

## **Dismounted Soldier Operational Energy (DSOE) Needs Statement**

The Department of Defense, Rapid Reaction Technology Office (RRTO) Innovation Outreach Program will conduct a Solutions Meeting in the Aberdeen, MD area in the late Spring timeframe. The Meeting provides selected innovative companies with an opportunity to make short technical presentations to government representatives about their technologies and products. There is a potential that companies may be selected for pilot projects or experimentation if their technology appears to match Dismounted Soldier Operational Energy needs.

RRTO is supporting the United States Army and United States Marine Corps in their quest to significantly reduce the Power and Weight demands placed on today's dismounted warfighter.

Wearable, portable and lightweight technologies and capabilities are essential to the dismounted soldier. The priorities are to 1) decrease the energy demands of soldier equipment, 2) decrease the power system weight and 3) increase warfighter capabilities.

Dismounted Soldier OE is looking for innovative technologies and capabilities in the following areas:

- **Wearable and/or Portable Power/Energy Supply and Storage**
  - Batteries
    - Conformal
    - High density
    - High efficiency
    - Primary or rechargeable
    - State of charge indicators
  - Fuel cells
  - Other small, innovative power sources
- **Power Distribution and Management**
  - Power conversion and conditioning
  - Sleep/low power usage mode for radio components and other electronics
  - Smart charging capabilities
  - Software for efficient power management within and across devices
  - Wireless power charging
- **Wearable and/or Portable Energy Harvesting and Scavenging**
  - Kinetic
  - Photovoltaic
  - Thermal
  - Other
- **Efficient and Low Power Electronics**
  - RF Amplifiers
  - Memory
  - Wideband RF front ends
  - CPU, GPU and crypto processors
  - Sensors

- **Wearable Electronics**
  - Contact and non-contact biometric and vital signs sensors
  - Smart textiles – fabrics, fibers and yarns
  - Displays – day/night, see-through, etc.
  - Other
- **Lightweight Materials and Components**
  - Cables and connectors
  - Antennas – including conformal, wearable, multi-purpose, etc.
  - Anti-reflective coatings
- **Low-power Communications**
  - Alternative waveforms – multi-modal, multi-purpose
  - Intelligent mobile data management
  - Personal Area Networks (PAN) including technologies such as Ultra-wideband
  - Tactical spectrum management
- **Situational Awareness**
  - Language translation
  - Small/Micro UAVs
  - Non-GPS location technology for GPS-constrained operations

**Companies interested in participating in the Solutions Meeting should submit an application to RRTO Innovation via e-mail to [osd.pentagon.ousd-atl.mbx.rrto-innovation@mail.mil](mailto:osd.pentagon.ousd-atl.mbx.rrto-innovation@mail.mil).**

The following information is required in the application:

1. Email subject line “Dismounted Soldier OE Solutions Meeting Application”
2. Company name
3. Website address
4. POC, email, phone number and an alternate POC if desired
5. A succinct description (less than 100 words in length) of the company’s technologies, products and capabilities including a mapping to the topic areas and needs addressed
6. Note: Only 1 application is permitted per company

**All applications must be received on or before 5:00 PM EDT, Thursday, March 6, 2014.**

Selected companies are responsible for their travel and all other expenses associated with participation in the Dismounted Soldier Operational Energy Solutions Meeting.