Lockheed Martin Skunk Works® Showcases AI-Driven Mission-Contingency Management On An Autonomous UAV Demonstration

FORT WORTH, Texas, Dec. 4, 2025 /PRNewswire/ -- Lockheed Martin (NYSE: LMT) Skunk Works® successfully completed a live demonstration of artificial intelligence driven mission contingency management (AI/MCM) on a Stalker XE Block 25 Unmanned Aerial Vehicle (UAV) and an Alta X 2.0 drone modified by Drone Amplified. This test demonstrates how AI can automatically adjust an unmanned mission when an unexpected problem occurs, advancing the shift towards more autonomous unmanned operations.

The test simulated multiple variations of fuel contingencies. Within seconds, the ground command-and-control (C2) system's AI analyzed the situation, generated re-plan options and displayed them to the operator. Once the operator selected a preferred option, the AI automatically reassigned the Stalker's mission tasks to the Alta X and commanded the Stalker to return to base. By letting the AI agent handle the unexpected contingency, the operator could resolve the problem quickly while staying focused on other critical mission duties.

The Stalker UAV contributed its mission data to a unified C2 node that also managed an Unmanned Ground Vehicle (UGV) in Kansas, with support from UAVs provided by Fulcrum, proving unmanned-air-and-ground (UxV) control. Together they show how a single mobile command node can mutually support, and direct multiple geographically separated drone meshes in mounted, dismounted, and below-the-noise configurations.

"This demonstration proves AI can move from the lab to the battlefield, delivering a multitude of capabilities ranging from autonomous decision-making to rapid data flow between unmanned vehicles across air, ground and synthetic environments," said OJ Sanchez, vice president and general manager, Lockheed Martin Skunk Works. "By fusing AI-enabled UAV replanning with UGV capabilities, we give warfighters the safety, speed and confidence they need to act first in contested environments."

The team also leveraged Lockheed Martin's STAR.SDK™ solution. As part of theSTAR.OS™ constellation, STAR.SDK helps developers create and deploy AI services quickly and efficiently so they can focus on the mission at hand. STAR.SDK was used to connect the contingency application to a user interface, which enabled operators to interact with a chat assistant that provided re-tasking options. The STAR.OS solution enables different AI systems to work together seamlessly — including unmanned systems.

This demonstration marks Lockheed Martin's ongoing commitment to deliver autonomous capabilities and open architecture that expands multi-domain integration and empowers America's warfighters and allies.

For additional information, visit our website:https://www.lockheedmartin.com/en-us/capabilities/multi-domain-operations.html

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