

Guns, Ammunition, Rockets, and Missile (GARM) Systems

National Defense Industrial Association (NDIA)

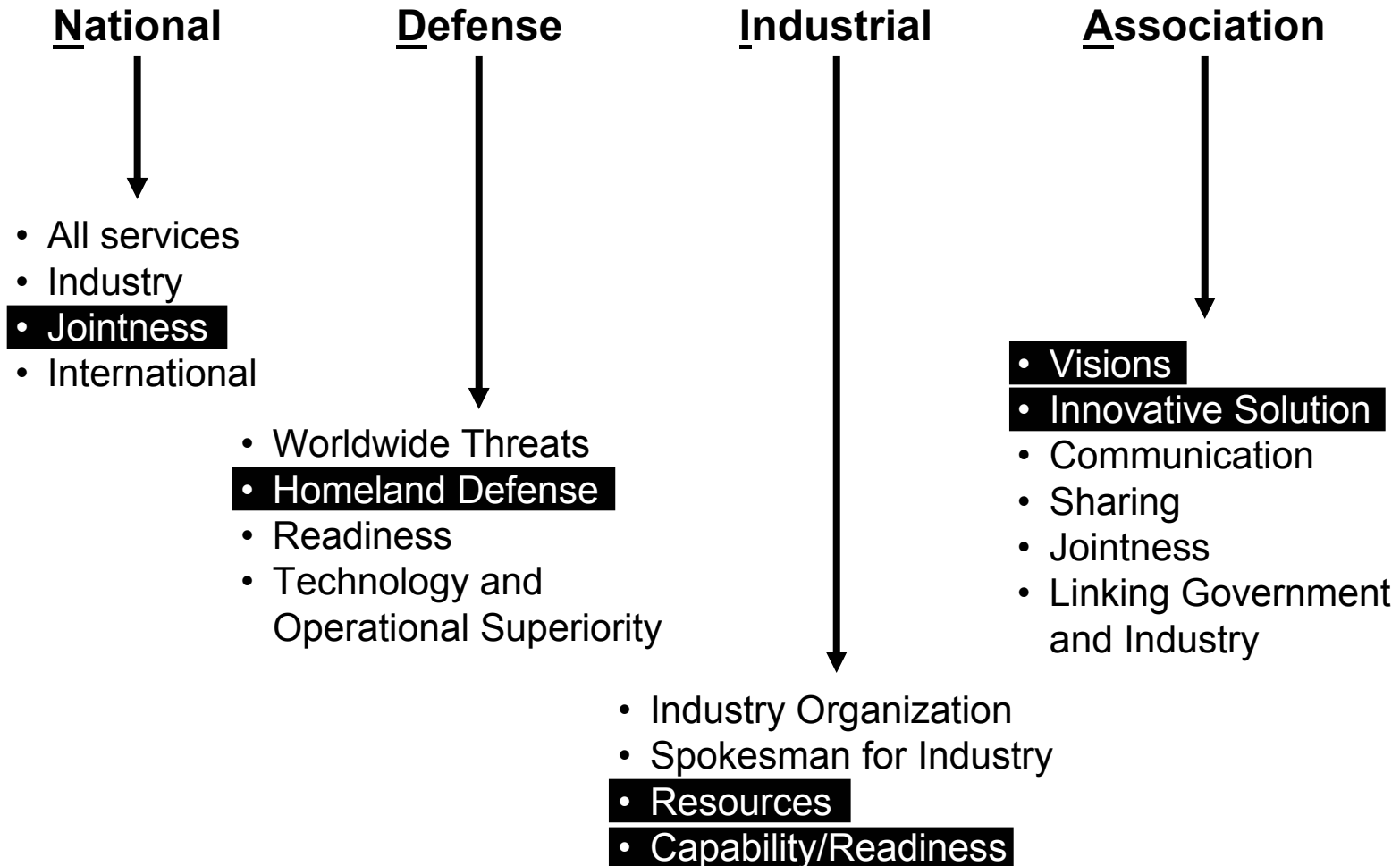
Armament Division

2005 Division Status

25-28 April 2005

1. Armament Division Objectives
2. Organization — Leadership
3. Symposium — Effectiveness
4. Charter Updates — Clarity — Current Focus
5. National Small Arms Consortium/Center
6. Pentagon Outreach
7. Manpower Study
8. Defense Legislation Issues
9. Membership Participation
10. The Future Ahead

The Links – Who, What, Why



An Organization Ensuring Strength Through Industry and Technology

NDIA Focus → Responsive to Industry/DoD Community → Ensures Relevance

Addressing Issues Critical to Guns and Ammunition, Missiles and Rockets Systems

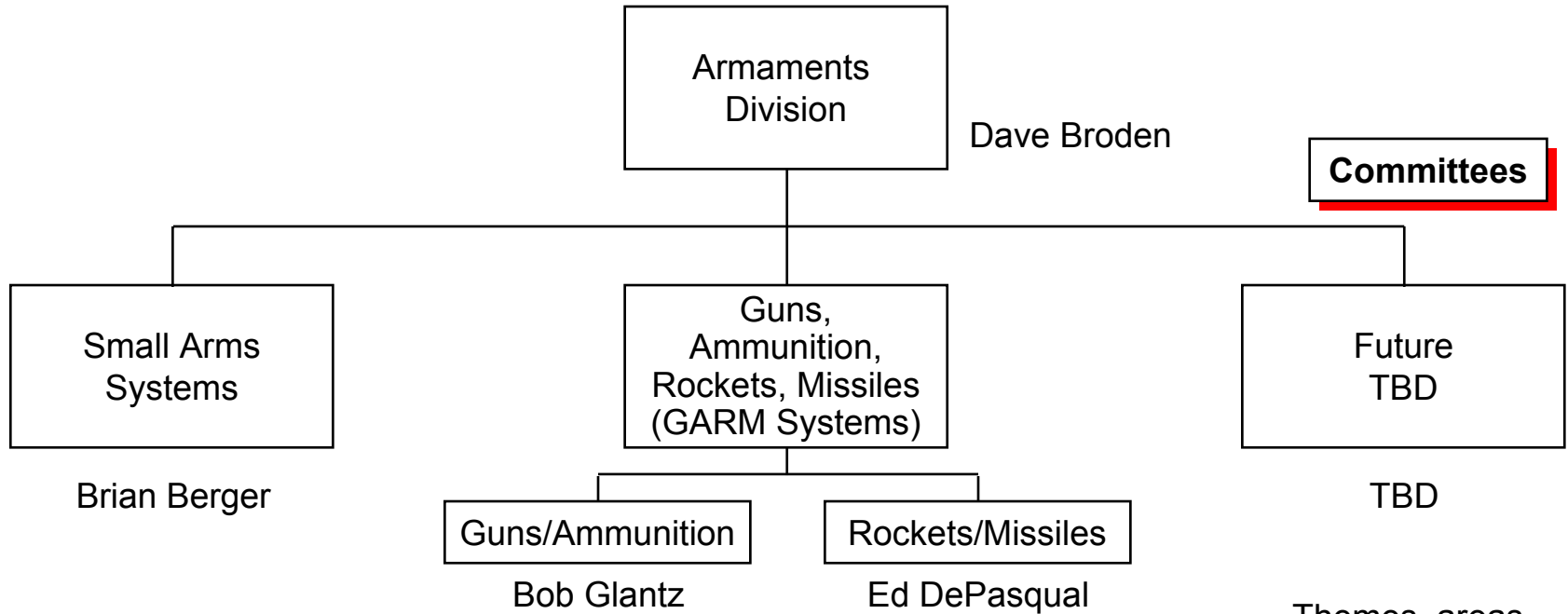
Armament Division Focus

- Expanded participation
- Resource for government and industry
- Linked to key DOD and service strategies
- Capture “lessons learned” → ensure readiness → shape future
- Encouraging leverage of complementary systems
- Effective use of exhibits, demonstrations, and tours

Establishing Vision for 21st Century Relevance

Applying System Synergism to Meet Transformation Goals

Objective: Coordinated Focus and Vision for Armament Systems



Responsive Organization – Ensures Relevance

**Scope – Area of Interest – Responsibility
Definition Clarity**

Expanding Cooperation with Related Sections

Themes, areas discussed; no specific action

GARM Systems

Small Arms Systems

- Individual weapon(s)
- Crew served weapon(s)
(e.g., $\leq 40\text{mm}$)
- Lightweight Systems
- Ammunition
 - Enhanced/lightweight
 - “Green”
- Full life cycle management
- Supportability
 - Training
 - Logistics
- Target Acquisition/Fire Control System (TA/FCS)
- Remote Stabilized Turret System
- System Integration
- Networked capabilities
- Non lethal
- Homeland Defense systems

Guns and Ammunition

- Medium caliber systems
- Tank systems
- Mortar systems
- Artillery systems
- Naval gun systems
- Aircraft/helicopter systems
- Precision systems
- Platform Integration
- Manned/robotic applications
- System integration
- TA/FCS
- Supportability
- Life cycle management
- Stabilized Turret System

Missiles and Rockets

- Tactical missiles and rockets
- Shoulder Fired Systems
- Ground launched
- Aircraft/helicopter launched
- Precision Systems
- System Integration
- Manned/robotic applications
- Life cycle management

Synergism

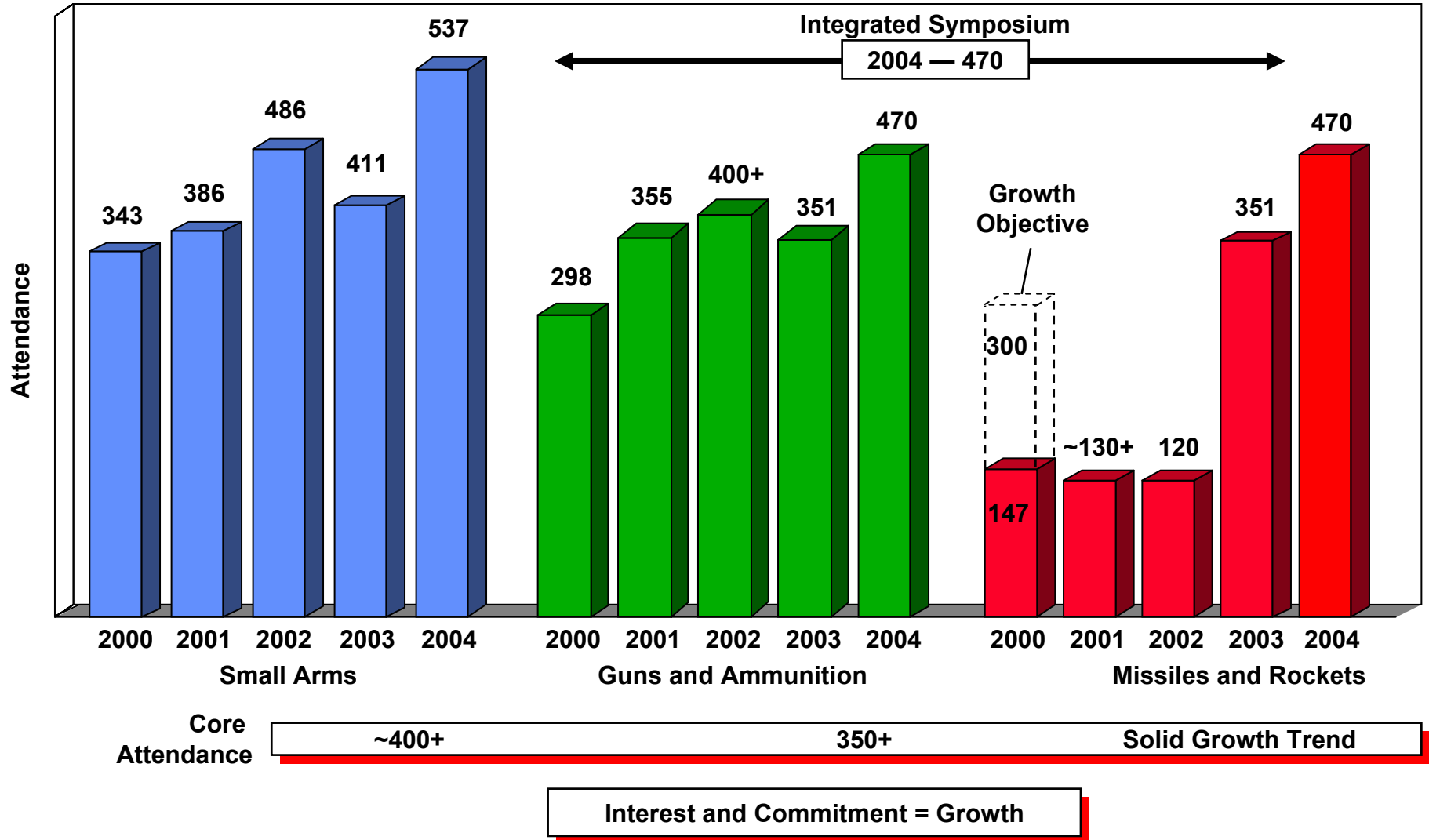


Commonality

Common Enabling Technologies, Modeling/Simulation, Man-Tech

Links to Other Committees

Armament Division Attendance Summary



Guns and Ammunition

Rockets and Missiles

Translating Lessons Learned into System Requirements

Addressing the Theme!

- **Joint Capability**
- **Joint Requirements**
- **Readiness Capability**

Applying Common Advanced Technologies and Integrated Systems

- Capability focused complementary integrated systems
- Address key force multipliers
 - Precision
 - Mobility
 - Communication
 - Situation awareness
 - Lethality
- Planning and implementing Spiral Development
- Building on “lessons learned” for future readiness
- Ensuring responsive industrial base capability
- Attention to life cycle management

Enabling an Integrated Joint Force Capability

Translating “Lessons Learned” into System Requirements



- Understanding the Need
- Joint Requirement(s)
- Requirements Pull
- Technology Push
- Readiness/Capability/Responsiveness
- Direct Integration
- System Integration Adaptations
- Spiral Development
- Supportability



- Threat Specific Solutions vs. Capability Driven and Adaptable
- Operational Flexibility and Responsiveness
- Spiral Development

Response to Symposium Theme

– Adaptable, Innovative, Visionary, Capability Focused

Joint Services: Defining and Executing the Change
Industry: Ensuring Technology and Product Availability – Evolution

Asymmetric Threats

Joint Operations

Joint Requirements

Transformation Initiative

Readiness

Simultaneously

Changing the Force

**Responsiveness – Technology – Capability
and**

Maintaining Readiness

**of
Existing Forces**

**Industry Responding to
Joint Force Needs**

Meeting the Needs of Our Joint Ground Forces in the Fight Against Terrorism and Developing the Tools for Future Combat

Address and Focus on the Theme

DoD and Homeland Defense Capabilities

- Joint Force operations and capability
- Response to asymmetric threats
- Adapt systems and technology for operational flexibility — Jointness
 - Responsiveness
- Push technology envelope(s)
- Push integration efficiencies
- Add functional capabilities
- Introduce new systems
- Ensure readiness and capability

**“Lessons Learned” — Readiness/Capability —
Responsive Force — Jointness — Technology Change**

Shape the Future — Enable the Force

Armament Division Success

Guns and Ammunition/Missiles and Rockets

Small Arms Committee

Value Added Has Been Demonstrated

Leadership to Strengthen the Armament Community

Challenge: Applying Technology, Systems for Future Force

Ensuring Readiness . . . Responding to the Challenge Advancing Superior Capability

Symposium Benefits Confirmed

Increasing Interest/Participation

Linking NDIA and DoD Realized

- Improved links to DoD and service thrusts and initiatives
- Interest in “after action reports” — “lessons learned” → industry responsiveness → addressing challenges

Symposium Quality and Communication Demonstrated

- Presentation quality improvements and “So What” benefit messages have added value
- Focused interest in systems level presentation vs. technology unless technology offers payoff vision
- Industry adjusted to intellectual property concerns and expanded participation positively
 - Industry worked with vision

Ensuring Relevance

- Evolve executive committees
 - Integrate relevant organization(s) for future
 - Industry
 - Government
- Reshape and define division charters to ensure relevance/clarity
- Symposium themes
 - Future “vision” focus
 - Emphasize Readiness topics
- Symposium content
 - Emerging technology and capability
 - Panels
 - Interactive format
- Attendees
 - Participation is growing resource

Armament Division is Key to Current and Future Force Capability

1. Focus on relevant topics
2. Solid links to Transformation and future topics
3. “Lessons learned” and “after action reports” input shapes the future
4. Recognition of need to address industrial base readiness — capability — responsiveness
5. Executive committees focused to objectives → outreach links to DoD
6. National Small Arms Center established/operational
 - 50+ companies
 - Program planning addressing GAPs in-process
 - Procurements initiated
7. Continued panel discussions focus to key interest topics
8. Recognized forum for business/technology “networking”
9. Leadership in Navy SUW Study

Objective: Ensure Armament Division charter responsive to DoD and industry trends and changes

- Charter Format:**
- Armament Division charter sets guidelines — objectives — criteria
 - Appendices address sections/committees
 - Missions
 - Scope/definitions

Status: Committee updates in process

- Small Arms → expand/clarify scope
- Guns and Ammunition } Combined into Guns, Ammunition,
- Rockets and Missiles } Rockets, and Missile (GARM) Systems
- New area — TBD

Committees were

Guns and Ammunition

Missiles and Rockets

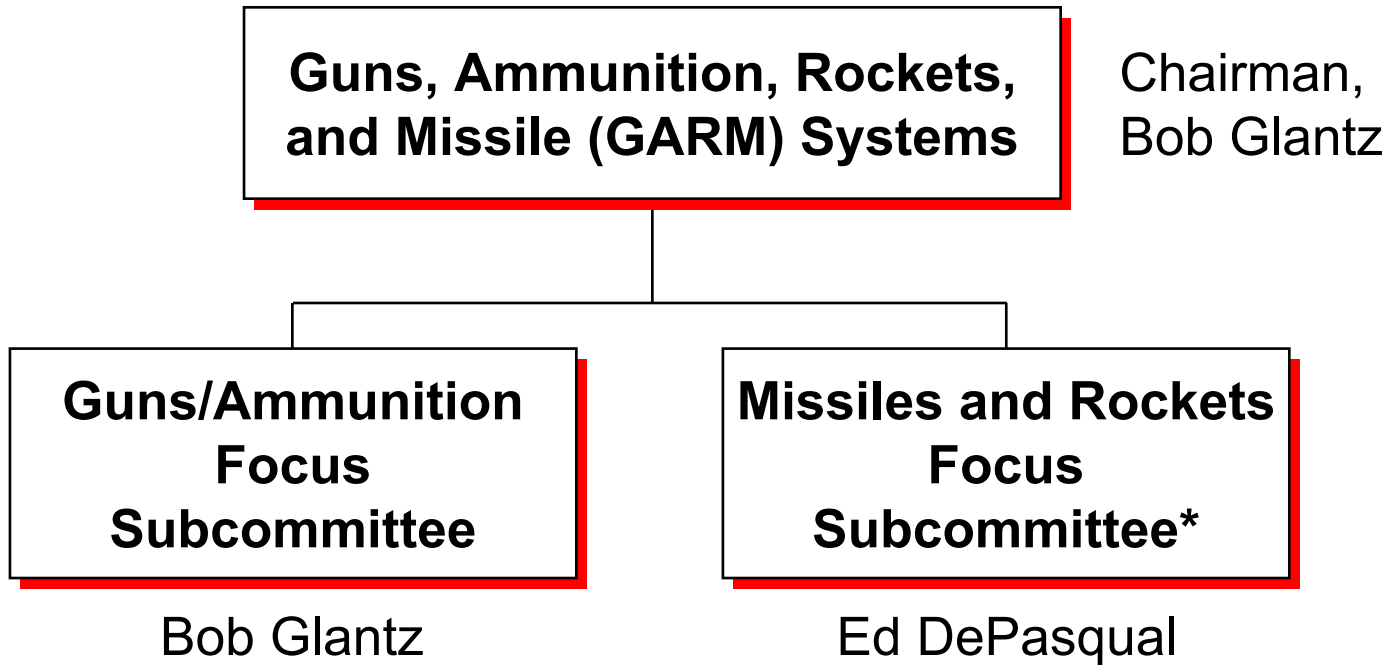
Committee is

Guns, Ammunition, Rocket,
Missiles (GARM) Systems

Benefits Realized

1. Commonality NDIA membership
2. Leverages convergency of technology and systems
3. Stimulates discussions — dialogue
4. Symposium attendance efficiency (one vs. two meetings)
5. Brings separate communities together for common purpose

Symposium Interest, Attendance, and Dynamics Enhanced



*May be 1 or 2 subcommittees

Organization Focuses on Commonality and Synergism and Provides Links to the Two Components

- Communication of commonality/synergism between the two components
Guns/Ammunition + Rockets/Missiles → Integrated Armament Approach
 - Realizing convergence of technology and system integration
 - Understanding complementary system capability → operational
 - Integrating industry representatives on executive committee
 - Integrating government agency representatives on executive committee
 - User agency personnel participation → symposiums, executive committee
- “Leaders and Expertise”
“Involved”

**Establishing Symposiums and Special Projects
Responsive to Attendees and Membership**

Armament System Division Charter Vision

- A common vision for Armament System evolution
- A division responsive to changes and challenges
- Realizing complementary and synergistic capability
- Innovation in armament systems:
Requirements/need → development → deployment/operation
- Increasing NDIA impact through symposiums, studies, exhibits, etc.
- Re-look at division structure in future to ensure relevance to DoD needs → change is opportunity = ensures responsiveness
- Enabling links to key DoD and service offices

- NDIA initiative to link NDIA divisions/committees and mission to key DoD offices — ensure partnership and interaction on issues/needs of mutual concern
- Armament Division approach
 - Identify key offices and positions linked to:
 - Guns and Ammunition system
 - Rockets and Missiles system
 - Small Arms systems
 - Establish Armament Division communication plan
 - Through NDIA management and from committees
 - Contact list
 - Briefing package → objectives, mission, challenges, issues, etc.
 - Special Studies suggestions

Communicate Recommendations to Armament Division Leadership

- Foster understanding of NDIA in target offices/positions
- Establish active relationship with target offices/positions
- Establish/increase knowledge of division events, studies, and other NDIA operations
- Educate target offices that NDIA represents defense industrial base and is key link between industry and government
- Inform target offices that NDIA is excellent source of advice, expertise
- Encourage DoD and services to utilize NDIA management, divisions, committees as a communication link

Partnership — Teamwork — Synergism

Armament Division Outreach Prior Successes!

1. Established Joint Service Operating Requirements for mechanical fuzing for ammunition (JSOR)
 - Ensure increased safety, MIL-STD-1316 compliance, added functions, addressed commonality and affordability
2. Established guidelines and approach for helicopter gun systems
 - Defined LW-30 Apache gun system approach
3. Harrier gun system → study led to selection of GAU-12 gun system for Harrier
4. Interface and meetings of industry with Joint Ordnance Coordinating Group (JOCG) addressed “ongoing” technology, system, and production issues and jointly solved problems in common meetings

Armament Division Outreach Prior Successes!



5. Joint Medium Caliber Gun and Ammunition Master Plan (JMAT) — establish roadmaps jointly developed by all services and industry to prioritize medium caliber systems
6. Naval Surface Weapon System Study — in process — OPNAV N76 sponsored
7. Joint Non-lethal Weapon System Planning and Workshop → integrated government, national labs, and industry for multi-year non-lethal plan
8. Committee of Small Arms Producers (CSAP) → ongoing to strengthen small arms base
9. Established National Small Arms Consortium — National Small Arms Technology Center

Pentagon Outreach Effectiveness Assured Through:

1. Committee/membership identification of key DoD/service target offices
2. Committee identified topics/issues for communication to target offices
3. Effective execution of special studies sponsored by target offices
 - Identified by committee
 - Requested by Pentagon

- **Armament Division Committees and Membership are Encouraged to Provide Input to Outreach Focus**
- **Executive Committee will Maintain Lists and Action Plans**

Objective

- To define DoD and industry manpower evolution and establish legislative recommendations to strengthen resource base
 - Baseline:
 - Shape 2006 version of 1958 National Defense Education Act (NDEA)
 - Other topics

Conclusion

- Science and technology workforce requires attention to maintain technology leadership and staffing levels
 - Education
 - Retention
 - Mentoring

Objective: International cooperation and integration of symposiums benefiting industry and Department of Defense to encourage partnerships for development, production, and interoperability

- Approach:**
- Coordination of NDIA Armament Division programs with “Symposium at Shrivenham” The Royal Military College of Science
 - Common presentations and panel participants is a strong “open door” resource

European Small Arms and Cannon Symposium

August 2004

- Issue 1: Sustaining War on Terrorism, Military Readiness, and Future Defense Transformation
- Issue 2: Support the Defense Industrial Base
- Issue 3: Ethical, Accountable, and Balanced Process Reforms
- Issue 4: Securing the Homeland
- Issue 5: Improve Human Resource Programs

NDIA Board of Directors Approved Focus

Established by Government Policy Advisory Committee

Look to Web Site for Full Details

These Issues are NDIA Membership Voice to Congress

- National Defense Magazine
 - Emphasis on relevant and timely topics
 - Frequently source of media, DoD, and Congressional reference
- Website
 - Symposium presentations available — attendee access
 - Complementary information
 - Full list of activity
- Top public policy issues — prioritized — addressed to Congress — strengthen the community

NDIA Messages and Content Has Impact

and

Website Used Extensively as Resource

- Committee of Small Arms Producers (CSAP) Oversight
 - Results: Consortium/National Center → Operational 2005
- Establish focused Pentagon Outreach Program to targeted offices
- Facilitating responsiveness — readiness
- Division and Committee Links — leveraging commonality of resources, technology, systems
- Legislative affair “top issues” → seeking value added legislation
- Support DoD-DDR&E Manpower Resource Study
- Expanded effectiveness of exhibits/displays — “firing demonstration”

- NDIA is strong and valuable
 - Resource use enables timely/responsive solutions
- Armament Division is transforming to ensure relevance
- Multi-discipline capability links NDIA divisions
- Listen to “lessons learned” and jointly enable readiness capability
- Commitment to “value added” change
 - Jointness
 - Transformation — future
 - “Lessons learned”
 - Capability driven
 - Readiness — capability — responsiveness
- Attendee participation strengthens organization

**NDIA Membership Shapes the Organization
Through Participation and Use**

NDIA Armament Division Is:

- A relevant voice and forum
- Responsive to DoD community and industry challenges
- A forum for DoD/industry interaction discussion of “lessons learned” and needs
- Supporting national defense through people resources, networking, and symposiums
- Transforming to ensure relevance to changing military, geopolitical environments, technology, and industrial base resources

**The NDIA Community is the
Resource of Choice For Excellence in
National Defense Topics/Communications**