OVF Oklahoma Venture Forum

Vigilant Aerospace Systems CEO Embraces Disruption

by Lori Williams

Kraettli Epperson is an entrepreneur who can identify and create a company centered on disruptive technologies. And then he repeats the process again with another startup, often times while developing software and geospatial information systems. Mr. Epperson is a serial entrepreneur with a proven career as an investor, data system designer, patent holder and technology company adviser. But given his latest venture as CEO and co-founder of Vigilant Aerospace Systems, agile entrepreneur should be added to the list.

“Vigilant Aerospace Systems has exclusively licensed NASA’s situational awareness detect and avoid system for unmanned aircraft systems (UAS),” says the company’s CEO. “Our software is designed to help provide additional awareness of other aircraft.”

From its founding in 2015 to its nimble assistance in the hurricane afflicted Houston area, Vigilant Aerospace Systems is a company built on agile response and solutions.

“I took the unmanned aircraft pilot test on the first day it was available, in August of 2016” says Mr. Epperson. “I’m the test pilot, which enables our company to very quickly make changes as we test our software in real world situations.”

“One of Vigilant’s big advantages is that we move very quickly. Our focus is on software that provides practical applications from technologies and patents for flight safety. We are a company that follows an ethos of creating lots of small increments frequently to our system.”

“For example, a customer recently asked us to change the way their aircraft were identified. So we modified our software and sent them a new version a few days later.”

Vigilant has four suites of software. The most basic is FlightHorizon GCS™, which utilizes an aviation transponder along with an optional ground-based radar attached to a laptop or ground control workstation. This system provides situational awareness and collision avoidance commands to the ground-based drone pilot.

The newest, soon to be released software is FlightHorizon FLEET™. This cloud-based online system collects flight logs from multiple FlightHorizon installations to facilitate centralized reporting, management of licenses, and replay of fleet flights.

“Right now, we have a lot of demand for all four versions,” says Mr. Epperson. “There’s more interest than we expected in the FLEET product, probably because there are so many organizations that fly

numerous aircraft. They want to be able to monitor and have a management oversight tool for their fleet."

But whether the drones are flown individually or in fleets, only the sky's the limit regarding their possible uses. "The types of flight operations we're focused on," explains the CEO, "are called industrial flying because the tasks are generally asset inspections as well as incident or event response. Our customers are the ones who are leading the way."

"Unmanned aircraft that are fitted with multispectral sensors and infrared cameras can determine growth patterns and problems in agriculture and cattle. Some companies have other specialized niches, such as doing produced oil and gas well water estimations or mine tailing estimations based on 3D pictures."

But not all applications are quite so esoteric. Properly equipped drones can take photos of highways, bridges, drainage systems, waterways, solar farms, and river systems, to name just a few. Worried about fraying wires on a power line? A UAS equipped with an infrared camera can zoom in on problem spots before they become hazardous.

But Vigilant Aerospace's most recent endeavor is particularly newsworthy. "I was invited to join the [FEMA] unmanned aircraft response team to provide airspace safety for their operations over Houston," says Kraettli Epperson. In fact, within hours of the invitation, he was on his way to assist with the early stages of Hurricane Harvey disaster recovery.

As long as there are catastrophic events taking place around the country, Epperson's agile company will be called upon for incident assessment. When he's back home in Oklahoma, his growing company demands equally nimble responses. But what about the day when the next disruptive technology appears on the horizon? "I've noticed an overlap between the use of unmanned aircraft, artificial intelligence, and machine learning systems," he says. "When these work together, there can be large scale data analysis and in some cases, even the identification of aircraft targets to avoid. So I'm very excited about the next disruptive technology."

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