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Florida hopes to fill its skies with unmanned aircraft

By James Dean, Florida Today

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MELBOURNE, Fla. – From Cape Canaveral, a 66-foot wingspan, remotely piloted U.S. Customs and [Border Protection](#) aircraft takes off in search of drug traffickers, illegal immigrants and terrorists from heights of up to 50,000 feet.

On Lake Okeechobee, researchers hurl a custom-built, 9-foot wingspan plane from an airboat to launch an automated, low-altitude flight to monitor invasive plants.

From large to small, the number of such unmanned aircraft systems — popularly called "drones" — is expected to surge as the federal government works to open civilian airspace to them by 2015. Florida officials hope to position the state as a hub for this fast-growing industry by becoming a test site.

Gannett

An unmanned aircraft flies over launch facilities at Kennedy Space Center in Cape Canaveral, Fla.

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"The skies over Florida will look dramatically different in the years to come," Space Florida President Frank DiBello told a gathering of aerospace professionals this month.

The agency's board recently approved spending up to \$1.4 million to try to win designation as one of six test ranges across the country that Congress has directed the [Federal Aviation Administration](#) to name by the end of the year.

The test sites hope to show that unmanned systems of all shapes and sizes — from wingspans of inches to more than 240 feet — can fly safely alongside piloted aircraft in different terrain and weather conditions.

As drones proliferate, privacy advocates fear unchecked spying by thousands of airborne vehicles.

But supporters argue that once safe protocols are in place, unmanned systems could help analyze brush fires and hurricanes, scout dangerous crime scenes and monitor crops and wildlife — even someday run personal errands.

The [FAA](#) forecasts roughly 10,000 commercially operated unmanned aircraft could be active within five years.

Military users now dominate the more than \$6 billion industry best known for the large drones that pursue and strike terrorist targets overseas.

At home, the Federal Aviation Administration has granted about 60 public entities permission to perform limited operations outside restricted airspace. Those include

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Customs and Border Protection, [NASA](#) and, in Florida, the [Miami-Dade Police Department](#), sheriff's offices in Orange and Polk counties and the [University of Florida](#).

'Dull, dirty' missions

Unmanned aircraft are ideal for "dull, dirty and dangerous" missions that would put people at risk, said Chuck Johnson of NASA's Dryden Flight Research Center in California.

"We fly some of our unmanned aircraft into hurricanes to gather data, and there's a high risk when you do that that the aircraft is not coming back," he said. "It's one thing to lose an airplane and sensors, but it's another to lose a human."

Some unmanned vehicles can fly continuously for much longer than piloted planes or helicopters €" more than 30 hours €" and at lower cost.

Large vehicles with names such as Predator, Reaper and [Global Hawk](#) are most recognized by the public, but smaller, less expensive systems are more common.

At the University of Florida, the Unmanned Aerial Systems Research Group has spent 12 years and more than \$1 million in grants developing the 11-pound, 9-foot wingspan Nova 2.1, which resembles a hobbyist's radio-controlled plane.

Franklin Percival, a wildlife biologist who heads the group, believes the automated aircraft can produce more accurate statistical measurements of remote habitats and animal populations.

"It probably would fit somewhere between a person on the ground measuring things and a satellite," he said. "There's a hierarchy of sensors, and we can provide a lot of detail that perhaps other sensors cannot."

By FAA permit, the preprogrammed flights can climb no higher than 1,200 feet and must remain within a 1-mile radius of ground observers.

The biggest challenge to integrating unmanned systems into the same airspace as passenger jets and general aviation is development of "sense and avoid" technology — electronic eyes that could spot a potential collision in a pilot's absence.

Also needed are tracking and communications links and regulations for certifying that aircraft designs are safe.

"They are very safe now, but they are not as safe as they would need to be to access the national airspace, particularly flying over busy or inhabited areas where there are a lot of people," said Johnson.

Privacy concerns

Beyond basic concerns about airworthiness, privacy groups say the platforms offer unprecedented surveillance capabilities that could be abused by law enforcement, criminals or commercial users.

In public comments submitted to the FAA about its test range initiative, the [Electronic Privacy Information Center](#) said increased drone use poses "an ongoing threat to every person residing within the United States."

Amie Stepanovich, the center's national security counsel, said the FAA should let the public know how systems are allowed to be used and hold operators accountable if they deviate from those uses.

"We think people need to be aware of what's going on over their head," she said. "We're aware there are very positive benefits to having drones. However, when they're used as surveillance tools, people need to be very aware of what information they can collect."

The Association for Unmanned Vehicle Systems International, a trade group, says privacy concerns are being addressed, including work to set law enforcement guidelines for collection and disposal of data unmanned vehicles collect.

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"Ultimately, we have the same concerns about privacy that everyone else has," said Ben Gielow, the association's government relations manager and general counsel. "However, we believe that this new technology offers an incredible potential for the public good."

Dozens of states are competing to win the FAA's designation as a test range, even though the agency is offering no funding to support their operations.

The states hope to capture a piece of an industry projected to nearly double in size over the next decade, to \$11.4 billion, according to Teal Group analysts, and a share of the 23,000 jobs that AUVSI estimates integration with the national airspace would create by 2025.

Win or lose, Space Florida intends to make the state a friendly place to fly unmanned aircraft and develop the sensors and payloads that could be turned into valuable businesses.

"We're positioning Florida with a foothold in a new industry," DiBello told his board of directors last month. "This is a thing that's good for the evolution of the aerospace industry in the state and we need to take that action and move on it."

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36 comments

[Add a comment](#)[Contact](#)**Sergio Gonzalez-Del Pozo**

This amounts to nothing more than a blatant and downright inexcusable violation of the peoples' privacy in the United States of America. Heck, we can already be photographed from space by ultra high resolution cameras, and all our cellphone conversations are constantly monitored by the Dept. of Homeland Defense. What's next? Microphones hanging from our Living Room and Bedroom Ceilings? Head mounted cameras on everybody? Enough already I say!! Give us back our privacy!!!

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**Angelina LaPerna** · Top Commenter · I am not in college yet

"...and all our cellphone conversations are constantly monitored by the Dept. of Homeland Defense."

You are saying that every single cell phone conversation is being monitored? Wow, the must have millions of employees there. At least now you know where the tax dollars are going.

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**Philip Wilson** · Top Commenter · Babson College

Echelon is a cyber system that monitors all traffic. NSA.

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**William Dufrane** · Top Commenter · Ferris State University

HS or an agency working for them...or someone else....could monitor all cell phone traffic in the US by computers alone....

Question.....how many super computers that monitor five million "key" words a second do you think it might take?

You really need to go to college to learn some math....

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[View 10 more](#)**Don Lanier** · Top Commenter · Works at Pearl Pro Audio

Say Goodbye to Privacy in the USA the Govt now has YOU under its cameras, and if you think it will just be used for Drugs and such your living in a bubble, those cameras are on 24-7 and they take pictures of EVERYTHING, Saying that THEY will take precautions to guard the publics privacy is like saying ATT never listened in on a US Citizens Phone conversation for the NSA, We are crossing the line into uncharted territory and the Govt is watching your every move, your under the camera, so if you decide to tan naked in your back yard you better look closely at the Global Hawk overhead as the Air force in Las Vegas is watching and taking very hi quality pictures of you. PRIVACY IS GONE IN AMERICA

Reply · 10 · Like · 13 hours ago

**Vernon Gray** · Top Commenter · Valley High School

I couldn't care less if they see me sunbathing in the buff. Would be even better if they gave me a call when it's time to turn over. Add a little infrared, and they can tell me where I need more lotion. Yep, I see possibilities.

Reply · Like · 9 hours ago

**Slick Fibonacci** · Top Commenter · Intergalactic University

Florida, just say no. I'm not the right-wing paranoid type, but this IS Big Brother watching.

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**George Herndon** · Top Commenter

there is no longer a reason for americans to join the military to defend the freedoms of our nation....they no longer exist....the next enemy is from within. Soon americans will be fighting for freedom from the very same government that was supposed to protect our freedoms.

Reply · 8 · Like · 12 hours ago

**Kane Daly** · Chief cook and bottle washer at Survival.FM

It would be funny if it weren't so sad. To quote Ben Franklin: " Any society that would give up a little liberty to gain a little security will deserve neither and lose both."

Reply · 2 · Like · 9 hours ago

S

**Kane Daly** · Chief cook and bottle washer at Survival.FM

Big Brother can kiss my Big Ass! You don't honestly believe that they are using these drones to track illegal activity without spying on legal citizens doing about their daily lives do you? HELL NO! SEARCH! Just let me find one living close to me during zipcars in San Fran. Get \$50 Free Driving, Join Today.

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**Eye Sey** · Top Commenter

KD: Kapow!

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Reply · Like · 11 hours ago

[Buy a link here](#)**Ed Reiman** · Top Commenter · University of Survival

KD IF you hunt ducks witha 10 ga. the drone better be flying at LESS than 1000 feet. IF you hunt ducks with a Barrett .50 well that's another matter.

Reply · 3 · Like · 11 hours ago

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