

Gulf Coast Reporters' League

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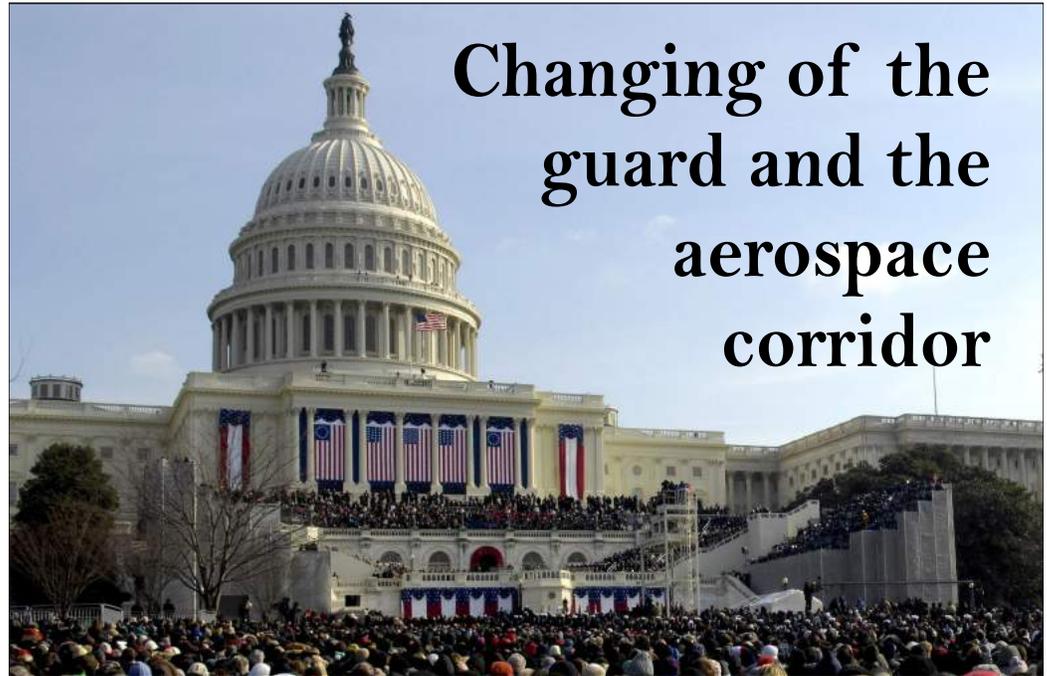
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A bi-monthly update of aerospace activities in the Gulf Coast I-10 region

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Changing of the guard and the aerospace corridor

The Trump inauguration is Jan. 20 at the Capitol.

File photo of 2009 inauguration.

Trump's stated views bode well for military aerospace and defense, but there is more uncertainty when it comes to commercial aviation, private space companies and NASA...

Stennis Space Center, Miss.

If there's one place on the Gulf Coast that brings together the widest variety of aerospace and military activities, it might be Stennis Space Center, a huge NASA complex in South Mississippi.

This is where NASA tests rocket engines for the Space Launch System, and where private companies are developing engines for their own space ventures. It's also where rocket engines are assembled, and where core propulsion systems and thermal blankets are installed on military and commer-

cial satellites. This is also where the military uses drones in training, where jet engines for commercial airliners are tested and where the Navy is the largest single tenant.

As is the case anytime a new administration comes to power in Washington, change is in the air. For the first time a businessman with no political experience will be in charge when Donald J. Trump is sworn in as the 45th president in January. And there remain a lot of questions about what it will mean for the Gulf Coast, nation and world.

For the Interstate 10 region, Trump's views on aerospace and defense are crucial. The area is a hotbed of federal activity, with 18 military bases, many of them aviation-focused, and two NASA facilities. There are thousands of defense contractors, big and small, including major shipbuilders. It's also a prime location for foreign companies, many involved in aerospace, that want a foothold in the United States.

By David Tortorano

A few generalities can be made even this early in the game. A Trump administration will mean a larger military, both in personnel and in weapons systems, and a likely end to any future base closure and realignment round.

But the devil is in the details. Trump likes the military, but the F-35? Not a fan. He likes space exploration, but the Space Launch System? The jury is out on that. What programs will continue, speed up or be tossed out?

Even more difficult to determine is what a Trump presidency will mean for commercial aerospace, where the globalization that Trump has criticized has been behind the two-decade growth of the field. The same uncertainty is faced by NASA and commercial space companies, a field that sees its trajectory change from one administration to the next, as anyone who worked on the Constellation program will attest.

Richard Aboulafia, an aerospace analyst with The Teal Group, sees a stronger military as good for the I-10 region, but he said much will depend on the specifics. And Aboulafia does see a potential problem for commercial aerospace if the world drifts into protectionism. But even in that, he sees the I-10 region as being able to cope, in part because of the foothold foreign aerospace companies have already made in the region.

NASA

The new administration's vision for NASA is crucial since the I-10 corridor is home to Mississippi's Stennis Space Center (SSC) and Michoud Assembly Facility (MAF) a short click away in East New Orleans.

MAF is where Boeing is building the first stage of the deep-space Space Launch System (SLS), and where Lockheed Martin built the Orion multipurpose crew vehicle that was sent in November to Kennedy Space Center, Fla. Lockheed has also done composite fabrication work for Sierra Nevada's Dream Chaser, that company's commercial space vehicle.



NASA illustration of the Space Launch System taking off from the launch pad.

Over at SSC, tests are being done on the RS-25 engines that will power the first stage of SLS. In addition, SSC is where Aerojet Rocketdyne assembles the RS-68 engines used in the Delta IV and where it will assemble and test the AR1, designed to replace the Russian RD-180. On top of that, SSC is where commercial space powerhouse SpaceX is doing development work on its next-generation Raptor rocket engine.

In light of all that work, the biggest immediate question is what will happen to NASA's Space Launch System and Orion?

It does appear from numerous media reports that the new administration will have a more expansive view of human space exploration, along with a retreat from Earth science/climate research, and increased use of public-private partnerships. But ask NASA and you won't get much official indication of what the expectations might be.

"We don't have a lot of information to provide at this time related to the transition," said Allard Buetel of NASA's Washington communications office, in response to a *Gulf Coast Reporters' League* query a couple of weeks after the election, "so anything we could say would be speculation, which we're not able to do."

In an email to NASA employees Nov. 16, Associate Administrator Robert Lightfoot said NASA has a team

and a process in place to provide the new administration with information it needs about NASA's work.

Late last month the transition team for Trump named a congressional staffer and former NASA official, Chris Shank, to head the "landing team" overseeing transition planning for the space agency.

According to *Space News*, the team includes people representing a range of viewpoints on topics such as commercial spaceflight and development of heavy-lift launch vehicles. Among the team members is Steve Cook, who was in charge of the Ares 1 and Ares 5 rocket programs at NASA's Marshall Space Flight Center in Huntsville, Ala., until leaving the agency in 2009 for a job with Dynetics. Cook has been closely involved in Aerojet Rocketdyne's development of the AR1 engine in his work at Dynetics.

The Trump desire for deep-space human exploration would seem to indicate a continuation of SLS/Orion and a mission to Mars. But there may also be a return to the moon as opposed to the trip to an asteroid, and perhaps even a push to colonize the moon, favored by Trump confidant Newt Gingrich.

But there are some who see issues for SLS. Brian Berger, editor of *Space News*, said during a webinar right after the election that Trump could be per-

sualed that the SLS program is unnecessary, in part because commercial companies are working on rockets with heavy-lift capabilities.

But canceling the project would be expensive due to the cost of canceling contracts. In addition, there would be a lot of push-back from politicians in states are involved in the program.

A Trump administration would apparently be interested in a continuation of the emphasis on public-private partnerships that are already up and running. SpaceX and Orbital ATK both are flying cargo missions to the International Space Station under a NASA contract, and SpaceX and Boeing are scheduled to one day begin ferrying astronauts to and from the lab.

But one big change could be NASA's involvement in Earth science. Jeff Foust, a senior writer for *Space News*, said during the webinar that a number of Republicans favor handing over that mission to the National Oceanic and Atmospheric Administration, the United States Geological Survey or other agency. Earth science accounts for 10 percent of the NASA budget.

NASA's Earth science mission involves the use of satellites and other aerial resources to observe land, oceans and atmosphere to detect changes and assess the reason for changes.

A de-emphasis on NASA's Earth science mission will have a minimal impact on SSC, which until 2015 was home to NASA's Applied Science and Technology Project Office. But Earth science even without a NASA role remains a key part of the activities at SSC. NOAA, the Geological Survey, several universities, including the cooperative Northern Gulf Institute, and the Navy still have an Earth science mission, including oceanography.

In one indication of what may be in store for NASA, the Senate this month passed a NASA authorization bill, which could serve as the basis for a similar bill in the next Congress. It authorizes \$19.5 billion for NASA in fiscal year 2017. Bill proponents see it as



F-35, top, and F-22 sortie at Eglin Air Force Base, Fla.

U.S. Air Force photo

setting stage for a similar bill when the 115th Congress convenes in January, according to *Space News*.

Military

For the Gulf Coast Interstate 10 aerospace region, Trump's policies on defense will impact not only military personnel and base missions, but the region's sizeable cadre of defense contractors.

"He's probably going to follow through on his promises to increase defense spending. It's just very hard to know the priorities," said Aboulafia.

"It's probably not going to be much of an army emphasis or much of a ground vehicle emphasis. It will be more of a naval and air emphasis, but nevertheless, top line defense is going to be boosted. That's definitely good."

But there's a caveat.

"We don't know how sustainable it is because you couple the big increase in defense with a massive infrastructure spending package, which is what they promised on day one, and a huge tax cut package, and economically that's just not sustainable, something has to give," Aboulafia said.

Neal Wade, chairman of the four-state Aerospace Alliance, is also encouraged about the military growth.

"He said he is going to rebuild the military. He has stated that as one of

his goals. Right now there's not much depth or specific plans, but that's what a transition is all about," he said, adding that stronger defense spending will have a "tremendous" impact on the I-10 region and the rest of the Aerospace Alliance member states.

The I-10 region between New Orleans and Panama City, and regions to the north in Southeast Mississippi and South Alabama, has 18 federal bases/facilities, including 13 with aviation activities. All will be impacted.

The Gulf Coast military infrastructure includes pilot training, aerial weapons development, special operations - including headquarters for Air Force Special Operations - aerial, land and ocean training ranges, the Naval Meteorology and Oceanography Command, the Naval Surface Warfare Center's Panama City Division and more. It's also home to one of the F-35 integrated training center and an operational F-22 squadron.

Trump said during his campaign that he wants to enlarge the military and give troops the weapons systems they need. In his campaign, Trump called for 90,000 more Army soldiers, a 350-ship Navy, 100 more fighters and strengthened nuclear and missile defenses, according to *Forbes*.

A Trump administration could undo a sequester to free up military spending

an additional 10 percent, according to many observers. That would amount to an extra \$25 billion in funding that is in the current FY 18 plan that would be lost under a sequester.

Also likely to be dumped is another Base Realignment and Closure process. More than 350 installations have been closed in five BRAC rounds beginning in 1988. The last was in 2005.

While the general consensus is Trump will be good for defense spending, there's a potential downside for some defense contractors. There are fears a Trump administration and its negative view of globalization and protectionist policies could spark a trade war and jeopardize lucrative arms deals, according to *Politico*. And that's a big deal since the U.S. has a \$60 billion trade surplus in defense trade.

Indeed, the impact of Trump's trade policies is one of the biggest unknowns for the defense industry.

Trump has been critical of government spending, and blasted the F-35 program, saying the plane is "not very good." In a tweet Dec. 12, he said the cost is out of control and vowed that billions can and will be saved on military purchases after he's in office.

That tweet sent Lockheed Martin stock down, and piqued a lot of interest in the region, home to the F-35 integrated training center and reprogramming offices.

But Aboulafia doesn't think Trump and his team have a good handle on the F-35 program. He thinks once they get up to speed and understand the role of the F-35, if they want to spend money on top of the line weapons systems for the Air Force and Marines, "the F-35 is the only game in town."

Besides, it's unlikely a program that involves nearly every U.S. state and eight nations would be jettisoned. Congress is good at protecting something important to constituents.

Commercial aviation

There are very real concerns over what a Trump presidency might mean



U.S.-built Airbus takes off in March in Mobile, Ala. Photo by Michelle R. Thomas

for the global aerospace industry. The industry has experienced a 20-year growth thanks to the globalization that Trump abhors.

For the Gulf Coast region, Airbus' ability to sell planes in the United States is what led Airbus to establish a final assembly line for its A320 series of jetliners in Mobile, Ala. That, in turn, resulted in 20 foreign-owned suppliers also establishing roots in Mobile.

Aboulafia said a Trump presidency could be very bad for commercial aerospace, notably if there is a trade war with China, the biggest single market for jetliners in the world.

"This is a very bad time to be talking about a trade war with China," he said.

But for the I-10 region, if there is a rising tide of protectionism more people are going to want to work in the United States to circumvent trade barriers, and the South is a great place to do that, he said.

"Globalization is the life-blood of this business whether it's supply chain flows or international markets, the U.S. is maybe 15 percent of this market, 15 to 20 percent. This is a global business," Aboulafia said.

Michael J. Olivier, director general of C100 Louisiana, has a similar take.

"It's the Trump trade policies that could impact the aerospace sector in America as we export so much of our aerospace products. The United States exports \$131.1 billion (37.2 percent of

total aerospace exports globally). The U.S. has the highest surplus in the international trade of aerospace goods. This positive cash flow confirms America's strong competitive advantage for this technology-based product category," Olivier said.

"I don't know how much you can look into a crystal ball at this point and be right," said Roger Wehner, executive director of the Mobile Airport Authority. He is encouraged by Trump's comments about infrastructure development, including money for airports. Trump specifically brought out the condition of airports and the need for infrastructure investments.

"I want to believe that will bode well for all the airports across the Gulf Coast," says Wehner.

"You know, for commercial aircraft, we have a lot of international partners in our commercial aircraft sector, and that's probably the greatest unknown is what's going to be the approach to international foreign direct investment in the United States."

Wehner points out a rising tide floats all boats and he doesn't care if it comes from Spain or France or Germany, "it provides good, high-paying jobs in the aerospace sector for Alabamians and people across the Gulf Coast. I guess that's where the jury is kind of out at this point."

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Economic development

Summit sees good news for region

The fifth aerospace summit returned to the I-10 corridor in November and heard an upbeat message about the future of aviation for the growing four-state region...

Gulfport, Miss.

If there was one overall message that resonated during last month's summit, it was that aerospace growth is in the cards for all four members of the Aerospace Alliance.

The fifth annual Aerospace Alliance summit Nov. 3-4 held at the Island View attracted about 130 economic development, business and academic leaders from Alabama, Florida, Louisiana and Mississippi to discuss an industry they've all targeted.

"Navigating Change: How Will World Decisions Impact the Aerospace Industry?" was the title of this year's summit. Speakers and panelists looked at factors shaping the industry, including global economic influences, opportunities around innovation, and geopolitical and defense issues.

The industry-focused summit attracts a relatively small but influential group of leading aerospace companies, economic development professionals, and elected officials from communities that target aerospace growth. It also draws university and workforce professionals with programs specializing in the aerospace and aviation sector.

The summit kicked off with a dinner Thursday evening with the guest speaker former Mississippi Gov. Haley Barbour, who discussed the then-upcoming presidential election. He did not predict Trump would win, but did say that with two-thirds of Americans

By David Tortorano



thinking the country is heading in the wrong direction, it would be a change election - and Hillary Clinton did not represent change but more of the same. He also said that if Republicans control the House and Senate the aerospace industry and perhaps energy would be the biggest to benefit.

Before introducing Barbour, Neal Wade, chairman of the 8-year-old Aerospace Alliance, said the four states rank as the third largest aerospace corridor in the world. He said that says a lot about the depth the breadth of the aerospace and defense industry in the four states.

Richard Aboulafia, vice president and aerospace analysis with The Teal Group, said the aerospace industry is still the strongest industry on the planet despite the correction that he believes looms in the future. He sees the four-state aerospace region and I-10 region as a hot spot for aerospace.

"It's extremely well-positioned for growth. There's a lot of political power in the region and it's a pretty good area to do business," he said in a post-summit talk with the *Gulf Coast Reporters' League*. Aboulafia said one of the real bright spots for the region is the Airbus A320 series plant in Mobile.

"It's very important because, first of all, that's the biggest single aerospace program in the world in terms of dol-

lars, both historically and moving forward, and volume is extremely important in this business."

He also said plants like the Airbus facility is a good idea should the world move toward a protectionist landscape, a possibility that looms larger with the British exit from the European Union and the election of Donald Trump.

"Then it makes sense for foreign manufacturers to put facilities on U.S. soil and frankly, there are advantages to working with a politically well-connected area," he said.

Wade said Aboulafia gave a very upbeat presentation.

"I thought he was very optimistic in his look at the four states and the Southeast. That was my takeaway. It was an excellent presentation and gave us a good view of what we can look to grow, said Wade.

Glenn McCullough Jr., executive director of the Mississippi Development Authority, said the event highlighted that there are great opportunities for the four states.

"Mississippi is a frontrunner in the aerospace industry, with global leaders such as Raytheon, Rolls-Royce, Northrop Grumman and Airbus employing thousands of Mississippians throughout the state," McCullough told the *Gulf Coast Reporters League* in an email after the summit.

“Our participation in the 2016 Aerospace Alliance summit allowed us to further strengthen the state’s ties with neighboring Southeastern states so we can continue working together to position the region as the best location in the world for aerospace companies to invest and create new career opportunities.”

Don Pierson, secretary of Louisiana Economic Development, said the region is building an important corridor, noting that among other things the shared “NASA DNA” provides unique advantages. In addition to Stennis Space Center in Mississippi and Michoud Assembly Facility in Louisiana, the four states also have major NASA facilities in Huntsville, Ala., and Florida’s Space Coast.

Mississippi Gov. Phil Bryant in his welcoming said virtually every commercial plane in the world has at least one part made in Mississippi, which has 120 aerospace sector companies, including some of the biggest names in the industry. He also said the four-state region is where the growth of the industry is going to be.

“We in Mississippi are honored to team with these three great states. Alabama, Florida, Louisiana and Mississippi, as you already heard, this is really the epicenter for aerospace.”

The public/private Aerospace Alliance was formed in 2009. It originally included Alabama, Louisiana, Mississippi and a regional group, Florida’s Great Northwest. At the first summit in 2011 it was announced that the state of Florida would join.

Its original purpose was to join forces to help secure the aerial tanker program for Mobile. But at the time it was established leaders said it would remain long-term and would focus on activities that would promote the region and the aerospace sector.

The most high-profile activity of the Alliance are the pre-event galas held before the air shows in London and

Paris. Closer to home, the annual summits are the most noticeable events.

The inaugural meeting was at Sandestin Resort in Miramar Beach, Fla., in September 2011. Subsequent summits were held in New Orleans in October 2012, Huntsville, Ala., in October 2013, and Daytona Beach, Fla., in April 2015, the only time it was held in the spring. Alabama is scheduled to host the 2017 summit.

The 2016 event was held in the Mississippi coastal city known as the financial and transportation center of South Mississippi.

Gulfport was chosen in part because it is one of the more central locations for the four-state I-10 aerospace region. The corridor is the one region where all four states have a presence.

On the eastern end in Jackson County Northrop Grumman builds the cen-

“It’s extremely well-positioned for growth. There’s a lot of political power in the region and it’s a pretty good area to do business.”

-Richard Aboulafia
The Teal Group

tral fuselage for all variants of the unmanned Global Hawk, and also does final assembly of the Fire Scout unmanned helicopter.

To the west of Gulfport is John C. Stennis Space Center, NASA’s rocket engine test facility that’s also used by commercial companies.

Gulfport itself is home to one of the region’s commercial airports, Gulfport-Biloxi International Airport, which also hosts the Air National Guard Combat Readiness Training Center, one of four operated by the Air National Guard. It provides the military with a year-round training environment, including airspace and ranges.

In any given year, thousands of pilots come to Gulfport to engage in mock combat and hone their skills. It’s

an airborne schoolhouse equipped with a state-of-the-art, multimillion-dollar combat training system that keeps track of every move.

Gulfport is also part of the larger Gulf Coast aerospace corridor that spans a four-state region along Interstate 10. It includes NASA’s Michoud Assembly Facility in New Orleans, the Airbus U.S. Manufacturing Facility in Mobile, Ala., and multiple aviation-focused military bases, including the base that develops aerial weapons for the U.S. military.

The region is also a top military pilot training location. Eglin Air Force Base, Fla., trains F-35 pilots and maintainers, and Tyndall Air Force Base, Fla., trains F-22 pilots and hosts an operational squadron.

Navy, Marine and Coast Guard pilots are trained in part at Naval Air Station Pensacola and Naval Air Station Whiting Field, Fla. Army helicopter pilots are training at Fort Rucker, Ala., just across the state line near Dothan, Ala., and the Coast Guard a training facility in Mobile transitions pilots to the aircraft they will be using.

There was at least one participant, Michael Olivier, director general of C100 Louisiana, who thinks the Alliance could be a model for the region.

“The takeaway for me was the consistency of the four states maintaining their regional marketing posture over this many years. The duration of this marketing cartel underscores the value these states place on this regional marketing approach, one that I think should be applied to other targeted business/industry sectors.

“These same Gulf states should target the Mexican Gulf States in the same manner due to the many synergies shared by these Mexican and American States bordering the Gulf of Mexico.”

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VT MAE and the collaboration card

The new MRO operation being built in Pensacola could wind up being for more important for the growth of the aerospace sector than some might think...

Pensacola, Fla.

With construction now under way on a new \$46 million maintenance, repair and overhaul facility, a hint about what the future may hold for the VT MAE operation at Pensacola International Airport can be found in Mobile, Ala.

VT MAE, a long-time fixture of the Mobile Aeroplex, a few months ago entered an agreement with paint experts MAAS Aviation to provide that service to VT MAE customers in Mobile, and VT MAE services to MAAS customers. It helps both companies by expanding their offerings.

And the same type of mutually beneficial partnerships could eventually occur in Pensacola as well with a range of additional services outside VT MAE's core offerings to customers.

About 100 invited guests were on hand in late October for the groundbreaking of the VT MAE hangar on 19 acres at Pensacola International Airport. Construction got under way a few days later and will be finished in February 2018. The plant will have about 400 workers.

"We're here, and it's going to get bigger, it's going to get better," said retired Gen. John G. Coburn, chairman and CEO, VT Systems Inc., and chairman of VT MAE.

Pensacola Mayor Ashton Hayward said the project was nearly five years in the making. While he admitted being an impatient man, he said he's learned that some things are worth the wait.

The four-acre hangar will be larger

By David Tortorano



The VT MAE groundbreaking at the airport brought more than 100 guests. GCRL photo

than the nearby Pensacola airport terminal itself.

"Economic development is about allowing your children to have a place to work, that if they want to stay in Pensacola they can stay in Pensacola," said Bentina Terry of Gulf Power, noting that VT MAE will help diversify the local economy. "Economic development is about family."

Dr. Judy Bense, president of the University of West Florida, said the school developed programs where it knew the market would come back. Engineering, including software, computer, electrical and mechanical engineering, are some of them.

"This provides an opportunity to keep our educated citizens here in Florida," she said.



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A note on next year

This is the final issue of 2016, and I'd like to thank the support of our underwriters and comments from our readers as we look forward to 2017.

What has become clear since we started this newsletter in 2013 is that this is a real hotspot for aerospace news. In fact, there's so much going on that we considered making our bimonthly larger, 12 or 16 pages. As an alternative, we considered shifting to monthly publication from the current bimonthly.

But in the end we opted not to change anything in 2017. Besides, we have our biennial aerospace reference book this year. Like with our previously books, it will be under 100 pages, and will provide a detailed look at aerospace in our region. It will be available as a free PDF. As with past issues, it will be a keeper.

Have a Merry Christmas and happy New Year.

David Tortorano
Editor

December 13, 2016

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VT Mobile Aerospace Engineering, part of ST Engineering of Singapore, has about 900,000 square feet of space and more than 1,000 workers at its MRO in Mobile, where it's been since 1991.

VT MAE can accommodate eight wide-body and 10 narrow-body aircraft at the Mobile Aeroplex, which is also home to the Airbus U.S. Manufacturing Facility and a growing list of Airbus suppliers.

The company's expertise is in modifications and engineering services. It has redelivered more than 4,000 aircraft to major passenger and freight airlines.

The agreement between VT MAE and MAAS Aviation in Mobile might be indicative for what could happen in Pensacola. But it's still early in the game.

"We haven't explored it yet," said Bill Hafner, president of VT MAE, but he said the company will be looking into it. It's a way to bring in expertise that's not a part of VT MAE's core competencies.

Hafner said the new relationship with MAAS in Mobile is symbiotic. MAAS, based in Dublin, Ireland, has paint operations in the Netherlands and Germany, and opened its first paint shop at the Aeroplex in February 2016.

At the same time it broke ground on a twin bay MRO paint shop capable of accommodating all aircraft types up to a Boeing 757. It's scheduled to open in the first quarter of 2017 and will provide services to OEM, MRO and potentially military clients.

"That's an area of specialty now, if you look at the new coating systems and the requirement, they're very complex, they're very high-tech, there's a lot of environment concerns in their use and application," he told the *Gulf Coast Reporters' League* after the October groundbreaking.

"It's not an area we profess to have expertise in, so we want to partner with the best. MAAS in that field is known to be the best," he said.

"Those are the kind of people we want to have an association with so we're co-marketing and working with each other to bring them work and they're bringing us work and we think it's great.

"Could that work in Pensacola? You bet it could. To be honest we haven't explored it

yet but we're going to be looking at it."

VT MAE is looking at other symbiotic relationships beyond the one with MAAS Aviation. VT MAE has entered into agreements with people who work in the supply side. Rather than becoming better at managing inventory, the company is working with inventory experts now.

Hafner has a great deal of faith in the future of aerospace in Mobile, Pensacola and the greater Gulf Coast region.

"This is where it's at."

An alumnus of the Pittsburgh Institute of Aeronautics, Hafner is part of its advisory council for curriculum and was in Pittsburgh before the groundbreaking for an annual meeting.

He said that in his talks to students and the school, he pointed out that the Southeast is where a lot of heavy maintenance is going on and where a lot of the supply chain has moved, whether they're involved in manufacturing or repair. Students were highly interested, he said.

Coburn during his address said that the groundbreaking was a continuation of a partnership that started a while ago, "and there were bumps in the road, there are always bumps in the road to make good things happen."

He praised the community's leaders for being visionary and progressive. He pointed out that "Nothing happens unless someone makes it happen."

The retired general ended his presentation with a tongue-in-cheek comment about how some of the people involved in getting the project going will remember it years from now.

"I predict that it will be a long, enduring productive partnership, and as the years go by those of you who contributed anything," said Coburn, "you will become more convinced that you did it all."

He envisioned a future conversation participants will have with their grandchildren or great grandchildren as going something like this: "You see all those hangars? I did that," he said, adding, "And you may even start to believe it."

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