

SBIR 06.2 PHASE I - AWARD DETAILS

ORGANIZATION	AMRDEC (M)
TOPIC NUMBER	A06-036
CONTRACT NUMBER	
YEAR OF AWARD	
AWARD START DATE	
AWARD COMPLETION DATE	
PROPOSAL NUMBER	A062-036-2238
TITLE	Multifunctional Nanoscale Sensor Development for Cognitive Missiles
PROJECT MANAGER	Thomas J. Sanders (321) 727-0328 tsanders@aet-usa.com
COMPANY	AET, Inc. 1900 S. Harbor City Blvd. Suite 236 Melbourne FL 32901 Minority Owned: No Woman Owned: No Veteran Owned: No Number of Employees: 13
KEYWORDS	Nanoscale, Nanodevice skins, Nanomaterials, Micro and Nano Electro Mechanical systems, Cognitive structures, Manufacturing materials
ABSTRACT	<p>The primary objective of this SBIR program is the development of approaches that provides for passive and active circuit component manufacturing to be used in missiles and other air vehicle multifunctional skin applications. The approach of AET, Inc. is to develop nanoscale sensors that can be integrated with a silicon-based integrated circuit for incorporation into the skin of cognitive missiles and other air vehicles. In the Phase I SBIR program, we will begin by developing the technology necessary to integrate nanoscale diamond films with the integrated circuit. In addition, AET will investigate additional sensors that may be integrated into the nanoscale sensor chip. Sensors fabricated with these technologies will use the analog and digital circuits built into the silicon chip to process data and readout information needed by the missiles and air vehicles. A preliminary design of a prototype nanoscale sensor chip will be completed. AET will also develop easy-to-use computer models for the nanosensors as a part of the development process. These new models will then be used to design new sensors that will meet the needs of the military. Computer simulations will be run to predict the performance of the nanosensors under a variety of environmental conditions.</p>
BENEFITS	The Phase I program proposed by AET, Inc. will produce innovative design concepts for a nanoscale sensor chip that will be useful in both military and commercial systems to lower cost and improve long term performance in harsh environments.