Geofencing & Airspace Authorization

Sebastian Babiarz

Head of Strategic Business Development

AIRMAP

On the Horizon

$127 BILLION

GLOBAL ECONOMIC IMPACT

100,000

JOBS

Guiding Principles

UTM must be:

- ✓ Designed for the highly automated drone
- ✓ Performance-based to encourage innovation
- ✓ Open and democratic
- ✓ Agile and able to move at the pace of an emerging technology
- ✓ Globally interoperable (GUTMA)

Low-altitude airspace is complex

AIRSPACE

- Controlled Airspace (B,C,D,E)
- Restricted Airspace
- Prohibited Airspace

MANNED AIRCRAFT

AirMap's real-time traffic alerts from various sources automatically notify drone operators when manned aircraft trajectories create a hazard for the drones's area of operation.

TEMPORARY FLIGHT RESTRICTION

- VIP Movements
- Sporting Events
- Emergency Response

AIRPORTS

- Public Airports
- Private Airports
- Heliports
- Military Airfields

PUBLIC AREAS

- National Parks
- Marine Protected Areas
- City Parks*
- Playgrounds*
- Stadiums
- Ballfields

WILDFIRES

AirMap sources wildfire information directly from the U.S. Department of the Interior and pushes it to millions of drone pilots in real time.

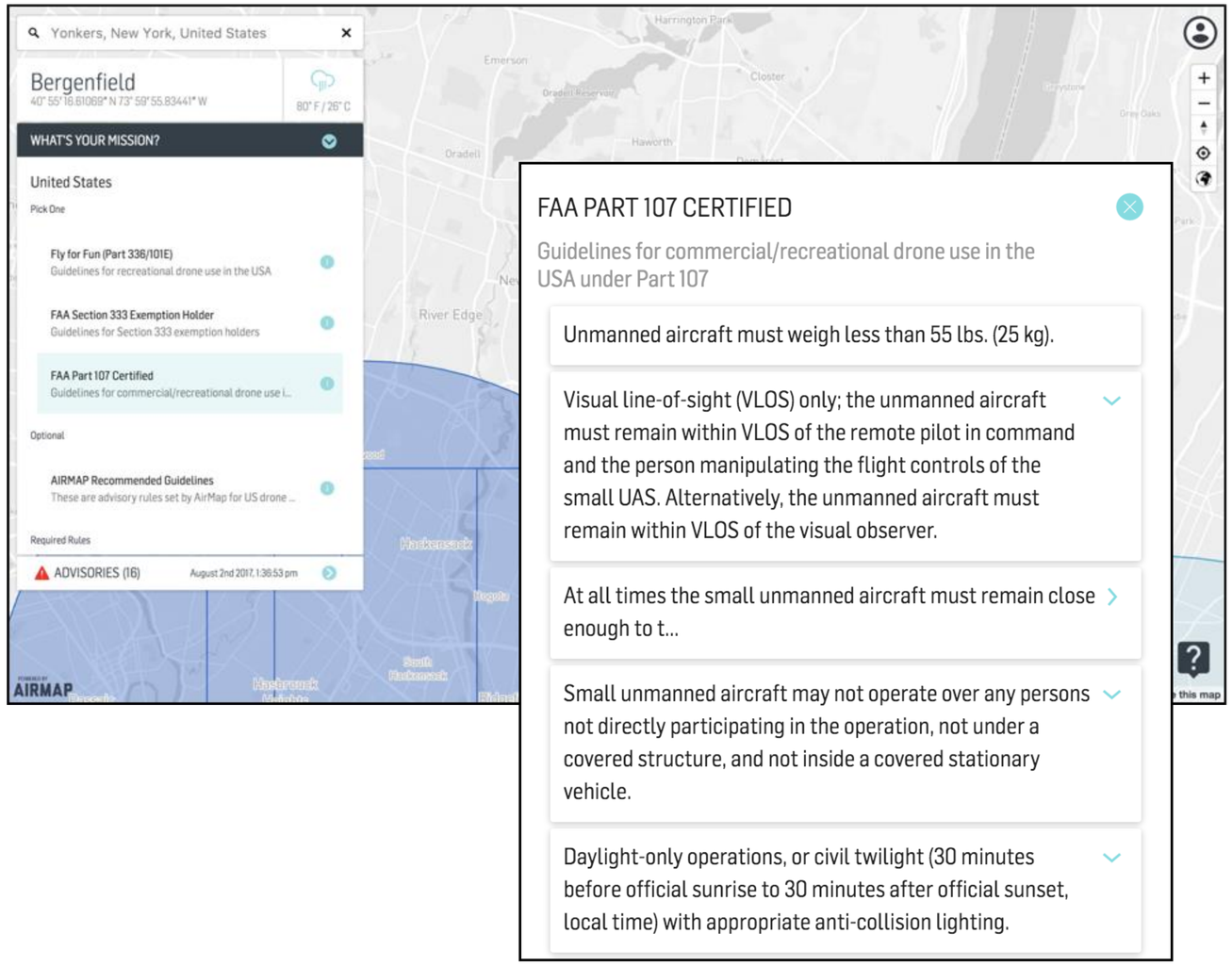
PUBLIC BUILDINGS

- Schools
- Prisons
- Hospitals
- Power Plants

WEATHER

Together with The Weather Company, AirMaps gives drone operators access to real-time data such as current and future conditions with temperature, precipitation, pressure, cloud cover, and more.

Contextual airspace



Real-Time Airspace Discovery

Learn everything you need to know about the airspace in which you intend to operate, including airspace regulations, temporary flight restrictions, critical infrastructure, VIP movements, nearby air traffic, and more.

Basic Mission Planning

Plan your mission based on flight rules, aircraft performance, time of day, micro-weather, and more.

Timely Updates

Pushes real-time alerts such as temporary flight restrictions, nearby traffic, and first responder activity.

Active geofencing is reshaping our airspace

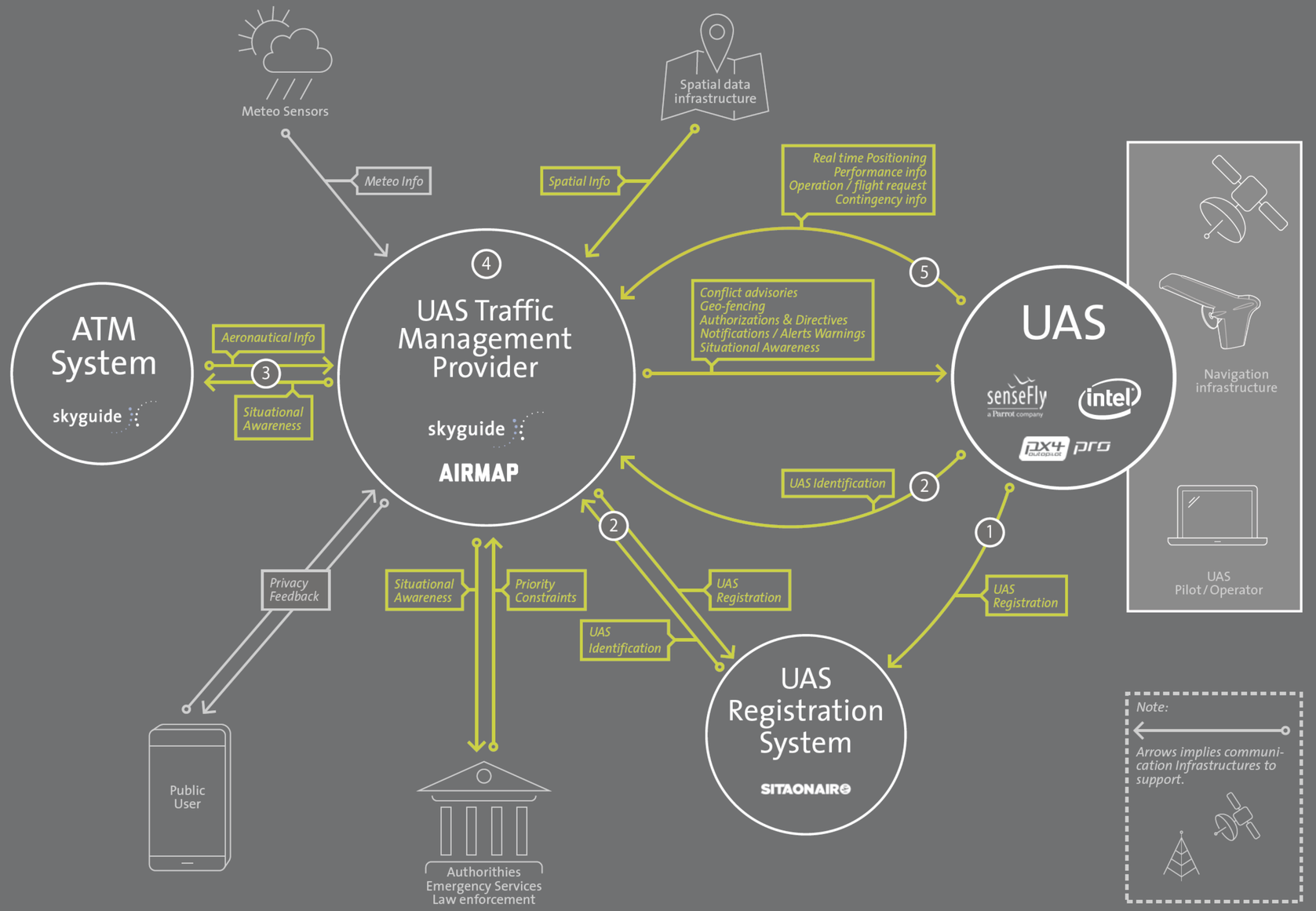
Geofencing is not a complete solution.

Geofencing must be paired with authorization.

Case Study: AirMap + skyguide partner on U-space

Demonstrating U1 & U2 U-space services, including:

- ✔ Pre-tactical geofencing
- ✔ Dynamic geofencing
- ✔ Airspace authorization
- ✔ Integration with air traffic control + radar system
- ✔ Flight planning, management, and monitoring

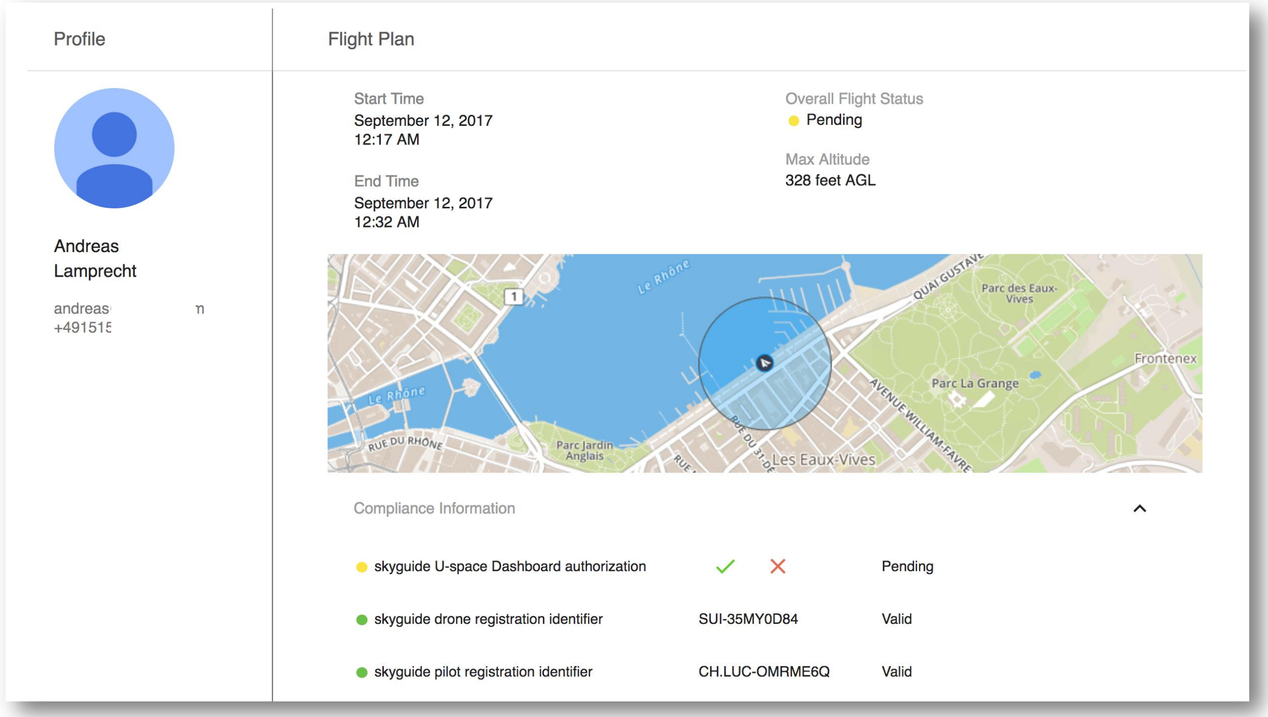


Adapted from GUTMA Architecture

1. **Drone registration** with a Blockchain based database managed by SITAONAIR
2. **Authentication of the drone's identity** against the SITAONAIR registration database using AirMap technology
3. **Integration with ATC & digital airspace authorisation** from skyguide through the AirMap platform
4. **Dynamic flight plans and live telemetry** visualized on AirMap U-space dashboard
5. **Real-time drone telemetry data** sent by senseFly

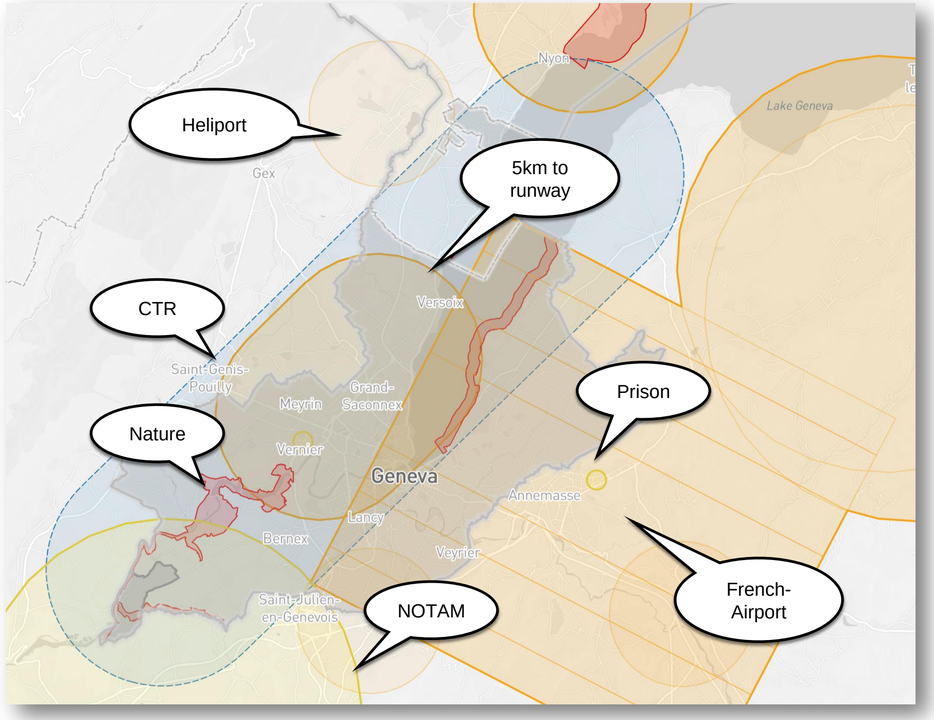
1 Foundation Services | 2 Initial Services | 3 Advanced Services | 4 Full Services

e-Registration



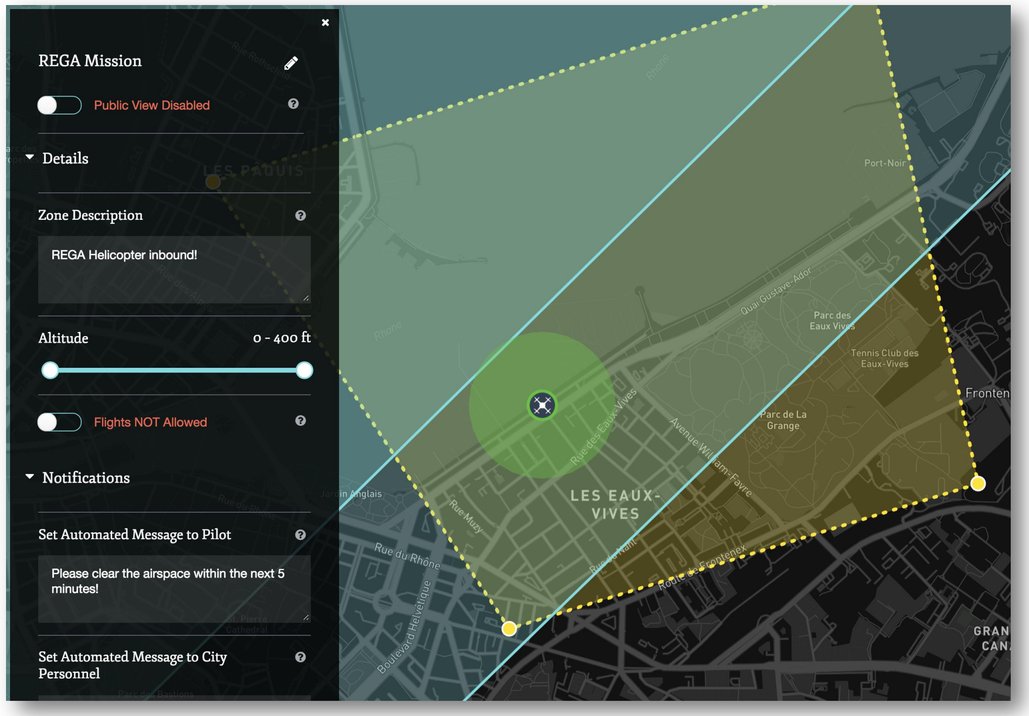
e-Identification

Pre-tactical Geofencing

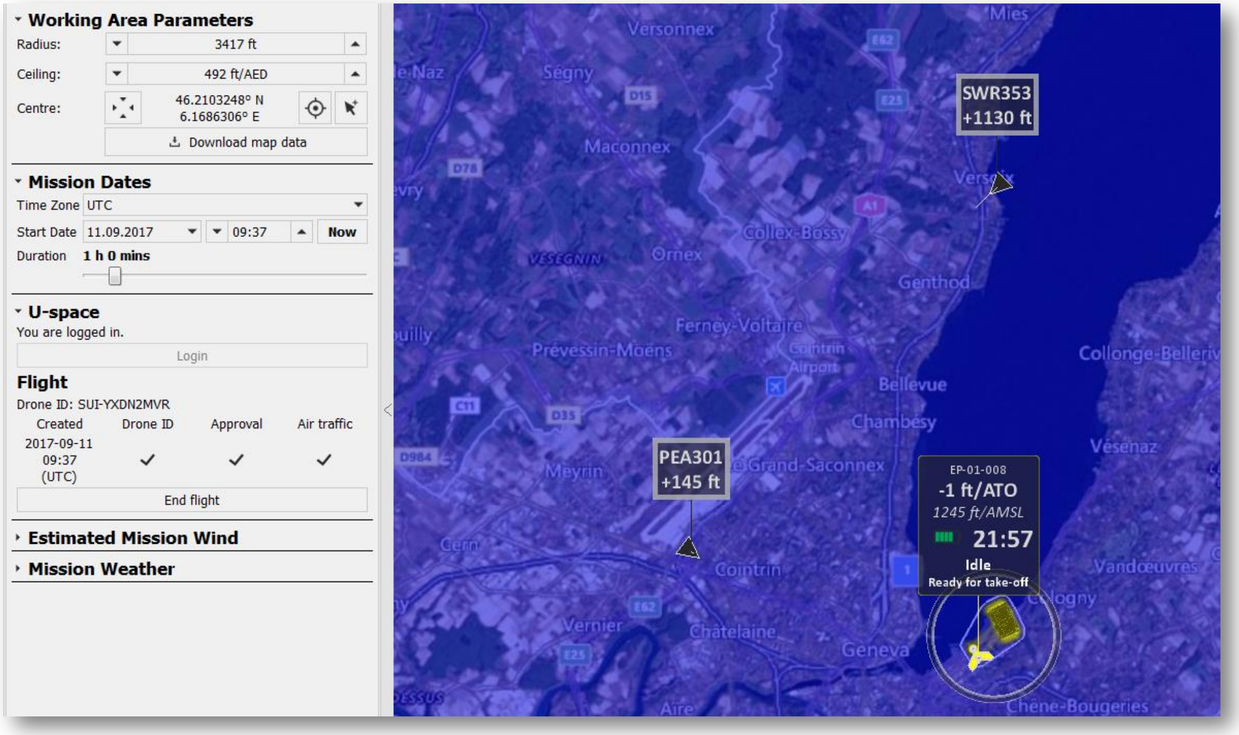


1 Foundation Services | 2 Initial Services | 3 Advanced Services | 4 Full Services

Procedural Interface with ATC



Monitoring



1 Foundation Services

2 Initial Services

3 Advanced Services

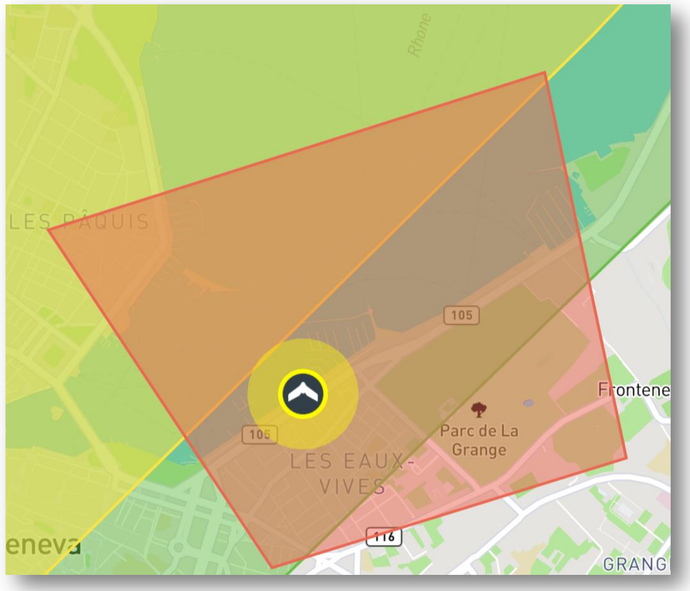
4 Full Services

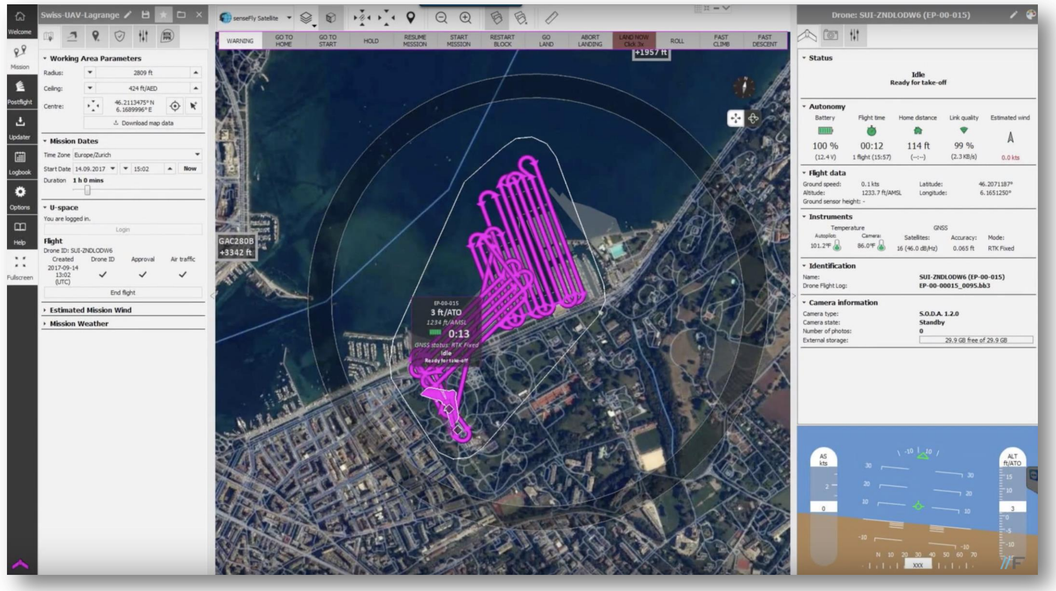
Tactical Geofencing

Flight-Planning, Management, & Tracking

Weather Information

andreas@airmap.com	September 12, 2017 12:17 AM	September 12, 2017 12:32 AM	Pending	✓	✗	





Case Study: AirMap + LAANC

FAA, Industry Work To Automate Drone Airspace Authorizations

by Bill Carey - March 28, 2017, 4:38 PM

Airspace authorization to fly commercial drones such as the Matrice M200 will be expedited under the LAANC capability. (Photo: DJI)

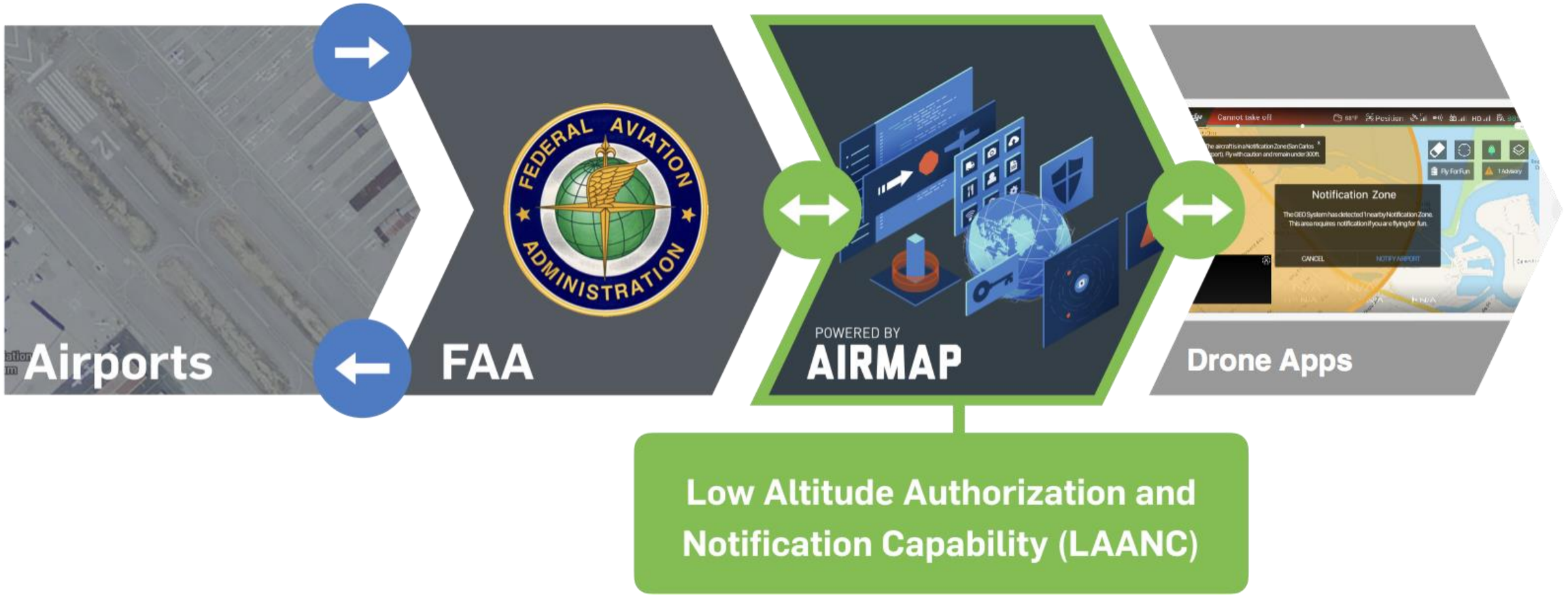
The Federal Aviation Administration is taking steps to automate the approvals that drone operators need to fly in controlled airspace and to track small unmanned aircraft systems (UAS) that are already in flight.

Current

Restricted Airspace	**Waiver Required, 90 Days in the US**
Authorized Airspace	

Est. 2017

Restricted Airspace	Automated Approval Module
Authorized Airspace	Immediate Approval Module


Airports
FAA
FEDERAL AVIATION ADMINISTRATION
POWERED BY
AIRMAP
Drone Apps
Notification Zone
Low Altitude Authorization and
Notification Capability (LAANC)

LAANC is opening the airspace for drones

500+

Part 107 airports
by Fall 2018

75,000+

Square miles of airspace
as of Aug 2017

68%

Airspace open
below 200ft

AIRMAP