



Country Summary

Ghana

The Problem

Ghana has had an active drone industry since 2016 when Ghana's Civil Aviation Authority (CAA) issued the country's first drone regulations. The aim of these regulations was to encourage growth within the drone industry in a safe manner. These regulations identified no-fly, restricted and other special use case zones in which pilots would have to request additional approval to fly over. Zones that did not fall within these special use cases did not consequently require a additional approval from pilots. While no additional requirement for operation, apart from the need for registration, was useful in encouraging growth of the drone industry, the situation created an incomplete picture of the drones flying in Ghana. The CAA identified this lack of complete and accurate data as a significant challenge in their work.

Solution

To combat this challenge, the CAA hoped to develop a live-tracking mechanism and an app to display regulations, but ultimately decided to focus their efforts on tracking as they felt it was a more effective solution to their problem.

Ghana's initial hypothesis, developed in June 2023, was:

If we create the framework for a live UAV tracking system (Flight Data & Analysis System) for VLOS and EVLOS flights,

then we will be able to adequately conduct our oversight function, improve our regulations, and create safe spaces for all users, including recreational users,

which means that inform the development and implementation of a live tracking software solution which is adopted by users (CAAs, operators, public) across Ghana,



Key activities and decisions

Following Ghana's development their action plan in September 2023, the CAA developed parameters for their desired tracking solution, taking into consideration:

- Integrating registration data (drone operators database)
- Integrating training records (a prerequisite for registration)
- Enabling different people to access different levels of information
- Web platform and / or mobile functionality

In developing the solution parameters, the CAA brainstormed with colleagues from across the organisation and conducted a desk review of available live tracking systems (Russia, New Zealand, Ready to Fly, AirMap, etc.). During this scoping activity, the CAA was initially challenged to understand the scope of the technical requirements for a tracking system.

Once the technical requirements were outlined, the CAA then began to explore if their in-house IT team had the capabilities to develop a live tracking solution. Upon having lengthy discussions with IT, it was decided that sourcing an external solution would be preferable as more capability and training would be required to build this type of live-tracking software in house. Additionally, the CAA found that an internally developed solution would not have an accurate true-to-time map of Ghana, live weather data, live traffic data, and geolocation. Therefore, the Ghanaian CAA decided to outsource the building of the tracking solution to an external developer. Following this decision, the CAA developed a Terms of Reference (ToR) to source an external developer.

During the development of the ToR, the CAA identified two opportunities to continue moving forward with their work. Firstly, the CAA sourced a diverse group of commercial, private and recreational drone pilots to beta-test the tracking app. Secondly, the CAA began to integrate with the Ghana Air Navigation Service Provider (ANSP). Both entities agreed to integrate rather than having two separate systems with overlapping functionalities.

Together, the CAA and ANSP decided to pivot from a live tracking solution to a complete Unmanned Aircraft System Traffic Management (UTM). A UTM system would resolve the issues that the CAA wants to address and those that the ANSP¹ wants addressed.

Outcome and Next Steps

At the time of this writing (March 2023), the Ghana CAA and the ANSP are developing a UTM framework and will share the framework once it's completed. The eventual goal is still to have a live-tracking system, and the UTM framework is still supportive of this end goal. Although the CAA has not achieved what they set out to do in their initial hypothesis, when the final solution does come out, the CAA anticipates it will be even better than initially anticipated.

¹ The CAA in Ghana is made up of both the Regulatory Division (referred to as the CAA) and the ANS Service Provider Division (referred to as the ANSP).