

Aerial Applications chooses senseFly to quickly build up a standardised, contractor-friendly drone fleet

COMPANY

Based in Pennsylvania, [Aerial Applications](#) provides enterprise drone solutions across the USA.

Fleet of 10 pilots trained & operational within 72 hours

Post-hurricane deliverables produced in under 48 hours

Less time spent on drone operations, more on providing value to clients

CHALLENGE

- Company awarded large, time-sensitive post-hurricane contract
- Needed to ensure data consistency across its network of independent drone pilots

A common challenge that organisations face when adopting drone technology is choosing platforms that are simple enough for several staff to operate, rather than only one technical manager having the knowledge required to put the company's UAV resource to work.

One such company is [Aerial Applications](#), an expert drone solution provider based in Pennsylvania, USA.

The company previously assigned work to a nationwide network of independent pilots, who would operate their own preferred aircraft on-site. However when Aerial Applications was awarded a time-sensitive asset monitoring contract by a major utility company in October 2016, to assess damage following Hurricane Matthew, its team quickly realised the potential benefits of operating a standardised drone platform.



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"Had we gone with a 'bring your own drone' approach there would have been no easy way to standardise the data we got from our pilots," explains Aerial Applications' Director of Policy, Jeff Brooks. "So we needed to adopt a

platform in-house that could cover a large area, at high resolution, and that was easy for us to automate. With a consistent platform, we knew that if we needed to change, for example, the flight height, then we could do that consistently across our flight teams and our drones."

SOLUTION

- Create fleet of easy-to-operate senseFly eBees
- Train up network pilots on-site

Prior to the contract, Aerial Applications' team had already begun researching a standardised drone platform that it could adopt in-house to meet the needs of its industrial business clients.

"Our engineers had already pulled the specs on ten or fifteen different airframes," says Brooks. "We then made a pros and cons list for each, to do an apples to apples comparison, looking at factors like how much area we could cover per mission or the cost of the airframe."

"We also looked at the extras that came with each system, such as whether a drone included flight planning software or whether we'd need to use third-party software. That's not really what we wanted to do; in an emergency situation everything has to just work. So anything we could do to shorten that loop—one fewer thing that could break—that was crucial for us."

Weight was a key selling point of the eBee, Brooks says. "The problem we had with other systems, especially in a disaster response capacity, was being able to easily move the drone around. If you have to lug around a seventy-pound platform, that's a big ask, and it drastically changes the kind of people I can send into the field."

So a lightweight platform was key, as was the standardisation of data, required for simple and effective deliverable creation after the flights.

"We needed data consistency, reliability and ease of use, and those factors are where the senseFly eBee system really shines," Brooks explains. "It also has good endurance and intuitive eMotion flight planning software, which we needed to be able to easily train our pilots on."

This quick training ability was crucial for the damage assessment project, which required a rapid deployment. "We had to be faster than people going out in cars. That was the big benchmark," Brooks says.

A testament to the eBee's short learning curve was the fact that most of the project's pilots had never used senseFly equipment before. Brooks explains: "Being able to train them on the eBee in just a couple of days was mission critical. I just don't think we could have done it without training the people as fast as we did."



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Brooks and his colleagues did have one concern prior to bringing senseFly kit onboard. "We had a worry over the drone's weight," he explains. "Given that the eBee is very light, compared to some of the competing systems, we weren't sure if it would be more susceptible to big gusts of wind."

Despite this hesitation, since time was pressing Aerial Applications took the plunge and adopted the eBee platform en masse. "We bought ten units for the damage-assessment project," Brooks reports. "The team we had fulfilling the order [senseFly distributor Earl Dudley] was great. Having them on the ground locally, for training, was really helpful, as we had to order quickly and move out fast."

RESULTS

- **Ten pilots trained within 72 hours**
- **Consistent high-quality deliverables enabled telco client to identify & quickly react to damage**
- **Company now employs its fleet across a range of industries & applications**

In Savannah, Georgia, where the damage assessment took place, Brooks and the team got the project's ten pilots all trained and operational within 72 hours.

"On-site, we used quadcopters to scope out each area, looking for easy-access areas where we could take off and land the eBees. After that, all the deliverables we supplied were produced using fixed-wing data," Brooks says.

The team supplied its first orthomosaics, alongside tagged photos featuring the coordinates of each instance of asset damage (such as downed cables), to its client within 48 hours of arriving on the scene. This handover of deliverables then continued daily on a rolling basis as staff processed the images on-site. "During our ten days we covered 160 square miles, flying 150 flights over six days and taking 75,000 images," Brooks says. "In total we identified the precise coordinates of 117 sites where infrastructure assets had been damaged."

As for the platform's wind resistance, "out in the field," says Brooks, "it didn't end up being a big deal. The eBees were pretty robust in the air, which was impressive considering these really weren't calm skies."

The telco client was very pleased with the service provided. "Because we were right there alongside them, having this closed loop, if the data wasn't enough or they had comments on it, we could take that into account really quickly and apply that change across all the eBees, such as flying lower to get a higher ground resolution," Brooks adds.

Summarising the company's senseFly adoption, Brooks claims the net effect has been simple: the team can spend more time improving its client offer.



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"Non-eBee systems are maybe more customisable," Brooks concludes, "but building the backbone of a business with such systems can be tough and a huge diversion of resources in a small company. Having everything streamlined with the eBees allows us to focus on what we do best—bring value to our clients. What's funny is that, despite being easy to use, it's not a simple system—it's really pretty powerful. But for what we need it to be able to do, it is super reliable and easy to train people on right off the bat."

The company's eBees are now being used across a growing range of projects: "We've got clients in energy, where we are doing wind turbine and solar panel inspections. We've got clients in water management, so the surveying ability of the eBees is going to be helpful there as we map entire cities for them in record time. All kinds of areas."