

2000

Army SBIR Phase II Quality Awards

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Student-Centered Learning System

Farance Inc.
New York, NY

The Learning Technology Systems Architecture (LTSA) and the Public and Private Information (PAPI) technologies, developed by Farance Inc., provide major portability, compatibility, interoperability, and cost efficiencies to the Army. The LTSA is a component-based architecture that defines the critical interoperability points for virtually all learning and training systems, allowing the Army to buy only the pieces it needs, while supporting “plug and play” interoperability. The PAPI portable student records technology solves the main privacy, security, integrity, and portability problems so soldiers can learn anytime, anywhere, and on the Internet.

U.S. Army Communications-Electronics Research, Development & Engineering Center



Rapid, Effective Malaria Test

Flow Inc.
Portland, OR

Malaria is one of the most prevalent diseases in the world and was the leading cause of medical disability among U.S. military personnel in Vietnam and Somalia. The OptiMAL[®] assay, developed by Flow Inc., is a field-ready test that permits the diagnosis of all four forms of human malaria. It also aids in the evaluation of multiple drug-resistant malaria so that effective therapy can be instituted. This diagnostic test also has great potential to support civilian travelers, international relief workers, Peace Corp volunteers, and many other non-military personnel working in malaria-endemic areas around the globe.

Walter Reed Army Institute of Research

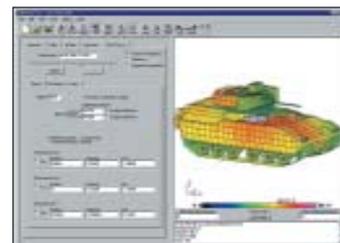


Smart Armor Structures

Production Products Mfg. & Sales, Inc.
St. Louis, MO

Production Products Mfg. & Sales, Inc., developed the capability to measure strain-rate information on the inside of a lightweight composite vehicular armor during a ballistic event. This capability successfully integrates fiber optic recording, high-speed demodulation, ballistic testing, and composite materials. Because of this development, the Army will be able to design armor which will ensure the survivability of future soldiers and their equipment.

U.S. Army Research Laboratory



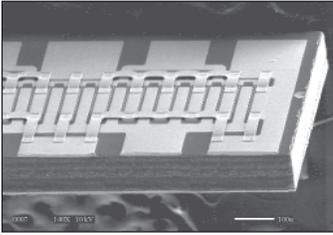
Computer-Aided Design

ThermoAnalytics, Inc.
Calumet, MI

The Army's next-generation weapon systems and tactical vehicles must be smaller, lighter, and more maneuverable, but still maintain a high degree of survivability. Using the latest software engineering practices and techniques, ThermoAnalytics, Inc. developed a computer-aided engineering software tool to optimize vehicle performance during the initial design phase. The software can be run on any computer, and its cross-platform functionality and object-oriented programming maximizes integration with other design tools.

U.S. Army Tank-Automotive Research, Development & Engineering Center

Quality Award Winners...



Better Communications

Cree, Inc.
Durham, NC

Current and future DoD communications systems will benefit from the development and availability of high-power and high-efficiency solid state amplifiers. The high-power GaN/AlGaN High Electron Mobility Transistor (HEMT), developed by Cree, Inc., has successfully produced record power densities and X-band efficiency. This technology also has wide applicability in the commercial sector and will ensure the competitiveness of U.S. businesses in radar, cellular base stations, and microwave satellite communications.

U.S. Army Research Laboratory



Night Driving Simulator

DCS Corporation
Alexandria, VA

Army vehicle accidents can occur during night operations due to perceptual limitations when using image intensifier (I²) devices. The Night Driving Training Aid (NDTA), developed by DCS Corporation, provides instruction in the use of Night Vision Goggles (NVGs) for driving. The NDTA caters to basic I² concepts, NVG capabilities and limitations, driving techniques, and driving hazards. In addition, the training aid provides a variety of scenes and scenarios in an interactive setting and permits low-cost training at the unit level where time and money are limited.

U.S. Army Simulation, Training & Instrumentation Command



Detection of Mosquito-Borne Pathogens

Medical Analysis Systems, Inc.
Camarillo, CA

There is a significant health concern for U.S. military personnel being deployed to malarious regions of the world. Medical Analysis Systems, Inc. has developed a rapid assay for detecting malaria parasites in infected mosquitoes. Their VecTest™, can be employed in the field to continuously monitor for the most dangerous forms of malaria. This information is critical to preventive medicine teams as they establish and develop programs for infectious disease control in military operations.

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High-Speed Munitions Inspection

Skiametrics, Inc.
Winchester, MA

The Universal Computed Tomography System (UCT) is a volume inspection system for rapid 100% x-ray imaging of industrial/military components. UCT is designed to be flexible and it easily accommodates objects up to 40 inches long and 9 inches in diameter for total inspection. Selectable inspection sequences provide coarse resolution CT imaging within a few minutes and the highest spatial resolution and contrast in an hour. Using the UCT, the Army can determine the serviceability of individual munitions quickly and with a high degree of accuracy.

U.S. Army Armaments Research, Development & Engineering Center

Army SBIR Phase II Quality Awards

The Army SBIR Program sponsors an annual Quality Awards Program that recognizes top quality Army SBIR Phase II projects for their technical achievement, contribution to the Army, and dual-use commercialization potential. A distinguished panel of Army and industry experts selects the winning projects, from more than 100, each year. Throughout the year, the winners and their accomplishments are showcased at several Army conferences and symposia.

1999 Winners

SHF Tri-Band Antenna Feed for Satellite Communication: Austin Info Systems, Inc.

Representing and Analyzing Mental Modes: Cognitive Technologies, Inc.

Low Cost Alternative to the CCTT Commander's Popped Hatch: Diamond Visionics, LLC.

Wrist Sensor for Warfighter Status Monitor: Empirical Technologies Corporation

Fabrication Methods for Pressurized Fabric Arches: Federal Fabrics-Fibers, Inc.

The SBIR Program

Congress initiated the SBIR Program in 1982 to increase small business participation in federal research and development (R&D). Successful Army SBIR research efforts move through three phases:

- **Phase I:** Feasibility Study, which lasts up to six months and are funded for up to \$70,000 with a \$50,000 option available.
- **Phase II:** Research and Development, which lasts up to two years for up to \$730,000.
- **Phase III:** Commercialization, which requires funding from the private sector or non-SBIR program sources.

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