Rapid Innovation Fund (RIF) Program

Program Overview

August 2015

Background

- **Established as the Rapid Innovation Program (RIP) by the Fiscal Year 2011 National Defense Authorization Act (Section 1073)**
  - **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)**

Bottom Line Goal: Transition Small Business Technologies into Defense Acquisition Programs

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)**
    - **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 <u>DOES NOT</u> guarantee an award**
    - **Highest-rated proposals lead to award**
- ***Public Notice:***
  - **Federal Business Opportunities: www.FedBizOpps.gov**
  - **Research & Engineering Defense Innovation Marketplace**

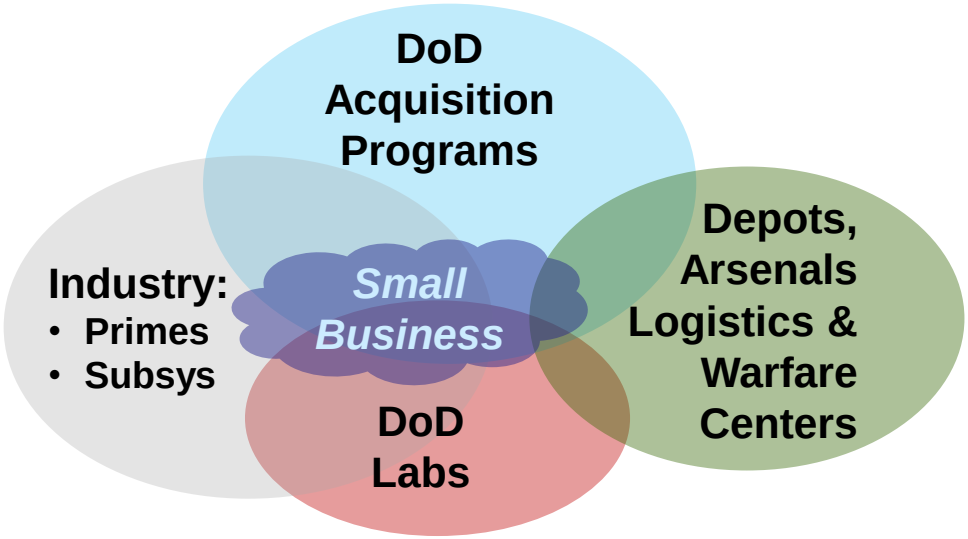
Elements of a Good Proposal (1 of 3)

- 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

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

4 Component and/or <u>breadboard validation in a laboratory environment</u>

5 Component and/or <u>breadboard validation in a relevant environment</u>

Award By Exception

Required for Majority of Awards: Facilitates Transition

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 or your proposed technical solution
- 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 to or submit 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)

RIF Demand
FY 2011 – 2015

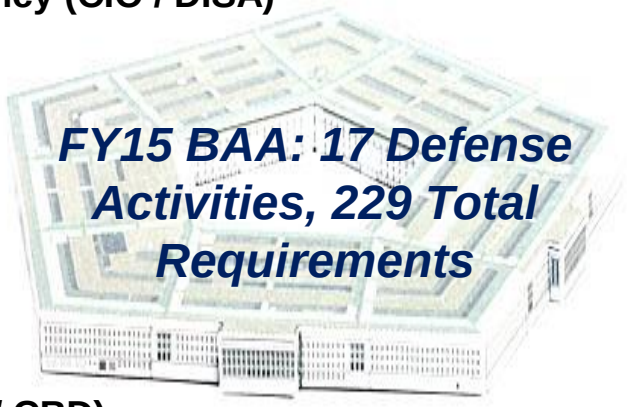
Summary Data:

- Over $1.2B Invested (FY11-15)
- 14 Broad Agency Announcements (FY11-15)
- 14 Defense Component Participants (Average, FY11-15)
- 13,000+ White Paper Proposals (FY11-15)
- 600+ Full Proposals (FY11-14)
- 367 Contract Awards (FY11-13 funds)
  - 329 awards to Small Businesses (90% of all awards)
  - 275 awards to current or prior Small Business Innovative Research (SBIR) participants (75% of all awards)

	FY11 (Actual)	FY12 (Actual)	FY13 (Actual)	FY14 (Act. or Est.)	FY 2015 (Act or Est.)
Appropriated	$439M	$200M	$250M	$175M	$225M
Available	$432M	$187M	$225M	$175M	$225M
DoD Participants	7	10	16	19	17
BAAs Issued	A, N, AF, OSD	A, N, AF, OSD	A, N, AF, OSD	OSD (single BAA)	OSD (single BAA)
White Papers	3,626	2,405	2,763	2,292	1,984
Full Proposals	268	126	235	149	TBD
Awards - Small Biz - SBIR	175 95% 80%	86 85% 75%	104 85% 70%	70-80 TBD TBD	TBD
Avg. Award ($M)	2.2	2.1	2.1	TBD	TBD

FY 2015 Defense Participants
(1 of 2)

- **Military Departments:** Army, Navy & Air Force
- **Defense Agencies / OSD Activities (4th Estate):**
  - Chief Information Officer / Defense Information Systems Agency (CIO / DISA)
  - Defense Threat Reduction Agency (DTRA)
  - Missile Defense Agency (MDA)
  - Defense Logistics Agency (DLA)
  - National Reconnaissance Office (NRO)
  - Defense Intelligence Agency (DIA)
  - Combating Terrorism Technical Support Office (CTTSO)
  - Joint S&T Office for Chemical and Biological Defense (JSTO / CBD)
  - Deputy Assistant Secretary of Defense for Emerging Capability & Prototyping (DASD / EC&P)
  - Deputy Assistant Secretary of Defense for Manufacturing & Industrial Base Policy (DASD / M&IBP)
- **Combatant Commands (CCMDs)**
  - U.S. Northern Command / North American Aerospace Defense Command
  - U.S. Pacific Command
  - U.S. Southern Command
  - U.S. Special Operations Command



FY 2015 Defense Participants

Military Service 'Acquisition' Participants (2 of 2)

Army

- **Acquisition Program Executive Offices (PEOs) & Program Managers (PMs)**
  - 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)
  - Commo-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)

Navy

- **Acquisition Program Executive Offices (PEOs) & Program Managers (PMs)**
  - Naval Air Systems Cmd. (NAVAIR)
    - F-35 Joint Strike Fighter
    - Tactical UAS Rotary Wing Aircraft
    - Strike Planning & Execution Systems
    - Aviation Anti-Submarine Warfare
    - Aircrew Systems
    - Naval Aviation Training Systems
  - Naval Sea Systems Cmd. (NAVSEA)
    - Aircraft Carriers
    - Integrated Warfare Systems
    - Littoral Combat Ship
    - Ships / Submarines
    - Special Warfare
  - Space & Naval Warfare Systems Cmd. (SPAWAR)
    - Command, Control, Commo & Integration
    - Enterprise & Integrated Systems
    - Space Systems
  - Marine Corp (MARCOR)
    - Armor & Fire Support
    - Marine Air-Ground Task Force
    - Combat Support Systems
    - Infantry Weapons Systems
    - Intel, Tactical Remote Sensor System
    - Air Command & Control Systems
    - Land Systems
- **Other Activities**
  - Naval Supply Systems Command
  - Navy Strategic Systems Programs
  - Naval Facilities Engineering Command

Air Force

- **Acquisition Program Executive Offices (PEOs) & Program Managers (PMs)**
  - Agile Combat Support
  - Battle Management
  - Command, Control, Communications, Integration & Network
  - Fighter / Bomber
  - Joint Strike Fighter
  - Mobility
  - Space
  - Strategic Systems
  - Weapons
  - Intelligence, Surveillance Reconnaissance & Special Operation Forces
- **Other Activities**
  - Air Force Life Cycle Management Center
  - Air Force Test Center
  - Air Force Propulsion Directorate
  - Air Force Sustainment Center
  - 412 Test Wing
  - 96 Test Wing

FY15 Military Service Requirements: Examples by Title (1 of 2)

- ***Army (40 total requirements):***
  - Low Cost Position Location Information Beacon (PEO 3CT)
  - Collaboration Between Multiple ISR Payloads (PEO IEWS)
  - Integrated, Full Solution Day Optic Sighting System (PEO Soldier)
  - Medical Simulation Training Architecture (PEO STRI)
  - Advanced Ballistic Protection System (PEO Aviation)
- ***Navy (37 total requirements):***
  - Vertical Lift Platform Enablers (PEO Aviation)
  - Data Integration and Decision Support (PEO C4I)
  - Mobile Logistics Data Access & Decision Support (Navy Supply Systems)
  - Composite Rigid-Wall EMI Shelter (USMC Combat Support)
  - Power and Energy Systems (PEO Ships, Submarines, Aircraft Carriers, et al)
- ***Air Force (108 total requirements)***
  - Aircrew Laser Eye Protection (PEO Agile Combat Support)
  - Threat Detection Sensors for Small UAVs (PEO Battle Management)
  - Trusted Avionics Access Points (PEO Fighter / Bomber)
  - Secure, Wireless Personal Area Network (PEO ISR & SOF)
  - Corrosion Monitoring Systems (AFLCMC)

FY15 OSD / Defense Agency Requirements: Examples by Title (2 of 2)

- ***OSD / Defense Agency (40 total requirements):***
  - **Real-time Data Collection of Configurations & Security Posture (CIO / DISA)**
  - **21st Century Digital Training for 21st Century Generation (CTTSO)**
  - **Cloud Data Query Gateway (DIA)**
  - **Economically Recovering Rare Earth Materials from Magnets (DLA)**
  - **Nuclear Fallout Debris Analysis in the Field (DTRA)**
  - **Distributed Satellite Network Communications (MDA)**
  - **Carbon Nanotube Composite Rope (NRO)**
  - **Low Energy Laser Communications (NORTHCOM / NORAD)**
  - **Software Defined Radio Aperture (PACOM)**
  - **Managed Access of Mobile Cellular Devices (SOUTHCOM)**
  - **Rapid Identification of Materials of Interest for Site Exploitation (SOCOM)**
  - **Stratospheric Lighter-Than-Air System Demonstrations (DASD EC&P)**
  - **Expendable Unmanned Air Vehicle Platforms & Payloads (DASD EC&P)**
  - **Face Capture Technology for Biometric Identification (DASD EC&P)**
  - **Field Programmable Gate Array Design Authentication (DASD M&IBP)**

RIF FY 2015 – 2016 (FY15 Funds) Milestones

	Date(s)	Action
2015	March 1	✓ Requirements from Components, prep DRAFT BAA
	April 15	✓ BAA Released in FEDBIZOPPs https://www.fbo.gov/index?s=opportunity&mode=form&id=cd85175835c504efe2f3a85a3ebba525&tab=core&_cview=0
	June 15	✓ BAA Closed: White Papers (WPs) due from offerors
	NLT October 15	▪ Components complete WP evaluations ▪ Initial priorities and ranking by Components
	NLT November 1	Components notify all offerors of WP disposition, invite full proposals
	NLT December 1	▪ Full proposals due from offerors ▪ Components start full proposal evaluations
2016	NLT February 1	Components complete full proposal evaluations
	NLT March 1	Negotiations complete, contract awards
	NLT June 1	FY15-funded RIF contract awards complete

✓ Completed Action / Event

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 rapidly inserting innovative technologies into defense acquisition programs**
    - ✓ **Results: GAO independently assessed 44 projects- 50% transition**
- **Recommendations:**
  - **Establish overall RIF transition goal**
    - ✓ **OSD non-concurred**
  - **Identify & apply factors that contribute to likelihood of technology transition success more consistently across the program**
    - ✓ **OSD concurred, action underway to address NLT September 2015**

Report Available at http://www.gao.gov/products/GAO-15-421 (May 2015)

RIF – Supporting BBP 3.0 (1 of 5)

Increases Opportunity for Small Businesses

- **FY 2011 – 2015 white papers**
  - **Over $1.2B provided by Congress for RIF**
    - **Opportunity of up to $3M per project**
  - **Over 13,000 white paper submissions**
    - **88 percent are small business**
- **FY 2011 – 2013 contract awards**
  - **321 of the 365 awards to small businesses**
    - **Average project value: $2.1M**
  - **Many of the other 44 contracts include a small business participant as part of the teaming arrangement**

Better Buying Power (BBP) 3.0 Initiatives: Additional Details at http://bbp.dau.mil

RIF – Supporting BBP 3.0 (2 of 5)

Increases Competition

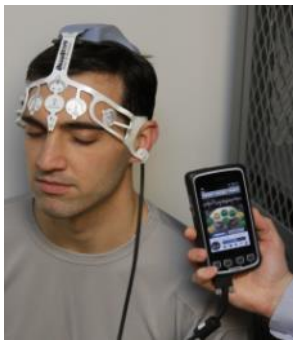
- **Intensely competitive**
  - **1 in 20 white papers leads to a contract award**
- **Positive feedback from industry on the two-step process, i.e., white paper and full proposal submissions**
  - **White papers (Average: 2,600 annually)**
    - **3 pages (plus cover and quad chart)**
    - **Relatively easy to submit**
    - **Concept well-understood in industry**
    - **Minimizes overhead burden on small businesses**
  - **Full proposals (Average: 200 annually)**
    - **30-40 pages: Detailed technical and cost proposal**
    - **Contracting offices can tailor**
    - **Additional opportunity for competition**

All Offerors Receive at Least Limited Feedback on their Submissions

RIF – Supporting BBP 3.0 (3 of 5)

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**



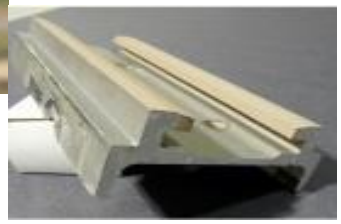
BrainScopeAhead 200 Received FDA Clearance

  - **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**

CPEDS-Lite System

- **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**

AMRAAM Missile Launcher Rail



Improved coating on missile rail surfaces: 10x improved wear

RIF – Supporting BBP 3.0 (4 of 5)

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)

RIF – Supporting BBP 3.0 (5 of 5)

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**

Additional Resources (1 of 4)

www.DefenseInnovationMarketplacemil

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
- RIF Awards
- Overview Brief (RIF 101)
- Congressional Statute
- Key RIF Headquarters POCs

Additional Resources (2 of 4)

http://defenseinnovationmarketplace.mil/RIF.html

Focal Point	Office	Phone	Email
Dan Cundiff Sherry Freeman	OSD (R&E) EC&P OSD (OSBP)	571-372-6807 571-969-0660	thomas.d.cundiff.civ@mail.mil shermain.d.freeman.civ@mail.mil
Rob Saunders	Army (ASA/ALT)	703- 617-0279	robert.m.saunders14.civ@mail.mil
Tom Gallagher	Navy (ONR)	703-696-6815	thomas.j.gallagher@navy.mil
LtCol Dan Gallton John (JR) Smith	AF (SAF) AF (SAF)	571-256-0332 571-256-0316	daniel.a.gallton.mil@mail.mil john.r.smith346.ctr@mail.mil

Additional Resources (3 of 4)

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 Resources (4 of 4)

DoD Small Business Innovative Research

Doing Business with the Department of Defense

http://www.acq.osd.mil/osbp/sb/index.shtml

- "How-To" work with Defense
- Guides on Marketing to Defense
- Programs for Small Business
  - SBIR / STTR
  - Mentor Protégé
  - Indian Incentive Program
- Contracting with Defense
- Small Business Training
- Conferences & Workshops
- Frequently Asked Questions
- Links to Army, Navy, Air Force & Other Defense Agency Programs

Talk to an Small Business Program Expert

http://www.acq.osd.mil/osbp/sbir/contacts/sbir-contacts.shtml

- 14 Points of Contact Across the Department of Defense