

North Central Texas
Council of Governments

over



Overair
24,200
240-24
2018

overair 

Bringing a world of possibilities closer to home.

overair 

Urban Air Mobility has existed for decades

Helicopter utilization is severely constrained by **cost, noise, safety and pollution.**



Meet Butterfly. Safe, quiet, fast, affordable on-demand transportation



Unlocking \$150m of military VTOL development to enable real-world EVTOL operations at scale with today's batteries.



Pilot + 5 pax + bags
Unmatched payload and revenue potential



100+ mile
Range



200 mph
Cruise speed



Zero Emissions
Fully electric



<40 dBA
Acoustic emissions



Economic Efficiency
High-tempo design + real world conditions



Safety Critical Design
No single-point failures

The largest, most flexible cabin configurations

Customizable for operator needs

On-demand rideshare commuter

Group charter

Private/VIP

Recreation





Hanwha

Overair

Overair's Optimum Speed Propulsion System

The core of Butterfly's unique performance advantages

Committed to four key customer-centric themes:

- Safety → High Power and Control Margins + Redundant Design
- Noise → Low C_T/σ and tip speeds
- Utilization → Robust design for high dispatch rate
- Operator Economics → High payload capacity

Shaped Tips



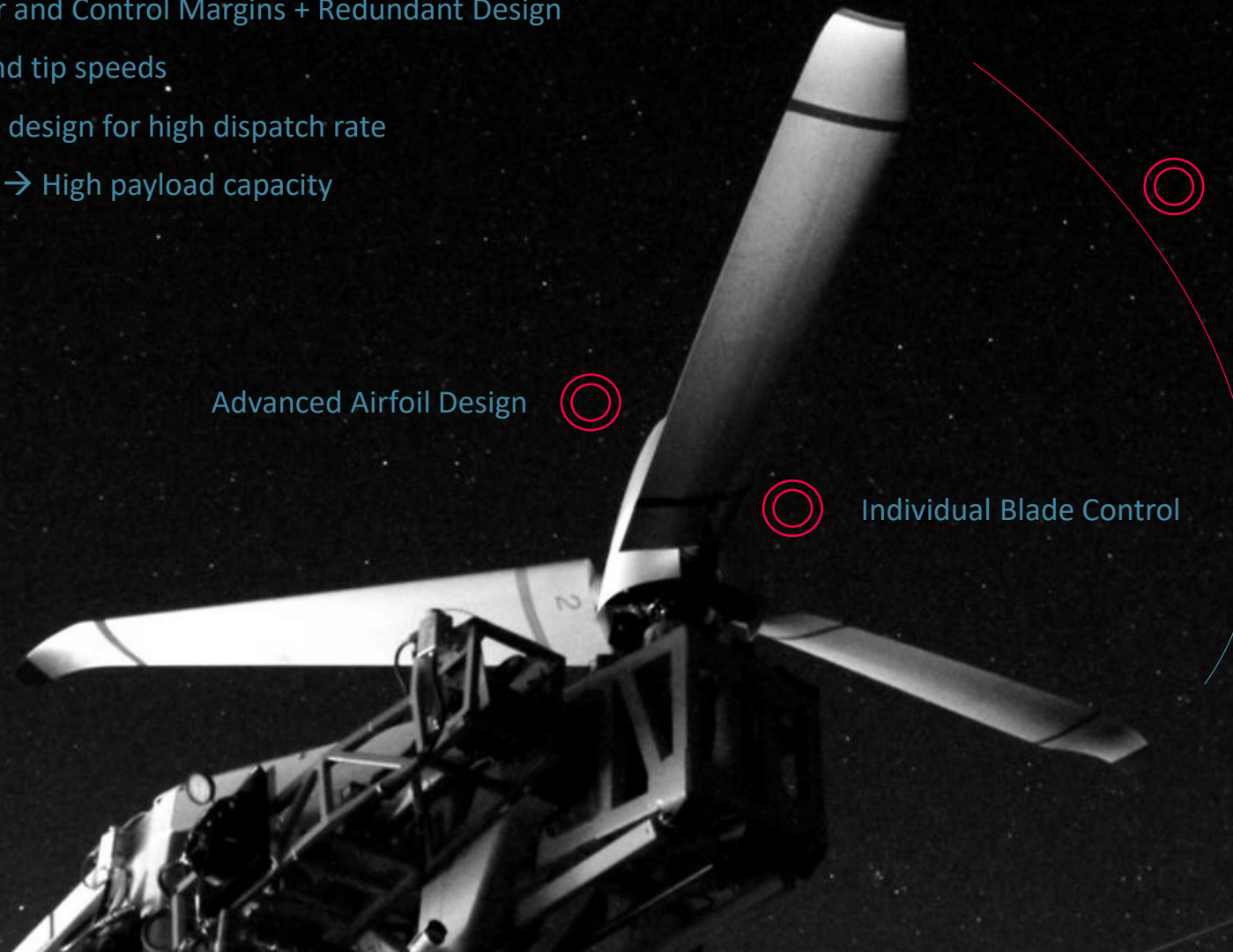
Advanced Airfoil Design



Individual Blade Control



20-Foot Diameter Propeller



Fastest path to certification

Certification-Driven Design

Design guided by regulation.

+

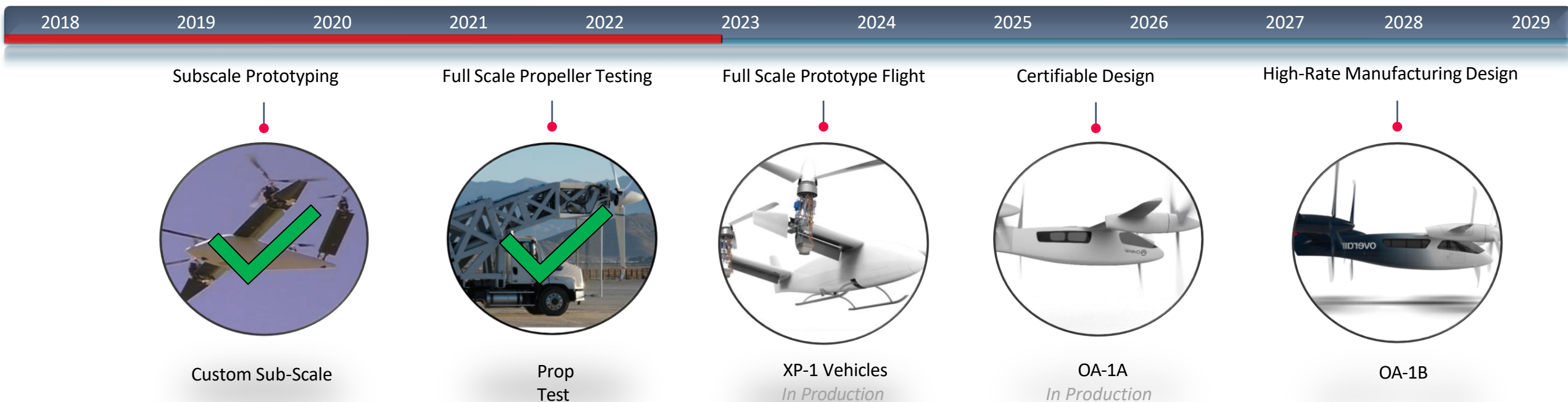
Agile Development

Technical risk paid down early in the program



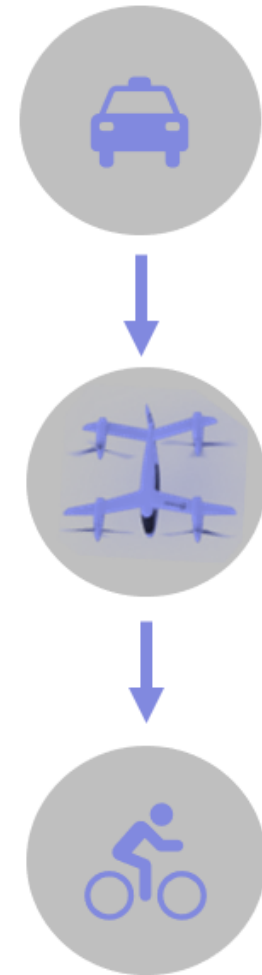
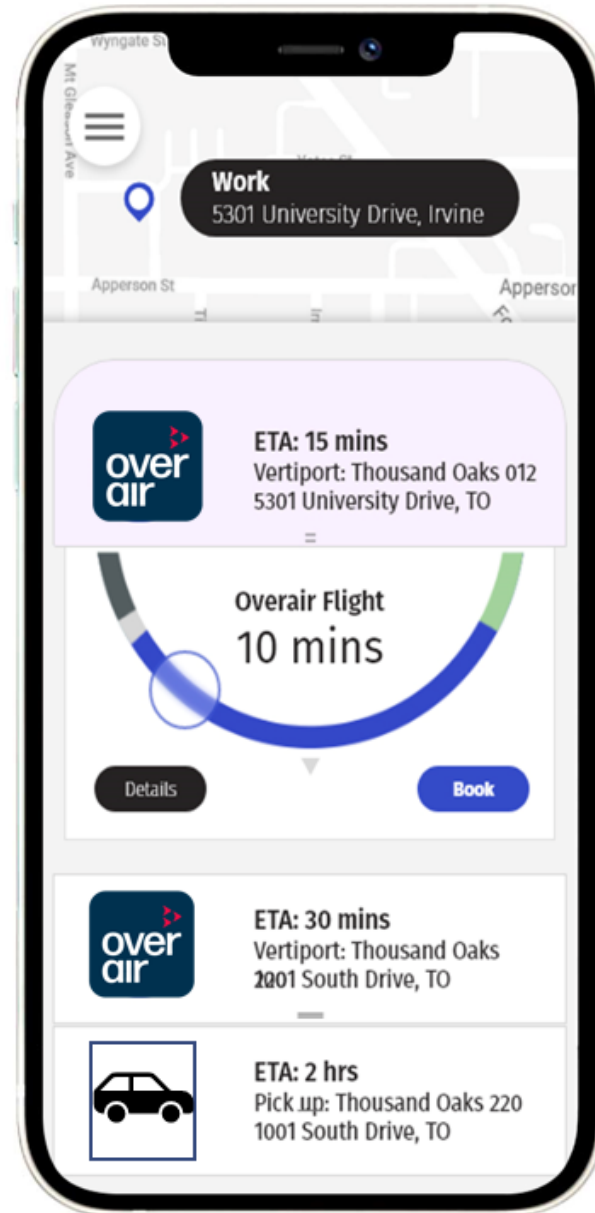
A unique approach that puts early emphasis on propulsion development

Butterfly development milestones



Software Technology Enables Intermodal Journeys

- Seamless booking and trip experience is required
- Reduce friction that comes from intermodal booking processes



Community Benefits of Advanced Urban Air Mobility



Reduced need for vehicle traffic within urban core



Reduced emergency response times



Increased range of access to the urban core



Additional transportation demand management options



Urgency-trip pairing with commuter transit



Workforce development and economic opportunities



Stronger connection of rural areas to urban opportunities



Increased utility of GA airport infrastructure



Additional disaster response capabilities



Increased electrification for lower in situ emissions



Elimination of transportation deserts

Community Air Mobility Initiative (CAMI) commissioned a survey of DOT's



Noise

Ensuring noise pollution is minimized, spread out, and measured



Equity

Reducing the impact from legacy decisions



Safety

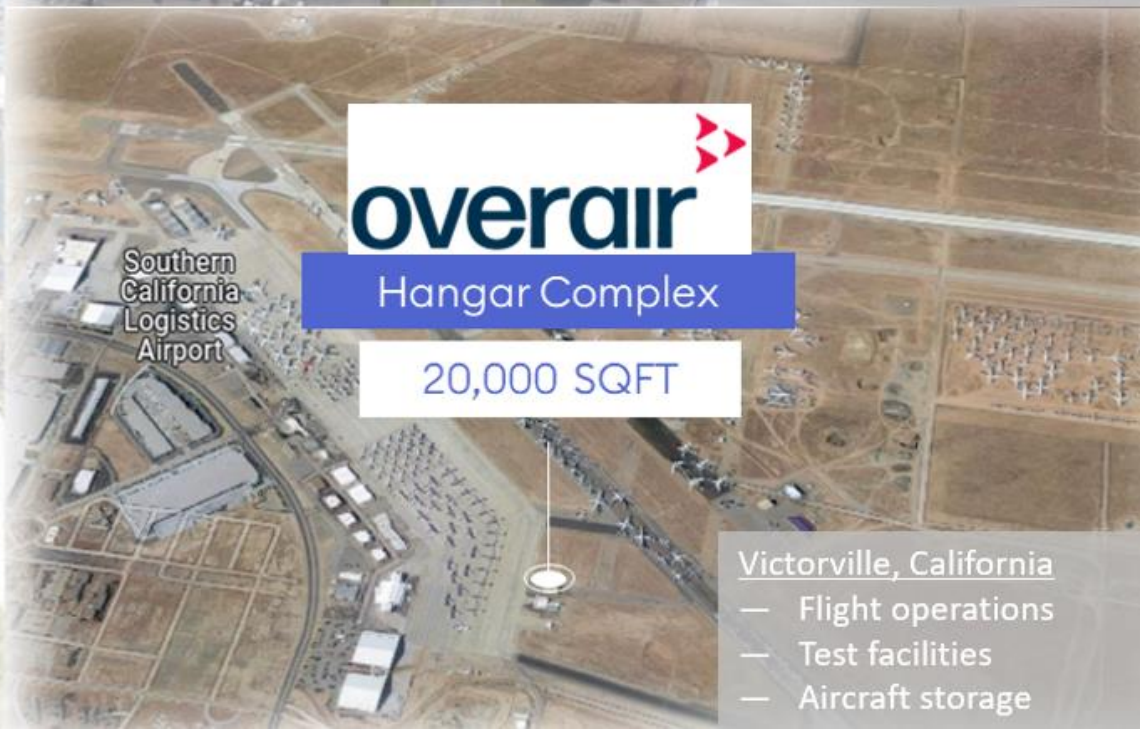
Need to as safe or safer than current commercial airplanes 10^{-9}

Airspace

- Initial operations should be in currently defined airspace areas, utilizing existing air traffic services.
 - No need to segregate piloted eVTOL aircraft
- We anticipate operating around 1500-2500' AGL, depending on ATC needs and airspace restrictions.
- Hundreds of eVTOL aircraft flooding the skies?? No... there will be a gradual introduction of AAM into the National Airspace System.



Established facilities support commercialization



overair

Building 1

100,000 SQFT

overair

Building 2

100,000 SQFT

- Santa Ana, California
- Headquarters
 - Engineering
 - Low-rate production

overair

Hangar Complex

20,000 SQFT

Southern California Logistics Airport

- Victorville, California
- Flight operations
 - Test facilities
 - Aircraft storage

In-house design



Advanced in-House Composites



Preeminent technical talent – 155 employees and counting





over



Overair
OALP
2018-01
N2018

Thank you.
jcriezis@overair.com



ASPRS GULF SOUTH REGION

SPEAKER INFORMATION



Bill Swope, CP
Halff Associates, Inc.
Gulf South Region
Immediate Past President

- 16 years of experience in photogrammetry and remote sensing
- Certified Photogrammetrist, No. R1604CP (2016), American Society of Photogrammetry and Remote Sensing (ASPRS)
- Former Chair, Technical Division Directors Council, ASPRS
- Former Director, Professional Practice Division, ASPRS
- Immediate President, Gulf South Region, ASPRS
- TxDOT Pre-certified Aerial Mapping (15.3.1)
- Member, NCTCOG North Texas Unmanned Aircraft Systems (UAS) Safety and Integration Task Force
- 2019 Geospatial Professional of Year, Texas Society of Professional Surveyors (TSPS)

ASPRS

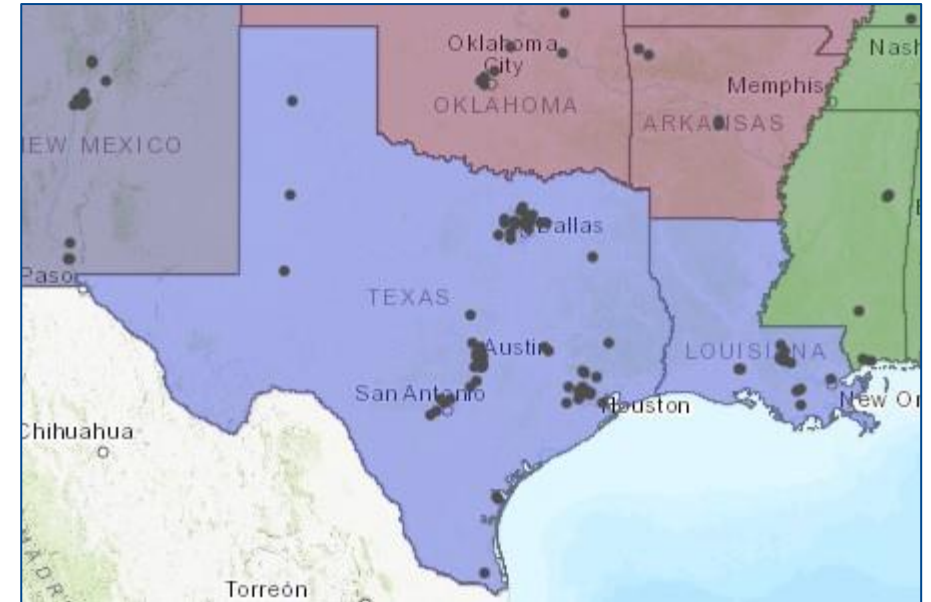
Mission: To advance knowledge and improve understanding of mapping sciences to promote the responsible applications of photogrammetry, remote sensing, geographic information systems (GIS) and supporting technologies.

ASPRS Timeline

- Founded in 1934
- Mission: To advance knowledge and improve understanding of mapping sciences to promote the responsible applications of photogrammetry, remote sensing, geographic information systems (GIS) and supporting technologies.
- 1975 Approves Certification Program for Certified Photogrammetrists
- 1991 Adds Mapping Scientist Certification Program adding Remote Sensing and GIS/LIS categories
- 1997 Written examination added
- 2013 Receive accreditation from the Council of Engineering and Scientific Research Specialty Board (CESB)
- Now offer certification in 5 categories for both **PROFESSIONALS** and **TECHNOLOGISTS**
 - Photogrammetry, Remote Sensing, GIS, Lidar, and UAS

GULF SOUTH REGION

- Born out of Mid-South Region re-alignment
- Comprised of Louisiana and Texas
- Chartered in 2021
- 115 Members as of January 2023
- 43 Certified Members as of January 2023
- Advance knowledge in imaging and geospatial information in the region



GULF SOUTH REGION

WHAT DO WE DO?

- Monthly Member Meetings
- Monthly Board Meetings
- Annual Business Meeting & Geospatial Conference
 - June 15 & 16
- Collaborate with other professional organizations
 - Nicholls St. University & National Science Foundation
- Working on Student Chapters (K-12 & Higher Ed)
- Create Geospatial Standards & Training Content
- Present information at conferences



GULF SOUTH REGION

WHAT DO WE OFFER?

- **Professional Networking Opportunities**
- **Professional Certifications**
- **Access to professional development and educational content**
- **Career Growth Opportunities**
- **Discounts on ASPRS Certification, Conferences, and ASPRS Publications**

QUESTIONS?

Bill Swope, CP

bswope@halff.com

214-217-6484



NORTH TEXAS UAS SAFETY AND
INTEGRATION TASK FORCE

JANUARY 31, 2023



AUVSI LONE STAR CHAPTER

JARED JANACEK - PRESIDENT

JARED@AUVSILS.ORG



AUVSI Lone Star chapter

Advocate



AUVSI Lone Star chapter advocates on behalf of unmanned industry professionals in Texas.

Educate



Our association prides itself on educating industry, government and the public about the use of unmanned

Connect



Networking, Events Workshops & Webinars are our bread and butter.



AUVSI Lone Star expands the understanding, acceptance, and use of unmanned technology across the state of Texas by serving as a resource that promotes the exchange of information and networking between the legislative, industrial, academic, operator, and user communities within the state.



**DRONE
PREPARED™**

DRONE PREPARED

DRONE PREPARED IS A MULTI-STATE INITIATIVE TO HELP LAWMAKERS ENSURE THAT THEIR STATE OR LOCALITY IS READY FOR THE BENEFITS THAT THE FUTURE OF UNCREWED AND AUTONOMOUS FLIGHT WILL BRING TO THEIR COMMUNITIES.



AUVSI - Lone Star Chapter



WHY DRONE PREPARED?

COMMERCIAL DRONE OPERATIONS ARE ALREADY PROVIDING ESSENTIAL SERVICES TO THE AMERICAN PUBLIC. WITHOUT REGULATORY HURDLES, COMMERCIAL DRONE OPERATIONS HOLD IMMENSE PROMISE TO SIMULTANEOUSLY PROVIDE WORKFORCE, ECONOMIC, AND ENVIRONMENTAL BENEFITS TO THE COMMUNITIES WHERE THEY OPERATE.



Efficiency



Economic
Investments



Job Creation



Workplace
Safety



Environment





DRONE POLICYMAKING



Look for Opportunities to Promote Drone Use for Public Benefit

- Ensure laws/programs promoting tech advancement apply to UAS
- Ensure that relevant incentive programs apply to UAS
- Participate in pilot programs (e.g. FAA BEYOND)
- Incorporate UAS into government activities/contracts
- **DON'T** — Miss the opportunity to bring the benefits of UAS to your community



Leave Air Navigation and Aviation Safety to the FAA

- Adopt laws that acknowledge federal authority and the right to fly UAS
- Adopt preemptive laws that preclude inconsistent local UAS regulation
- Carefully consider policies on operations from public spaces
- Harmonize terminology with federal law
- **DON'T** — Regulate air navigation or aviation safety



Leverage Existing Law

- Adopt "extension of self" laws
- Consider law expressly applying the doctrine of aerial trespass
- Clarify application of privacy laws
- **DON'T** — Adopt unnecessary drone-specific laws and requirements



Use Caution in Adopting Drone-Specific Laws

- Promote technological neutrality
- Use clear, consistent language
- Harmonize terminology with federal law
- **DON'T** — Place disproportionate burdens on the UAS industry





PROPOSED SAMPLE LEGISLATION

- **Federal Authority over Airspace**
- **Individual & Commercial Rights**
- **Violations of Existing Laws**
- **Political Subdivisions**





TEXAS BILLS

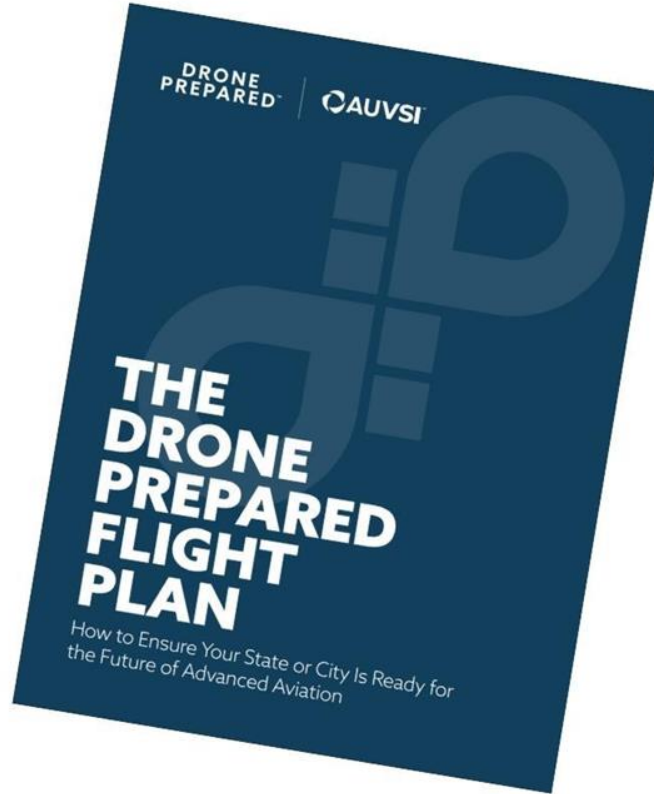
TX	HB 560	Orders a study on the mitigation of transportation security threats, including UAS with the capability of inflicting harm on transportation targets.	Tracking; no stance taken	Prefiled
TX	HB 880	Prohibits the use of UAS in "designated areas" of the capitol complex instead of the whole complex	Tracking; no stance taken	Prefiled
TX	HB 1302	Allows the Railroad Commission of Texas to use UA for inspection of an oil or gas site or facility, a pipeline facility, and a surface mining site.	Support	Introduced
TX	HB 1516 / SB 423	Allows Texas military forces to use UAS to capture images.	Tracking; no stance taken	Introduced





MORE INFO

www.DronePrepared.org



AUVSI - Lone Star Chapter

Saturday Agenda

| February 18

Saturday, attendees will have the opportunity to attend as many as four classroom style talks about specific topics.

Getting Started



FPV Drones

Film

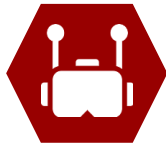


Mapping

Drones in Real Estate



Thermography



Sunday In-Field Agenda | February 19th

Film



Hands on in the field instruction covering everything from ops, settings, movement, and post production.

Photography



Real Estate is more than meets the eye see how Ken Dono leverages drones to rise above the competition.

Thermography



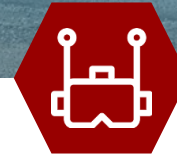
In depth real world drone thermography class including sensor calibration, applications, and data management.

Mapping



Get instructed by one of the busiest instructors in the mapping realm gaining invaluable knowledge in mapping, gcps, safety, and workflows.

Inspection



Get in the pilot seat and be prepared to see utility and industrial assets in a whole new way. Critical to keeping our world running, inspections are a growing sector.

TEXAS DRONE WORKSHOP



Two Days with Real Drone Pros
Sharing Their Insight and
Experience

Feb 18-19 Houston, TX

Register

TXDRONEWORKSHOP.COM

Sponsored By:



**KEN
DONO**
Real Estate



**RUSSELL
WHITE**
Business



**VIC
MOSS**
Photography



**NATE
ERNST**
Inspection



**JARED
JANJAGER**
Mapping



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Sponsored By:



**NORTH TEXAS UAS SAFETY AND
INTEGRATION TASK FORCE**

JANUARY 31, 2023



**THANKS FOR
YOUR TIME**

JARED JANACEK - PRESIDENT

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ARISE

Aerial Robotics in STEM Education



DRONES IN THE CLASSROOM

AERIAL ROBOTICS IN STEM EDUCATION (ARISE)

Organization of teachers, for
teachers who want to use
drones in the classroom



Build a community of Educators

- Conferences
- Competitions
- Training
- Curriculum
- Website and Social Media



Drones in the Classroom Conference





Drones in the Classroom Conference

March 4, 2023

4th Conference

Southern Methodist University



Topics:

FAA Regulations for Educators, Curriculum for Educators, Drone Careers and Workforce Trends, Drone Competitions, Drone Platforms and Programming



Drones in the Classroom Conference

- Participants:
 - Teachers and other Educators
 - Sponsors interested in talking with teachers or educators
 - Presenters on any of the conference topics

- Registration will be available in a few days





ARISE Drone Design Challenge

- High School Engineering Design Competition
- Team sport for teams of up to 20
- Stock drone of Open Source parts
- Game pieces are easy to find and set-up
- Rules do not change, but missions change annually
- Follows from HS curriculum as culminating event





ARISE Drone Design Challenge

- April 15 Competition at Dallas International School at UT Dallas
- Working with AUVSI Student Uncrewed Aerial Systems Competition (SUAS)—College Level Drone Design Competition





Drone Curriculum

- Available in Fall 2023
- Career and Technology Education (CTE)
 - FAA The Recreational UAS Safety Test (TRUST) Certification
 - FAA Part 107 Certification
 - Radio Technicians License
- Engineering Capstone Course





High School

Capstone Engineering Course

- Full year
 - Fall: Content heavy, basics of drone flight
 - Drone safety, Drone Flight, aerodynamics, forces and motion
 - Certifications in TRUST, Part 107, Technician License
 - Spring: Skills and application heavy
 - Students specialize: Mechanical, electrical, chassis, attachments, marketing, strategy
 - All learn project skills: project management, teamwork, budgeting, leadership, design process





Educator Professional Development

- Available this summer
 - Week training
 - Build a drone
 - Configure the drone and flight controller
 - Programming using Q-ground Control
 - Training on the Curriculum and game





ARISE
Aerial Robotics in STEM Education

ARISEdrones.org

Legislative Update

Nicholas Allen

Update from NCTCOG

Presented by Ernest Huffman

NCTCOG UAS Awareness Pilot Program RFP

- In **year one** of the Pilot, NCTCOG staff will work with each platform provider to get training on platform use for NCTCOG and local government staff. Staff will work with each platform provider and interested municipalities to develop a workflow process that automates the flight data inputs.
- In **year two** of the Pilot, NCTCOG will continue the activities of year one but also work on a process to share the data across all platforms.

NCTCOG UAS Awareness Pilot Program RFP (cont.)

A browser-based visualization and monitoring of airspace above jurisdictional territory

Provides a cooperative aerial traffic feed including crewed ADS-B and registered UAS flights

Ability to create and publish localized advisories for governmental, commercial and recreational operators

Provide expedited manual authorization approval or rejection workflow for UAS operator flight plans

Provide a platform for communication between connected UAS operators

Ability to merge information into platform from competing technology solutions and other regional sensor data (i.e. CASA and other weather data)

Complement NCTCOG's or our region's? existing UAS safety messaging

Assist in keeping the community updated on rules, regulations, and potential hazards.

Allow NCTCOG and regional municipalities to publish public advisories, local rules, regulations directly to the pilot community

Provide a solution that will help us communicate and connect with the community by embedding a live operation map into our northtexasuas.com webpage.

Provide training (workshops) for municipalities and NCTCOG staff

Other Updates

- NASA Annex #2 Kickoff meeting – March 8th
- New Integration Working Group Leader – Adrian Doko
 - Frias
 - Awareness RFP
- Upcoming Conferences
 - NSF/UCF Advanced Air Mobility Conference – Orlando 3/10
 - Ohio Air Mobility Symposium – 3/29 to 3/30
- Drone donations for community organizations

Federal Update- What passed in the 117th Congress?

- S. 516 (Advanced Air Mobility Coordination and Leadership Act)
- Directs USDOT to establish an AAM interagency working group to plan and coordinate efforts related to the safety, infrastructure, physical security, cybersecurity, and federal investment necessary to bolster the AAM ecosystem, particularly passenger-carrying aircraft, in the United States.
- Definition: Advanced Air Mobility refers to an air transportation system that moves people and cargo between places using new aircraft designs that are integrated into existing airspace operations as well as operated in local, regional, intraregional, rural, and urban environments.
- Additionally, the Government Accountability Office must study and report to Congress on the interests, roles, and responsibilities of federal, state, local, and tribal governments affected by AAM aircraft and operations.

Federal Update- What passed in the 117th Congress?

- National Defense Authorization Act 2023- Develops strategies to develop and implement field capabilities to counter threats by unmanned aerial system swarms.
- H.R. 4346- The Administrator shall— (1) research and UAS communications, for integrating unmanned aircraft systems into the national airspace system; (2) leverage the partnership NASA has with industry focused on the advancement of technologies for future air traffic management systems for UAS; and (3) continue to leverage the research and testing portfolio of NASA to inform the integration of UAS into the national airspace system, consistent with public safety and national security objectives.

Federal Update-What has been proposed in the 118th Congress?

- H.R. 34- This resolution thanks operators of unmanned aircraft systems working in the area of public safety in the United States and promotes the profession by encouraging the public safety community and public officials to recognize National Unmanned Aircraft System Operator Public Safety Day.
- H.R. 84 (Buzz Off Act)- Prohibits federal law enforcement from using UAVs to intentionally conduct surveillance of a specifically targeted U.S. citizen or the property of such an individual, with certain exceptions. Specifically, this prohibition shall not apply if (1) the federal law enforcement agency in question first obtains a search warrant, (2) the Department of Homeland Security certifies that such surveillance is necessary to counter a high risk of a terrorist attack by a specified person or organization, or (3) the citizen gives written consent.

Texas Update=- What has been proposed in the 88th Texas Legislature

- HB 1302- Relating to inspections and examinations by the Railroad Commission of Texas of certain sites and facilities conducted using unmanned aircraft.
- HB 1516/ SB 423- Adds Texas Military Forces to list of entities allowed to capture images using UAS.