This presentation consists of general capabilities information that does not contain controlled technical data as defined within the International Traffic in Arms (ITAR) Part 120.10 or Export Administration Regulations.
**Who We Are?**

*We are driven by Passion, not Profits…*

Founded in August 2016, TEXAS UASWERX is a Dallas, Texas based DCMA 8210Compliant, 501c(6) Not for Profit Aeronautical Engineering and Support Services Corporation. The firm possesses significant capability in the areas eVTOL, UAM Autonomous Aerial Systems Operations and Training. The firm has two missions:

1. *Translate proven military UAS Technology and best practices to the civilian sector*
2. *“Democratize Aviation” by making it relevant and accessible to everyday Americans.*

We also support, educate and promote the standardized and safe integration and use of Unmanned and Autonomous aircraft into the National Airspace System (NAS).

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**“The World's First Unmanned Aerial Operation”**

*And Noah sent forth a dove from him, to see if the waters were abated from off the face of the ground* (Bible, Genesis VIII:8)

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We are a veteran led organization, at the forefront of transferring Military UAS Technology and best practice to the Commercial Sector.
Federal Credentials

DUNS: 61-6242686
CAGE: 4RGZ8

Federal Certifications:

- DCMA 8210 Compliant DoD Contractor
- Federally Recognized Minority Serving Institution
- VA Verified Service-Disabled Veteran Owed Small Business (SDVOSB)
- US Department of Transportation (DOT) Certified Disadvantaged Business Enterprise (DBE)
- ITARs License Holder
- SAMS: Active Registration (Exp 2/21)
- Vetbiz: Active Registration (Exp 7/22)

PSC: D302, D316, R408, R423, U012
NAICS: 488111, 488190, 541611, 541618, 541690, 611512, 611420, 611430, 611699
Our Capabilities
A Not for Profit Corporation
TEXAS UASWERX is supporting the development, testing and certification of eVTOL, autonomous and pilot optional aircraft for the military and private sector.
Our Capabilities

We are much more than just a “Place to Fly”. TEXAS UASWERX is not just a cheerleader for the UAM Sector. The brings considerable technical and programmatic capability.

Our professional services portfolio include:

- eVTOL and UAM Flight Test Proving Ground
- Test Pilots and Training
- Safety planning and risk management
- Systems Engineering
- Configuration Management
- Artificial Intelligence (AI)
- Applied Research

We provide total Life Cycle Support
Empire Test Pilot School

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UAM

Electrification + SVO

TEXAS UASWERX Proprietary
UAM is the next evolution of the Aerospace Industry.
Urban Aerial Mobility will “Democratize” Aviation and make it a relevant and accessible part of Americans every day lives.
Urban Air Mobility (UAM) Vision
Revolutionize mobility around metropolitan areas by enabling a safe, efficient, convenient, affordable, and accessible air transportation system for passengers and cargo.
TEXAS UASWERX has totally visualized the CONOPS for an initial UAM Infrastructure.
# UAM Community Landscape - Passenger

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<tr>
<td><strong>Government:</strong> FAA/AIR, DoD</td>
<td><strong>Government:</strong> FAA/AIR/AFS</td>
<td><strong>Government:</strong> FAA/AIR/AFO</td>
<td>FAA/AIR, DoD, DHS</td>
<td><strong>Local/National</strong></td>
<td><strong>National/International</strong></td>
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<tr>
<td><strong>Aircraft Developers</strong></td>
<td><strong>Integrating Aircraft &amp; Aircraft Operations</strong></td>
<td><strong>Airspace Design</strong></td>
<td><strong>Traditional ATM Suppliers</strong></td>
<td><strong>Influencers</strong></td>
<td><strong>Decision Makers</strong></td>
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<tr>
<td>Aircraft: Textron</td>
<td>Autodyne</td>
<td>AG6</td>
<td>Adobe/Nokia</td>
<td><strong>Chambers of Commerce</strong></td>
<td><strong>Mayors/City Councils/Boards of Supervisors</strong></td>
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<tr>
<td>Aircraft: Embraer</td>
<td>Boeing/Airbus/Jeppesen</td>
<td>AIR</td>
<td>Aerographer</td>
<td><strong>Eurocontrol (Europe)</strong></td>
<td><strong>Tribal Councils</strong></td>
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<td>Aircraft: Mitsubishi</td>
<td>Boeing/Airbus/Jeppesen</td>
<td>Embraer</td>
<td>European ATM</td>
<td><strong>Departments of Transportation</strong></td>
<td><strong>National Transportation Safety Board</strong></td>
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<tr>
<td>Aircraft: Airbus/Boeing</td>
<td>Boeing/Airbus/Jeppesen</td>
<td>Embraer</td>
<td>European ATM</td>
<td><strong>National League of Cities</strong></td>
<td><strong>US Congress</strong></td>
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<tr>
<td>Aircraft: Mitsubishi</td>
<td>Boeing/Airbus/Jeppesen</td>
<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td><strong>DOT/FAA, AFS, ATO</strong></td>
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<td>Aircraft: Boeing/Airbus/Jeppesen</td>
<td>Boeing/Airbus/Jeppesen</td>
<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td>**DoD (public/).”</td>
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<tr>
<td>Aircraft: Mitsubishi</td>
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<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td><strong>FCC (commercial spectrum)</strong></td>
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<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td><strong>DHS</strong></td>
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<td><strong>DOE/FBI</strong></td>
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<td>Embraer</td>
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<td><strong>New York City</strong></td>
<td><strong>Standards</strong></td>
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<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td><strong>American Society for Testing and Materials (ASTM)</strong></td>
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<tr>
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<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td><strong>Radio Technical Commission for Aeronautics (RTCA)</strong></td>
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<tr>
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<td>Boeing/Airbus/Jeppesen</td>
<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td><strong>Society of Automotive Engineers (SAE)</strong></td>
</tr>
<tr>
<td>Aircraft: Boeing/Airbus/Jeppesen</td>
<td>Boeing/Airbus/Jeppesen</td>
<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td><strong>International Civil Aviation Organization (ICAO)</strong></td>
</tr>
<tr>
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<td>Boeing/Airbus/Jeppesen</td>
<td>Embraer</td>
<td>European ATM</td>
<td><strong>New York City</strong></td>
<td><strong>National/International</strong></td>
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</tbody>
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**Subsystems:** Flight Automation & Propulsion

- **Aircraft:** Boeing, Airbus, Embraer, Mitsubishi
- **Manufacturing:** Honda, Nissan, Siemens, Toyota

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**Influencers (Domestic):**
- American Association of Airport Executives (AAAE)
- American Institute of Aeronautics and Astronautics (AIAA)
- American Insurance Association
- Aircraft Owners and Pilots Association (AOPA)
- Association of Air Medical Services
- Commercial Drone Alliance
- Coalition of UAS Professionals
- Environmental Groups
- Experimental Aircraft Association (EAA)
- NASA
- National Academies-Transportation Research Board
- National States and Standards of Cities
- National Transportation Safety Board (NTSB)
- Vertical Flight Society (AHS)

**Influencers (Global):**
- Airports Council International (ACI)
- Association for Unmanned Vehicle Industry (AUVSI)
- Civil Air Navigation Services (CANSO) - ANSP providers
- Environmental (Greenpeace, WWF)
- General Aviation Manufacturers Association (GAMA)
- International Air Transport Association (IATA)
- International Telecommunication Union (ITU)
- Joint Authorities for Rulemaking on Unmanned Systems (JARUS)
We are Reimagining how Aircraft are Operated

DECONSTRUCTED PILOT

- Planning & Decision Making
- Systems Management
- Basic Airmanship
- Takeoff & Landings
- Terminal Procedures
- Navigation
- Communication
- Detect & Avoid
- Emergency Procedures

- Boxes Represent FAA Pilot Training Areas
- Green Represents Current State of Technology (Average Pilot Capabilities is Half Full)

- Courtesy of GAMA
eVTOL Configurations and Certification

**Powered Lift**

**Hybrid Lift**
Simplified Vehicle Operations (SVO)
SVO can help save lives!
Man Machine Integration will be essential
A Path From Here to There

**SVO1 - Target: Current Pilots**
- Unified controls
- Airplane like in cruise
- Simplified hover controls
  - Stable in all axes
  - Envelope protections
- Typical glass cockpits
- No manual instr. Appr.
- Automated preflight
  - Weight and balance
  - Weather
  - Routing
  - Energy reserves
  - Filing flight plans
  - Aircraft performance
- Ground collision avoidance
- Level button

**SVO2 - Target: Non-Pilots**
- EZ-Fly VTOL controls
- Identical cruise & hover contr.
- Integrated contr., display & nav.
- Fully automated flight planning
- Automated ATC comm.
- All flights IFR
- Automatic ground avoidance
- Automatic traffic avoidance
- Automatic takeoff and landing
- Automatic failure protection
- Significantly less pilot training

**SVO3 - Target: Current Passenger**
- Point and click control
- Pass. designates destination
- Fully autonomous operation
- Fully automated flight planning
- ATC or operator can change path
- **No pilot license required**
- Details outside of current scope
Former Home of Army Aviation
The TEXAS UASWERX Mineral Wells UAM Proving Ground and Flight Test Facility offers the following features and benefits:

- Dedicated 5G Test Network
- Centrally Located and highly accessible
- 1300sq mile Semi-Segregated Airspace
- Extensive Aerospace Industry Infrastructure
- Ability to conduct full spectrum Autonomous Operations
- Migration path to conduct testing and certification within an actual Urban Environment
- Year Round Flying Weather
The facility offers over 1300 sq miles and access to over 9 separate improved and unimproved fly too locations allowing for multipoint flight operations.
Mineral Wells Municipal Airport (KMWL)
A Manned Unmanned Concurrent Operation Airport

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TEXAS UASWERX Proprietary
RMS Aerospace in collaboration with UT Dallas, operates the only Boundary Layer Subsonic Wind Tunnel specifically for UAM/eVTOL concept testing

Aircraft Performance, Stability & Control
- Load Intensities and Distributions
- Steady and Unsteady Pressures
- Power Spectral Density

Pressure, Loads and Air Data System Calibration
- Load Intensities and Distributions
- Steady and Unsteady Pressures
- Power Spectral Density
We are implementing two direct UAM test corridors into the DFW Metroplex.

The DFW Region offers the most immediate geographical location to develop, test and implement an actual UAM Infrastructure.

With the goal of developing a standardized UAM framework that may be then deployed nationally.
For situational awareness and deconfliction, the facility has partnered with L-3 Harris and implemented its world class Nextgen enabled *Symphony MobileVue* platform. Symphony, in combination with ADSB and airspace user collaboration, provides 360° Airspace Surveillance within the operating environment.
Summary

Once fully implemented, UAM and eVTOL will transform the way we live. It will provide a viable option to address many societal problems like traffic congestion, environment and public safety.

We have the Legacy Aerospace Pedigree, the Integrative Programmatic Capability and the Passion to provide Unity of Effort in this emerging sector.

We Are Ready to Continue Serving!

Driven by Passion, not Profits...

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We are creating the next evolution of the Aerospace Industry
JOIN US!

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Email: russell@texasuaswerx.org

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