Fact Sheet

U.S. Army Cold Regions Research and Engineering Laboratory
Small Business Innovation Research (SBIR)
Active Contracts as of 1 April 98

Title	*Partner*	*Objective*
Phase I: Rapid Measurement of Ice Density by Compact Nuclear and Membrane Methods	Foster-Miller, Inc.	Develop a small, portable, and easy-to-use method for rapid measurement of ice density that will provide a useful tool for determining the load-bearing capacity of ice.
Phase I: In-Flight Aircraft Icing Prediction Detection System	Stratton Park Engineering Company, Inc.	Develop a compact, airborne radar system that provides remote detection of thunderstorms, Doppler, windshear, and icing conditions for general aviation, commuter aircraft, and jet transport aircraft.
Phase I: A Texture Synthesis Code for Cold Backgrounds	Thermoanalytics, Inc. .	Develop algorithms to be used to generate time-varying texture for synthetic background scenes. The algorithms could be applied to electro-optical system development, automatic target recognition algorithm development, and the training of military personnel.
Phase II: Field-Portable Reflectance Spectrometer	Analytical Spectral Devices, Inc.	Build a lightweight, cold-weather-operable, field-portable spectroradiometer to measure spectral reflectance. This instrument will be used for aircraft and satellite sensor calibration, studies of vegetation pollution sensitivity, and evaluation of archaeological artifacts.
Phase II: In-Situ Electronic Sensors to Determine Analytes in Cold-Regions Soils	Phionics, Inc.	Develop specific ion sensors that will work reliably in subfreezing environments to allow remote sensing of contaminants, microbial substrates, and their intermediates in soils. These sensors will be used to monitor treatment of contaminated sites.
Phase II: Advanced Microwave Camera for 3-D Imaging of Subsurface Objects in Snow and Frozen Ground	Satimo, Inc.	Develop an advanced microwave camera for detecting and imaging water channels in snow and shallow buried objects in frozen ground. The camera could also be used for imaging of delaminations and other defects in military and industrial products.
Phase II: A New Instrument for Automatic Measurement of Cloud Liquid Water Content and Droplet Size	Stratton Park Engineering Company, Inc.	Build a new optical instrument for measuring liquid water content and drop spectra. This new instrument will be used for ground-based measurements of liquid water content and drop spectra to measure icing conditions at airports and on mountaintops.

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March 1998

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