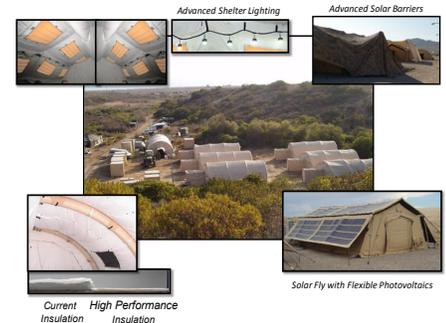




## ADVANCED, ENERGY EFFICIENT SHELTER SYSTEMS FOR CONTINGENCY BASING AND OTHER APPLICATIONS

### PROGRAM PROVIDES:

- Initial Demonstrations – Operational evaluation of complete, state-of-the-art shelter systems when used by operators in the field
- Technology Development – Mature DOD and industry developed technologies to advance the state-of-the-art to reduce logistics/cost impact and further reduce fuel consumption on the battlefield
- Follow On Demonstrations – Leverage lessons learned in the Initial Demonstrations and Technology Development into optimized shelter systems and validate in the AOR.
- Joint Service, multi-organizational program to address inefficiencies with energy usage and fuel consumption of shelter systems.
- Culmination of lessons learned will lead to optimized shelter systems to meet Joint Service needs.



### WARFIGHTER PAYOFF:

- Energy efficient shelter systems that are optimized to reduce fuel consumption on the battlefield and manpower requirements for the Warfighter.
- 50% reduction in shelter system power consumption.
- 36 million gallons per year/fuel savings.

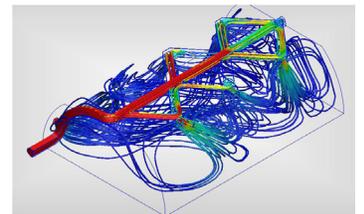


### INITIAL DEMONSTRATIONS:

This effort will leverage the technologies developed by AFRL and NSRDEC and lessons learned through the Net Zero Joint Capability Technology Demonstration (JCTD) to build 16 state of the art shelter systems, deploy and conduct testing in the AOR as well as CONUS Joint test sites. The intention of this effort is to demonstrate the energy savings that are achievable today in a relevant environment.

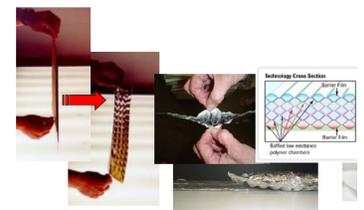
### TECHNOLOGY DEVELOPMENT: MODELING, SIMULATION & ANALYSIS:

The intent of this focus area is to establish computational models of the interaction between the shelter fly, shelter skin and thermal liner in order to create a more efficient design. The combined thermal and fluid computational model will allow us to conduct numerical experiments to optimize the different layers' designs. The models will take into account thermal conductance, and radiation.



### TECHNOLOGY DEVELOPMENT:

- **Thermal Barriers:** The intent of this focus area is to address the enduring challenge of developing a thermal insulation for shelter systems that provides a sufficient thermal barrier, which minimizes logistics burden, while being able to withstand harsh military environments.
- **Large Shelter Efficiencies:** The intent of this focus area is to maximize energy security for BEAR assets in the field by considering the energy consumption of medium and larger shelters and the unique energy needs they impose on the deployed unit.



### FOLLOW-ON DEMONSTRATIONS:

The intent of this phase is to build on and leverage the lessons learned in the Initial Demonstrations by incorporating the Technology Development accomplishments into optimized shelter systems further reducing fuel consumption.



### POINT OF CONTACT:

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