



## Austin's Aerospace History Enters Its Second Century

When the Wright Brothers took off at Kitty Hawk in 1904, The Austin Company had already been designing and building industrial projects for more than a quarter century.

Twelve years later, manned flight was becoming a commercial reality and Austin was called upon to deliver its first aircraft assembly plant, a project for Curtiss Aeroplane and Motor Company. Since first serving the industry in 1916, Austin has partnered with aircraft manufacturing companies including Airbus, Boeing, Lockheed Martin, Northrop Grumman and others, to build some of the world's finest, and largest, production facilities.

The Austin Company's work in the

industry continues today, including construction of Embraer's new manufacturing facility in Melbourne, Florida. One of the world's largest aircraft manufacturers, Embraer will use these new facilities to produce its latest executive jet aircraft, the Legacy 450 and Legacy 500.

Austin was selected by the Melbourne Airport Authority (MAA) to construct a significant expansion and renovation of Embraer's aircraft manufacturing campus at the airport. This expansion, at 236,000-square-feet, doubles the size of Embraer's campus in Melbourne.

The expansion project was implemented in three phases:



Construction of the new assembly building for Embraer.

construction of a new assembly building, followed by a new paint hangar, and a new delivery center. The phases were set to meet Embraer's production schedule, while accommodating ongoing aircraft

production during construction.

To Austin, the MAA/Embraer project is symbolically more than a single project for an important client. The project kicks off Austin's second century of serving the



An aerial view of the Embraer/MAA site in Melbourne, Florida.



Embraer will use these new facilities in Melbourne to produce its latest executive jet aircraft, the Legacy 450 and Legacy 500.

aviation and aerospace industry.

In 1916, when Austin made its debut in the design, engineering and construction of aviation manufacturing facilities, Austin's leaders could not predict the industry's tremendous growth.

In a few short months, Austin successfully delivered the Curtiss Aeroplane Company's airplane manufacturing plant in Buffalo, New York. In the decades that followed, Austin has been integral as the industry evolved from prop-driven warplanes to passenger jets to rockets, satellites, manned spacecraft and un-manned aircraft.

"We've seen the airplane shrink

the world — and Austin has been on the leading edge of facilities design, engineering and construction the entire time. That's part of what makes this work so much fun," says Matt Eddleman, Austin's Senior Vice President.

Eddleman remarks that today's leaders at The Austin Company can't predict the next 100 years any more than Austin's leaders in 1916, but he says that the Company's team of designers, engineers and constructors is eager to push into the future to deliver building solutions that meet the demands of today and tomorrow.

"As long as they're manufacturing

indoors, there will always be a need for trusses," notes Eddleman. "There will always be a need for large, clear span aircraft and aerospace manufacturing facilities, even if they're making driverless drones — like the 'Jetsons' or if 3D printers are "building" the aircraft/spacecraft. They will still need a large place for the printer and the craft."

At the beginning of this second century of aviation, Eddleman notes that the industry's growth has been in the southeast region of the United States. Over the next 100 years, he says Austin anticipates seeing additional global aerospace companies expanding

throughout the U.S.

"It's already happening," he adds, citing Embraer's expansion in Melbourne; Airbus's new A320 plant in Mobile, Alabama; Boeing's Delta IV rocket facility in Decatur, Alabama; Northrop Grumman's design and manufacturing centers in Melbourne and St. Augustine; and Boeing's 787 Dreamliner facility in Charleston, South Carolina.

Finding the ideal location for such new facilities is a challenge, says Frank Spano, Managing Director of Austin Consulting — Austin's site location services group. Spano agrees that aviation and aerospace companies and

The foam test that was conducted in the paint facility.



components manufacturers are keenly interested in setting up plants in the southeastern states, especially Alabama, the Carolinas, and Florida.

He explains that choosing a site for a new facility requires immense research and his group provides detailed analysis and recommendations to assist companies in doing so — helping them to choose the location that best fits their needs. In recent years, Spano has seen aerospace clients look to locate in the Southeast.

“The Southeast has emerged as a dominant location in the aerospace market and is now seen as a viable option to California and other traditional West Coast locations,” Spano said, referring to California’s long history in aviation and aerospace manufacturing. He added that certain communities in Alabama, Florida and South Carolina have the key ingredients to supporting aircraft and aerospace manufacturers.

Companies like Airbus, Boeing, Embraer, and Northrop Grumman are looking for more than the incentives and grants that cities and states offer. Those are important, but aircraft and aerospace manufacturers also need access to raw materials and suppliers — through ports, railways and highways. And a critical factor in all site searches is the availability of a skilled and well-educated workforce — from engineers to electricians, mechanics, and hourly assembly workers.

“If you don’t have the workforce, technical institutions and universities, all of the incentives in the world won’t matter,” Spano adds.

Another advantage that the Southeast has in attracting aviation and aerospace companies is the number of U.S. military bases. “These bases in Alabama, Florida, and South Carolina are an excellent source of skilled workers,” he continues. “These service men and

### New Century...Same Old ‘Mother Nature’

Completing the expansion of Embraer’s Melbourne facility by the required deadlines was a remarkable achievement, considering that Mother Nature did her best during the winter of 2016 to thwart Austin’s efforts.

“It seems every time we put a shovel in the ground in Florida, it rained. And it kept raining,” says Duane Lofdahl, Vice President and Senior Project Manager at The Austin Company. “In February, when we were working on the foundations for the new paint hangar, there was so much rainfall that we basically had swimming pools. It’s one thing when the water is 3-feet deep, but it’s another when it’s 10-feet deep.”

Lofdahl says that the Austin team made up for the rain delay by working multiple shifts over 6-day weeks. “We had a lot of trades working on top of each other,” he says, adding that up to 250 workers were on-site at one point. To facilitate the construction, Austin implemented a Lean Construction planning process that brought together all trades to collaborate on a weekly basis to plan and coordinate work tasks. The Pull Planning strategy was a great success. It allowed the trade sub-constructors to optimize their efficiency and control costs while greatly minimizing unsafe conditions that can occur when construction activities are compressed.

### Highlights of Embraer’s Legacy 450/500 Jets

The Legacy 450 and 500 executive jets are the fastest jets in the midsize segment and feature full digital flight controls. In addition, the jets offer the largest-in-class cabin — at 6-feet-tall — and fully reclining seats.

	Legacy 450	Legacy 500
Range	2,900 nm	3,125 nm
Seating	7-9	8-12
Maximum Operation Altitude	45,000 feet	45,000 feet

women have honorably served our country and are retiring from the military, but they’re too young to really retire. With Boeing, Northrop Grumman and other aircraft and aerospace manufactures near these bases, these individuals can be very successful in the manufacturing industry.”

“We look at everything: freight, labor, taxation, utilities, education and access to suppliers. It’s also important to look at the community,” Spano explains. “These companies are significant contributors to the community and often bring economic

prosperity to the area because suppliers will want to locate nearby as well.”

“We take a close look at how proactive the business community is,” he continues. “A community will do almost anything to lure a big company, but after they’re there, how active will the business community be in addressing the company’s on-going needs?”

Spano says his group compiles a detailed report after evaluating start-up costs, discussing the project with utility representatives and technical school



administrators, conducting site visits and crunching the numbers. A location recommendation is presented to the client, who then makes the decision of where to build the new facility.

Eddleman echoes Spano's sentiments about the growing aerospace industry in the Southeast, "The southern states have

been among the most aggressive in luring major manufacturers such as aerospace and automotive. I think we'll continue to see movement of global aviation and aerospace companies looking to locate in Alabama, Florida, Georgia and South Carolina."

**Sources:**

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