RAPID INNOVATION FUND

- Rapid Innovation Fund (RIF) Program Overview
- RIF PANEL
  - Ted Bujewski, RIF PM, Office of Small Business Programs (OSBP)
  - Ellen Purdy, RIF PM, Assistant Secretary of Defense, Research and Engineering (ASD R&E)
  - (Earl Anderson), Contracting Officer, Washington Headquarters Services (WHS)
  - Rushawn Chambers, RIF SME, OSBP/Bytecubed
- Wednesday, April 5, 2017 - 2:05pm – 3:00pm

BACKGROUND

- Congressionally-mandated program, established as the Rapid Innovation Program (RIP) in Section 1073 of the Fiscal Year 2011 National Defense Authorization Act (NDAA)
  - A competitive, merit-based program
  - Accelerate fielding of innovative technologies into military systems
- Re-designated as the Rapid Innovation Fund (RIF) within the Department of Defense (DoD)
- Made permanent program in FY2017 NDAA

Key Requirements

Proposals or Projects:

- Satisfy an operational or national security need
  - Accelerate or enhance military capability
  - In support of major defense acquisition program
- Stimulate innovative technologies
- Reduce acquisition / lifecycle costs
- Address technical risk
- Improve timeliness & thoroughness of test & evaluation outcomes
- Can be completed within 24 months of award
- Cost is not more than $3 million

Selection Preference to Small Business Proposals

RIF Implementation

- ***Competitive, Merit-Based Two-Step Process***
  - ***Step 1:***
    - **Issue Broad Agency Announcement (BAA) with DoD component requirements**
    - **Industry Response: 3-page White Paper + Quad Chart**
    - **Evaluations are "Go" or "No Go"**
  - ***Step 2:***
    - **Highest rated "Go" offerors invited to submit full proposals**
      - **Further competition – invite for proposal DOES NOT guarantee an award**
    - **Highest-rated proposals lead to award**
- *Public Notice:*
  - **Federal Business Opportunities: www.FedBizOpps.gov**
  - **Research & Engineering Defense Innovation Marketplace: http://defenseinnovationmarketplace.mil/RIF.html**

RIF FY 2017 – 2017 Milestones

Date(s)		Action
2017	**3 March**	• Collect and Finalize Requirements COMPLETE
	17 March	• Release BAA in FBO.gov COMPLETE
	19 May	• BAA Closes: White Papers (WPs) due from offerors
	NLT 1 September*	• Components complete WP evaluations • Components are complete initial priorities and ranking
	NLT 13 October*	• Components notify all offerors of WP disposition • Invite full proposals
	NLT 17 November*	• Full proposals due from offerors • Components start full proposal review
2018	**NLT 3 January***	• Components complete full proposal evaluations • Negotiations, begin contract awards
	January – April*	• Goal for completing contract awards
	NLT 1 May*	• FY17-funded RIF contract awards complete

*Based on Availability of FY17 RIF Funds

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RIF Demand
FY 2011 – 2016

Summary Data:

- Over $1.4B Invested (FY11-16)
- 14 Defense Component Participants (Avg., FY11-16)
- 14,853 White Paper Proposals (FY11-16)
- 957 Proposals (FY11-15)
- 553 Contract Awards (FY11-15)

- *486 awards to Small Businesses*
  - *88% of all awards*
- *309 awards to current or prior Small Business Innovative Research (SBIR) participants*
  - *56% of all awards*

	FY11	FY12	FY13	FY14	FY15 (Act. or Est.)	FY16 (Act. or Est.)
Appropriated	$439M	$200M	$250M	$175M	$225M	$250M
Available	$432M	$187M	$225M	$175M	$225M	$250M
DoD Participants	7	10	16	19	17	17
White Papers	3,626	2,405	2,763	2,291	1,955	1,813
Proposals	264	124	234	149	186	TBD
Awards - Small Biz - SBIR (Current / Prior)	175 93% 54%	86 90% 60%	104 85% 63%	85 86% 65%	103 TBD TBD	TBD
Avg. Award ($M)	2.2	2.1	2.1	2.1	TBD	TBD

FY 2016: BAA Participation

247 Requirements from 17 Defense Activities Spanning Over 50 Program Offices

DEPARTMENT OF THE ARMY

- Acquisition Program Offices
  - Ammunition
  - Aviation
  - Soldier / Soldier Systems
  - Command, Control, Communications – Tactical
  - Intelligence, Electronic Warfare and Sensors
  - Combat Support / Combat Support Systems
  - Missiles & Space Systems
  - Simulation, Training & Instrumentation
- Research & Development Centers / Other Activities
  - Aviation and Missile Research Development & Engineering Center (AMRDEC)
  - Armament Research, Development & Engineering Center (ARDEC)
  - Army Research Lab (ARL)
  - Communications-Electronics Research, Development & Engineering Center (CERDEC)
  - Edgewood Chemical Biological Center (ECBC)
  - Natick Soldier Research, Development & Engineering Center (NSRDEC)
  - Tank Automotive Research, Development & Engineering Center (TARDEC)
  - Defense Forensics & Biometrics Agency (DFBA)
  - Corps of Engineers (COE)

DEPARTMENT OF THE NAVY

- Acquisition Program Offices
  - Naval Air Systems Cmd. (NAVAIR)
    - F-35 Joint Strike Fighter
    - Tactical Aircraft Programs
    - Air Anti-Submarine Warfare
    - Assault & Special Mission Programs
    - Unmanned Aviation & Strikae Weapons
  - Naval Sea Systems Cmd. (NAVSEA)
    - Aircraft Carriers
    - Integrated Warfare Systems
    - Littoral Combat Ship
    - Ships / Submarines
    - Special Warfare
  - Space & Naval Warfare Systems Cmd. (SPAWAR)
    - Cmd., Control, Comms. Computers & Intel.
    - Enterprise & Integrated Systems
    - Space Systems
  - Marine Corp (MARCOR)
    - Ammunition
    - Armor & Fire Support Sys.
    - Chemical & Biological Sys.
    - Combat Support Systems
    - Enterprise Info. Systems
    - Infantry Weapons Systems
    - Info. Systems & Infrastructure
    - Light Armored Vehicles
    - Marine Air-Ground Task Force Cmd., Control & Comms.
    - Marine Intelligence
    - Land Systems
    - Training Systems

Other Activities: Warfare Centers, Naval Supply Systems Cmd., Navy Strategic Systems Programs, Naval Facilities Engineering Command, Bureau of Medicine & Surgery

DEPARTMENT OF THE AIR FORCE

- Acquisition Program Offices
  - Battle Management
  - Business Enterprise Systems
  - Command, Control, Communications, Integration & Network
  - Fighter / Bomber
  - Joint Strike Fighter
  - Space
  - Strategic Systems
  - Weapons
  - Intelligence, Surveillance Reconnaissance & Special Operation Forces
- Other Activities
  - Air Force Life Cycle Management Center
  - Air Force Test Center
  - Air Force Nuclear Weapons Center Commander
  - Air Force Propulsion Directorate
  - Air Force Sustainment Center

DEFENSE AGENCIES, OSD ACTIVITIES & COMBATANT COMMANDS

- Chief Information Officer / Defense Information Systems Agency (CIO / DISA)
- OASD(R&E): EC&P, Research, Joint Improvised-Threat Defeat Agency (JIDA)
- Defense Threat Reduction Agency (DTRA)
- Missile Defense Agency (MDA)
- Defense Logistics Agency (DLA)
- National Reconnaissance Office (NRO)
- Combating Terrorism Technical Support Office (CTTSO)
- Joint S&T Office for Chemical and Biological Defense (JSTO / CBD)
- U.S. Africa Command
- U.S. Northern Command / North American Aerospace Defense Command
- U.S. Pacific Command
- U.S. Southern Command
- U.S. Special Operations Command
- U.S. Transportation Command

Key Responsibilities & Roles

OSD-Level (R&E / OSBP)

- **Issue / Publish:**
  - Annual Implementation Guidelines
  - Acquisition Plan
  - Source Selection Milestones
    - Detailed Review Process w/ Defense Agencies / CCMDs
  - BAA
  - Communication Guidelines
  - White Paper (WP) Notifications to Offerors
- **Track Project Results**
  - Annual IPRs
- **Issue Funds & Monitor Financial Execution**

Component-Level

- **Execute Allocated Funds**
  - Supplement OSD Guidelines (as needed)
- **Provide BAA Requirements**
  - Address Offeror Technical Questions
- **Establish Source Selection Teams**
  - Evaluate WPs & Proposals
  - Make Contract Awards
  - Monitor & Report Technical Progress
- **Request Funds & Report Status –**
  - Financial Execution
  - Report Results of Project IPRs / End of Project Results

RIF is Now a Permanent Program

- Per the 114th National Defense Authorization Act, Section 213 makes the Rapid Innovation Program a permanently authorized DOD Program

- Accords the opportunity to be more long term and visionary in our approach (however still subject to restrictions associated with Continuing Resolution)

- Since RIF, is now permanent, smart to make some process changes:
  - Project sponsors consider and submit for total costs up front not just proposed vendor costs (e.g. contract administration, DOD test range support, etc.)
  - Structure projects to manage cost and technical risk
  - Identify a “transition manager”, a point of contact that can help shape the outcome of the project so that it can more smoothly transition to a Program of Record or serve as an initial operating capability via a “fieldable prototype” approach
  - Consider including integration and transition as part of the scope of effort and cost estimate

Execution of FY16 Funds: $250M Milestones

	Target Date	Event / Action	Status	
2016	*March 1, 2016*	*BAA Released in FedBizOpps - Hot Link Posted at:* *- https://dodrif.com/* *- http://www.defenseinnovationmarketplace.mil/rif.html*	*Complete*	Step 1
	May 3, 2016	*BAA Closes: White Papers (WPs) due from offerors*	*Complete*	
	*NLT Sep 1, 2016 **	*Components complete WP evaluations* *Initial priorities and ranking by Components*	*Complete*	
	*NLT Sep 15, 2016 **	*WP notifications, invite full proposals*	*Complete*	Step 2
	*NLT Oct 14, 2016 **	*Full proposals due from offerors* *Components start full proposal evaluations*	*Complete*	
	*NLT Dec 16, 2016 **	*Components complete full proposal evaluations*	*Complete*	
2017	NLT Jan 3, 2017 *	Negotiations, start contract awards		
	NLT May 1, 2017 *	FY16-funded RIF contract awards complete		

*** Actual Dates will be Determined by Cognizant Contracting & Technical Offices**

RIF – Project Examples (1 of 2)
Enabling Technology Insertion & Refresh in Acquisition

- **Ongoing Operational Needs:**
  - Traumatic Brain Injury (Army & Brainscope): Fielded a pocket-side electroencephalogram used to provide forward-based medical diagnosis of neurological injury compatible with X-ray computed tomography
  - Checkpoint Explosive Detection System (DTRA & Alakai Defense Systems): Demonstrated a smaller, reduced-weight checkpoint detection system that increases stand-off range for detecting explosives, providing safer checkpoint operations
- **U.S. Manufacturing:**
  - Plasma Electrolytic Oxidation Nano-Ceramic Coating (Air Force & IBC Materials): Demonstrated an improved nano-ceramic coating based on additive manufacturing, increasing the life and wear of missile launcher rails for F-15, F-16, and F/A-18 aircraft, reducing maintenance and downtime costs

BrainScopeAhead 200 Received FDA Clearance

CPEDS-Lite System

AMRAAM Missile Launcher Rail

Improved coating on missile rail surfaces: 10x improved wear

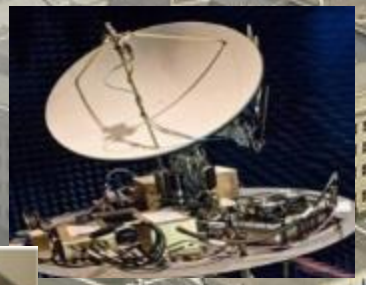
RIF – Project Examples (2 of 2)
Enabling Technology Insertion & Refresh in Acquisition

- **Logistics Supportability:**
  - Integrally Bladed Rotor Repair (Air Force & Blade Diagnostics): Production-ready machine that evaluates the vibratory response of integrally bladed rotors, enabling faster damage tolerance assessment and previously classified unserviceable parts to be returned to service for F-119 engine overhaul
  - Wireless Vibration Recorder (Navy & Mide Techology): A handheld, compact wireless vibration diagnostic tool that records up to four hours of aircraft vibration data, enabling faster maintenance in diagnosing aircraft component failure, shortening downtime and reducing flight costs
- **Commercial Technology for Defense Operations:**
  - Extended Frequency Range Wide Band RF Distribution System (Navy & Out of the Fog Research): Uses on a shipboard mast-mounted communications component that filters, blanks interfering signals so that very low level power signals of interest can be received
    - Manufactured by a Silicon Valley company and fielded an on Ships Signal Exploitation Equipment (SSEE) antenna

Out of tolerance damage

Production system to be delivered to Tinker AFB

- Dimensions: 3 in. x 1.2 in. x 0.6 in.
- Mass: 40 grams



SSEE High Gain Antenna

Radio Frequency Control Unit (RFCU)

Other Transaction Agreements (OTAs) with Consortiums

- Awards using other transactions (OTs) are authorized under 10 U.S.C. § 2371. This authority allows the Department to enter into transactions other than a traditional contract, grant, or cooperative agreement.
- OTs are defined "in the negative": they are not based on the Federal Acquisition Regulation (FAR) or Defense FAR Supplement (DFARS), thus avoiding regulatory burdens like Cost Accounting Standards (CAS)
- Section 845 of Public Law 103-160 originally enabled this authority (creating the nickname, "Section 845" OT agreements)
- Section 815 of NDAA 2015 replaced Section 845 with a broader scope and gave DoD permanent OT authority
- Use of OT authority is beneficial when the Department's intent is to*:*
  - incubate *innovative uses of technology* to perform mission sets more effectively
  - foster *a highly collaborative* environment for building *a prototype system or capability*
- *An OTA with a consortium enables engagement at a detailed level regarding commercial technology resulting in improved understanding between DOD and vendors prior to solicitation*
- Users wishing to leverage the expertise of an existing consortium can often secure the approval of the OTA sponsor and use the existing OTA for efforts within scope of the Agreement
- If an appropriate consortium does not exist, DoD can encourage members of the commercial sector to self-form a consortium often because DoD needs cannot readily be satisfied by a single company or by a prime-sub arrangement
  - DoD can serve as an honest broker and ensure a "fair and open playing field" which incentivizes non-defense sector companies to join, thus providing access to commercial innovation

What Exactly Is A Consortium?

A Consortium is:

- An agreement, combination, or group (can be, but not limited to companies) formed to *undertake an enterprise beyond the resources of any one member*
- A legally recognized entity with a tax ID code that can be “for profit”, “non-profit”, or “not for profit”
- Bound by :
  - **Articles of Incorporation**
  - **Articles of Collaboration**
  - **Consortium Bylaws**
  - **Consortium Membership Agreement**
  - **Membership Corporation (formed for purposes other than generating profit)**
- Governed or Administered by:
  - **Elected or Appointed Executive Committee**
  - **Elected or Appointed Board of Directors**
  - **Consortium President**
  - **Consortium Executive Director**
- Interfaces with the customer via:
  - **An administrative agent authorized to act on behalf of the consortium**
  - **A single company sponsoring the consortium acting as the agent for members**
  - **Board of Directors or Executive Committee serving as the agent for members**

RIF – Incentivize Productivity in Industry

- Identify <u>what RIF performers</u> are getting from RIF contracts
- Over 90% of RIF awardees indicate RIF helped their business base **
  - 62% had new employee hires
  - 57% said RIF helped transition their technology
  - 52% benefitted from RIF teaming opportunities
  - 38% saw an increase in market sales
- Over 80% note a program like RIF is vital to transition of small business technologies
- Examples:
  - Helped advanced Phase II SBIR-developed technologies, resulting in a finished product for commercial and government sales
  - Ability to get innovation to the DoD faster
    - Large business customers sometimes submit their smaller, supplier-based technologies to the government as an engineering change
    - Could result in additional cost and lead-time for program insertion

** Based on Surveys by Both the DoD & Small Business Technology Council

Government Accountability Office (GAO) Review

- **Initiated by Defense Committees in FY 2014 Senate Bill**
- **Purpose: Assess extent to which DoD --**
  - **Has established a competitive, merit-based process to award contracts**
    - ✓ **Results: Process is lengthy, but meets objective**
  - **Has established practices to manage project execution**
    - ✓ **Results: Services & Defense Agencies are successfully monitoring**
  - **Is meeting objective of inserting innovative technologies into defense acquisition programs**
    - ✓ **Results: GAO independently assessed 44 projects- 50% transition**
- **Recommendations:**
  - **Establish overall RIF transition goal**
    - ✓ **OSD non-concurred with goal, but agreed we need to measure annually**
  - **Identify & apply factors that contribute to likelihood of technology transition success more consistently across the program**
    - ✓ **OSD concurred, 'transition practices' published**

- **GAO Report Available at http://www.gao.gov/products/GAO-15-421 (May 2015)**
- **DoD RIF Transition Practices Available at http://www.defenseinnovationmarketplace.mil/rif.html, (Under 'Additional Resources Tab')**

Key DoD POCs

http://defenseinnovationmarketplace.mil/RIF.html

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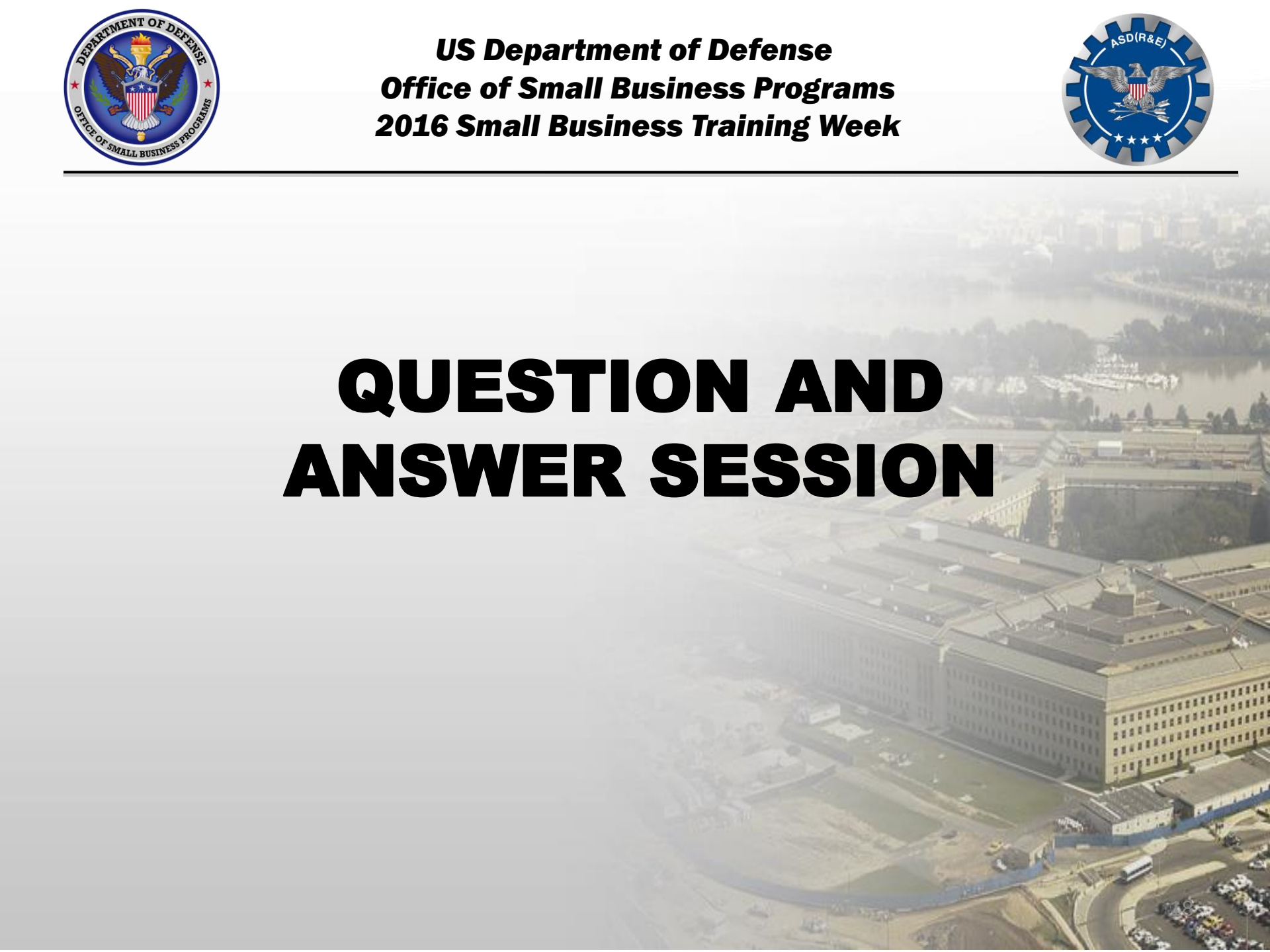
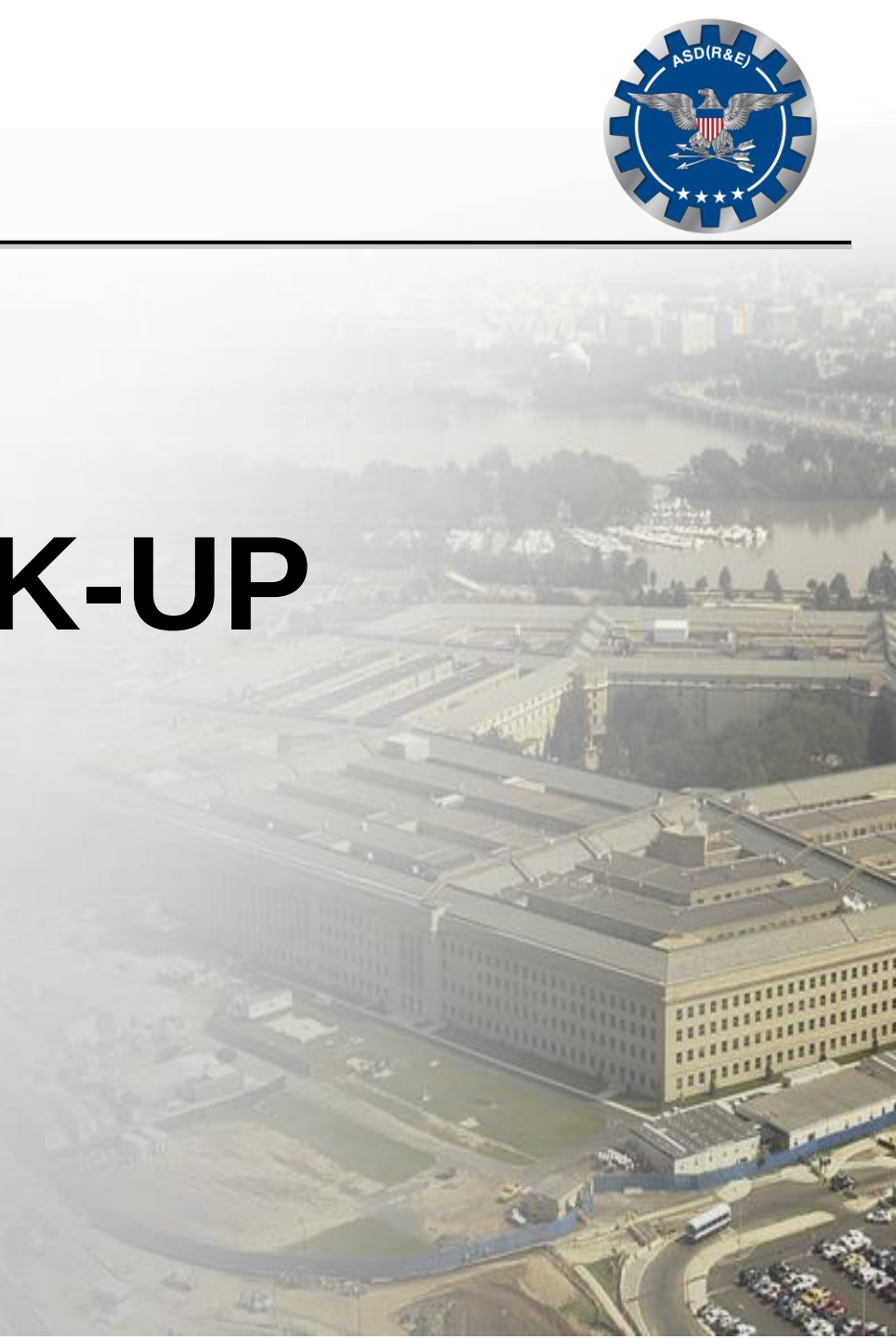
Bill McCluskey	AF (SAF)	571-256-0304	william.j.mccluskey.civ@mail.mil

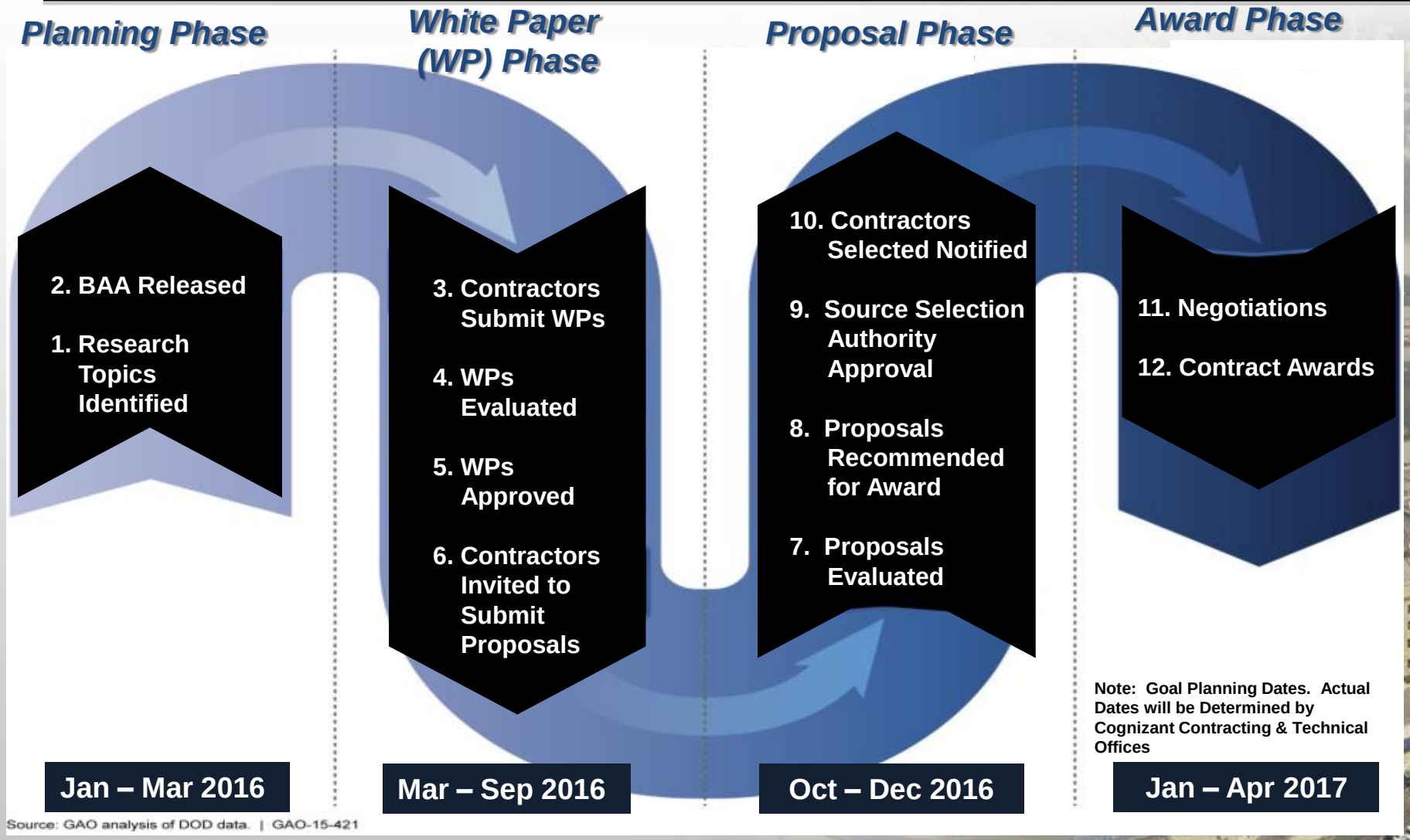
QUESTION AND ANSWER SESSION



BACK-UP



FY16-17 Source Selection Process Key Steps & Timeline



Note: Goal Planning Dates. Actual Dates will be Determined by Cognizant Contracting & Technical Offices

Source: GAO analysis of DOD data. | GAO-15-421

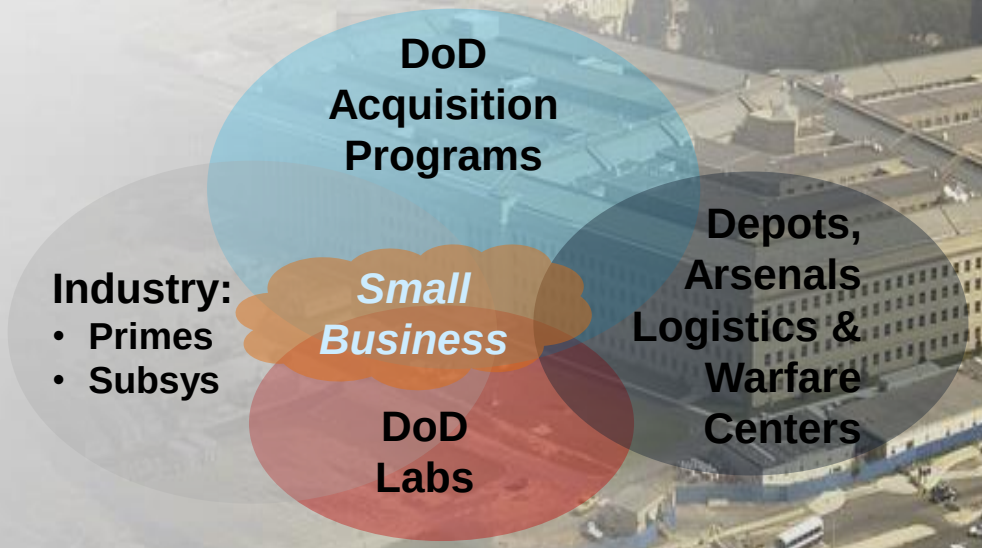
Elements of a Good Proposal (1 of 3)

- **Responds to a BAA requirement**
- **Relationship in place with key customers, or otherwise have an ability to reach-out and establish links -**
  - **DoD acquisition buyers / Program Executive Offices or Program Managers, depots, logistics or warfare centers**
  - **DoD prime or subsystem contractor who integrates RIF technology**
  - **DoD laboratory / technology provider**

Selection Preference: Small Business Proposals

Source Selection Criteria:

1. **Contribution to the Requirement**
2. **Technical Approach / Qualifications**
3. **Schedule**
4. **Cost**



Elements of a Good Proposal (2 of 3)

Technology Readiness Level (TRL)

6 System/subsystem model or prototype demonstration in a relevant environment

7 System prototype demonstration in an operational environment

8 Actual system completed and qualified through test and demonstration

9 Actual system proven through successful mission operations

Required for Majority of Awards: Facilitates Transition

- **Maturity Goal: TRL 6 – 9**
- **Low TRL accepted ONLY if:**
  - Breakthrough capability or operational game-changer
  - Cost neutral to the acquisition program
  - Accommodated within program schedule

4 Component and/or breadboard validation in a laboratory environment

5 Component and/or breadboard validation in a relevant environment

Award By Exception

Technology Readiness Assessment Guidance - - http://www.acq.osd.mil/ddre/publications/docs/TRA2011.pdf

Elements of a Good Proposal (3 of 3)

RIF White Paper (WP) Submission

WHAT TO INCLUDE:

- Your technology solution
  - How it addresses the RIF requirement
  - Clear, concise synopsis of approach
  - What's innovative – what sets your technology apart from competition
  - Enough technical specification to get tech evaluators 'comfortable'
- Some key data:
  - Pictures & diagrams
  - Key Government contacts that currently relate to this effort
  - Summary of teaming arrangements
  - Any prior testing & summary results

WHAT NOT TO INCLUDE:

- Technology looking for a solution (e.g., un-related to the requirement)
- Generic company overview (org chart)
- History of the problem
- Testimonials from other industry or lab researchers
- Detailed diatribe of charts and formulas stating why your technology is the best

When BAA opens, read it, then input, ask questions & prepare a DRAFT WP soonest

- *If missing data, update later. DO NOT WAIT UNTIL LAST MINUTE !*
- *Follow directions / template as provided in the submission portal(s)*

Additional Info / Resources (1 of 3)

www.DefenseInnovationMarketplace.mil

Defense Innovation Marketplace

Business Opportunities

- Small Business Resources
- Acquisition Resources
- Technology Interchange Meetings
- Army, Navy, Air Force & Other DoD S&T Information

Rapid Innovation Fund (RIF) Program

- Current BAA / FBO Link
- Current Year Milestones
- RIF Component Leads / POCs
- Overview Brief (RIF 101)
- RIF Awards
- Transition Guidelines
- Congressional Statute

Additional Info / Resources (2 of 3)

Small Business Administration (SBA)

Doing Business Across the Federal Agencies

http://www.sba.gov

- **Starting & Managing a Business**
- **Loan Programs & Grants Assistance**
- **Contracting with the Federal Government**
  - **Contracting Resources for Small Businesses**
  - **Government Contract Field Activities**
  - **Partnership Agreements**
- **Learning Center**
  - **Understanding Your Customer**
  - **Marketing Research**
  - **Legal for Small Businesses**
  - **Patents, Trademarks, Copyrights**
  - **Finding & Attracting Investors**
- **Local Assistance**
  - **SBA Regional & District Offices**
  - **Small Business Development Centers**
  - **Export Assistance Centers**
  - **Procurement Technical Assistance Centers**

Additional Info / Resources (3 of 3)

DoD Small Business Innovative Research

Doing Business with the Department of Defense

http://business.defense.gov

- "How-To" work with Defense
- Guides on Marketing to Defense
- Programs for Small Business
  - ✓ SBIR / STTR
  - ✓ Mentor Protégé
  - ✓ Indian Incentive Program
  - ✓ RIF
  - ✓ Velociter
  - ✓ STEM
- Contracting with Defense
- Small Business Training
- Conferences & Workshops
- Frequently Asked Questions

Talk to an Small Business Program Expert

http://business.defense.gov/Small-Business/DoD-Small-Business-Offices/

- Links to other DoD Small Business Offices