Lockheed Martin Will Use Neuroscience-Based Technologies To Help Evaluate Tomahawk Missile User Interface

The Office of Naval Research awarded Lockheed Martin $724,000 from its Disruptive Technology Fund to help evaluate prospective modifications to the Tactical Tomahawk Weapons Control System (TTWCS) user interface. TTWCS controls missile launches from surface ships and submarines.

Lockheed Martin Advanced Technology Laboratories (ATL) will leverage its neuroscience-based technologies in augmented cognition by integrating cognitive-state gauges into the TTWCS Tool for Interface Design Evaluation with Sensors (T-TIDES).

A human's physiological markers typically depart from norms during high workload, distraction or drowsiness. As a result, performance may decline, reducing overall effectiveness of the interface. The technology underlying T-TIDES results from a program called Improving Warfighter Information Intake Under Stress, where cognitive state gauges reported an operator's cerebral electrical activity, blood oxygenation, heart rate, skin conductance, and pupil dilation to monitor cognitive activity in real time. T-TIDES will use this technology to collect similar data that human factors engineers can then use to design better prototypes of interfaces.

Teammates include Lockheed Martin Integrated Systems and Solutions and Lockheed Martin Information and Technology Services.

Headquartered in Bethesda, Md., Lockheed Martin employs about 135,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

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