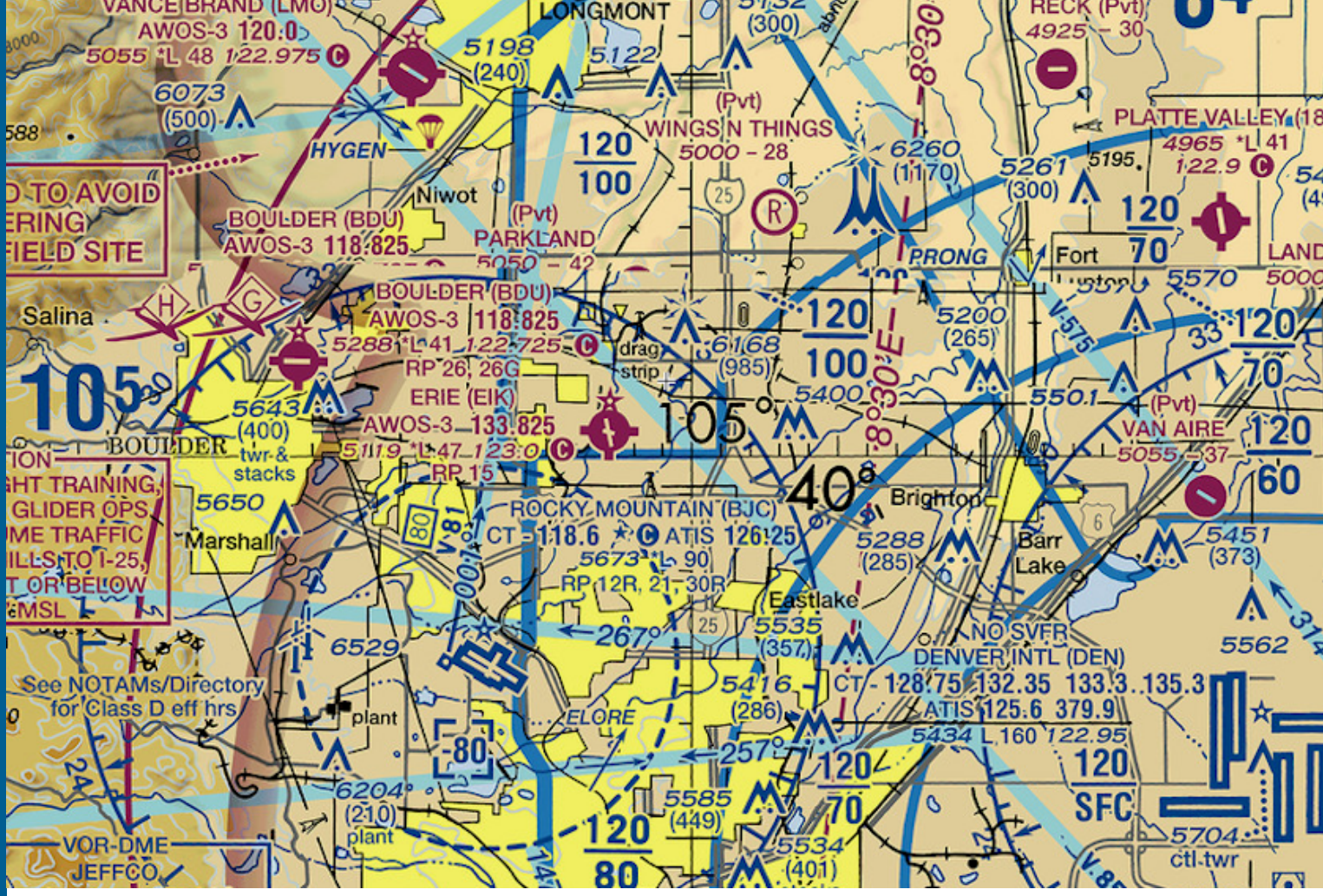

FAA Certificate of Authorization

Overview and Best Practices

BlackSwift TECHNOLOGIES

ApprovedFlight@BlackSwiftTech.com

BlackSwift TECHNOLOGIES
(720) 638-9656
BlackSwiftTech.com
2100 Central Ave., Ste. 102, Boulder, CO 80301

1 Purpose

This guide provides an overview to the Federal Aviation Administration (FAA) Certificate of Authorization (COA) process allowing public entities to legally operate unmanned aircraft systems (UAS) in the National Airspace System (NAS). Additional Black Swift Technologies (BST) services include UAS product design, data analytics, and international regulatory consultation. Please contact our solutions team for more information at support@blackswifttech.com.

The operation of UAS in the NAS requires an FAA COA because unmanned aircraft systems are not compliant to many sections of Title 14 of the Code of Federal Regulations and thus require an alternate means of compliance. In other words, it can be a very costly mistake not to adhere to FAA regulations. Compliance is demonstrated by an approved COA or by obtaining a special airworthiness certificate from the FAA. This guide highlights the steps required to complete the COA process. A COA defines operational requirements, emergency procedures, airworthiness requirements, area of operations, and the crew proficiency requirements to legally operate UAS. The overarching goal of the COA application is to demonstrate to the FAA that the operations of the UAS has an equivalent level of safety of manned operations. We guarantee our work and provide refunds if we are unable to receive FAA approval.

The full bios of our core team and their credentials can be found on the company website. The team has written more successful COA applications than any other firm to date. We have an established relationship with the FAA, which has allowed us to support the unique needs of our diverse clients. Our growing list of clients have included universities, storm chasers, precision agriculture, and local government entities. The COA process can be laborious for users not familiar with changing FAA requirements, air regulations, and UAS operational protocols. BST creates a package that is straightforward and customized for each client. For more detailed information and to schedule an initial consultation please contact Black Swift Technologies at support@blackswifttech.com.

2 Process Overview

Black Swift Technologies works directly with clients to submit FAA COA's specifically tailored to the systems and mission parameters required. Figure 1 shows an overview of the process that is comprised of three primary steps.

1. **Pre-Application Work** consists of a meeting between BST and the client to get all of the details necessary to write the COA application and initiate the processes required to submit the application.

2. **Completing the COA application** consists of the BST team writing the application based on information from the client. This process takes about a week from the first meeting with the client. The COA is then submitted. The FAA has a typical turn-around time of 60 days assuming no errors were made in the application that causes the FAA to release the COA.

3. **Completion of training compliance** is done over the next two months. BST will schedule advisory meetings with the client to ensure all legal certifications, training requirements, and flight operation are ready to go from day one. Our approach avoids time delays of up to several weeks from the COA being issued.

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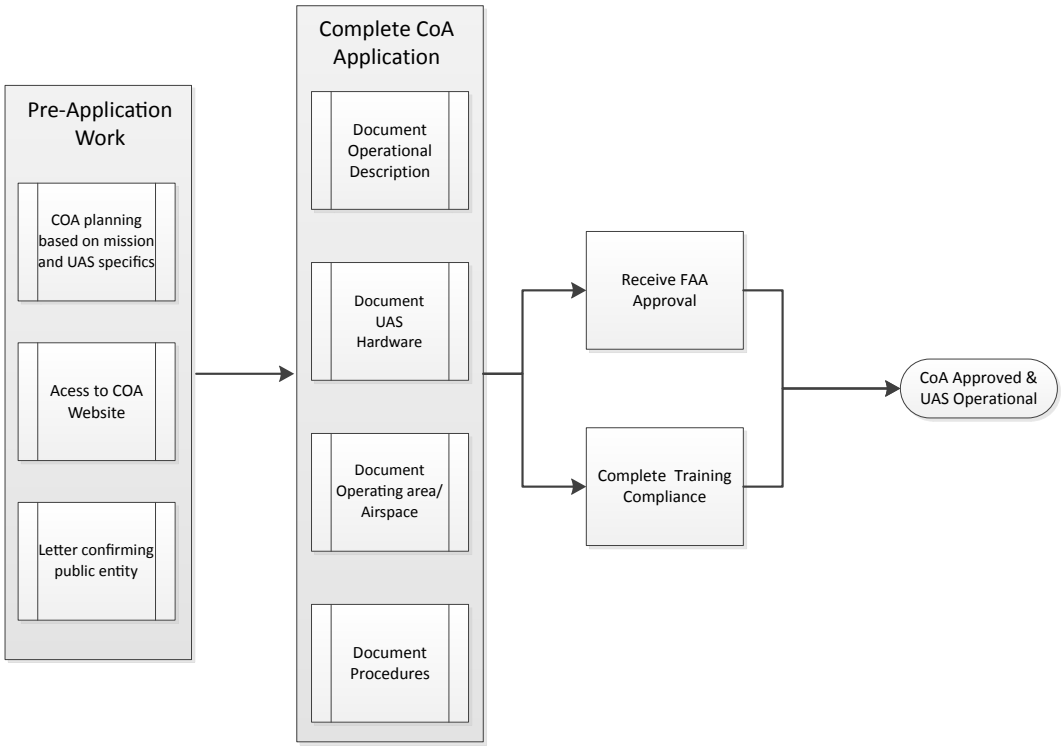

Figure 1: Overview of the COA process highlighting the main activities.

The COA process can vary greatly in effort depending on the specific system and desired flight scenario. The typical price range of the BST COA process starts at $2500 for simple operations utilizing BST systems and can go up to $10,000 for non BST systems and more unique requirements that involve back-and-forth with the FAA. BST strives to offload almost all of the work from the client other than what is absolutely necessary. For most cases BST will get all of the required information from the client in the initial kick-off meeting, write the entire application, and put together a customized list of actions for the client to complete to secure the required certifications and training to conduct legal and safe flight operations.

3 Pre-Application

The Pre-Application procedure consists of completing the necessary steps followed by the kick-off meeting. An overview of the pre-application process is shown in Figure 2 below. There are certain core activities that the client needs to perform prior to applying for a COA. We simplify this process down to the specific activities that you need to perform. This pre-application process also involves BST requesting certain information from the client. This information typically consists of the following:

1. The purpose of the planned operations.
2. Information on the UAS including airframe, avionics, comm system, etc.
3. Information on the flight operations area and desired altitudes.

BST may request additional information based on an initial phone conversation with the customer. Prior to the kick-off meeting BST will provide a cost estimate to the customer as well.

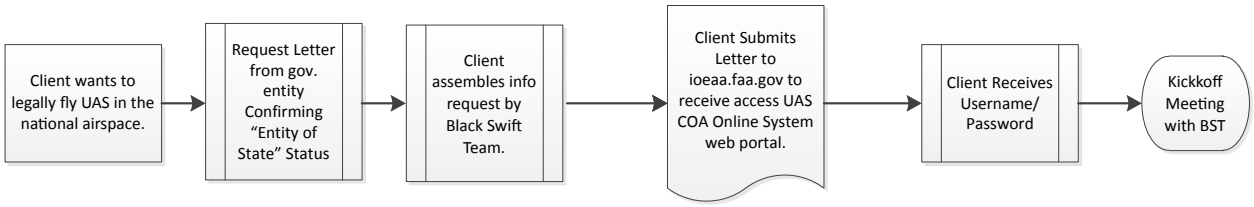

Figure 2: Pre-application steps required prior to kick-off meeting.

4 COA Application

The typical skill set required to apply for an FAA COA includes the knowledge of a licensed pilot versed in FAA vernacular, experience in aeronautical engineering, and expertise in operating UAS to go with intimate knowledge of the FAA COA process. The COA team at BST brings this expertise to each application with a team that has successfully applied for and maintained over 140 COA's and conducted close to 1000 UAS flights.

The FAA approval process takes 60 days, but BST has shown the ability to cut that time in half in some cases. Denials are returned to the applicant to resubmit which restarts the 60 day clock.

The main COA sections are represented in Figure 3 below. The online COA application consists of 14 separate webforms. These forms generally fall into 4 topics to explain the planned systems and operations to the FAA.

1. **Document Operation Description** - These forms consist mainly of explaining the objective of the planned flight operations.
2. **Document UAS Hardware** - These forms give a detailed description of all of the hardware systems utilized in flight operations including air worthiness documentation. These forms have to be filled out appropriately to convince the FAA reviewers that the proposed UAS will allow safe operations and follow generally accepted rules.
3. **Document Planned UAS Airspace** - The operation area and associated airspace is documented for the FAA. The type of airspace along with other factors will constrain the types of operations and affect required crew certifications.
4. **Document Protocols** - This section includes procedures needed for safe operations. BST will write these procedures to ensure safe operations and work with the client to ensure they understand and follow the procedures during flight operations laid out in the application.

5 Training and Preparation

There are certain process steps that need to be followed once the COA is received and the client is ready to begin flight operations. Figure 4 shows a flow chart to setup the training and certification. Note that this chart shows the requirements for typical operation, but there may be

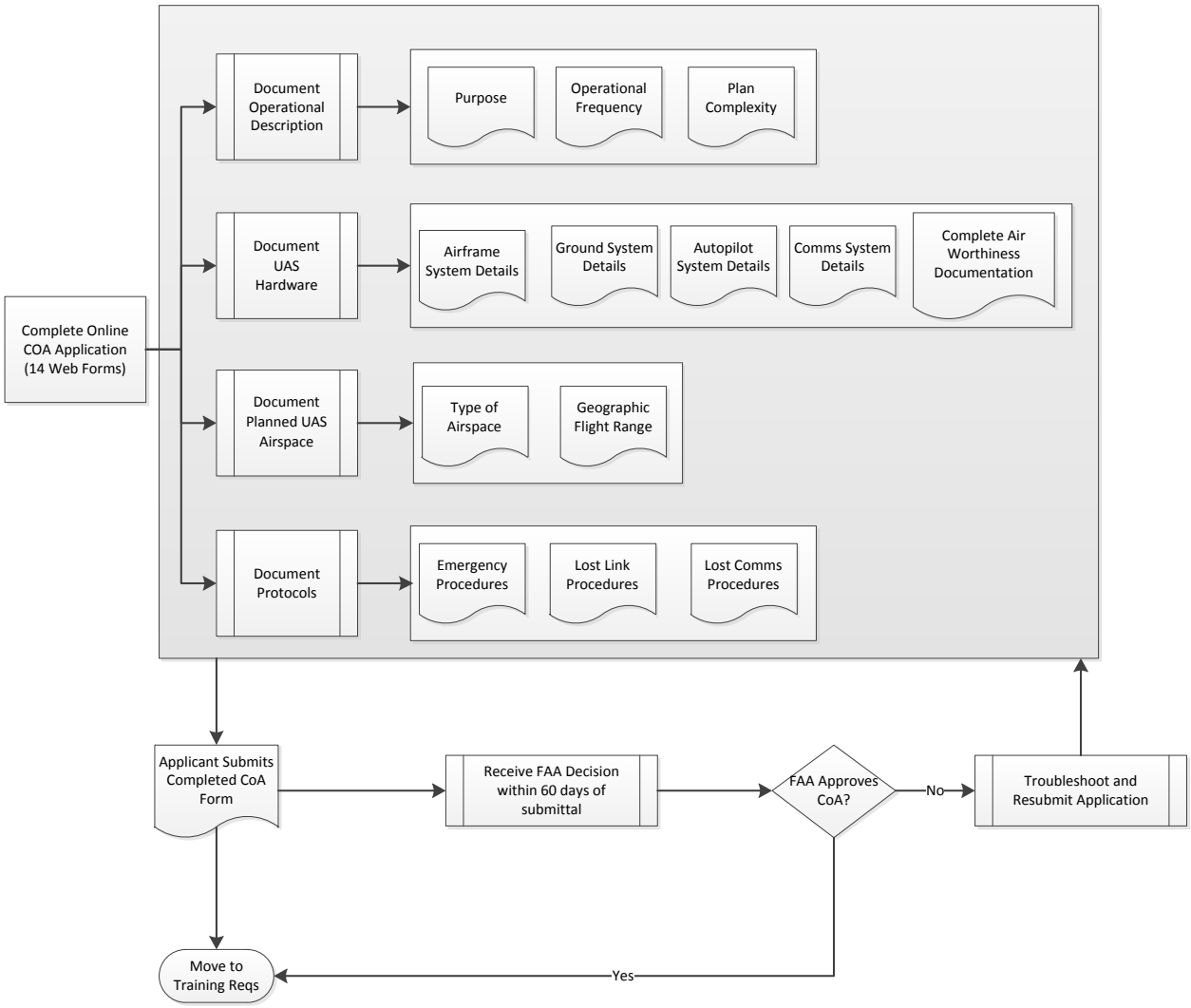

Figure 3: Overview of the key sections of the online COA application.

more requirements depending on the specific systems and applications the client requires. BST will work with the client while the FAA is reviewing the COA to ensure that everything is ready to begin operations once the COA is successfully issued.

Once the COA is in place BST will ensure that the client has a list of all of the requirements and procedures needed to perform legal flight operations. These procedures may vary from COA to COA, an example list of some of the common requirements are listed below.

1. 24 hours notice to FAA prior to flight deployments.
2. Pilot having all required certification documentation on-hand during operation.
3. Timely report of any crashes.
4. Monthly Status Report listing flights and adherence to COA parameters.

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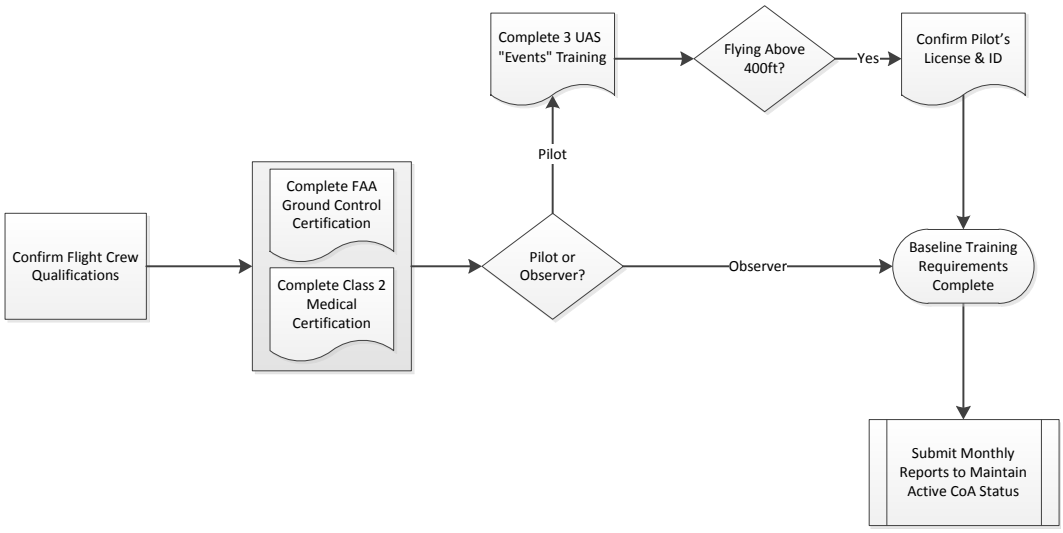

Figure 4: Overview of some of the certification and training requirements prior to flight operations.

BST is also happy to support additional training and FAA approval support beyond the training listed here for additional cost.