

# California aerospace industry eyes drones

By Torey Van Oot, Sacramento Bee

A technology long deployed on the battlefield could be coming to a farm, newspaper or police station near you.

An expected boom in the use of nonmilitary “unmanned aerial vehicles,” commonly known as drones, has California looking to regain some of the aviation industry swagger it enjoyed for decades before defense downsizing shuttered military bases and manufacturers.

The Federal Aviation Administration, which is moving toward a 2015 target for opening the skies for public and private drone use, estimates that more than 30,000 could be in flight nationwide by 2020.

“We’re not darkening the sky yet, but we’re poised,” Richard Christiansen, vice president of aerospace engineering firm Sierra Lobo Inc., said at a Southern California symposium on civilian drone uses.

At stake for California and other states is a piece of \$82 billion in economic activity the drone industry estimates it will generate between 2015 and 2025.

But the emerging technology has attracted questions about use, safety and privacy, leading state and federal regulators to grapple with how to govern drones. Capitol hearings and the two-day symposium in Thousand Oaks, sponsored by state lawmakers and an industry association, have explored those issues in recent weeks.

Unmanned systems are most commonly known for their use by the military, which has increased its reliance on drones to

conduct surveillance and track down terrorists in places like Afghanistan and Pakistan. But advances in technology and cuts to defense spending have led manufacturers to experiment with new ways to use what the industry calls "UAVs."

Boosters of the technology say it could be used to assess and sell real estate, help news organizations report stories and patrol oil pipelines, ports or vast swaths of water of the coast.

First responders and emergency management officials see potential in monitoring and fighting wildfires or assessing damage from natural disasters in real time. Some law enforcement officials want to use drones to conduct surveillance and search-and-rescue operations or crack down on illegal drug cultivation and trafficking.

Shipping companies have explored using them to deliver packages, industry representatives say. UC Davis has been granted a waiver to test drones that spray and fertilize crops.

"Everywhere I go people ask me for new applications for these things," Kristen Helsel, a vice president for Public Safety UAVs at AeroVironment, told a room of industry representatives and policy specialists at the symposium. "There are smart people out there who when we put the technology in their hands, they're going to be able to think of great ways to use it that will save lives and protect property."

But the opportunity for expansion has sparked privacy concerns and calls for rules about where, how and by whom the system can be used.

"The key thing is that there has to be a (regulatory) framework in place before the drone is deployed," said Linda Lye, a staff attorney with the American Civil Liberties Union of Northern California. "In too many other instances, we see the technology rapidly outpacing the law."

The ACLU wants states and federal officials to ensure information collected in non-law enforcement capacities, such as surveying a forest, isn't stored and later used for other purposes. The organization believes a regulatory scheme must include warrant requirements and other safeguards in place to protect the rights of citizens.

It is especially concerned about how police and other government agencies will deploy drones. Such uses, Lye believes, will be widespread because the aircraft are less costly than helicopters or other surveillance tools and the Department of Homeland Security is offering grants to help pay for the equipment, which can cost hundreds of thousands of dollars for each aircraft.

Industry reports downplay those uses, saying agriculture is expected to attract much of the spending in the early years.

Privacy concerns also have led to some public backlash. Supervisors in Alameda County, for example, have put a county sheriff's proposal to seek a drone on hold in light of pushback from privacy advocates and others in the community.

Drone supporters in California say privacy concerns must be addressed, but not to the detriment of development.

Assemblyman Jeff Gorell, who has introduced legislation setting parameters for use and privacy rights, said he hopes privacy concerns don't hurt California's "opportunity as a state to earn back some of the eminence that we once held in the area of job creation around aviation and innovation in aerospace."

"Most of these platforms have nothing to do with caring one iota about what people do in their backyard," the Camarillo Republican said. "If we allow the privacy issue to drive these jobs out of California or to drive the industry underground, that would be a terrible consequence of a concern that has to do with only one of the limited applications of the fastest

growing sector of aerospace in the last 25 years.”

Gorell’s package of bills, co-authored by Democratic Assemblyman Steven Bradford, includes a set of proposed tax breaks to attract the drone industry to the state.

Those bills represent two of at least 80 proposals related to drones in 39 statehouses across the country, according to the National Conference of State Legislatures. Because the authority to regulate federal airspace rests with the FAA, many of the proposals tackle privacy concerns and issues over data storage and usage.

Drone boosters also are working outside the Statehouse to promote industry growth in California. At least two applications, backed by groups in San Diego and Ventura County, have been submitted to win one of six test sites the FAA is set to award nationwide. The locations chosen are expected to become hubs for drone development in the future.

“What the Bay Area is for IT, one of these test sites could be for aerospace and (unmanned aerial systems),” said Ventura County Director of Airports Todd McNamee, who is working on a proposal that would open corridors of airspace for testing that run from Oxnard along the coast to Northern California with inland routes east to Redding and Truckee. “That’s how we sort of envision it.”

The FAA says 50 applications have been received from 37 states. Supporters, pointing to other states with coordinated campaigns, have called on Gov. Jerry Brown to put more muscle behind at least one of the proposals to increase its competitiveness. Legislators trying to raise the issue’s profile in the Capitol convened a committee hearing last month.

“We want to do everything we can to get those jobs and economic development here in California,” said Assemblyman Al Muratsuchi, D-Torrance, who chaired that hearing.

While securing a test site could accelerate growth in California, supporters say the technology will advance either way.

Some limited testing through public-private partnerships is occurring in the state's military airspace. The FAA has handed out 1,400 waivers – only to public agencies – such as the one UC Davis received to operate drones under certain circumstances since 2007; 327 of those were active as of mid-February.

Hobbyists like Jason Goldman, a recent Pepperdine University graduate who builds his own drones, are already in the air for recreational purposes, awaiting the OK to do more with their drones.

“We’re here now and we’re ready,” Goldman told the symposium audience last month. “I say let us fly.”