

Formation Flying

North Carolina's airports and aviation and aerospace industry are working together to help the economy soar.

Aircraft need lift and thrust to fly. The Wright brothers proved that more than a century ago on the Outer Banks. It's no different for the aviation industry, which finds enough of both in North Carolina to make an annual economic impact of more than \$40 billion, according to the N.C. Department of Transportation Aviation Division. The lift is generated by the many airports — including one of the nation's busiest — and military bases, and thrust is provided by maintenance, repair and overhaul services, military contracts and a skilled workforce. Explore that relationship inside these pages.



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PROVIDED BY PIEDMONT TRIAD INTERNATIONAL AIRPORT

Aviation companies such as Honda Aircraft Co. and HAECO Americas have set up shop at Piedmont Triad International Airport, which plays a large role in recruitment and development efforts by economic boosters Piedmont Triad Partnership and Greensboro Chamber of Commerce.

Businesses fly high at airports

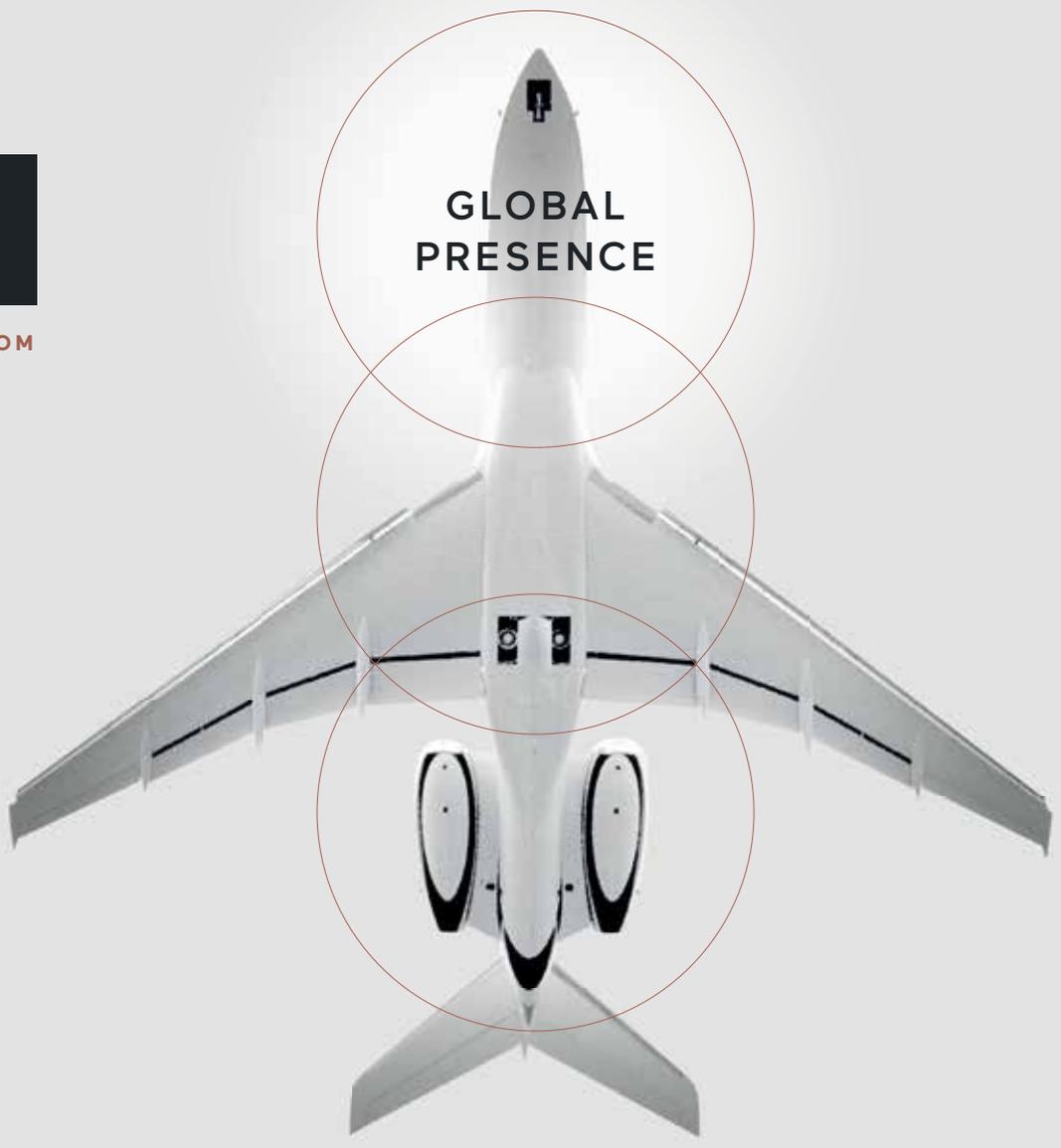
Charlotte Douglas International Airport was the fifth-busiest U.S. airport, measured by takeoffs and landings, in 2015. Many of its 740 daily departures in November 2016 were flown by Fort Worth, Texas-based American Airlines Group Inc., which has made the airport its second-largest hub. Its annual economic output is more than \$13.5 billion, and it supports almost 62,000 jobs.

Those stats make Charlotte Douglas the largest of North Carolina's 72 airports, which combine for a \$31 billion annual economic impact and 123,400 jobs, according to a 2016 N.C. Department of Transportation Division of Aviation study. That's \$5 billion more than in 2012. "Airports mean jobs — on the airport, supporting the airport and supporting the businesses that utilize and rely on them," says Bobby Walston, director of the division.

But they aren't the only ones helping North Carolina fly higher. The state's aviation and aerospace manufacturing industry has an annual economic impact of \$10.5 billion and employs almost 43,000. North Carolina is becoming the preferred destination for businesses whose territory is the sky. Away from commercial takeoffs and landings, office suites and hangar crews provide support and maintenance for customers worldwide. "With companies needing to move around as their corporations expand, you're only going to see airports and aviation grow to meet that demand," Walston says. "North Carolina has fared better than many states in our country, and that continues to play out in that we have a system of airports that greatly benefits with the recruiting of companies. There is definitely a continuous, bright future for aviation in our state."

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Business aviation is taking off

It's easy to see the importance of airports and manufacturers to North Carolina's aviation and aerospace industry. But other businesses play a role in that space. **Victoria Barrow** is vice president of sales for the Southeast at Morrisville-based Jetcraft, which helps its customers acquire and sell business aircraft. Her answers to the following questions offer insight into its part of the aerospace industry.



COURTESY OF JETCRAFT

HOW ARE SALES IN YOUR REGION?

Our sales over the past 18 months are the best in the company's 54-year history. About half of those transactions are coming from the North American market.

WHAT MARKET TRENDS DO YOU SEE? WHICH AIRCRAFT ARE THE MOST POPULAR WITH CUSTOMERS?

We're seeing a move toward bigger models. About two-thirds of our 2016 transactions have been large-cabin, long-range aircraft. That being said, many of my customers also are purchasing small to midsize aircraft for their regional needs.

JETCRAFT HAS OFFICES AROUND THE GLOBE. WHY IS ITS HEADQUARTERS IN NORTH CAROLINA?

Jetcraft was founded in North Carolina 54 years ago. Although the company has grown into a global company with more than 20 offices worldwide, the Raleigh office remains the corporate headquarters. Our deep-rooted history and experience are important pillars to Jetcraft's success.

Greensboro-based HAECO Americas provides maintenance, repair and overhaul services to and manufactures aerospace products for military and civilian customers. It acquired TIMCO Aviation Services Inc. in 2014 and has made a home at Piedmont Triad International Airport, where it's building a fifth hangar. About 500 people will work in the 250,000-square-foot \$60 million structure when it's complete at year's end. HAECO currently employs about 1,600 at PTI. "We also opened a newly renovated facility dedicated to cabin interiors in the Triad, and we expanded our military subcontract to provide depot maintenance, drop-in repair and deployable contract field teams for 100% of the [U.S. Air Force] KC-10 fleet," CEO Richard Kendall says. "We are adding to our employees, capabilities and tools every day to provide a turnkey service for our customers tip to tail, for the life of their aircraft."

Aviation and aerospace companies at PTI need skilled workers. Lucky for them, they are trained on-site. Guilford Technical Community College, which launched its aviation education program nearly 50 years ago, has its three-building Aviation Campus at the airport. Aviation I houses classrooms, labs and a hangar large enough for a Boeing 737. Aviation II is where manufacturing and MRO classes are taught, along with continuing education. The newest building, Aviation III, opened in 2014. It houses a flight simulator. Many of its graduates work for companies at the airport, from the assembly line to the pilot's seat.

HAECO Americas' renovated 260,000-square-foot factory in High Point is where its cabin-solutions division manufactures aircraft interior products. "HAECO Americas has already moved all our cabin-solutions engineers there," says Mark Peterman, division president. "We started moving people in the summer of 2016. We already have certificates of occupancy for the offices, interior fabrication and the manufacturing areas." Panama-based Copa Holdings SA's low-cost airline Wingo installed HAECO's Vector single-aisle economy-class seat in its fleet of four Boeing 737-700s. The seats have carbon-fiber frames, pillow-top cushions and built-in amenities such as eye-level tablet rests and easily accessible power ports. It's the first airline in Latin America to use the seats. "HAECO is perfectly positioned to help airlines like Wingo through every step of the retrofit process. We worked with them on design engineering, certification and product manufacturing."

PTI also is home to Greensboro-based Honda Aircraft Co. and its 1,700 employees. It received a Federal Aviation Administration production certificate for its HondaJet in July 2016, clearing the way for customer delivery. The light business jet has a range of 1,408 miles at a cruising speed of 486 mph, and its price tag is \$4.9 million. Honda Aircraft estimates it will produce 60 per year. There are 20 operating



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in the U.S., Mexico and Europe, which were bought by owners of medium-size businesses, corporations with fleets and high-net-worth individuals, the company says. It's expanding to Canadian and Brazilian markets this year.

A red and silver HondaJet was on display at the Middle East Business Aviation Association show in Dubai in December 2016. The show attracted 460 exhibitors from 48 countries and more than 9,000 attendees. It was the first time the jet was displayed in the region, and nearly 100 purchase inquiries were made there. "With a range that connects the entire Arabian Peninsula, this region could benefit from this high-performance aircraft, and our show presence will help us determine the best timing of Honda Aircraft's entrance in the Middle East market," says Honda Aircraft President and CEO Michimasa Fujino.

Morrisville-based Jetcraft Corp. also was at the Dubai show, where it displayed

a twin-engine 2011 Embraer Legacy 650 that seats 13. Jetcraft helps customers with asset management, connections with hangars, flight plans, charter opportunities, commercial aircraft sales and leases, and fleet planning. "Jetcraft's inventory includes well-maintained aircraft of many models and sizes, from today's leading manufacturers," says Victoria Barrow, Jetcraft's vice president of sales for the Southeast. "Our customers choose to display their aircraft with Jetcraft during business-aviation shows [worldwide] ... in order to increase the visibility of their aircraft and take advantage of meeting potential buyers during the show. And Jetcraft has a proven track record of selling aircraft as a direct result of this marketing tactic."

Private sales of aircraft are increasing. A Jetcraft report predicts it and companies like it will see \$248 billion in revenue over the next decade from 7,879 unit deliveries. The company completed 65 transactions in 2015 worth more than

\$1 billion, and it was on target for 80 transactions in 2016. "According to our forecast, North America will take the largest piece of the pie with 60% of the business-aviation industry's unit deliveries over the next 10 years, and Europe will follow with 15%," Barrow says. "We also are seeing potential in areas [such as] Asia and the Middle East. Our recent results are the company's best since its formation."

Jetcraft's headquarters is at the general-aviation terminal of Raleigh-Durham International Airport, which has 400 flights daily, including 40 nonstop, and an annual economic impact of more than \$8.5 billion. Jetcraft employs nine there, including Barrow and Bucky Oliver, who started the company after taking flying lessons while in college. About 50 more work in 20 offices around the world.

Use of unmanned aircraft, or drones, is escalating in the state. NCDOT's Walston says there are nearly 14,000 registered drones compared with about 8,000 registered manned planes in the state. Drones are used recreationally, publicly and commercially. Farmers, for example, can use them to check crops in their fields. NCDOT predicts they could create \$918 million in annual economic impact and 1,160 jobs. "Drones are going to change the way we see the world. [They are] absolutely doing that," Walston says.

Drones are regulated by the FAA, and their use must comply with Session Law 2014-100, the N.C. General Assembly's outline for their usage in the state. "You have to take a knowledge test, and then you have to receive a permit to operate in North Carolina. That being the case, North Carolina is one of the leading states in the nation in terms of providing guidance and engagement on this technology," Walston says. "A lot of states are sitting back and waiting on the FAA, and there are a lot of unknowns. You still have to meet all the requirements of the FAA. We're focused on the operator." ■

— Kathy Blake is a freelance writer in eastern North Carolina.

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Military aircraft at Fleet Readiness Center East on Marine Corps Air Station Cherry Point and other bases mean money for businesses and host communities.

Military aviation serves North Carolina well

About 200,000 military aircraft maneuvers are conducted at North Carolina's public-access airports each year. "Every public airport in North Carolina is used by our military, and that can be active duty or reserve," says Bobby Walston, director of Raleigh-based N.C. Department of Transportation Division of Aviation. "For example, the Army National Guard uses airports all over the state for search-and-rescue and drug-interdiction missions. The pilots can refuel their planes, reset their missions and get food, so they're important from that aspect. With 72 airports, we have pretty good coverage across the state."

North Carolina is home to Pope Field at Fort Bragg near Fayetteville, Seymour Johnson Air Force Base near Goldsboro, Marine Corps air stations at Cherry Point and New River, and a Coast Guard Air Station near Elizabeth City. The 449th Theater Aviation Brigade of the N.C. Army National Guard is stationed at Raleigh-Durham International Airport and in Rowan County. The National Guard's 145th Airlift Wing is based at Charlotte Douglas International Airport and in Stanly County, and it will soon trade its C-130s for C-17s, which can move larger items, such as tanks, farther.

These installations and commands bring business opportunities. North Carolina businesses received \$2.6 billion in Pentagon prime contracting for fiscal year 2015. North Carolina Military Business Center, part of Raleigh-based N.C. Community College System and headquartered at Fayetteville Technical Community College, helps connect them. "The Department of Defense and the U.S. Coast Guard are a great market for aerospace businesses in our state," says Scott Dorney, NCMBC's executive director. "Our military installations, military depot maintenance facilities and DOD commands and prime contractors across the U.S. are huge potential customers for businesses manufacturing aircraft components and systems, or providing [maintenance, repair and overhaul] services for military aircraft."

NCMBC's plan to grow the industry includes the annual Southeast Region Aerospace Supplier and Advanced Manufacturing Summit, which was held in Winston-Salem in August 2016. "This event brings hundreds of aerospace manufacturers, service providers, major aerospace prime contractors, and DOD and other federal customers to North Carolina," Dorney says. "The CEO of Airbus Americas,

vice president of supply chain for Lockheed Martin Aeronautics, and other senior military and civilian leaders regularly attend the SEASAM Summit.”

In December 2016, HAECO Special Services, a division of Greensboro-based HAECO Americas, announced a subcontract with New York-based L-3 Communications Inc.’s L-3 Vertex Aerospace LLC division. It was the primary recipient of a \$1.9 billion U.S. Air Force contract for main-

tenance and repair of KC-10s, which refuel other planes during flight. HAECO Special Services had worked as a subcontractor to Northrup Grumman Technical Services on the KC-10 program since 2010. It will add 155 employees with the transition to L-3. “The determination of the open-competition process landed on HAECO based on quality, reliability and consistent on-time deliveries,” says HAECO Americas CEO Richard Kendall. “We are all proud of the outstand-

ing abilities of our employees to meet the challenges of high-performance aircraft.”

Fleet Readiness Center East at Cherry Point services four aircraft engines; produces more than 20,000 components supporting nearly 200 different types, models and series of aircraft; manufactures nearly 120,000 parts; and provides engineering and logistical support for rotary wing, vertical and short takeoff and landing aircraft, C-130 and other systems. “In our in-service support center, we have about 1,000 engineers, logisticians and program-management specialists that directly support fleetwide operations for our assigned platforms,” says spokesman John Olmstead. “The remaining 2,600 artisans, mechanics and support personnel are focused on the production of the aircraft, engines and components.”

Seymour Johnson Air Force Base is home to the 916th Air Refueling Wing and its 850 U.S. Air Force reservists. They fly KC135R Stratotankers, providing air-to-air refueling in support of troop, supply, equipment and medical missions worldwide. Its host, the 4th Fighter Wing, flies F-15E Strike Eagles in strategic combat support. The base, which has 12,187 personnel, including 5,819 military, had a total payroll of about \$524 million, generated \$97.1 million in local expenditures and supported 8,755 local jobs in 2015. Businesses in Wayne County amassed 726 military-related contracts worth \$42.4 million in fiscal year 2015.

Reservists from the 916th have deployed to Iraq, Afghanistan, Germany, Spain and Kyrgyzstan. More than 600 have supported the war on terrorism. “The city of Goldsboro and Wayne County not only fought to get the base here [in 1956], the people and the community have supported the base ever since,” says Roy Heidicker, 4th Fighter Wing historian. “The base brings jobs and greater economic opportunity to the city and county. The Military Affairs Committee and the people of Goldsboro and Wayne County have made this community a welcome home away from home for our airmen.” ■

— *Kathy Blake is a freelance writer in eastern North Carolina.*

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