

DRONES IN INSURANCE



DRONEWORK
BO BADER

Overview

Imagine This... A tree falls on one of your policyholder's rooftop during a storm. The claim is reported to the insurance company and a claims adjuster is dispatched. A drone captures high-resolution aerial imagery of the roof and presents it to the adjuster in an interactive interface that is used to make data-driven decisions. All done on-site, with a push of a button and without disturbing the scene or sending someone up on top of the damaged structure (Kespry).

In a recent study conducted by PricewaterhouseCoopers, the value of drone-powered solutions in insurance industry is worth 6.8 billion dollars. Drones are being used by insurance companies to drive efficiencies, reduce risks, increase precision, and overall enhance the customer's experience. When it comes to drone technology, the lack of creativeness is the only barrier from accomplishing superior measures.

Drones offer new capabilities that deliver an improved customer experience through faster claims resolution and improved transparency. Drones can help underwriters in the risk evaluation process by offering precise aerial data. Combined with other remote sensing tools like satellite imaging, drones can assist in the managing catastrophic events in a timely and accurate manner.

Although the drone industry is in the early stages of adoption, 88% of companies with an internal drone program have seen a positive ROI in one year or less. Over the next few years, look for drones to become a mainstream technology that will enable companies to improve their workflows.

After reading this whitepaper, you will have a better understanding of how drones are being used in the insurance industry. **If you are seeking to learn more about drone technology, rules/regulations, or industry examples please make sure to check out www.dronework.biz for more information.**

Challenges with Property Claims

Manual Manned Inspection

The current claims process consists of adjusters manually climbing on potentially damaged roofs to complete an inspection. This process is slow, dangerous, and is often times inaccurate as the inspector cannot access all areas of the roof. As a result, the current claims process has less than optimal policyholder's experience. Additionally, the average homeowner pays 8% of his/her premium for expenses incurred by the adjustment process, often called loss adjustment expense (LAE).

Workflow Improvements

Manual Drone Inspection

Drones that are manually performed deliver more accurate data of the roof. It takes the risk of having an adjuster climb on potentially-dangerous surfaces and allows them to get access to the entire structure. On the flip side, added risk is presented to the insurance company as manually operated drone flights have the potential for drone crashes if employees are not properly trained. The overall time savings and risk reduction from drone technology provides benefits that outweigh the costs of drone technology and essential training. Although, there is an improvement to the customer's experience, data from manual drone flights typically take a few hours to process and require additional efforts from drone users. Taking it another step and automating drone flight can transform the entire claims process and allows adjusters to focus on high priority items.

Autonomous Drone Inspection

Automated drone solutions capture, process, and analyzed aerial drone data that can be used to collaborate and make timely decisions. Employees still need to be educated and trained on how the equipment works, but the automated system reduces the potential for drone operator error. The data captured from automated flight is more precise and can be delivered to the policyholder while the adjuster is on-site. Overall, digital transformation through drone technology doesn't happen overnight, but companies striving to drive efficiencies within their claims process will see the highest benefits by adopting drones and eventually automating the process. Below is a representation of an iterative approach to adopting drones. Starting with manual drone flight allows for users to become educated on the drone industry and allows the company to test the technology prior to spending lots of money to scale an entire operation. Ultimately, automating this process will provide the most accurate data, least amount of risk, and all done in the shortest amount of time.



Value Propositions

Customer Experience

Roughly 30% of customers with a poor claims experience switch to a different carrier. More than ever customers are looking for a digital experience that is trustworthy and efficient. As a result of drone technology, the customer experience can be enhanced through an initial policy evaluation that is fair, a timely claims response, and a claims assessment that is accurate.

Higher Precision

Using drones, insurance companies can conduct precise risk evaluations and claims assessments. Using aerial imagery to create 2D maps and 3D models, insurance companies can capture detailed information about properties such as structure types, measurements, and damage types. As the technology advances look for cutting-edge applications such as artificial intelligence to help in making informed decisions.

Safety

Each year there are 160,000 roof related accidents during property inspections. Your company values employee health, so implementing drones can eliminate the need to climb on elevated structures or damaged platforms. In the past, adjusters many not have been able to complete a thorough inspection due to the damage, using drones offer a simple solution to mitigating employee risk during the claims process.

Time Savings

For insurance companies who are striving to achieve customer satisfaction, a timely claims process is important to owners of homes and properties. Through a more autonomous workflow, current drone users in insurance companies have found that 3-5x more jobs can be completed in a given timespan. As you know, saving time means saving money so using drones can provide benefits to the bottom line.

Consistency

Currently when analysis is conducted adjusters or underwriters, the information can be slighted evaluated different based upon the individual doing the work. Automated drone flight acquires aerial data in the same manner, and user involvement will not change, meaning all data is standardized.

Underwriting

Drones can help improve the risk evaluation process for underwriters. Prior to giving out a quote to a customer, insurance carriers can model the risk of the home, building, property, etc., to make informed data-driven decisions. Current drone users for insurance companies will use their drone to capture aerial imagery for documentation and collaboration.

Additionally, drones can be used to precisely measure structures, area, volume, and create 3D visualizations. Overtime you can analyze property with a consistent and reliable drone which can help tracking the condition of the property and ultimately reducing the number of claims.

Catastrophe Management

In a catastrophic event, drones can be deployed to capture on-demand information about damages. Currently, insurance companies are supplementing this process through the use of satellites. They will use drones to capture data of what the area looks like after the storm and compare it to what the area looked like prior using satellite imagery. This is an example remote sensing tools can work together to ultimately give the user the necessary information to make informed decisions.

Deliverables

Aerial Imagery

Aerial images are just a normal pictures that is taken from the drone location in the sky. Although this does not fully utilize the drone's potential, it allows for companies to strategically improve their workflow by reducing the risk of manually climbing on potentially dangerous structure. Aerial images are great for documenting or reporting and allows for key stakeholders to see visibility and effectively communicate.

Orthomosaic Maps

When a remote sensing tool such as a drone captures a series of aerial images, the pictures can be uploaded and processed in a GIS or geographic information system resulting in a orthomosaic map. Today there is drone mapping software which takes drone images and stitches them together to create a map. This map is very similar to Google maps, which is created by satellites, but drone maps are created in real-time. With this map, insurance companies can gather detailed information about roof structure, shingles, and measurements that can be used in the either the underwriting or claims process. As drone software continues to develop, look for companies to integrate orthomosaic mapping with artificial intelligence draw conclusions about the most pressing challenges. *If you want to learn more about orthomosaic maps, pleas checkout the Remote Sensing and GIS whitepaper.*

3D Models

Similarly, to the creation of an orthomosaic map, 3D models are developed through the stitching of aerial images captured by remote sensing tools such as drones. In order to gain the full 3D effect, a drone user will need to capture oblique images. Depending on the drone software of your choice, they will have the functionality of creating both maps and models. 3D visualizations are a great complementary deliverable as they can provide information about measurements such as pitch slope and area which are not achieved through 2D maps. Again, the integration of artificial intelligence into drone software will transform this tool and allow for further insights. *If you want to learn more about orthomosaic maps, please checkout the Remote Sensing and GIS whitepaper.*

Summary

From this whitepaper, hopefully you have a better understanding of how drone technology is being used in the insurance industry. The three main uses for drones are to enhance the claims process, improve underwriting methods, and better manage catastrophic events. Using drones can enable insurance companies by driving efficiencies, reducing risks, improving accuracy, and ultimately enhancing the customer experience. As the industry grows, look for more insurance companies to commercialize this cutting-edge technology.

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