AFCEC GIO'S Operational Support Team for Small Unmanned Aerial Systems (sUAS) capabilities

JOINT BASE SAN ANTONIO-LACKLAND, Texas (AFNS) – An Enterprise framework for acquiring, and standardizing processes enabling safe and effective employment of Small Unmanned Aerial Systems (sUAS) with optical and thermal infrared cameras is being developed by the Air Force Civil Engineer Center (AFCEC) Geospatial Integration Office's (GIO) sUAS Operations Support Team. The team continues to assist AF Special Operations Command (AFSOC), the AF lead Major Command (MAJCOM) for sUAS, delivering documentation and processes for remote sensing data collection and applications. For Civil Engineer (CE) Mission Essential tasks this includes but is not limited to infrastructure upgrades, and facility improvements; real property acquisition, management, and disposition; endangered species and cultural resource protection; and disaster preparedness, response and recovery of installation built and natural infrastructure.

"This is just the beginning," said Lt. Col. Ruben Choi, Deputy, Requirements Identification & Development Division (AFCEC/CPR). "These are cross-functional mission capabilities that can become a part of our operations immediately with the right coordination. Over the next three years, the team will establish and sustain sUAS aircraft remote sensing training protocols for AF Geospatial Information System (GIS) sUAS operators, sUAS mission essential plan templates, and operational risk management workflows able to serve as a pilot program for other organization's ortho-imagery collection efforts. We are learning every step of the way, and are taking advantage of opportunities to build collaborative partnerships with operational communities, who are the ultimate Combat Support benefactors of Enterprise ortho-imagery and Light Detecting and Ranging (LiDAR) products provided by sUAS, aerial and satellite platforms."

AFCEC's GIO sUAS Operations Support Team's operational support and aviation endeavors will assist those needing help processing and exploiting collected data. Although coordinating aviation resources is a relatively new experience for the AFCEC GIO, coordinating with airfield managers is not, but learning continues.

"After going through the AFSOC/A3OU Commercial Off-the-Shelf Systems (COTS) sUAS process, we learned more about airmen training requirements, aircraft-specific training, mission-specific METL training requirements, and Air Traffic Control (ATC) airspace authorizations to help us navigate that component," said Roger Clarke, AF GeoBase Program Capability Lead. "Unfortunately, there are not a lot of official training resources for COTS sUAS out there, let alone the secure sUAS government editions that we are using. Getting an Installation Commander-approved Concept of Employment (CONEMP) in place, a green light from Cyber Security and Radio Frequency Assignment management, and building Unit Initial Training from three AFSOC/A3OU approved drone manufacturers make it possible for us to have safe, efficient, and successful aerial remote sensing projects. Special thanks go to AFCEC's Col. Dean Hartman, Col. Eric Fajardo, and Ms. Teresa Elhabr, and AFSOC/A3OU's Mr. Kurt Donaldson and Mr. Kevin Kennedy for helping this initiative take flight."

Effective policy, procedures and equipment provide the framework for trained and certified experts to effectively bring these innovative technologies to bear.

"It is extremely helpful that the GIO has five Group 1 sUAS pilots that are FAA certified," said Dave Streed, Senior Support Lead, AFCEC GIO. "Prior to supporting the AF, many of the Geospatial Analysts ran airborne operations for civil engineering, architectural, and surveying firms. We are excited about working with sUAS in relatively low risk situations, which will yield comprehensive data for effective analytical products supporting built and natural infrastructure life-cycle management, Infrastructure Investment Strategy (I2S), Installation of the Future (IotF) and Force Protection activities."

Future CE deployment of sUAS capabilities will provide agile capabilities complimenting data collected under an Enterprise Installations Imagery and LiDAR contract. Together data collected by these means assists improving

survey ground control networks improving accuracy for mapping and analytics reinforcing data driven decisions by AFCEC, MAJCOMs, and Installation Commanders.

The sUAS Operations Support Team continues to engage and coordinate sUAS operations and training initiatives with stakeholders including AFCEC/CXAE, AFMC 78 OSS/OSA, AFSOC 1 SOCES/1 SOW/CCI, AFMC NMUSAF/MUP, AFMC 812 CES/CEF and ANG.

"These aircraft have potential to be another great tool in the toolbox for many Air Force Combat Support operations," said José Alfonsín, AFCEC GIO sUAS Operations Support Capabilities Coordinator, "As a geospatial and cyber security professional, Part 107 certified, I understand the importance of collaboration in a standing-up sustainable programs. Building a sUAS program will be a powerful new tool for CE, and the AF enterprise."

Integrating incredible sUAS COTS technologies and processes by Geospatial Engineers possessing strong backgrounds in geographic information, systems programming, and disruptive technology development is a recipe for success sought by AF innovation initiatives, and operational requirements across the Service. ***When Location Matters- GeoBase!***

For more information on AF GeoBase sUAS support efforts and related geospatial engineering capabilities, email **geobasesupport@di2e.net**. To stay current on the geospatial innovation discussion, join and follow the USAF GeoBase Program on milSuite (**https://www.milsuite.mil/book/groups/usaf-geobase**).

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