



Drones invade domestic airspace and your privacy

Rory Crump

Imagine a rabbit-sized drone hovering over your Fourth of July backyard barbeque, covert and stealthy, scanning the property for expired license plates, wanted jaywalkers and oversized Roman candles. Depending on your location, this Orwellian scene may already be possible. An uptick in domestic drone activity, including February's FAA Reauthorization Act and the recent release of a drone operator's unofficial rulebook has angered privacy advocates and aggravated fears we are living in a surveillance society. Digital freedom fighters like the Electronic Frontier Foundation and the Center for Democracy & Technology, along with an obligatory stance from the American Civil Liberties Union, question the constitutionality of law enforcement's use of drone technology. And many taxpayers find the notion of drone-filled American skies intrusive, unsafe and downright creepy.

The FAA has been forced to accelerate the commercial use of drones, and the industry from hobbyists to lobbyists is booming. Big defense contractors, currently building military drones with high-flying, Hollywood production skills, will enjoy an untapped market full of private needs and public contracts. The DIY community thinks drones are just geeky fun. Especially when a drone autopilot can be cobbled together using cheap sensors found in today's smartphones. But a deadly stigma seems to mask the utility of domestic drones for practical measures like border protection, search and rescue, and helping tame forest fires.

Drones have a bad rap. And people fear them.

And United States Senator Rand Paul, a Republican from Kentucky, believes domestic drones put the Fourth Amendment in peril and has introduced legislation that restates the constitution regarding individual privacy and government intrusion. While individuals from both ends of the political spectrum -- realizing military technology may be turned on them -- are scrambling for protection. Protection sought from both warrantless spying and homemade drones, powered by rain-soaked iPhone parts, crashing into defenseless minivans.

"The emergence of unmanned aircraft systems (UAS) as a resource for a wide variety of public and private applications quite possibly represents one of the most significant advancements to aviation, the scientific community, and public service since the beginning of flight." That's the lead into the Association For Unmanned Vehicle Systems International's "Code of Conduct" published recently to pacify detractors of domestic drone use. The document may also be a posturing move to sidestep government regulation of a multi-billion dollar industry expected to skyrocket if left to an open market.

The AUVSI calls for safety, professionalism and respect among drone enthusiasts facing an image problem and unforeseen challenges. It is not legally binding and packs less punch than the Boy Scout Oath. And per "advancements to aviation," I doubt the Wright brothers envisioned snooping future Kitty Hawk residents as a natural evolution of flight.

However, the drone industry has momentum, potential, and a technophile president -- still hunting job growth -- on their side. The industry is also immature, untested in domestic airspace, and led by heavyweights like Northrop and Boeing that play for keeps and are so large in scale, they don't offer benchmarks or standards for startups building retail drones capable of catching your yard-watering violation in

high-definition.

The good news is hobbyists can only fly drones below 400 feet, and a safe distance from airports and populated areas. At this point, flying drones for money in the U.S. is technically banned and even law enforcement must get authorization and meet strict requirements to fly a drone. But the commercial barrier will be lifted in 2015 in response to the FAA Reauthorization Act. The legislation orders the FAA to create new regulations for licensing and testing drones for commercial use. Something agriculture, ranching, oil and gas, and the film industry will welcome as drones are great for managing crops, aerial reconnaissance, and capturing the perfect chase scene without renting a helicopter.

Drone supporters do attract empathy from applications impacting the public consciousness. Severe weather, missing persons, wildlife management, and environmental research are government-related issues where drones not only save time and money, but also execute critical missions without endangering lives.

But according to the EFF and ACLU, the same feelings don't apply to law enforcement turning drones into flying watchdogs and armed robots.

The EFF used legal pressure to secure a list of FAA authorized drone operators. Based on their findings, DARPA, Customs and Border Protection, and traditional branches of the military have applied for FAA Certificates of Authorization. All obvious candidates. But universities, police departments and small municipalities also made the list. The EFF rebukes law enforcement's use of drones, citing the capabilities of Air Force Predators and other space-age drones beyond most police department budgets. But the scare tactics are effective. The scariest being a potential escalation from surveillance to armed drones carrying tasers, rubber bullets and tear gas.

Drones and the ACLU have a heated past. After filing a Freedom of Information Act lawsuit in 2010 demanding the government disclose information regarding targeted Predator drone killings, the ACLU has continued to attack legal, policy and moral issues surrounding the military's drone program. And because law enforcement likes to adopt military technology, the ACLU's take on domestic drones is predictable. Only domestic privacy issues, in this case, supersede targeted killings over enemy territory.

The ACLU warns of a self-perpetuating cycle where law enforcement first deploys drones for raids, chases and drug surveillance -- justifiable and progressive uses. Then after drones become more advanced and available, the noose tightens. Law enforcement gets more comfortable with the technology and simple video leads to irresponsible use of GPS systems, and implementation of both face and gait recognition software. While data mining techniques help complete an individual profile perfect for tracking and surveillance. And according to Jay Stanley, an ACLU policy analyst, "ultimately, such surveillance leads to an oppressive atmosphere where people learn to think twice about everything they do."

More scare tactics, yes. But not so far fetched when even hobbyists argue a drone is a drone. Meaning through a simple cross-pollination of cheap, available technology a DIY drone can mimic a military drone well enough to at least be a privacy threat.

The FAA has a tall task, sorting all this out and ensuring domestic drone operators are well trained and highly skilled. Just like their military counterparts. FAA transparency would be nice, too. Helping quiet fears U.S. airspace won't become littered with robots piloted by radically different agendas. But the FAA has to run a tight ship and is chasing a 2015 deadline. Our real awareness may come from crashes and cover-ups.

As for the realists, drones are now in the air and probably there to stay. We are already subject to police helicopters, security cameras, Google Earth and more direct forms of satellite imagery. In fact, similar privacy arguments swirled around Homeland Security's U.S. satellite reconnaissance initiative. But drones

just have a sinister reputation, a trustless appeal.

Police can legally stake you out from a public vantage point. And a domestic drone could fly hundreds, if not thousands of feet over your backyard and still pull the entire barbeque into focus. Possibly making you feel a little less independent on the next Fourth of July.