

AIRMAP

Empowering the Global Drone Ecosystem -
From Concept to Execution

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Head of Strategic Business
Development

ICAS Workshop, Winterthur, 11.09.2017



OUR MISSION

AirMap is making drones part of everyday life **by delivering integrated access to low-altitude airspace.**

UNPRECEDENTED GROWTH

55 Employees
Worldwide

GLOBAL PRESENCE

Santa Monica | Berlin
Tokyo | Mountain View

FUELED UP & READY TO FLY

\$43 Million
in Funding

Drone-powered business solutions have an estimated
global market value of \$127.3 billion dollars.*

770,000

U.S. drone registrations
as of Jul 2017

55,000

U.S. remote pilot licenses
as of Jul 2017

\$9B

est. U.S. net social
benefit by 2020

Source: the FAA

* "Clarity from above," PWC, 2016.

Working Remotely: 100,000 U.S. Jobs + \$9 Billion in Net Social Benefit



Low-altitude airspace is complex.

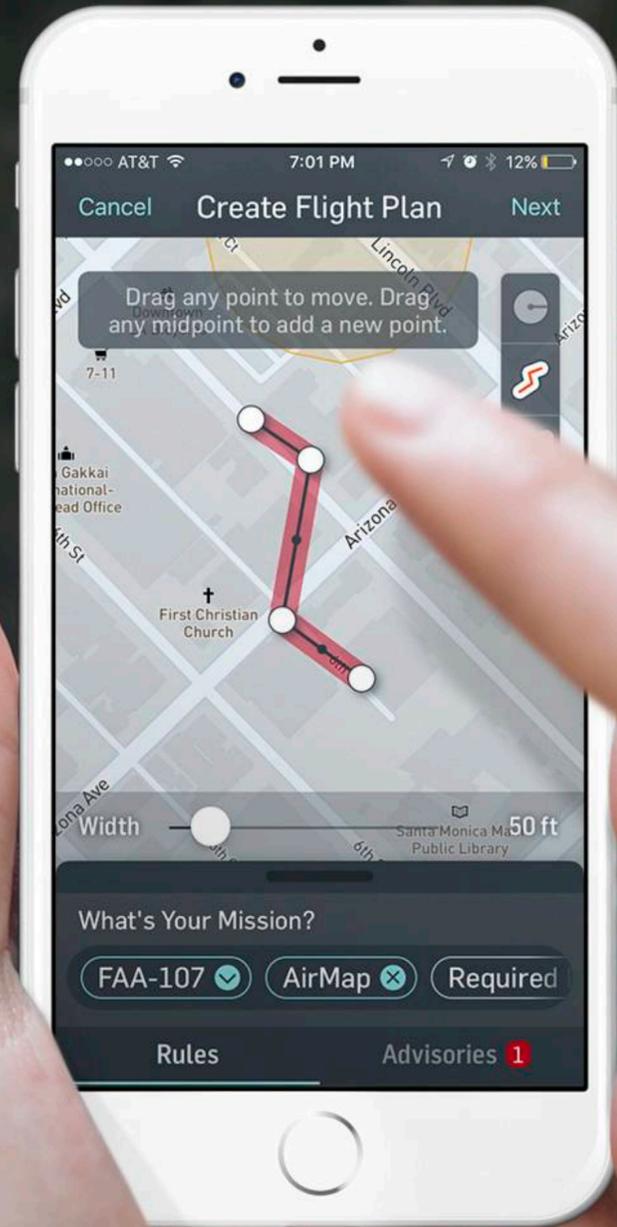
Safety, Performance, and Compliance are Essential.



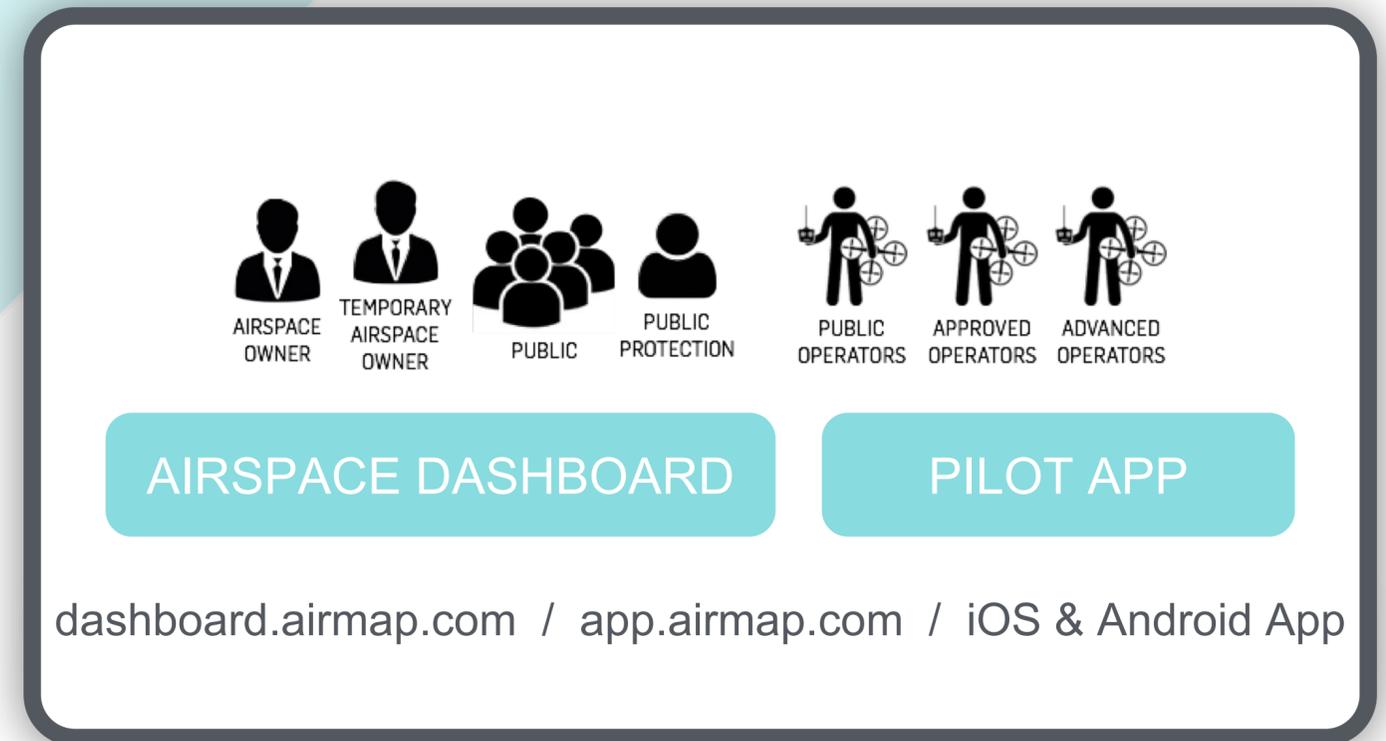
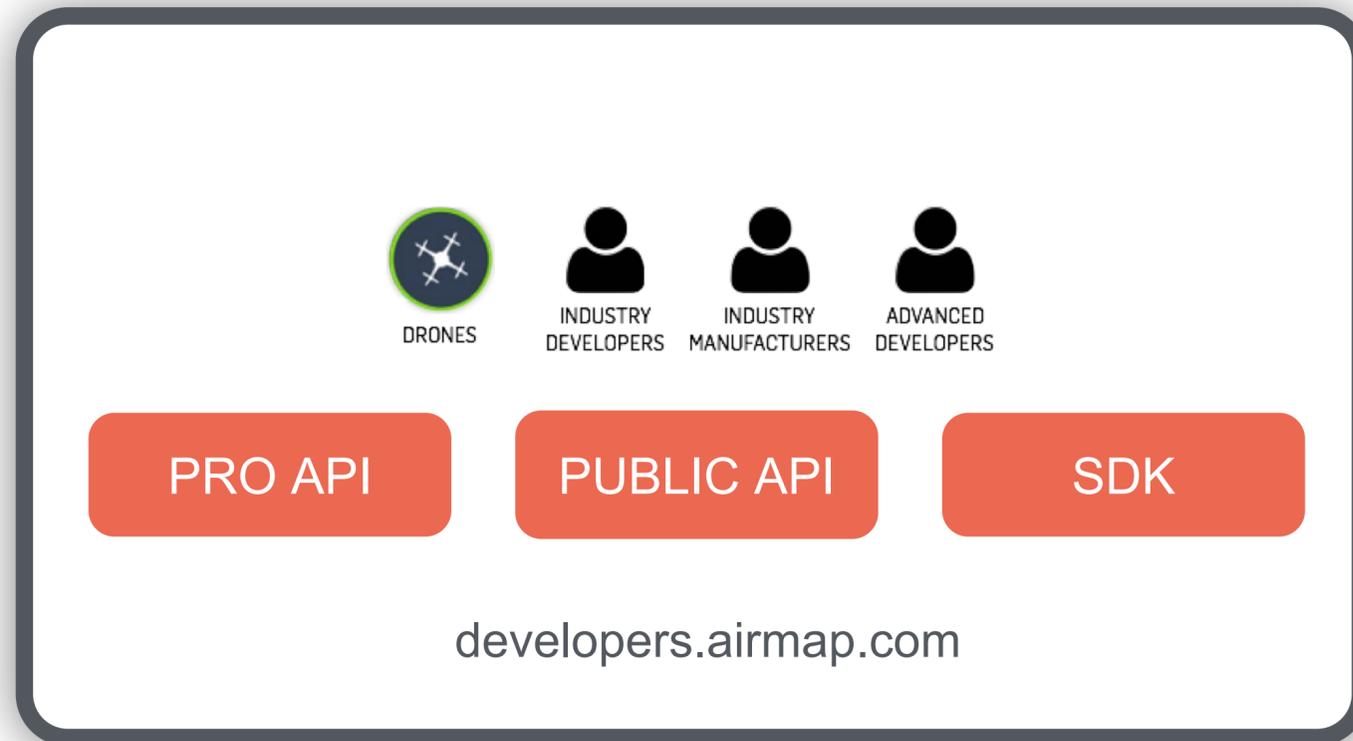
- 1 OBSTACLES**
Cell phone towers, building data, & terrain
- 2 WILDFIRES**
- 3 AIRSPACE**
Controlled, restricted, & prohibited
- 4 PARKS**
National, marine protected areas, city, playgrounds, stadiums, & ballfields
- 5 AIRPORTS**
Public, private, heliports, & military
- 6 PUBLIC BUILDINGS**
Prisons, hospitals, & power plants
- 7 TEMPORARY FLIGHT RESTRICTIONS**
Community events, sports games, emergency response, & VIP movements
- 8 SCHOOLS**
Elementary, middle, high, universities, & other
- 9 MANNED AIRCRAFT**
Nearby air traffic
- 10 WEATHER**
Temperature, precipitation, pressure, cloud cover, & more

Opening the Airspace for Business

Integrated access to low-altitude airspace is possible through the AirMap platform.



The AirMap Platform Architecture



AirMap Premium Services

Contextual Airspace

Rules-based advisories and airspace information for compliance assurance amid ever-changing airspace conditions

Digital Notification

Inform airspace managers directly of drone operations via digital notification.

Digital Authorization

Receive instant and automated airspace authorization directly from authorities

Traffic Alerts

Real-time traffic feed of nearby manned and unmanned aircraft that pose a risk to a drone's intended flight path

Weather & Wind

Provide users with real-time conditions for safer flight planning.

Airspace Management

Real-time situational awareness from an easy-to-use dashboard



Contextual Airspace

The screenshot shows the AirMap interface for Bergenfield, New York. The search bar at the top left contains "Yonkers, New York, United States". The sidebar on the left, titled "WHAT'S YOUR MISSION?", lists several options: "United States", "Fly for Fun (Part 336/101E)", "FAA Section 333 Exemption Holder", "FAA Part 107 Certified" (highlighted in blue), "AIRMAP Recommended Guidelines", and "Required Rules". Below the sidebar, there are "ADVISORIES (16)" and a timestamp "August 2nd 2017, 1:36:53 pm". The main panel displays the following information:

FAA PART 107 CERTIFIED
Guidelines for commercial/recreational drone use in the USA under Part 107

- Unmanned aircraft must weigh less than 55 lbs. (25 kg).
- Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the remote pilot in command and the person manipulating the flight controls of the small UAS. Alternatively, the unmanned aircraft must remain within VLOS of the visual observer.
- At all times the small unmanned aircraft must remain close enough to t...
- Small unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle.
- Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting.

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.

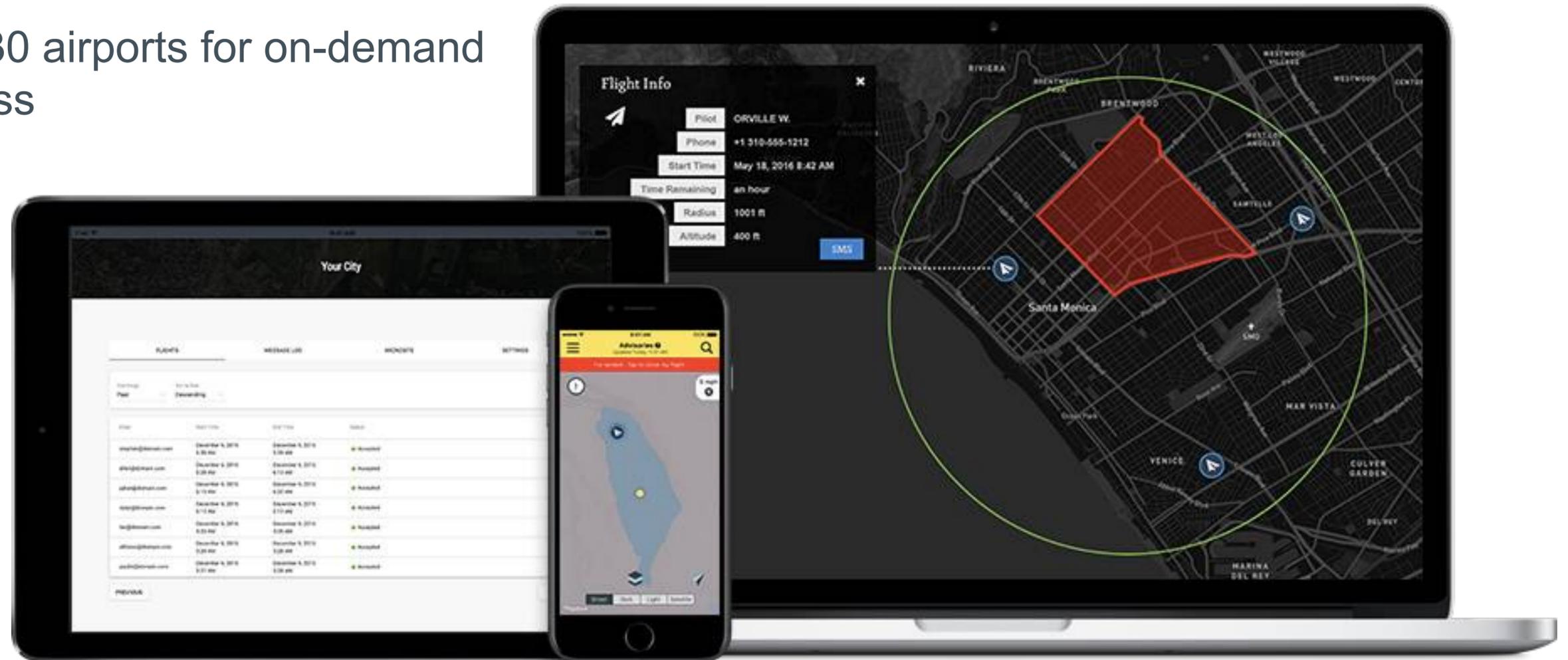
Timely Updates

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

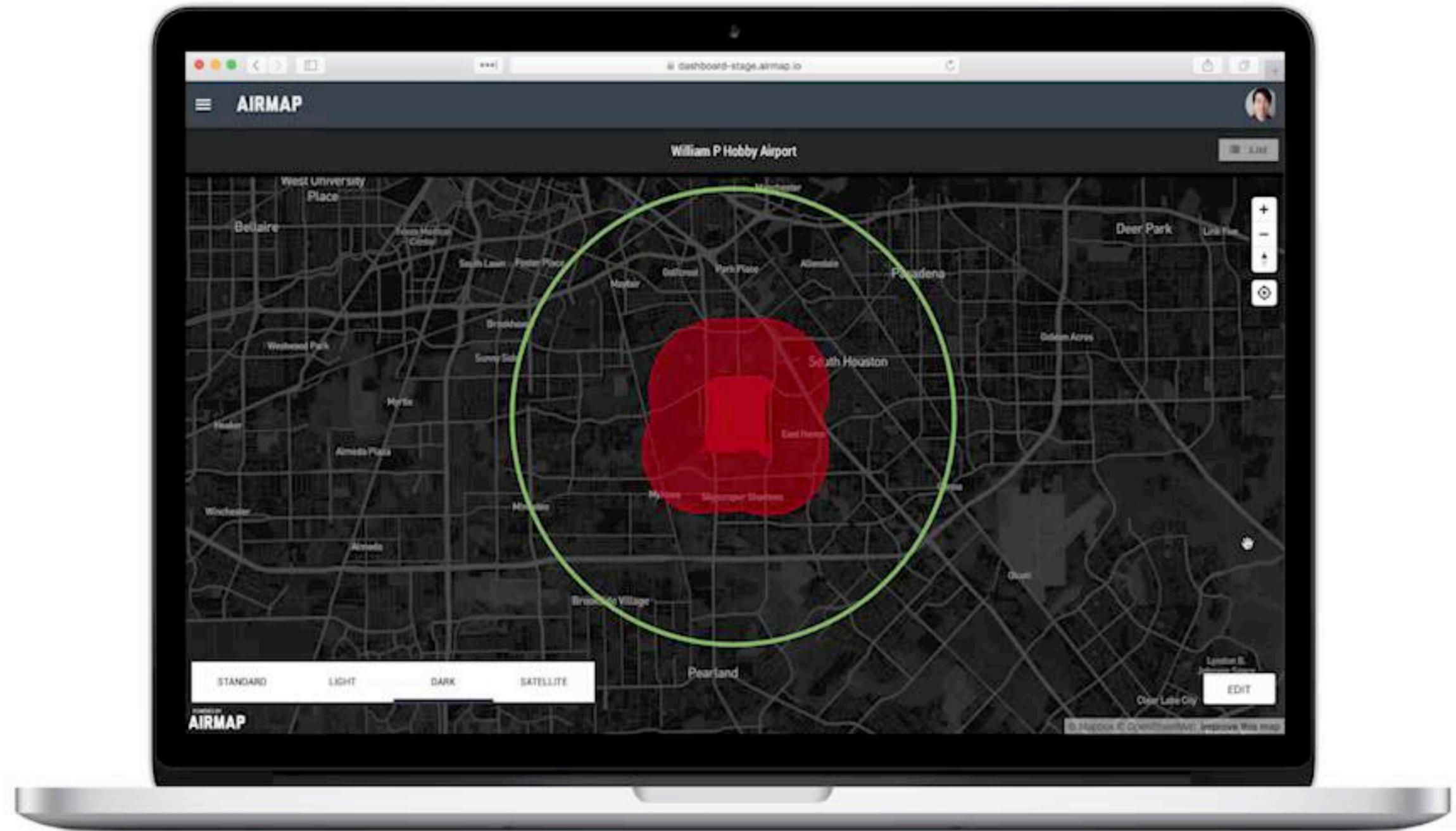
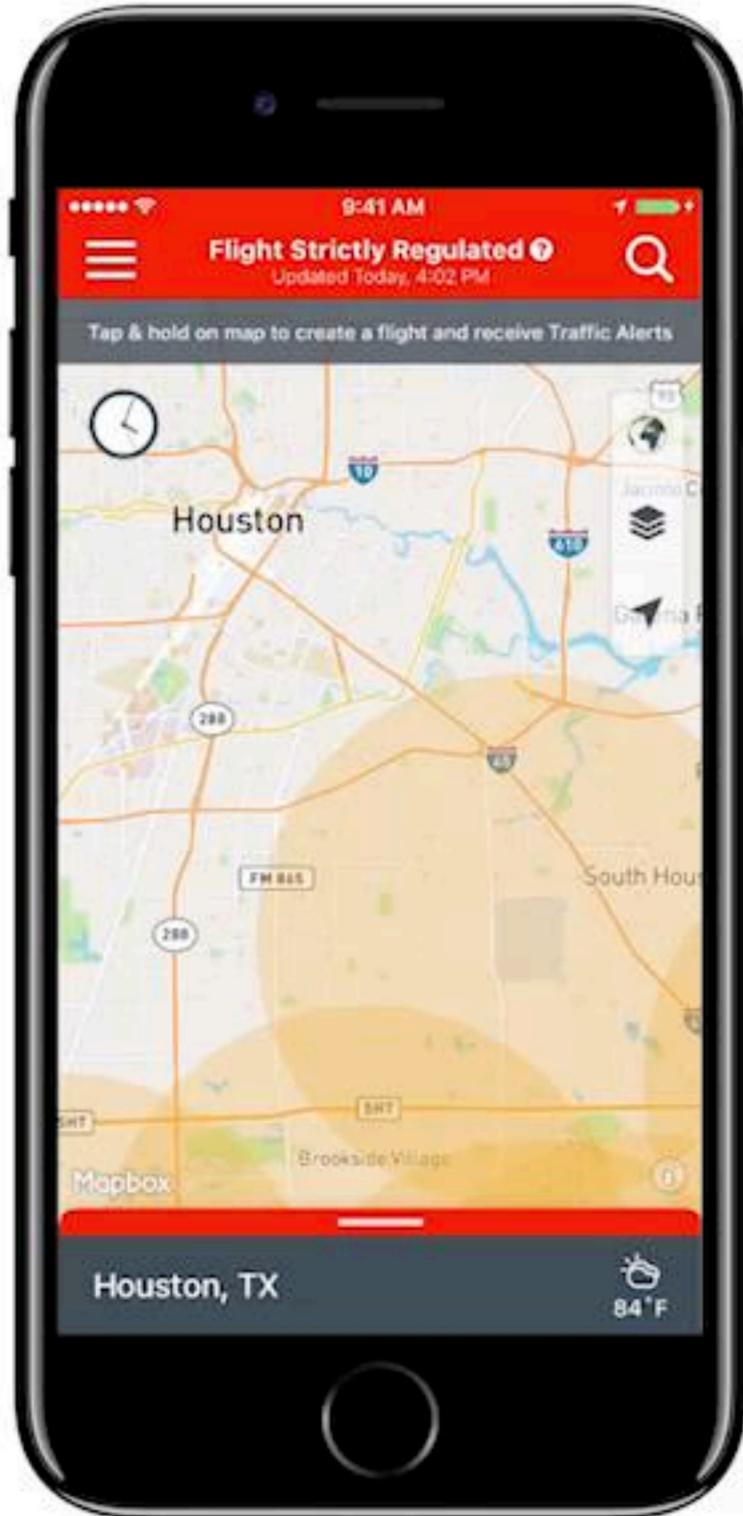
Digital Notification

Airspace Management Dashboard

Deployed at over 130 airports for on-demand situational awareness



Demo



Airspace Authorization

FAA, Industry Work To Automate Drone Airspace Authorizations

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

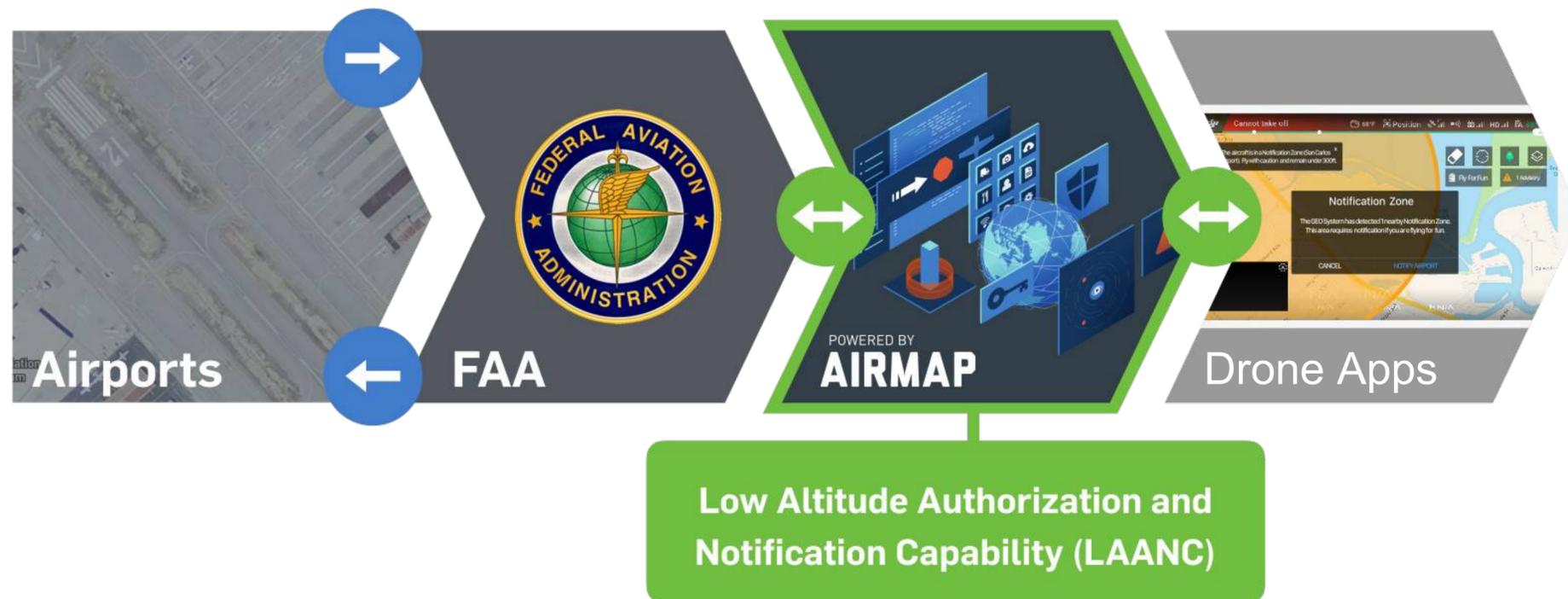


*Airspace authorization to fly commercial drones such as the Matrice M200 will be expedited under the LAANC capability.
(Photo: DJI)*



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.

Airspace Authorization



Opening up the Airspace

AirMap allows commercial operators to meet notification and authorization requirements using FAA-approved technology.

AirMap is one of the only companies that will offer FAA immediate notification and authorization later this year.



Authorized Airspace

Immediate Approval Module



Restricted Airspace

Automated Approval Module

Airspace Authorization

AIRMAP

Unlocking Authorization

AirMap has partnered with the FAA on LAANC (The Low Altitude Authorization & Notification Capability) to deliver easy and instant authorization in controlled airspace.

PART 107 Airspace Authorization

Date & Time

Starts At: Now

Duration: 45m

Pilot & Aircraft

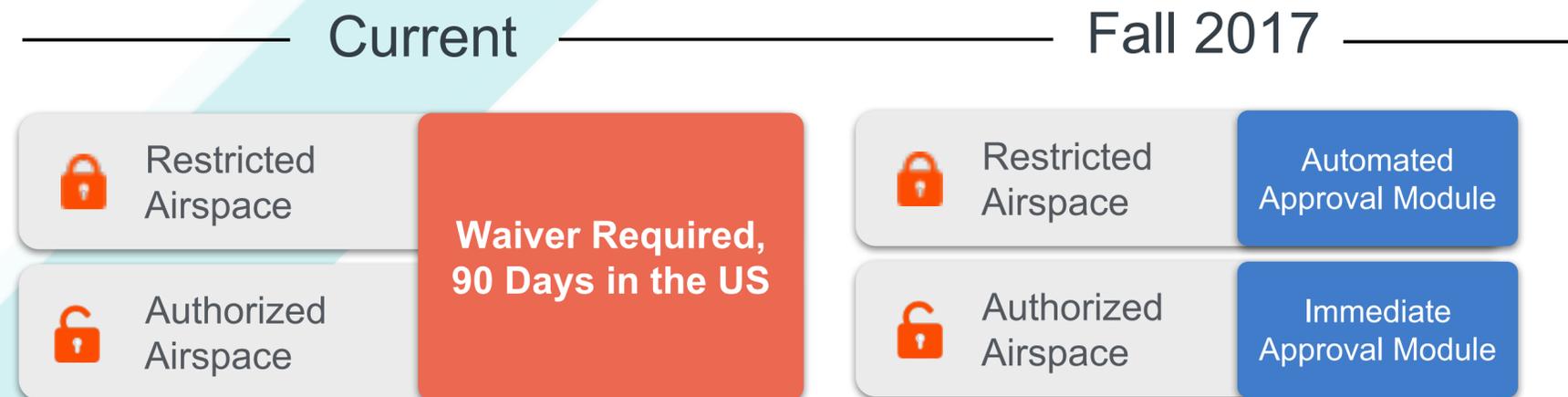
Pilot: Nic Pro

Aircraft: My Drone

Submit

Coverage

- Can be deployed in all U.S. Class (A,B,C,D,E) airspace
- 720,000+ Part 107 (Commercial) Operators



Traffic Alerts

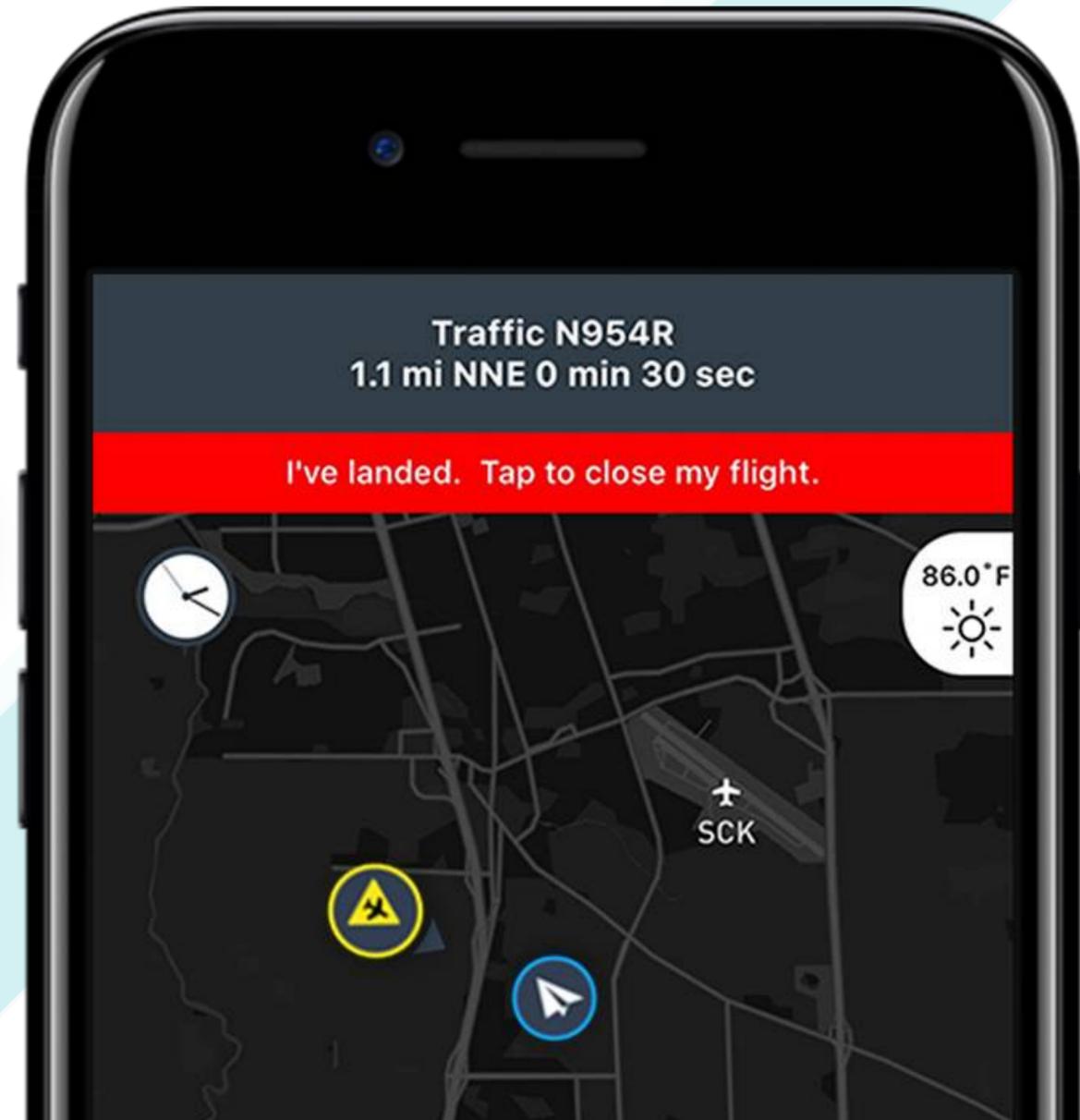


Real-time Updates of Nearby Traffic

Provide situational awareness to operators about manned and unmanned traffic in the area.

Manned and unmanned aircraft trajectories create a potential hazard for the drone's area of operation.

We invest in multiple sources of manned traffic and are increasing the amount of trajectory information every month.

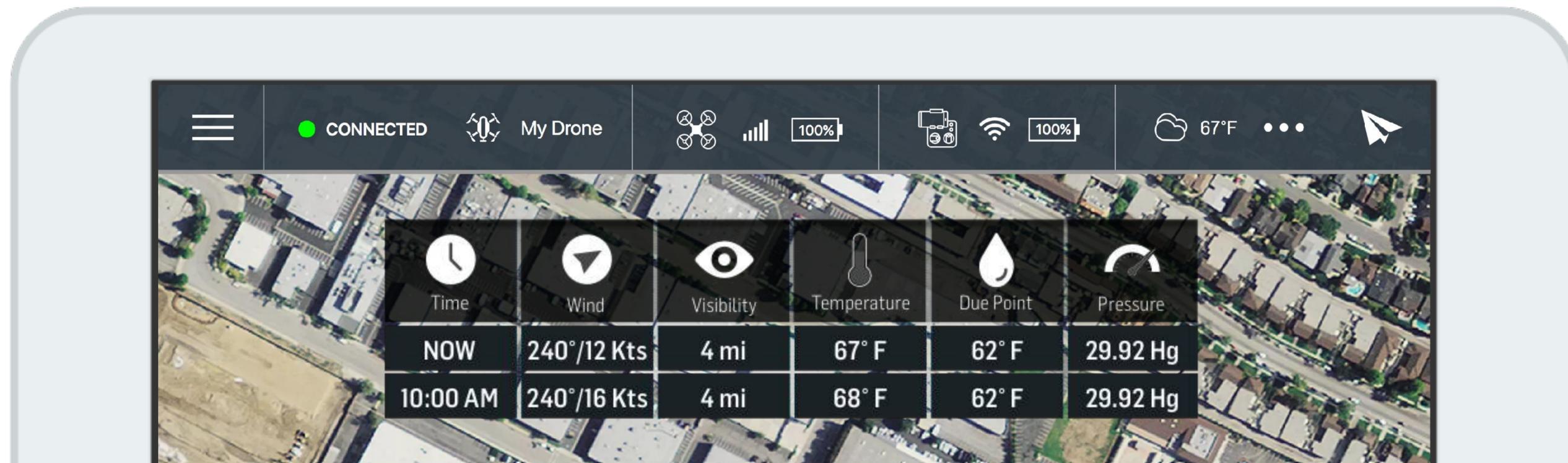


Weather & Wind

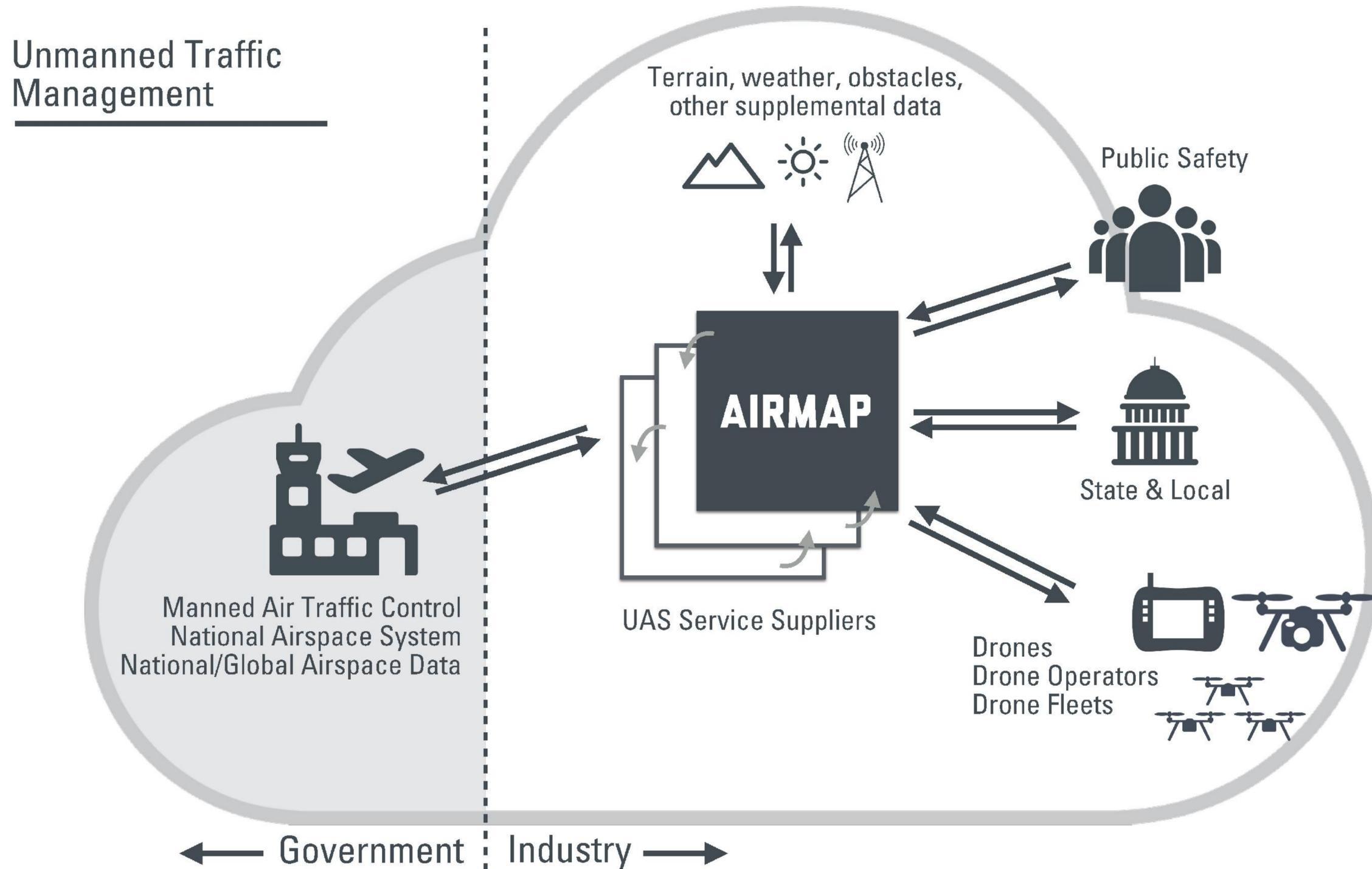


Allows operators to visualize wind, visibility, temperature, and other weather information, now or in the future.

Essential for planning flights, this information can be displayed for the upcoming hours or for a future flight, and embedded into mission planners and flight apps.



Airspace Management



Evolving the Future of Drones



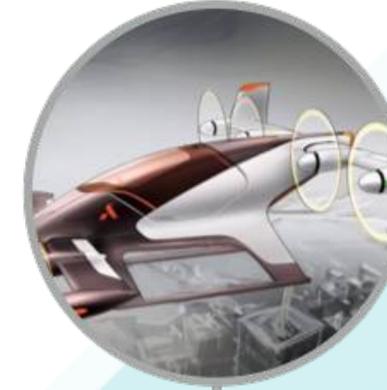
Recreational Drones

Early adoption of remote helicopters and quadcopter for hobby use, including photography.



Package Delivery

BVLOS, semi-autonomous fleet management for standardized drone delivery from logistics centers to your front door.



Flying Cars

Fully autonomous personal VTOL aircraft that are fully equipped to take one or more passengers directly to and from their destinations.



Enterprise Drones

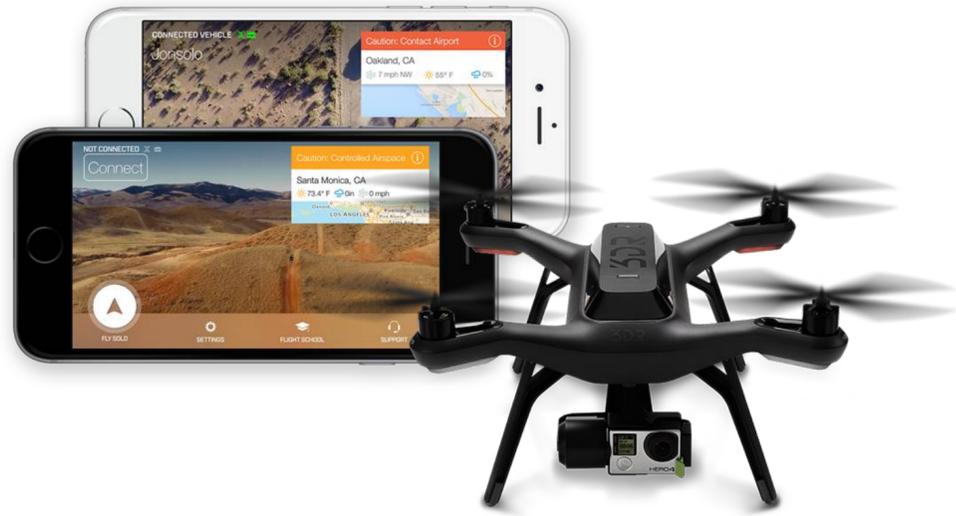
Individual and fleet deployment across agriculture, construction, mining, survey, mapping, public safety, and more.



Drones as a Service

Connecting the general public to end services offered by autonomous drones. Tap to request a roof inspection, no pilot required.

AirMap Active Integrations



+ 3DRobotics



+ Yuneec



+ AeryonLabs
Skyranger



+ Sensefly,
a Parrot company



+ DJI GO



+ Intel Aero
Platform

AirMap Industry Partnerships



AirMap Strategic Partners



SONY



AIRMAP



AIRBUS VENTURES

YUNEEK



Global UTM Association

For a safe and efficient
UAS integration into civil airspace

www.gutma.org

What is GUTMA?

The Global UTM Association (GUTMA) is a non-profit consortium of worldwide Unmanned Aircraft Systems Traffic Management (UTM) stakeholders.

Its purpose is to foster the safe, secure and efficient integration of drones in national airspace systems. Its mission is to support and accelerate the transparent implementation of globally interoperable UTM systems. GUTMA members collaborate remotely.

We unite

- Air navigation service providers
- UAS operators
- UAS manufacturers
- UTM data & software providers
- Infrastructure providers
- Insurance & consulting corporations
- Regulatory bodies
- Academic experts

Facts & Figures

Association

Based in Lausanne, Switzerland
Representing 60+ organizations
Present in 18 countries

Main Collaborations

Europe: DG Move / SESARJU / EASA
USA: NASA AMES
Japan: METI, JUTM



Board of Directors



Jonathan Evans, Skyward, President



Christian Struwe, DJI



Marc Kegelaers, Unifly, Vice President



Mark Watson, NATS



Lorenzo Murzilli, FOCA, Treasurer



Sebastian Babiarz, Airmap



Richard Parker, Altitude Angel



Kei Ikami, NTT Data



Samuel Dépraz, SenseFly (Parrot Group)

Featured Members





Thank you.

