

Department of Defense
Small Business Innovation Research
&
Small Business Technology Transfer Programs



Fiscal Year 2014 Annual Report Submission
on
Commercialization Readiness Program (CRP)

March 2015

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FY14 Report**

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The Commercialization Readiness Program (CRP) is part of the SBIR and STTR Reauthorization Act of 2012 (P. L. 112-81, Section 5001) which extends the program through September 30, 2017. The purpose of the Commercialization Readiness Program (CRP) is to accelerate the transition of SBIR and STTR funded technologies to Phase III, especially those that lead to programs of record and fielded systems. This can be done through activities that enhance the connectivity among SBIR and STTR firms, prime contractors, and DoD science & technology and acquisition communities. It can also be accomplished by improving a SBIR or STTR firm's capability to provide the identified technology to the Department, directly or as a subcontractor.

3.2 Air Force Commercialization Readiness Program (CRP)

3.2.1 Air Force CRP Accounting of Funds

Air Force Admin Pilot CRP Allocation			
SBIR FY14 Budget	FY14 CRP Budget	FY14 CRP Obligations	FY14 Commitments Planned in FY15
\$265.98M	\$2.66M	\$2.66M	\$0

3.2.2 Air Force CRP Funding Narrative

Air Force (AF) FY14 CRP funds were obligated to continue the Small Business Innovation Research (SBIR) Transition Support Contract with BRTRC (\$2.46M). Some of the new SBIR Administration Pilot funds were dedicated directly to CRP activities and support (\$1M Admin Pilot, \$.2M CRP Pilot). Additional funds were expended on CRP activities through an SBIR Admin Contract with Peerless Technologies (\$372K; began mid-April 2014). Government personnel travel to support CRP meetings and other transition activities was also funded (\$38K).

3.2.3 Air Force CRP Program Initiatives and Activities

AF CRP brings together key stakeholders to identify and accelerate the maturation and transition of high potential SBIR and Small Business Technology Transfer (STTR) projects to the Warfighter or commercialization. CRP Transition Agents (TAs) embedded in each AF Center and the Air Force Research Laboratory (AFRL), 1) help focus SBIR/STTR topics on high-priority technology needs and 2) work with small businesses, system program offices (SPOs), SBIR Program Managers, Technical Points of Contact (TPOCs), and industry technology integrators to identify transition objectives, tasks, timing, responsibilities, and funding sources documented in non-binding SBIR Technology Transition Plans (STTPs). Maturation of high potential SBIR/STTR projects are documented in non-binding SBIR Technology Maturation Plans (STMPs) which accelerate SBIR/STTR technologies into Phase III applied research (6.2) or advanced development (6.3) projects.

The STTP formalizes agreement between the sponsor, integrator, SBIR firm, and the appropriate Air Force SBIR Program Manager to develop the technology maturation and transition strategies, to notate pending funding and direction, and to plan and prepare the STTP's transition strategy for SBIR/STTR projects that have demonstrated sufficient results against a specified technology need, justifying an accelerated transition effort. This year marks the first time an STTP was signed for an STTR effort.

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The STMP formalizes an agreement between an AFRL technology directorate and the AF SBIR/STTR CRP manager to mature an SBIR-developed technology through a combination of further SBIR/STTR investment and AFRL (core) advanced technology program investment for projects that have demonstrated sufficient results against a specified AFRL advanced technology program, justifying expansion and acceleration of the project's efforts. This year marks the first time an STMP was signed for an STTR effort.

The Air Force has ten TAs co-located at the Centers and AFRL. Three TAs support the Air Force Life Cycle Management Center (AFLCMC) and are located at Eglin AFB, FL; Hanscom AFB, MA; and Wright-Patterson AFB (WPAFB), OH. Three TAs support the Air Force Sustainment Center and are located at Hill AFB, UT; Tinker AFB, OK; and Robins AFB, GA. Two TAs support the Space and Missile Systems Center, one TA supports the Air Force Nuclear Weapons Center and the Air Force Test Center, and one TA supports the Joint F-35 Strike Fighter program.

With the new funding provided under the SBIR Admin pilot initiative, in mid-FY14, the Air Force was able to add, for the first time, five TAs to directly support AFRL's SBIR/STTR maturation efforts at its technology directorates. Two are located at WPAFB, OH; one at Eglin AFB, FL; one at Kirtland AFB, NM; and one in Rome, NY. The Air Force anticipates AFRL's STMP transition efforts will increase over time due to the additional TA manpower, leading to additional CRP successes.

The Air Force continued to organize SBIR Technology Interchange Meetings at Major Defense Contractor sites. This year Harris Corporation, ATK, UTC, Raytheon SAS, Rolls Royce, and Northrop Grumman hosted meetings and actively engaged with 82 SBIR companies. These activities featured use of the Air Force SBIR data-mining tool that includes DoD SBIRs and STTRs. The Air Force also supported matchmaking efforts at the June 2014 Spring National SBIR/STTR Conference.

This year, the AF SBIR/STTR CRP began execution of Air Force Small Business Industry Days (SBIDs) to better integrate Air Force needs with small businesses and SBIR/STTR technology solutions. The Air Force completed one event in FY14 for the Armament PEO. The Armament Directorate hosted the SBID, which had over 275 attendees from small businesses, major defense contractors, and multiple government organizations. Of the 95 small businesses represented, 29 have never worked with the Air Force. Armament Directorate speakers presented multiple briefings outlining upcoming small business opportunities. Over 100 one-on-one meetings were conducted regarding upcoming solicitations, as well as, potential SBIR projects that could be transitioned into programs of record. Three events are scheduled for FY15, with the first event held in Q1 FY15 with the Air Force Test Center. The intent is to schedule three events each year covering all AF PEOs, programs, and sustainment complexes. Each major Center location will host the event every two years to increase participation of small business in SBIR technologies for Air Force programs.

In addition, the TAs supported several outreach events that reached small businesses and underserved communities, such as service-disabled, veteran-owned businesses. Attendees at these events numbered about 1,000, with more than 70 contacts or one-on-ones with small businesses in attendance.

3.2.3 Air Force CRP 2014 Achievements and Results

This year, 49 projects were approved for CRP (i.e. funded). Of the 49 approved projects, 46 were STTPs and 3 were STMPs (see Appendix A). Since inception of the pilot, 422 projects were initiated (see Fig. 1). The total SBIR/STTR funding on CRP projects since inception of pilot is \$421.4M and the total non-SBIR/STTR funding on CRP projects

Fig. 1 Number of STTPs and STMPs Since Inception of the Pilot



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since inception is \$956.2M. SBIR/STTR funding includes Phase I, Phase II, and enhancements to CRP approved projects. Non-SBIR/STTR funding sources include industry's Independent Research and Development (IR&D), SBIR firm investment, AF Programs of Record, AFRL core budget, DoD transition funds, and state small business funds. Twenty-five major contractors participated in STTP/STMP projects.

Sixty-three Air Force SBIR CRP projects are considered transition successes and are providing significant benefit to the nation's Warfighters in improved performance, new capabilities, increased reliability, and cost savings well exceeding the investment (See Fig. 2). Each project meets the technology needs of at least one Air Force system with total cost savings estimated at over \$1 Billion. Forty-three projects have been reported as successes through 2013 and these have continued to mature and yield benefits. During 2014, the following 20 were identified as successes using the DoD SBIR/STTR transition definition - the production and delivery of products, processes, technologies, or services for sale to or use by the Federal Government or commercial markets. Each transition success and its benefits are briefly described below:

STTP 2010-27, Engineering & Software System Solutions, Inc., Development of Amorphous Chrome Replacement HVOF Coatings on Low/High Strength Steel Components eliminates spalling when subjected to high-bending stress loads as experienced by the existing coating technology. New coating improves performance and reliability, and reduces cost.

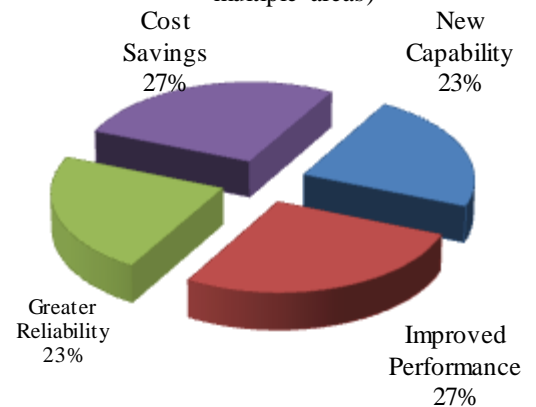
STTP 2010-28, Engineering & Software System Solutions, Inc., Development of Novel Cooling and Temperature Monitoring for High Velocity Oxygen Fuel (HVOF) Coating Application on Metallic Aircraft and Propeller Components eliminates extended off-part dwell time for cooling, reduces process time, man hours, and powder and fuel costs on C-5 slat tracks and other components coated with HVOF WC-Co-Cr. New process also reduces use of hazardous materials.

STTP 2011-19, IBC Materials & Technologies, Micro Plasma Oxidation (MPO) coating technology for Aluminum Structures applied to newly manufactured missile rails at the Air Force Sustainment Center provides 10X or better rail life yielding \$17M in savings over five years (6:1 ROI) and \$45M in ten years (15:1 ROI).

STTP 2011-20, Etegent Technologies, LLC, Data Fusion of Eddy Current, Ultrasonic, and Radiographic Data reduces time required to collect crack size and orientation data, and improves accuracy and quantity of crack data. Use in life prediction models optimizes inspection intervals ensuring cracks are detected before failure and minimizing the number and cost of inspections.

STTP 2011-23, MYMIC LLC, Virtual Environment Cryogenic Tunnel Training System developed the Virtual Control Room National Transonic Facility (VCoR-NTF) for NASA Langley to train operators offline in a virtual, collaborative, environment. The NTF wind tunnel costs over \$35K per day to initialize and operate with the risk that new personnel may damage the tunnel. VCoR-NTF enables physically

Fig. 2 Benefit to Warfighter from 2014 STTP Successes
(Each STTP provides benefits in multiple areas)



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distributed individuals and teams, under the supervision of a senior trainer, to conduct certification and other training such as rehearsals for high-cost experiments with significant cost savings.

STTP 2011-35, Propulsion Science and Technology, Inc., Plume Simulation Using Advanced Image Processing Techniques evaluates warning sensors by describing missile exhaust plume signatures continuously at all conditions and viewing angles. Combining limited empirical measurements with physics-based simulations improves accuracy and decreases database size and cost.

STTP 2011-36, RJ Lee Group, Inc., Materials Knowledge Base. TDAAS (Test Data Aggregation & Analytical System) efficiently manages new and archived “Big Data” from Air Force Test Center activities. Integrates data access, aggregation, and analysis via sophisticated search, user-defined functions, and secure sharing to accelerate test data discovery and analysis from days to minutes.

STTP 2011-40, Frontier Technology, Inc., Integrated Cost and Readiness for Sustainment provides the ability to independently estimate and track future system total ownership cost, track progress toward meeting system cost saving goals, and helps determine which proposed sustainment process improvements should be pursued to maintain or improve fleet operational readiness.

STTP 2011-45, MMA Design, LLC, Low-Cost Deorbiting System is a modular, scalable, self-deploying module (dragNET) to deorbit spacecraft and other space vehicle assets at end of life within the 25 year requirement, meeting DoD Instruction 3100.12 Space Support. Launched in Nov 2013, the Air Force confirmed dragNET de-orbiting performance on the Minotaur I Upper stage and a second unit is scheduled to deploy and deorbit the 180kg ESPA satellite within two years. DragNet is also baselined for the Omni-Earth Constellation of up to 18 satellites scheduled to advance in 2015.

STTP 2012-02, Quantum Signal LLC, Data-Rich Interface for Vehicle Remote Operation (DRIVER) provides an autonomous unmanned ground vehicle (UGV) driving/navigation system and advanced robotic arm manipulation for multi-service use to remotely neutralize unexploded ordnance/IEDs.

STTP 2012-04, Frontier Technology, Inc., UAS RAM Metric Modeling and Visualization reports Reliability, Availability, and Maintainability (RAM) metrics for the MQ-9 Reaper to isolate issues difficult to identify through typical data analysis. Innovative simulation technology visualizes missions through animation of operations and support tasks. Also has strong potential to model in-flight failure for the KC-46 to show how it meets performance requirements, as well as other major aviation systems.

STTP 2012-18, Mechanical Solutions, Inc., Rotating Machinery Health Monitoring. Develop additional diagnostic and signal processing algorithms to expand system applicability for a wider variety of machinery. Inexpensive monitoring reduces maintenance cost through longer service intervals.

STTP 2012-49, Azure Summit Technology, Geo-Location Capability/Sensor of Radio Frequency (RF) signals from a small Unmanned Aircraft System (UAS) platform with higher signal location accuracy and increased stand-off distance for payload operators improving safety and combat effectiveness.

STTP 2012-55, Total Quality Systems, Inc., IFDIS Use in Tracking Current Flow in UUTs locates intermittent faults in LRUs (line replaceable units) with the largest interface requirements to improve the operational, on-wing time of almost any Air Force avionics system. Repaired LRUs are more reliable and reduce sustainment cost in the field (less time removing and replacing LRUs), in the supply system (less transportation and inventory cost), and at the depot (fewer LRUs cycling No Fault Found).

STTP 2013-02, Deployable Space Systems (DSS), Ultra-Lightweight Elastically Self-Deployable Roll-Out Solar Array (ROSA) for Responsive Space is a giant solar panel that rolls up and stows in a compact volume on a launch vehicle. ROSA, scheduled to fly on an upcoming ISS mission is 1/6th the stowed volume, 1/3rd the mass, and 24%-48% lower cost compared to state-of-practice solar arrays.

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STTP 2013-05, Securboron, Inc., Cross-Organizational Semantic Services (CROSS) to increase cross agency information sharing and cost savings through synchronization of NextGen activities and resources to more efficiently deliver capabilities toward “order of magnitude” NextGen cost reductions for the Department of Defense (DoD), Federal Aviation Administration (FAA), and air space partners.

STTP 2013-06, Applied Technology Associates, Tactical Inertial Reference Unit Prime enables tactical missions with the need for smaller and high performance Optical Inertial Reference Units (OIRUs). Meets the Navy’s stringent size, weight, and power (SWaP) requirements to place OIRUs on helicopter gimbals without affecting overall system performance.

STTP 2013-15, Energetic Materials & Products, Inc., Thermite Torch for Covert Applications is a small, hand-held device that produces an extremely high temperature and velocity metal-vapor jet. Allows covert use, unlike explosive charges, and enables multiple users to simultaneously breach reducing exposure time in hostile situations. Prime sponsor DEVGRU will purchase over 10,000 units.

STTP 2013-16, Infinite Technologies, Inc., Rapid Assembly of Composite Panels - Fastener #1. New clamping approach fastens radome panels without causing “spinners”, requires fewer man-hours to install, and provides a low profile captive exterior design. Stainless steel improves durability and reliability reducing downtime and man-hours required for maintenance.

STTP 2013-17, MMA Design, LLC, CubeSat Advanced Power and De-Orbit Module - Modular Cubesat Architectures and Components. High Watts per Kilogram (HaWK™) gimballed sun tracking solar array provides a 100% increase in specific power and 300% increase in orbital average power over current state of the art solar arrays. Initial design is optimized for a CubeSat 3U or 6U configuration and scheduled for flight launch in 2015. NASA/JPL selected HaWK to power the MarCO mission and commissioned three HaWK solar arrays, scheduled for launch in 2016, as the first interplanetary 6U CubeSat communication spacecraft supporting the InSight Lander Mission.

Appendix A: Air Force Small Business Innovation Research Commercialization Readiness Program

FY14 Air Force Companies Approved for CRP

Company Name ¹	Project Title	Contract #	Topic #	PEO	Investor, Customer, or Fielded System ²
(ES3) Engineering & Software System Solutions, Inc.	High Velocity Air Fuel (HVAF) Market Survey, Cost Analysis and Source Validation	FA8501-10-C-0036	AF071-322	AFSC	76 PMXG/QP
ADA Technologies	Thermal Interface Material Maturation Program for Air Force Power Electronics Applications	FA9550-12-C-0061	AF09-BT22		F-35 JSF
Applied Sciences, Inc.	Conductive Thin Polymer with Graphitic Nanomaterials	N68936-10-C-0131	N101-074	Fighter Bomber	AFLCMC/WWZE

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Boulder Nonlinear Systems, Inc.	Non-mechanical Beam Steering	FA8650-08-C-1312	AF03-142	ISR SOF	AFLCMC/WI
Busek	Compact Low Mass Propulsion for Responsive Space	FA9453-11-C-0017	AF093-070	Space	SMC/ORS
CFD Research Corp	Multi-Fueled Enzymatic Fuel Cell	FA8650-13-C-5071	AF121-131	AFLCMC	NGC
Creare, Inc.	Advanced Fuel System for Low-Bandwidth Screech Suppression	FA8650-12-C-2233	AF103-197	JSF	JSF
Defense Research Associates, Inc.	Laser Technologies Adapted for UAS Sense and Avoid Applications	FA8650-11-C-1180	AF093-136	ISR/SOF (AFLCMC/WI)	AFLCMC/WIGP A
DragoonITCN	BCIT enhancement to add DVI cable testing capabilities	FA8650-04-C-1614	AF03-094	AFLCMC	B-1 SPO AFLCMC/WWN LA
EDaptive Computing, Inc.	Behavioral mOdel Broad Bandwidth datalnk iNterfaces (BOBBIN)	FA860-14-C-2432	AF103-166	AFLCMC	Common Data Link (CDL) terminal
EDaptive Computing, Inc.	Aircraft Survivability Toolset	FA8650-10-C-1790	AF06-202	Mobility	AFLCMC/WLY
Energy Quest Technologies Inc.	Energy Efficient Mobile Air Conditioner	W15P7T-12-C-A201	A09-090	Agile Combat Support	AFLCMC/WNZE A
Etegent Technologies, LLC	Improved Structural Repair Process for the JSF	FA8650-07-C-5210	AF06-079	JSF	JSF/PO
Gigavation, Inc.	Universal Serial Bus (USB) Port Security	TBD	NSFA 1330954	C3I Networks	AFLCMC/HNIS
Kitware, Inc.	Video Exploitation Tools	W31P4Q-10-C-0262	SB082-021	AFLCMC	Leidos, Inc.
Linden Photonics, Inc.	Development of Avionic Non-Kink Optical Cable (AVNOC)	N68335-10-C-0080	N08-115	JSF	JSF

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Nokomis, Inc.	Advanced Detection of Electronic Counterfeits (ADEC) Minuteman Pilot	FA9451-11-C-0143	AF093-013	AFSC	AFRL/RXCA
Physical Optics Corporation	Micro Weather Station	H92222-11-C-0034	USSOCO M 10-006	ISR SOF	AFSOC/SAZ
Physical Optics Corporation	Peel and Stick Nutplates	FA8650-12-C-5115	AF103-147	JSF	JSF
Physical Sciences, Inc.	Radio Frequency (RF) Microplasmas for Energetic Species Generation	FA8650-12-C-2312	AF10-BT08		AFRL Advanced Technology Program
RMD, Inc.	Flexible, Compatible, Solid-state Eddy Current Probe	FA8117-12-C-0017	AF103-204	AFSC	76 PMXG/QP
SI2 Technologies, Inc.	Direct Write Printed Honeycomb Absorber	FA9302-12-M-0005	AF112-195	Fighter Bomber	Lockheed Martin Company
TPL, Inc.	Wide Temperature, High-Frequency Capacitors for Aerospace Power Conditioning	FA8650-11-C-2181	AF093-172	JSF	JSF

- Notes:** ¹ Order listed is alphabetical and does not convey any prioritization of CRP projects.
² Additional information about Investor, Customer, or Fielded System is available on request from AF SBIR/STTR Program Office, info @afsbirsttr.com.
³ The STTP/STMP number indicates calendar of inception.

3.3 Army Commercialization Readiness Program (CRP)

3.2.1 Army CRP Accounting of Funds

Army Admin Pilot CRP Allocation			
SBIR FY14 Budget	FY14 CRP Budget	FY14 CRP Obligations	FY14 Commitments Planned in FY15
\$160M	\$1.6M	\$117K	\$1.5M

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3.2.2 Army CRP Funding Narrative

At the conclusion of the Army’s CPP support contract, it was decided to combine CRP support into the overall SBIR support contract. In FY14, administration of CRP was managed within the provisions of the existing SBIR support effort.

3.2.4 Army CRP Program Initiatives and Activities

Under the Army’s CRP approach, technical points of contact for all Phase II efforts are encouraged to work with relevant PEOs and small businesses to identify opportunities where a promising technology has a strong transition potential if technical barriers to PEO adoption are met. Examples of such barriers are need for higher technical maturity, need for additional test articles, and minor specification changes to prototypes to meet PEO designs. These opportunities are vetted by the sponsoring organization and PM SBIR and must include: Technical Director concurrence, tangible investment from the transitioning PEO or other transition partner(s), and a Statement of Work and Cost Proposal. These requirements ensure that there is real transition opportunity, all stakeholders are in agreement with the approach and investments, and the opportunity can be addressed in a timely manner.

3.2.3 Army CRP 2014 Achievements and Results

In FY14, 30 companies were provided additional funding to address the technical barriers slowing adoption of their technologies by acquisition programs. They were provided a total of \$15M above the approximately \$25M provided under Phase I and Phase II funding for these efforts. An additional \$35.5M was provided from outside (i.e., non-SBIR) sources as initial investments in these CRP efforts. Since the initiation of the Army CRP approach, 101 companies have been provided additional funding. Overall, the Army SBIR has provided \$63.6M toward CRP efforts with an additional outside investment of \$60.9M. While too early to provide specifics of success, Army SBIR expects at least a 5:1 return on investment (~\$250M) within the next five years.

Appendix A: Army Small Business Innovation Research Commercialization Pilot Program

FY 2014 Companies Approved for CRP

Company Name ¹	Project Title	Contract #	Topic #	PEO	Investor, Customer, or Fielded System ²
Advanced Engines Development Corp.	A 42% Fuel Efficient, 650-HP, Advanced Diesel Technology Demonstrator	W56HZV-08-C-0298	A06-228	N/A (PM-LTV)	TARDEC
American Engineering & Manufacturing	Innovative manufacturing research on forming of large light armor alloy sections resistant to blast and penetration	W911QX-11-C-0051	A09-051	N/A (ARL)	ARL
Applied Science Innovations, Inc.	Improved Field of Regard for Strap Down Semi Active Laser Seekers	W31P4Q-10-C-0113	A08-041	Missiles and Space	AMRDEC (M)

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ARES, Inc.	Innovative Tantalum Machining for Weapon Applications	W15QKN-10-C-0077	A08-044	N/A (PM-SW)	ARDEC
Ashwin-Ushas Corporation, Inc.	Functionalized-Conducting-Polymer - Microporous-Membrane Based Voltammetric Sensor Skins With High Selectivity/Sensitivity, Multiple Analyte Sensing in Single Interrogation, Wide Operating Temperature, Low Power	W911QY-12-C-0032	A10-113	CBD	JPEO-CBD
Dignitas Technologies, LLC	High-Fidelity Runtime Database Engine	W91CRB-09-C-0058	A08-013	N/A	STTC
Dignitas Technologies, LLC	Terrain Database Correlation and Automated Testing Technologies	W91CRB-10-C-0326	A09-182	N/A	STTC
Eclipse Energy Systems, Inc.	Flexible Transparent Conducting Films	W911QX-06-C-0070	A04-044	N/A	ARL
General Sciences, Incorporated	Enhancement of Penetration Capability of Light Warheads Into Hardened Walls.	W31P4Q-11-C-0226	A09-130	Missiles and Space	AMRDEC (M)
IllinoisRocstar LLC	Experimental and Computational Program for Slow and Fast Cookoff for Insensitive Munitions Testing	W31P4Q-11-C-0076	A08-027	N/A	AMRDEC (M)
Intelligent Automation, Inc.	Wireless Parachute Data Recorder with RFID Tracking Capability	W911QY-11-C-0021	A09-163	Soldier	NSRDEC
Kutta Technologies, Inc.	Comprehensive Latency Mitigation in EOIR Sensor Controls	W911W6-12-C-0035	A11-072	Aviation	AMRDEC (A)
Materials Sciences Corporation	Process Modeling and Analysis Tools for Thermoplastic Composite Missile Structures (MSC P4082)	W31P4Q-13-C-0056	A11-077	Missiles and Space	AMRDEC (M)
Materials Sciences Corporation	Hybrid 4D Braided Textiles for High	W56HZV-12-C-0056	A09-185	GCS	TARDEC

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	Pressure Layflat Hoseline (MSC P 4035)				
Modus Operandi, Inc.	Clear Heart: Recognizing Adversarial Intent from Multi-INT Data	W15P7T-13-C-A206	A11-035	IEW&S	CERDEC
NALAS Engineering Services Inc.	Novel Oxidizer for Ammonium Perchlorate Replacement	FA9300-13-C-2005	AF103-211	Missiles and Space	AMRDEC (M)
Physical Sciences Inc.	Biomimetic Control of Flying Robots	W911QX-10-C-0086	A08-056	N/A	ARL
Propagation Research Associates	Clutter Mitigation Techniques for Ground-Based, Ground Moving Target Radars	W15P7T-11-C-H205	A09-073	N/A	CERDEC
Resodyn Corporation	Resonant Acoustic Mixing of Solid Rocket Motor Propellant to Minimize Property Variations	FA9300-11-C-3011	AF083-114	Ammo	ARDEC
Sentient Corporation	Fatigue Crack Initiation Prediction Tool for Rotorcraft Spiral Bevel Gears	W911W6-12-C-0020	A10-169	Aviation	PEO AVIATION
Sheep Venture Company	Washable Wool Products for Individual Protection	W911QY-11-C-0028	A09-165	N/A	NSRDEC
Technical Products, Inc.	Overhead Threat Protection (OTP)	W911QY-12-C-0068	A10-166	CS&CSS	NSRDEC
Technology Service Corporation	Logistical Decision Support and Planning in a Counterinsurgency Environment	W911QX-09-C-0097	A07-073	CS&CSS	ARL
Technology Solutions Experts Inc.	Algorithms for Ground Soldier Based Simulations and Decision Support Applications	W911QY-12-C-0056	A10-167	N/A	NSRDEC
Texas Biochemicals Inc	A Novel Route for the Large Scale production of ZnS nanopowders for Optical Ceramic Applications	W31P4Q-12-C-0064	A10-008	Missiles and Space	AMRDEC (M)
Toyon Research Corp.	Distributed Satellite Communications (SATCOM) On-the-Move (OTM) Aperture	W15P7T-11-C-H238	A09-066	N/A	CERDEC

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Trex Enterprises Corporation	Increased 3D Virtual Image Opacity and Contrast Resolution in Optical See-Through Head Mounted Displays	W911QX-12-C-0009	A11-114	Aviation	STTC
Trex Enterprises Corporation	Absolute Attitude and Heading Reference Measurement System	W91CRB-10-C-0020	A08-200	Soldier	STTC
Universal Global Products, LLC	Innovative Coatings for Lightweight Alloys	W15QKN-10-C-0122	A09-039	N/A	ARDEC
VecTOR Test Systems, Inc	Deployable Pan-flavivirus and Pan-alphavirus Assays for Screening Pools of Medically Relevant Arthropod	W81XWH-11-C-0035	A10-158	N/A	MRMC

Notes: ¹ Order listed is alphabetical and does not convey any prioritization of CRP projects.
² Additional information about Investor, Customer, or Fielded System is available on request.

3.2 Navy Commercialization Readiness Program (CRP)

3.2.1 Navy CRP Accounting of Funds

Army Admin Pilot CRP Allocation			
SBIR FY14 Budget	FY14 CRP Budget	FY14 CRP Obligations	FY14 Commitments Planned in FY15
\$242.1M	\$2.42M	\$803K	\$1.617M

3.2.2 Navy CRP Funding Narrative

Department of Navy (DON) CRP funds were obligated in FY14 for CRP project management/execution including program office support, database management/reporting, contracting, acquisition office assistance, and outreach/prime contractor coordination. CRP funds also supported firm assistance including due diligence, transition planning, risk reduction assessments and planning, manufacturing/production readiness assessments, technical readiness assessments, and market analysis.

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3.2.3 Navy CRP Program Initiatives and Activities

One of the primary initiatives of the DON CRP remains the set-aside and application of approximately twenty percent of overall SBIR funding to selected CRP projects. The projects must meet a high-priority DON need and demonstrate potential for rapid transition into an acquisition Program of Record, fielded system, or future naval capability.

DON has ongoing initiatives and activities that CRP participants can leverage. First, the Navy Transition Assistance Program (TAP) is available for new Phase II projects and provides market analysis, business planning, and development of marketing materials for over 150 projects annually. Participation in TAP culminates with a technology showcase and presentation at the Navy Opportunity Forum[®]. This event enables DON to hold one-on-one meetings with Phase II firms to discuss CRP requirements and transition potential of the technologies. In FY 2014, the Navy Opportunity Forum[®] showcased 173 projects represented by 149 Phase II companies. Additionally, CRP participants can leverage technical assistance services that include assessments in the areas of risk, manufacturing and production, technology transition, and engineering analysis. Second, SBIR University (SBIRU) will be a single Federal-wide web portal and training platform through which all innovative small business concerns, from those with extensive SBIR/STTR backgrounds to those just starting, are provided information and training related to the SBIR/STTR programs. The initial planning process for SBIRU began in FY 2013. Then in FY 2014, DON approved and committed \$2.6 million in funding for SBIRU and drafted the requirements and the request for proposal documentation. Finally, DON offers an enhanced search capability to the public at www.navysbirsearch.com to provide access to information on thousands of SBIR/STTR-developed technologies for those looking to find proven technologies for solving existing problems as well as those looking to partner with firms whose expertise can assist in solving new problems.

3.2.4 Navy CRP 2014 Achievements and Results

The DON approved a total of 29 CRP projects in FY 2014 (see Appendix A), increasing the number of CRP projects to 273 since the inception of the program. Cumulatively, the DON has invested over \$504 million in SBIR funding to CRP projects, which includes funding for the acceleration of transition efforts. The cumulative Return-on-Investment for all 273 projects is over \$327 million in direct government funding (Phase III) and an additional \$526 million in non-government funding as reported in Company Commercialization Reports. The ratio of SBIR funding to additional funding is 1:1.85

Appendix A: NAVY Small Business Innovation Research Commercialization Readiness Program

FY 2014 Companies Approved for CRP

Company Name ¹	Project Title	Contract #	Topic #	PEO	Investor, Customer, or Fielded System ²
3 Phoenix, Inc.	Engineering Sensors for Towed Array Reliability	N00024-14-C-4043	N111-075	NAVSEA	TB-29A Towed Array, Submarine Acoustic Systems Program (PMS-401)

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Adaptive Methods, Inc.	Environmentally Constrained Naval Search Planning Algorithms	N00024-11-C-4165	N101-048	NAVSEA	Littoral Combat Ship (LCS) Mission Modules (PMS-420)
Arete Associates	Light Weight Coastal Topographic/Bathymetric Charting System for Naval Unmanned Airborne Vehicles	N68335-14-C-0120	N101-089	NAVAIR	CNO N2/N6E Littoral Battlespace Sensing - Unmanned Aerial Systems Program (PEO C4I/PMW-120)
ATC - NY	BotMesh	N66001-14-C-5203	N111-083	SPAWAR	Joint Tactical Networking Center
Beacon Interactive Systems	Automation of Equipment/System Isolation and Safety Tag-out for Maintenance Actions	N00024-12-C-4130	N05-160	NAVSEA	DDG-1000 (PMS-500)
Boston Engineering Corporation	MANEUVER, Integrated Approach for Dynamic Unsteady Situation Control Surface Development	N00024-11-C-4161	N092-143	NAVSEA	OHIO Replacement Program (PMS-397)
C3I, Inc.	TECHNICAL PROPOSAL FOR The Shipboard Lighting System (Aviation Lighting System-Control Panel Set (ALS- CPS))	N00024-14-C-4059	N04-081	NAVSEA	Visual Landing Aids (PMA-251)
Creare, LLC	Carbureted Fuel Injection System for Augmentor Stability	N68335-13-C-0392	N07-040	NAVAIR	F-35 Joint Strike Fighter Program Office, ACAT ID
First RF	Multi-Channel Wideband Antenna Array Manifolds	N68335-13-C-	N101-	NAVAIR	MQ-8 Fire Scout (PMA-266)

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Corporation		0428	020		
Inovati	Kinetic Metallization Process for Dimensional Restoration of Aluminum Alloys and High Strength Steels	N68335-14-C-0042	N07-122	NAVAIR	Fleet Readiness Center - South West
JENTEK Sensors, Inc.	NDE for Residual Stress Relaxation	N68335-14-C-0075	N07-168	NAVAIR	F-35 Joint Strike Fighter Program Office, ACAT ID
KCF Technologies, Inc.	Rotary Wing Dynamic Component Structural Life Tracking with Self-Powered Wireless Sensors	N68335-13-C-0179	N08-006	NAVAIR	H-53 Helicopters, Health and Usage Monitoring Program (PMA-261) V-22 Osprey (PMA-275) H-1 USMC Light/Attack Helicopters (PMA-276)
Knowledge Based Systems, Inc.	Toolkit for Agent-based Knowledge Extraction (TAKE)	N00014-13-C-0126	N03-106	ONR	Distributed Common Ground System - Marine Corps (DCGS- MC), ACAT I
Lynntech, Inc.	A Flexible Power Management System Architecture for Unmanned Underwater Vehicles	N00024-14-C-4083	N09-T015	NAVSEA	Unmanned Maritime Systems, MK18 (PMS-406)
Makai Ocean Engineering, Inc.	Underwater Sensor System Autonomous Burial and Operation	N00039-12-C-0082	N11A-T017	NAVSEA	Shallow Water Surveillance System, Maritime Surveillance Systems Program (PMS-485)

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MaxPower, Inc.	Safe, High-Power Battery for Sonobuoys	N68335-14-C-0030	N092-110	NAVAIR	Air Anti-Submarine Warfare Systems, Advanced Extended Echo Ranging (PMA-264)
Monterey Technologies, Inc.	Merging Sensor and Stored Terrain Database Data for Rotorcraft Poor Visibility Weather Operations	N68335-14-C-0385	A03-070	NAVAIR	Joint Mission Planning Systems-Maritime, ACAT IV-T (PMA-281)
Mosaic ATM, Inc.	AFOS: Automated Geopositional Feature-on-Video Overlay Service	N66001-14-C-5210	N101-100	SPAWAR	Distributed Common Ground System - Navy (DCGS-N), ACAT I
Paragon Space Development Corporation	Paragon Dive System (PDS)	N00024-14-C-4061	CBD02-201	NAVSEA	Regulated Surface Exhaust Contaminated Water Dive System (NAVSEA 00C)
Progeny Systems Corporation	Automated Entity Classification in Video Using Soft Biometrics	N00014-09-C-0477	N08-077	ONR	Radio Battalion Modernization (RADBNMODS)
RDRTec, Inc.	Processor Architectures for Multi-Mode Multi- Sensor Signal Processing	N68335-13-C-0202	N101-023	NAVAIR	Maritime Patrol & Reconnaissance Aircraft (PMA-290)
RDRTec, Inc.	Radar HRR and FAT ISR Mode Enhancements for Maritime Classification Aids (MCA)	N68335-14-C-0182	N102-130	NAVAIR	H-60 Helicopters (PMA-299)
SEA CORP	Sonobuoy - Electronic Function Selector (EFS) Replacement	N68335-13-C-0389	N06-010	NAVAIR	Maritime Patrol & Reconnaissance Aircraft (PMA-290)

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Test & Evaluation Solutions, LLC	Expert System Simulation Capability for Recoverability Modeling	N00024-14-C-4097	N092-128	NAVSEA	Maritime Prepositioning Force (Future) Program, ACAT I (PMS 385)
Thermal Wave Imaging, Inc.	Automated, Rapid Non-Destructive Inspection (NDI) of Large Scale Composite Structures	N68335-14-C-0310	N092-097	NAVAIR	Fleet Readiness Centers - South West, Jacksonville, and Cherry Point
Trident Systems, Inc.	Service-Oriented Architecture for Naval Strike Force Interoperability Readiness	M6785 4-14-C-6521	N06-127	MARCOR	Marine Corps Networking-On-The-Move (NOTM)
Trident Systems, Inc.	Automated Analysis and Verification of Application Program Interfaces (APIs)	N00024-12-C-4134	N093-227	NAVSEA	AEGIS Weapon System (PEO IWS 1)
Triton Systems, Inc.	Persistent Autonomous Repositionable Surveillance (PARS) Buoy (1001-865)	N00024-14-C-4012	N07-074	NAVSEA	Advanced Submarine Systems Development (NAVSEA 07)
Ultra Communications, Inc.	Multichannel Fiber Optic Package Interface for Avionics	N68335-13-C-0357	N091-039	NAVAIR	F-35 Joint Strike Fighter Program Office, ACAT ID

Notes: ¹ Order listed is alphabetical and does not convey any prioritization of CRP projects.
² Additional information about Investor, Customer, or Fielded System is available on request.