



NASA's Economic Impact in Texas: A Tech Transfer Perspective

You know that NASA studies our planet, our sun, our solar system, and our universe. But did you know that the space program is having impacts here on Earth?

The Innovation Partnerships Office at **NASA's Johnson Space 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 NASA's impacts in Texas. Or contact us for more information.

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Small Business Innovation Research/Small Business Technology Transfer

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

In the past 6 years, Texas companies have received
\$44.4 million in funding from NASA's SBIR/STTR Programs.

The following lists Texas businesses that received NASA SBIR/STTR contracts between 2004 and 2009. Individual projects lasted between 6 and 24 months, with funding ranging from \$70,000 to \$600,000, depending on the year of participation and the type of contract awarded.

<i>Company</i>	<i>Texas location</i>	<i>Company</i>	<i>Texas location</i>
Advanced Powder Solutions	Houston	Nanohmics	Austin
AM Biotechnologies	Galveston	NanoTex Corp.	Houston
Austin Satellite Design	Austin	Odyssey Space Research	Houston
Balcones Technologies	Austin	Omega Optics	Austin
BioTex	Houston	Operational Technologies Corp.	San Antonio
Carbon-Carbon Advanced Technologies	Kennedee	Opin Technologies	Austin
Coherent Logix	Austin	Polatomic	Richardson
Dallas Optical Systems	Rockwell	Quantum Logic Devices	Georgetown
Entech Solar	Fort Worth	QuickFlex	San Antonio
GeneXpress Informatics	Austin	StarVision Technologies	College Station
HPN Software Consultant	Houston	Systems & Processes Engineering Corp.	Austin
Integrated Micro Sensors	Houston	Tietronix Software	Houston
Invocon	Conroe	TRAC Labs	San Antonio
Ionwerks	Houston	TXL Group	El Paso
Lithium Power Technologies	Manvel	Valeo Human Performance	Houston
Lynntech	College Station	Vcrsoft	Arlington
MEMtronics Corp.	Plano	Whereabout	Universal City
Metrica	San Antonio	Winzen Engineering	San Antonio
Nan ErerTex	Houston	Zyvex Instruments	Richardson



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

texas



Spinoffs and Other Licenses

Innovative technologies from NASA's space and aeronautics missions can be used in other ways that benefit society. Therefore, NASA is committed to "spinning off" its innovations into new products—as well as providing access to its technologies, facilities, and expertise. The following presents just a few of the Texas companies that have accessed NASA technology through Johnson Space Center.

Organization	Use of Space Program Technology
Ad Astra Rocket Co. Webster	Licensed a Variable Specific Impulse Magnetoplasma Rocket (VASIMR®) engine for propulsion, waste processing, and plasma production
Astro Technology Houston	Modified fiber-optic sensor system (FOSS) used in NASA robotics for monitoring and determining fatigue and service life of sub-sea pipelines
CardioSoft® Houston	Licensed high-frequency QRS electrocardiogram systems and other technologies for human and animal medical applications
Invocon Conroe	Developed MicroWIS-XG, which can be used for sensing environmental, temperature, strain, and pressure parameters for such applications as monitoring external grout pressure during the building of tunnels
Knowledge-Based Systems College Station	Developed several SBIR-funded software tools for advanced planning, scheduling, knowledge management, and research for NASA missions that are now also being used for military and private-sector applications
MicroMed Cardiovascular Houston	Developed the DeBakey VAD™ implantable ventricular assist device for patients who suffer from congestive heart failure
Mission Technologies San Antonio	Licensed a portable catapult launcher for small unmanned aerial vehicles (UAVs) used in remote sensing, communications relay, and other applications
Regenotech®, Inc. Houston	Utilizing NASA bioreactor technology for growth of human progenitor cells
Synthecon Houston	Licensed low-cost, easy-to-use, rotary cell culture microgravity bioreactors
Tietronix Software Houston	Introduced TieFlow, a business process improvement tool that can automate and simplify any generic or industry-specific work process
Zeno Corp. Houston	Leveraged NASA engineering support to redesign a heating element for a hand-held acne-fighting device
Zyvex Instruments Richardson	Developed NanoSolve® solubilized carbon nanotubes, which have been incorporated into bicycle parts and other sporting goods by Easton Sports

Partnerships

Forming partnerships that add value to NASA is essential for the success of the space program. These alliances allow NASA to achieve its space exploration, science, and other mission aims faster. Furthermore, by combining our resources with those of our partners, we can more efficiently realize our mutual goals. The following lists just a few of the Texas organizations that have recently partnered with Johnson Space Center.

Organization	Partnership Focus
Ad Astra Rocket Co. Webster	Alternative rocket propulsion technology
Astrotech Corp. Austin	Testing of a miniature mass spectrometer
Bay Area Houston Economic Partnership Bay Area Houston	Cooperative community outreach activities
BioDri Houston	Testing of antimicrobial fabric
Houston Astros	Sports and exploration education partnership
Houston Technology Center Houston	Technology transfer/commercialization workshop and other collaboration activities
Orthofix McKinney	Bone and cartilage regeneration and prevention of bone deterioration
Southwest Research Institute San Antonio	CO ₂ compressor risk mitigation testing
Texas Children's Hospital Houston	Studying the effects of vibrations during transport of infants in neonatal incubators
University of Houston	Cooperative development of counter-terrorism solutions and security enhancements
University of Texas at Austin	Nano-electronic research and development
University of Texas Medical Branch Galveston	Vestibular function in clinical/astronaut populations

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DeBakey VAD is a trademark of MicroMed Cardiovascular, Inc.
Regenotech is a registered trademark of Regenotech, Inc.
NanoSolve is a registered trademark of Zyvex Instruments.
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