

MEDIA RELEASE

Contact: Rich Boling
(812) 923-9591

FOR IMMEDIATE RELEASE

SHOT awarded \$1.8 million grant to develop space program spin-off products

-- Support from Indiana's 21st Century Research and Technology Fund will spur transfer of company's space innovations to Earth-based laboratories --

GREENVILLE, Ind. (October 2, 2001) -- Space Hardware Optimization Technology, Inc. (SHOT), has received a \$1.8 million grant from Indiana's 21st Century Research and Technology Fund to spur development of a line of scientific research instruments for Earth-based laboratories using technologies it developed for NASA.

"Earning this award is a significant step forward in the effort to diversify SHOT's revenue stream and expand its technology base to the private sector," said company President and CEO Mark S. Deuser. "Much work to this end has, in fact, already been underway for some time. Much more now can begin in earnest."

Deuser says that SHOT has created a new corporate division dedicated to finding terrestrial uses for the catalog of innovations it has developed in more than a dozen years as a NASA contractor. The new division, known as SHOT Scientific, will focus first on bringing three new products to the commercial biotechnology and biochemical research markets.

The first product, a magnetically-assisted separator appropriately being called MAGSEP, uses magnetic fields to sort cells, proteins, or other particles. Like each of SHOT Scientific's other separations devices, MAGSEP uses multistage processes that produce more-highly-refined end products than do current industry-standard single stage instruments.

(more)

SHOT awarded \$1.8 million grant to develop space program spin-off products

Oct. 2, 2001

Add one

Second is a multi-stage electrophoretic separator: ELECSEP. SHOT Scientific has devised a purification method that combines free electrophoresis and multistage extraction in an instrument capable of separating living cells, particles and proteins in useful quantities and at high concentrations.

Lastly the company will market a multi-stage aqueous biphasic extraction system under the name: BISEP. BISEP is a 22-stage apparatus that performs repeated extractions for the refinement of chemicals and organic materials, including cells and cell particles.

Deuser says MAGSEP, ELECSEP and BISEP naturally have inherited the most desirable attributes of their spacefaring parents. "Because it costs approximately \$10,000 per pound to put a payload into orbit aboard the space shuttle, we have by necessity developed scientific research hardware that is miniature, lightweight, automated and extremely reliable. If an apparatus malfunctions on orbit, it could take years to get another chance to launch and repeat the experiment."

Improved techniques for separating living cells and proteins are increasingly important to biotechnology because separation is frequently the limiting factor for harnessing many biological processes and products -- including receptor antagonists and transplantable cells. Among the fields of study likely to benefit by the entry of MAGSEP, ELECSEP and BISEP are diabetes research, immunology, pharmacology, endocrinology, gene therapy, stem cell therapy, functional genomics and cancer diagnostics and treatment.

Researchers from Purdue University and Bangs Laboratories have been contracted to help with the development of these new products for known and novel applications. In West Lafayette, Ind., the Purdue department of food science and nutrition and the university's school of electrical and computer engineering have been enlisted. Bangs Laboratories of Fishers, Ind., will serve as a test site and will partner in the development of the devices' market potential through customers already using Bangs products. Science evaluation of prototypes of the MAGSEP cell sorter could begin by the end of this year.

For more information about SHOT Scientific contact Nathan Thomas at 812-923-9591, or via e-mail at nthomas@shot.com. Or visit SHOT Scientific on the World Wide Web at <http://www.shotscientific.com>.

As a NASA contractor, SHOT has designed, built, verified and integrated hardware for three sub-orbital rocket flights and six space shuttle missions and it is currently developing key payloads for the International Space Station. Its Avian Development Facility will launch aboard the middeck of space shuttle Endeavour in November 2001.

#