Whitepaper

# Why Should Drone Pilots Use Logbook & Fleet Management Software?

VOTIX
Drone Orchestration and Automation



VOTIX, a Miami, Florida-based drone software company and the creators of “drone orchestration” software, has released a new version of its cloud-based MANAGE product, which is a **Next-Generation** Drone Logbook & Fleet Management Software. VOTIX MANAGE creates powerful holistic insights and intelligence for drone operations to improve communication, compliance and overall mission success.

By: Dawn Zoldi

## Why Document Operations?

In aviation, documentation remains a critical component in upholding standards and reinforcing required levels of operational safety.

The Federal Aviation Administration (FAA) requires crewed aviators to maintain pilot logbooks. These documents attest to a pilot’s qualifications and experience. They must include annotations relating to the training and aeronautical experience used to meet certificate, rating, or flight review requirements and the recent aeronautical flight experience required to comply with Part 61.

These documents should also represent what a pilot has accomplished after each flight. (For more information see Advisory Circular (AC) 61-65H).

For drone pilots, although Part 107 does not explicitly require similar documentation, it does so indirectly.



## For example, **Part 107.49,** among other things, states:

Prior to flight, the remote pilot in command must . . .

**(c)** Ensure that all control links between ground control station and the small unmanned aircraft are working properly;

**(d)** If the small unmanned aircraft is powered, ensure that there is enough available power for the small unmanned aircraft system (sUAS) to operate for the intended operational time; and

**(e)** Ensure that any object attached or carried by the small unmanned aircraft is secure and does not adversely affect the flight characteristics or controllability of the aircraft.

AC 107-2 elaborates on the requirement. It states, “Maintenance and inspection record keeping provides retrievable empirical evidence of vital safety assessment data defining the condition of safety-critical systems and components supporting the decision to launch.”

And for those operating under an operational waiver, meaning an approval outside the limitations of a regulation, the FAA always requires key personnel to have documented their training and experience. Pilots must make these available to the FAA upon request.

## Take, for example, this standard language from a recent beyond visual line of sight **(BVLOS)** waiver granted:

The Responsible Person listed on this Waiver must ensure each remote PIC who will conduct operations under this Waiver is trained in a manner that addresses the items listed in § 107.49(a)-(e) and in a manner that is consistent with how the sUAS will be operated under this Waiver. All training and demonstration for all remote PICs and VOs must be documented and made available upon request by the Administrator or an authorized representative. Training operations may only be conducted under the standard requirements of part 107 (without waiver).

## The training must include:

- **a.** sUA limitations
- **b.** sUA programming
- **c.** sUA operational procedures
- **d.** Abnormal procedures
- **e.** Air traffic avoidance procedures
- **f.** Crew Resource Management
- **g.** sUA flight training
- **h.** Recognizing and overcoming visual illusions caused by darkness
- **i.** Understanding physiological conditions which may degrade night vision
- **j.** Demonstration of sUA ground and flight skills



## Other standard waiver language includes a requirement to email monthly reports and related documentation to the **FAA** that includes:

1. Name of operator
2. Aircraft registration number(s)
3. sUA type and model
4. Operating locations to include city name and latitude/longitude
5. Number of flights *(per location, per aircraft)*
6. Number of cycles *(per location, per aircraft)*
7. Total aircraft operational hours
8. Abnormal Damage incurred during operations *(i.e. Bird Strike, FOD)*
9. Equipment malfunctions. Reportable malfunctions include, but are not limited to the following:
    - a. On-board flight control system
    - b. Navigation system
    - c. Power plant failure in flight
    - d. Fuel system failure
    - e. Electrical system failure
    - f. Control station failure
10. Number and duration of lost link events (control, performance, health monitoring, or communications) per aircraft per flight

Even if not operating under a waiver, Part 107.7 also mandates that the RPIC (Remote Pilot In Command), owner, or person manipulating the flight controls of a sUAS must "...make available to the Administrator: . . .(2) Any other document, record, or report required to be kept under the regulations of this chapter" upon request.

Other than the FAA saying it's required (for waiver ops) and just generally a good idea (for maintenance) to have a log book, there are several common sense reasons why every drone pilot (even recreational) should keep a log of their training and flights. Edwin Sanchez, VOTIX Chief Technology Officer explained, "It's important to have a book because if something happens, you may be liable for that. The more you document, the better. Drone pilots need to be able to produce information, sometimes well after-the-fact, to FAA, law enforcement, a homeowner's association or insurance company."

Moreover, insurance companies and customers expect drone pilots to maintain professional records of their experience and activities, in addition to all the information necessary for productivity analysis and billing calculations.

Given the above-mentioned context, what is the best way to manage all this required documentation? While paper logs can help, a digital support is commonly required, and log management software is the ideal solution.

## Why VOTIX MANAGE?

VOTIX created MANAGE to allow pilots and businesses to manage drone projects, fleet, missions, approvals, logs, reporting, media, performance and analytics and view automated workflows through easy-to-use interfaces, dashboards and reports. MANAGE is one product within the company's overall "drone orchestration" platform which also includes the STREAM and FLY products.




MANAGE, a very comprehensive cloud-based software, empowers pilots and businesses to plan, control and track operations and the associated data flow through a variety of features. These features include: mission creation, zone creation, geo fencing, customizable automated grids, zone and mission importing, mission approval workflows, real time LAANC approval, map paths and annotations, operations calendars, weather information, among many other, all of which can be integrated with other corporate systems.

The import functionality allows businesses to import and centralize flight logs, providing visibility into flights, fleet and performance. The mission request and approval workflow, bolsters accountability in terms of drone and operator productivity and mission accomplishment. Companies can also customize automated dashboard views and reports to segregate or correlate missions, zones, logs, media, pilots, drones, sensors and DIB (Drone-in-a-Box) stations.

Sanchez elaborated on the importance of MANAGE. “As the drone industry becomes more mature and standardized, one of the key aspects for flight safety is operational control and governance. MANAGE enables both,” he said. “Importantly, beyond providing information required to meet minimal standards, MANAGE also provides analysis to users. This allows them to turn data into actionable intelligence to improve their practices and business.” He continued, “This level of understanding is even more critical in complex operations, such as those with BVLOS waivers.”

MANAGE provides insights into team performance, compliance with regulatory and company-specific safety measures and more, to reduce risk and bolster performance.

## Why “Next-Generation”?

Flight safety is highly dependent on flight preparation and planning. Traditional drone logbook and fleet management software focuses on post-flight. VOTIX Chief Executive Officer Ed Boucas elaborated on why VOTIX MANAGE is a “next-generation” drone logbook and fleet management software, “VOTIX is the only software truly capable of meeting all needs and requirements before the flight, during the flight and after the flight.”

VOTIX allows for detailed planning and robust communications among those involved in a mission, integrated into one drone ecosystem and with the ability to automate workflows. On top of that, as part of the VOTIX orchestration platform, with a click of a button any pilot can live stream flights to anyone and operate drones from anywhere. All fully integrated and in a single panel, saving time and avoiding errors. “We strongly believe that the more compliant the industry is, the more drone pilots should rely on managing their operations end-to-end on a common platform,” said Boucas.



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