



# U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND

## Army RDTE Opportunities

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# NSRDEC VISION AND MISSION

## *Vision*

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**The Soldier's RDEC – Ensuring dominance through superior scientific and engineering expertise**

## *Mission*

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**Providing the Army with innovative science and technology solutions to optimize the performance of our Soldiers.**





# NSRDEC MISSION AREAS





## TECHNOLOGY TRANSFER MECHANISMS

### Flexibility through *non-funded* federal partnering agreements

#### Cooperative Research and Development Agreements (CRADAs)

- One or more federal laboratories working with one or more non-federal partner(s) toward a common R&D objective.

#### Testing Service Agreements (TSA)

- Straight fee-for-service testing, not a collaborative effort.
- Customer owns all test data, Gov't release is prohibited

#### Patent License Agreements (PLAs)

- Non-exclusive, partially exclusive, or exclusive.

#### Educational Partnership Agreement (EPA)

- For the purpose of encouraging and enhancing study in scientific disciplines at all levels of education.



## COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS (CRADA)

### Presumes alignment of government and commercial/academic technical objectives

- Federal partners can provide personnel, services, facilities, equipment, *but no funds to non-federal partners.*
- Non-federal partners can provide personnel, services, facilities, equipment, and funds.
- Each party retains ownership of solely invented IP and joint inventions will be jointly owned.
- Federal government retains a non-exclusive license to all IP arising under the CRADA, for use by or on behalf of the government.
- Government agrees to negotiate a royalty bearing exclusive license to government owned IP arising under the CRADA.



# TESTING SERVICE AGREEMENTS

Unique federal laboratory facilities/capabilities are available to the private sector for testing purposes

- A Testing Service Agreement (TSA) is a simple two party agreement that can be turned around in a few days.
- Cost to the purchaser is equal to the laboratory's cost to provide the service.
- The purchaser retains sole ownership of the test results and the government is prohibited from disclosing data to third parties.
- The government does not derive any rights in or to the purchaser's Intellectual Property.
- The government is **prohibited from directly competing** with private testing service companies.



# COOPERATIVE AGREEMENT FUNDING OPPORTUNITY

Under a Cooperative Agreement, a principle purpose is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation authorized by law of the U.S. instead of acquiring property or services for the direct benefit or use of the U.S. government

Cooperative  
Agreement (CA)

- Public Benefit
- Substantial involvement is expected between the agency and the recipient
- Funding Agreement
- Rigid Patent Rights



# TECHNOLOGY READINESS LEVELS (TRL)

- *TRLs are used to estimate the maturity of a technology, component or system*
- *Only funds from an appropriate Budget Activity (BA) may be expended on RDT&E efforts at a particular TRL*

TRL	Definition	Description	BA
<b>1</b>	Basic principles observed and reported.	Lowest level of technology readiness. Scientific research begins to be translated into applied research and development. Examples might include paper studies of a technology's basic properties.	<b>6.1</b>
<b>2</b>	Technology concept and/or application formulated.	Invention begins. Once basic principles are observed, practical applications can be invented. Applications are speculative and there may be no proof or detailed analysis to support the assumptions. Examples are limited to analytic studies.	<b>6.2</b>
<b>3</b>	Analytical and experimental critical function and/or characteristic proof of concept.	Active research and development is initiated. This includes analytical studies and laboratory studies to physically validate analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative.	
<b>4</b>	Component and/or breadboard validation in laboratory environment.	Basic technological components are integrated to establish that they will work together. This is relatively "low fidelity" compared to the eventual system. Examples include integration of "ad hoc" hardware in the laboratory.	<b>6.3</b>
<b>5</b>	Component and/or breadboard validation in relevant environment.	Fidelity of breadboard technology increases significantly. The basic technological components are integrated with reasonably realistic supporting elements so it can be tested in a simulated environment. Examples include "high fidelity" laboratory integration of components.	
<b>6</b>	System/subsystem model or prototype demonstration in a relevant environment.	Representative model or prototype system, which is well beyond that of TRL 5, is tested in a relevant environment. Represents a major step up in a technology's demonstrated readiness. Examples include testing a prototype in a high-fidelity laboratory environment or in simulated operational environment.	<b>6.4</b>
<b>7</b>	System prototype demonstration in an operational environment.	Prototype near, or at, planned operational system. Represents a major step up from TRL 6, requiring demonstration of an actual system prototype in an operational environment such as an aircraft, vehicle, or space. Examples include testing the prototype in a test bed aircraft.	
<b>8</b>	Actual system completed and qualified through test and demonstration.	Technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development. Examples include developmental test and evaluation of the system in its intended weapon system to determine if it meets design specifications.	<b>6.5</b>
<b>9</b>	Actual system proven through successful mission operations.	Actual application of the technology in its final form and under mission conditions, such as those encountered in operational test and evaluation. Examples include using the system under operational mission conditions.	

Product Manager  
RD&ECs/Lab

Product Manager  
RD&ECs/Lab



# OPPORTUNITIES FOR FUNDED CONTRACTS

BAA and Unsolicited Proposals must comply with the FAR but still provide the offeror with more flexibility than a typical contract solicitation.

- The BAA is an open solicitation for proposals.
- It is funded to fulfill requirements for scientific study and experimentation.
- The BAA does not focus on specific systems or hardware.
- The solicitation is divided into topic groups that are of interest to the sponsor.
- The proposal is prepared in a lab and identifies a POC for that area.
- The proposal is independently originated and developed by the offeror; that area.
- Prepared without Government endorsement or involvement;
- Include sufficient detail to permit a proper evaluation;
- Not be an advance proposal for a known agency requirement;

## Broad Agency Announcement (BAA)

## Unsolicited Proposals (UP)

BAA and UP are always subject to availability of appropriate agency research funds in a fiscal year. Funds are limited, and we typically plan spending 1-2 years in advance.

## Small Business Innovative Research Program

### Small Business Innovative Research (SBIR) Program

<https://www.acq.osd.mil/osbp/sbir/index.shtml>

- For independent Small Business (less than 500 employees)
- Phase I determines the scientific, technical and commercial merit and feasibility of the ideas submitted. Typically \$150,000 over a period of six months.
- Phase II is the major R&D effort, contracts are up to \$1 million and usually span 24 months.
- Phase III (commercialization) is the ultimate goal of the SBIR program.



# NSRDEC BROAD AGENCY ANNOUNCEMENT (BAA)

## C. Warfighter Systems Technologies

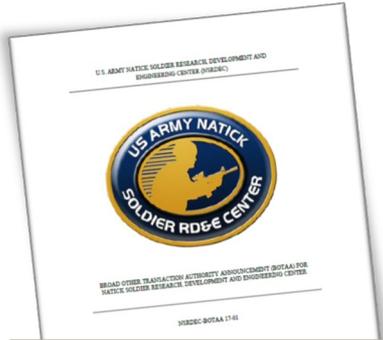
1. *Ballistic Protection for Individuals*
  2. *Integrated Protective Headborne Equipment and Injury Diagnostic/Assessment Tools*
  3. *Modular Personal Protection Equipment (MPPE) and Injury Diagnostic Assessment Tools*
  4. *Chemical/Biological Protection for Individuals*
  5. *Flame and Thermal Protection for the Individual Soldier*
  6. *Biotechnology*
  7. *Countersurveillance*
  8. *Body Worn Interactive Materials*
  9. *Body-Worn Systems, Hand Held Devices, and Smart-Lightweight Electronic Components/ Modules for Soldier Protection, Knowledge Management and Cognitive Improvement*
  10. *Biomechanics*
  11. *Materials Nanotechnology*
  12. *Anthropometry*
  13. *Advanced Protection, Integration Technologies/Systems and Assessment Methods*
  14. *Warrior Performance*
  15. *Soldier Power Sources, Power & Data Distribution and Management*
  16. *Future Warrior Technology Integration*
  17. *Technology Assessment and Simulation Tools*
  18. *Ecological Approach to Warfighter Survivability; Perception-Action-Cognition*
  19. *Tactical Medical Equipment and Systems*
  20. *Integrated Sound, Light and Blast Management for the Ears and Eyes*
  21. *Soldier Centric Information Portrayal & Management Technologies*
- <https://www.nsrdec.army.mil/img/pdfs/BAADec2016.pdf>



Additional Information and POCs  
for each area are listed in the BAA



# BROAD OTHER TRANSACTIONS AUTHORITY ANNOUNCEMENT (BOTAA)



*“This Solicitation provides an opportunity for nontraditional defense contractors to work with the NSRDEC on mission enhancing prototypes. This new form of contracting vehicle is Non-FAR Based and can be utilized for rapid prototype development.”*

**What is considered a prototype project?** A prototype project can generally be described as a preliminary pilot, test, evaluation, demonstration, or agile development activity used to evaluate the technical or manufacturing feasibility or military utility of a particular technology, process, concept, end item, effect, or other discrete feature. Prototype projects may include systems, subsystems, components, materials, methodology, technology, or processes.

**What is a non-traditional defense contractor?** as per 10 USC 2302(9) this is an entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by the Department of Defense for the procurement or transaction, any contract or subcontract for the Department of Defense that is subject to full coverage under the cost accounting standards prescribed pursuant to section 1502 of title 41 and the regulations implementing such section.

**What does Non-FAR Based Agreement mean?** The resultant award of any OTA using the procedures under NSRDEC BOTAA are NOT made or issued under the provisions of the Competition in Contracting Act of 1984 (P.L. 98-369), FAR Part 6 or any other FAR based regulation. However, the information provided in the BOTAA is intended to ensure competitive procedures are used to the maximum extent practicable when entering into agreements to carry out these prototype projects.

<http://www3.natick.army.mil/NSRDEC-BOTAA.aspx>



**WORK WITH US** Business and Outreach Team

**For more information on how you can work with the NSRDEC, contact**

**Office of Research and Technology Applications**  
508-233-4184 or 508-233-4488  
usarmy.natick.rdecom-nsrdec.mbx.nati-amsrd-nsc-ad-b@mail.mil

**Office of the Small Business Advocate**  
508-233-4367

**Small Business Innovation Research**  
508-233-5372

**Learn about the NSRDEC Broad Agency Announcement (BAA)**

[DOWNLOAD THE BAA](#)

**Learn how to do business with the NSRDEC team**

[DOWNLOAD THE GUIDEBOOK](#)

<https://www.nsrdec.army.mil/#/workwithus>

# PM SPIE BROAD AGENCY ANNOUNCEMENT (BAA)



Solicitation Number: W91CRB-16-R-0005

<https://www.fbo.gov/index?id=0345cc4bdd189fb404231b0b89e7ff28>

**Personal Protective Equipment (PPE) POC:**  
**Mr. Christopher Baker**  
**Engineer, Project Manager Soldier Protection and Individual Equipment**  
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**Organizational Clothing & Equipment (OCIE) POC:**  
**Ms. Suzanne Horner**  
**Engineer, Project Manager Soldier Protection and Individual Equipment**  
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**Program Executive Office - Soldier**  
Project Manager Soldier Protection and Individual Equipment  
Technical Management Directorate  
Fort Belvoir, VA

## Technical Areas

1. Hard and Soft Armor
2. Explosive Ordnance Disposal Soldier Capability
3. Personal Blast Protection
4. Integrated Head Protection
5. Test Methodologies and Test Standards
6. Personal Protection System Integration
7. Modeling and Simulation
8. Integrated Soldier Concealment
9. Personal Load Carriage
10. Thermal Threat Protection
11. Environmental Protection System Integration
12. Vector Protection
13. Personnel Air Drop
14. Hydration
15. Chemical, Biological, Radiological, Nuclear Protection

*Please note that PM SPIE BAA only funds 6.4 projects, Testing, evaluating and developing component and/or subcomponent prototypes of PM SPIE managed items (protection & clothing and individual equipment)*



# SOLDIER PROTECTION & SURVIVABILITY POINTS OF CONTACT

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