

LAUNCHING

ADVANCED ENERGY »

REGIONAL GROWTH »

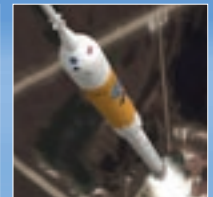
BUSINESS INVESTMENT »



OPPORT

WE CAN ATTRACT NEW BUSINESS

High-tech companies, university research partnerships, public and private contractors, federal and state agencies, educational and space-related tourism ...



WE CAN DEVELOP NEW TECHNOLOGIES

Alternative energy and bioscience start-ups, aerospace engineering, green building, wind energy, knowledge-based industries, advanced manufacturing ...



WE CAN GROW OUR REGION

Job creation, economic development, improved infrastructure, cleaner environment, business parks, recreation, hiking trails, entertainment ...

OPPORTUNITIES

HOW? »



BY LEVERAGING
OUR EXISTING STRENGTHS NOW »

» **BUILDING A 9,000-FOOT RUNWAY AT NASA GLENN RESEARCH CENTER'S PLUM BROOK STATION**

It starts in Ohio, it ends in space. Ohio is uniquely fortunate to have the world's largest and best proving grounds for testing new rockets and satellites before they are launched into space. These little-known facilities, which simulate the space environment, are located in a natural setting on 6,400 acres of federal land just outside of Sandusky in the midst of the diverse ecosystems and wildlife of the Sandusky Bay region, just minutes from Lake Erie.

The facilities at Plum Brook Station can position Ohio to be a leader in the aerospace industry. NASA Glenn Research Center has secured a leadership role in the development of the Orion spacecraft – the next generation vehicle to replace the space shuttle. The Orion spacecraft will be tested at Plum Brook Station, as will other space systems that will eventually fly to the moon. This and other work taking place at NASA Glenn will have a significant impact on the region's economy for years to come. But the potential for much more work in Ohio has yet to take flight.

While Plum Brook is easily accessible by highway, rail and waterway, the missing link is air transportation. A 9,000-foot runway located on site would help Plum Brook reach its full potential. The lack of an airfield close by is an impediment to exploiting the test capabilities of Plum Brook Station. The closest runway currently capable of servicing the facility is the Air National Guard's Mansfield Lahm Airport, located 60 miles away. This distance can be prohibitive and has led to missed

opportunities to bring new work into Ohio. Among the many benefits, a runway at Plum Brook would:

- » Enable sensitive testing equipment to be delivered directly to Plum Brook by air from anywhere in the country or the world.
- » Allow researchers, engineers, astronauts and contractors from around the globe to visit Plum Brook efficiently and on short notice.

Space is a \$200 billion industry. A runway at Plum Brook could:

- » Potentially create jobs for Ohioans in all sectors of the economy from advanced technology and alternative energy to recreation and hospitality.
- » Attract high-tech companies to locate and grow near Plum Brook, bringing resources, jobs and people to live, work and play in the surrounding communities.

If we do not make Plum Brook more convenient and attractive now, business will look elsewhere. We want their focus to be here – now.

For these reasons, the Greater Cleveland Partnership is making it a priority to secure a 9,000-foot runway at Plum Brook Station.

We invite you to join us in envisioning what a runway at Plum Brook may mean for the future prosperity of our communities, our region and Ohio.



OUR PLACE IN SPACE, PLUM BROOK STATION »



» TESTING FOR SUCCESS

Plum Brook Station provides the critical confidence to makers of satellites, rockets and spacecraft that their expensive hardware will work in space. Capable of reproducing the extreme environmental conditions of deep space, planetary surfaces and low earth orbit, Plum Brook is the site of the most comprehensive space simulation testing facilities in the world, all in a single location. Founded in 1941 by the U.S. War Department, it was purchased by NASA in 1956. The five facilities currently in operation include:

Space Power Facility (SPF): The world's largest vacuum chamber for large-scale ground testing in a simulated space environment, subjecting equipment to extremely hot and cold temperatures before taking it to space. NASA has deemed the SPF a key component of its future ability to fulfill critical missions.

Spacecraft Propulsion Research Facility: The world's only facility that simulates the actual flight conditions of full-size rocket engines.

Hypersonic Tunnel Facility: The nation's largest clean-air wind tunnel capable of performing tests up to seven times the speed of sound.

Cryogenic Propellant Test Facility: One of the most advanced facilities in the world for testing high-energy space propulsion systems, including the only large-scale lunar/planetary dust test facility.



Cryogenic Component Laboratory: Permits high-pressure testing of space components using liquid hydrogen, oxygen and/or nitrogen, including slush propellants.

Notable past work has included conducting:

- » Full-scale landing tests for Mars Exploration Rover air bags
- » Deployment testing for International Space Station radiators
- » Testing for the Centaur and the Delta III upper-stage rocket boosters
- » Payload fairing separation tests for all Atlas, Delta, Titan and Ariane rockets
- » Testing for air breathing hypersonic propulsion technology

Today, Plum Brook is where the action is for testing of the planned Orion space vehicle that will carry astronauts to the International Space Station by the middle of the next decade.

- » NASA is investing \$64 million in Plum Brook to conduct thermal, acoustic and vibration tests on key systems associated with the Orion spacecraft, working in conjunction with its contractor, Lockheed Martin. This new capability will provide the world's only comprehensive testing of large spacecraft, all under one roof.
- » NASA Glenn is already supervising design and construction of the service module for the nation's \$8.2 billion Orion project, due to be ready for flights in about five years and lunar missions by 2018.

Plum Brook Station can do so much more. Many contractors do not use Plum Brook because they cannot fly equipment directly to the facility at this time. **A runway will bring new work into Ohio – work we can't afford to lose and shouldn't have to.**

THE FUTURE
IS ALREADY HERE »



» **A RUNWAY AT PLUM BROOK WILL LAUNCH OPPORTUNITIES FOR:**

- » Plum Brook to become the **preeminent space simulation testing** center in the world by enabling sensitive equipment to be flown directly to the facility.
- » A **thriving business park** where high-tech companies develop and grow, and knowledge workers invest and live.
- » **Partnerships** among Ohio's many universities, research institutions, medical centers and businesses with common interests.
- » Technology transfer and commercialization activity in such areas as alternative energy and green technologies, **creating jobs and capital**. Examples include solar cells, wind turbine technology, hydrogen generation and production technology, and biofuels.
- » Nature trails that connect the 6,400 acres of Plum Brook Station to the rest of the community and other **recreational and entertainment amenities** of the Sandusky Bay region.
- » Visitors to the Sandusky Bay region to enjoy the water rides and the amusement parks, as well as the **educational and space tourism experiences** NASA can offer.



MISSION CRITICAL »



» LAUNCHING OPPORTUNITIES TOGETHER

Ohio has a proven track record of developing public-private partnerships that ultimately result in greater efficiencies for the citizens, businesses and communities they serve. When the government and private sector work together to share resources, risks and rewards, the public's interests are better served and more fully represented. A runway at Plum Brook Station is an outstanding opportunity to develop partnerships that will create jobs, foster innovation and make Ohio even more competitive in the global economy.

Located in Congresswoman Marcy Kaptur's 9th Congressional District, Plum Brook Station is a treasure for all of Ohio and, indeed, an asset for our nation's space program. Strategically located and accessible by interstate, rail and port to the entire country, the missing link is air transportation.

Under the leadership of Congresswoman Kaptur, U.S. Senators George Voinovich and Sherrod Brown, Governor Ted Strickland, Lt. Governor Lee Fisher, and the entire Ohio Congressional delegation, the stage is being set to create additional public-private partnerships at Plum Brook involving:

- » Ohio's universities and research institutions
- » State and federal agencies
- » Advanced technology and alternative energy companies from around the world

Ohio has a proud heritage as the birthplace of aviation and the home of John Glenn who, in 1962, became the first American to orbit the earth. Twenty-four astronauts have called Ohio home, as did the inventors of controlled flight, the Wright brothers. Ohioans continue to make countless contributions to the aerospace industry due, in large part, to successful public-private partnerships. Securing a runway at Plum Brook Station will help us advance this tradition long into the future.

The key to Ohio's role in NASA's space mission could be Plum Brook. Are you ready to help with liftoff?





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