OTAs AND THE NAC - PROVIDING RAPID INNOVATION AND PROTOTYPING

15 OCTOBER 2020
“Armaments” is the ordnance, ammunition, munitions, weapon and sensor systems, and related military materiel, equipment, and components that enable the military to achieve combat and mission effectiveness in all warfare environments: air, land, sea, undersea and space.

...Everything in the “Kill Chain”
Our Focus:
• Transition technology to the Warfighter fast
• Promote innovation
• Recruit a community of world-class technologists
• Collaboration between government, industry, and academia
• Remove barriers
• Promote nontraditional defense contractor contributions and participation
• Promote and enable the MIB
• Support the Nation’s equities in RD&A, OTA, and future capabilities

We value:
• Collaboration and teamwork
• Innovation, creativity, agility
• Transparency and accountability
• Stewardship of precious resources
• Responsiveness, relevance, and timeliness
• Excellence in leadership and management
• Courage to act boldly, responsibly, and with vision
• Duty and service to the Nation and our Warfighters
• **What We Do:** Form industry **partnerships** to collaborate with Government **customers** to **innovate** technology/engineering **solutions** and rapidly **deliver combat capabilities** for the Nation’s Warriors

• **Network:**
  952 (T-158, NT-794)
  - Large - 205
  - Small – 695
  - Academic - 33
  - Not for Profit - 19
  ~3,500 active NAC participants

• **Since 2009:**
  - Completed 884 Prototype Projects
  - 495 Active Prototype Projects
NAC Governance and Management

• NAC is governed by an 11-member board of trustees (Executive Committee)
  – 5 large companies, 5 small companies, 1 University
  – Executive Director and Director of Customer Affairs are ex officio members
  – Seats on board are elected every 3 years
  – No compensation for board members
  – Meets in person four times a year and monthly telecoms
  – Governs to Strategic Plan, SOPs, and CMA

• ExCom Subcommittees ensure compliance
  – Governance and nominating committee (includes ethics)
  – Finance committee
  – Strategic Communications committee

• ED and DCA lead execution
  – Statement of Objectives, labor, and travel agreed to annually

• Retains CMF (ATI) to manage day-to-day execution of OTAs

Chair of the NAC Executive Committee serves as Co-Chair of DOTC Executive Committee
Partnerships with government customers foster innovation and technology/engineering solutions

- **“Gold Standard” of Collaboration/Power of the Network to Innovate**
  - Link traditional and nontraditional contractors and government customers
  - Collaborate with DOD and Industrial Base during requirements generation, proposal stage and within joint working groups in specific technology areas

- **Streamline Development-to-Acquisition with Speed and Flexibility**
  - Process designed to minimize cost-to-compete and speed-to-deliver
  - Encourage cooperative and joint funded requirements, provide visibility across DoD Acquisition community

- **Onboard Nontraditionals and Remove Barriers to Innovation**
  - Provide training, education and mentoring for doing business with the government
  - Link nontraditionals with traditional defense contractors to develop technology, optimize for production and provide a "bridge" between capital and risk
  - Co-sponsor events to focus on technology/engineering/programmatic threats, challenges, and opportunities.

*Rapidly and Effectively delivers combat capabilities for our nation’s warriors*
Collaboration is disciplined and intentional.

We promote collaboration through a broad range of tools and virtual and in-person events and engagements.

- Cyber training
- General Membership Meetings
- ITAR/EAR compliance
- Collaboration database with member capabilities, interest and gaps
- Annual technology plan support
- Business development training
- How to do business with DOTC
- Technology roadmapping
- Proposer workshops
- Periodic project reviews
- Data rights
- Assessment and feedback

Join Consortium | Evaluate Technology Gaps | Create Project Teams | Proposal Development | Project Execution
COLLABORATION PORTAL

DRAWS TO SITE
- Event Announcements
  Advertises conferences, General Membership Meetings, Industry Days, and other collaboration events

- Collaboration Database
  Where members learn about one another to form strong project teams.

- Documents Library
  Shares membership documents, project concept submission forms, white paper templates, and other documents.

- RFP Announcements
  Distributes solicitations and calls for project concept White Papers. Describes challenges and requirements.

- Sisense Project Dashboard
  Informs viewers of project awards and status, promotes transition of technology.

- How to Join NAC
  Potential members, particularly non-traditions, learn how to participate in NAC.

- How to Work with DOTC/NAC
  Promotes sustainment, introduces DOTC/NAC to potential new Government sponsors.

ATTRIBUTES OF SITE
- Search Engine Optimization
- Section 508 compliant
- Fully responsive to various devices
- Segmented into private and public sites
Single Point Contracting is the use of a Consortium Management Firm to facilitate high volume transactions in the solicitation, award, and execution of Government contracted efforts.

**EFFICIENCY:**
Improved process, better communications, and lower costs

**SPEED:**
Faster transition of acquisition process and closer communication with technical community

**CAPACITY:**
Ability to execute thousands of transactions per year

**FLEXIBILITY and EASE OF USE:**
Ability to tailor resources to meet the requirements and guidance of the Government customer (e.g. surge, schedule adjustments, etc.)
**SINGLE POINT CONTRACTING (SPC) MODEL**

**Government Funded**
(through Administrative Rate)

- Single Point Contracting
  - Solicitation Preparation/Webinars
  - Submission Portals
  - Whitepaper & Proposal – Receipt/Compliance Review
  - Award Processing/Cost Analysis Support
  - Project Administration/Close-out
  - Milestone/Deliverable Tracking
  - Invoice Receipt/Payment
  - Technical and Financial Reporting
  - Nontraditional Tracking/Reporting

**Consortium Funded**
(through Member Dues/Assessments)

- Consortium Management
  - Consortium Leadership Support
  - Member Training and Mentoring
  - Collaboration Portal and Website
  - Collaboration Events/Membership Meeting
  - Member Application Processing
  - Member Database (DD-2345, “good standing” tracking, etc.)
  - Dues/Assessment Invoicing and Collection
  - Program Status & Financial Reporting
  - Conferences/Booth
  - Other Support Services
DOTC ENTERPRISE – MODEL FOR INNOVATION
DOTC TECHNOLOGY OBJECTIVE AREAS

- Ammunition
- Demilitarization
- Directed Energy Warfare
- Enabling Technologies
- Energetic Materials
- Fuzes
- Hypersonics and Hypervelocity
- Information Operations, Cyber Operations and Electronic Warfare
- ISR, Sensors and Sensor Systems

- Joint Enhanced Munitions
- Manufacturing and Process Technology
- Multi-domain Battlespace Management
- Protection, Survivability, and Defense
- Rockets, Missiles and Bombs
- Warheads/Lethal Mechanisms
- Warrior as a System
- Weapon Systems
COLLABORATION DRIVES INNOVATION

Uniting Academia, the Industrial Base, and DOD Developers can deliver significantly greater value to our Nation’s Security

Membership Trend
- More innovators, improved collaboration

Funding Trend
- More $ to address challenges

Proposal Trend
- More innovative ideas to choose from

Award Trend
- More innovation

- Nontraditional
- Traditional
## DOTC TECH OBJECTIVE

<table>
<thead>
<tr>
<th>DOTC TECH OBJECTIVE</th>
<th># OF INITIS</th>
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</thead>
<tbody>
<tr>
<td>Warheads/Lethal Mechanisms</td>
<td>34</td>
</tr>
<tr>
<td>Enabling Technology</td>
<td>150</td>
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<tr>
<td>Fuzes</td>
<td>59</td>
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<tr>
<td>Energetic Materials</td>
<td>54</td>
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<tr>
<td>Ammunition</td>
<td>73</td>
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<tr>
<td>Demilitarization</td>
<td>9</td>
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<tr>
<td>Joint Insensitive Munitions</td>
<td>4</td>
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<tr>
<td>Weapon Systems</td>
<td>107</td>
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<tr>
<td>Protection &amp; Survivability</td>
<td>46</td>
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<tr>
<td>Sensors &amp; Sensor Systems</td>
<td>20</td>
</tr>
<tr>
<td>Rockets, Missiles &amp; Bombs</td>
<td>50</td>
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<tr>
<td>Directed Energy Warfare</td>
<td>10</td>
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</table>

**Total Active Initiatives:** 616

54% of projects awarded directly to Nontraditionals; 99% of projects by Traditionals have Significant Participation by Nontraditionals.
$1,570.42 Million Provided in **FY20** by the Services …

As of EOM September 2020

- **U.S. Army**: $1,186.83 Million (76%)
- **OSD**: $145.09 Million (9%)
- **DTRA**: $11.60 Million (1%)
- **SOCOM**: $19.81 Million (1%)
- **U.S. Air Force**: $77.54 Million (5%)
- **U.S. Navy**: $96.95 Million (6%)
- **U.S. Marine Corps**: $32.58 Million (2%)
102 Projects awarded at $1.2B
62 of those to NDC
<table>
<thead>
<tr>
<th>GUIDED MISSILE</th>
<th>MANUFACTURING &amp; ENABLING/ DISRUPTIVE TECHNOLOGIES</th>
<th>AVIATION</th>
</tr>
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<tbody>
<tr>
<td>• Target Detection/ Acquisition/Tracking Sensors</td>
<td>• Innovation Enablers</td>
<td>• Platforms/Materials/ Structures</td>
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<tr>
<td>• Missile Electronics</td>
<td>• Additive Manufacturing</td>
<td>• Power Systems</td>
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<tr>
<td>• Seekers to Defeat Moving Targets and Air Defense Threats</td>
<td>• High Energy Creation and Storage Systems</td>
<td>• Engines/Propulsion Systems</td>
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<td>• Guidance/Control for Improved Precision and Global Positioning System (GPS)-Denied Precisions</td>
<td>• Directed Energy</td>
<td>• Drives/Rotors</td>
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<tr>
<td>• Lethality Mechanisms</td>
<td>• Advanced Materials/Processes</td>
<td>• Mission Systems</td>
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<tr>
<td>• Warheads</td>
<td>• Advanced Manufacturing Techniques</td>
<td>• Avionics/Navigation</td>
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<tr>
<td>• Fuzes</td>
<td>• Manufacturing Cyber Security</td>
<td>• Sensors Networks Data Link and Communication</td>
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<td>• Payloads</td>
<td>• Modeling and Simulation</td>
<td>• Survivability</td>
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<td>• Radar</td>
<td>• Virtual Prototyping</td>
<td>• Sustainability</td>
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<td>• Datalink and Communication</td>
<td>• Robotics</td>
<td>• Autonomy</td>
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<tr>
<td>• Materials and Structures</td>
<td>• Automation</td>
<td>• Manned/Unmanned Teaming (MUMT)</td>
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<td>• Power Systems</td>
<td>• High Temperature Materials</td>
<td>• Unmanned Aerial Vehicle (UAV)</td>
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<tr>
<td>• Aerodynamics</td>
<td>• Lightweight &amp; Hybrid Materials</td>
<td>• Component Cyber Security and Aviation Ground Support Equipment/ Systems (AGSE)</td>
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<tr>
<td>• Navigation Systems</td>
<td>• Flexible Electronics</td>
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<tr>
<td>• Modeling and Simulation</td>
<td>• Reclamation/Repair Technologies</td>
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<tr>
<td>• Energetics</td>
<td>• Open System Architectures for Enhanced Manufacturing Productivity (Digital Manufacturing and Industrial Internet of Things (IIoT))</td>
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<tr>
<td>• Component Cyber Security</td>
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<tr>
<td>• Propulsion Systems for Increased Range and Decisive Effects</td>
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<tr>
<td>• Missile Launchers</td>
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<tr>
<td>• Support Equipment</td>
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OTA CONSORTIUM GROWTH

The number of active OTA collaborations is growing and that growth is accelerating.

In 2000, there was 1 Prototype OTA Consortium
Today there are ~ 33

Naval Surface Technology Innovation Consortium (NSTIC) Dahlgren
NAWCAD Consortium NAWC AD
S2MARTS Consortium NSWC Crane
AF Life Cycle Management Center Consortium Initiative (ACI) AFLCMC
Aviation & Missile Technology Consortium (AMTC) AMRDEC
Information Warfare Research Project (IWRP) SPAWAR
Undersea Technology Innovation Consortium (UTIC) NUWC
Sensors, Communications, and Electronics Consortium CERDEC
Cornerstone OSD MIBP
Space Enterprise Consortium (SpEC) SMC
NGA Enterprise Innovation NGA
Propulsion Consortium Initiative (PCI) AFLCMC
Countering Weapons of Mass Destruction Consortium (CWMD) JPEO-CBD
Training and Readiness Accelerator (TReX) PEO STRI
Medical CBRN Defense Consortium (MCDC) JPEO-CBD
Open Systems Architecture Initiative (OSAI) AFRL
Defense Automotive Technologies Consortium (DATC) TARDEC
National Technology Security Accelerator NSTXL DoD
Medical Technology Enterprise Consortium (MTEC) AMRMC
National Spectrum Consortium (NSC) OSD
Consortium for Command, Control, and Communications in Cyberspace (C5) ARDEC
Consortium for Energy, Environment, and Demilitarization (CEED) ARDEC
Border Security Technology Consortium (BSTC) DHS
Vertical Lift Consortium (VLC) OSD
System of Systems Security Consortium (SOSSEC)
National Advanced Mobility Consortium (NAMC) TARDEC
National Armaments Consortium (NAC)/DoD Ordnance Technology Consortium (DOTC) - OSD
Warheads and Energetics Technology Consortium (WETC) ARDEC/IH/ARL – Later renamed DOTC under OSD
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