



# 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 economic impact here on Earth?



In 2011, NASA invested nearly **\$817 million** in the state of Alabama.

Since 2001, NASA's SBIR/STTR Program has invested over **\$37 million** in **31 Alabama companies** and more than **\$1.2 billion** nationwide.

## How NASA's SBIR/STTR Program Benefits Alabama

NASA is committed to moving technologies and innovations into the mainstream of the U.S. economy, and the Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program helps fulfill this goal.

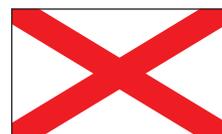
SBIR/STTR stimulates technological innovation by encouraging small, high-tech companies—particularly minority and disadvantaged businesses—to partner with NASA to help meet its research and development needs in key technology areas. At the same time, this program strengthens small companies by enabling them to bring cutting-edge new products into the U.S. economy.

The list to the right highlights Alabama businesses that received SBIR/STTR contracts from NASA since 2001. (Visit <http://sbir.nasa.gov> for more information on the SBIR/STTR program.)

### NASA SBIR/STTR Companies in Alabama

2L Research .....	Owens Cross Roads
Advanced Optical Systems, Inc. ....	Huntsville
AI Signal Research, Inc. ....	Huntsville
Alpha Beta Technologies, Inc. ....	Huntsville
Analytical Services, Inc. (ASI) .....	Huntsville
Archangel Systems, Inc. ....	Auburn
AZ Technology Corporation .....	Huntsville
CFD Research Corporation .....	Huntsville
ComFrame Software Corporation .....	Birmingham
Digital Fusion, Inc. ....	Huntsville
Diversified Scientific, Inc./Insilicor .....	Birmingham
Dynamic Concepts, Inc. ....	Huntsville
Engineering Sciences, Inc. ....	Huntsville
Frendi Research Corporation .....	Madison
GATR Technologies .....	Huntsville
KT Engineering Corporation .....	Madison
Morgan Research Corporation .....	Huntsville
New Century Pharmaceuticals, Inc. ..	Huntsville
Orion Propulsion, Inc. ....	Huntsville
PERL Research, LLC .....	Huntsville
Photon-X, Inc. ....	Huntsville
Plasma Processes, Inc. ....	Huntsville
Plumetech .....	Huntsville
Radiance Technologies, Inc. ....	Huntsville
Reisz Engineers .....	Huntsville
Research South, Inc. ....	Huntsville
Scientific, Inc. ....	Huntsville
SRS Technologies .....	Huntsville
Streamline Automation, LLC .....	Huntsville
Tec-Masters, Inc. ....	Huntsville
United Applied Technologies, Inc. ....	Huntsville
Weld Star Technology, Inc. ....	Auburn

alabama





## ***Inflatable Antenna Supports Humanitarian Relief Efforts*** (Huntsville)

A technology with roots in the Small Business Innovation Research (SBIR) program is benefiting from an ongoing technology transfer relationship with NASA and leading to faster on-the-ground communications support for disaster relief efforts. The inflatable antenna from GATR Technologies provides emergency Internet access, cell coverage, and phone lines over satellite networks via a compact package that deploys in less than an hour. GATR has deployed this technology as a critical support tool for first responders from Haiti to Afghanistan.



## ***Vibration Analysis Software Diagnoses Mechanical Issues*** (Huntsville)

In 1993, AI Signal Research, Inc. was awarded a NASA contract to develop vibration analysis software for the space shuttle. The resulting software—PC-SIGNAL—was so successful that NASA continues to use it on a daily basis for developing and testing propulsion systems. The U.S. Department of Defense and numerous commercial aerospace companies also use the software for dynamic signal analysis, system health monitoring, flight data analysis, flow data analysis, and fatigue analysis and monitoring.



## ***NASA Spinoff Measures Heat Potential*** (Huntsville)

Thanks to the core competencies developed through contracts with NASA, a woman-owned Alabama company has commercialized several optical measurement tools. AZ Technology Corporation first created its spectral reflectometer to help NASA measure thermal properties of surfaces in space. Since then, the technology has been used to maintain proper temperatures in neonatal intensive care beds, qualify reflectors for infrared camera systems, and qualify heat exchanger pipe coatings in solar collectors and roofing materials for ENERGY STAR designation.



## ***Vision Screening Detects Eye Diseases in Children*** (Birmingham)

An optics technology originally developed by NASA for space telescopes in the 1970s has found new life as a highly successful screening device for the detection of vision problems in children. Vision Research Corporation's vision screening system has helped detect eye abnormalities and eye diseases in millions of infants and children. This photorefractive technology provides fast, non-invasive, early screening for conditions such as nearsightedness, farsightedness, astigmatism, cataracts, and amblyopia (or "lazy eye," the leading cause of preventable blindness in children).



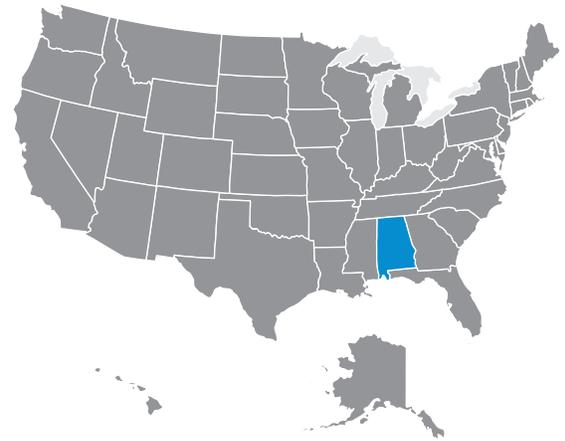
## ***NASA Research Benefits Pharmaceutical Drug Development*** (Huntsville)

NASA's research on crystal growth in microgravity has evolved into a new sensor that provides real-time image recognition capabilities. The spatial phase imaging sensor, marketed by Photon-X, identifies and monitors targets ranging in size from microscopic crystals and faces to automobiles, aircraft, and terrain. The technology is used primarily in pharmaceutical drug development and crystallization experiments, but it also has applications for law enforcement, homeland security, surface damage assessments, and more.



## ***Smart Camera Captures High-Speed Images*** (Madison)

NASA uses smart camera technology to help its autonomous vehicles rendezvous safely with other spacecraft. NASA funding enabled Southern Vision Systems, Inc. to develop a smart camera which provides real-time image processing of over 500 frames per second. The product enables scientists and engineers to achieve rapid prototyping and diagnostics on optical systems. It is also used for quality assurance, product inspection, and automated manufacturing of everyday products.



NASA actively seeks partnerships with U.S. companies that can license NASA innovations and create "spinoffs" in areas such as health and medicine, consumer goods, transportation, renewable energy, and manufacturing. When businesses leverage NASA technologies to develop new products, it not only benefits the regional economy, but significantly strengthens the nation's competitiveness in the global marketplace.

NASA's centers across the country—including Marshall Space Flight Center in Alabama—have helped 55 Alabama companies develop revolutionary spinoff technologies.

Learn more about how NASA innovations benefit the public in *Spinoff*, an annual publication that highlights NASA's most significant technology transfer successes. (Available at: <http://www.sti.nasa.gov/tto>)

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