From firefighting to football, people want to use flying drones

By **CQ Roll Call, adapted by Newsela staff**
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A flying drone with a camera hanging from it flies over PNC Park during the baseball game between the Pittsburgh Pirates and the New York Mets, June 26, 2014, in Pittsburgh.

Imagine a major hurricane or earthquake has struck a U.S. city, doing millions of dollars worth of damage. Before insurance companies can pay people to replace ruined cars and houses, they need to look at the damage. But it could be weeks before it's safe for insurance workers to enter the city.

How can the insurance companies gather the information they need more quickly? Drones may be the answer.

Drones are another name for unmanned aerial vehicles. These are small airplanes and helicopters that fly by remote control, with no pilot aboard. In the last couple years, the U.S. military has used drones to bomb targets in Afghanistan, Pakistan and elsewhere.

Got A Permit For That?

Today, many industries are itching to experiment with drones. In the coming years, drones will be used for purposes that few people expected—many of them business-related.

"I think what we're seeing is that the imagination is the boundary of what we'll see in the future with drones," said Rachel Stohl, an expert on the drone market who works in Washington, D.C.

The Federal Aviation Administration (FAA) controls U.S. airspace, and it has been slow to allow drones to fly in the United States. For years, the FAA has given out drone permits on a case-by-case basis, mostly to law enforcement agencies and research groups.

Right now, it's illegal to use a drone commercially—for business—without an FAA permit. The FAA has given out almost no permits to businesses seeking to use drones.

Regular people can use drones on their own property or someone else's property with permission, but those rules vary from state to state. Drones are not allowed in U.S. airspace, which means they must be kept below a certain altitude, and that they cannot go in certain areas.

Evaluating Drone Safety

In 2012, Congress gave the FAA three years to come up with a plan to include commercial drones into the national airspace system. So far the FAA has been evaluating drone safety, and last month it authorized six filmmaking companies to use unmanned aircraft.

The plan is due by September 2015, although the Transportation Department says the FAA is significantly behind and may miss the deadline.

One challenge for the FAA is that while manned aircraft—regular planes and helicopters—come in standard shapes and sizes and are generally used for a common set of jobs, drones can come in almost any size and be used for a wide variety of jobs.

"They are having a really hard time understanding the technology," said Mary Louise Cummings, a professor at Duke University.

Still, the line of industries trying to pressure the FAA to get more permissive on drones is only growing.

Dealing With Danger

There's a good reason that companies are proposing to use drones in unconventional new ways, experts say. Drones come in all sizes and they can be smaller and cheaper than manned aircraft. They can be used in situations that might be too dangerous for a pilot.

Drones are ideal for difficult terrain like rugged mountains, or dangerous ground conditions like a

volcano eruption or riot, Stohl said. Unmanned aircraft are increasingly being used for search-and-rescue operations and they could be used to fight fires, she added.

The USAA, a large insurance company, has occasionally used drones to take photos from high up in the air after a disaster. But according to Kathleen Swain of USAA, who is also a pilot, drones won't replace piloted aircraft, they will replace work that is now done on foot.

"The delays we face are getting to the site after a catastrophe," Swain said. "Obviously, because of the damage, it's hard to get boots on the ground. This is more economical, it's more efficient, it's cheaper."

Cheaper And Safer

This isn't a new effort from the insurance company. It has been working with the FAA on this issue since 2010 and it is not alone.

Drones could be used in agriculture, entertainment, surveying, wildlife conservation and mining. They could help to monitor the safety of infrastructure such as bridges and tunnels. All these industries have a need for high-quality aerial photos for relatively little money, Cummings said.

"Anywhere where you think you need to see something from high up, it's going to be not only cheaper but safer," Cummings said.

The Association for Unmanned Vehicle Systems International is a lobbying group that is working to make it easier for companies to use drones. It has made a list of industries that are using drones or considering using them.

Look! He's Open For A Pass!

Scenes from Martin Scorsese's "The Wolf of Wall Street" were shot using drones. Large oil companies such as Conoco and Shell want to use drones to search for oil off Alaska's coast. The PGA wants to use drones to film golf events, while the Washington Nationals baseball team used a small helicopter-style drone to take publicity pictures. The FAA later stopped the team, because it lacked a permit.

Clemson University uses a drone to take overhead video of its football practices and marching band formations. Fresno State's football program has a drone hang behind its quarterback during drills.

“I think is really helping our guys have bigger vision down the field,” coach Tim DeRuyter said in a press release.

“We’ve had cameras right behind the quarterback, but it does limit the vision. So having that drone up about 10 feet above their heads” gives them a unique view, DeRuyter said.