

Cleveland County land may be key to drone industry

BY ADAM WILMOTH

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About 3,500 acres near Lexington and Purcell could be key to the future of the state's unmanned aerial systems industry.

Leaders at the Unmanned Systems Innovation Center at the Tinker Industrial Business Park are working with state and business leaders to develop commercial applications for unmanned aircraft.

Innovation center leaders hope their effort will spawn related companies and jobs.

"These are not just jobs. These are high-paying, high-quality, globally significant jobs" said Warren Thomas, managing general partner the Tinker Industrial Business Park.

Focus on industry

The innovation center has identified the five key areas it is focusing on for unmanned system use as agriculture, weather, pipelines, utilities and first responders. Applications for all five industries can be tested at Green Valley Farms, which covers 3,500 acres in Cleveland County.

"This is a living laboratory where we are going to do testing for all of these industries in one place" said Thomas, whose family owns the land.

Unmanned systems technology has the potential to revolutionize many industries, said Janelle Stafford, managing director of the Unmanned Systems Innovation Center.

"When you think of unmanned systems, you probably think of the airplane, but there is so much more than that" Stafford said.

“The airplane is just a means to the end. It’s the sensors and the payload that makes it such a dynamic industry”

The world population is expected to reach more than 9 billion by 2050, taxing the global agriculture industry.

“I’ve been in ag all my life, and this is the most exciting time we’ve seen because of the opportunities” said Bill Buckner, president of the Noble Foundation in Ardmore.

“We will have to process 70 percent more food than today to meet the demands of a growing middle class in India and China. That requires us to do more with less”

Unmanned aerial systems can be used in various farming applications, ranging from inspecting trees and fences to using specialized sensors to detect which part of a field needs more water or more fertilizer.

First responders

Unmanned aircraft could provide critical information for many applications for first responders, Oklahoma Fire Marshal Robert Doke said. Uses include monitoring ongoing fires, inspecting storm damage and searching for survivors.

Oklahoma firefighters every summer deal with large fires that make it difficult to see what is over the next hill.

“We need something to launch to 400 feet ” Doke said. “We just need to get above the smoke and see what’s in front of the fire. Is there a large farming operation or a nursing home?”

When available, manned helicopters provide that information today, but Doke said unmanned aerial vehicles, or UAVs, would be safer and less expensive.

“The UAV is a unique tool ” he said. “All we need is the green light. When we get the green light, it’s going to be a godsend for us”

The systems also could be helpful in evaluating storm and tornado damage. Equipped with ultraviolet sensors, unmanned vehicles could help identify injured people buried under debris while being quiet enough to not disturb searches on the ground.

Weather and utilities data

Unmanned aircraft also could provide information on weather patterns that could be used to help forecast and understand storms.

Unmanned aircraft could provide more precise measurements than what is currently received from weather balloons, said James Grimsley, president of the Unmanned Systems Alliance of Oklahoma.

“It would allow our ability to predict to get much better” he said. “If you can improve certainty and get much more precise about the likelihood of tornadoes and outbreaks, the public will listen more ”

Drones also can be used to inspect utility lines for regular monitoring and following storms.

“UAVs will be good for things that are dull and dangerous – either things that will put humans in harm’s way or things that are so dull, they don’t need humans there ” Grimsley said.

Utility companies must regularly inspect the power lines that cross the state, often through rural, hard-to-reach areas, searching for tree limbs that are too close to the lines and any other potential problem.

In a similar way, unmanned aircraft also could be used for pipeline safety.

Pipeline companies often use small planes to fly over pipelines as they

look for leaks and spills.

Unmanned systems could provide the same data for less money, said Thomas, with the Tinker Industrial Business Park. The drones also could be equipped with cameras and sensors to provide even more information.

“These unmanned systems can get down low to where the pipelines are and fly over with sensors and optics and get far better data than the methods used today” he said.

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James Grimsley, president and CEO of Design Intelligence Incorporated, holds up a quad copter while talking about drone research and development in Oklahoma during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND



State Fire Marshal Robert Doke talks about drone research and development in Oklahoma during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND



Janelle Reese Stafford, managing direct of the Unmanned Systems Innovation Center at Tinker Business and Industrial Park, talks about drone research and development in Oklahoma during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND



James Grimsley, president and CEO of Design Intelligence Incorporated, talks about drone research and development in Oklahoma during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. On the table is a MK4 model drone used in wind tunnel tests. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND



James Grimsley, president and CEO of Design Intelligence Incorporated, holds up a MK4 model drone used in wind tunnel tests while talking about drone research and development in Oklahoma during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND



James Grimsley, president and CEO of Design Intelligence Incorporated, holds up a MK4 model drone used in wind tunnel tests while talking about drone research and development in Oklahoma during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND



Bill Buckner, president and CEO of The Samuel Roberts Noble Foundation, talks about drone research and development in Oklahoma during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND



James Grimsley, at left, president and CEO of Design Intelligence Incorporated, and Robert Doke, State Fire Marshall, look on as Bill Buckner, president and CEO of The Samuel Roberts Noble Foundation, talks about drone research and development in Oklahoma during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND



Warren Thomas, managing partner of Tinker Business and Industrial Park, talks about drone research and development in Oklahoma while pointing to a map of Green Valley Farms near Lexington during a meeting at the Tinker Business and Industrial Park Monday, April 28, 2014. Photo by Paul B. Southerland, The Oklahoman PAUL B. SOUTHERLAND - PAUL B. SOUTHERLAND