

LOCKHEED MARTIN DEMONSTRATES DRONE AIR TRAFFIC CONTROL USING UAVS TO FIGHT FIRES

News / Manufacturer



Lockheed Martin has demonstrated how drone air traffic control can work by getting several unmanned aerial vehicles (UAV) to work together in mid-air to fight fires, showing that it is possible for both large aircraft and small drones to work together without causing an accident.

The aerospace and defence contractor successfully demonstrated its UAS Traffic Management (UTM) system by getting a Stalker XE UAS drone to direct an unmanned K-MAX helicopter carrying water to a precise location to extinguish a fire, with the UTM system tracking the operation and communicating in real time with air traffic control.

"This demonstration represents the path forward for flying UAS in the NAS using Flight Service-based UTM capabilities to extend the technology and systems that air traffic controllers know and understand," said Paul Engola, Lockheed Martin's Vice President for Transportation & Financial Solutions.

"We were able to successfully modify the existing K-MAX and Stalker XE ground control software to connect to the UTM services and conduct the firefighting mission."

Drone Regulations Still Being Decided

The test is significant because there continues to be huge interest in creating a world where commercial drone flights are an everyday occurrence, but there are still no laws in many countries about how to regulate drones to ensure civilians don't get hurt. Many companies have solutions that are only allowed to be trialled for now.

In the UK and the US, the Civil Aviation Authority (CAA) and the Federal Aviation Administration (FAA) have so far only established guidelines, and in more forward-thinking countries like France and Australia, drone flights that are out of line-of-sight are still only in the trial phase.

Governments are considering several solutions to the drone regulation problem, which include making all pilots, whether civilian or commercial, register for a licence and attend mandatory training; adding geofencing to drone software so drones land when they stray into banned locations; or inventing a drone air traffic control system.

Drone Air Traffic Control Is Sorely Needed

There have been multiple incidents around the world where consumer drones have narrowly avoided hitting commercial airlines taking off and landing at airports, and drones keen to capture the action have also got in the way of police and emergency service helicopters fighting raging forest fires and pursuing suspects.

A drone air traffic control system would have to ensure that all drones flying in the air stay within the low-altitude Class G airspace (from the ground to 500 feet) and make sure that the drones can "sense and avoid" each other and any aircraft that happens to pass in their vicinity, like a helicopter, which would sometimes need to travel quite low over rooftops.

Apart from Lockheed Martin, Nasa is working on a similar solution with MIT startup Airware, whereby drones are fitted with a small red chip that works with the air traffic control system to make sure drones don't flout the rules and stay safe.

04 DECEMBER 2015

SOURCE: IBTIMES

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