

# CHOCTAW NATION TO USE PARTNERS, DIVERSE LANDSCAPE TO PUSH FOR UAS INTEGRATION

By Brett Davis

When Secretary of Transportation Elaine Chao announced the winners of the DOT's UAS Integration Pilot Program in May, the first team announced was the Choctaw Nation of Oklahoma.

That effort involves a technology-minded Native American tribe, a multi-billion business incubator, a demonstration farm and a 45,000-acre ranch, as well as nearly a dozen partners interested in pushing the envelope for drone flights at night, package delivery and flights over people.

James Grimsley, founder of DII LLC, a family of technology companies (and a former AUVSI Member of the Year), says the Choctaw Nation contacted him about two years ago to discuss a strategy of getting into aviation, which is a strong point for Oklahoma.

"We literally started from scratch at that point," he says.

When the IPP program was announced in October 2017, they decided to put in a bid for it, relying on Oklahoma's aerospace history, its existing facilities and its varied topography, not to mention its penchant for storms, the study of which could lead to better forecasting.

"I was incredibly impressed and proud of the Choctaw Nation, how they got to the point where they could compete for an IPP," Grimsley says.

Going forward, the nation and its partners plan to focus on weather studies, package delivery, beyond line of sight drone flights, flights at night, crop and livestock management, flights



▲ A drone flies at Green Valley Farms Living Laboratory. **All photos: GVFL**

over people, communications in remote areas, and more.

"The sandbox that they have to work with is exceptional," Grimsley says. "... There's a lot of interest from many different angles."

## The Choctaw Nation

Brian Post, vice president of strategic investments for Choctaw Global, says the tribe is based in 10.5 counties in Southeast Oklahoma, a region that has historically been poor, with high unemployment and low incomes. While the tribe has a successful casino operation, it wanted to go beyond that and attract better, high-paying jobs that would also interest young people in STEM education.

The nation already has its own emergency management team that has been flying drones for a variety of reasons, from search and rescue to tornado and fire monitoring to mapping and monitoring local rivers.

The tribe owns a 44,000-acre ranch in Daisy, home to a few thousand head of cattle and some rugged terrain. "We thought it would be a great place to do some flight testing, beyond visual

line of sight, night testing," Post says.

"It's very remote. If someone crashed or something happened, there are maybe five or six people on the ranch at most at any given time. It's a very safe environment to do that kind of testing."

After this decision was made, the tribe learned about the IPP program and thought, "we're already going down that path, let's get some team members together and make that happen."

## Green Valley Farms

One of the most prominent team members is Green Valley Farms Living Laboratory, a large private farm that's geared toward working with researchers.

It's owned by Warren Thomas, whose family has worked for decades with the Tinker Business Industrial Park, a 70-acre, 50-member cluster of defense and aerospace companies, academics and others located near Tinker Air Force Base. TBIP, as it is known, generates \$3 billion in top-line revenue and works in aerospace and aviation, telecommunications and environmental services.

“We create environments that are specifically targeted to certain types of research and value creation, which then evolves into entrepreneurship and the formulation of companies,” Thomas says. “... It’s a spawning ground for value creation and entrepreneurship.”

More than 11 years ago, Thomas bought the land that is now Green Valley Farms, with an eye toward using unmanned systems for weather science, pipeline surveillance, utility maintenance, disaster recovery, precision farming and others.

That was even before it was a given that the Federal Aviation Administration would allow drones to routinely undertake that sort of work, but “we knew generally speaking where we were heading with these addressable markets,” he says.

The farm includes 3,500 acres that is “very biodiverse,” including five miles of river and a variety of wildlife, including endangered and protected species, not least of which are resident bald eagles.

Thomas says the linkage between TBIP, with its existing base of heavyweight companies, including General Atomics Aeronautical Systems, GE and others, Green Valley Farms Living Laboratory, with its varied terrain and ties to the University of Oklahoma and other institutions, and the Choctaw Nation, with its extensive ranchlands, is “all interrelated and complimentary.”

Companies like General Atomics, GE and CNN get access to venues like TBIP, in the middle of the state’s largest metro area, as well as 25 miles of unrestricted airspace over Choctaw land. The Choctaw Nation, for its part, gets access to financial opportunities and industry partners they might not otherwise have.

For kids growing up poor in the nation, it means “their dreams are all of a sudden expanded, and you see the GEs of the world, CNNs and some of these other large institutions, in your backyard, and all of a sudden that becomes very real and you say, ‘hey, maybe I could do something like that,’” Post says.

STEM education will be a big component of the program, with outreach to area universities, high schools, trade schools and even summer camps, he says.

“We probably won’t do anything like that this summer, but within the next year, we would love to have kids come out, be able to touch, see, feel and get exposed to the STEM opportunities,” he says.



▲ University of Oklahoma researchers observe a DJI Phantom 3 UAS in flight at Green Valley Farms Living Laboratory.



▲ The preliminary infrastructure map for GVLL.