

**NDIA
Armaments Division
2015
Activity and Status Report**

Armament Small Arms Systems Forum

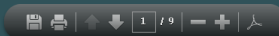
1-3 June 2015

**Hanover Marriott
Whippany, New Jersey**

**Armament Division
Dave Broden --Chairman
Broden Resource Solutions LLC**

2015 ARMAMENT SMALL ARMS FORUM

“Small Arms Systems in Times of Diminishing Resources”



JUNE 1-3, 2015

WWW.NDIA.ORG/MEETINGS/5610

HANOVER MARRIOTT ► WHIPPANY, NJ



Small Arms Systems with Enabling Technology Ensures Capability

Small Arms System Forum Topic Thrusts

- Topics Relevant DOD Priorities and Acquisition Vision
- Enable Opportunities for Government---Industry Networking Partnership
 - DOD Policy Trends and Budget Assessments
 - Program and Acquisition Overview and Plans (PEO's and PM)
 - Current and Evolving Requirements and Trends
 - Priority Program Status and Comments
 - Technology Thrusts and Priorities—Emerging Capabilities
 - Modeling and Simulation Trends
 - Manufacturing Evolution, Trends and Opportunities
 - Industrial Base Ensured Readiness

Armament Small Arms System Forum

- Individual Weapons
- Crew Served Weapons
- Weapon System Enablers/Technology
 - Sights
 - Fire Control
- Less than Lethal
- Small Arms Ammunition
- 40mm Systems
 - Grenade Launchers (Low Velocity and High Velocity)
 - Ammunition
- Modeling and Simulation
- Training Devices, Systems and Approach
- Evolving Advanced Manufacturing
- Industrial Base

Forum Topics Ensure Small Arms System Capability and Readiness

- Legacy
- Enablers
- Emerging Technology
- Tutorials Re: Relevant Priorities

2015 ARMAMENT SYSTEMS FORUM

Ensuring Continued Superiority and Readiness Through Balanced Investments:

- *Evolving Legacy System Capability*
- *Realizing Unconventional and Emerging Armaments*

- **Guns, Ammunition, Missiles, and Rockets (GARM)**
- **Unconventional and Emerging Armament Systems (UEA)**

2015 Armament System Forum



ABSTRACT PRESENTATION TOPICS INCLUDE:

- ▶ AMMUNITION
- ▶ DIRECT & INDIRECT FIRE GUNS
- ▶ NON-LETHAL TECHNOLOGY
- ▶ EMERGING TECHNOLOGIES
- ▶ FIRE CONTROL
- ▶ MODELING AND SIMULATION
- ▶ ARMAMENT SYSTEMS
- ▶ WARHEADS AND ENERGETICS
- ▶ MISSILES AND ROCKETS

**Emerging Technology Commonality Across All Armament Segments
Addresses Evolving Future Capability Vision**

Vision

America's leading Defense Industry Association
promoting National Security

Mission

ADVOCATE: Cutting-edge technology and superior weapons, equipment, training, and support for the War-Fighter and First Responder

PROMOTE: A vigorous, responsive, Government - Industry National Security Team

PROVIDE: A forum for exchange of information between Industry and Government on National Security issues

"If I were inviting a colleague to join, I'd say the most compelling reason is the prestige of NDIA membership." -- NDIA member

• Committees:

- Gun, Ammunition, Rockets, and Missile Systems
- Small Arms Systems
- Unconventional and Emerging Armaments

• Division/Committee Leadership:

- **Armament Division: Dave Broden--Chair**
Broden Resource Solutions LLC
- **Gun, Ammunition, Rockets and Missile Systems**
Matt Solverson
GD-OTS
- **Small Arms Systems**
Brian Berger
GD-OTS-Canada
- **Unconventional and Emerging Armaments**
Dan Hartman
SPECTRA Technologies

Joint Armament Forum 2015

- Recognition and Thank You for Leadership
 - Small Arms Systems
 - Brian Berger
 - Joel Goldman
 - Chuck Buxton
 - Session Chairs
 - Guns, Ammunition, Rockets and Missiles (GARM)
 - Mark Serben—ARDEC
 - Session Chairs
 - Unconventional and Emerging Armaments
 - Bart Halpern—ARDEC—JSSAP
 - Bryan Bockmon—RMSL
 - NDIA Staff Support----Special Thanks!!!
 - Britt Sullivan—Director--Operations
 - Rebecca Danahy—Meeting Planner

Small Arms System Forum 2015

- Forum Planning, Arrangements, Participation Appreciation—Thank You
 - Government PEO and PM Speakers and Participants
 - Industry Speakers and Participants
 - Arnold Punaro, Major General, USMC (Ret) Chairman of the Board
 - General Craig McKinley (USAF Retired), NDIA President/CEO
 - NDIA Vice President Operations MG Barry Bates USA (Ret.)
 - NDIA Staff
 - Britt Sullivan
 - Rebecca Danahy
 - Armament Division Committee Chairs and Committee Members
 - Special Thanks To All Attendees For Commitment and Attention to Objectives of the Armament Community

2015 Armament Small Arms Systems Forum
Participation Appreciation Thank You

- **John Hedderich, Director, RDECOM, ARDEC**
- **BG Brian Cummings, USA, Program Executive Officer, Program Executive Office Soldier**
- **Mr. Will Goodman, Assistant Vice President, Policy, NDIA**
- **MG Bob Scales, USA (RET)**
- **Hays Parks, Former Senior Associate Deputy General Counsel, Office of General Council, DOD**
- **COL Moises Gutierrez, Project Manager Maneuver Ammunition Systems (PM-MAS)**
- **COL Scott Armstrong, USA, PM Soldier Weapons**
- **All Presenters, Panel Members, Tutorial Speakers**
- **Poster Session and Exhibit Participants**

Small Arms Systems Forum Attendee Thank You

- NDIA Armament Division Expresses Special Appreciation and Thank You to All 2015 Forum Attendees
- We Understand that Forum Attendance Requires Commitment by Attendees and Attendee Organizations
- Your Attendance Confirms the Forum Benefits
 - Armament Community Links
 - Government Policy and Program Awareness and Vision
 - Program and Technology Presentations and Discussions
 - Tutorials of Focus Topics
- Special Appreciation to Exhibitors and to Poster Session Participants---Attendee Comments Encouraged
- On-Going Attendance Maintains and Strengthens Armament System Evolution and Readiness
 - Recognizes that NDIA Activities Have and Continue To Impact Armament System Vision

2015 Armament Small Arms Systems Forum
International Participation Appreciation Thank You

- **NDIA Thanks International Attendees**
- **Multiple Countries Attending**
- **Participation in 2015 and in Future Encouraged**
- **Comments and Suggestions Welcomed Regarding:**
 - **2015 Forum Content and Format**
 - **2016 Armament Forums**
 - **Other NDIA Events and Activities**
- **Continuing a Tradition of Technology/System Information Exchange and Networking Dialogue—Enabling International Collaboration**



European Small Arms and European Armoured Fighting Vehicles have amalgamated to form the new Mounted and Dismounted Close Combat Symposium

14 – 16 July 2015

Defence Academy of the United Kingdom Shrivenham

Join us for the inaugural Mounted and Dismounted Close Combat Symposium, hosted by the Defence Academy of the UK under the auspices of Army HQ Capability Directorate Combat, offering:

Full programme of presentations and Panel Discussions

- Examine fully the future capability requirements for Ground Manoeuvre close combat forces, both mounted and dismounted, identify current capability gaps and examine current and future threats.
- Hear CD Combat describe how they are developing combat capability and their plans for the future.
- Listen to **Head of Combat, Brigadier Ian Gibb**, and his ADs, **Colonel Phil White**, **Colonel Jonathan Biggart** and **Colonel Rob Howieson**, describe how they are developing close combat capability and their plans for the future against an assessed threat, and to industry sharing and discussing possible options.

Live Firing at the Land Warfare Centre

Everyone will have the unique opportunity to fire weapons on 6 lanes from 300m, a variety of weapons on two 25m ranges and, separately, to fire 40mm LV Grenade launcher in indirect fire mode. A barbeque will be available.

Displays, Demonstrations and Sponsorship

A number of companies have taken up the opportunity already to display their equipment or advertise their capability, both within the DCC Conference Hall and also on the range. There is still time to register to join those companies and there are also unique opportunities for sponsoring this event.

Registration

For more detail on the event, including Registration, the full programme, booking display space and sponsorship, please check our [website](http://www.symposiaatshrivenham.com) at www.symposiaatshrivenham.com

Michael J T Hewetson OBE, Director Symposia at Shrivenham

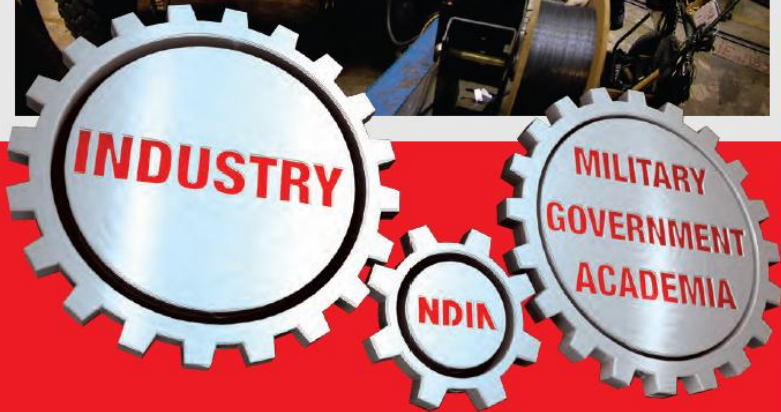
NDIA Key Focus Activity

- **Leadership Communication Regarding NDIA Community Topics**
- **Focusing on Key Topics Impacting US Industrial Base Capability and Readiness**
- **Acquisition Reform-- Key Input to DOD and Congress**
- **Industrial Base Requirement—Capability and Readiness**
- **Increased Focus Activity on Critical and Relevant Policy Issues**
 - **Expanded Status Communication to NDIA Members**
- **Quality Communication of Relevant Defense Community Topics**
 - **National Defense**
 - **E New Letters**
- **Ensuring Effective Conferences, Forum Events etc.**
 - **Seeking Flexibility in DOD Conference Guidelines**

NDIA Ensures Membership Awareness of Issues/Actions

TOP ISSUES 2014

NATIONAL DEFENSE INDUSTRIAL ASSOCIATION



ISSUE 1:
Chart a Future for
Defense Industry

ISSUE 2:
Streamline the
Procurement Process

ISSUE 3:
Help U.S. Defense
Industry Compete for
International Business

ISSUE 4:
Make IT Acquisition as
Agile and Innovative as
IT Development

ISSUE 5:
Secure Critical Infrastructure
from Cyber Threats

ISSUE 6:
Assure Access to Energy
and Make More of It
While Using Less

ISSUE 7:
Educate the National
Security Workforce

ISSUE 8:
Make It Easier for Small
Businesses to Compete for
Government Contracts

- **NDIA Public Policy Voice to Congress and DOD**
- **Represents NDIA Membership Interests**
- **Top Issues Identified and Focused With Division Input**
- **NDIA Member Input Desired**

Publications

National DEFENSE Magazine – monthly coverage of defense developments, trends, and issues

- **“Top Issues”** -- published annually to outline key focus areas for NDIA efforts--- **“Value Added During Policy, Budget, and Planning Changes”**
- **NDIA Weekly Insider** —E-Newsletter for Industry and Government
- **Policy Weekly Digest** —Public Policy Weekly Focus—E News
- **Mega Directory** -- published annually in August issue of *National DEFENSE* - provides key information and POC’s for corporate member companies and the DoD Acquisition community.

Enabling NDIA Member Links And Access to:
Current Policy, Budgets, Trends, Issues, Technology, and Systems
Helping to Shape Industry Vision—Building Partnership-Ensuring
Readiness

- **NDIA Webinars Focused to Topics of Interest to NDIA Government and Industry Community**
- **Webinars Conducted by NDIA In Cooperation with Bloomberg Government and Other Resources**
- **Webinars Staffed by Subject Matter Experts with Researched Content**
- **Participants may Ask Questions**
- **Webinars are Available at No Cost to the NDIA Members**
- **Webinar Information Available on NDIA Website and by Email to Members**
- **Look for Up Coming Webinars**

**NDIA Webinars—Providing Critical
Policy and Issue Information—Enabling
Understand of Evolving Activity**

Armament Division Focus

- Maintain and Strengthen Focus of Armament System Community
- Ensure Division and Committee Relevance to Evolving Capability
 - Systems
 - Technology
 - Manufacturing
 - Readiness
- Expand Attention to “Unconventional and Emerging Armaments”
 - Added to Ensure Focus on Innovative, Evolving, and Revolutionary
- Communicate DOD and Industry Policy Trends Impacting Armaments
 - Division/Committee Action Regarding Public Policy—NDIA Interface
- Tailor and Adapt Forum Events to Meet DOD, Industry, and Community
 - Participant and Attendee Input to NDIA and Division
- Renew Armament Division Activities which Impact Technology/Programs

Impact on Armament Programs and Technologies

- NDIA Armament Division Activities and Participation has Impacted the Evolution of Armament Systems—Technologies— System Development—Production
- Activities Impacting Armament Systems:
 - Annual Conferences and Forums
 - Studies and Analysis Responding to DOD Request
 - Armament Division Initiated Initiatives—Submitted to DOD
 - NATO STANAG Participation
 - Consortium Initiatives
- Specific Armament Division Activities: (Examples only)
 - Joint Ordnance Coordination Working Group (JOCG)
 - Meetings at Industry Locations—Shared Objective/Issues
 - Cannon Caliber—Caliber Commonality(5mm increment NATO Std)
 - 30mm GAU-8/A Ammo Primer (Percussion vs. Electric Rationale)
 - APACHE Armament Study—Established Weapon Ammo Interface Based on WECOM-30, ADEN and DEFA.
 - Harrier Armament Selection—GAU-12
 - NIAG Study Support for Various Systems
 - 120mm Tank Ammo Tech Transfer Initiatives
 - Guidance and Control Applications
- Platform Interface and Integration
 - Multiple and On-Going Links to Platform Programs

**Committee
Participation Can
Shape Opportunities**

Small Arms Systems Opportunities

- Programs Evolving Using Emerging Technologies

- Materials
- Mechanisms
- Sensors
- Ammunition Integration
- Insensitive Munition Technology
- Other Emerging

**NAC/DOTC Programs
Address Key Needs**

- Improvements to Legacy Systems Continue

- Increased Focus on Enabling Technologies and Subsystems

- Sights
- Fire Control
- Aiming Systems
- Communication Links

**Opportunities for NIAG
Study Participation---As
Priority Topics Evolve**

- Advanced Manufacturing Technology

- 3-D Additive Manufacturing

Armament Systems Forum 2016 Forum Input Encouraged

- **NDIA is Committed to Forum Programs Which:**
 - **Maintain and Strengthen the Armament System Community**
 - **Address DOD and Industry Participation Guidelines**
 - **Ensure Significant “Value Added” Benefits**
- **Forum Structure and Format will Evolve/Adapt to Government and Industry Objectives**
- **Attention to Changing Conference Formats and Media Application**

Go-Forward Plans:

- **Goal: Integrated Joint Armament Division Forum-Single Event**
- **Link to Other Armament Related NDIA Divisions etc.**
- **Adapt Format, Content etc.**
- **Seek Attendee Input Regarding Content**

Specific 2016 Forum Plans and Schedule:

- **Details will be Established approx. 1 September 2015**

2016 Forum/Event Format and Plans

- **2016 Joint Armament Events Planning Objective**
 - **Ensure Compliance with DOD Guidelines (Goal Establish Jointly with NDIA and Others)**
 - **Provide Attendees Significant “ Relevant Value Added” Content**
 - **Establish a Full Format Format (Include Exhibits and Demonstrations)**
- **Seek Innovation In Event Format, Delivery, and Content**
 - **Use of Communication Technology**
 - **Event Session Content and Focus**
 - **Topics**
 - **Length of Event**
 - **Location of Events**
- **Link Joint Armaments with Other Relevant NDIA Divisions or Committees**
 - **Leverage Technology, Systems and Speakers**
 - **Enable Travel Efficiencies**
- **Adapt Format and Content to DOD, Government, and Industry Guidelines and Suggestions (Input Encouraged and Desired)**

Ensure 2016 Conference Enables “Value Added” Government/Industry Networking and Dialogue Addressing National Defense Readiness

Forum Event Format NDIA Go-Forward Factors

- **Government Conference and Event Participation Guidelines**
- **Location of Events**
- **Duration: Number of Days etc.**
- **NDIA Division and Committee Links to Events**
 - **Which Provide the Desired “Value Added”**
- **Number of Events (Key Single Event Annually, Multiple, Specialized etc.)**
- **Topic Content: Policy, Issues, Vision, Technology etc.**
- **Content:**
 - **Keynotes**
 - **Special Speakers**
 - **Tutorials**
 - **Program and Technical Presentations**
 - **Exhibits**
- **Media Alternatives: (Webinars, Real Time Links, etc.)**

**Attendee Input and
Suggestions Desired
and Welcomed**

Small Arms System 2015 Forum Summary Vision Forward

- **2015 Armament Forums Enable Government and Industry Links to Share the Challenges and Opportunities To Ensure Capability and Industrial Base Readiness**
- **Programs Focused to Communicate Vision Forward**
- **Technology Content Confirms Evolving New Capability**
- **Armament Trends and Challenges Identify Opportunities**
- **Innovation and Application of Revolution in Manufacturing Offers Opportunity for Development Efficiencies and Production Affordability**
- **The 2015 Forum Establishes Links and Information Influencing Capability and Thrusts of Small Arms Systems and Related Enabling Technologies Going Forward**

Small Arms Systems Forum 2015

Take-Away Thoughts

- NDIA *Mission is Focused* to Strength, Responsiveness, Readiness, and Human Resources
- NDIA Strategic Focus Committed to Continuous Improvement-----
 - *"Value Added", Responsive, Adaptable, and Impacting Issues, and Ensuring Resources and Skilled Human Capital*
- *Collaboration and Joint Forum Activity* Offers Efficiency and Expanded Scope and Depth Available to Members
- *Member/Attendee Input/Interests* is Key Conference Planning Focus
- NDIA Forum Events, Communications, and *Networking Enables Adaptability* --Ensures Understanding of DOD Focus, Changes, Trends
- *Training and Education* Conference Segment Provided Awareness of Policy and DOD Changes and Focus Activity

Armament Division---Take-Away Thoughts

- **NDIA Vision** Promoting National Security Establishes Leadership Enabling Industry-Government Partnership for Security Strength and Readiness
 - Armament Division-- Attendees Enable The Vision
- **Advocate:** Armament Division Demonstrates Continued Leadership In Technology and Systems—Conference Content Addresses Innovation
- **Promote:** Armament Division Links Industry and Government Themes and Topics—Effective In Networking
- **Provide:** Armament Division Events, Related Activity, and Networking Strengthens Understanding, Technology, and Partnership Focused to Warfighter Capability

Armament Division—Three Committees Are Focused to the
NDIA Vision/Mission
Involving the Community--Communicating—Enabling
Readiness

Armament Division Looking Ahead

- **Thoughts for Consideration:**
- **1. Did 2015 Assist/Enable Armament Community?**
 - Networking
 - Conference Organization, Structure, Content—What Specifically?
 - NDIA Communications—”National Defense”; “Top Five”; Website, Special Communications
- **2. Did the Forum Content Provide Evolving Armament Capability Vision?**
 - —Is Capability Evolution Communicated Effectively?
- **3. Are Industrial Base Topics Effectively Communicated to Ensure Readiness for Legacy, Evolving, and Emerging Systems and Technology?**

**Armament Division Provides Information Enabling Government/Industry Links –
Transitioning Capability and Readiness Vision**

**NDIA Armament Division Seeks to Adapt to Armament Community Interests,
Challenges, and Activities**