Lockheed Martin Leverages Sensor Capability Of Fighter Aircraft To Improve Battlespace Awareness

F-16 Provides Innovative Way to Increase Tactical ISR Persistence

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Existing on-board sensor capability of tactical fighter aircraft can be leveraged to provide near real-time intelligence and enhanced situational awareness, as demonstrated by Lockheed Martin during the recent U.S. Air Force Empire Challenge exercise.

For the first time, the Distributed Common Ground System (DCGS) received and processed electronic warfare data from an F-16CJ aircraft, which relayed signals information from the air to a ground station and pushed report-level data out to the intelligence and operational communities.

"In this era of irregular warfare, it's imperative to get real-time intelligence to warfighters that are in theater," said Jim Quinn, vice president for Lockheed Martin's Information Systems & Global Services-Defense. "Taking advantage of the fact that fighters get to the tactical edge faster than conventional ISR platforms, we proved that we can enhance intelligence sharing across both the ISR and command and control communities by using the Air Force DCGS to process and relay sensor data from fighter aircraft."

Typically, fighter aircraft operate in the forward-edge of the battlespace with self-protection sensors. But those sensors could also provide increased intelligence collection over hostile areas by sending their data off board for analysis and integration.

During the Empire Challenge exercise, the Lockheed Martin team used a modified F-16CJ aircraft equipped with a HARM Targeting System pod to send signals intelligence directly to the Air Force DCGS via a developmental Advanced Tactical Data Link. By leveraging the power of modern data links and Global Information Grid-like networks, the F-16CJ was able to down-link sensor data real-time to the DCGS at Langley AFB in Virginia for processing. In seconds, the resulting SIGINT report was posted to the DCGS Integration Backbone, which contributed to enhanced situational awareness and enabled tactical and strategic users to receive the reports. Lockheed Martin's fighter-based ISR initiative proved both the technical ease and operational benefit of leveraging existing sensor systems to improve persistent surveillance of the battlespace. Empire Challenge 09 is an annual exercise hosted by U.S. Joint Forces Command to demonstrate enhanced ISR and C2 interoperability and capabilities.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation reported 2008 sales of \$42.7 billion.

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