On Jan. 15, we conducted a ground-breaking ceremony that commenced one of the most significant milestones in the budding history of the Aerospace Center for Excellence. After months of collaborating with higher education partners and government officials, fine-tuning renderings, and strategic fundraising, we are proud to announce that, a full year ahead of schedule, Project SkyLab has officially launched!

More than 200 people from around the nation came out to celebrate this major achievement, showing incredible support for our purposeful mission. City and county officials, numerous education partners, and representatives from the offices of state and national officials were in attendance. All acknowledged that our $4.6 million expansion has far-reaching impact and importance in the critical need for STEM educational resources.

The “Lakeland Ledger,” in its coverage of the event, acknowledged that this is one of the most monumental education facilities ever to be built in Polk County.

We had many of our volunteer force present, joining the honored guests, students, faculty, and partners as equal shareholders in this success. It was very moving to see this moment as a convergence point of past and future, equally shared among those with a hand in our history and a continuing stake in our future.

Rick Garcia, our ACE Board Chairman and co-founder of the Central Florida Aerospace Academy, acknowledged the tremendous financial support of the James C. Ray Foundation and its commitment to the educational needs of the next generation.

On behalf of the entire ACE Team, please accept our heartfelt thanks for your part in making this milestone a reality. As of the groundbreaking, we stood at 80% funded! That said, there is still work to be done, so I ask for your continued financial support as we bring Project SkyLab to life.

Consider this your personal invitation to join us at the 46th annual SUN ‘n FUN Aerospace Expo (March 31 to April 5) and see for yourself how we are building on our history by creating a flightpath for the future of aviation...a superhighway for STEM learning.

John “Lites” Leenhouts
President/CEO
Project SkyLab, the next evolution for the Aerospace Center for Excellence, has officially launched. The $4.6 million project will add 22,000 square feet to the Florida Air Museum consisting of convertible education space, additional exhibit space, and a new inviting entrance/lobby.

Once complete, SkyLab will meet a community need for a laboratory learning environment where students can get hands-on discovery experiences in the sciences.

“We need to provide a way for students to become excited by the sciences and embrace them,” says John “Lites” Leenhouts, ACE President & CEO. “The way you do that is to have them touch, observe, and engage — rather than just study from a book.”

That extra educational space, however, won't just be for schoolchildren. ACE officials plan that the space will be used by people from “pre-K all the way up to 99,” says Ed Young, ACE Executive Director.

“We’ve talked about providing all kinds of things to keep people engaged,” he says. “Some post-secondary institutions are interested in doing lifelong learning programs to help keep the mind active as people grow older.”

Project SkyLab is the “next evolution in what we’re trying to do in central Florida with STEM learning through aerospace
education,” adds Eric Crump, Aerospace Program Director at Polk State College. “We’re an aviation ecosystem,” he says. “We’re not just employers, we’re not just education, we’re not just an airport, or an event. Project SkyLab takes everything that we’re doing separately and puts it all together.”

It also falls squarely into ACE’s mission to “engage, educate and accelerate the next generation of aerospace professionals,” notes Rick Garcia, ACE Board Chair and President of Gulf Coast Avionics. “Our primary purpose is a pathway to success.”

The mission of the learning laboratory is to “up the ante for rapid learning in the world of the sciences,” Leenhouts says. “It's a launchpad for the future; just like the original SkyLab space station was a launch pad for today's International Space Station, our SkyLab gives students a foundation to accelerate into a successful future.”

STEMFUSION

Providing that foundation is a new program called STEMfusion, created by Kimberly Brewer, ACE Education Director.

STEMfusion is a hands-on learning experience tailored to specific grade levels, with different activities for different ages. The curriculum will meet not only Florida standards, but national standards, according to Brewer.

“Ultimately, the outcome is to inspire students to pursue aerospace and STEM careers through project-based learning,” she says.
“It encourages students to learn and apply their knowledge and skills through an engaging experience,” she explains. “It provides an opportunity for a deeper learning and context — and also for the development of important skills that they’re going to need for college and career readiness, which Polk County, specifically, is very passionate about.”

For the kids, STEMfusion will be a day-long field trip to the ACE campus. Teachers will have a variety of options to choose from tailored to what the students are learning in their classroom. “It’s not a one size fits all,” she says. “The learning stations will change.”

For the younger kids, the day begins at the museum, where there is a discovery quest based on their age. Once that’s complete, they’ll head over to the Buehler Restoration Center to see actual aircraft under repair and construction. “The students might get the chance to rivet or help with aircraft maintenance or restoration,” she says. “There’s always a project there.”

Next stop is the Lakeland Aero Club, especially for the middle school kids, who are getting ready to decide where to attend high school. “That gives them the opportunity to speak with some of the high schoolers or mentors working on their own club aircraft as they prepare to fly them.”

Last stop will be Project SkyLab, an engaging learning space with 3D printers, STEM kits, smart boards, and much more. Activities will include “basically anything and everything you can imagine, from building a hot air balloon to a wing rib to a rocket,” Brewer says.

At Project SkyLab, the students will be able to walk into a new holographic theater and get an immersive experience among the stars, such as a year in the life of the solar system. “It’s an out of the ordinary experience, and it lets the teachers really drive those lessons home,” she says.
BREAKING GROUND


Officials plan to have the shell of the expansion up in time for the 2020 SUN ‘n FUN Aerospace Expo, which is slated for March 31-April 5. Those attending will have the chance to tour the space and make a contribution to its completion.

Funding is 80% complete, including a $493,000 grant from the state of Florida, with other grants and gifts making up the remainder, according to Young.

First classes in the new building will start in January 2021, according to Young. Until then, Brewer continues her “soft launch” of STEMfusion, offering the hands-on learning experiences at the Tom Davis Education Center. She is using these initial experiences to help shape the program.

PREPARING FOR THE FUTURE

The type of learning that will be offered by STEMfusion is the future of the classroom, according to Polk State’s Crump. “All of us in education should be thinking how to convert that classroom experience to practical hands-on learning laboratories that will enable the next generation of students to learn. The days of reading a chapter and taking a test are gone. That’s not how students learn. It’s not efficient. It’s not practical. It keeps them from wanting to learn.”

“Getting them excited about science and learning will get them excited about the aviation industry as a potential career,” Leenhouts notes. “We have an obligation to work on building back the aerospace industry, which is woefully undermanned,” he says. “The only way you’re going to get students interested in the aerospace industry is to get them enthralled by the sciences. The concept of building STEM laboratories is core to our mission — engage, educate, and accelerate the next generation of aerospace professionals. It’s a perfect fit.”

HOW CAN YOU HELP?

Getting the remainder of the funding is critical to Project SkyLab’s success. A $1 million challenge from the James C. Ray Foundation will match dollar for dollar all funds contributed by Dec. 31, 2020. Donations can be made online or by check and are tax-deductible to the extent of the law.

There are other ways to donate to the project — as well as ACE — according to Garcia.

“We love to take donations, whether it is cash, airplanes, or talent if you want to volunteer,” he says.

Leenhouts adds that ACE officials would be grateful for the donation of tools or supplies that can be used in the STEM laboratories — ranging from hand tools to avionics to unmanned aerial systems.

“In the long term, we still need financial contributions to help us hire additional teachers,” he adds. “Building our new facility provides greater opportunities for expanded student audiences. That will require a broader curriculum and additional teachers. We’ll need to go out and hire specialty science teachers to help instill these young men and women with the STEM knowledge that inspires them to be the leaders and innovators of tomorrow.”

For more information on Project SkyLab or to make a gift online visit: www.flysnf.org/project-skylab.

This project is sponsored in part by the Department of State, Division of Cultural Affairs, the Florida Council of Arts and Culture and the State of Florida (Section 286.25 Florida Statutes).
ACE Takes the Lead

SUN ‘n FUN updated its corporate structure in 2019 to officially place the Aerospace Center for Excellence as its leading entity.

“SUN ‘n FUN will always be Spring Break for Pilots, and everything people know and love about it will remain unchanged,” notes ACE President & CEO John “Lites” Leenhouts. “With the unprecedented influence ACE is having on engaging, educating, and accelerating the next generation of aerospace professionals, a reorganization was necessary. The Fly-In now is in the right position in our structure as the primary fundraiser for ACE, along with the myriad of other supporting activities held on the SUN ‘n FUN Expo Campus.”

Rick Garcia, Chairman of the Board for the new ACE organization adds, “ACE is now the primary company, and we have structured it using successful models of other education-based non-profit organizations in the U.S. We are now much better positioned to secure funding through grants and philanthropic programs than when we were only an event. This new structure has also allowed us to attract industry partners to participate on our Board to broaden our scope and influence.”

Fiscal Year 2019 Financial Summary (Sept. 31, 2018 to Oct. 1, 2019)

Through prudent fiscal management, ACE is sustaining and growing its mission.

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<th>LIABILITIES &amp; NET ASSETS</th>
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**FY 2019 Cash Flow**

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<tr>
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</table>

**Aviation Scholarships Awarded**

- 2013: $295,663
- 2014: $318,720
- 2015: $364,490
- 2016: $254,316
- 2017: $260,581
- 2018: $336,507
- 2019: $341,153

Total: $2,171,430
"Going into the interview, I was nervous, but confident. I knew I could put the work into it," says Aron Yichye, who states he's known since he was born that he loved aviation. Aron was recently awarded a James C. Ray flight training scholarship in December. But his journey to the program started long before that.

According to Aron, “I got bit by it when I was young and took my first discovery flight at 12 years old.” Aron's family moved from New Jersey to Lakeland, Florida, because they saw great opportunity at ACE.
Like Aron, many JCR Scholars were drawn to the scholarship program by an early love of all things aviation. Others marveled at new opportunities or found inspiration through first-time flights. And while their journeys through the program, from ground school to solo flight to certification, are often wildly different, most would agree that the final destination, whatever the result, is life changing.

“The journey is a challenge,” says Richele Floyd, ACE Scholarship Director.

More than a dozen students apply to the program each month. When choosing scholars, she says, “the passion has to be there.” She looks for motivation, leadership skills and, most importantly, attention to detail. The scholarship program has on average between 40 to 50 JCR Scholars in the pipeline. Fortunately, Richele is there to help and guide them through each step of the journey — especially the processes, steps, and struggles that surround flight training. “What I see them struggle with most is overcoming fears. NOT a fear of flying...a fear of test taking or a fear of failure,” she adds.

In spite of those fears and challenges, since January 2016, 90% of JCR Scholars have made it all the way to certification.

A LOOK BACK AT ACE’S JAMES C. RAY SCHOLARS

The James C. Ray Flight Scholarship program officially launched in 2012 with Conner Oslie being the first student to achieve a private pilot certificate. According to Conner, he’s a “Commercial pilot that’s gotten himself somehow roped into the crazy world of air traffic control.” Here’s a small sample of where some graduates have journeyed: US Navy: Carter Clay; Alaska Seaplanes: Chris Desmond; King Sky Flight School: Lance Kalil; US Air Force: Justin Keen; Jack Brown’s Seaplane Base: Abbie Kellet; PSA Airlines: Luke McCurdy; American Airlines Academy: Cameron Row; Skywest Airlines: Timothy Pollock.
Opened in 2019, By the Tail Numbers explores the variety of aircraft that Howard Hughes piloted across his aviation career. Pulling from the Florida Air Museum archives, the exhibit features photos and descriptions from three distinct periods, his early years, World War II, and the dawning of the jet age. Iconic aircraft and famous aviators intersect to lift Hughes' aerospace ambitions beyond that which he could have ever imagined.

While many remember Hughes as piloting his custom designed H-1 racer and the marvel that was the H-4 Hercules, few can identify any other aircraft associated with him. Those early years were punctuated with borrowing aircraft from colleagues — a Stearman from Paul Mantz, the Travel Air Mystery from Pancho Barnes and, most notably, the Northrop Gamma from Jacqueline Cochran.

In the lead up to World War II, Hughes took several aircraft to task while endeavoring to smash the Round the World Flight Record before settling on the Lockheed Model 14 Super Electra. He also took particular interest in developing a new, state-of-the-art transportation aircraft, the Lockheed Constellation. Even more remarkable than the round the world flight, in May 1944 Orville Wright joined Hughes at the controls of a demonstration flight in the Constellation.

Hughes' final years are defined by the massive jets that would become the workhorses transporting midcentury jetsetters from coast to coast and across the globe.

Visit the museum and discover more about these stories and others at the By the Tail Numbers exhibit within the Howard Hughes Gallery.
Scenes From ACE

ACE hosted the National Intercollegiate Flying Association Regional Competition (Nov. 3-7).

Classroom to the Sky — 60 teachers take flight.

80 kids learned about aviation and experienced first flights at ACE’s WINGS ‘n THINGS event Oct. 5.

U.S. Representative Ross Spano (FL) and U.S. Representative Mark Green (TN) visit ACE and the Lakeland Aero Club

See the USAF Thunderbirds and the Orbis International Flying Eye Hospital at this year’s SUN ‘n FUN Aerospace Expo.
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ACE Contact Info: www.aceedu.aero 863-644-2431 info@flysnf.org

Check out the new Florida Air Museum website at www.floridaairmuseum.org