



NASA's Impact in New Jersey: 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 **\$16 million** in the state of New Jersey.

Since 2001, NASA's SBIR/STTR Program has invested over **\$38 million** in **29 New Jersey companies** and more than **\$1.2 billion** nationwide.

newjersey



How NASA's SBIR/STTR Program Benefits New Jersey

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 Jersey 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 Jersey

- American Android CorporationPrinceton
- Amplification Technologies, Inc.Paramus
- Artann Laboratories, Inc.Lambertville
- Ashwin-Ushas CorporationMarlboro
- Continuum Dynamics, Inc.Ewing
- Diamond Materials, Inc.Piscataway
- Discovery Semiconductors, Inc.Ewing
- Folded Structures Company, LLC.....Ringoes
- JMSI, Inc. dba Intelligent Light.....Rutherford
- Lamart CorporationClifton
- Lenterra, Inc.Newark
- MaXentric Technologies, LLCFort Lee
- Mechanical Solutions, Inc.Whippany
- NanoPulse, LLCBridgewater
- NEI CorporationSomerset
- New Jersey Microsystems, Inc.Newark
- PlasmaSol, LLCHoboken
- Policell Technologies, Inc.Metuchen
- Princeton Lightwave, Inc.Cranbury
- Princeton Power Systems, Inc.Princeton
- Princeton Satellite Systems, Inc.Plainsboro
- Princeton Scientific Instruments, Inc.Monmouth Junction
- Sensors Unlimited, Inc.Princeton
- Structured Materials Industries, Inc.Piscataway
- UniRF Technologies, Inc.Skillman
- United Silicon Carbide, Inc.Monmouth Junction
- Valcor Engineering CorporationSpringfield
- Wayne Machine & Die CompanyTotowa
- WEVOICE, Inc.Bridgewater

How NASA Spinoffs Benefit New Jersey



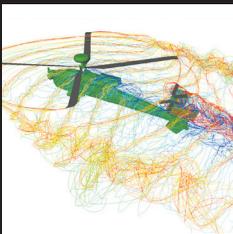
Historic Space Camera Collaboration Is Boon for Consumers (*Parsippany*)

For five decades, Sweden's Victor Hasselblad AB (also Hasselblad USA, Inc.) has supplied camera equipment to NASA for use in space missions. From the first Mercury mission to the final space shuttle voyage, Hasselblad cameras were onboard producing historic images such as the first spacewalk and lunar landing. The stringent demands of space travel require special modifications to increase camera reliability and durability. The long NASA partnership enabled the company to transfer many key features and improvements to their Earth-bound Hasselblad line available for consumers.



Technology Enables Remote Diagnoses from Space to Sports Locker Rooms (*Springfield*)

Ultrasound technology developed to diagnose illness and injury aboard the International Space Station is being used on Earth to evaluate conditions at remotely located care facilities. NASA collaborated with Mediphan, Inc. to produce the technology, which captures, transmits, and stores diagnostic-quality ultrasound imagery and video. Individuals with limited medical experience can install and use the technology to send images to distant doctors to diagnose a wide range of conditions. Traveling sports teams, satellite clinics, military units, and astronauts are benefitting from this NASA-derived innovation.



Software Models Aerodynamics of Rotorcraft for NASA, Military Designs (*Ewing*)

Continuum Dynamics, Inc. collaborated with NASA via SBIR contracts to develop computer software that models the complete aerodynamics of rotorcraft in general flight conditions. The software models a broad spectrum of rotorcraft attributes, including performance, blade loading, and air flow fields and incorporates an advanced free vortex wake model to provide accurate wake simulation. Designers can explore high-risk technologies, expand design parameter ranges, and evaluate critical components with a high level of detail. The software is used by major rotorcraft manufacturers, NASA, and the military.



Advanced Cameras Reveal Hidden Details for Science, Defense, Inspection Uses (*Princeton*)

Multiple SBIR contracts enabled Sensors Unlimited, Inc., now part of Goodrich Corporation, to refine advanced imaging technology that was instrumental in helping NASA confirm the presence of water on the moon. The company produces short wave infrared (SWIR) cameras that extend vision into wavelengths normally invisible to the eye. The technology ensures optical signal integrity, detects product defects, and gauges crop health and ripeness, to name a few commercial uses. Applications abound in a diverse group of industries: defense, security, automated inspection, biomedical, telecommunications, instrumentation, and microscopy.



Valve Offers High Performance, Safe Relief for NASA, Navy, and Industry (*Montville*)

NASA funding enabled Marotta Controls, Inc. to improve the design for a high-performance pressure relief valve used in pneumatic, hydraulic, and cryogenic applications. The non-impact, no-oscillation PRV95 valve employs upstream control for positioning, making it dependable with excellent repeatability. It is also unique in its ability to maintain a seal near the set point of the relief limit. NASA applications are in launch vehicles and facilities. Other customers include the U.S. Navy and aerospace firms.



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 68 New Jersey 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>)

National Aeronautics and Space Administration

**Office of the Chief Technologist
NASA Headquarters
Washington, DC 20546**

www.nasa.gov

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