Enhanced ground control system and software for small unmanned aircraft

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Lockheed Martin's Group 1 family of unmanned aircraft systems is migrating to enhanced automation capabilities using its Kestrel "Fly Light" flight control systems and industry-leading mobile Ground Control Station (mGCS) software. The increased automation allows operators to focus on executing the mission, rather than flying various aircraft.

Earlier this year, Lockheed Martin's Desert Hawk III small unmanned aircraft system (SUAS) demonstrated these enhancements by delivering improved situational awareness to operators. The mGCS enhancements also proved to substantially reduce operator workload through an intuitive interface, user-friendly touchscreen and joystick options, as well as a sophisticated set of operator warnings, cautions and advisories.

"The mGCS is a derivative of our proven VCS-4586 software that focuses on providing capabilities to the small unit level," said Kevin Westfall, director of unmanned solutions at Lockheed Martin's Mission Systems and Training business. "mGCS is a single, portable system capable of conducting missions that would typically require multiple controllers and federated software applications in order to manage the many different types of UAS."

mGCS was developed on an open system using commercial off-the-shelf technology that is interoperable with a variety of portable computers, hand controllers, autopilots, data links and sensors. The mGCS software is compliant with NATO's Standardization Agreement (STANAG) 4586

and also includes a full software development kit to provide other UAS manufacturers the ability to add systems and other capabilities without restriction. This significantly eases integration while reducing support and sustainment costs as well.

Provided by Lockheed Martin