

US Army Natick Soldier Research, Development and Engineering Center (NSRDEC)

The Leader in Empowering the World's Most Capable Soldiers

NSRDEC focuses on the Soldier Domain developing and using the latest innovations in Science and Technology to maximize the American Warfighter's survivability, sustainability, mobility, combat effectiveness, and field quality of life, treating the Warfighter as a system.

Concentrating on Soldier systems engineering architecture, NSRDEC leads the Soldier Systems Integration Domain through partnership and collaboration across Army, Department of Defense, and government organizations, industry, and academia to deliver advanced capabilities through S&T generation and application.

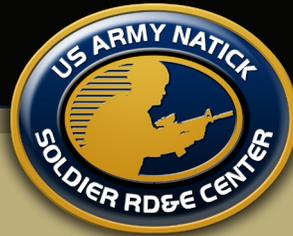
NSRDEC synchronizes Soldier-related efforts and identifies Soldier technology capability gaps. Using the Soldier systems engineering architecture approach, NSRDEC works in close collaboration with other DoD organizations, industry, and academia to quickly bring the most capable equipment solutions to U.S. Warfighters.

These leading-edge Science and Technology efforts continue to empower, unburden and protect Warfighters through basic science, and technology generation, application, and transition, enabling rapid fielding of the right equipment at the right time, and Soldier systems technology integration and transition.

Core Competencies include Basic & Early Applied Research, Human Systems Integration Sciences, Clothing and Protective Equipment development, Soldier/Small Combat Unit Technology Maturation & Demonstration, Expeditionary/Contingency Basing & Collective Protection, Airdrop/Aerial Delivery systems development, and Combat Feeding systems.

**The Science Behind the Warrior:
Yesterday, Today and Tomorrow.**

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US ARMY NATICK SOLDIER RESEARCH, DEVELOPMENT & ENGINEERING CENTER (NSRDEC)

15 General Greene Avenue
Natick, MA 01760-5000

ON THE WEB:

nsrdec.natick.army.mil
www.facebook.com/NSRDEC
twitter.com/NatickSRDEC
www.linkedin.com/company/2470319?trk=tyah

MEDIA INQUIRIES:

COMM: (508) 233 6938, DSN: 256-6938
E-MAIL:
usarmy.natick.nsrdec.mbx.nsrdec-public-affairs@mail.mil





US ARMY NATICK SOLDIER RD&E CENTER (NSRDEC)

BASIC AND EARLY APPLIED RESEARCH

- Nanotechnology
- Biotechnology
- Polymer science and engineering

HUMAN SYSTEMS INTEGRATION SCIENCES

- Anthropometry
- Biomechanics
- Behavioral and cognitive sciences
- Human factors/manprint
- Sensory and consumer research
- Modeling and analysis
- Soldier and small combat unit performance

CLOTHING and PROTECTIVE EQUIPMENT

- Chemical/biological barrier materials
- Ballistic protective materials
- Directed energy (eye) protection
- Environmental protection
- Camouflage
- Multifunctional materials

COMBAT FEEDING

- Combat rations
- Field food service equipment
- Combat feeding systems

SOLDIER/SMALL COMBAT UNIT TECHNOLOGY MATURATION and DEMONSTRATION

- Unmanned systems and Warfighter technology
- Soldier systems engineering architecture, integration, and experimentation
- Modeling and analysis
- Soldier mobility and mission effectiveness
- Soldier C⁴ interfaces, power, and lethality
- Soldier integrated protection

EXPEDITIONARY BASING and COLLECTIVE PROTECTION

- Softwall shelters
- Rigid wall shelters
- Integrated expeditionary base camp systems

AIRDROP/AERIAL DELIVERY

- Personnel parachuting systems
- Cargo airdrop systems
- Modeling and simulation
- Parachutist safety

UNIQUE FACILITIES

- **Center for Military Biomechanics Research**
Allows for 3D analysis of movement, measurement of external forces on the body, monitoring of muscle activity, assessment of O₂ consumption, and real-time mapping of pressure patterns.
- **Polymer Film Center of Excellence**
Enables R&D of new plastics and nanocomposites formulations.
- **High Performance Fiber Facility**
One of a kind bi/tri-component fiber extrusion capability that enables the exploration of lightweight and reactive/ responsive multi-functional fibers.
- **Doriot Climatic Chambers**
Tests the limits of human performance under extreme conditions. Primarily used for human research – where a dedicated group of Soldiers perform as human research volunteers.
- **Ouellette Thermal Test Facility**
Includes a propane fire cell, flame & thermal lab, laser lab, and CO₂ laser.
- **3D Laser Scanning Lab**
Whole body & head/face laser scanning system enabling precise measurements.
- **Cognitive Performance Lab**
Virtual Reality & Mobile Cognitive Assessment Platform Capabilities

Doing Great Things for the Soldier Every Day

