

# Collaborative unmanned systems extinguish fire in demonstration

8 December 2015



The Stalker UAS directs the unmanned K-MAX cargo helicopter to conduct water drops at a precise location to extinguish a fire. The Stalker and K-MAX operated in collaboration with a prototype UAS Traffic Management (UTM) system, which provides essential capabilities to enable safe UAS operations.

Lockheed Martin demonstrated its ability to integrate unmanned aircraft system (UAS) operations into the National Airspace System (NAS) using its prototype UAS Traffic Management (UTM) capabilities. During the demonstration on Nov. 18, the Stalker XE UAS provided data and a precise geolocation to the unmanned K-MAX cargo helicopter, which conducted water drops to extinguish a fire, while the UTM tracked the UAS operations and communicated with Air Traffic Control in real time.

"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, Vice President, 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."

For more than 80 years, manned aircraft have supported firefighting missions during daylight hours. Because unmanned K-MAX can fly day and night, in all weather, its insertion into firefighting operations offers the potential to triple the amount of time ground firefighters can receive aerial support.

The Stalker XE UAS worked in tandem with K-MAX to identify hot spots and fire intensity with its electro-optical, infrared camera. Its stable, high definition imaging capabilities enable day and night operations. Powered by a ruggedized solid oxide fuel cell, Stalker XE achieves more than eight hours of flight endurance.

With five decades of experience in unmanned systems for air, land and sea, Lockheed Martin's solutions are engineered to help our military, civil and commercial customers accomplish their most difficult challenges today and in the future.



Provided by Lockheed Martin

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