

AEROSPACE RESEARCH CENTER

The Ohio State University's world-renowned Aerospace Research Center (ARC) is enhancing aerospace and aviation across the globe. Located on the Air Transportation and Aerospace Campus, the center focuses the university's aerospace activities to address current and future air transportation challenges.

RESEARCH AND DEVELOPMENT

The center advances aerospace research at The Ohio State University by leading interdisciplinary investigations focused on aerospace technology, and by fostering outstanding graduate and undergraduate student education. Established in 2013, ARC connects longstanding core aerospace strengths across the university, advancing knowledge and technology to perform a wide range of aerospace research projects.

ARC's most prominent research areas are in unmanned aircraft systems, aerodynamic flow control and gas turbine engines.

Unmanned Aircraft Systems

Sometimes called drones or unmanned aerial vehicles, unmanned aircraft systems are the next frontier of aviation. Researchers at ARC are developing solutions to advance fundamental and applied UAS technology. The center has an impressive fleet of FAA-registered aircraft, including vehicles designed and built in-house.

Aerodynamic Flow Control

Maximizing efficiency through aerodynamic flow control is key to achieving the next generation of performance improvements in aircraft. The center's team is leading advancements in this new field of air transportation research, from fundamental to applied projects.

Gas Turbine Engines

Research in gas turbines at the center encompasses topics in jet propulsion and power generation. As leaders in this specialized field, ARC researchers use their expertise to drive engine improvements to reduce fuel consumption and carbon emissions and enhance performance and safety.



ADVANCING AEROSPACE AND AVIATION GLOBALLY

ARC's cutting-edge experimental facilities and computational capabilities have supported groundbreaking discoveries that are now fueling some of industry's latest improvements. With its strategic location at The Ohio State University Airport, the center excels at advancing research from the lab bench to flight.

The strength of the Aerospace Research Center is in the depth and breadth of its expertise. The multi-laboratory team performs a wide range of projects with partners, which often result in significant technology enhancements across the aerospace and aviation field. The center's unique position facilitates collaborations between academia, industry, government labs and other organizations.

Faculty areas of expertise include power and propulsion, aerodynamics, materials science, controls, manufacturing, law, medicine and policy—all connected to aerospace. Over 20 core and associated faculty conduct research through experimental, computational and theoretical approaches. Faculty are supported by a robust team of researchers and technical support staff, with over 45 graduate students and 10 undergraduates engaged in research.

ARC's funding sources are evenly distributed across the federal government, industry and the state of Ohio, with annual expenditures growing from \$2.8 million in fiscal year 2017 to \$8 million in fiscal year 2020.

Notable activities include a Pratt & Whitney Center of Excellence on Blade Tip Rub and the Federal Aviation Administration ASSURE Center of Excellence on Safe and Efficient Integration of Unmanned Aircraft Systems into the National Airspace System. Research findings also directly inform policymaking at the federal level, helping ensure safe and sustainable technology growth for the betterment of society.





SUCCESS TAKES FLIGHT: THE OHIO STATE UNIVERSITY AIRPORT

The Ohio State University Airport (KOSU) serves as a hub to regional industry members, a learning lab for future aviation professionals and a core facility for university research. Since 1942, it has grown to be a nationally recognized leading general aviation facility. KOSU has distinguished itself as central Ohio's premier executive airport. Three runways and a control tower support over 80,000 aircraft operations annually.

Ohio State's airport enhances the future of aviation by supporting research and development. Interdisciplinary projects span general aviation safety, experimental aircraft, aviation accident investigation, weather instrumentation, runway improvements and public safety training. More: osuairport.org

CUTTING-EDGE FACILITIES AND TECHNOLOGY

The unique, custom-designed facilities of the Aerospace Research Center are a critical national resource for discovering new knowledge, inventing technologies and solving society's toughest air transportation challenges. Collaborators, including industry, academia and government organizations often partner with the center on utilizing these high-end facilities. Contract work may be performed at the facilities, which can be extended to a wide variety of situations to meet research and testing requirements.

Partners working with ARC benefit from the skill and knowledge found within its multidisciplinary laboratories. Additionally, ARC researchers have full access to the Ohio Supercomputer Center, located on the university's campus.

OHIO: A WORLD LEADER IN AEROSPACE AND AVIATION

Ohio has a record of success as a leader in the nation's aerospace achievements. Not only does it have a history of aerospace leadership, but it also continues to innovate through a variety of aerospace entities.

Air transportation research and manufacturing initiatives at Ohio State have attracted \$160 million of externally-sponsored research support, including more than \$45 million from industrial partners over the past 10 years.

CONTACT

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