

Gulf Coast Reporters' League

Louisiana Mississippi Alabama Florida



In brief

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Gulf Coast Aerospace Corridor's bimonthly update of aviation activities in the I-10 region

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From the editor

Not everybody consumes information the same way. Some lean towards reading headlines, others just can't get enough.

So to reach as many readers as possible and provide them with information on the recently

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Chapter I: Assembly, maintenance

Mobile's second Airbus passenger jet assembly line is getting noticed, but zoom out and an intriguing bigger picture emerges. To the west of Mobile there's another assembly line for drones, and to the east there's a growing MRO campus in Pensacola. In the next few years this area will need 2,000 assembly and maintenance workers.



Chapter II: Space

The \$345 billion space enterprise has government and commercial players, and the Gulf Coast I-10 region has a foot in both worlds. In the latest move, Relativity Space said it would print 3D rockets at Stennis Space Center, Miss. Meanwhile, NASA is taking steps to develop a 1,100-acre tech park to grab more companies.



Chapter III: Military aviation

Damage from a hurricane altered one base's mission, but no matter how you look at it, whether through the value of their infrastructure, depth of talent, businesses awarded contracts or their critical missions, the Gulf Coast's military bases are a multibillion-dollar ongoing asset for the region, and a critical pillar of the economy.



Chapter IV: Education pipeline

The Gulf Coast I-10 region has the attention of the aerospace industry, and it's taking steps to show it can train a quality workforce at a time the worldwide industry is facing a worker crisis. There are many training programs, including two new ones launched by Airbus and another by Pensacola's National Flight Academy.



Chapter V: Airports

In an era when the region is growing its aviation activities, airports with their all-important runways play a valuable role as a development lure. They give us our curb appeal. Every airport can lay claim to something that sets it apart. One is an air combat center, one a growing MRO center, and one hopes to become a spaceport.



Chapter VI: The four states

The I-10 corridor has plenty of aerospace and aviation assets, and the corridor is part of four states that combined is one of the world's largest. Alabama, Florida, Louisiana, and Mississippi are involved in activities across the spectrum, including assembly and maintenance, military and space, where all have internationally known assets.



An area now on the fast track

A second passenger jet assembly line in Mobile and a growing MRO campus in Pensacola make this area the region's job hotspot

It's stunning how quickly South Alabama has become a center for jetliner manufacturing. First there was the Airbus A320 series, making its first delivery in 2016. Now an A220 assembly line is being built next door. When it starts producing jetliners, it will make Mobile the fourth largest passenger jet manufacturing center in the world.

Impressive, yes, but zoom out from Mobile to the immediate neighborhood and an intriguing bigger picture emerges.

Go 35 miles to the west of Mobile to Moss Point, Miss., and you'll find a second aircraft production line. Northrop Grumman has been churning out finished Fire Scout unmanned helicopters since 2006. Then shift gears and go 60 miles to the east of Mobile to Pensacola, Fla. There you'll find ST Engineering Aerospace, which already operates a maintenance, repair, and overhaul (MRO) in Mobile, creating a major four-hangar MRO campus at Pensacola International Airport in a state that's No. 1 in MROs.

That 135-mile stretch of Interstate 10 with aircraft manufacturing and aircraft maintenance, repair and overhaul, puts this part of the region on the fast track. In the next few years it will need some 2,000 aerospace workers. And if anything



One of the A320 series jetliners built in Mobile, Ala.

Airbus photo

that number could increase with any new suppliers who come in.

Airbus, which is expanding its A320 assembly line as well as building an A220 assembly line, will need 600 to 700 workers. Pensacola, which opened the first ST Engineering hangar last year for 400 workers, will need an 1,300 more for the three new hangars and related operations.

While the entire region is growing its aerospace footprint, this central portion of the corridor is on a roll. But with that growth spurt comes the issue of finding workers in Mobile and Pensacola. (*see Chapter IV*).

While the region has an impressive list of aerospace products, from spacecraft to avionics, it's the aircraft manufacturing that has captured the attention of the aerospace industry. And aircraft maintenance,

repair and overhaul is closely related and a lucrative field that some OEMs are interested in getting involved in. To have both is a plus for a region.

The attention that has been paid to Mobile is understandable. To go from no aircraft production a decade ago to fourth largest in the world is certainly impressive.

But there's another story in Pensacola that is also compelling. That city and its airport has transformed the aerospace outlook for the city. The MROs return to Pensacola something it lost in the 1990s when the Naval Aviation and Repair Depot as Naval Air Station Pensacola was closed during a BRAC round.

For details, see [Chapter I](#)

The investment frontier

The \$345 billion space enterprise has government and commercial players, and this region has a foot in both worlds

Late this year or early next year in South Mississippi, four RS-25 engines and the core stage of NASA's Space Launch System (SLS) will roar to life in a thunderous spectacle during a static test, called a "Green Run," at the historic B-2 test stand.

With a combined 2.2 million pounds of thrust, the engine core test at Stennis Space Center (SSC) will be a display of raw power that will bring back memories of the Saturn V tests of the Apollo era.

"It will probably give the stand a little bit of a workout," SSC director Richard Gilbrech said during the Aerospace Alliance Summit in 2017 in New Orleans, adding with a smile, "My goal is not to become a launch site."

When this test happens, it will underscore the importance of the Interstate 10 region's space-related activities. All the RS-25 engines that will be used in the SLS program were tested at SSC, and the core stage was built at Michoud Assembly Facility (MAF), some 35 miles away in East New Orleans.

As impressive as the test will be, it is just one event in the dynamic 21st century space age, where government and commercial players in the United States and abroad are all vying for a piece of the \$345 billion global industry. And there's plenty of action, from launch services to



NASA's Space Launch System in Block 1 cargo configuration. *NASA illustration*

satellite production, and from space tourism to building space habitats. NASA's ambitious SLS project to send astronauts into deep space is just one piece of the action.

Indeed, commercial companies - many of them getting a lot of publicity - are stepping up their pace. In the most recent move, California's Relativity picked Stennis Space Center as the location where it will print the 3D rockets, Terran 1.

The investment will be some \$56 million and officials say the rocket



Artist's illustration of SSC rocket factory.

factory will bring 200 jobs to NASA's largest test complex.

For established space companies there's more money to be made, and for start-ups there are opportunities for niche activities that could be the start of something big. For economic development professionals, opportunities abound. At least one organization in the region is seeking a license to turn an airport into one of the nation's spaceports.

And, in what might eventually turn out to be one of the most important moves for the long-term health of the space industry in this region, NASA is moving forward with a plan to create "Enterprise Park," a huge technology/research park near SSC as a lure to businesses.

For details see [Chapter II](#)

Military aviation key to the region

Damage from a hurricane altered one base's mission, but the region remains a multibillion-dollar military aviation fortress

When Hurricane Michael hit Panama City, Fla., in October 2018, it brought death and destruction, and also changed the future for one of the region's bases.

Tyndall Air Force Base, where every F-22 fighter pilot was trained, suffered damage or destruction to 90 percent of its buildings. Although the base is being rebuilt, the F-22 training is gone. Instead, Tyndall will be the future home of up to three F-35 squadrons.

The Category 5 hurricane was just one of the significant developments for military aviation in the region since the last aerospace book was published in 2017.

- Eglin will be getting an additional F-35 training squadron
- The 4th Special Operations Squadron took possession of an upgraded gunship
- Air Force will put mini-detachments of AT-6 and A-29 turboprops at Hurlburt Field
- Naval Air Station Whiting Field received new helicopter training simulators and a new outlying field
- AR-22 engine for DARPA's Phantom Express spacecraft was assembled and tested at Stennis Space Center

No matter how you look at it, whether it's through the value of their infrastructure, their depth of talent, the businesses awarded con-



F-35 gets its fuel replenished by an aerial tanker.

U.S. Air Force photo

tracts or their critical missions, the Gulf Coast's military bases are a multibillion-dollar ongoing asset for the region.

According to the *Department of Defense Base Structure Report FY 2018*, there are 44 DoD properties between New Orleans and Panama City, Fla. That includes bases and annexes with a combined replacement value of nearly \$25 billion.

Aviation-focused military bases have a combined replacement value of more than \$21.9 billion - include outlying fields and other aviation-related annexes and it goes up another \$1 billion-plus.

The bases account for a large amount of incoming dollars

through active and retiree payrolls, as well the contracts awarded to local companies for work here and elsewhere. Between 2000 and 2017, 5,153 contractors in 19 I-10 counties/parishes were awarded 111,732 DoD contracts valued at more than \$95.5 billion. Work ranged from crucial military programs to simple maintenance and more.

Every military branch is represented in activities that range from training to logistics. The military is so much a part of the region's fabric that military appreciation events are common.

For details, see [Chapter III](#)

Can aviation pipeline be filled?

The region has the attention of the aerospace industry, and it's taking steps to show it can train a quality workforce

It's been apparent to anyone paying attention to aerospace-related news. Education and training are grabbing headlines locally as the aviation industry continues to grow in the Gulf Coast region.

In May, aerospace giant Airbus announced two training programs in Mobile, one for high school students, another for people already in the workforce with no aviation background who want to shift to the aerospace field.

And there's more. Late last year, there was a groundbreaking for Flight Works Alabama, a combination hands-on learning center designed to pique interest in the industry and an adult education center with nine education partners.

But it's hardly just Mobile. In Pensacola, ST Engineering has launched a scholarship program, and plans to develop a training program as well to ensure it has the workers for its growing maintenance, repair and overhaul campus at Pensacola International Airport.

All this emphasis on education and training is for a good cause. In the immediate future there will be a need for people to fill some 2,000 positions in Mobile and Pensacola. And it's likely more, considering the continued interest the aerospace industry has in this region. And these new jobs are coming at a time when the industry worldwide is fac-



National Flight Academy's virtual reality teaches aviation maintenance. *NFA photo*

ing a shortage of aerospace works, from pilots to mechanics and more.

Today, Airbus produces about four aircraft a month from its \$600 million A320 production facilities at the Mobile Aeroplex. Now it's expanding the A320 line, and also building a \$264 million A220 assembly line next door.

It's having no problem right now finding workers, but the growth has prompted Airbus to launch FlightPath9 and Fast Track.

FlightPath is a nine-month program to encourage young people to explore careers in aviation and aerospace. The Fast Track program is a 12- to 15-week program that will recruit individuals lacking aviation manufacturing experience and give

them the skills, knowledge and ability required for an aerospace maintenance career.

Meanwhile, by the end of 2019, Airbus plans to open its \$6 million, 18,000-square-foot Flight Works Alabama education center. The interactive, hands-on facility's goal is to bolster Alabama's workforce development efforts and inspire young people to pursue careers in aerospace. Besides serving as an education and workforce training center, it will also be a tourist attraction and museum.

For details, see [Chapter IV](#)

Airports grow, so does the economy

In an era when the region is growing its aviation activities, airports with their runways play a particularly valuable role

Hancock County wants to position itself as Mississippi's Space Coast by turning Stennis International Airport into a spaceport.

It already invested \$35 million in infrastructure improvements this past year, including buying nearly 1,200 acres to prevent encroachment and add more land for aerospace and aviation development.

Hancock County Port and Harbor Commission (HCPHC) revealed its plan in April for strengthening South Mississippi's economy. The county has taken the necessary steps to apply for a spaceport license from the Federal Aviation Administration called the "Launch Site Operator License."

It is just one example of the importance to the economy from the unique airports that dot the Interstate 10 corridor along the Gulf Coast.

Every airport from New Orleans to Panama City, Fla., can lay claim to something that sets it apart. One is the largest, one has an air combat training center, one is among the nation's newest, one has three runways.

And growth is underway.

At Pensacola International Airport (PNS), a huge project is underway to increase the size of its maintenance, repair and overhaul activity from one hangar to four. And the company that will use it is



Airports like Pensacola International are lures for the industry.

PNS photo

ST Engineering, one of the leaders in the MRO industry.

In Mobile, a project is underway to shift commercial flights from Mobile Regional Airport to the Mobile Downtown Airport at the Aeroplex at Brookley, where Airbus is located. Officials believe the move will help bring more passengers to an airport near downtown.

These airports range from multi-runway commercial airports with scheduled flights and cargo service to small airfields used by weekend pilots and sky divers. The mix includes military runways used by training aircraft, as well as the most lethal, advanced, high-tech aircraft the world has ever seen. The largest

aircraft in the world can use some of them.

And all of the airports are proven economic engines.

While some have a reach that's primarily local, others have an impact well beyond their local area.

They generate revenue and jobs, and have a ripple effect on businesses that have nothing to do with aviation. And with economic development professionals looking to draw more aerospace and aviation activities to the region, airports are some of the most important magnets.

For details, see [Chapter V](#)

Aerospace in the four states

The I-10 corridor has plenty of aviation assets, and they are in four states that combined is one of the world's largest

Over the course of four issues of the bimonthly *Gulf Coast Aerospace Corridor Newsletter*, the aerospace and aviation activities of Alabama, Florida, Louisiana, and Mississippi were highlighted. Activity includes space, assembly and maintenance, military and more. The seventh edition of the book reprints those stories, with selected updates.

In **Alabama**, Mobile and its growing aircraft assembly sector is just one of the hot spots in the state. Alabama's aerospace activities run the gamut.

It's one of the largest industrial groups in the state along with automotive, with wages among the highest.

It has the third highest employment for aerospace engineers after California and Texas, and the highest concentration of jobs (location quotient) in the nation, according to the Bureau of Labor Statistics data from May 2018.

Florida is the No. 2 state in the nation for aerospace, aviation and space establishments, with more than 2,000 companies employing 82,000-plus workers.

Florida's best-known aerospace activity is the Space Coast, home to Kennedy Space Center, Cape Canaveral and Patrick Air Force Base. Long associated with NASA, it's also where private space companies



The four states combined is one of the largest aerospace regions. GCRL illustration

have set up operations, some using idled NASA assets.

The state is No. 1 in the nation for maintenance, repair and overhaul facilities with more than 600 statewide. For aerospace manufacturing, it ranks 15th in the nation in its attractiveness, according to PwC, highest of the four states.

Mississippi, known for its NASA rocket engine test site in South Mississippi, has become a key player in the growing field of unmanned aerial vehicles.

Aurora Flight Sciences, Northrop Grumman Unmanned Systems and Stark Aerospace all build unmanned aerial systems in Mississippi. It's also home to the Raspet Flight Re-

search Laboratory at Mississippi State University in Starkville.

Louisiana is known for NASA's Michoud Assembly Facility in East New Orleans.

Northrop Grumman operates major maintenance, repair and overhaul facilities at Chennault International Airport in Lake Charles, and Aviation Exteriors provides aircraft painting in New Iberia.

Northwest Louisiana is home of Barksdale Air Force Base and the 2nd Bomb Wing, the oldest in the Air Force, and its massive B-52H Stratofortress bombers.

For details, see [Chapter VI](#)



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released aerospace book, we offer this summary.

On the front we take something of a Twitter approach. You can read the front page and get what you need in brief.

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And for those of you who really love to read and want to take in the whole scope of the book, you can click [here](#), where you can download the entire book and its 100 pages.

The seventh edition of the book is free thanks to underwriters who support the project because they believe the best way to tell the story is through experienced journalists.

We hope you enjoy it.

*David Tortorano
Editor
Gulf Breeze, Fla.*

Executive summary

Footprint, training expanding

The purpose of this research and the resulting book is to provide a framework to understand aerospace and aviation activities in the region between Southeast Louisiana and Northwest Florida.

And what do we mean by framework?

It's one thing to know jetliners are built in Mobile, Ala. Another to realize final assembly work on another type of aircraft is done 35 miles away in Moss Point, Miss. It's a matter of context - know what is going on in your back yard and the neighbor's back yard.

This year's edition provides additional context by looking at aerospace and aviation activities in all four states of which this region is a part. It makes it all the more clear the unique role of the Interstate 10 region, the only area where the economic interests of all four of those states come together.

In the two years since the last Gulf Coast Aerospace Corridor book was published in 2017, new announcements and expansions have increased the aerospace and aviation footprint along the Gulf Coast Interstate 10 corridor.

Mobile began work on a second passenger jet assembly line, this one for the A220. ST Engineering Aerospace is adding to its maintenance, repair and overhaul campus in Pensacola, Fla., going from one hangar to four.

To the west at Stennis Space Center (SSC), Miss., Relativity plans to build 3D rockets in a plant that will employ 200. And NASA is well underway in developing a 1,100-acre technology park designed to attract aerospace tenants who do not want to go through the tight security procedures required to set up an operation inside SSC itself.

One of the most notable parts of the past two years has been the doubling

down on efforts to provide education and training for those interested in working the aerospace and aviation field. Airbus, facing its own upcoming need for additional employees, launched two training programs - one for high school students, another for non-students with no aerospace experience who want to work for the company.

Work is continuing on Flight Works Alabama in Mobile, a hands-on aerospace education center that is also involved in education along with nine academic partners.

And the National Flight Academy in Pensacola, which has focused for six years on piquing the interest of students in aerospace, is now involved in workforce training.

Education leaders across the region as well as in the broader states are putting in place the tools necessary to meet the growing need for aerospace and aviation workers.

Economic development leaders have good reason to target aerospace. It's an economic jewel, a multibillion-dollar, research intense, innovative enterprise that produces technologically advanced aircraft, space and defense systems. It involves civilian and military activities and uses talent ranging from those who design aircraft and those who assemble them to those who fly and maintain them. Workers are highly skilled and the pay is better than average.

The authors hope this study will provide the public, development officials and politicians with a better understanding of the capabilities of this region. Understanding what's here, what's needed and working together has benefits.

It has, indeed, been a busy two years.

For details, see [Executive summary](#)