Lockheed Martin Technology Manages Interruptions To Improve Warfighter Performance And Situation Awareness

The U.S. Navy Program Executive Office for Integrated Warfare Systems (PEO IWS) has acquired Lockheed Martin's Human Alerting and Interruption Logistics- Surface Ship (HAIL-SS) system. It plans to use HAIL on new Aegis ships and on existing ships retrofitted with the Aegis open architecture upgrade. The guided missile destroyer USS Truxtun DDG103 will be the first ship to receive the system.

HAIL will increase a U.S. Navy warfighter's ability to handle high rates of alerts and interruptions without distraction. HAIL will mediate between human users and various mechanisms that generate alerts in complex systems. It will reduce rates of alerts through intelligent redirection and filtering, create meaningful announcements of alerts, and leverage a human's cognitive talent to manage quick shifts in attention. HAIL will also provide context recovery to improve human performance when resuming tasks following interruption.

For the Aegis system, HAIL will enable workstation operators to quickly recognize and focus on critical alerts while simultaneously maintaining adequate situational awareness of high rates of other, less-important alerts. Operators will keep contact with critical information during high-volume, alert-based interruptions, such as those that occur during stressful combat conditions in an Aegis Combat Information Center.

"This is a major step forward in simplifying tactical decisions for Navy crews. The complexity of weapon systems has grown dramatically with new advances in technology, and data-overload on operators is increasingly problematic," said U.S. Navy Captain Pete Nardi, manager Surface Ship Combat Systems, PEO IWS. "HAIL allows crews to maintain critical situational awareness for required decisions, without overburdening them with non-critical data."

Lockheed Martin Advanced Technology Laboratories (ATL), Cherry Hill, NJ, matured HAIL over a 2.5-year period under the direction of Dr. Daniel C. McFarlane, HAIL principal investigator and original developer of the technology.

McFarlane based HAIL on the results of theory-based research he conducted between 1995-2000 on human subjects while an employee of the Navy Center for Applied Research in Artificial Intelligence, Naval Research Laboratory (NRL), Washington, DC. Later as a Lockheed Martin employee, McFarlane led a diverse government-industry team to further develop and mature HAIL under the Knowledge Superiority and Assurance, Future Naval Capability program sponsored by the Office of Naval Research.

Lockheed Martin ATL transitioned HAIL in 2004 to Lockheed Martin Maritime Systems and Sensors, Moorestown, NJ. As builder of the Aegis weapon system, MS2 will manage the production of HAIL and will lead its transition into the Fleet under the direction of the Aegis Program office.

As a reusable, open-architecture software component, HAIL has many potential applications, including non-military. Lockheed Martin MS2 will look to transfer it into programs like the Ship Self-Defense System for Amphibious Assault Ships, Littoral Combat Ships, and aircraft carriers.

Headquartered in Bethesda, Md., Lockheed Martin employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services.

For additional information on Lockheed Martin Corporation,

visit our website: http://www.lockheedmartin.com/

SOURCE: Lockheed Martin Corporation

Web site: http://www.lockheedmartin.com/

Company News On-Call:
http://www.prnewswire.com/gh/cnoc/comp/534163.html

https://news.lockheedmartin.com/2005-08-29-Lockheed-Martin-Technology-Manages-Interruptions-to-Improve-Warfighter-Performance-and-Situation-Awareness