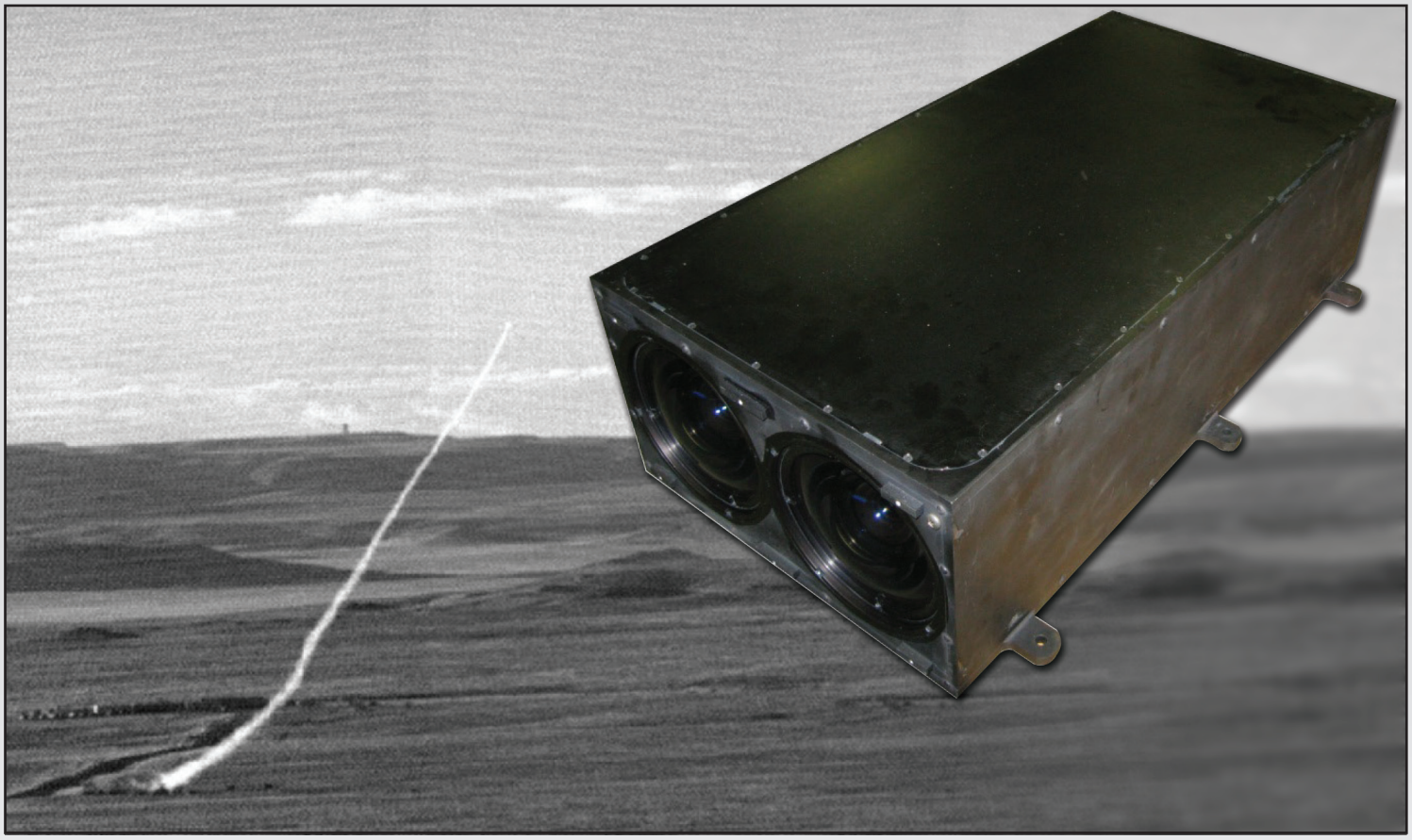
Sensors Engineers Ever Vigilant in Warfighter Response



A surface-to-air missile launches during testing at Tonopah Test Range, Nevada (pictured left). AFRL's Vigilant Sentinel missile warning sensor (pictured right) underwent successful demonstration during these tests. (AFRL image)

Using Quick-Reaction Capability funds supplied by the Office of the Secretary of Defense (i.e., the Under Secretary of Defense for Acquisition, Technology, and Logistics) for a new Air Combat Command missile warning system (MWS) technology, AFRL fabricated and tested an innovative sensor for detecting the launch and flight of shoulder-fired heat-seeking missiles. Dubbed Vigilant Sentinel, the visible-band, wide-field-of-view sensor subsequently underwent promising demonstration as part of the Navy's Large Aircraft Infrared Countermeasures (LAIRCM) missile testing conducted at Tonopah Test Range, Nevada. In addition to its inherent functional advantages, the new sensor is affordable—a characteristic that makes it a likely candidate for use by all military and large commercial aircraft against terrorist missile and hostile fire threats.

During the LAIRCM event, the engineering team tested the newly developed Vigilant Sentinel's performance against a large number of assorted missile types, including guided, ballistic, simultaneous, and countermeasure launches. The sensor exceeded expectations, successfully detecting—and collecting specific data regarding—the various launches at distances well beyond the different missiles' respective kinematic ranges.

In addition to yielding positive indications of Vigilant Sentinel's desired execution, the demonstration results helped engineers understand the novel sensor concept's capacity for maturing subsystem components, identify future improvements to system design, and otherwise advance their work in the direction of an effective and ultimately transitionable MWS capability.

For additional information on this technology contact AFRL/RY afrl.ry.marketing@wpafb.af.mil, (937)904-9771. To receive more information about AFRL, visit the Homepage at www.wpafb.af.mil/afrl. *(RY-10-07_03-30)* ***Sensors/Response to Needs***