

TECHNOLOGY APPLICATION AND DEMONSTRATION (TAD) AWARD

FUNDED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
ADMINISTERED BY THE SYRACUSE CoE OFFICE FOR INDUSTRY COLLABORATION (OIC)



PROJECT TITLE	Innovative Ductless Split System with Air Purification Capability for Bioaerosol and VOC Contaminants plus HVAC Capability for Human Thermal Comfort
AWARD RECIPIENT	Isolation Systems, Inc. 79 Fillmore Ave. Tonawanda, N.Y. 14150
PROJECT DIRECTOR	Charles K. Akers, Ph.D., Chief Scientist
GRANT AMOUNT AWARDED	\$50,900
PROJECT TERM	2007 - 2008

COLLABORATING PARTNERS



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PROJECT SUMMARY

The goal of the project is to develop a prototype instrument that incorporates off-the-shelf, room heat pump heating and air conditioning systems with air purification systems for airborne bioaerosols and vapors. The end result is envisioned to be an occupied space with increased human comfort control and superior indoor air quality.

The unattended instruments would be located in each room and transmit data to central monitoring points via a standard building management control connection. The initial commercialization targets for the product will be the medical and hospitality market segments.

Isolation Systems has formed a team to bring this project from concept to market. Air ISO will assist in the development of the physical and functional requirement for indoor air quality needs in the medical and hospitality marketplace and assist in the preliminary commercialization planning. R.P. Fedder Corp. will assist in the development of the configuration of the bioaerosol filters that will be based on HEPA technology. Graver Technologies will assist in the configurational development of VOC filtration absorbent technology. Dr. Zhang in Syracuse University's Department of Mechanical and Aerospace Engineering will assist in VOC identification in the medical and hospitality market segments and will perform validation testing of the final system configuration in SU's Building Energy and Environmental Systems Laboratory (BEESL).

The product prototype is scheduled to be designed and fabricated for delivery to the BEESL for validation testing by Aug. 1. Validation testing will be completed by Nov. 1, and the final report will be submitted to the Syracuse CoE in March 2008.

Based on the proof in principle demonstration, supported in part by this project, Isolation Systems, in partnership with Air ISO, will develop commercialization strategies and initiate the introduction of the product into the medical and hospitality marketplace. The company will also initiate an advanced development program that will increase the vapor elimination capability of the developed split-system air purification and air management unit to meet the need for protection against highly toxic chemical warfare or toxic industrial chemical vapors that are released by a terrorist event.