U.S. Air Force Secretary Kendall Flies in AI-piloted X-62A VISTA

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Lockheed Martin's open systems architecture is advancing the future of AI-enabled autonomous flight with human oversight

EDWARDS AIR FORCE BASE, Calif., May 3, 2024 /PRNewswire/ -- Lockheed Martin Skunk Works® (NYSE: LMT) joined the U.S. Air Force Test Pilot School and other government and industry partners in hosting U.S. Secretary of the Air Force Frank Kendall to fly in the X-62A Variable In-flight Simulation Test Aircraft (VISTA), a one-of-a-kind aircraft modified to test artificial intelligence (AI) and autonomy capabilities.



VISTA is an AI pathfinder that facilitates development and testing of cutting-edge AI techniques with new uncrewed vehicle designs. This work is essential to realizing distributed teaming. In less than a year, the teams installed initial live AI agents into the X-62A's systems, demonstrated the first AI versus human dogfight and completed over 100,000 lines of flight-critical software changes across 21 test flights.

"The need for innovation at speed and scale is greater than ever. The X-62A VISTA is a crucial platform in our efforts to develop, test and integrate AI, as well as to establish AI certification standards that will revolutionize the future of aerospace," said John Clark, vice president and general manager, Lockheed Martin Skunk Works. "Our proven hardware and software architecture enable safe and controlled environments for AI agents and advanced algorithms to rapidly prototype and develop."

Lockheed Martin's open systems architecture, which leverages Skunk Works' Model Following Algorithm (MFA) and System for Autonomous Control of the Simulation (SACS), enables highly complex tests. These important updates enhance VISTA's capabilities while maintaining its rapid-prototyping advantage, allowing for quick changes to software and the ability to conduct flight tests with great frequency, accelerating the pace of AI and autonomy development to meet urgent national defense priorities.

This architecture has proven to be reliable and robust enough to transition into third-party distributed hardware to replicate safe and controlled flight test objectives as demonstrated by VISTA. Lockheed Martin is at the forefront of fusing AI-enabled platform autonomy with human oversight to accelerate operational speed, maximize agility and cut sustainment costs.

The achievements of and technologies developed through the Defense Advanced Research Projects Agency (DARPA) Air Combat Evolution (ACE) program will serve as a foundation for future advances in safer, more reliable, and more efficient aviation – both for military and commercial domains.

Secretary Kendall's flight closely follows several major VISTA recognitions for work done as part of DARPA's ACE program, including being nominated as finalists for the 2023 Robert J. Collier Trophy and receiving the Society of Flight Test Engineers' James S. McDonnell Award and Aviation Week's 2024 Laureate Award for Defense.

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