

For example, a large Predator drone in Afghanistan can be manned by as many as seven or eight crewmembers sitting in the United States.

Batten, a professor of mechanical engineering, researches something called autonomous vehicles — craft, both in the air and at sea — that guide themselves. They can have a wingspan as small as six inches. “An autonomous vehicle is responsible for getting itself from point A to point B,” she says. Batten and a team of OSU grad students are part of a \$6-million joint research project, funded in 2007 by the U.S. Air Force, studying the way bats fly in order to “develop autonomous vehicles that are more maneuverable, more agile,” she says.

The study looks at details like the way hair on a bat’s wings acts as a sensor and allows it to adjust itself and become more aerodynamic, as well as at the flexibility of its wings. The idea would be to develop a plane that — like a bird — can tumble, flutter, roll and fly into something, bounce off it, correct itself and continue.

“The applications are vast,” says Batten, adding that UAVs are particularly useful in humanitarian situations. She points out that Oregon is on the Cascade Subduction Zone and if there was a catastrophic earthquake, unmanned vehicles could be sent into collapsed buildings instead of human rescuers to find survivors. UAVs could find lost hikers on Mt. Hood and determine if they were still alive and capable of being rescued without risking more lives. On the science front, a UAV could fly into forest canopies, Batten says, and assess bird populations.

It’s important to remind people, Batten argues, that many technological advances that improve life start out funded by the military or NASA. “Anything can be used for both good and bad purposes.”

But one scientist’s humanitarian aid is another person’s nightmare. While UAVs might save lives in the United States, UAVs and drones are being used to spy and to drop missiles that kill more civilians than military targets. A 2009 report by the Brookings Institution suggests that in



IAI Heron 1 UAV in flight

SSGT REYNALDO RAMON, USAF • WIKI COMMONS

Pakistan drone attacks, “for every militant killed, 10 or so civilians also died.”

Through a Freedom of Information Act request, the *Los Angeles Times* recently acquired the transcript of the radio transmissions of a Predator drone’s crew from February of 2010. The transcript records the crew discussing whether to bomb two sport utility vehicles and a pickup truck in Afghanistan. In the end, they dropped Hell-fire missiles on the convoy. More than 20 innocent civilians — no weapons or Taliban were found — were killed and wounded by the attack, including women and children. The conversation of the drone’s crew, operating from a military base in Nevada while talking to “screeners” at another base in Florida who were reading the drone’s video feed, is casual, callous.

“Sweet target,” the drone’s camera operator comments, looking at people riding in the bed of the pickup truck as the crew tries to determine if the Afghans are friend or foe. “Be ready for a lot of (expletive deleted) squinters, dude,” says the pilot. “Squinter” is slang for people who run for cover as drones fly overhead and reflects the videogame attitude that is the result of bombing humans via video feed. Drones target and shoot the squinters as they flee after an attack.

HOME SWEET DRONE

If a UAV testing area were opened up in Central Oregon, there wouldn’t be any bombs falling from drones, Predator or otherwise. “They would not be dropping ordinances; it couldn’t happen in the air space we’re looking to create,” says Roger Lee, EDCO director.

When the recession hit the east side of Oregon, Lee says, “There was a half a billion dollar industry here in manufacturing general aviation aircraft and components.” There is less than a fifth of that today, he says. Collins Hemingway, chair of the aviation recruitment committee for EDCO, adds that at least two aircraft companies went bankrupt in the region. The industry got together, Lee says, and began meeting to figure out what could utilize the talent base that was still there. The UAV industry had the most promise, Hemingway says, and “what we’d like to see is getting some of our unemployed people back to work.”

EDCO says a dozen companies have already said they would use the testing area and cites Northwest companies including Insitu, Boeing and Evergreen Aviation as all benefiting from a drone testing area.

There are benefits for Oregonians not in the aviation industry too, Hemingway

says, echoing Batten’s list of nonmilitary uses for drones. He says unmanned craft could be used in place of human pilots in high-risk situations such as tanker drops to put out forest fires. Mini UAVs, he says, can be used in orchard management. Hemingway says the planes could also be used to patrol for invasive weeds. Ranchers could monitor fences with unmanned craft; law enforcement could patrol for drugs. “Anything you can practically think of when it comes to getting information,” Lee adds.

EDCO drew up a proposal in November asking Wyden, Merkley and Rep. Greg Walden “to request an amendment to the FAA reauthorization bill or other action necessary to establish a test area for unmanned aerial systems (UAS) within an hour’s drive of Bend, Oregon.”

According to the proposal, 35 percent of all aircraft ordered by the Air Force next year will be unmanned systems, and “the Air Force’s Unmanned Aircraft System Flight Plan predicts that UAS will replace nearly every manned plane — from fighters to tankers to bombers — by mid-century.” EDCO estimates that if the region got just 5 percent of the military’s research and development spending, the economic benefit would be \$75 million per year.

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