



DRONE INSURANCE:
A Market on the Rise



OVERVIEW

IT WASN'T TOO LONG AGO THAT THE WORD "DRONE" CONJURED UP IMAGES of stealth military strikes in war-torn countries around the globe. And while military applications still prevail—the Pentagon has an arsenal of approximately 7,000 unmanned aerial vehicles (UAVs)—commercial and personal drones are gaining in popularity.

According to a 2015 industry report by Business Insider, the market for commercial/civilian drones will increase at a compound annual growth rate (CAGR) of 19 percent between 2015 and 2020, compared to 5 percent growth on the military side. The fast-growing industry presents a number of business opportunities for companies ranging from small entrepreneurs to Fortune 500 firms, but it also opens up new risks. Consider some of these drone mishaps that made the news:

A photographer using a drone to film a triathlon in Australia in April 2014 lost control of the UAV. The drone hit a runner's head, causing minor injuries.

During a 2014 promotion by TGI Fridays called "Mobile Mistletoe," a drone carrying mistletoe over diners collided with a newspaper photographer covering the event, cutting her nose and chin.

Several attendees at a festival in Virginia in the fall of 2013 were hurt when a drone being used to record the event crashed into spectator stands.

In December 2015, a camera-carrying drone smashed into the ground just meters behind downhill skiing champion Marcel Hirscher at the World Cup.

There are a multitude of exposures surrounding drones, ranging from injured bystanders to personal property damage to invasion of privacy. To mitigate those exposures, some insurance carriers have begun offering liability coverage for drones. It's a brand new market with tremendous growth potential: The UAV market is forecast to hit \$4.8 billion by 2021, according to market research firm Radiant Insights. That translates to quite a few commercial and civil drones in need of insurance coverage.

However, while the potential to underwrite billions of dollars in liability coverage is captivating, most insurers and their customers still have more questions than answers about the burgeoning drone market. This white paper, prepared by Assurex Global in collaboration with insurance managing general agent Plus Underwriting Managers and brokerage firm Shaw Sabey & Associates, strives to shed some light on the potential for—and challenges of—drone insurance.



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SECTION 1

WHY DRONE OPERATORS NEED COVERAGE



THOUGH THEY CERTAINLY REPRESENT A SEGMENT OF THE MARKETPLACE, it's a misconception to think of drone operators as kids in a park playing with remote-controlled toys. "Make no mistake: unmanned aircraft enthusiasts are aviators," said U.S. Transportation Secretary Anthony Foxx in a press release in December 2015. "And with that title comes a great deal of responsibility."

One duty of drone operators in the United States is to register with the U.S. Department of Transportation's Federal Aviation Administration (FAA). Another sensible move would be to purchase insurance. Best Buy, one of the largest sellers of drones, devotes a section of its online Drone Buying Guide to flying safely. The retailer refers drone operators to the Academy of Model Aeronautics, which offers general liability coverage up to \$2.5 million for bodily injury and property damage.

Insurance is important for both hobbyists and commercial enterprises. "Flying a drone is not much different than driving a car or a boat," says Karen McGee, vice president of Plus Underwriting Managers in Vancouver, British Columbia. "The exposures are immense." They include damage to the drone and any attached equipment, such as cameras, as well as liability exposures. "If the pilot is inexperienced, loses control and the drone causes property damage or bodily injury, does he or she want to pay out of pocket?" asks McGee. Plus Underwriting Managers is a full-service managing general agent offering commercial property, liability and professional liability products. It also offers aviation general liability (AGL) insurance. The company receives approximately 100 inquiries a month on drone insurance from broker partners, including Shaw Sabey & Associates in Vancouver.

"Brokers are always going to drive demand for new products," says Jeffrey McCann, vice president of digital strategy for the Vertical Insurance Group at Shaw Sabey & Associates. "If clients come to us with new exposures, we're obligated to take care of them." A customer in the film industry reached out to McCann in January 2016 to insure a \$4,000 drone with \$25,000 of camera equipment. The customer uses the drone for filming, but also wants to offer drone rentals and start a drone camp for kids. He wondered about his insurance needs.

"These are questions that haven't really been answered yet because it's such a new market," says McCann, who is currently working with the client to determine coverage. "It's fascinating to see where [drone] pilots are taking these things. Regulators, the law and the insurance industry are all trying to keep up accordingly."



DRONE REGISTRATION: AN FAA REQUIREMENT

In December 2015, the U.S. Department of Transportation's Federal Aviation Administration (FAA) made registration of small unmanned aircraft (UAS) a statutory requirement. Within the first month, nearly 300,000 owners completed the online registration, which applies to drones weighing between 0.55 and 55 pounds that are used for recreational or hobby purposes.

As more drones take to the skies, registration is designed to help ensure safety. Registration allows UAS to "be traceable in the event of an incident... and helps enable the return of your UAS should it be lost," according to the FAA website.

Commercial drone use seems limited only by imagination. Perhaps the most publicized potential use is for package delivery. The online retailer Amazon is working on Prime Air, a future shipping system designed to deliver packages via drones within 30 minutes of ordering. But there are other innovative drone applications:

- » The University of Alaska Fairbanks and the National Marine Mammal Laboratory used drones to collect information on endangered Steller sea lions in 2014.
- » Researchers in Oklahoma are working with weather drones to measure the lower atmosphere and more accurately predict weather patterns, which could allow for earlier tornado warnings.
- » The Syria Airlift Project seeks to deliver food and medicine to conflict zones via drones.
- » A California vineyard relies on drone photography to see which sections of grapes are ripening earlier than anticipated and need to be harvested.

Applications like these are leading insurance companies to think about aviation risk management to protect their clients.



SECTION 2 POLICY AND COVERAGE OPTIONS



10 TARGET MARKETS FOR DRONE INSURANCE

Precision agriculture and public safety comprise about 90 percent of the commercial drone market, according to a report from the Association for Unmanned Vehicle Systems International. But there are other industries making use of drones. Here are 10 markets that need insurance coverage:

1. Agriculture
2. Construction and surveying
3. Film and photography
4. Freight transport
5. Law enforcement and security
6. News media
7. Oil and gas
8. Real estate
9. Telecommunications
10. Utilities and energy

Although more insurance carriers are offering drone insurance, the market is in its infancy so there's no standard approach to coverage. "It's such a new exposure and the market hasn't really been tested, so you're seeing insurance companies respond in different ways," says McCann. "And I'm not sure if some companies are responding simply to get a product out as quickly as they can."

McGee recommends two options—an aviation general liability (AGL) policy or a commercial general liability (CGL) policy with an endorsement. "In Canada, anything aviation-related is excluded from a general liability policy, so a standard CGL won't work," she says. A standard AGL typically covers loss or damage caused by the aircraft, plus legal liability to third parties. (AGLs also cover legal liability to passengers, which obviously isn't an issue with UAVs.) A CGL endorsement could extend coverage for bodily injury, property damage, or personal injury losses caused by drones.

"It really depends on what drone operators disclose as their operational purposes," says McGee. "That will then dictate what kind of coverage they need to have in place." So many things can go wrong, from malfunctions to misuse and pilot error. Companies should consider protecting themselves against the following exposures:

- » Theft of the drone and attached equipment
- » Damage to the drone, including attachments, electronics and components
- » Property damage caused to others by the drone
- » Bodily injury caused to others by the drone
- » Premises liability at locations used in connection with scheduled flights
- » Malicious damage
- » System hacking
- » Contractual liability

Many large insurance carriers are waiting for the FAA to firm up regulations about drones before offering insurance. However, dozens of specialty insurance firms are ahead of the curve and have entered the market, including Unmanned Risk Management, Aerial Pak, Global Aerospace and UAV Protect.

In areas of the world with more open regulatory environments than the U.S., such as Canada, still more companies are offering drone insurance. One of those companies is Plus Underwriting Managers. While policies vary, McGee says her firm typically has a \$500 deductible for commercial operators and a \$1,000 deductible for personal use, with coverage limits ranging from \$100,000 to \$5 million.

SECTION 3 THE CHALLENGES OF UNDERWRITING DRONES



4 REASONS TO CONSIDER DRONE INSURANCE

Some companies will seek out advice from brokers on drone insurance. But for others, the broker may inadvertently discover that its client uses drones while discussing a commercial general liability policy or other coverage. If your company uses drones and you are skeptical about insurance, these are four reasons for obtaining a policy:

1. Your company's CGL probably excludes aviation exposures.
2. Your customers may eventually require it as a condition of doing business.
3. Just as the insurance industry is exploring the drone market, so too is the legal market. If your drone causes property damage or bodily injury, it is virtually assured that you will become ensnared in a lawsuit.
4. Drone insurance indicates to prospective customers that you are professional, thorough and reputable.

SHAW SABEY & ASSOCIATES LAUNCHED A WEBSITE, Drone Insurance Depot, in January 2016. It provides information, resources and an online application for drone insurance. During its first month, the website had more than 1,000 visitors. But McCann recognizes that clicks on the website don't always translate to insurance policies.

Because drone insurance is such a new concept, insureds, carriers and brokers face several hurdles:

- » **Prohibitive pricing**—The cost of insurance may deter some small businesses and hobbyists. "Most people aren't going to spend money on a gift for their teenager, then double or triple the cost of that toy by introducing insurance," says McCann. "However, they need insurance because the exposures are real."
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- » **Coverage**—"The million dollar question is, 'Am I covered?'" says McCann. That's not so simple to answer as businesses push the envelope, continually adding new uses for drones. Insurers are challenged to mitigate unknown risks, and there isn't a big database of claims to use as a reference. "We are constantly thinking on our feet and working on clients' risk profiles to answer that golden question," says McCann.
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- » **Regulations**—As the drone market takes off, the FAA scrambles to keep up with industry regulations. In 2015, it proposed a framework of regulations to "allow routine use of certain small unmanned aircraft systems in today's aviation system, while maintaining flexibility to accommodate future technological innovations." The proposed rules will address such issues as height restrictions, operator certification and operational limits. "The evolution of regulations will impact what we see in the drone insurance marketplace," says McGee.
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- » **Perceived professionalism**—The competence and experience of a drone operation affects insurability. For instance, does the company have standard operating procedures and use trained drone pilots?
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- » **Potential for disaster**—So far, many of the publicized drone accidents are relegated to amusing YouTube videos or short clips at the end of a television newscast. But that could easily change. "The opportunity for a drone to do severe damage is definitely real," says McGee. "It's only going to take one drone getting caught up in an airplane's engine to really change the dynamic and turn a \$1,000 policy into a \$10,000 policy because of all the claims that are possible."
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AS WITH ANY INSURANCE POLICY, one way to overcome challenges and mitigate risks is by compiling a thorough profile of operating procedures. Listed below are some of the questions that companies seeking coverage should be prepared to answer. Collectively they indicate commitment to safety and, consequently, help structure a policy and determine cost:

- » How experienced are your drone operators? Have they logged at least 50 hours of flight time?
- » Do your drone operators have proof of training, or do they plan on getting training or becoming certified as pilots?
- » Do you have written standard operating procedures for drone use?
- » Do you own or lease your equipment?
- » Do you maintain a record of all parts or add-ons for your drone?
- » Do you keep a flight log and data?
- » Do you keep a maintenance log?
- » Do you have FAA approval for flying a civil UAS, or have you received an exemption to perform commercial operations under Section 333? (Section 333 of Public Law 112-95 grants the Secretary of Transportation authority to permit certain UAS to operate without meeting all regulatory requirements for manned aircraft.)
- » Under what conditions do you fly? For instance, do you fly at night, over water, indoors, etc.?
- » Do you have a previous history of accidents or drone loss?

SECTION 3

THE FUTURE OF DRONE INSURANCE



"IT'S INTERESTING TO SEE HOW INSURANCE COMPANIES ARE RESPONDING to this new area of risk—how they are dipping their feet into the market or saying this isn't something they want to get involved in," says McCann. Many companies who have embraced drone insurance are selling the product online because it's a "simple standalone product," he says.

Trailblazing insurance carriers and brokers have been carefully following the market and getting educated to better serve their customers. Both the FAA and Transport Canada, the governmental organization responsible for transportation policies and programs in Canada, offer education on drones. Professional associations, such as the Association for Unmanned Vehicle Systems International, also provide educational resources and host industry trade shows.

"Clients need to be aware of their exposure and understand that their standard liability policy is not likely to cover them."

The insurance industry is well-served by extending that education to its customers. "As with any new insurance product, it's all about education and awareness," says McGee. "Clients need to be aware of their exposure and understand that their standard liability policy is not likely to cover them. Fortunately for us, drones are in the media almost every day. That makes it easy for us to have the conversation and provides living examples of why insurance is necessary."

As insurance carriers and brokers begin working with customers on drone policies, McGee advocates for aviation general liability insurance. "Some carriers are starting to attach endorsements to CGLs," she says. "But if you are an insured and want to separate the potential loss exposure, you need to look at an AGL and decide whether you want to insure the physical unit as well as protect against third-party liability."

As time goes on, McCann predicts further stratification in the drone insurance market. "You will have your basic drone insurance for vanilla risks in one category and a more advanced, pricier option for sophisticated drones and advanced users," he says. "It will only take a couple of big claims for the market to become segmented."

Once there are a handful of high-profile losses in the industry, McGee anticipates a shaking out of the players in drone insurance. "I think the domestic markets dabbling in providing UAV coverage will withdraw from the exposure, and we'll see it move back toward a purely aviation risk exposure," she says. For this reason, companies should pick insurance brokers wisely, just as they would for any other coverage. The sky is the limit for drone insurance, but you don't want to crash and burn.



How the Insurance Industry Is Using Drones

Insurance companies aren't just passive observers to the upsurge in drone use; many companies are getting in on the action. In December 2015, massive bushfires spread through several coastal communities in Victoria, Australia, destroying more than 100 homes. At least one insurance company relied on drones to assess the damage and start processing customer claims immediately. Drone usage eliminated risks associated with physical site visits, including fallen power lines, smoldering fires, smoke inhalation and landslides.

Karen McGee, vice president of Plus Underwriting Managers in Vancouver, British Columbia, envisions companies using drones on the adjusting and claims side of the business. "If you have a downed aircraft or remote property loss, the drone can see that property for salvage efforts," she says. Plus Underwriting Managers also insures many high-value homes. Doing appraisals and risk inspections with drones would be a non-invasive way to survey the land.

Jeffrey McCann, an account executive with Shaw Sabey & Associates in Vancouver, also envisions drones helping companies build out an underwriting file. "It can really change how brokers and underwriters interact because you won't have to get Google screen shots of a property or pictures from a client," he says. "Instead, you'll be able to build a comprehensive video library that will serve as the underwriting file. That can create a lot of opportunity for brokers and underwriters alike to really assess a risk."

ABOUT THE RESOURCES



Jeffrey McCann is vice president of digital strategy for the Vertical Insurance Group at Shaw Sabey & Associates in Vancouver. In 2015, he made the “Top 10 Under 40” list published by Canadian Insurance Top Broker. McCann considers himself a “vision guy,” helping to redefine distribution, service and the very concept of the insurance product to make it relevant in the digital age.



Karen McGee is vice president of Plus Underwriting Managers Ltd. in Vancouver, where she has worked since 2011. Prior to that, she served as the program and underwriting manager at Shaw Sabey & Associates and as an account executive at Hub International. McGee was named one of the Women of Influence in 2015 by Insurance Business Canada.



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