

**NDIA  
Armaments Division  
2011  
Activity and Status Report**

**Gun and Missile System Conference**

**29 August-1 September 2011**

**Hyatt Regency  
Miami, Florida**

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

## 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

# Publications

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

“Top Issues” -- published annually to outline key focus areas for NDIA efforts

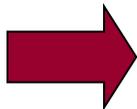
*Mega Directory* -- published annually in August issue of *National DEFENSE* - provides key information and POC's for corporate member companies and the DoD Acquisition community.

*“I skim or read articles (in National DEFENSE Magazine)... because when dealing with clients, I like to be even or have a leg up on the (defense) industry in general.” -- NDIA member*

## Armament Division Gun and Missile Systems Conference Theme 2011

- Theme: “Shaping Weapon Systems for Rapid Deployment,, Development, Interoperability, and Flexible Response

- Gun and Missile Systems:
  - Precision and Lethality in Medium and Large Caliber Systems



**Linking Armament Community Personnel, Systems, and Technology**

- Leveraging Commonality--- Enabling Capability
- Ensuring Readiness

# Armament Division

• Committees:

- Gun and Missile Systems
- Small Arms Systems
- Non-Traditional Armament Systems (New 2011)

Armament Division  
Evolving to Reflect  
New/Emerging  
Systems and  
Technology

• Division/Committee Leadership:

- **Armament Division:** Dave Broden--Chair  
Broden Resource Solutions LLC
- **Gun and Missile Systems:** Steve French  
BAE Systems  
Ed DePasqual  
NAMMO Talley  
Greg Hill  
Meggitt
- **Small Arms Systems:** Brian Berger  
GD-OTS-Canada
- **Non-Traditional Armament Systems**  
Open

## Armament Division

### Small Arms Systems Conference 2011

- Theme: “ Enhancing Small Arms Effectiveness in  
• Current an Future Operations”

- Session Presentations and Panels
  - Poster Sessions
    - Exhibits
  - Firing Demonstration

- 
- Linking Armament Community Personnel, Systems, and Technology**
    - Leveraging Commonality--- Enabling Capability
    - Ensuring Readiness

# NDIA Armaments Division Scope

## Armament Division Committees and Related Scope:

### • Gun and Missile Systems

- Integrated Armament/Weapon Systems
- Direct and Indirect Fire Weapon Systems
  - Cannon Caliber (Weapons and Ammo)
    - Vehicle, Helicopter, Aircraft etc.
  - Tank Cannons and Ammunition
  - Artillery/Mortar (Weapons and Ammo)
  - Shipboard Cannons (Weapons and Ammo)
- Tactical Missiles
- Integration Systems (Fire Control etc.)
- Platform Interface and Integration
- Training Systems

### • Small Arms Systems

- Integrated Small Arms Systems
- Individual Weapons
- Crew Served Weapons
- Ammunition
- Fire Control
- Training Systems

Expanding  
System Integration Focus  
Emphasizes  
Enabling Technologies

# NDIA Armament Division Scope

## Armament Division Committee and Related Scope (New and Evolving 2011—Seeking Participants)

- Non-Traditional Armament Systems

- Lethal, Non-Lethal, Scalable, etc.
- Defeat, Disable, and Disrupt
- Non Traditional Defeat Mechanisms or Launch Technologies and Systems

- Electromagnetic
- Laser
- High Power Microwave
- Hypersonic
- Acoustic
- Cyber/Electronic
- Related Enabling Technologies
  - Advanced Fire Control
  - Power
- Modeling and Simulation

- Thrust:
- Directed Energy and Related Emerging Technologies and Systems
- Capabilities:
- Full Spectrum
- Adaptable
- Evolve and Coordinated with other Committees and Divisions

# Armament Division

## Committee Evolving Topics

- Inclusion of Evolving Platform Applications in Each Committee
  - Robotics
  - UAV/UAS
  - Other
- Attention to Impact of Situation Awareness/Cognitive Technology on Armament Systems
  - Advanced Fire Control
  - Networked Capabilities
- Introduction of Non-Traditional Capabilities
- Emphasis on Enabling Technologies
  - Power
  - Materials
  - Advanced Sensors, Guidance, Fire Control
  - Modeling and Simulation
- Manufacturing Processes and Capability

**Synergism Across  
Committees and  
Divisions  
Ensures  
Capability Evolution  
Response**

**Topics Enabling Committee Joint Focus**

## Armament Division 2011 Activity Highlights

- Executive Committee Operation Improvements
- Initiated Inter-Divisional Cooperation and Information Exchange
- Confirmed and Implemented Joint Conference Focus 2112 and Beyond
- Added “New” Non-Traditional Armament Committee
- Conference Participation Opportunities Initiatives
  - Expanded and Clarified Call for Papers
  - Panels
  - Joint Conferences
  - Poster Sessions
  - Tutorial Session
  - Member Initiatives

- Ensuring "Value Added" Addressing Attendee and Member Interests
  - Executive Committee Actions

# Joint Conference Objectives

## 14-17 May 2012

### Seattle, Washington

- **Themes:**
  - **Joint Theme:**
    - 21<sup>st</sup> Century Weapon Systems—Providing the Right Response
  - **Small Arms Systems:**
    - Technology and Systems Sustaining and Evolving Small Arms Capability
  - **Gun and Missile Systems:**
    - Force and Weapon Sustainment for a Flexible Theater Environment
  - **Non-Traditional Armament Systems:**
    - Emerging Capabilities and Systems
- **Conference Focus Thrusts:**
  - Jointness and Synergism--Across Armament Division—Links to Others
  - Platform Innovations—Robotics—UAV—Turrets
  - Enabling Technologies
  - Tutorials Benefiting Both Industry and Government Attendees

# Armament Division Strategic Initiatives

- Achieve Integrated Armament Division Culture Focused on:
  - “Joint Links of Technology and Systems Across Committees”
  - While
    - Ensuring and Maintaining Individual Committee Depth and Strength
- Leverage Links with Other NDIA Divisions and Committees:
  - Interdivisional Links, Discussions, and Joint Conference Participation
    - Other Divisions Connecting with Armament Division
    - Armament Division Reaching Out to Other Divisions
- Mature “New” Non-Traditional Armament Committee Operation and Activity
- Ensure Committee Leadership Shaping Conference Content/Presentations
- Ensure Conference Focus Addresses Changing DOD Thrusts, Priorities, and Budgets—Industrial Base Evolution Awareness

Dynamic List—Evolving to Meeting Attendee and Committee Objectives

# Armament Division Strategic Initiatives

- Seek Innovation in Conference Format , Content, and Media Achieving Presentation Quality Enhancements
- Expand Tutorial Topics and Format—Ensure Focus and Value Addressing DOD Thrusts –Benefiting Attendees
- Establish Joint Conference Locations with Full Capability Firing Ranges
- Ensure Armament Division Committees Reflect Evolution and Changes in Defense Requirements, Acquisition, Budget, and Capability While Ensuring Strength and Readiness of the Industrial Base
- Provide Initiatives for Cost Effective New Capability Development and Deployment
- Expand Emphasis on Enabling Technologies and Resources

Shaping Armament Capability Vision---Providing “Value Added”

## Armament Division Strategic Initiatives

- Support NDIA, National, and State Education Initiatives to Ensure Availability of the Skilled Technical and Manufacturing Workforce For Science and Technology Superiority
  - Address STEM Initiatives
- Utilize NDIA Annual List of “Top Five” Issues as a Focus for Government and DOD Policy Change Actions
  - Input and Output Interaction
- Shape the Armament Division Activities to Address Interests and Priorities of Attendees—Ensuring Value—Informing the Community—Networking—Addressing Issues—Evolving Vision Focused on Superior Capability, Industrial Base Readiness, and Partnerships of Government and Industry.

Including Attendee Input in Division Activity and Conferences

- Enabling Industry Awareness of Policy and Trends Initiatives

## NDIA Top Issue Topics 2011

- **NDIA Top Issue Objectives:** Guide Association's Advocacy and Educational Activities Throughout Each Year
- **Top Issue Focus Approach:** Broad Topics --Essential to Maintaining Strong Viable Defense Industry Capable of Meeting US National Security Requirements
- **Developed by:** Senior NDIA Industry Leadership--Approved by Board of Directors
- **Distributed to:** Congress, Key Decision Makers with Executive Branch, Allied Governments, Industry Leaders, and Association Membership.



**Consideration of Topics and Action by Appropriate Government Officials**

### "Top Issue Topics"--Member Input

- **Participation in Identifying and Developing Annual "Top Issues":**
  - Attendees/Members Identify Issue Topics
  - Executive Committee Submit Topic, Rationale, and Benefits to Legislative Affairs Committee
- **"Top Issue" Communication to Members**
  - "Top Issue" Annual Document
  - Conference And Symposium Briefings Updates
  - National Defense Magazine
  - NDIA Website
- **"Top Issue"--Action Impact Awareness**
  - To Policy
  - To Programs
  - To Procurement (Contract Type, FAR etc.)
  - To Regulations (e.g. ITAR, FAR, etc.)
  - Small Business
  - "Soft Landing"

## NDIA Top Five Issue Topics

- 1. Ensure an Ethical, and Agile Acquisition System Responsive to DOD's Needs.
- 2. The Defense Industrial Base—Now and In the Future
- 3. Ensure Increase Government Contract Usage of All Small Businesses
- 4. Sustain Military Readiness While Providing for The Future
- 5. Support Efficient and Transparent International Access for the US Defense Industrial Base

- All Topics are Relevant to Armament System Organizations
- Key Armament Focus Interests are:
  - Item 2—Industrial Base Evolution
  - Item 4—Balancing Legacy Systems with New Technology/Systems

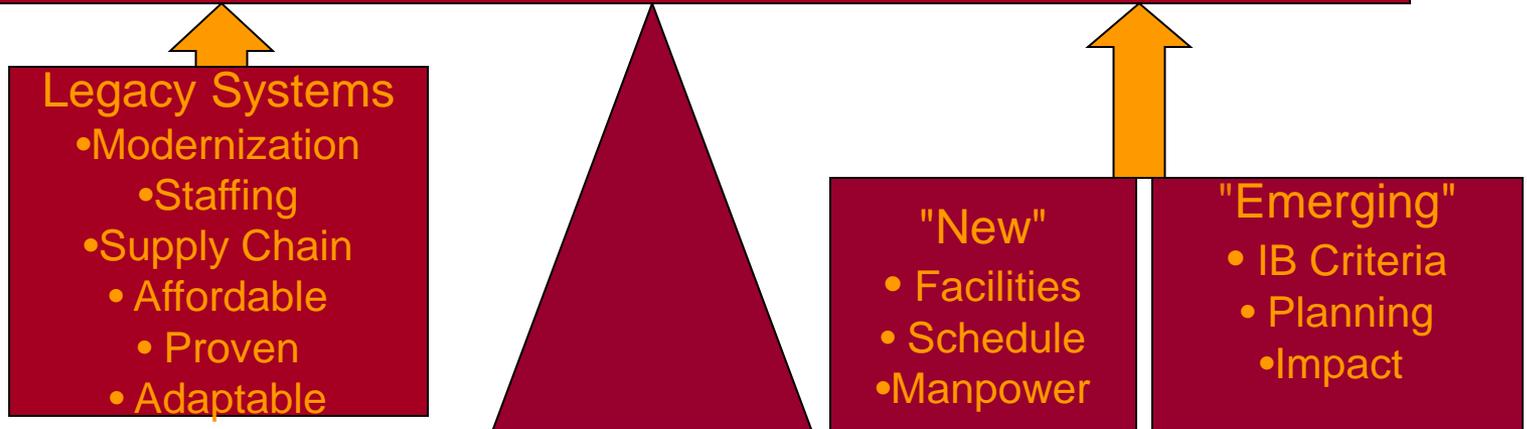
## Armament Division

# Defense Industrial Base Strategy Focus

- 1. National Defense Capability is Dependent on Industrial Base Readiness
- 2. US Budget Trends Require Adjustments to DOD Budget
- 3. Changes/Downturn of International Conflict Levels Impact Requirements
- 4. Industrial Base Has Evolved from “Vertical Integrated Companies” to “Horizontal Integration Structure”---Increasing Readiness Risk
- 5. Industry Capability Must Adapt to Budget and Priority Decisions
  - Adapting Must be Readiness Focused
    - “Warm Base”
    - Ensured Sourcing Network or System Effective Open Architecture
    - Modernized Capability
- 6. Evolving New Technologies and Systems Must be Integrated Into Industrial Base Structure
- 7. “Lessons Learned” Offer Risk Management Experience
- 8. Manufacturing Technology Advances are Key to Industrial Base
- 9. Manpower Resources Must be Addressed

# Evolving Industrial Base Vision

# Industrial Base Preparedness Vision



New and Emerging Technology and Systems Capability  
Must be Coordinated and Integrated with Legacy Resources  
Where Appropriate

# DOD Industrial Base Perspective

## Bottom Line

# US Defense Industrial Base Evolution/Readiness

- 1. DOD Industrial Base Structural Evolution is Critical to the Readiness Vision
- 2. Industrial Base is Broader –Includes Diverse OEM's and Increasingly Complex
- 3. Transition has and Will continue to be Focused on a Horizontal Based Industry Structure –thus Demanding Understanding of the Total Supply Chain of Materials—Components—Subsystems and Integration
- 4. Growth and Evolution of Technology Must Be Included in Industrial Base Plans
- 5. Man Tech Funds or Focus must Reach Down Thru the System to Component Sources
- 6. Facility Modernization is required across the horizontal base
- 7. Manpower remains a Critical Path

DOD Industrial Base Planning Is Addressing The  
Evolving Structure,  
Technology, Manufacturing, and Critical Path Factors

- *On-Going Continuous Integration of Government, Industry (All Levels of Companies) Must be Focus to Ensure Readiness*

## Armament Division 2011 Challenges

- *Ensure Armament Division Joint Committee Synergism Focus*— Link Individual Committee Objectives for Common Technology/Systems
- Structuring Conferences With *Topics Focused and Relevant* to DOD Thrusts, Attendee Interests, And Industrial Base Readiness
- Establishing Industry Response to: *"Balanced Capability and Assured Readiness"*—Balance Legacy Capability, “New Systems”, and Readiness
- Strengthening *Partnerships*
  - Government, Industry, and Academia
  - US and International Community
- Ensuring that Conferences Integrate *Innovative and Visionary* Capability Complementing Legacy Resources— *Applying Enabling Technologies*— *Establishing Industrial Base Readiness*
- Membership/Attendee Participation in *"Top Issues"*

## Armament Division 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 Conference Activity* Offers Efficiency and Expanded Scope and Depth Available to Members
- *Member/Attendee Input/Interests* is Key Conference Planning Focus
- NDIA Conferences, 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 Looking Ahead

- **Thoughts for Consideration:**
- **1. How does NDIA Activity Assist/Enable Armament Community**
  - Networking
  - Conference Content—What Specifically?
  - NDIA Communications—”National Defense”; “Top Five”; Website, Special Communications
- **2. Is Armament Division Providing a Vision of Armament Today and the Future—Is Capability Evolution Communicated Effectively?**
- **3. Are Industrial Base Considerations Effectively Communicated and Discussed to Enable Understanding and Action Ensuring Readiness for Legacy, Evolving, and Emerging Systems and Technology?**

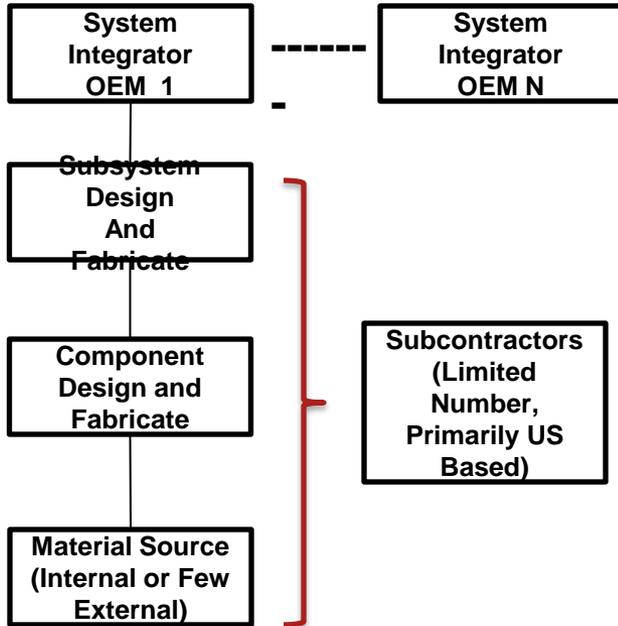
**Armament Division Provides Information Enabling Government/Industry Links –  
Transitioning Capability and Readiness Vision**

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

# Industrial Base Structural Changes Past, Current, Future

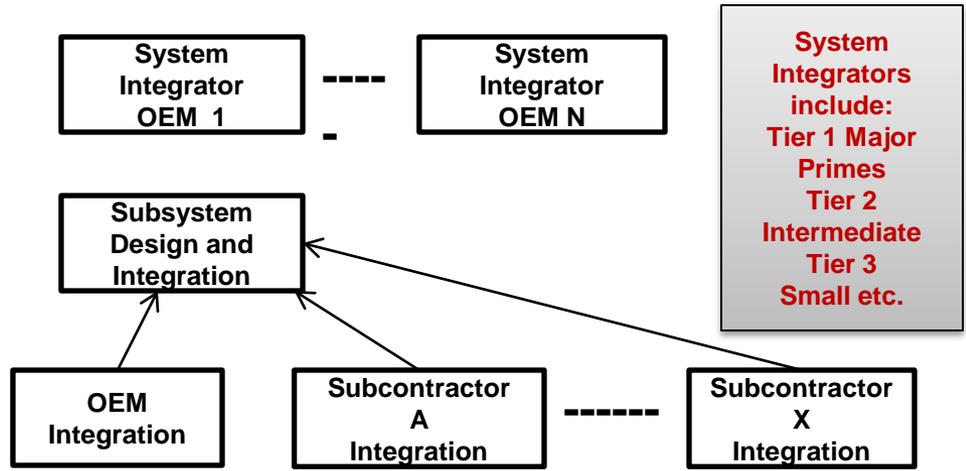
# US Defense Industrial Base Evolution/Readiness

## Vertical Source Integration Past Prior to 1950-1960



**Note:** Number and Type of OEM's was small compared to Evolution of Systems and Technology Post Approx. 1960

## Horizontal Source Integration Current and Future



## Expanding and Specialized Subcontractor Network



## Component Sources Expanding, Unique and Critical Path US and International Based



## Material Sources Support Component Manufacturers— Sources are US and International—Commodity Price and Availability Driven

## Industrial Base Evolution

## Industrial Base Preparedness Vision

Industrial Base Element	Prior Structure	Current and Future
• Government	• Government Owned and Operated Resources	• Minimal Government Resources • Company Operation of Government Facilities
• Industry within Each Country	• Primary Industry Focus • Multiple Companies	• Expanded Number of Companies and Technologies
• Industry International	• Very Limited	• Expanding Multi-national corporations
• Industry Structure	• Each Company had Vertical Supply Capability	• Focus on Horizontal Supply Chain
• Component Supply Chain	• Vertical Supply Provides Internal Focus	• Horizontal Supply Chain Requires Expanded Preparedness Plans
• Technology Evolution	• Base not Planned for Technology Change	• Base Must Address New and Evolving Technology
• Defense International Market Impact	• Limited International Procurement	• International Procurements

**Evolving Structure, and Operation of Industrial Base Requires International Vision  
Enabling Assured Preparedness**