Innovation & Uncrewed Systems (UXS)

UXS Program Management
Bringing Drone Wisdom to Others

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Executive Director, Uncrewed Systems (UXS), Cherokee Nation
Chairman, Federal UXS Tribal Interest Group

• Largest Native American tribe, with almost 400,000 tribal citizens
• Tahlequah, Oklahoma, capital city of Cherokee Nation
• 14-county jurisdictional service area
• Sovereign, tripartite government
• We are technology tribe that leads in innovation.
• Cherokee Nation Principal Chief Chuck Hoskin Jr., Leadership Award for Public Service from the International Economic Development Council (2021)
• Just as Cherokee, Will Rogers, took to the sky nearly 100 years ago, we are looking to emerging technologies to keep us moving forward.
Serving a Higher Purpose

Cherokee Nation Business

- The Cherokee Nation, the largest Native American tribe in the U.S. with almost 400,000 tribal citizens
- Cherokee Nation Businesses – the economic engine of the Cherokee Nation
- Cherokee Nation & its businesses employ more than 11,600 people & has an annual economic impact of $2.16B on northeast Oklahoma
- 63% of profits reinvested in businesses:
  - Promote self-sufficiency of Cherokee Nation citizens through job opportunities
  - Create jobs in a variety of industries
  - Build capacity from within the tribe by training & educating Cherokee people
  - Partner with industry leaders to learn from the best & train Cherokee Nation citizens to do the same
- 37% of profits support programs & services
  - Education
  - Health Care
  - Housing Programs
Our Workforce

- 3,600+ Dedicated Employees
- 20+ Countries
- 93.5% Domestic
- 6.5% International
- 85% Employees Working at Customer Sites
- 50 States
- 2 U.S. Territories
- 20% Employees Are Veterans or Active Duty Reservists
- 11% Commercial
- 42% Civil
- 47% Defense
- $8+ Billion in Contract Wins Since 2012

*Type of contracts supported
Our Vision is to be a leader in UXS...

Native Americans have always been connected to nature, the environment and surroundings.

With drones and the IoT we will be more connected then ever at sea, in the air and on land the possibilities are endless. We will be there!
“Whole of Government Approach” to UAS and Underserved Community Involvement

Cherokee Nation’s UAS – Government and Beyond

- Decades of sophisticated operations experience across the government space from CONOPS to OPS.
- Utilizing experience to serve our Nation and Country. *Been there from the beginning!*
- Numerous DOT, FAA, NASA, DHS, DOD, BIA and others support ensuring comprehensive technical solutions.
- Accelerating integration into the National Airspace including the Key Infrastructure required.

Underserved Community Involvement

- Federal Tribal Interest Group for Uncrewed Systems
- The BIA Tribal Climate Resilience Program website is: [https://www.bia.gov/bia/ots/tribal-climate-resilience-program](https://www.bia.gov/bia/ots/tribal-climate-resilience-program)
- The *Executive Order On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government* specifically action items to address. (See Section 10)
• Once size does not fit all when it comes to the level safety systems complexity required.
• Higher risk activities will require more complex safety systems and certification.
• The three levels of certification are directly proportional to the level of safety system requirements.
NASA / FAA AAM Ecosystem Community Integration Working Group

Aircraft
Airspace
Operator
Infrastructure
Acceptance
NASA / FAA AAM Vertiport Construction Standards

Our Inter-Agency engagement includes:

- DOD, DHS and other government agencies within the NCR
- Supporting operations in the DC Flight Restricted Zone
- Global Support including UAS Hangars overseas
- Numerous standards working groups

Our experience includes:

- We built the Emergency Landing Zone at St. Elizabeth’s
- We support the Pentagon Heliport
- We built the Emergency Landing Zone for the US Embassy residence facility in Juba South Sudan
- We have worked in, on and around airfields at Tinker AFB, Andrews AFB, Pentagon, St. Elizabeth’s, and Alliance Airfield
- We built international UAS and Vertiport facilities
## Cherokee Federal Capabilities

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<th>INTELLIGENCE</th>
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<td>Human Resources</td>
<td>Cost Estimating</td>
<td>Epidemiology</td>
<td>Planning &amp; Programming</td>
<td>Depot Level Maintenance</td>
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<tr>
<td>Intelligence, Surveillance, and Reconnaissance</td>
<td>Risk Management Framework</td>
<td>Administrative</td>
<td>Cost &amp; Schedule Management</td>
<td>Bio Surveillance</td>
<td>Sustainability</td>
<td>Systems Integration</td>
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<td>Battlespace Awareness</td>
<td>Mobile App Development</td>
<td>Supply Chain Management</td>
<td>Root Cause Analysis</td>
<td>Psychological / Trauma</td>
<td>Physical Security</td>
<td>Field Team/Modifications</td>
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<td>Identity Intelligence</td>
<td>Cybersecurity</td>
<td>Financial Management</td>
<td>Base Realignment and Closure Activities</td>
<td>Military Medical Health Readiness</td>
<td>Technical Reachback</td>
<td>Life Cycle Management</td>
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Cherokee Federal Programs
Core Capabilities Evolving with UXS

Engineering, Scientific, Research & Development & Technical Support
- Design and Construction Support
- Facilities Engineering and Asset Management
- Planning, Programming, Budgeting and Execution
- Environmental Remediation and Compliance
- Scientific and Technical Subject Matter Expertise
- Research and Development (R&D) Support and Staffing
- Systems Engineering
- Weapon System RDT&E
- Global Health Threat Surveillance
- Patient Safety Policy Implementation
- Weather Analysis and Modeling
- Oceanography & Mapping
- Geospatial Data Acquisition & GIS Services
- Geospatial Modeling and Application Development
- Autonomy
- Interoperability

Intelligence & Analysis Support
- Intelligence, Surveillance, and Reconnaissance (ISR)
- Information Operations
- Analysis and Reporting
- Battlespace Awareness
- Identity Intelligence
- TENCAP Technical Assistance
- Counter-Narcotics and Global Threats

Uncrewed Systems (UXS) Support
- Program Development, Strategies & Roadmaps
- Proof of Concept Coordination
- System engineering – analysis of alternatives
- Test & Evaluation
- Data Management & Analysis (Cloud, ML/AI)
- Facilitating FAA Air & Battle Space Approvals
- Field-Based Operations & Maintenance
- Transitioning to “Fully Operational Capability”
- Policy, Regulations and Compliance
- Cyber, Security and Counter-UXS

Strategic Operations and Data Management
- Program and Project Management
- Configuration and Change Management
- Logistics and Maintenance Management
- Business Reengineering
- Business and Transaction Support
- Warehouse and Logistics Support
- Software Modernization and Maintenance
- Data Life Cycle Management
- IT Infrastructure Upgrades
- Physical Security Systems
- Systems Administration
- Network Management
- Data Center Services
- Enterprise Architecture
- Information Systems Security and Cybersecurity
- Artificial Intelligence & Machine Learning
- Clouding & Clouding on the Edge
- Advanced Data Analytics

FORWARD-FOCUSED MARKET CAPABILITIES
Unmanned Systems (UXS) supporting the Digital Enterprise

**Capabilities**

- ISR
  - Data Management & Analytics
  - Interfaces & Standards
- Environmental Intelligence & Climatology
- GIS & Survey (+Maritime)
- Emergency Response & Disaster Relief

**Key Enablers**

- Data Optimization and Distribution
  - Data Management & Analytics
  - Networks & IT
  - Infrastructure & C4
- Interfaces & Standards
  - Facilities & Sustainment
  - Program, Policy, Training & Operations

**Integrate, Test, Assess and Manage**

- Core Technologies
  - Cyber & Physical Security
  - Systems & Integration
  - Communications
  - Cloud Architecture & Processing
  - Mission ML / AI
  - Power, Propulsion & Endurance
- Positioning & Timing
  - Sense & Decide
  - Performance & Reliability

**Build, Buy or Lease**

- UXS Platforms
  - Air
  - Sea
  - Land
  - Whole of Government

- Stalker – USMC
- Puma – USCG
- Zephyr - USN
- GlobalHawk – NOAA
- Latitude - NOAA
- Coyote – USN NOAA
- Altavian – USDA
- Juniper – USDA
- Triton - USCG
- Tiger Shark – NOAA
- Puma – NOAA USCG
- ScanEagle – NOAA

- MK18 UUV family of systems
- MQ-8 Fire Scout UAS
- RQ-21 Blackjack UAS
- MQ-4 Triton UAS

-Cherokee FEDERAL
Welcome to the Drone Age: https://cherokee-federal.com/news


CNSP continues to expand Triton capabilities for DHS: https://cherokee-federal.com/industry-insights/cnsp-continues-to-expand-triton-capabilities-after-reaching-major-project-milestones-for-dhs-project


**Capability Content in Development**

- Cloud
- Artificial Intelligence and Machine Learning
- Emergency Response and Disaster Management
Parting Gifts & Getting Started

Membership in Uncrewed Systems Federal Tribal Interest Group

Big Data Expert in the “Drone Age.” Take a look: www.uxswisdom.com

Sophisticated UXS Operations: https://www.youtube.com/watch?v=M2WjYkyaJL8

Expertise in protecting the C6 – Cyber & Counter-UXS

AUVSI Membership - Tribal Discount