

Gulf Coast Reporters' League

Louisiana Mississippi Alabama Florida



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

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2019

in review

A dark day

For those of us who live in this region, terrorism has been something that happened elsewhere.

But on Dec. 6, it hit home when a Saudi gunman used a Glock 9mm to kill three sailors at Naval Air Station Pensacola. It was a particularly cowardly act since it was someone from a supposedly friendly

(Continued on page 8)

During 2019, the region learned that it would be getting a new space rocket manufacturer, work got underway to build a second passenger jet assembly line, and the expansion of a maintenance, repair and overhaul campus moved a step closer.

But sadly, there was also what's being investigated as a terrorist attack at one of the region's bases, and three sailors died. The gunman, too, was dead.

Here's the year in review.

Space

The announcement in June was stunning. California-based Relativity said it would build 3D rockets at Stennis Space Center (SSC), Miss., creating 200 jobs and investing \$39 million.

Relativity will build and integrate a robotic 3D printing rocket factory and an expanded testing facility to produce Relativity's Terrain 1 rocket launch vehicles. The agreement

includes exclusive use of 220,000 square feet within building 9101 at SSC for a nine-year lease, and an option to extend the lease an additional 10 years.

Relativity will be building out first stage assembly, engine integration and testing, and a full 3D printing and robotics-enabled production line at the site. The technologies developed through Relativity's SSC factory will lead to fulfilling the company's vision of 3D printing the first rocket made on Mars.

Relativity also has a contract with the Air Force to build and operate a launch facility at Cape Canaveral Air Force Station, Fla. The five-year "multi-user" agreement means Relativity can begin operating out of Launch Complex 16 (LC-16). There is no lease payment to the Air Force and there's an option to extend the agreement for an exclusive 20-year term.

Relativity also has a 20-year lease agreement with SSC to test its rocket engines. The contract gives Relativity access to four

testing chambers.

Lockheed Martin announced in December that it's expanding its operations at NASA's SSC in a \$20.9 million investment that will create 30 jobs.

Lockheed Martin's primary activity at SSC is to design and build satellites and spacecraft for government and commercial customers. For the expansion, Lockheed Martin is centralizing select thermal production capabilities to its SSC location and will begin manufacturing products that are key components of all spacecraft currently manufactured by the company.

NASA in April wrapped up more than four years of testing the RS-25 engines with another successful hot fire test. Those engines left over from the Space Shuttle program will power the first four Space Launch System (SLS) rockets into space.

The RS-25 rocket engine test era began Jan. 9, 2015, with a 500-second hot fire of RS-25 developmental engine No. 0525 on the A-1 stand. The first flight engine was tested March 10, 2016. Altogether, NASA has conducted 32 developmental and flight engine tests for a total of 14,754 seconds of RS-25 tests on the A-1 stand.

Work continued throughout the year at Michoud Assembly Facility in New Orleans on the SLS launch vehicle. In August, NASA and Boeing formally signed off on the first assembly of the most complicated element of the rocket. Boeing continues to aim to complete the full stage in December and barge it to the SSC for a full, integrated checkout and acceptance firing.

The so-called "Green Run" at SSC was nearly killed. NASA has had the test of the SLS core stage at SSC on the books since the program's genesis in 2011. For more than half a decade, workers at SSC have modified and outfitted the B-2 test stand, previously used for Saturn V, space shuttle and Delta IV rocket testing, to accommodate the 212-foot-tall, 27.6-foot-wide

SLS core stage.

NASA considered canceling the full-duration test-firing, but said in July that it will go forward with the eight-minute test. The first SLS test flight, carrying an uncrewed Orion crew capsule to lunar orbit, is set for blastoff in 2021 from pad 39B at NASA's Kennedy Space Center in Florida. The mission is designated Artemis 1.

All four RS-25 engines were mated to the core stage of SLS rocket for Artemis I at Michoud Assembly Facility in early November.

Mississippi in July launched a new economic development effort, the Space Initiative, to lure companies connected to space exploration. The state is home to Stennis Space Center, where NASA and some commercial space companies test rocket engines.

Earlier this year, the Hancock County Port and Harbor Commission decided to go ahead with plans to seek a spaceport license for Stennis International Airport (HSA). If the Federal Aviation Administration approves, it would enable horizontally launched reusable launch vehicles to operate out of HSA.

Several kinds of such launch vehicles are currently under development. The license application will establish regions over the Gulf of Mexico where the launches could be conducted safely and ensure the airport has the required infrastructure.

Military

A Saudi officer training at Naval Air Station Pensacola went on a shooting spree and killed three sailors in December before he was killed by deputies.

The FBI, which said the Glock 9mm was purchased legally in the U.S., presumes the shooting was terrorism. The Navy grounded all Saudi aviation students training at three Florida bases.

The suspension of flight training will affect about 300 Saudi students at NAS Pensacola, NAS Whiting Field near Milton and NAS Mayport in Jacksonville. There are 850 Saudi students in

the U.S. for military training.

Leonardo Helicopter said in September that it will build a 100,000 square-foot customer support center adjacent to Naval Air Station (NAS) Whiting Field in Northwest Florida if it's chosen to supply the Navy's Advanced Helicopter Training System.

The Navy is modernizing its rotary-wing and tilt-rotor pilot training program at Training Air Wing Five at NAS Whiting Field, near Milton, Fla., and its helicopter training Navy Outlying Landing Fields in Florida.

The Advanced Helicopter Training System will replace the TH-57 Sea Ranger training helicopters and simulators, and the training tempo will also increase. There will also be changes in operational tactics based on a new curriculum, construction of temporary and permanent supporting facilities, and an increase in personnel.

Leonardo, one of three companies competing to build the trainer, is offering TH-119 single-engine helicopter to replace the Navy's TH-57. Its planned support center will create up to 50 jobs to maintain the trainers. The center would be built at the 267-acre Whiting Aviation Park, adjacent to NAS Whiting Field. The other competitors are Airbus Helicopters and Bell. The Navy was expected to make its selection for the 130 helicopters by the end of 2019.

Also in September, the Navy said that replacing the TH-57 with a more advanced helicopter will have no significant impact on the quality of the human environment. A finding of no significant impact means preparation of an environmental impact statement is not required.

Earlier this year, NAS Whiting Field began receiving 10 new TH-57 helicopter simulators, the first new ones at the base in 40 years. The simulators were provided by Flight Safety Systems International of Denver, Frasca International of Urbana, Ill., and Aechelon Technology of San Francis-

co.

In late November, the 35,000th helicopter aviator was winged at Naval Air Station Whiting Field. Training Air Wing 5 conducts primary flight training and advanced rotary training at NAS Whiting Field. The wing flew 129,937 hours in fiscal year 2019, which accounts for 46 percent of all of Chief of Naval Air Training hours and 15 percent of all United States Navy flight hours. It is responsible for training all Navy, Marine Corps, and Coast Guard helicopter pilots and winged 457 rotary wing aviators in fiscal year 2019.

In January, the Navy's newest outlying landing field, Site X, was officially opened near Jay, Fla. The Navy and two counties, Escambia and Santa Rosa, worked out a deal where Escambia took over an outlying field, Site 8, in that county in exchange for a new field in Santa Rosa. Both are some 600 acres. Escambia County wants to develop the field it took over. The National Defense Authorization Act in 2015 authorized the land exchange, the first of its kind for the Navy.

The Blue Angels this year retired the C-130 that had been "Fat Albert," and replaced it with a C-130 from the British Royal Air Force. The purchase of the C-130J Super Hercules means a \$50 million savings over the cost of a new aircraft. The former Fat Albert had reached the end of its flying life after 17 years with the team, accumulating more than 30,000 flight hours.

The 4th Special Operations Squadron, part of the 1st Special Operations Wing at Hurlburt Field, Fla., in March received an upgraded version of the Ghost Rider gunship, the Block 30 model AC-130J.

The 4th SOS, the Air Force's most deployed squadron, currently uses the AC-130U Spooky, which is slowly being retired from active duty after more than 20 years of operation. The new model will have the same role as the

current one, air interdiction, armed reconnaissance and close air support, but with upgraded avionics, navigation systems and a Precision Strike Package that includes trainable 30mm and 105mm weapons. It also costs less to operate per flying hour because of upgraded turboprop engines.

Near Panama City, Tyndall Air Force Base has been continuing its rebuild following the damage caused in Category 5 Hurricane Michael in 2018. The base has undertaken most of its missions again. At an industry day event in September, Col. Brian Laidlow, commander of the 325th Fighter Wing, said airmen have implemented temporary fixes to bring missions back online. Permanent construction is expected to go into fiscal year 2024. Tyndall will get up to three squadrons of F-35s starting in 2023 and remains the "preferred alternative" as the future home of 24 MQ-9 remotely piloted aircraft, Laidlow said.

In May, the Air Force said Eglin Air Force Base was the preferred alternative to receive an additional F-35A Lighting II training squadron. Eglin AFB was the location of the F-35 initial joint training site hosting Air Force, Navy and Marine Corps F-35s. The Marine Corps relocated its F-35Bs in 2014 and the Navy, after seven years at Eglin, deactivated its squadron in May at Eglin and relocated it in California.

Additional F-35As are expected to begin arriving in the fall of 2021. The new squadron is expected to reach full operational capability by spring 2023. Eglin will only receive the additional F-35 training unit if the F-22 Raptor formal training unit temporarily operating at Eglin is permanently moved to Joint Base Langley-Eustis, Va. In March, the Air Force acknowledged plans to move the F-22 training unit to JB Langley-Eustis, pending the outcome of the National Environmental Policy Act and other regulatory and planning processes.

Airbus

In January, the year started off with a ceremonial groundbreaking for the \$300 million A220 final assembly line at the Mobile Aeroplex, right next to the Airbus A320 assembly line.

The same month, JetBlue, which received the first A321 assembled in Mobile, confirmed an order for 60 A220-300 aircraft to be produced in Mobile. In addition, a low-cost carrier code-named Moxy Airlines, confirmed an order for 60 A220-300 aircraft.

In March, Airbus selected several design-build teams for construction of the A220 assembly line, and the first employees of the new assembly line reported to work to begin new hire orientation training while the line itself was in the early phase of construction. They later went to Mirabel for on-the-job training with workers at the primary A220 assembly line for three more months.

The first large aircraft components for the first A220, the aft fuselage and cockpit, were delivered by truck to the Airbus U.S. Manufacturing Facility in June. Wings, vertical and horizontal tail planes, tail cones and landing gear arrived in later weeks.

Airbus in August officially started manufacturing the A220 in Mobile, using A220 stations set up in the A320 assembly line building, and newly-built support hangars. The first U.S.-made A220, an A220-300 destined for Delta Air Lines, is scheduled for delivery in the third quarter of 2020.

Airbus in May delivered its 12,000th aircraft in its 50-year history, an A220-100 assembled in Mirabel, Canada, to Delta Air Lines. Two months later, in July, Airbus delivered to Delta Air Lines its 50th A320 series aircraft produced in the Airbus U.S. production facility in Mobile.

The A321 was the first of a total of 20 aircraft being delivered with a blend of sustainable jet fuel over the next year. Airbus offers this option to its customers in order to promote a more

regular use of sustainable aviation fuels within the industry. In the longer term, Airbus also envisions supporting industrial production of sustainable fuels for aviation in the southeastern U.S.

Airbus Canada Limited Partnership marked its first anniversary on July 1, one year after Airbus became the majority partner in the A220 aircraft program. Highlights of this first anniversary include orders and commitments signed for more than 230 A220 aircraft, the ground-breaking for a new A220 manufacturing facility in Mobile, Ala., and expansion at the Mirabel manufacturing facility in Canada.

Airbus Canada has delivered more aircraft in its first year than the total delivered up to July 1, 2018, when it took the lead of the program. In total, the A220 ends the first year of Airbus leading the program with a firm order book of over 500 aircraft, plus 80 additional commitments announced at this year's Paris Air Show.

In September there was concern that a World Trade Organization ruling could impact the Airbus operation in Mobile, Ala., but it wound up that major sections shipped from Europe would not be subjected to tariffs - at least not for the time being.

The WTO ruled the United States could impose billions in punitive tariffs on EU products in retaliation for illegal subsidies granted to Europe's Airbus. Sections shipped to Mobile appeared on the initial list, but did not appear on Washington's list after the ruling.

The ruling is the culmination of a decades-long dispute on whether EU countries have illegally supported Airbus by granting subsidized loans known as "launch aid" for the development of the A350 and A380 models. A parallel complaint by the EU, alleging illegal U.S. subsidies for Boeing, is also being examined by the WTO and a ruling is expected in the spring or summer of 2020.

Education

Facing a need for a lot more workers in the coming years, Airbus in May announced the launch of two new programs designed to employ applicants with little-to-no previous aerospace experience. FlightPath9 and Fast Track are intended to train candidates to become workers on the A320 and A220 jetliner assembly lines in Mobile.

FlightPath9 is a nine-month program for high school seniors, run by Flight Works Alabama, which has partnered with Airbus, Embry-Riddle Aeronautical University, Cintas, Snap-On Tools, Southwest Alabama Partnership for Training and Employment, and the National Coalition of Certification Centers. Students attend training after school during their senior year. Upon graduation, students who complete the program can start their career with Airbus through the second program, Fast Track, a 12 to 15-week program for people with no aviation experience. It provides them with the skills needed for a career in aerospace maintenance.

In Pensacola in March, ST Engineering announced the ST Engineering Scholarship Program. Starting in 2020, four scholarships will be awarded annually to Escambia County high school students. Each recipient will receive \$2,500. Students can use the scholarships towards any accredited college or tech aviation school.

Pearl River Community College broke ground in December on the Phil Bryant Aviation and Aerospace Workforce Academy across from Stennis International Airport.

The academy will be an estimated 25,000 square feet that will consist of classrooms, labs, reception area, faculty and staff offices, and more. Part of the complex will be a hangar of 18,000 square feet. The facility is expected to be complete in 2021. Students will be able to study welding, precision manufacturing, instrumentation, industrial electronics, and more.

Airports

The ambitious \$210 million project to expand the ST Engineering maintenance, repair and overhaul campus at Pensacola International Airport (PNS) from one to four hangars landed some major funding during the year.

In July, one of those additional hangars got a boost when the U.S. Department of Commerce Economic Development Administration said it would invest \$12.25 million to help establish a new aircraft maintenance training facility at PNS. The money will be matched by more than \$36 million in local and state funds.

The new 175,000-square-foot hangar will be used for commercial and technological aviation and will create 400 jobs. ST Engineering says the new facility will have state of the art technology including robotic delivery systems.

The new hangar will be similar to the first, \$46 million hangar that opened in June 2018, but a significant difference will be the attachment of a 65,000 square-foot support services center.

The previous month Gov. Ron DeSantis in June vetoed \$131 million of proposed spending from this year's budget, including \$1.5 million for the expansion of the ST Engineering MRO campus, which will create 1,325 jobs.

The governor's decision was a minor setback. In February the project got another \$20 million when the Florida Department of Transportation upped its commitment to a total of \$45 million. FDOT's work program and budget will still need to be reviewed by the Florida Legislature, but if approved, Pensacola will receive the funding in 2021.

Triumph Gulf Coast, which oversees the distribution of recovery money provided as compensation for the 2010 BP oil spill, agreed earlier in the month to provide another \$10 million for the project on top of the \$56 million previously granted. It increased from three to seven years the time commitment for keeping the jobs in Pensacola.

Earlier, the Pensacola City Council and Escambia County Commission

each approved committing an additional \$5 million a piece to the project, bringing the local governments' contribution to \$15 million each.

PNS also got a new tenant in May. Blue Air Training, which provides training for military close air support personnel, opened a facility at the airport. In 2011, Blue Air Training received permission to begin training Air Force attack controllers and fighter pilots. The company has operations in Las Vegas, Yuma, Oklahoma City and now Pensacola. Its fleet includes A-90 Raiders, BAC-167 Strikemasters, IAR-823 Brasovs and AH-6 Little Birds.

A new Mobile Downtown Airport terminal opened in May at the Mobile Aeroplex, three miles from downtown Mobile. The new \$6 million, 22,000-square-foot terminal in a portion of the building used by Airbus.

Commercial flights are primarily at Mobile Regional Airport, in west Mobile, but the Mobile Airport Authority (MAA) is in the process of shifting the flights to the downtown location. The regional airport is currently served by United, Delta, and American Airlines.

A feasibility study commissioned by MAA found the benefits of moving passenger service from the regional airport to downtown outweighed drawbacks. In addition to being closer to downtown, it has easy interstate access and is closer to Baldwin County, making it more competitive with airports in Pensacola and Biloxi.

Denver-based Frontier Airlines opted to establish flights at the downtown airport, and initially provided non-stop flights to Denver and Chicago's O'Hare. But the Chicago flights were put on hiatus in mid-November during the slower winter season.

Manufacturing

In August, Northrop Grumman said it planned to more than double production capacity for the RQ-4 Global Hawk and MQ-4C Triton unmanned air vehicles to 12 aircraft per year in

anticipation of growing demand for the intelligence, surveillance and reconnaissance platform. The company previously produced between three to five RQ-4 Global Hawk or MQ-4C Triton aircraft per year. Typically it takes 162 to 174 days to build the UAV: 150 days to build the fuselage in Moss Point, Miss. and 12 to 24 days for final assembly in Palmdale, Calif.

In late June, the Navy declared initial operational capability for the Northrop Grumman MQ-8C Fire Scout unmanned helicopter. It cleared the way for the unmanned air vehicle to begin fleet operations and training. The MQ-8C is to deploy aboard the Navy's littoral combat ships in FY2021.

The airframe is the commercial Bell 407, with seats and other manned avionics equipment stripped out and replaced with remote controls and extra fuel tanks. Over the next few years, Northrop Grumman plans to deliver 38 MQ-8Cs to the Navy. Final assembly and flight testing of the MQ-8C is done in Moss Point, Miss.

Airbus Helicopters delivered on Aug. 19 the 200th UH-72A Lakota for training with the Army Aviation Center of Excellence at Fort Rucker, Ala.

Airbus Helicopters has built more than 550 aircraft for the U.S. government since 2006. The UH-72A Lakota is operated by Navy, Army and other military units worldwide.

Bell Helicopters, which operated an assembly facility at Lafayette Regional Airport, agreed in June to pay Louisiana \$9.5 million over its failure to meet job-creation goals.

Swiss helicopter company Kopter Group AG took over the facility and held a ribbon-cutting in March. It will assemble SHO9 helicopters, creating 120 direct jobs. Assembly and deliveries are scheduled to begin in 2021.

In another Bell-related story, the company said that if it's selected to

build the Navy's Advanced Helicopter Trainer, it will assemble its 407GX in Ozark, Ala., where it does assembly work for the Fire Scout drone. Ozark is near Army aviation's Fort Rucker.

The Navy wants 130 aircraft for the program to replace the TH-57. Bell is competing against Airbus Helicopters and Leonardo Helicopters.

United Technologies and Raytheon said in June they would create a "merger of equals" in one of the biggest corporate mergers of 2019.

UTC owns engine-maker Pratt & Whitney and Collins Aerospace. Raytheon produces missile defense systems and cybersecurity solutions. Both supply Airbus and Boeing.

The combined company will be Raytheon Technologies Corp., based in Boston, and will be second in size to Boeing in the U.S. and tied for third in the world with Airbus.

The deal needs regulatory approval, but UTC and Raytheon have almost no overlap. Collins Aerospace does jet engine podding work in Foley, Ala.

ST Engineering in April was given approval by U.S. regulators to acquire GE Aviation's nacelle unit.

ST Engineering U.S. subsidiary Vision Technologies Aerospace will acquire all the shares of Baltimore, Md.-based Middle River Aircraft Systems, sole supplier of certain nacelle equipment for GE engines powering the Airbus A330, Boeing 747-8, 767, Comac ARJ21 and Embraer 190.

It specializes in the development, production and aftermarket support of nacelles, thrust reversers and aerostructures. ST Engineering has maintenance, repair and overhaul operations in Mobile and Pensacola.

- David Tortorano

2019 (Jan. to Dec. 15) aerospace headlines*

Saudi aviation students grounded (12/10/19)	MRO training center gets funding (07/18/19)	Downtown airport update (03/27/19)
FBI presuming shooting terrorism (12/08/19)	General officer assignment (07/15/19)	HPM picks A220 assembly line teams (03/27/19)
Final NAS shooting victim IDd (12/07/19)	Blue Angels announce 2020 officers (07/15/19)	First 220 workers report (03/25/19)
2nd NAS shooting victim IDd (12/07/19)	Sustainable fueled A321 delivered (07/12/19)	Space Command leader named (03/26/19)
Troubling gunman image emerging (12/07/19)	MQ-8C now initial operation capable (07/08/19)	3 bases eyed for F-22 training unit (03/26/19)
Family identifies NAS victim (12/07/19)	Year later, A220 sales strong (07/02/19)	Eglin requests B-1B pod testing (03/20/19)
NAS Pensacola shooter IDd (12/06/19)	State launches space initiative (07/01/19)	Grant will support STEM education (03/19/19)
Aviation academy ground broken (12/04/19)	Small businesses getting \$45M (06/28/19)	AF plans small A-29, AT-6 buys (03/13/19)
Lockheed expanding at SSC (12/03/19)	SLS test article shipped (06/28/19)	Leadership changes at bases (03/14/19)
NAS Pensacola shooter was Saudi (12/06/19)	33rd FW gets new leader (06/26/19)	Lafayette to assemble SHO9 (03/09/19)
4 dead in NAS Pensacola shooting (12/06/19)	Draft EA for TH-XX released (06/27/19)	4th SOS gets upgraded gunship (03/10/19)
United orders 50 A321XLRs (12/04/19)	Funds cut from MRO expansion (06/25/19)	NASA rethinks EM-1 date (03/05/19)
VT 86 has command change (11/22/19)	Bombardier exits commercial air (06/25/19)	Wing getting new leader (03/07/19)
35,000th helicopter aviator winged (11/22/19)	Navy gets Fat Albert replacement (06/24/19)	ST Engineering scholarships (03/05/19)
Airman's medal upgraded (11/15/19)	Region airports getting grants (06/24/19)	Navy now using new simulator (02/28/19)
Four engines mated to core (11/08/19)	Bell to repay state \$9.5M (06/21/19)	RS-25 tested at high level (02/28/19)
Missing airman identified (11/10/19)	Command change (06/20/19)	Embraer sharholders OK Boeing deal (02/26/19)
Airman missing after fall from plane (11/06/19)	First A220 sections arrive (06/20/19)	SSC data center to upgrade (02/22/19)
Blue Angels homecoming (11/05/19)	Delta ups A220 order (06/18/19)	Airport has new flights (02/25/19)
More Mobile deliveries eyed (10/24/19)	IHMC, AREF to collaborate (06/18/19)	Whiting gets new simulator (02/25/19)
Spirit wants 100 A320 series (10/23/19)	Biennial aerospace book available (06/18/19)	Group wants to rethink incentives (02/22/19)
NAS Whiting and Fleet Fly In (10/18/19)	Relativity to build rockets at SSC (06/11/19)	New Orleans airport sets record (02/21/19)
U.S. can hit EU with \$7.5B tariffs (10/02/19)	UTC-Raytheon merging (06/10/19)	Hancock seeks spaceport license (02/20/19)
SLS pathfinder at KSC (09/29/19)	NASA picks companies for planning (06/06/19)	Fort Rucker to get new boss (02/19/19)
Leonardo eyes Whiting center (09/25/19)	Airbus, Collins mark long partnership (05/30/19)	Wall could cost Eglin \$63M (02/19/19)
TH-57 replacement step closer (09/19/19)	Blue Angels retiring this Fat Albert (05/23/19)	Airbus in Mobile eyes ex-military (02/15/19)
WTO ruling may impact Mobile (09/14/19)	Airbus extending A220 range (05/21/19)	NASA resumes RS-25 testing (02/13/19)
Tyndall progress report (09/12/19)	Airbus eyes buying A220 wing plant (05/20/19)	MRO project lands \$20M more (02/13/19)
\$6.7M granted to improve runway (08/30/19)	Airbus delivers 12,000th plane (05/20/19)	VPS gets new Allegiant routes (02/12/19)
McClellan to chair airport group (08/28/19)	Two airports get grants (05/09/19)	PNS begins new service (02/12/19)
SLS engine section completed (08/25/19)	Eglin eyed for next training squadron (05/09/19)	Silver announces non-stop flights (02/11/19)
Firms ranked for MRO project (08/22/19)	Airbus launches training programs (05/08/19)	MRO project gets more money (02/08/19)
Northrop increasing UAV production (08/22/19)	Blue Air Training opens at PNS (05/04/19)	Newest OLF now open (01/30/19)
200th Lakota for Army training (08/20/19)	Bell would build TH-XX in Ozark (04/23/19)	Navy to open newest OLF (01/24/19)
ULA chosen for Dream Chaser (08/19/19)	ST Engineering inks deal (04/23/19)	Frontier to serve downtown airport (01/22/19)
Two Blue Angels touch mid-air (08/15/19)	Symposium wraps up (04/18/19)	Relativity gets launch pad (01/17/19)
Administrator to visit MAF (08/10/19)	ST Engineering nacelles deal (04/16/19)	General officer announcements (01/16/19)
Foam test at Tyndall (08/10/19)	Tariffs would impact Airbus Mobile (04/11/19)	Ground broken for A220 plant (01/16/19)
T-2 has unique command change (08/09/19)	Last of the Raiders dies (04/10/19)	VPS getting new air service (01/15/19)
Mobile begins A220 production (08/05/19)	Air Force nomination (04/09/19)	Shutdown impacting SLS (01/14/19)
Pilots get ratings for new helo (08/01/19)	Test culmination of 4 years work (04/04/19)	Airbus posts first jobs for A220 line (01/09/19)
Commandos get Cheney Award (07/31/19)	Museum has Apollo 11 VR attraction (04/05/19)	A220 incentives detailed (01/07/19)
Delta scolded for buying Airbus (07/30/19)	Blue Angles name 2020 leader (04/02/19)	Two airlines order A220s (01/03/18)
NASA opts for SLS green run (07/27/19)	Council OKs ST Engineering lease (03/29/19)	

*Does not include contracts or publications

2020

What can we expect?

It's always hit and miss when it comes to trying to look into the future at what might happen.

Some things are known with a certainty. In 2020, the region will have the most powerful rocket test since the Saturn era, and the first A220 jetliner built in Mobile will be finished. It's also a given that a new Navy training helicopter will be known, and work will continue on the MRO campus at Pensacola International Airport.

There are other events sure to happen during the year, and some are highlighted below. But as anyone who follows the region's aerospace activities will tell you, there will be some things few saw coming.

Airbus

Airbus will be celebrating another first in 2020 with the delivery of its first U.S.-made A220 aircraft, as well as the completion of the new A220 final assembly line hangar on the site.

Airbus also will reach a milestone of delivering its 200th A320 series aircraft from Mobile since production began.

In 2020, Airbus will have doubled its footprint and workforce from the beginning of 2019.

"Thinking ahead, I think it's most important to note that once the A220 facility is fully operational, Mobile will be the fourth largest city in the world for commercial aircraft assembly, just behind Seattle, Hamburg, and Toulouse," said Bill Sisson, the president/CEO of the Mobile Area Chamber of Commerce.

"Next year, we fully expect to have a great deal of activity from suppliers and service providers, setting up operations to support the FAL at Mobile Aeroplex at Brookley. Currently, Mobile has a tremendous concentration of aerospace product and parts manufac-

turing. In fact, the Mobile Bay area is almost three times more concentrated than the national average. We fully expect that concentration to continue to increase in 2020 and beyond as employment increases," Sisson said.

Neighboring Baldwin County also expects to benefit more from Airbus.

"After visiting with Airbus's leadership, in Montreal, this October, we anticipate the addition of the A220 line to the Mobile facility will open new doors for a number of suppliers to consider a location in the Baldwin-Mobile region," said Lee Lawson, president/CEO of the Baldwin County Economic Development Alliance.

Lawson said Segers Aero Corp. will soon begin a \$4 million expansion of its Fairhope facility, where the company employs 135 people. The addition to the facility should be completed in 2020 and will house a new test cell, allowing Segers to test engines on-site.

"The South Alabama Mega Site continues to see a number of project opportunities across various sectors, including aerospace and aviation. In 2020, the 3,000 acre site, located in Bay Minette, Ala., will undergo \$7 million in site work, including the construction of an on-site rail bed, grading of 200 acres, and the creation a 1 million square foot building pad. Removing a year's worth of site work from a project's timeline, the site will offer prospective companies speed to market that is not available at any other site of this size," Lawson said.

"In our conversations with worldwide aerospace executives, outlook continues to be positive for the industry as a whole. We fully anticipate the global aerospace sector to continue to thrive in the coming years, which will certainly create new opportunities for the Mobile-Baldwin region. The future

looks very bright for aerospace in Baldwin County," he said.

Education

The first class of FlightPath9 students will be graduating and joining the Airbus workforce through the Fast Track program, a 12- to 15-week program that readies candidates to work on the assembly lines. The first class of 25 students will graduate in May 2020.

"In 2020, Flight Works Alabama should come online to help fill the employment demand of the local aviation/aerospace sector," said Sisson.

"Spearheaded by the State of Alabama and Airbus, it will be a comprehensive aerospace exhibition and education center, encouraging and inspiring future workforce," Sisson said.

In 2020 four \$2,500 ST Engineering scholarships will be awarded to Escambia County high school students to use for aviation training. Meanwhile, near SSC, Phil Bryant Aviation and Aerospace Workforce Academy will begin to take shape.

Space

For Stennis Space Center – and NASA's Artemis Program that will return humans, including the first woman, to the Moon – 2020 is shaping up as a milestone year.

The backbone of the Artemis Program plan to establish a sustainable exploration presence on the Moon is NASA's new Space Launch System (SLS) rocket. The initial three flights of the rocket are set: Artemis I will be an uncrewed test flight of SLS and the Orion spacecraft that will carry astronauts to deep space; Artemis II will be a crewed mission around the Moon; Artemis III will return humans to the surface of the Moon.

The SLS core stage that will help launch the Artemis I mission is the



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A dark day

nation, an ally.

As subsequent reports showed, there was no lack of heroism shown by victims and responders. Even in the face of terror we have come to expect our best instincts will shine.

This issue is dedicated to the memories of the three young sailors, all just starting their careers. Joshua Kalab Watson, Mohamed Sameh Hathaim, and Cameron Scott Walters. All three were posthumously awarded their Wings of Gold. They will not be forgotten.

Their tragic deaths will not be in vain. The military is now looking at changes in the vetting process of the foreign nationals who are trained in this country. It is right to do so. We owe it to our men and woman who serve our country.

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largest rocket stage ever built, measuring 212 feet tall and 27.6 feet in diameter. At launch, its four RS-25 engines will fire simultaneously, generating 2 million-plus pounds of thrust.

Prior to the SLS maiden flight, the Artemis I core stage will be transported from NASA's Michoud Assembly Facility in New Orleans to SSC. In 2020, the Artemis I core stage will be installed on the B-2 Test Stand and run through a series of preflight tests.

The process, known as "Green Run" testing, will be the first time all of the stage systems are operated in conjunction with one another. The testing will culminate with a hot fire of the stage's four RS-25 engines, just as during an actual launch.

Following the testing the SLS stage will be shipped to Kennedy Space Center in Florida. It will be joined with the rest of the SLS rocket and prepared for launch on the Artemis I mission.

In addition to conducting SLS core stage testing in 2020, NASA will resume testing RS-25 engines during the year on the A-1 Test Stand.

In April 2019, Stennis completed testing of engines to be used on the first four SLS missions, but NASA has contracted with Aerojet Rocketdyne to produce new RS-25 engines for future SLS missions.

In 2020, NASA will focus on developmental testing of the RS-25 engine, collecting critical data for building the new engines. When assembled, the new RS-25 engines also will be tested at SSC.

Airports

Two of the region's airports responded to our request for predictions about 2020.

"Overall I think the outlook for 2020 from an air service perspective is quite positive. From our discussions here at Pensacola, the airlines are quite pleased with both the load factors and yields they obtain from their operations, and they continue to grow their product and service levels," said Dan Flynn, PNS airport director.

"With the national and regional economy performing well, individuals continue to travel for both personal and business reasons. This coupled with the fact that more individuals have discovered Northwest Flori-

da, means the demands placed on our respective facilities continues to grow as well."

"The biggest challenge I see is that to some extent, the pace of growth in air services in our region is moving much faster than forecast in our respective Master Plans, which places greater pressure on us to design, finance, and construct the infrastructure needed to meet the growth. While we place trigger points in the Master Plan that outline steps for a structured facility development process, we've in essence blown through those trigger points, he said.

"At the end of the day though, all of us have initiatives underway to ensure that we continue to provide the facilities necessary to meet the air transportation needs of our region," said Flynn.

"So overall, air service for the Northwest Florida region should continue to grow into 2020 as the three airports in Northwest Florida take steps to improve levels of service with our respective airline partners, and take steps to improve our facilities," said Flynn.

The same optimism is seen in the commercial airport to the east, in Okaloosa County.

"For the Destin-Fort Walton Beach Airport, 2020 is expected to bring more-of-the-same, which equates to expanding markets and frequencies to existing markets to include continued up-gauged aircraft with seat capacities at 187. We have grown 120 percent in passengers traffic over a three year period and as Dan alluded, VPS's top challenge will be delivering on high priority projects to meet today's and tomorrow's demands," said Tracy Stage, airports director in Okaloosa County.

"To date, we are well on track – just opened our 4th TSA Checkpoint and opening 350 additional parking spaces in the nick of time for the heavy holiday travel. The economy is fantastic and the more our systems grow, the more jobs that are created and higher the economic impact delivered. For VPS, that equates to \$1.7B annually per the Florida Department of Transportation 2018 Economic Impact Studies," he said.

- David Tortorano