NASA Glenn Research Center's Impacts in Ohio

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

Glenn Research Center's Technology Transfer & Partnerships Office (TTPO) 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 Ohio. Or contact us for more information.

Kathy Needham, Chief
Technology Transfer & Partnerships Office
(216) 433-2802
kathleen.k.needham@nasa.gov
http://technology.grc.nasa.gov

More information on the SBIR/STTR Program is available online: http://sbir.nasa.gov

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

The 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.

Since 1983, NASA's SBIR/STTR Program has invested **$62.6 million** in Ohio's small companies.

The following lists Ohio businesses currently participating in NASA's SBIR/STTR Program. Those marked with an asterisk also received funding under Ohio's Third Frontier Research Commercialization Grant Program, which has provided almost $1 million in additional funding to these firms to improve the commercial viability of their SBIR/STTR technologies.

Company	Ohio location
A&P Technology	Cincinnati
Alphaport, Inc.	Cleveland
Cornerstone Research Group, Inc.	Dayton
Essential Research, Inc.	Cleveland
H-Cubed, Inc.	Olmsted Falls
HyperTech Research Inc.*	Columbus
Innovative Scientific Solutions, Inc.	Dayton
KJB Consultants	Strongsville
Lake Shore Cryotronics	Westerville
Maverick Corp.	Cincinnati
Nastec, Inc.	Cleveland

Company	Ohio location
N&R Engineering	Parma Heights
NexTech Materials, Ltd.	Lewis Center
Pentalim Corporation	Findlay
Powdermet, Inc.	Euclid
Sest, Inc.	Middleburg Heights
Sunpower, Inc.	Athens
Sun Valley Technology	Warrensville Heights
TechLand Research, Inc.	North Olmsted
UES, Inc.	Dayton
WebCore Technologies	Miamisburg
Zin Technologies, Inc.*	Cleveland

The following Ohio companies recently received additional NASA funding, totaling more than $1.3 million, to apply their technologies to the aeronautics and space programs under SBIR Phase 3.

Company	Technology/Product
A&P Technology, Cincinnati	Tough, reduced-weight, cost-effective, damage-tolerant fan case designs
WebCore Technologies, Inc. Miamisburg	Reliable, damage-tolerant material for containing engine fans in supersonic jets
Zin Technologies, Inc. Cleveland	Device to hold astronauts on a treadmill while flying aboard the International Space Station

Innovative Partnerships Program Ohio

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 Ohio companies that have accessed NASA technology.

Company/Partner	Spinoff/Licensed Technology
ADMA Products, Inc., Hudson, and Hohman Plating and Manufacturing, Dayton	Licensed and incorporated a NASA Glenn-developed self-lubricating composite technology into their respective product lines.
EGC Enterprises Inc., Chardon	Used NASA's Icing Research Tunnel to develop its Q•Foil Rapid Response Thin-Film Heater, which can be used for in-flight deicing of aircraft wings and could be used in cooking griddles, small cabinet heaters, and several laboratory uses.
Diebold, Inc., North Canton	Licensed a video event trigger and tracking system developed at NASA Glenn for use in surveillance systems.
Diversified Services Corp., Cleveland	Received help from NASA in developing Nutrigras, a nutritional fat replacement and flavor enhancement product for beef patties and other high-fat meat products as well as in soups, sauces, bakery items, and desserts.
Kelly Aerospace Thermal Systems LLC, Willoughby	Collaborated with NASA scientists to develop Thermawing, a lightweight, easy-to-install, and reliable wing and tail deicing system for aircraft.
Innovative Engineering and Consulting Infrared Systems, Cleveland	Received NASA assistance to develop the NightStalkIR and IntrudIR Alert Systems, which are now being used abroad to locate personnel stranded in emergency situations and protect high-value operations.
EDAptive Computing Inc., Centerville	Received SBIR funding to develop the EDAstar engineering software tool suite, which is being used in military and defense applications, aerospace corporations, and at NASA.
St. Alban Episcopal Church, St. Stanislaus Church, and the Cleveland Clinic Foundation, Cleveland	Partnered with Glenn Research Center to use atomic oxygen to remove smoke damage and aged varnish from paintings as well as for biomedical applications.

Note: Publication herein does not constitute NASA endorsement of the product or process, nor confirmation of manufacturers' performance claims related to any particular spinoff development.

Other Ohio Partnerships

Glenn Research Center's TTPO also seeks out other collaborations with commercial, academic, and government entities to ensure that space program technologies are developed quickly and cost-effectively while helping meet the goals of our non-NASA partners.

Goodyear Tire and Rubber Company (Akron)

Researchers at NASA Glenn and Goodyear are collaborating to understand the types of lunar and Earth vehicles that could use the wire-mesh, airless/rubberless tires developed in the 1960s for the Apollo Lunar Roving Vehicle. The project includes the modeling, building, and testing of several prototypes toward future exploration of the Moon as well as Earth-based passenger vehicles.

Parker-Hannifin (Cleveland)

Researchers at NASA Glenn are working with Parker-Hannifin as well as Massachusetts-based Aspen Aerogels to advance a NASA-developed technology for cross-linking aerogel composites with polymers. The resulting material could be used in thermal and acoustic insulation as well as in lightweight, damage-resistant multifunctional structures for aircraft, space suits, cryogenic storage tanks, and other aeronautic and space applications.

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