support**
 - **Management of Development Risk —Reduced Risk through Commonality and**

- **Benefit to JGRE:**
 - **Improved Effectiveness** thru Focused Development of Key Technology Enablers and Attention to Realizing Solutions to Specific Technology GAPS.– “**Timely Application Benefiting the Warfighter**”
 - **Eliminates Redundancy** and Duplication of Efforts
 - **Accelerated Transition** of Unmanned Ground Robotic Innovations to/from commercial technologies and applications.

- **Benefits to Industry:**
 - Opportunity to Participate in DOD Research Planning via JGRE Annual Research Plan
 - Collaboration with Network of Government and/or Other Industry/Academic Consortium Members
 - Improved Planning and Investment of IRAD and Related Resources
 - Participation In Technology and System Innovation
 - Access to Cutting-Edge Research in Diverse Unmanned Ground Robotic Technologies
 - Awareness and Knowledge of DOD Needs/Requirements and Development Activities for Unmanned Ground Technologies
 - Opportunity to Compete and Participate in Substantial Peer Reviewed OSD Funding (6.2/6.3)
 - Accelerated Transition of Unmanned Ground Robotic Innovation to/from Commercial Technologies and Applications.

Organization Planning

Robotics Consortium Benefits to Community Discussion

**JGRE
Consortium**

- Benefits to Industry: (Add Others)

- **1. Process for Forming/Organizing the Consortium**
- **2. Establishing the Consortium Leadership/Executive Committee**
 - Industry Members
 - Government Members
 - Relationship to Administrative Agent
- **3. Executive Committee Relationship to Administrative Agent**
- **4. Member Business/Academic Type and Size**
 - Large
 - Small
 - Traditional vs. Non-Traditional
 - Non-Profit
 - Academic

- **5. Definition of Traditional vs. Non-Traditional Contractors**
- **6. Executive Committee Election Process**
 - Frequency
 - Mix of Company Size
 - Traditional vs. Non-Traditional
 - Academic
- **7. Subcommittee Structure**
 - Topics
 - How Many
 - Operation
 - Member Selection

- **8. Membership Applications and Approval—Process**
 - **Criteria for Membership**
 - **Approval**

- **9. Consortium Fees**
 - **Frequency—Annual**
 - **Amount**
 - **Criteria for Amount**
 - **Uniform**
 - **Tiered**

- **10. Process for Membership Input and Impact to Government Roadmap/Planning Process—Annual Plan**

- **11. Collaboration vs. Proprietary Data/Intellectual Property Control and Related Dialogue to Foster Innovation etc.—
Consortium Objective**
- **12. Proposals to NGRC Consortium**
 - **Process-Preparation of RPP**
 - **Who Issues**
 - **Who Evaluates**
 - **Role of Consortium in Management etc.**
 - **Communication of Awarded Program Status**
 - **Readiness for Integration Application**
- **13. Who Can Participate in Response to RPP's—Members Only**

- **14. Ability of Consortium Member to Subcontract Outside the Consortium**
- **15. Ability to Subcontract to Government Labs etc.**
 - CRADA
 - Other direct subcontract
- **16. Criteria of Other Transaction Agreements (OTA)**
 - Shared Cost--% TBD
 - Use of Non-Traditional Contractors
- **17. Consortium Contracting Approach for Uses Outside of Specific NGRC Funds**
 - SBIR Phase II
 - Congressional Adds
 - Mentor -Protégé

- **18. Consortium Use by Other Government Agencies**
 - Agencies not directly linked to NGRE but with related Objectives
 - Other
- **19. Intellectual Property Protection Issues and Alternatives**
- **20. International Participation**
 - ITAR Considerations
- **21. Scope of NGRE Consortium**
 - Technology
 - Systems and Integration
 - Limited Production

- **22. Industry Role to Advocate Funding—Congressional Interface**
 - **Business Development Committee—Industry Members Only**
 - **Advocate the Annual Plan and Subsequent Year Objectives**
- **23.**
- **24.**
- **25.**
- **26.**
- **27.**

Follow-Up Issues Government and Industry

- **Capture Issues and Concerns Throughout Meeting**
- **Review Issues/Concern—Clarify-and Assign Actions**
 - **Government**
 - **Industry**
- **Establish a Website etc. for Communication of Status--TBD**
- **Establish Approach and Contact for Issues and Concerns which may be submitted after the Meeting**
- **Ensure all Attendees have provided Email and related Contact Information.**

- **Consortium Organizing Committee (A Model Approach to Consider)**
 - NDIA Robotics Division Committee Act As Organizing Committee
 - Coordinate with JGRE
 - Organizing Committee Members Selected from NDIA Robotics Division (Invite Additional Industry if Desired)
 - JGRE Solicits Administrative Agent Proposals
 - Administrative Agent Selected
 - Administrative Agent Establishes Organization
 - Administrator Manager
 - Research Director
 - Contracts Manager/Administrator
 - Other Staff

Potential Models, Conops, Structure

- **Organizing Committee (continued)**
 - **Functions**
 - Prepare and Seek Approval of Organizing Documents/Agreement
 - Seek Membership
 - Maintain Membership Records
 - Collect Fees
 - Prepare RPP's and Solicit Proposals, Evaluate, Award, Administer etc.
 - Manage Subcommittees
 - Prepare Annual Plan
 - Other
 - **Industry/Academia Executive Committee (with Government Executive Committee Members as appropriate)**
 - Participate in Annual Plan
 - Provide Multi-Year Plan Support
 - Assist in Business Development
 - Foster Collaboration

- **Consortium Leadership/Executive Committee**
 - **As defined in Consortium Agreements**
 - **Industry Executive Committee Members**
 - **Organizing Committee Evolves to Executive Committee –Members change by Agreement Guidelines.**
 - **Industry Members—Large, Small, Non-Traditional, Academic**
 - **Government Executive Committee Members**
 - **Administrative Agent Membership as appropriate**
- **Executive Committee Relationship to Administrative Agent**
 - **Executive Committee is “Independent of Administrative Agent” but provides the Link to Industry/Academia and Provides Support and Input to all Activities to Shape the Consortium thru Member Involvement.**

- **CONOPS—Organization Operations (Suggestions)**
 - Monthly Executive Telecoms
 - Executive Committee Meeting –Quarterly
 - **Defined Roles/Responsibilities**
 - General Membership Meeting –Twice per Year Minimum
 - Subcommittee—Discussions On-Going throughout the Year
 - **Well Defined Activity/Milestone Plan for Year**
 - **White Paper Submittal Continuous** –with 1 or 2 Major Submittals to Support Annual Plan
 - Special Events to Foster Collaboration
 - Business Development Committee –Congressional Interface
 - Focused Plan to Expand Membership
 - Training Activity
 - **Operational Metrics—Communicated to Membership**
 - Website—with Interaction and Member Profiles etc.

- **CONOPS—Impact to Annual Plan (Suggestions)**
 - Executive Committee Establish Coordinated Multi-Year Roadmap and Strategic Plan with JGRE
 - JGRE Communicate Needs/Requirements via General Meetings and other Meetings
 - Use of Website to Advertise Activity and Ensure Collaboration
 - Technology Addressing
 - Requirements Pull and Technology Push (Industry Key Opportunity)
 - Continuous Submittal of White Papers
 - White Paper Format Defined to Stimulate and Encourage Innovation
 - White Papers Emphasize—Innovation—and Technology Push
 - Subcommittee Industry Members—Evaluate—Prioritize—and Initiate White Paper
 - White Paper Recommendations Link to Requirements to Form Annual Plan and Add Selected Technology Push Initiatives From Industry
 - JGRE and NGRC Review and Coordinate the Annual Plan-Recommend multiple meeting/year.
 - Annual Plan Establishes Base for Business Development Committee Action.

Potential Models, Conops, Structure

- **CONOPS:**
 - **Encouraging Collaboration—Key Factors**
 - Understanding Capability of Members
 - Communication Among Members without Concern for Proprietary Data and Intellectual Property
 - White Paper Format Can Stimulate Dialogue Among Members
 - Need to Focus First on “What” of A Topic
 - Often The “What” is not Proprietary but the “How” is—
 - Be Open to Apply Non-Disclosure Agreements
 - OTA Criteria for Cost Sharing and Non-Traditional Partnership is key to Enabling Collaboration.

Organization

Planning

Robotics Consortium

JGRE

Consortium

Potential Models, Conops, Structure

- Other Topics to Address:

- **Meeting Communicated Robotic Consortium Objectives, Approach and Benefit—Confirmation of Interest and Membership Requested**
- **Response to Issues and Concerns-Will be Prepared and Communicated**
- **Steering Group will be Established by NDIA to Act as Organizing Committee**
- **Government and Steering Group will Establish Process for Consortium Organization, Management, and Operation**

- **NDIA Robotics Division will form a Steering Group to act as the Organizing Committee for the Industry Ground Robotics Consortium (IGRC):**
 - Liaison and Interaction with the Government
 - Communication with Industry and Academia
 - Establish Consortium Agreements and Related Documents
 - Work with Government Establish Location and Operational Team
 - Establish Membership Criteria and Approach
 - Establish Subcommittee Structure, Organization, etc.
 - Establish Requirements, Innovation, etc. Mechanism
 - Ensure an Effective Procurement Process
 - Other TBD
- **Steering Group Membership –Discussed by NDIA Robotics Division—Interest Welcomed**

- Comments and Questions from Attendees

- **General Observations/Comments of Meeting Discussions**
- **Assessment Meeting Desired Outcomes**
 - **Communication of Robotic Consortium –Approach, Participation, Benefits**
 - **Understanding of Consortium Organization and Activity**
 - **Identification of Issues/Concerns—Related Actions Defined**
 - **Established a Go-Forward Steering Committee**
 - **Path to Define a Framework for Establishing Robotics Consortium**
- **Request Attendees to Follow Up with Indication of Interest and Questions**
- **Consortium Organizing Committee will Establish Communication Link through NDIA (or other links—TBD)**
- **Thank You for Interest in Organizing the Robotics Consortium**

- **Formation of a Industry Ground Robotic Consortium will enable:**
 - **Government—Industry—Academia—Partnership Focused to Planning and Execution of JGRE Annual Research Plan.**
 - **Consortium to Foster Innovation in Technology and System Integration—Enable and Encourage Collaboration for Efficient Development and Maturing of Technology addressing the Technology GAPS to Support Warfighter Capability Needs.**
 - **Industry Commitment to Work in Partnership with JGRE with NDIA providing the Organizing Leadership will Result in Timely and Effective Formation of the Industry Ground Robotic Consortium.**

- Supporting Back-Up Briefing Material

Organization Planning

**JGRE
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Organization Planning

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- Time Topic Moderator

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