



## NASA's Impact in Alabama: A Tech Transfer Perspective

*You know that NASA studies our planet, our sun, the solar system, and the Universe. But did you know about the space program's impact here on Earth?*

The Innovative Partnerships Program (IPP) Office at NASA's Marshall Space Flight Center is dedicated to forming partnerships that can positively contribute to—and benefit from—NASA's research and development (R&D) and technology innovations. Read on to learn more about the IPP-driven impacts of NASA in Alabama.

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### Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR)

The SBIR/STTR Program provides an opportunity for small high-tech companies (500 employees or less) to participate in NASA-sponsored R&D efforts in key technology areas. In STTR projects, the small business collaborates with a research institution, such as a university.

Since 2000, NASA's SBIR/STTR Program has invested **\$45.7 million** in more than **30 Alabama companies**

The following lists Alabama businesses that received SBIR/STTR contracts from NASA from 2000 - 2009.

Company	Alabama Location	Company	Alabama Location
2L Research Corp.	Owens Cross Roads	ManTech SRS Technologies	Huntsville
Advanced Optical Systems, Inc.	Huntsville	Morgan Research Group	Huntsville
AI Signal Research, Inc.	Huntsville	New Century Pharmaceuticals	Huntsville
Alpha Beta Technologies	Huntsville	Orion Propulsion, Inc.	Huntsville
Analytical Services, Inc.	Huntsville	PERL Research, LLC	Huntsville
Archangel Systems, Inc.	Auburn	Photon-X	Huntsville
AZ Technology, Inc.	Huntsville	Physitron, Inc.	Huntsville
CAT Flight Services, Inc.	Huntsville	Plasma Processes, Inc.	Huntsville
CFD Research Corp.	Huntsville	Plumetech	Huntsville
ComFrame Software Corp.	Birmingham	Radiance Technologies, Inc.	Huntsville
Diversified Scientific, Inc.	Birmingham	Reisz Engineers	Huntsville
Digital Fusion, Inc.	Huntsville	ResearchSouth, Inc.	Huntsville
Dynamic Concepts, Inc.	Huntsville	Scientific, Inc.	Huntsville
FlowLynx, Inc.	Huntsville	SECA, Inc.	Huntsville
Frendi Research Corp.	Madison	Streamline Automation	Huntsville
Information Systems Laboratories, Inc.	Brownsboro	Tec-Masters, Inc.	Huntsville
JayCor, Inc.	Huntsville	United Applied Technologies, Inc.	Huntsville
KT Engineering Corp.	Madison	Weld Star Technology, Inc.	Auburn

More information on NASA's SBIR/STTR Program is available online: <http://sbir.nasa.gov>

alabama

## Spinoffs to Alabama Companies\*

Innovative technologies from NASA's space and aeronautics missions can be used in many ways that benefit society. Therefore, NASA is committed to "spinning off" its innovations into new products—as well as to providing access to its technologies, facilities, and expertise. Numerous amazing spinoff stories, like the following ones, appear in NASA's yearly Spinoff magazine (available at: <http://www.sti.nasa.gov/tto>).

### **Vision Screening System from Vision Research Corporation** (Birmingham)

Marshall scientists collaborated with research ophthalmologists and optometrists to adapt optics technology used in space telescopes for use in eye



screening, incorporating a process called photorefractive. NASA transferred the exclusive license for its camera-based system to Vision Research in 1991. The company's VisiScreen® Ocular Screening System-

Clinical now is being used by Vision Research employees, pediatricians, and family doctors in over 20 states to identify possible vision problems in children. More than 4 million children have been screened to date, including approximately 150,000 Alabama elementary school children during the 2008-2009 school year.

### **Smart Camera from Southern Vision Systems, Inc.** (Madison)

Southern Vision Systems developed its commercial SpecterView™ high-speed smart camera based on technology that was created to support NASA's advanced video guidance sensor (AVGS) on the Demonstration of Autonomous Rendezvous Technology (DART) mission.



The cost-effective detection system, which provides more than 500 frames per second of specialty image processing, has applications in quality

assurance, product inspection, and as a diagnostic tool for scientists and engineers developing optical systems in commercial and NASA applications, such as AVGS.

### **Spatial Phase Imaging Technology from Photon-X** (Huntsville)

Protein crystal growth experiments are a key to pharmaceutical R&D, but growing such crystals can be extremely difficult—even impossible—on Earth because of gravity's destructive impact on the growth process. To take advantage of the ability of crystals to grow free of imperfections



in microgravity, a variety of protein crystal growth experiments have flown on the space shuttle and International Space Station. Under a NASA SBIR contract, Photon-X developed noninvasive and automated spatial phase imaging technology that can be used to monitor and analyze protein crystal growth in space or terrestrial environments. This technology is an important advance in the search for the newest generation of wonder drugs, and the company also has used it to develop commercial 3D cameras for various machine vision and automated 3D vision systems.

### **Video Enhancement System from Intergraph Corporation** (Huntsville)

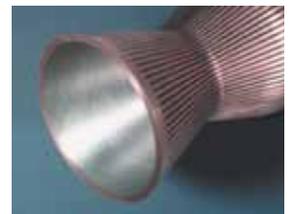
Video Image Stabilization and Registration (VISAR) technology, developed by Marshall scientists to help FBI



agents analyze video footage of the deadly 1996 Olympic bombing in Atlanta, Georgia, has been licensed to Intergraph Corporation. Intergraph's Video Analyst® System for video enhancement and analysis meets the stringent demands of law enforcement, intelligence, and military applications. The software has an easy-to-learn, user-friendly interface that allows the average person to utilize the technology on a home computer.

### **Plasma Spray Nozzles by Plasma Processes, Inc.** (Huntsville)

Working with Marshall under an SBIR contract, Plasma Processes has developed vacuum plasma spray (VPS) nozzles for applying coating material in thermal applications, such as on rocket engines and other parts for NASA. The nozzles, which reduce overspray and virtually eliminate shock waves and expansion fans, are both for sale and being used by Plasma Processes to provide plasma spray coating services at its spray facility for clients around the world.



*VisiScreen is a registered trademark of Vision Research Corporation.*

*SpecterView is a trademark of Southern Vision Systems, Inc.*

*Video Analyst is a registered trademark of Intergraph Government Solutions, Inc.*

\*Publication herein does not constitute NASA endorsement of the product or process, nor confirmation of manufacturer's performance claims related to any particular spinoff development.