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PROPERTY REPORT

Drones Can Cut Property Inspection Costs—but Are They Safe?

Drones are smaller, more reliable and easier to fly but pose a danger to other aircraft or people on the ground



A Kesypry drone hovers over a home capture detailed images of the roof. PHOTO: KESPRY

By *Emily Nonko*

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Building inspectors who used to rely on binoculars and ladders are turning to drones to check property exteriors for signs of damage or deterioration that could lead to injuries.

But use of drones for this purpose is causing a dilemma. Their lower cost and greater thoroughness is coming into conflict with another public safety concern: the danger drones pose to other aircraft or people on the ground.

In New York, which has thousands of old skyscrapers, drone use is largely prohibited and the technology isn't being considered for property inspection. The Department of Buildings "does not use drones for building inspections, and there are currently no plans to start using drones in the future," a department spokesman said.

Drones, which had early applications in warfare and surveillance, increasingly are being adopted by a wide range of businesses—from package delivery to underwater exploration. Business applications have grown significantly since 2016, when the Federal Aviation Administration enacted a new rule making it easier to become a commercial drone operator.

Since the rule passed, technological developments have made drones smaller, more reliable and easier to fly, causing a growing number of residential and commercial building inspectors to embrace them. "We're able to inspect areas of a building we have never inspected before," said Vincent Boccia, founder of New York consulting engineering firm Engineered Building Inspections PC.

Mr. Boccia pointed to the inspection of a cathedral in Long Island, N.Y. Using a drone, inspectors could examine the cathedral's chimney without having to erect scaffolds—the difference between a \$1,000 inspection and an estimated \$10,000 scaffolding inspection, Mr. Boccia said. Using a drone also can shorten a weeklong inspection to a day, he said.

"It is realistic that a \$10,000 drone inspection could cost over \$100,000 of hanging scaffolding," Mr. Boccia said. His company, which inspects up to 150 facades a year, retains an outside company to fly the drone.



The chimney of a cathedral in Long Island, N.Y., could be inspected without having to erect scaffolds. PHOTO: ENGINEERED BUILDING INSPECTIONS

Nick Gromicko, founder of the International Association of Certified Home Inspectors, said about 8% of its 21,000 members based in the U.S. use drones for inspections. Four years ago, he said, “everybody was afraid to use drones.”

Since the technology improved and became more mainstream, Mr. Gromicko introduced a training course and began working with the FAA in hopes that his organization can certify inspectors as drone pilots.

National Property Inspections Inc., the parent company of National Property Inspections in the U.S. and Global Property Inspections in Canada, began training franchisees on operating drones for building inspections in 2016, according to Randy Yates, a training supervisor for the company. Mr. Yates became aware of the technology’s potential four years ago, but couldn’t spearhead training until the FAA passed its 2016 rule.

“The whole intent was to keep our guys safe, so they wouldn’t have to climb up on a roof, and not damage building materials,” he said.

Still, in dense urban areas, especially near airports, drone use is highly restricted. Nile Berry and Pablo Marvel, co-founders of the New York digitalization agency Nova Concepts, looked into the potential of drone inspections in New York City, considering that building height can significantly limit the scope of inspections. But they hit a dead end.

“In New York, buildings over five stories must be regularly inspected, and it’s one of the most old-school processes that exist,” Mr. Berry said. “An inspector goes out with binoculars, field notes, a pen and paper.”

Some of these obstacles could be removed as drone companies invest heavily in technology. Industrial SkyWorks, based in Canada, has developed software allowing drones to take images of a property and use the data to develop building models and issue inspection reports.

The FAA also certified Industrial SkyWorks to carry out nighttime drone inspections of walls and roofs, according to Michael Cohen, the company president. Such inspections allow inspectors to accurately track where energy is escaping from buildings, Mr. Cohen said.

Phil Larsen, global director of sales and operations for ABJ Drones, a consulting agency, said there’s “tremendous value in real estate” when it comes to drone development, particularly with software that analyzes buildings.

But he pointed to the many obstacles that still exist in the U.S.

“The three major hurdles are transparency, privacy and protection of manned aircrafts,” he said. “It’s difficult for many municipalities to use the technology beneficially because they may be close to an airport.”

Mr. Larsen estimated that drone technology undergoes significant updates about every three months.

George Mathew, chief executive of the industrial drone company Kespry, said the company is “pushing the edge of where this technology is at present, within the regulatory framework.”

Still, Kespary has developed technology in which a drone can fly automatically without a ground pilot to inspect buildings—something not yet allowed by the FAA. “It’s not a technology question of how much drones can do,” he said. “It’s a question of if the regulatory framework will open up in the next several years.”

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