

# Arrival of the drones: 20 uses for unmanned aircraft

January 7 2015, by Scott Mayerowitz

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In this Wednesday, Oct. 15, 2014 photo, the Yamaha RMax unmanned helicopter sprays water over grapevines during a demonstration of its aerial application capabilities at the University of California, Davis' Oakville Station test vineyard in Oakville, Calif. Researchers at UC Davis have been studying the effectiveness of the drone's ability for spraying pest control and nutritional materials on the test vineyard in California's Napa Valley. (AP Photo/Rich Pedroncelli)

Most people think of drones as instruments of warfare, but as the Federal Aviation Administration slowly opens U.S. airspace to commercial use of unmanned aircraft, they are going to become more

commonplace.

The first uses are likely to be in remote, sparsely populated areas. Some of the proposed commercial applications for drones include:

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## TACKLING DANGEROUS JOBS

— Searching places that aren't safe for humans, such as looking for survivors in collapsed buildings after an earthquake or inspecting nuclear power plants following a meltdown.

— Helping firefighters battling forest blazes by watching where flames are popping up without risking lives. Helicopters often can't be used because their powerful rotors threaten to spread the fire.

— Helping scientists conduct research inside volcanic ash clouds, hurricanes, tornados or other spots that are not safe for humans.

— Inspecting icy, wind-swept chairlift towers at ski resorts, reducing employee risk and worker-compensation insurance costs.

— Assessing damage for insurance companies after natural disasters, letting them process claims faster. It often takes days until people are allowed into a disaster zone.

— Visually inspecting oil refinery flare stacks, tall towers used to burn off gas when pressure builds too much. The flares give off so much heat that people often can't stand on the ground below, let alone climb the tower unless there is a lengthy and costly production shut down.

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## SURVEYING LARGE INDUSTRY



In this Oct. 15, 2014 file photo, Katsu Nakamura, sky division manager for Yamaha USA, moves the RMax unmanned helicopter into position before a demonstration of its aerial application capabilities at the University of California, Davis' Oakville Station test vineyard in Oakville, Calif. Researchers at UC Davis have been studying the effectiveness of the drone's ability for spraying pest control and nutritional materials on the test vineyard in California's Napa Valley. (AP Photo/Rich Pedroncelli, File)

- Inspecting miles of remote power lines quickly and at less cost.
- Surveying farmers' land, finding bugs or soil that is too dry or lacking nutrients, and then sending the exact GPS coordinates back to a tractor which will apply pesticide, water or fertilizer only to areas in need. Drones could also be used to treat hilly farms or vineyards where tractors

often roll over.

- Performing safety checks of remote railroad bridges.
- Inspecting highway overpasses without shutting down lanes of traffic.
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## OFFERING BETTER VANTAGE POINTS

- Creating that perfect shot for movie directors.
- Letting media find new ways to cover news and sports. Drones provided aerial television coverage of snowboard and ski jump competitions at the Sochi 2014 Winter Olympics.
- Showing off homes and the surrounding neighborhoods for real estate agents looking to set their listings apart.
- Photographing weddings.



In this photo taken Wednesday, Oct. 15, 2014, Ryan Billing, a development engineer for the University of California, Davis, operates the controls of the Yamaha RMax unmanned helicopter during a demonstration of its aerial application capabilities at the University of California, Davis' Oakville Station test vineyard in Oakville, Calif. Researchers at UC Davis have been studying the effectiveness of the drone's ability for spraying pest control and nutritional materials on the test vineyard in California's Napa Valley. (AP Photo/Rich Pedroncelli)

— Providing football teams with unique video angles of their practices to see what is and isn't working.

— Mapping coastal erosion, forest land, archaeological sites or to conduct geological surveys.

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In this Oct. 16, 2014 picture, former Navy helicopter pilot and San Diego Gas & Electric unmanned aircraft operator Teena Deering controls a drone as it flies over a tower carrying electric transmission lines near Boulevard, Calif. San Diego Gas and Electric thinks that drones might be a cheaper, faster way to inspect its power lines in remote areas. (AP Photo/Gregory Bull)

## SOLVING UNIQUE CHALLENGES

- Protecting endangered animals by sending real-time video and thermal images of animals and poachers to wildlife rangers.
- Temporarily expanding cell phone reception at special events like the Super Bowl.
- Searching dense forests or remote mountains for missing hikers.
- Delivering packages might be years away but DHL is currently testing

limited, urgent deliveries of medicine on a remote island in the North Sea.



In this Oct. 16, 2014 picture, an unmanned aircraft flies near a tower carrying long-distance electric transmission lines near Boulevard, Calif. San Diego Gas and Electric thinks that drones might be a cheaper, faster way to inspect its power lines in remote areas. (AP Photo/Gregory Bull)



In this Dec. 9, 2013 file photo, a Deutsche Post DHL drone carrying a small parcel is demonstrated for journalists in Bonn, Germany. Germany's express delivery and mail company is testing a drone that could be used to deliver urgently needed goods to hard-to-reach places. The aircraft can carry up to 3 kilograms (6.6 pounds). (AP Photo/dpa, Oliver Berg)





In this April 29, 2014 photo, Mark Monge demonstrates the use of the DJI Phantom 2 drone he uses to photograph homes for his work as a realtor for Jim Maloof Realty in Peoria, Ill. Monge, who sells homes with his wife Jennifer, acquired the device to photograph many area homes. (AP Photo/Journal Star, Ron Johnson)



In this July 10, 2014 file photo, Greg Ledford, director of UAV Technology at Atlanta Hobby, prepares a DJI Technology S1000 professional octocopter for flight, in Cumming, Ga. The S1000 is designed for professional aerial photography and cinematography. Founded in 2009 by an engineer with a childhood love of radio-controlled model planes, DJI has become the world's biggest supplier of civilian drones \_ possibly the first Chinese company to achieve that status in any consumer industry. (AP Photo/Atlanta Journal-Constitution, Bob Andres, File)

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