

USAF Scientific Advisory Board Study
EO/IR and Laser Threat Warning and Countermeasures

Study Abstract

Recent advances in, and proliferation of, electro-optical and infrared (EO/IR) detection and tracking systems has resulted in an increased risk to US Air Force airborne platforms, especially Air Force Special Operations Command (AFSOC) and Air Mobility Command (AMC) aircraft operating more slowly at lower altitudes. These aircraft face an emerging threat from ground-based detection, tracking, and missile guidance systems which have become night-capable and are being implemented on the newest generation of threat systems, as well as being retrofitted to older systems.

Faced with this growing threat, the Secretary of the Air Force and Chief of Staff of the Air Force commissioned a US Air Force Scientific Advisory Board study to examine relevant current and projected technologies for EO/IR detection and tracking, and to define the required capabilities needed to detect and counter these threats.

The EO/IR and Laser Threat Warning and Countermeasures Study Team received a number of briefings, tours, and overviews from individuals and offices across the US Air Force, US Army, the Department of Defense, Federally Funded Research and Development Centers (FFRDCs), private industry, and academia that assisted greatly in the formulation of the findings and recommendations that informed Air Force leadership on how to address this emerging threat. The Study found that the proliferation of advanced systems worldwide has increased the risk to a number of AFSOC and AMC missions. As a result, the Study Panel recommended the upgrading of older countermeasure systems and development of new technologies to aid in the survivability of AMC and AFSOC aircraft by countering adversaries' air defenses and disrupting their EO/IR-based battlefield situational awareness. The Study also identified a number of potential new approaches for addressing some of the relevant threats.