Aloft

Jon Hegranes

Founder & CEO

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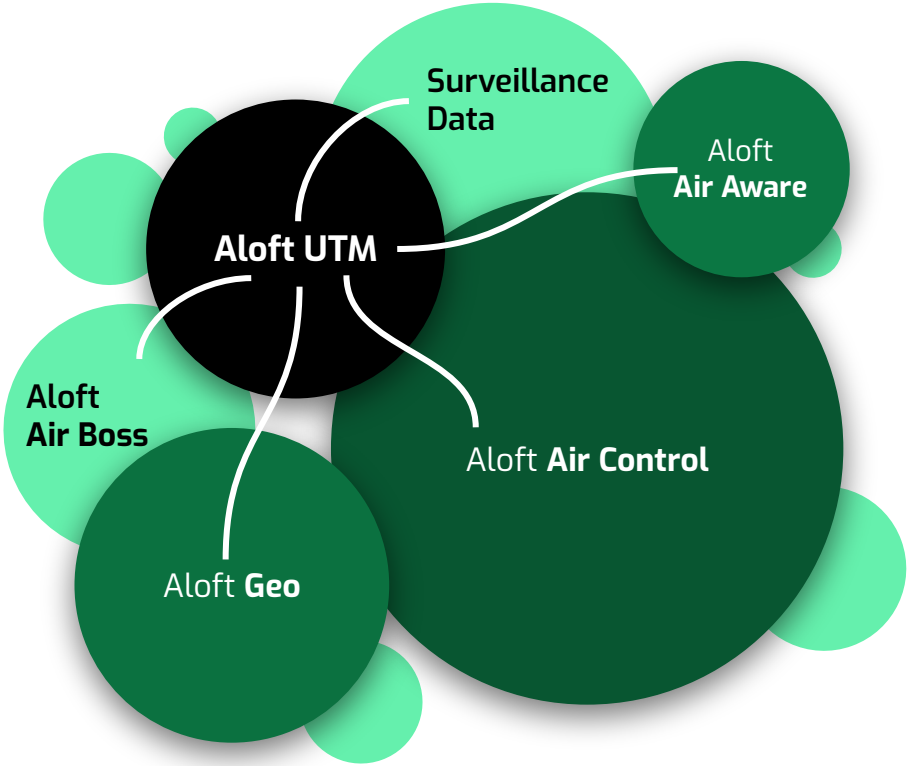
#1 FAA-Approved Airspace Supplier (LAANC/UTM)

1M
Monthly Airspace Events

22K
Monthly Flight Hours

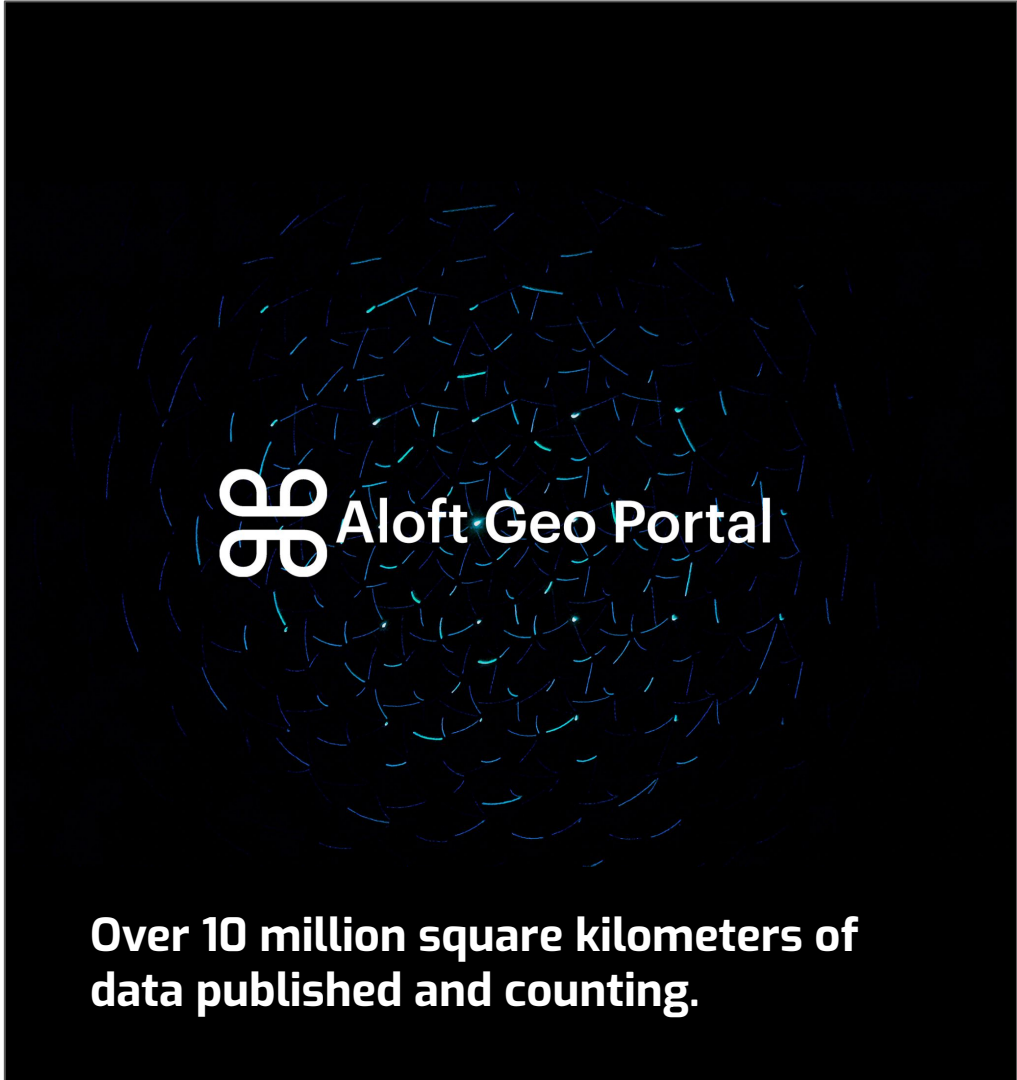


84%
Monthly LAANC Authorizations

100K
Monthly Flight Briefings

Aloft **Geo** is a platform that enables verified accounts to publish safety advisories across the Aloft data network, including B4UFLY.

Trusted by:



Why Aloft Geo?

If it's not on the map, it's hard to comply?

Aloft Geo

- For authoritative data sources / government users
- To publish safety advisories
  - Permanent
  - Temporary
  - Scheduled

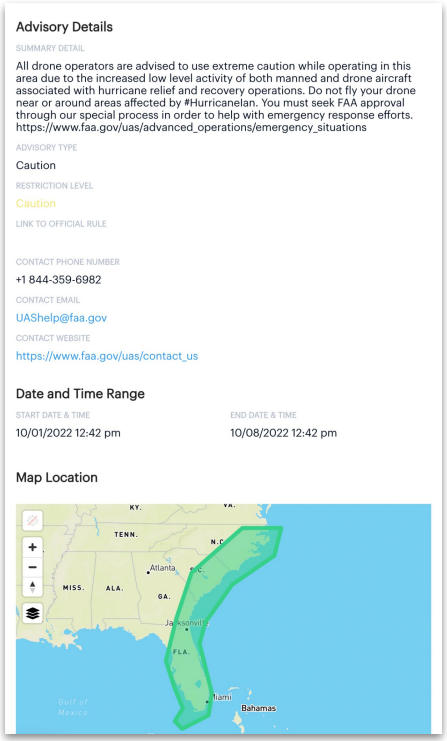
LA County Fire teams up with FBI to crack down on illegal drones flying too close to fires

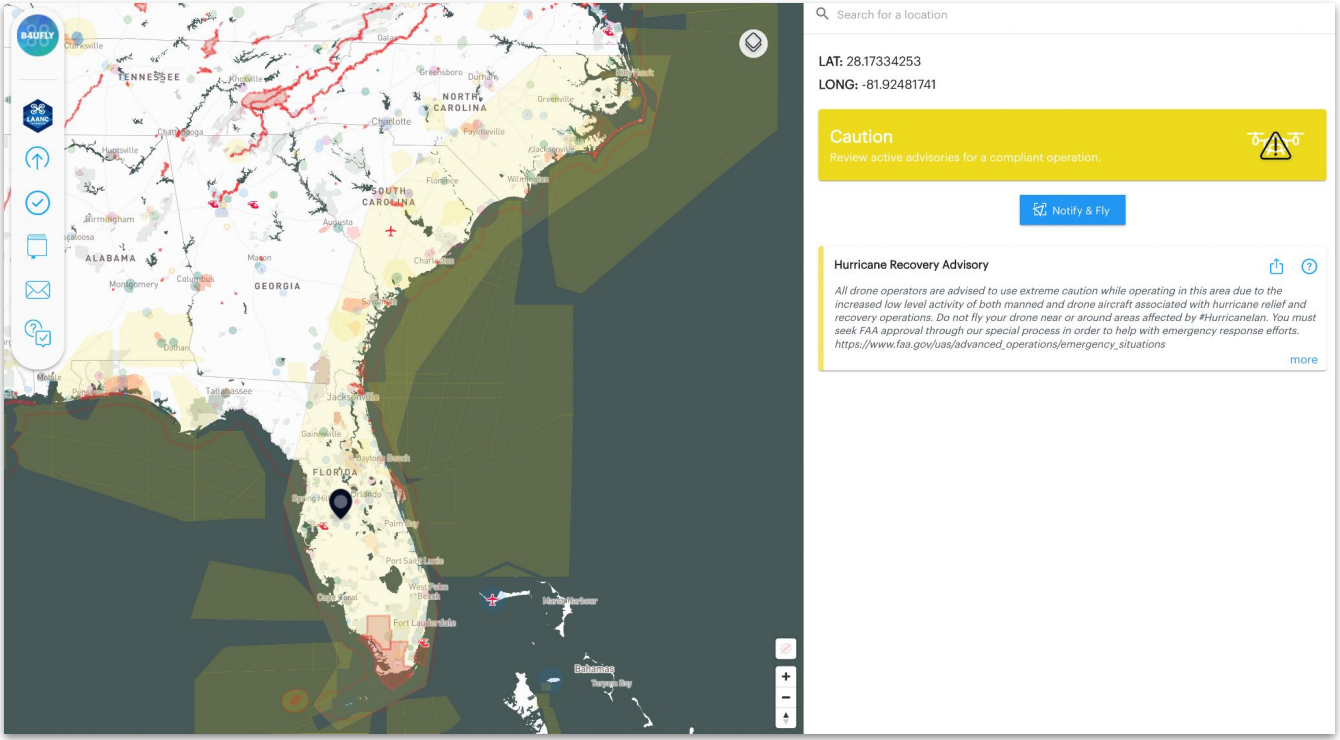
LACOFD, working in partnership with the FBI, is the first in the country to use a detection system that can track down drones.

By Amy Powell via
Friday, July 29, 2022

Just like the FAA, you can publish critical safety info.

Aloft Geo makes data visible for maximum safety, compliance, and shared situational awareness.





Use Cases In Production Today

Examples and use cases to think about as you incorporate Aloft Geo into your air/ground space and safety strategies:

- Public events (not just sporting events, but concerts, etc)
- Other events where special drone rules come into effect
- Fire fighting and related aircraft operations that aren't part of a TFR
- Areas or operations where local regulations are relevant for a compliant drone flight

→ ***Aloft Geo supports both permanent and temporary advisories.***

Announcing Air Aware

Next-generation situational awareness for recreational drone pilots.

Available on Android, iOS, and the web at https://airaware.aloft.ai/

Air Aware Data Sets

Before you fly, Air Aware presents the most comprehensive set of authoritative data sets available for drone pilot safety and compliance:

Data sets include:

- FRIA and AMA sites
- Exclusive local takeoff/landing restrictions
- *Real-time* TFRs and NOTAMs
- **ALL** FAA-required data sets (B4UFLY and LAANC)

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Corporate UAS Policy

March 2024

SPEAKER BACKGROUND

BILL SWOPE, CP

Technical Leader, Survey/Geospatial
Richardson, TX

- 16 years of experience in photogrammetry and remote sensing
- Certified Photogrammetrist, No. R1604CP (2016), American Society for Photogrammetry and Remote Sensing (ASPRS)
- Former Chair, Technical Division Directors Council, ASPRS
- Former Director, Professional Practice Division, ASPRS
- Former President & Immediate Past President Gulf South Region, ASPRS
- TxDOT pre-certified Aerial Mapping (15.3.1)
- FDOT pre-qualified Photogrammetric Mapping Workgroup (8.3)
- Advisor for North Central Texas Aerial Robotics Initiative (made up of 10 North TX ISDs)
- 2019 Geospatial Professional of Year, Texas Society of Professional Surveyors (TSPS)

AGENDA

- What is a UAS Policy?
- Why is it important to have one?
- How do you create one?
- Q & A

Relates to sUAS, UAS, UAV, drones, etc.

WHAT IS A UAS POLICY?

- Formal set of guidelines and rules established by *an organization* to promote the safe, efficient, and lawful operation of small unmanned aerial systems
- Communicates YOUR requirements for operating UAS while remaining in compliance with multiple regulatory agencies
- Outline procedures, restrictions, and company best practices

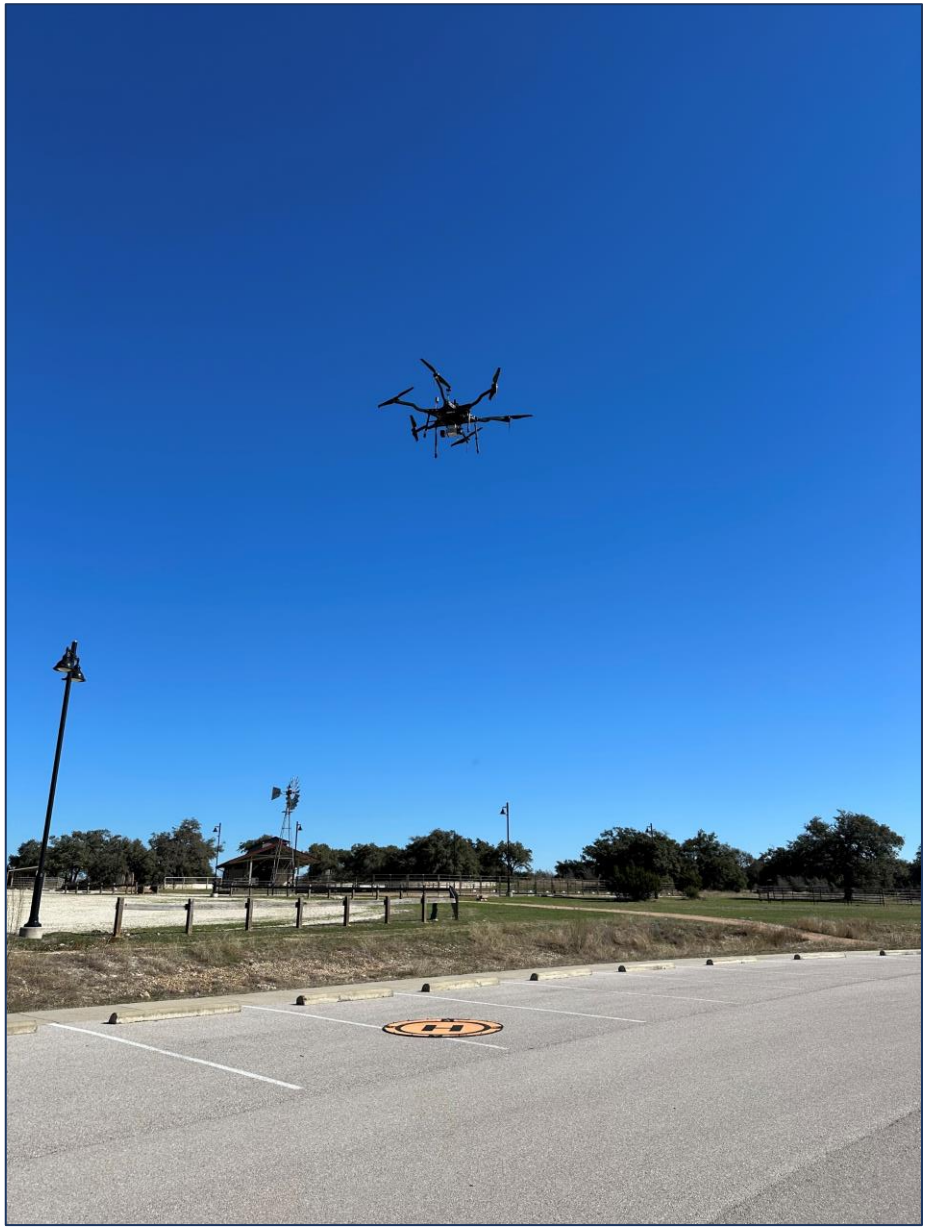
KEY COMPONENTS

- Operational Context
- Stakeholders and Roles
- Safety and Risk Management
- Legal and Regulatory Landscape
- Technology & Equipment
- Data Handling and Security
- Insurance/Liability
- Reporting and Documentation
- Communication and Staff Awareness

WHAT'S INSIDE

Your policy should provide…

- Clarity
- Transparency
- Accountability
- Promote safe and responsible drone use



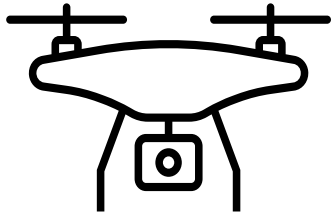
POLICY CREATION

- Understand your UAS needs
- Clearly define your *Purpose* or *Mission*
- Create your company's Key Components
- Research and review other policies

KEY COMPONENT QUESTIONS

- Operational Context
  - Geographical Scope; Frequency; Purpose
- Stakeholders and Roles
  - Internal/External; Define roles
  - Commercial vs. Recreational
- Safety and Risk Management
  - Emergency procedures; Risk assessment; Training & Certification

KEY COMPONENT QUESTIONS



- Legal and Regulatory Landscape
  - FAA regulations; state, county, local laws; privacy concerns
- Technology and Equipment
  - UAS specifications; payloads; maintenance & inspections
- Data Handling and Security
  - Storage and retention; access and control

KEY COMPONENT QUESTIONS

- Insurance and Liability
  - Coverages
- Reporting and Documentation
  - Incident reporting procedures; document trail
- Communication & Staff Awareness
  - Develop a communication plan early

UAS POLICY REVIEW

- Know FAA Part 107
- Learn State and County law
- Learn Municipal ordinances
- As of 2021, 18 states have enacted 25 bills addressing drone use
- Use a good template
- Establish a plan to stay up to date in all areas you operate drones

PLANNING & UPDATES

Plan for Change

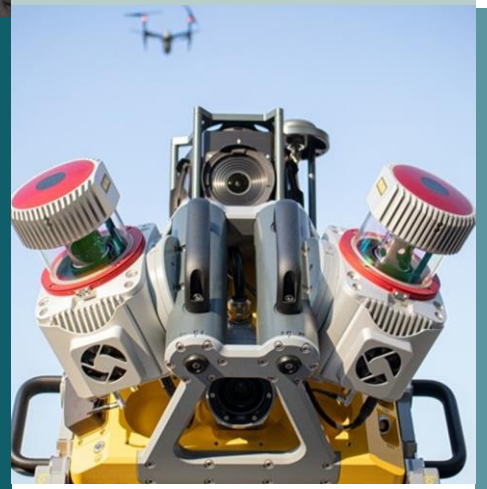
Discipline = Success

Build on experience

Patience is a virtue

HALFF SURVEY/GEOSPATIAL

QUESTIONS?



Bill Swope, CP
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halff

Federal Aviation Administration

FAA Drone Integration

UTM Development

March 2024

Who We Are

FAA Drone Integration

UAS Integration Office (AUS)

Mission Statement: To facilitate communication and collaboration amongst stakeholders to influence today's drone operational deployment for the safe evolution of an integrated airspace.

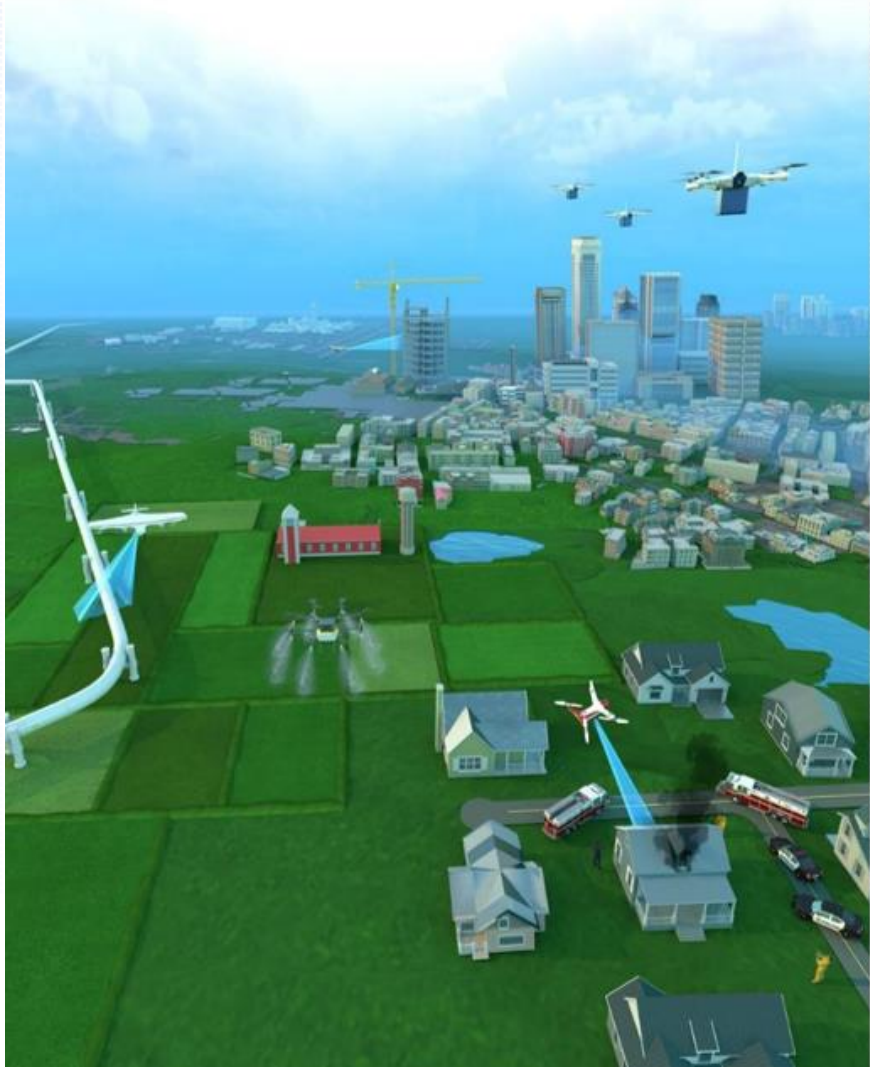
Vision Statement: A harmonized National Airspace System where emerging entrants enhance societal and economic benefits that enrich quality of life for the communities we serve.

Today's Briefing

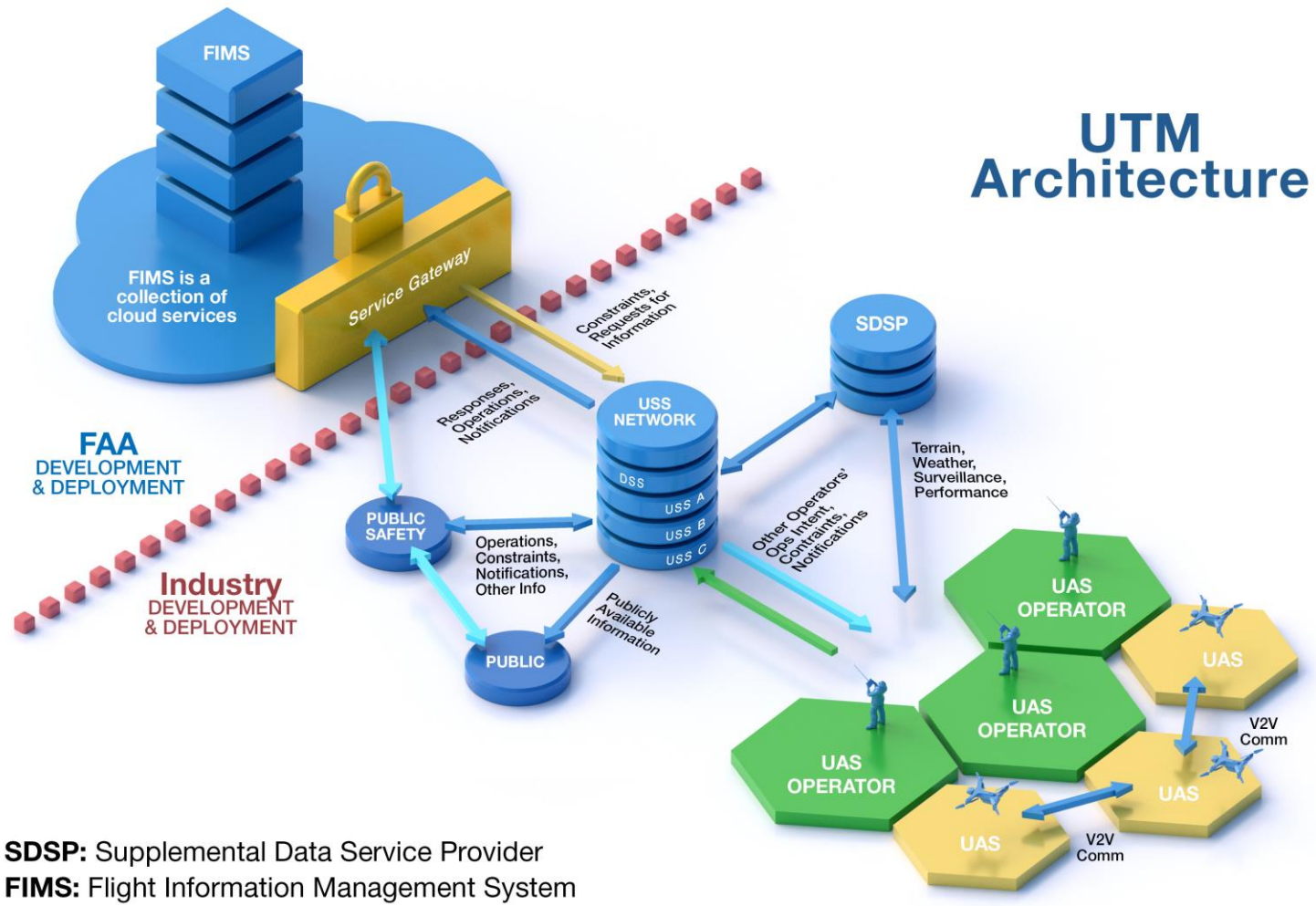
- UTM Definition
- UTM Architecture
- Near-Term Approval Process
- UTM Key Site
- Next Steps

UAS Traffic Management (UTM)

- Community-based, cooperative traffic management for drones below 400ft AGL
- Services that help drone operators mitigate risks and manage their flights
- FAA doesn’t build or run most UTM services – that’s the role of private industry, or possibly state/local/tribal governments
- FAA will regulate UTM services to ensure that they work correctly and support safe NAS operations

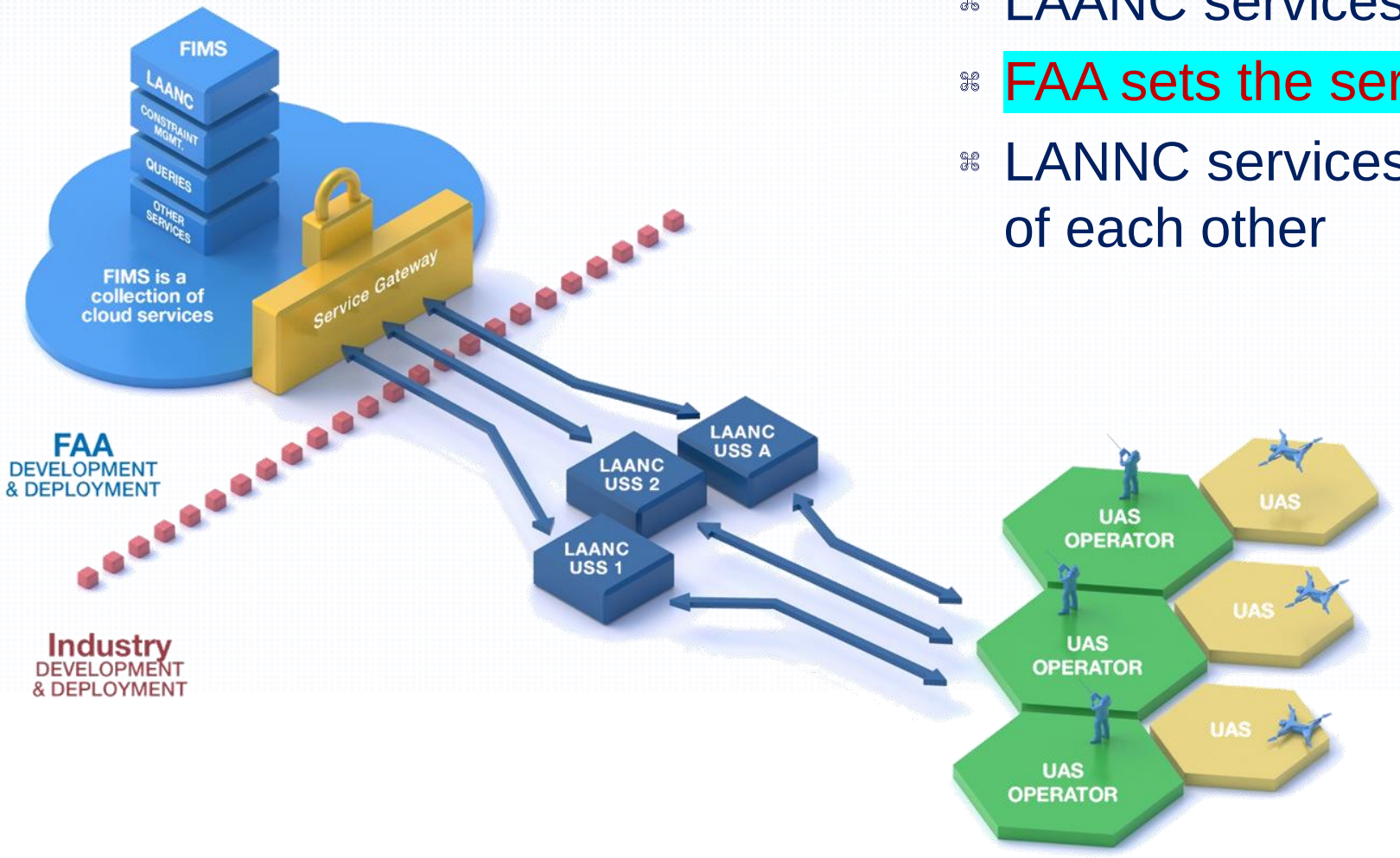


Envisioned



SDSP: Supplemental Data Service Provider
FIMS: Flight Information Management System
USS: UAS Service Supplier
DSS: Discovery and Synchronization Service

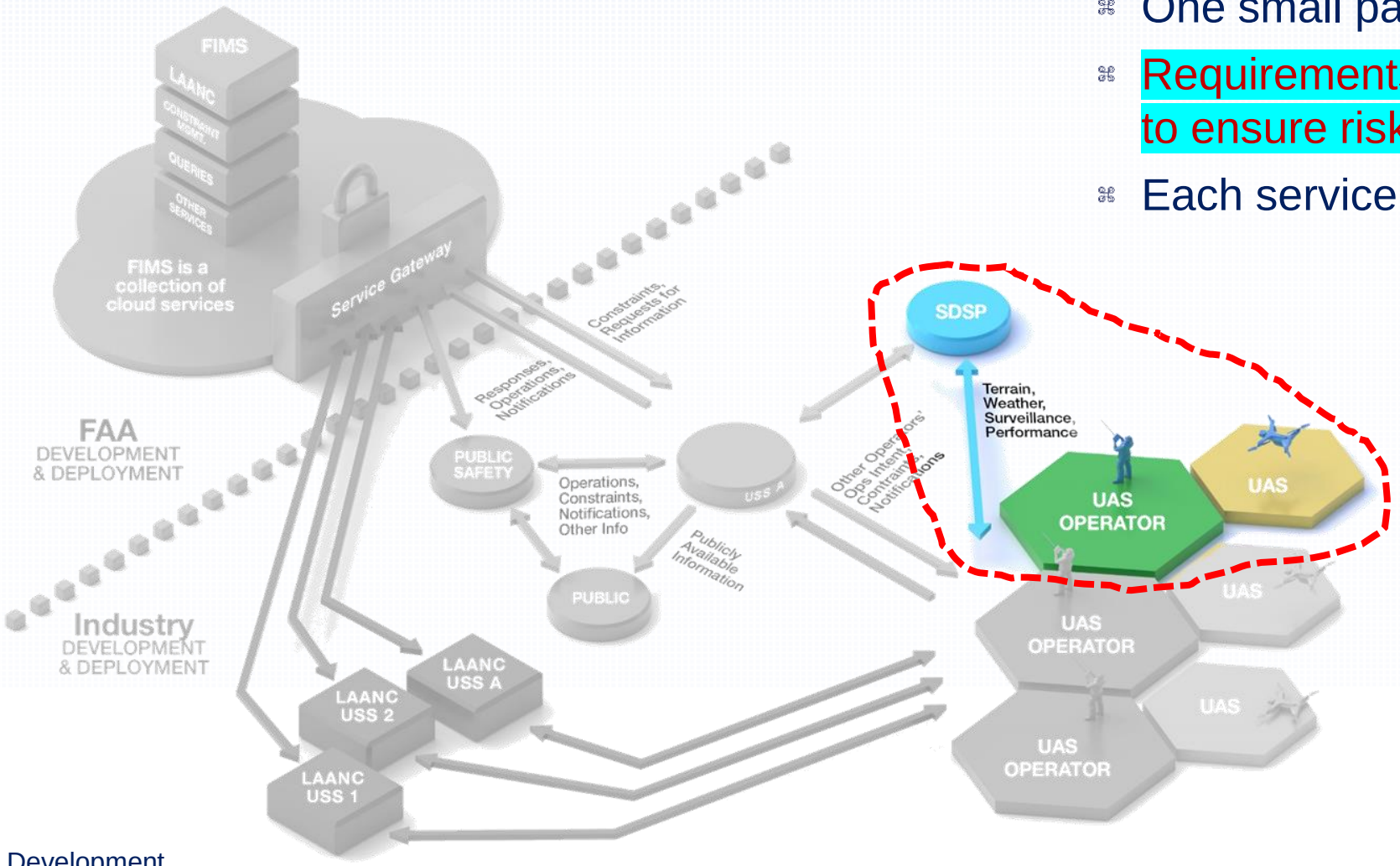
Existing Architecture



- LAANC services are industry built
- FAA sets the service requirement
- LANNC services are independent of each other

Near-Term Approval Process (NTAP)

- One small part of the ecosystem
- Requirements derived by each service to ensure risk mitigation
- Each service needs its own approval



Near-Term Approval Process (NTAP)

- FAA's response to Congress' mandate
  - Develop a process to permit, authorize, or allow the use of UTM services
  - Develop a review process for UTM services that ensures NAS safety and reduces UAS risk – prior to rulemaking
  - Expedite (third-party service supplier) approvals in low-risk areas
- Risk Mitigation evaluation of UTM 3PSP in low-risk areas utilizing existing FAA processes
- Inform Rulemaking

Near-Term Approval Process (NTAP)

FAA Drone Integration

Why?

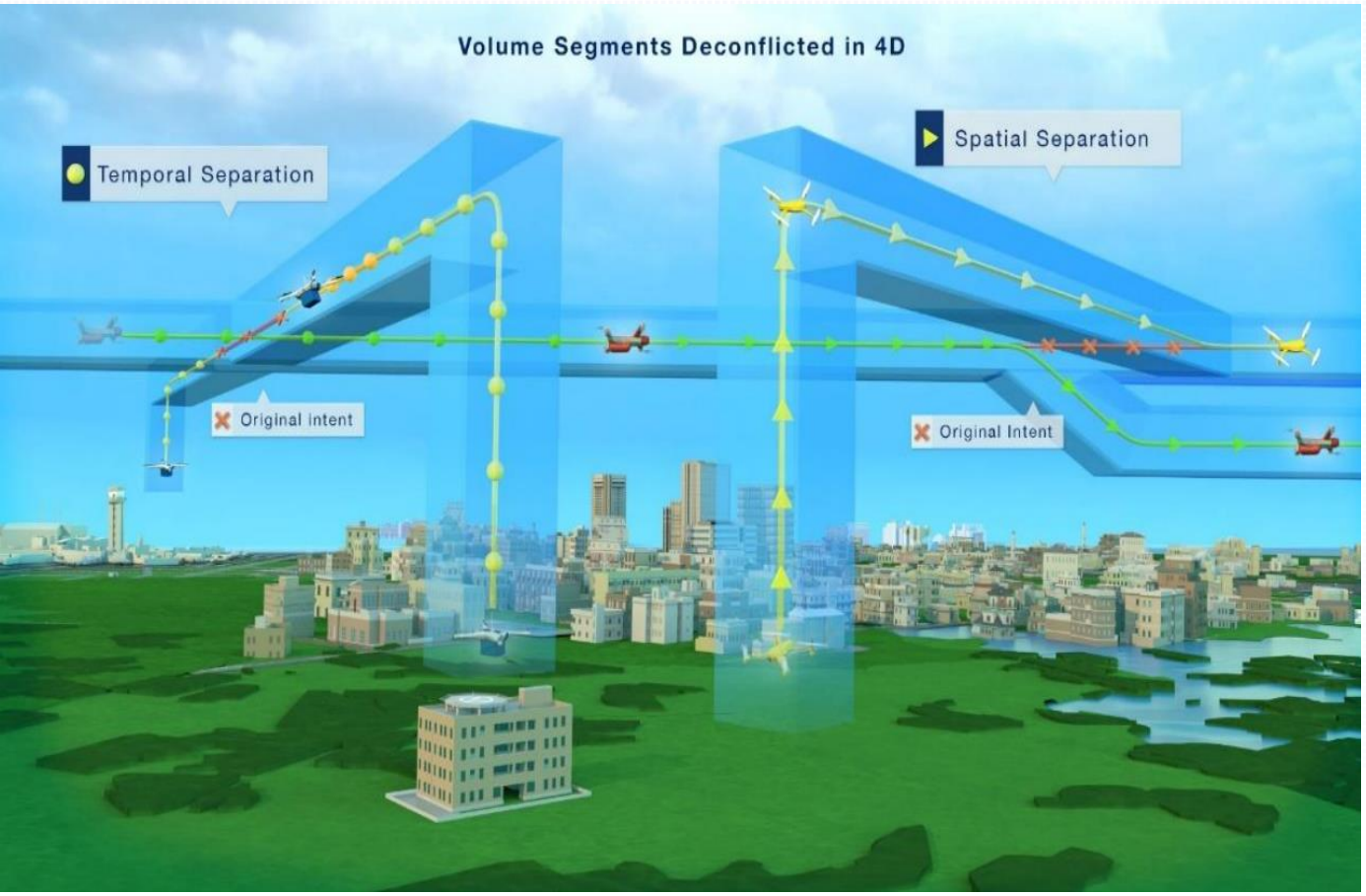
- Helps FAA refine the acceptance/approval process, including resource burden
- Informs future rulemaking by providing data on safety benefit of services used by drone operators

How?

- NTAP aims to approve services via exemptions sought by a “champion operator” paired with a service provider
- Service use must be tied to operational risk mitigation/safety benefit
- Evaluations conducted on a service-by-service basis

3PSP Near Term Approval Process (NTAP)
Approval mechanism defined
Validate FAA Business Rules
Near-term operations prior to rulemaking
One Service Provider and operator at a time
Low-risk areas and operations

Necessity for UTM Operational Evaluation



- Understanding UA-to-UA collision risk crucial for large-scale UAS ops.
- Builds on UFT & Part 135 approvals and the need for organic and ongoing non-scripted operations
- Develop guidance material to support implementation of the standards
- Validate network implementation and industry standards.
- Foster collaboration between FAA, NASA, service suppliers, industry and public operators
- Services provided by multiple USSs and used by multiple operators to carry out operations.
- Enable consistent BVLOS operations

UAS Traffic Management (UTM) Key-Site Operational Evaluation (OE)

FAA Drone Integration

Package delivery drones are planning to integrate in areas like North Texas, driving a need for UAS Traffic Management (UTM).

UTM is a community-based, cooperative ecosystem that is separate from, but complementary to, the FAA's Air Traffic Management (ATM) system.

UTM Key Site Operational Evaluation

- Drone operators in North Texas have agreed to coordinate operations through data sharing.
- Industry is deploying a network of services to share data via consensus standards.
- FAA is supporting industry validation of UTM services to mitigate drone-to-drone collision risk for overlapping operational areas
- Data collected is informing FAA policy decisions, particularly in BVLOS rulemaking and approval paths.
- Collaborative efforts involve FAA, NASA, local governments, service providers, and operators
- Operations are actively ongoing and expected to continue post-evaluation

UTM Pathway for Engagement

FAA Drone Integration

Low Altitude, Low risk 3PSP SDSP Service Providers

UTM Network USS Service Providers

Integrated UTM USS Strategic Conflict Detection and Aggregate Conformance Monitoring

UTM Third-Party Service Evaluation

First focus on:

1. SDSP Acceptance
2. Strategic deconfliction
3. Aggregate Conformance monitoring
4. USS NTAP Criteria Development

Then support develop policy for:

1. Controlled airspace access
2. Constraint management
3. Prioritization of operations
4. Tech stack (DSS, oAuth, test harness)

*Note: Many AAM 3PSP are engaging with UTM activities to understand potential future criteria expected under rulemaking activities

FAA Drone Integration

Questions

Please send UTM inquiries to:

AUS-UTM@faa.gov

Federal Aviation Administration

FAA Drone Integration

Remote ID, North Texas UAS Safety and Integration Task Force

March 26, 2024

Agenda

- End of Remote ID Enforcement Discretion: March 16, 2024
- Current RID Compliance Status
- Encouraging Remote ID Compliance
- FAA Continued Remote ID Education for Users
- We are all in this together (Aviation Safety Culture)
- Call to Action: North Texas UAS Safety and Integration Task Force Leverage Stakeholders and Encourage Compliance

End of Remote ID Enforcement Discretion: March 16, 2024

FAA Drone Integration

IMPORTANT!

Remote ID Compliance Date: September 16, 2023

Discretion was announced by FAA

End of Discretionary Enforcement: March 16, 2024

FAA will work to encourage compliance

Current RID Compliance Status

FAA Drone Integration

US and Territories UAS Fleet	Totals	Compliance Level
Total UAS Registered Aircraft*	**807,098**	**32.4%**
107 RID Compliance	**97,305**	**26.5%**
Standard RID drones	81,378	22.2%
RID Comp. w/ RID Module	15,927	4.3%
Rec Flyer Rid Compliance (Total) *	**163,890**	**37.8%**
Rec Flyer RID Compliance (Total Broadcasting)	63,890	14.7%
Standard RID drones	51,256	11.8%
RID Comp. w/ RID Module	12,634	2.9%
RecFlyer FRIA Factor*	100,000	23.30%

* RecFlyer FRIA Factor, +100,000 (Industry provided data on FRIA users)

BASED ON CURRENT FAADRONZONE AIRCRAFT REGISTRATION DATA | COMPLIANCE DATA REPORTED AS OF 15.MAR.2024

Encouraging Remote ID Compliance

- FAA Approved FRIAs – 2,152
  - FRIA locations are now available on UDDS Mapping tool.
- Comms and Outreach
  - Reaching non-traditional Aviation users
- Flight Standards Approach to UAS Enforcement
  - Compliance Program
  - Collaborative: Working Together and Information Sharing

FAA Continued Remote ID Education for Users

- TRUST – 686,086 Certificates Issued to Rec Flyers
- UAS – Collegiate Training Initiative (CTI)
  - 136 schools; 41 Minority Serving Institutes
- UAS Support Center
- Drone Safety Day
- FAA Drone Symposium

We are all in this together (Aviation Safety Culture)

FAA Drone Integration

- Safety is our North Star
- We share and learn together
- Sharing data increases safety
- Aviation Safety Reporting Program (ASRP) for UAS
  - captures confidential reports, analyzes the resulting aviation safety data, and disseminates vital information to the aviation community

Call to Action:
North Texas UAS Safety and Integration Task Force Leverage to Encourage Compliance

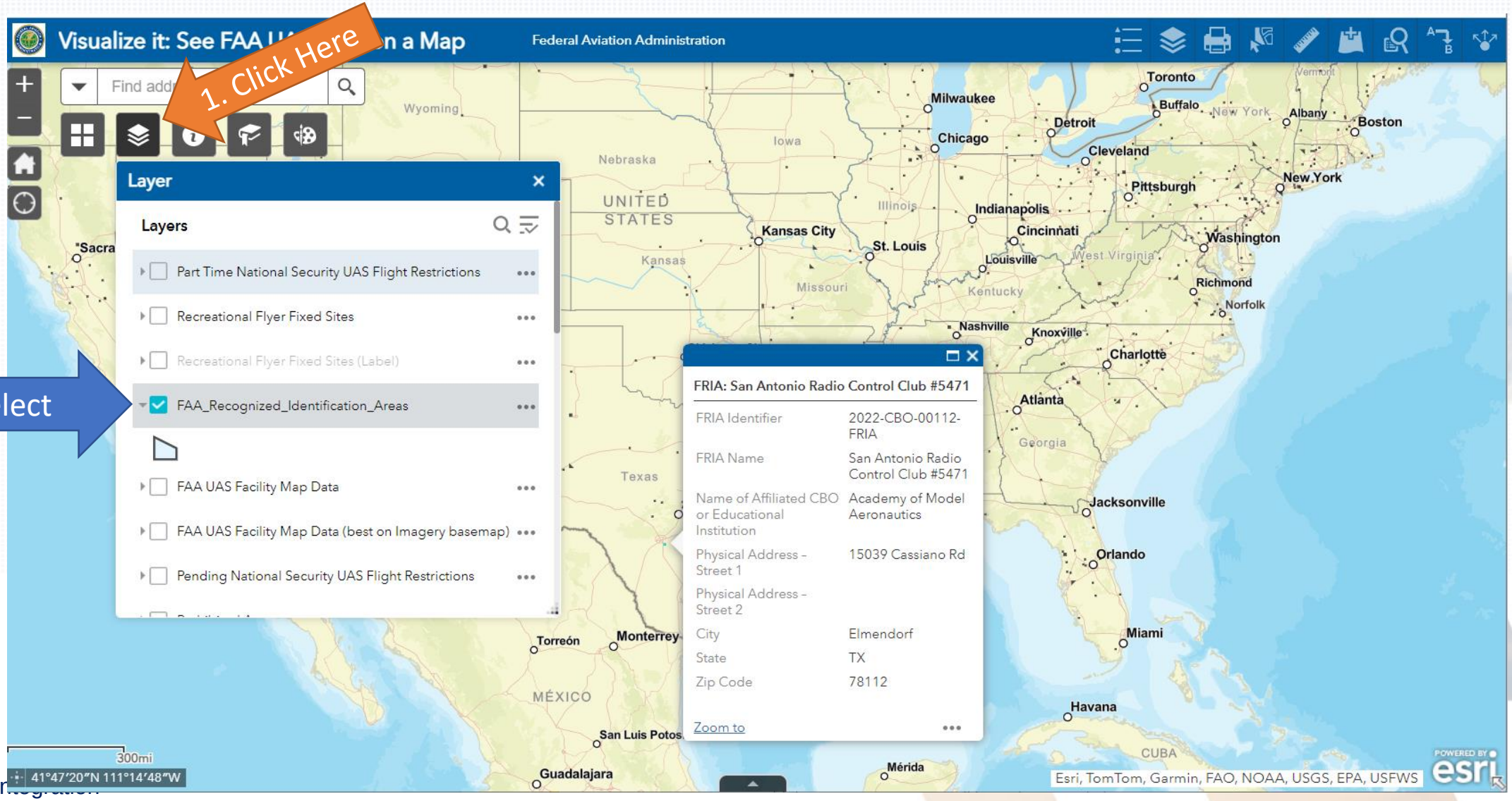
We need the help of industry leaders – you!

- Please share information and encourage compliance with your stakeholders so we can reach a broader audience
- Together our message will be amplified
- North Texas UAS Safety and Integration Task Force plays a pivotal role in conveying the importance of compliance to the broader non-traditional aviation public.
- UAS community will be reached by “Outside the Box” thinking.

FAA Drone Integration

QUESTIONS?

MAPPING OF FAA APPROVED FRIA SITES



Remote ID Overview

FAA Drone Integration

What is Remote ID?

Remote ID provides awareness of a drone's identity, location, altitude, and control station or take-off location during flight.

Which drones must comply with Remote ID?

Any drone that is FAA-registered or requires FAA registration operating in U.S. airspace must comply with the Remote Identification (ID) final rule (14 CFR Part 89).

How to comply with Remote ID ?

There are three ways to comply with Remote ID:

- Operate a standard Remote ID equipped drone; or
- Attach a Remote ID broadcast module to a drone not equipped with standard Remote ID; or
- Fly in an FAA-Recognized Identification Area (FRIA).

Why we need to comply with Remote ID?

Remote ID supports more complex drone operations such as routine package delivery, operations over people and beyond visual line of sight.