National Aeronautics and Space Administration

NASA's Impact in New Hampshire: 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 over **$23 million** in the state of New Hampshire.

Since 2001, NASA's SBIR/STTR Program has invested over **$20 million** in **8 New Hampshire companies** and more than **$1.2 billion** nationwide.

How NASA's SBIR/STTR Program Benefits New Hampshire

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.

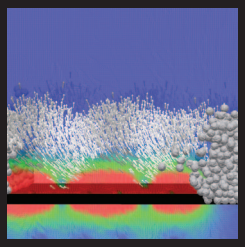
The list to the right highlights New Hampshire businesses that received SBIR/STTR contracts from NASA since 2001. **(Visit http://sbir.nasa.gov for more information on the SBIR/STTR program.)**

NASA SBIR/STTR Companies in New Hampshire

Applied Geosolutions, LLC	Durham
Creare, Inc.	Hanover
Erigo Technologies, LLC	Enfield
GPD Optoelectronics Corporation	Salem
Mikros Manufacturing, Inc.	Lebanon
Precitech, Inc.	Keene
QmagiQ, LLC	Nashua
Spire Semiconductor, LLC	Hudson

new hampshire

How NASA Spinoffs Benefit New Hampshire

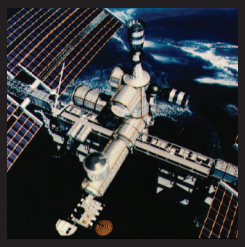


Computer Models Simulate Fine Particle Dispersion
(Lebanon)

The Moon's surface is covered with dust, lunar soil, and rock, which can pose problems for astronauts and their equipment. Through a NASA Seed Fund partnership, NASA and DEM Solutions USA, Inc. enhanced modeling software to simulate lunar dust behavior. DEM's enhancements to its commercial software have since been adopted by several prominent, non-aerospace U.S. companies, including John Deere, Pfizer, and Procter & Gamble.

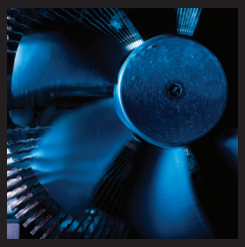
Tough Textiles Protect Police and Troops
(New Ipswich)

NASA partnered with Warwick Mills, Inc. to create airbags tough enough to protect the Mars Pathfinder and Mars Exploration Rover during descent and landing. Developing these advanced airbag textiles enabled Warwick Mills to create a new line of puncture- and impact-resistant body armor. Warwick customers include the United States Marine Corps, the New York State Department of Corrections, the Federal Bureau of Prisons, and police departments throughout the United States.



Micro-Machining Enhances Precision Fabrication
(Claremont)

A NASA-sponsored project to develop an ammonia evaporator for thermal management aboard the Space Station Freedom helped Mikros Technologies, Inc. become a market leader in micro-electrical discharge machining (micro-EDM). Under an SBIR contract, Mikros developed a micro-EDM technology to enhance the ammonia evaporator. Mikros commercialized the work and has become a world leader in the fabrication of stainless steel micro-nozzles for industrial inkjet printing systems.



Designing Cool Components *(Hanover)*

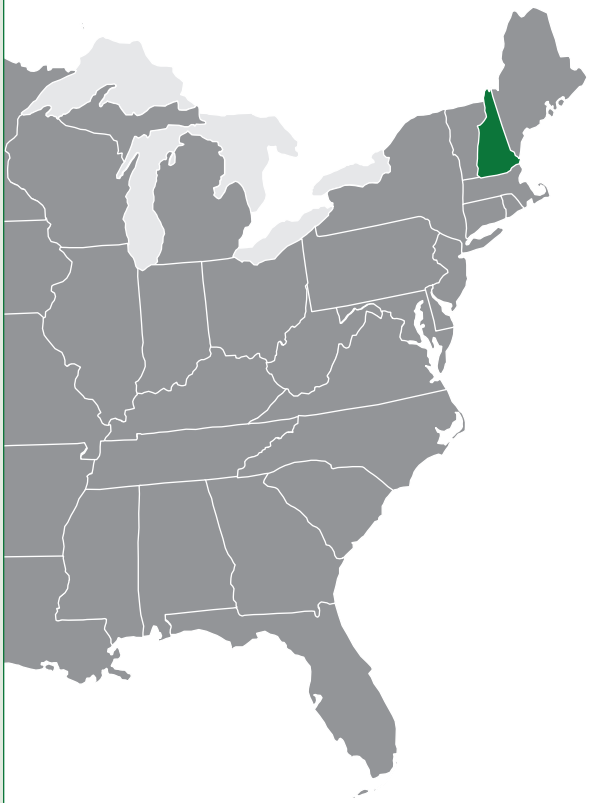
In compact electronics, slight changes in component placement, fan size, and vent location can have a major impact on thermal performance. With NASA funding, Daat Research Corporation developed thermal design software to address heating and cooling problems in electronics. The award-winning software reduces the time and effort invested in prototyping and testing, improves design, and helps optimize components.

The Center of Attention *(Hanover)*

Creare, Inc. developed a software server that provides a buffered network data path between suppliers and consumers. Originally created to help NASA collect and process aircraft vibration test data, the software can also be used for industrial monitoring, collaborative simulation and modeling, and multimedia data streaming. Creare released an open source version of the product, Apache License 2.0, through the Apache Software Foundation.

Design Tool for Modeling Flow *(Lebanon)*

Under a NASA contract, Fluent, Inc. (a subsidiary of ANSYS, Inc.) developed a computational fluid dynamics software package to help engineers compute flow around complex shapes. The software models flow, turbulence, heat transfer, and reactions in a wide array of applications, such as air flow over an aircraft wing, combustion in a furnace, blood flow, semiconductor manufacturing, and motor vehicle aerodynamics.



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 have helped 19 New Hampshire 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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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.

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