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CymSTAR technologies help train military aviators

BY JIM STAFFORD
For The Oklahoman

BROKEN ARROW — As a teenager living with my military family on the island of Okinawa in 1968, I watched dozens of KC 135 Stratotankers take off daily from Kadena Air Force Base during the Vietnam War era.

That was more than half a century ago, and the KC 135 is still flying for the Air Force.

The ancient aircraft has served the country as its primary air refueling aircraft for more than 50 years. About 300 of the aircraft are still in use.

The long service life of the KC 135 and other vintage aircraft means that electronics are periodically updated as new technologies emerge.

That's where Broken Arrow-based CymSTAR LLC has found its niche. The company develops and upgrades flight simulators for military aircraft such as the KC 135.

I had the opportunity recently to tour CymSTAR's headquarters with my colleagues from the Oklahoma Center for the Advancement of Science and Technology (OCAST).

"We focus mainly on bringing those flight simulation systems up to date," said Daniel Marticello, a retired colonel who was hired in September 2018 as CymSTAR's president and CEO after a 26-year career in the Air Force.

"We put new computers in them, new software to thwart cybersecurity leaks and to increase fidelity and concurrency to match the airplane," Marticello said. "That's our bread and butter."

Founded in 2003 by Alex Nick and Beau Witt with a focus on upgrading and maintaining flight simulators for the military, CymSTAR is part of a vibrant aerospace community in Broken Arrow that includes

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Arrow-based CymSTAR LLC's efforts to support Air Force KC 135 tankers.

FlightSafety International and L3 Technologies.

"With the growth of CymSTAR, we definitely saw a cluster of flight simulation companies growing in Broken Arrow," said Kinnee Tilly, vice president for business development and operations for the Oklahoma Manufacturing Alliance. "L3, CymSTAR and FlightSafety are all outstanding high-tech firms focused on the aerospace industry, bringing high-quality jobs to the community."

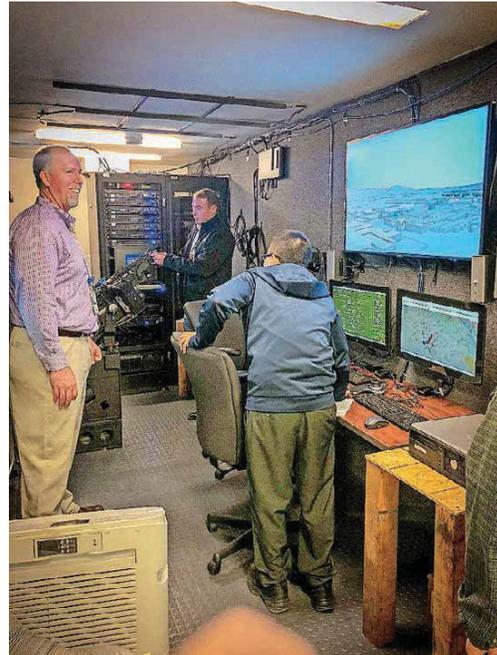
Over the past 15 years CymSTAR has developed and delivered more than 800 training device modifications or new training devices on more than 100 military contracts for a variety of aircraft.

"We pride ourselves here at CymSTAR in that we've never been late in delivering a product in our 15 years," Marticello said.

The company employs 200 people globally, including just fewer than 100 at its Broken Arrow headquarters, with a majority of them software, electronic or mechanical engineers.

The advantage of flight simulators is they save money for the military because flying in a simulated environment saves thousands of dollars vs. every hour of real flight.

The KC 135 is a prime example, because it not only has a flight crew but a boom operator who sits in the tail of the plane to make the refueling connection with other aircraft. Boom operators have to train as



Michael Hitz of CymSTAR watches as state Rep. T.J. Marti, R-Broken Arrow, tries out a simulator. [PHOTOS PROVIDED]



An engineer at CymSTAR sets up a simulator for Broken Arrow Reps. Dean Davis and T.J. Marti to test.

well.

"CymSTAR built an entire training system from scratch called the Boom Operator Weapons System Trainer, which we are pretty proud of," Marticello said. "So boom operators can train on the ground in a highly realistic simulator without having to train in a real aircraft."

CymSTAR has teamed with OCAST to bring in a pair of interns from the University of Tulsa as part of the OCAST Intern Partnerships program, which is a cost-share initiative to

place talented Oklahoma college students in real-world work environments.

"It's clear that engineers are a perishable commodity, that there's not a lot of them and they are in demand across the country," Marticello said. "I think it's quite clever of Oklahoma to put these kinds of programs in place."

Jim Stafford writes about Oklahoma innovation and research and development topics on behalf of the Oklahoma Center for the Advancement of Science and Technology (OCAST).



Jan 24

2019

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