## 1. Plan Overview

## Mission

Our mission here at Unmanned Aerial System (UAS) Alert is to lead the aircraft detection sector in safety, reliability, and affordability. Our products will also adhere to the rules and regulations the Federal Aviation Administration (FAA) has in place for the safety of all aircraft. We plan to continuously develop new innovative technology for all aircraft to keep the skies safe for all aviation hobbyists. The unique advantage of UAS Alert is that our products will be available to a wide-range of Unmanned Aerial Vehicles (UAVs) and easily moveable from one airframe to the next.

## Objectives

UAS Alert’s primary company objective is to provide safer navigation for both aircrafts and UAVs. We plan to do this by making coordinates of the surrounding aircraft known by UAV operators to potentially reduce mid-air collisions. We aim to have 20% of UAV operators using our technology while flying their UAVs within 5 years after developing a fully operational product.

The product oriented objective of UAS Alert is to create an easily integratable and user-friendly product for UAS operator situational awareness and safety, with a simple yet feature rich display that will be ported to other operating systems and platforms in the future. This will improve the mobility of the product by eliminating the need to carry a laptop to the site. Another main objective for product improvement is to have drone-to-drone collision avoidance technology. As the popularity of both drones and our product increase, aircraft avoidance for drones equipped with our product will be a unique selling point of our product and will enhance the UAS Alert community.

## Keys to Success

An important key to success is becoming a favored brand name among commercial UAS operations. The UAS community will look to these companies and understand that our product is proven to work in the field. We should also strive to be an active member in the aviation community and all things related to the FAA. Specifically, convincing the FAA that our products will make their job easier. In order to provide a better product, we will make use of Failure Mode and Effects Analysis (FMEA), a strategy to identify the effects of failures on a system as well as to eliminate or reduce chances of failures.

## Competitive Advantage

Unlike other products on the market, UAS Alert is an independent system that does not rely on the inner workings of the airframe to which it is attached. Products offered by other companies inject themselves into the UAV and communicate with the UAV’s flight controller, while solutions made at UAS Alert do not interfere with the aircraft. Products from UAS Alert even provide their own battery and do not drain the host aircraft’s battery.

The portability of the devices from one airframe to another is advantageous for its user. The customer will not need to wait on a new line of products to be compatible should they wish to make a design change of their own, as the solutions offered at UAS Alert aim to be platform independent.

Our products aim to provide a reasonable level of customization among antennas. As different antennas can have different pros and cons, the decision as to which antenna best fits the job can be left to the customer.

## Target Market

UAS Alert aims to provide solutions for hobbyists and businesses alike. Our products may be used in any area that mandates or uses Automatic Dependent Surveillance Broadcast (ADS-B) transceivers in aircraft. In fact, the FAA has mandated the use of ADS-B out in all aircraft that already require a “Mode C” transponder by January 1, 2020. With increased use of ADS-B as well as an increasing number of regulations on drone usage, both companies and hobbyists will benefit from a safety system. The FAA predicts that total annual UAV sales will increase from 2.5 million in 2015 to 7 million in 2020 [1]. A larger number of UAVs in the sky will mean a higher risk of collision, further increasing the need for such a system.

## Basic Strategies

UAS Alert will at first look for investors by offering portions of the company’s equity equaling up to 15%. We will explain our business plan and the advantages over the current market to these potential investors. Other finances will be obtained through loans, and eventually look for contracts with companies to obtain a steady, flowing income. We will introduce our product to companies that use or sell UAVs by participating in aviation conventions. At the conventions, we will explain the benefits of our system with regard to the rules and regulations set forth by the FAA and other aviation safety agencies, as well as explain the risk posed by improper use of UAVs.

Once we have the funds for startup, we will look to find manufacturers and distributors. We will provide and discuss a full manufacturer's suggested retail price (MSRP) analysis and negotiate costs for manufacturing and distribution. To remain competitive and increase revenue, we will attempt to reduce the bill of materials when possible without risking the quality of the product. The company will seek to maintain our products, so that they do not become obsolete. We will provide bug fixes and updates as needed to please the customer.

After we have a stable business in the market, we will seek to expand our product to be compatible with a wider range of platforms and operating systems for phone and tablet devices, as well as improving functionality of our products outside the scope of UAVs, such as improvements that will make it more desirable in larger aircraft as well. Increased drone sales could also open up the market to benefit from a system that detects drones as well. This would help prevent collisions in populated areas where multiple users may be flying a UAV.

## 2. Company Summary

## Company Description

UAS Alert will choose the LLC path. The added benefits of limited liability fit the nature of the company and market UAS Alert will be a part of.

## Company Location and Facilities

UAS Alert will begin developing its products in Brian’s apartment in Starkville, MS. This location is affordable and close to Mississippi State University where there are numerous engineering facilities like the Maker Space, which is a space to develop and assist constructing our products. This location also makes it easier to recruit graduating engineers to the UAS Alert engineering team. Once enough money is made at this location, we will gradually grow into larger facilities to better support the needs of the growing drone market. We plan to go from Brian’s apartment to an office space rental, then eventually to a small warehouse for all the manufacturing and engineering offices.

## Company Strategy

Diving straight into the hobbyist market and expecting a grand return would be unrealistic. Commercial industry sets the playing field for anything safety and aviation related. Getting into the commercial side of the UAS field would be the only way to appeal to the average consumer, since they will want trusted products.. A well known and proven brand name is the best chance for success.

## Startup Costs

UAS Alert LLC is budgeting $1,000 in legal fees to pay the LLC cost for the state of Mississippi and website address. We estimate about $900 to fine tune and develop 3 prototypes. Each will cost $300 for parts. Our advertising will cost around $4,000 for shows, magazine ads, and online advertising. Insurance is to protect our product with patents which will cost $1,000 for fees. Our equipment needs for demonstrations are several UAV model drones which will equal $2,000. We expect to encounter around $1,000 in miscellaneous fees as well. We will start with a $15,000 balance with $2,000 in inventory for initial sales and startup production. This will bring our startup requirements to a total of $27,000. Each of the owners will be working other full-time jobs for the first three years to ensure financial stability while pursuing this business venture. For the first three years, each owner will invest a portion of their personal income into the company, starting with $5,000 per person in the first year. For the second and third years, each will invest $10,000.

**Table 2.1 Startup Expenses and Funding**

