

# Risk and reward at the dawn of civilian drone age (Update 2)

March 29 2013, by Joan Lowy

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This photo taken March 26, 2013, shows flight test pilot Alex Gustafson carrying an InsituScanEagle unmanned aircraft in preparation for a flight in Arlington, Ore. It's a good bet that in the not-so-distant future aerial drones will be part of Americans' everyday lives, performing countless useful functions. A far cry from the killing machines whose missiles incinerate terrorists, these generally small unmanned aircraft will help farmers more precisely apply water and pesticides to crops, saving money and reducing environmental impacts. They'll help police departments to find missing people, reconstruct traffic accidents and act as lookouts for SWAT teams. They'll alert authorities to people stranded on rooftops by hurricanes, and monitor evacuation flows. (AP Photo/Don Ryan)

The dawn of the age of aerial civilian drones is rich with possibilities for people far from the war zones where they made their devastating mark as a weapon of choice against terrorists.

The unmanned, generally small aircraft can steer water and pesticides to crops with precision, saving farmers money while reducing environmental risk. They can inspect distant bridges, pipelines and power lines, and find hurricane victims stranded on rooftops.

Drones—some as tiny as a hummingbird—promise everyday benefits as broad as the sky is wide. But the drone industry and those eager to tap its potential are running headlong into fears the peeping-eye, go-anywhere technology will be misused.

Since January, drone-related legislation has been introduced in more than 30 states, largely in response to privacy concerns. Many of the bills would prevent police from using drones for broad public surveillance or to watch individuals without sufficient grounds to believe they were involved in crimes.

Stephen Ingley, executive director of the Airborne Law Enforcement Association, says resistance to the technology is frustrating. Drones "clearly have so much potential for saving lives, and it's a darn shame we're having to go through this right now," he said.

But privacy advocates say now is the time to debate the proper use of civilian drones and set rules, before they become ubiquitous. Sentiment for curbing domestic drone use has brought the left and right together perhaps more than any other recent issue.

"The thought of government drones buzzing overhead and constantly monitoring the activities of law-abiding citizens runs contrary to the notion of what it means to live in a free society," Sen. Charles Grassley,

a Republican, said at a recent hearing of the Senate Judiciary Committee.

With military budgets shrinking, drone makers have been counting on the civilian market to spur the industry's growth. Some companies that make drones or supply support equipment and services say the uncertainty has caused them to put U.S. expansion plans on hold, and they are looking overseas for new markets.



This photo taken March 26, 2013, show an Insitu ScanEagle unmanned aircraft flying over the airport in Arlington, Ore. It's a good bet that in the not-so-distant future aerial drones will be part of Americans' everyday lives, performing countless useful functions. A far cry from the killing machines whose missiles incinerate terrorists, these generally small unmanned aircraft will help farmers more precisely apply water and pesticides to crops, saving money and reducing environmental impacts. They'll help police departments to find missing people, reconstruct traffic accidents and act as lookouts for SWAT teams. They'll alert authorities to people stranded on rooftops by hurricanes, and monitor evacuation flows. (AP Photo/Don Ryan)

"Our lack of success in educating the public about unmanned aircraft is coming back to bite us," said Robert Fitzgerald, chief executive of the BOSH Group, which provides support services to drone users.

"The U.S. has been at the lead of this technology a long time," he said. "If our government holds back this technology, there's the freedom to move elsewhere ... and all of a sudden these things will be flying everywhere else and competing with us."

Law enforcement is expected to be one of the bigger initial markets for civilian drones. Last month, the FBI used drones to maintain continuous surveillance of a bunker in Alabama where a 5-year-old boy was being held hostage.

In Virginia, the state General Assembly passed a bill that would place a two-year moratorium on the use of drones by state and local law enforcement. The measure is supported by groups as varied as the American Civil Liberties Union on the left and the Virginia Tea Party Patriots Federation on the right.

Gov. Bob McDonnell is proposing amendments that would retain the broad ban on spy drones but allow specific exemptions when lives are in danger, such as for search-and-rescue operations. The legislature reconvenes on April 3 to consider the matter.

Seattle abandoned its drone program after community protests in February. The city's police department had purchased two drones through a federal grant without consulting the city council.

In Congress, Rep. Ed Markey, a Democrat and co-chairman of the House's privacy caucus, has introduced a bill that prohibits the Federal

Aviation Administration from issuing drone licenses unless the applicant provides a statement explaining who will operate the drone, where it will be flown, what kind of data will be collected, how the data will be used, whether the information will be sold to third parties and the period for which the information will be retained.



This photo taken March 26, 2013, shows flight test pilot Alex Gustafson dismantling a Insitu ScanEagle unmanned aircraft after a flight in Arlington, Ore. It's a good bet that in the not-so-distant future aerial drones will be part of Americans' everyday lives, performing countless useful functions. A far cry from the killing machines whose missiles incinerate terrorists, these generally small unmanned aircraft will help farmers more precisely apply water and pesticides to crops, saving money and reducing environmental impacts. They'll help police departments to find missing people, reconstruct traffic accidents and act as lookouts for SWAT teams. They'll alert authorities to people stranded on rooftops by hurricanes, and monitor evacuation flows. (AP Photo/Don Ryan)

Privacy advocates acknowledge the many benign uses of drones. In Mesa County, Colorado, for example, an annual landfill survey using manned aircraft cost about \$10,000. The county recently performed the same survey using a drone for about \$200.

Drones can help police departments find missing people, reconstruct traffic accidents and act as lookouts for police special tactics teams. Real estate agents can have them film videos of properties and surrounding neighborhoods, offering clients a better-than-bird's-eye view though one that neighbors may not wish to have shared.

"Any legislation that restricts the use of this kind of capability to serve the public is putting the public at risk," said Steve Gitlin, vice president of AeroVironment, a leading maker of smaller drones.

Yet the virtues of drones can also make them dangerous, privacy advocates say. The low cost and ease of use may encourage police and others to conduct the kind of continuous or intrusive surveillance that might otherwise be impractical.

Drones can be equipped with high-powered cameras and listening devices, and infrared cameras that can see people in the dark.

"High-rise buildings, security fences or even the walls of a building are not barriers to increasingly common drone technology," Amie Stepanovich, director of the Electronic Privacy Information Council's surveillance project, told the Senate panel.



This photo taken March 26, 2013, shows Insitu unmanned aircraft system flight test operator Hannah Rasmussen monitoring controls in a ground control station in Arlington, Ore. It's a good bet that in the not-so-distant future aerial drones will be part of Americans' everyday lives, performing countless useful functions. A far cry from the killing machines whose missiles incinerate terrorists, these generally small unmanned aircraft will help farmers more precisely apply water and pesticides to crops, saving money and reducing environmental impacts. They'll help police departments to find missing people, reconstruct traffic accidents and act as lookouts for SWAT teams. They'll alert authorities to people stranded on rooftops by hurricanes, and monitor evacuation flows. (AP Photo/Don Ryan)

Civilian drone use is limited to government agencies and public universities that have received a few hundred permits from the Federal Aviation Administration. A law passed by Congress last year requires the FAA to open U.S. skies to widespread drone flights by 2015, but the agency is behind schedule and it is doubtful it will meet that deadline.

Lawmakers and industry officials have complained for years about the FAA's slow progress.

The FAA estimates that within five years of gaining broader access about 7,500 civilian drones will be in use.

Although the Supreme Court has not dealt directly with drones, it has approved aerial surveillance without warrants in drug cases in which officers in a plane or helicopter spotted marijuana plants growing on a suspect's property.

But in a case involving the use of ground-based equipment, the court said police generally need a warrant before using a thermal imaging device to detect hot spots in a home that might indicate that marijuana plants are being grown there.

In some states economic concerns have trumped public unease. In Oklahoma, an anti-drone bill was shelved at the request of Republican Gov. Mary Fallin, who was concerned it might hinder growth of the state's drone industry. The North Dakota state Senate killed a drone bill in part because it might impede the state's chances of being selected by the Federal Aviation Administration as one of six national drone test sites, which could generate local jobs.

A bill that would have limited the ability of state and local governments to use drones died in the Washington legislature. The measure was opposed by the Boeing Co., which employs more than 80,000 workers in the state and which has a subsidiary, Insitu, that is a leading military drone manufacturer.

Sen. Rand Paul, a Republican, recently drew attention to the domestic use of drones when he staged a 13-hour speech, demanding to know whether the president has authority to use weaponized drones to kill



Americans on American soil. The White House said no, if the person isn't engaged in combat. Industry officials worry that the episode could temporarily set back civilian drone use.

"The opposition has become very loud," said Gitlin of AeroVironment, "but we are confident that over time the benefits of these solutions are going to far outweigh the concerns, and they'll become part of normal life in the future."

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