U.S. Army Research, Development and Engineering Command (RDECOM) – Atlantic

Basic and Applied Research Collaboration Overview

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RDECOM-Atlantic

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What RDECOM-Atlantic Does

Advantages of International Engagement

- Avoid technology surprise
- Sharing resources for research with our closest allies
- Build interoperability into the product early
- Create tighter links with our closest allies through personnel exchange and collaboration
- Common understanding of Research and Development framework and operating processes with key allies

B&AR and ITCs:

Europe (including Russia) & Middle East:

- 107 of World's top 200 Universities in Atlantic AOR
- 55 Countries
- Enduring Strategic Partnerships (UK/FR/DE) + NATO
- Robust military development, acquisition and manufacturing capabilities
- Traditional academic & research partners
- Motivated ESEP participant countries
- Mature Industrial Base

Africa:

- 53 Countries
- Developing Tech Base
- Improving Academic Foundation
- Strengthening Pol/Mil Partners

B&AR

Basic & Applied Research Discovery - International Engagement & Collaboration

- Extramural Basic and Applied Research Overseas
- Research Grants to Academic Institutions
- Grants to support Academic & Scientific Forums
- Grants to fund Foreign expert travel for collaboration with Army Labs & Centers

ITC

International Armaments Cooperation & Standardization

- Represent Army AT&L enterprise in strategic S&T engagements
- Promote interoperability through collaboration and researcher exchange
- Harmonize requirements and synchronize technology roadmaps
- Scout technology in the AOR to leverage industry and research institution advances
- Support senior leader visits and working group multinational fora
- Leverage ESEP, FTAS, FCT & CWP

FAST

Science & Technology Support for Theater ASCCs

- Identify capability gaps, codify urgent requirements and provide rapid reach back to S&T enterprise
- Represent ASCCs in Capability Demonstrations and Coalition Warfare Program initiatives
- Provide S&T support to U.S. & multi-national training exercises
- Expedite Technology solutions to the Warfighter

RDECOM-ATL continues to maintain and build relationships with our strongest allied partners.

Basic Research Mission

B&AR

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Goals:

- Innovative Basic Research & Scientific Discovery
- Collaborative Research with world's best scientists
- Build / maintain relationships with the international scientific community

Initiatives:

- Outreach to Academia
  - University Visits
  - Participate in Academic and Scientific Professional Symposia
- Grants to support innovative research, scientific conferences, and collaborative research with U.S. Labs and Research Centers
- Seek U.S. Joint-Service international S&T collaborative engagement opportunities

What We Do

Armaments
Research, Development and Engineering Center (ARDEC)

- Munitions Systems & Technologies
- Integrated Weapon Systems
- Energetics & Warheads
- Guidance, Navigation & Control
- Fuzing System
- Remote Weapon Stations/Weapon Pods
- Fire Control Systems
- Grenades/Demolitions
- Non-Lethal Weapons & Target Effects
- Ammunition Logistics

Aviation and Missile
Research, Development and Engineering Center (AMRDEC)

- Airframe Structures
- Rotors & Rotor Systems
- Sensors and Seekers
- Guidance, Navigation, and Control
- Propulsion
- Warhead & Fuze Integration
- Fire Control

Tank Automotive
Research, Development and Engineering Center (TARDEC)

- Advanced ground system technologies.
- Survivability
- Autonomy
- Vehicle Electronic Architecture
- Power & Mobility
- Fuels & Lubricants
- Ground system technology integration.
- Virtual and physical ground system analysis

Army Research Laboratory (ARL)

- Extramural Basic Research
- Computational Sciences
- Materials Research
- Sciences-for-Maneuver
- Information Sciences
- Science-for-Lethality and Protection
- Human Sciences
- Assessment and Analysis

Communications-Electronics
Research, Development and Engineering Center (CERDEC)

- Night Vision Technology
- EO/IR & Multi /Hyperspectral Sensors
- Antennas Technologies
- C-IED & Counter Mine Technology
- Cyber Security
- Networks and Communications
- Electronic Warfare
- Mobile Power / Advanced Battery Tech.
- Surveillance Systems

Edgewood, Chemical Biological Center (ECBC)

- Chemistry and Biological Sciences
- CB Agent Handling and Surety
- CBRNE Materiel Acquisition
- CBRNE Analysis and Testing
- CBRNE Munitions and Field Operations
- Science and Technology for Emerging Threats

Natick Soldier
Research, Development and Engineering Center (NSRDEC)

- Textiles and Uniforms
- Shelters
- Joint Combat Feeding
- Cognition
- Soldier Performance/Assessment
- Body Armor

Delivering capabilities for the Army, joint warfighters, and our Nation

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Technical Areas of Interest

- Chemistry
- Physics
- Life Sciences
- Network Science
- Environmental Sciences
- Human Sciences
- Electronics
- Materials Sciences (structural, electronic, photonic)
- Mechanical Sciences
- Mathematics
- Computing Science
- Energy and Power Technologies
- Aeronautics
- Robotics and Autonomous Systems
- Sensors
- Nanotechnology
- Lasers and Electro-Optics
- Energetic Materials
- Information Technology
- Quantum Sciences
- Synthetic Biology

Broad Agency Announcement

- The Army Research Laboratory (ARL) Broad Agency Announcement (BAA) describes Army requirements across all areas of research
- More information here: http://www.arl.army.mil/www/default.cfm?page=8
- Direct download: http://www.arl.army.mil/www/pages/8/research/Final_Post_ARL_BAA_W911NF-12-R-0011.pdf

  (W911NF-12-R-0011-03, ARL Core Broad Agency Announcement for Basic and Applied Scientific Research for Fiscal Years 2012 through 2017)

Collaboration Opportunities

- **Grants**
  - Seed projects exploring innovative basic research concepts
  - Focused research projects addressing specific science and technology challenges
  - Collaborative research projects with U.S. Army scientists and engineers

$25K for 6 months up to $350K over 3 years

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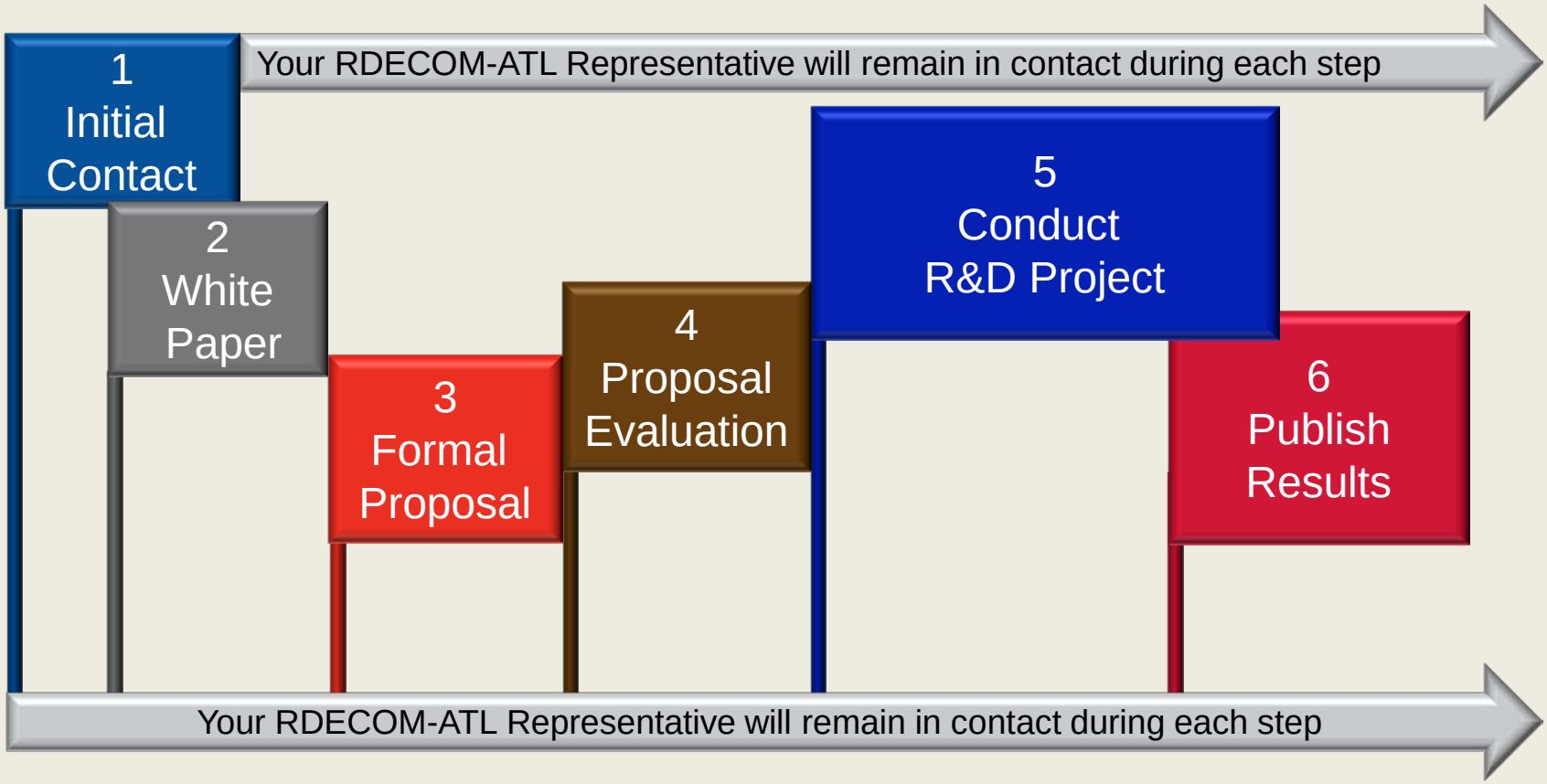
Collaboration Opportunities

- **Conference/workshop support**
  - Unique, focused, technical workshops and conferences
  - $3-5K to help support participant travel and conference costs (budget cannot include costs for banquets, refreshments, social functions, entertainment, etc.)

- **Visiting Scientist/Subject Matter Expert travel**
  - International SME travel to U.S. Army Labs/Centers
  - $1-3K for travel to U.S. Army Labs/centers for collaborative research discussions and planning

Proposal Process

How to Participate



Timeline depends on multiple factors.
Read more about this process and get examples online at **http://www.rdecom.army.mil/rfecatl/**

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Intellectual Property

- **Who retains the Intellectual Property rights?**
  - You, the researcher, and/or University
  - The proposal should identify any sensitive or intellectual property restrictions
- **What does the U.S. Government get from my research?**
  - Government Purpose Rights (non-exclusive/non-commercial use of the IP)
  - International research collaboration
  - New relationships with top researchers in key areas to support U.S. Government priorities and strategies
- **Can the Results be Published?**
  - It is encouraged to publish your results in an open, peer-reviewed journal, magazine, or other publication
  - The U.S. Government can collaborate throughout the research activities to co-author publications with you

Contact Us

RDECOM – Atlantic
London, United Kingdom
http://www.rdecom.army.mil/rfecatl/
BAA at
http://www.arl.army.mil/www/default.cfm?page=8

European Office of Aerospace Research and Development (EOARD)
eoard.orgbox@us.af.mil
http://www.wpafb.af.mil/library/factsheets/factsheet.asp?id=16662/

Office of Naval Research – Global (ONR-G)
London, United Kingdom
ONRG.london@mail.mil
http://www.onr.navy.mil/en/Science-Technology/ONR-Global.aspx

Engineer Research & Development Center (ERDC)
International Research Office (IRO)
http://www.erdc.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/9254/Article/476750/international-research-office.aspx

Back-Up Slides

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AMRDEC

Mission:

Deliver collaborative and innovative technical capabilities for responsive and cost-effective research, product development, and life cycle systems engineering solutions.

National Full-Scale Aerodynamics Complex

Advanced Prototype Experimentation

CORE Competencies:

- Airframe Structures
- Rotors & Rotor Systems
- Sensors and Seekers
- Guidance, Navigation, and Control
- Propulsion
- Warhead & Fuze Integration
- Fire Control

AMRDEC HQ's:
Huntsville, AL

AMRDEC Supporting Locations:

- Madison, AL
- FT. Eustis, VA
- Hampton, VA
- Colorado Springs, CO
- Santa Clara, CA

ARDEC

Mission:

Empower, unburden, and protect the Soldier by providing superior armaments solutions that dominate the battlefield.

Soft Recovery System Facility (Scat Gun)

Remote Weapon Station Software Engineering Facility

CORE Competencies:

- Energetics, Warheads
- Fuzing, Remote Armaments
- High-G Guidance - seeker/sensors
- Fire Control
- Shot Detection
- Grenades/Demolitions

ARDEC HQ's:
Picatinny Arsenal, NJ

ARDEC Supporting Locations:
- Waterviet, NY
- Rock Island, IL
- Aberdeen Proving Ground, MD

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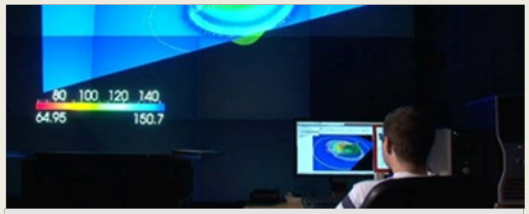
ARL

Mission:

Provide innovative science, technology, and analyses to enable full spectrum operations.

Environment for Auditory Research



DoD Supercomputing Resource Center

CORE Competencies:

- Extramural Basic Research
- Structural Materials & Components
- Energetics and Propulsion Science
- Sensory/Perceptual Performance
- MANPRINT - Human Systems Integration
- Impact Physics
- Launch & Flight Science

ARL HQ's:
Adelphi, MD

ARL Supporting Locations:

- Orlando, FL
- Aberdeen Proving Ground, MD
- Raleigh-Durham, NC
- White Sands Missile Range, NM

CERDEC

Mission:

To develop and integrate Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance technologies that enable information and cyber dominance, and decisive lethality for the networked Soldier.

Soldier Radio Waveform Reference Implementation Lab (SRW RIL)

Antennas and Spectrum Analysis Lab

CORE Competencies:

- Night Vision Technology
- EO/IR & Multi /Hyperspectral Sensors
- Antennas Technologies
- C-IED & Counter Mine Technology
- Cyber Security
- Networks and Communications
- Electronic Warfare
- Mobile Power / Advanced Battery Tech.
- Surveillance Systems

CERDEC HQ's:
Aberdeen Proving Ground, MD

CERDEC Supporting Locations:
- FT. Belvoir, VA
- Lakehurt, NJ
- FT. AP Hill, VA

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ECBC

Mission:

Integrate life cycle science, engineering, and operation solutions to counter chemical, biological, radiological, nuclear, and high-yield explosive threats to U.S. forces and the nation.

Chemical Transfer Facility (CTF)

Sample Receipt Facility (SRF)

CORE Competencies:

- Chemistry & Bioscience of CB Warfare & Demil
- Inhalation Toxicology
- Aerosol Physics
- Filtration Sciences
- CB Agent Spectroscopy/Algorithm Development
- Non-Traditional Agent Science

ECBC HQ's:
Aberdeen Proving Ground, MD

ECBC Supporting Locations:
- Rock Island, IL
- Pine Bluff, AR

NSRDEC

Mission:

RD&E to maximize the Soldier's survivability, sustainability, mobility, combat effectiveness, and field quality of life by treating the Soldier as a system.

Doriot Climactic Chambers

Center for Military Biomechanics Research

CORE Competencies:

- Textiles and Uniforms
- Shelters
- Joint Combat Feeding
- Cognition
- Soldier Performance/Assessment
- Body Armor

NSRDEC HQ's:
Natick, MA

NSRDEC Supporting Locations:

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TARDEC

Mission:

Develop, integrate, and sustain the right technology solutions for all manned and unmanned Department of Defense ground vehicle systems and combat service support equipment to improve current force effectiveness and provide superior capabilities for the future force.

Ground Systems Power and Energy Laboratory

Ride Motion Simulator/Ground Vehicle Simulation Laboratory

CORE Competencies:

- Ground Vehicle Protection/Survivability
- Ground Vehicle Power, Propulsion, Mobility and Energy
- Unmanned Ground Systems
- Fuels/Lubricants
- Bridging

TARDEC HQ's:
Warren, MI

TARDEC Supporting Locations:
- San Antonio, TX
- Chesterfield, MI