
OneSky Remote Identification – Getting Started

Thank you for your interest in the OneSky Swiss U-Space Implementation (SUSI) Remote ID Service Provider (RID-SP). This guide is intended as a starting point for UAS operators interested in connecting their ground control station (GCS) to the OneSky UAS Service Supplier (USS). Through this connection, the OneSky USS will provide services that include a connection to the Swiss FOCA remote ID network. This guide will also provide users with a broad overview of the OneSky user interface and RESTful APIs.

For a more in-depth user guide, or if you are interested in the broader OneSky UTM and USS capabilities, please contact susi@oneskysystems.com.

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Registration and Login

First time users must create a new user account on the OneSky USS portal.

Follow this [Link](#) or browse to: <https://susi.onesky.xyz/portal/>

Click the “Log In” button and then “Register” new user. (See Figure 1)

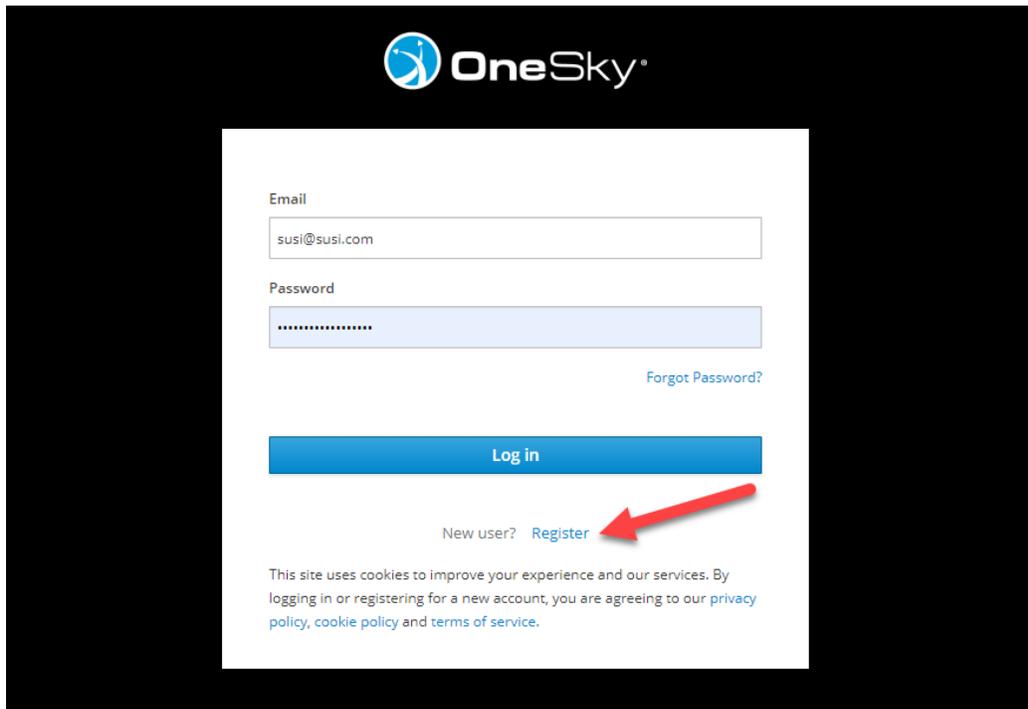


Figure 1

Fill in all required fields (marked with red stars) and then click “Register.” Upon completion, you will be sent an email for verification. Currently, all new user accounts must be approved by a OneSky administrator, please allow 24-48 hours for approval. If you have not received confirmation, please email us at susi@oneskysystems.com.

Once you have created a user account and received your login credentials, you can log into the OneSky SUSI implementation here: <https://susi.onesky.xyz/portal/>

OneSky User Interface

Once logged in you will be presented with the default user interface and 3D globe (See Figure 2). The default globe can be customized to include geospatial layers and services such as terrain, buildings, imagery, airspaces, ADS-B, and surveillance feeds. For more information on how to customize your operational picture and integrate data layers, please contact susi@oneskysystems.com.

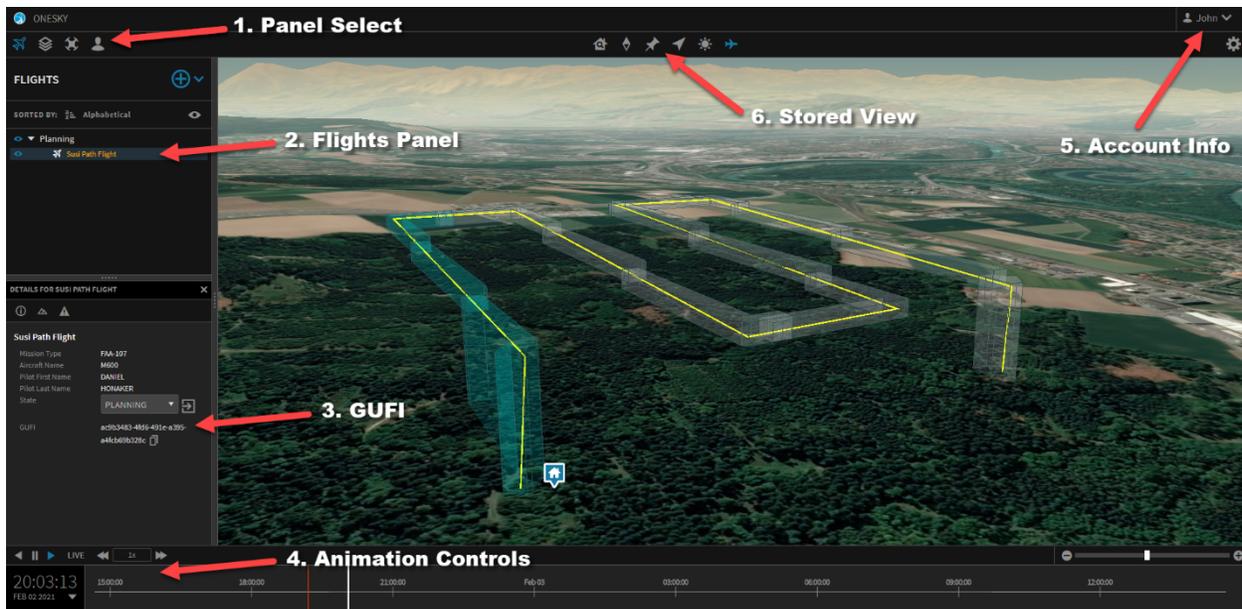


Figure 2

1. **Panel Select** – Select a library panel for display, i.e. (in order from left-to-right) Flights, Layers, Aircraft, and Pilots panels.
2. **Flights Panel** – Select an existing flight for more information, editing, and deleting, or create a new Point or Path flight by selecting the “+” icon.
3. **GUPI** – In the flight details panel, you can get the globally unique flight identifier (GUPI) for use in subscribing to events and sending real-time telemetry.
4. **Animation Controls** – Select the current animation date and time, playback in real-time or X-real-time mode.
5. **Account Info** – See account details and Log Out.
6. **Stored View** – Store the current view as the default view for the 3D Viewer (pin icon). Jump to the stored view (arrow icon).

Create Pilot

Prior to creating a flight, a user must first create a Pilot by selecting the Pilot icon in the Panel Select toolbar. Click the “+” icon to create a new pilot and fill in the required details. (See Figure 3)

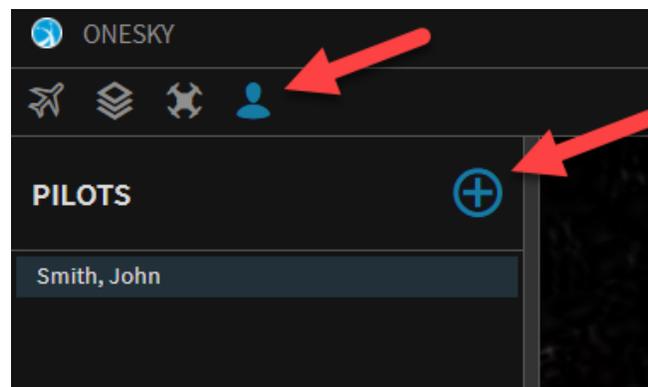


Figure 3

Create Aircraft

Prior to creating a flight, a user must first create an Aircraft by selecting the Aircraft icon in the Panel Select toolbar. Click the “+” icon to create a new aircraft and fill in the required details. (See Figure 4)

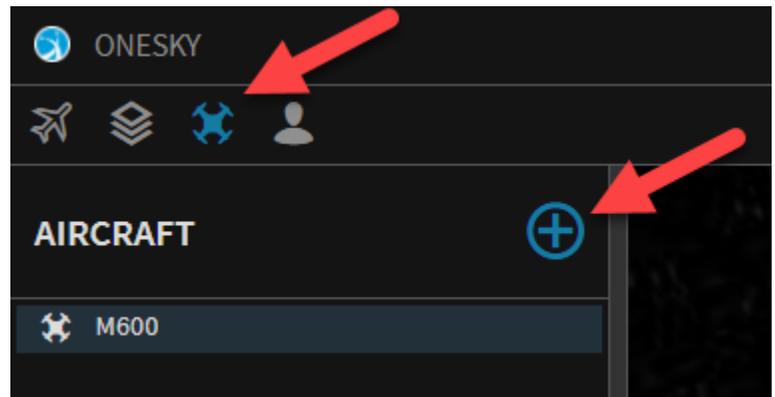


Figure 4

Create Flight

While most users will create a flight plan from their GCS platform, it is also possible to create Point (VLOS) and Path (BVLOS) flights in the OneSky portal. After creating a pilot and aircraft, the user can create a flight by selecting the Flights panel from the Panel Selection toolbar. Click the “+” icon and select “Point” or “Path” flight from the dropdown.

Point Flight

This is defined with a single point (lat/lon) with the ability to define both the radius of the expected operation, as well as the maximum altitude (AGL) in order to define a fully qualified flight volume of operation. The Start Time and Stop Time/Duration of the operation must also be supplied. (See Figure 5)

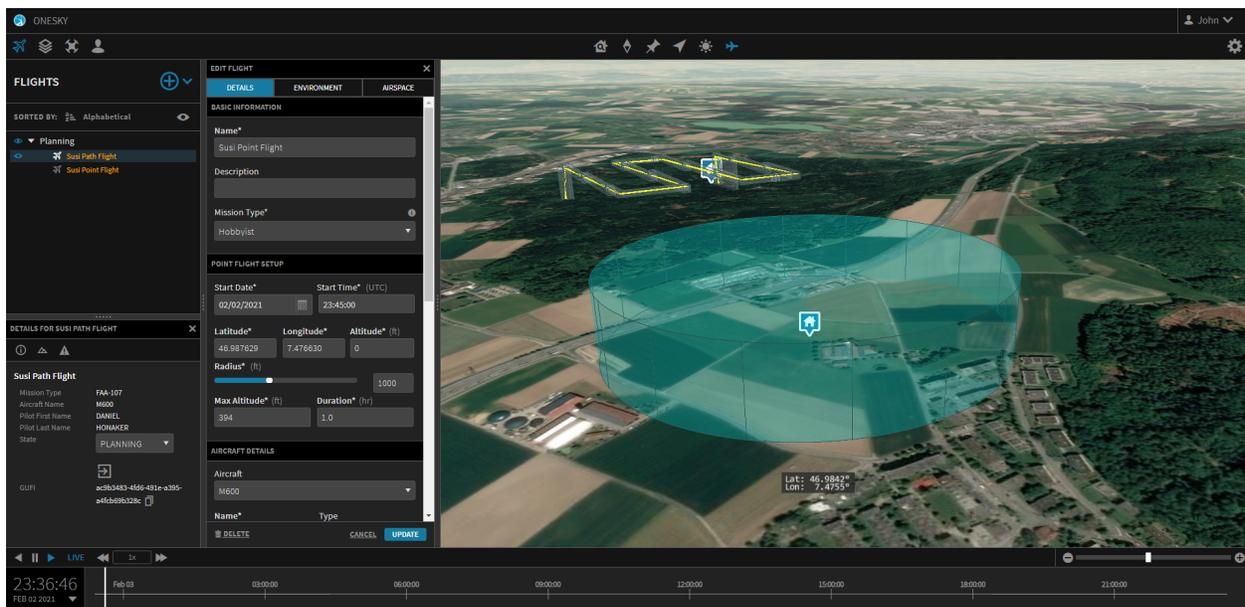


Figure 5

NOTE: The OneSky RESTful API allows flight volumes to be defined using polygons instead of circle geometries. See [Link](#).

Path Flight

This flight type is defined with a collection of waypoints meant to depict the actual flight route that an aircraft is expected to adhere to. This should be closely related to what a UAS may perform while in an 'autonomous' mission mode. This type of flight is defined with time-stamped waypoints, which means that each waypoint will inherently have a time associated with it. The API provides several methods for supplying well-defined Path Flight flight plans into the system, but the GUI is meant to provide a more simplistic approach by allowing a user to provide the starting time of the operation and an average vehicle speed. You can click-out the flight route on the globe to begin creating a representative flight path. Each waypoint can be moved/adjusted as well in both lateral position as well as altitude (AGL). (See Figure 6)

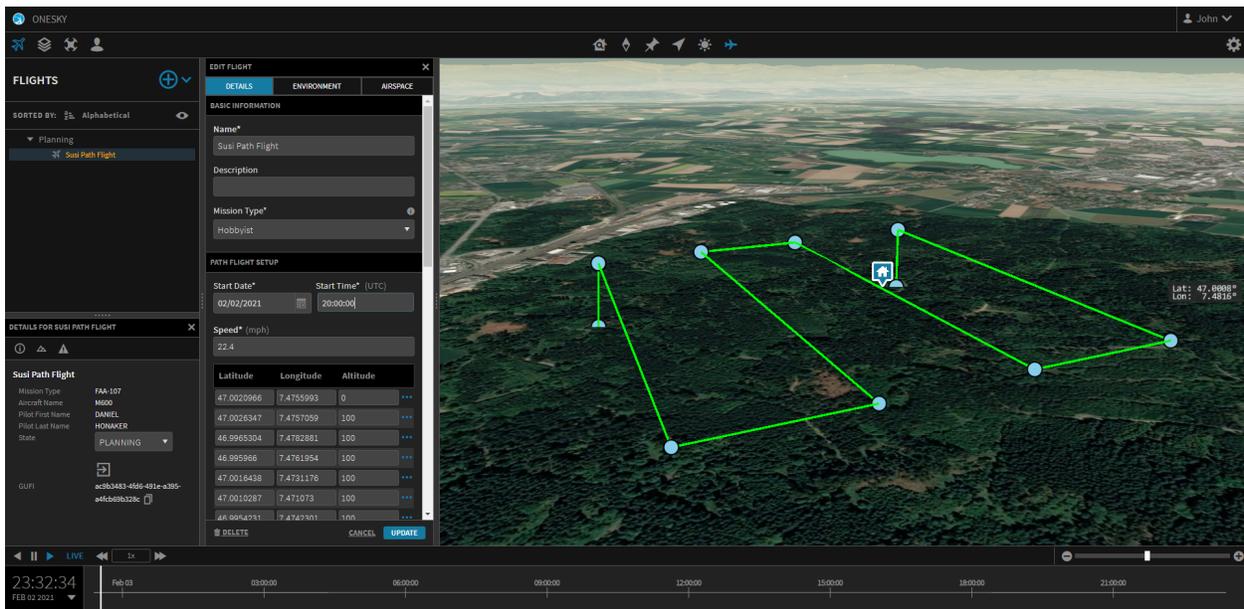


Figure 6

NOTE: The OneSky RESTful API allows for flight plans to be submitted in various formats including simple path, timestamped path flight, interval path flight, and STK ephemeris file. For more information, see the documentation here: <https://susi.onesky.xyz/doc/#tag/Flight>

If you are interested in uploading your mission profiles from other tools (e.g., UgCS, Mission Planner, STK, or other GCS) then you can take advantage of our GCS Adapter Framework. In addition, OneSky SDK's contain aircraft propagation models for development of performance-based flight profiles. Please contact susi@oneskysystems.com for more information.

Send Telemetry

Once a flight has been created in the OneSky USS portal, or via the OneSky RESTful API, it will be assigned a Globally Unique Flight Identifier (GUFID). This identifier allows you to reference the flight in the API and subscribe to server sent events regarding that identifier. Most importantly, it allows you to append telemetry to the flight in real-time via the OneSky API. (See Figure 7)



Figure 7

To obtain the GUFID in the portal, select your flight in the Flights Panel and copy the GUFID from the Flight Details panel (see User Interface section). Alternatively, you will receive the GUFID as a response when submitting a flight via the API. You can then use the GUFID in future API interactions related to that flight, including Append Telemetry API.

<https://susi.onesky.xyz/doc/#operation/com.agi.onesky.flight.controller.RealtimeEventRestController.appendTelemetry>

Operate with UgCS

If you are a current user of UgCS or are interested in using UgCS as your ground control software, there is a OneSky UgCS plugin that allows simple integration of UgCS flight plans and telemetry into the OneSky USS. Please contact susi@oneskysystems.com for more information. (See Figure 8)

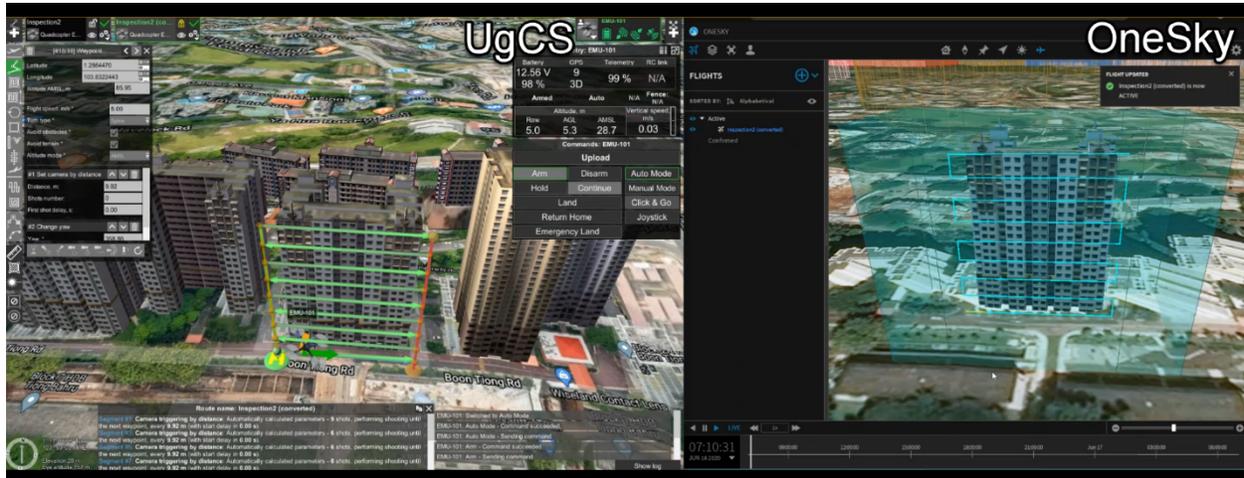


Figure 8

Developers

The [OneSky RESTful API](#) allows integrators and developers the ability to interact with OneSky UTM services including:

- Pilot and Aircraft Registration
- Flight Planning
- Airspace Constraint Management
- Real-time Flight Analytics
- Real-time Alerts and Warnings

For additional UTM services such as strategic deconfliction, conformance monitoring, and dynamic rerouting, please contact susi@oneskysystems.com.

Once a new account is registered and approved, an API token, as well as instructions on how to authenticate requests to the OneSky USS will be provided. A Postman collection is available to demonstrate all the services listed [here](#). Example applications in ASP.Net and .Net Framework are available as well.