Lockheed Martin Demonstrates Scalable, Portable Maintenance Capabilities On 5G Network

Technology aims to reduce costs and improve military operational readiness



Maintainers perform repairs to a UH-60 Black Hawk at Wheeler Army Airfield, Hawaii, on March 4, 2021. The Network-enabled Analytics for Readiness initiative aims to improve aircraft readiness. (U.S. Army Photo/Sgt. Sarah D. Sangster)

BETHESDA, Md., April 3, 2023 – Lockheed Martin (NYSE: LMT) successfully demonstrated analytics-driven maintenance capabilities compatible with the Department of Defense's 5G flight-line ecosystem, a critical step toward equipping service members with real-time, actionable information to improve aircraft readiness and reduce costs.

In this demonstration presented to U.S. Army and Air Force officials, the Network-enabled Analytics for Readiness 5G initiative (NeAR) illustrated how 5G communications technology and advanced analytics minimize the maintenance burden for a variety of aircraft. NeAR is part of the Office of the Under Secretary of Defense for Research and Engineering's (OUSD(R&E)'s) FutureG initiative.

"This proof of concept demonstrated that our analytics tools are scalable and portable across multiple platforms to improve maintenance at the speed of relevance," said Reeves Valentine, vice president of Land and Maritime Solutions at Lockheed Martin Rotary and Mission Systems. "These intelligent troubleshooting applications are compatible with the future-state 5G.MIL® ecosystem and in line with our 21st Century Security efforts to keep our customers ahead of ready."

After the aircraft lands, the NeAR application provides maintainers and technical experts with complete flight data recordings and AI-driven predictive maintenance and sensor-data analytics. Lockheed Martin integrated this technology with portable devices to put these capabilities into the hands of service members on the flight line to facilitate faster decision-making.

"Success of NeAR as part of a broader OUSD(R&E) 5G capability will demonstrate 5G enhancements for the Warfighter while simultaneously enabling experimentation that will identify areas at Joint Base Pearl Harbor-Hickam suitable for further research and development in 5G and beyond," said Deb Stanislawski, director of Accelerate Use Prototyping and Experimentation in the OUSD(R&E) FutureG & 5G office.

One such application provides AI-driven cognitive search capability directly to individual maintainers and technical experts faced with diagnosing aircraft issues in real time. Users can instantly search all historical maintenance records across their entire fleet to identify similar issues and their resolutions. This information can be extremely valuable for efficient and effective troubleshooting, which minimizes aircraft downtime and erroneous maintenance actions.

These demonstrations build on Lockheed Martin's work to develop a 5G-enabled flight line of the future.In August, engineers demonstrated that 5G technologies can enable high-speed, secure-data transfer for maintenance analysis. NeAR shows what can be done with the data once it is captured from the aircraft. This technology leverages multi-access edge computing, which reduces the distance and latency gap between data requests and data delivery.

Lockheed Martin's work in 5G.MIL helps its customers field, scale and integrate 5G technology rapidly and affordably with military communications systems at the edge, enabling heterogeneous network connectivity for operations on land, water, in air, space and cyber.

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