Rapid Innovation Fund (RIF) Program

Program Overview
August 2015

Distribution Statement A. Approved for public release
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
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
• Competitive, Merit-Based Two-Step Process
  
  o Step 1:
    - Issue Broad Agency Announcement (BAA)
    - Industry Response: 3-page White Paper + Quad Chart
    - Evaluations are “Go” or “No Go”
  
  o 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:
  
  o 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

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Elements of a Good Proposal (2 of 3)

Technology Readiness Level (TRL)

- **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

- **System/ subsystem model or prototype demonstration in a relevant environment**
- **System prototype demonstration in an operational environment**
- **Actual system completed and qualified through test and demonstration**
- **Actual system proven through successful mission operations**

**Technology Readiness Assessment Guidance** -

Required for Majority of Awards: Facilitates Transition
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)

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<th>FY11 (Actual)</th>
<th>FY12 (Actual)</th>
<th>FY13 (Actual)</th>
<th>FY14 (Act. or Est.)</th>
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<td>Full Proposals</td>
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<td>175</td>
<td>86</td>
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<td>- Small Biz</td>
<td>95%</td>
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- 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)
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

FY15 BAA: 17 Defense Activities, 229 Total Requirements
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

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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)

• **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)
• **OSD / Defense Agency (40 total requirements):**
  – Real-time Data Collection of Configurations & Security Posture (CIO / DISA)
  – 21st Century Digital Training for 21st Century Generation (CTTSSO)
  – 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

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

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
• 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
  o 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
  o 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
  – 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

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**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 Technology):** 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 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)**

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RIF – Supporting BBP 3.0 (5 of 5)

_Incentivize Productivity in Industry_

- Identify **what RIF performers** 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)


**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

**Connect Industry and DoD**

NEW BUSINESS OPPORTUNITIES

- Have a solution to a DoD Technology need? Find links to:
  - RFIs
  - RFQs
  - Proposals

TECHNOLOGY INTERCHANGE MEETINGS

- Technology Interchange Meetings (TIVs) allow DoD and industry to come together around specific R&E technology challenges and focus areas:
  - Weapons Technology (Closed)
  - Human Systems (June 12-20)

LONG RANGE R&D PROGRAM PLAN

- Small Business Resources can help your growing enterprise:
  - Small Business Resources
  - Small Business Innovation Research (SBIR) Program

NEW & EVENTS

- What DoD news, events, or milestones do you need to know about?
  - News
  - Events
  - Videos

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## Additional Resources (2 of 4)

Welcome to the RIF FORT

http://defenseinnovationmarketplace.mil/RIF.html

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<th>Phone</th>
<th>Email</th>
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<tr>
<td>Dan Cundiff</td>
<td>OSD (R&amp;E) EC&amp;P</td>
<td>571-372-6807</td>
<td><a href="mailto:thomas.d.cundiff.civ@mail.mil">thomas.d.cundiff.civ@mail.mil</a></td>
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<tr>
<td>Sherry Freeman</td>
<td>OSD (OSBP)</td>
<td>571-969-0660</td>
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<td>Rob Saunders</td>
<td>Army (ASA/ALT)</td>
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<td>Tom Gallagher</td>
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<td>LtCol Dan Gallton</td>
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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
  o Contracting Resources for Small Businesses
  o Government Contract Field Activities
  o Partnership Agreements

• Learning Center
  o Understanding Your Customer
  o Marketing Research
  o Legal for Small Businesses
  o Patents, Trademarks, Copyrights
  o Finding & Attracting Investors

• Local Assistance
  o SBA Regional & District Offices
  o Small Business Development Centers
  o Export Assistance Centers
  o Procurement Technical Assistance Centers
Additional Resources (4 of 4)
DoD Small Business Innovative Research

Doing Business with the Department of Defense


- “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


- 14 Points of Contact Across the Department of Defense