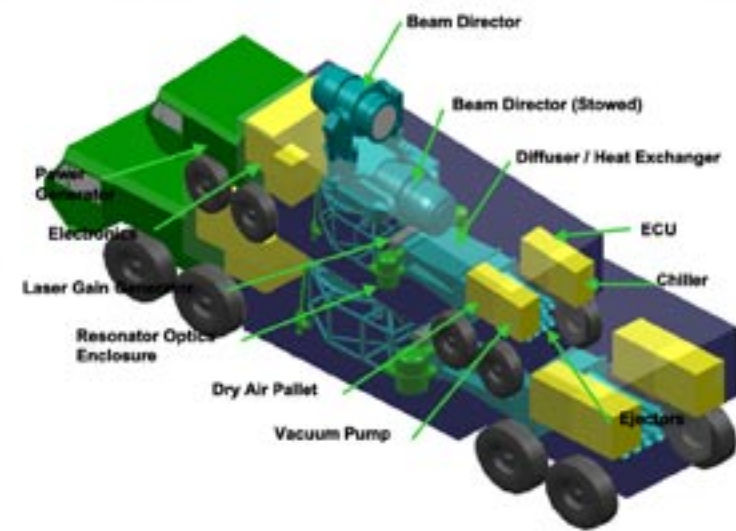
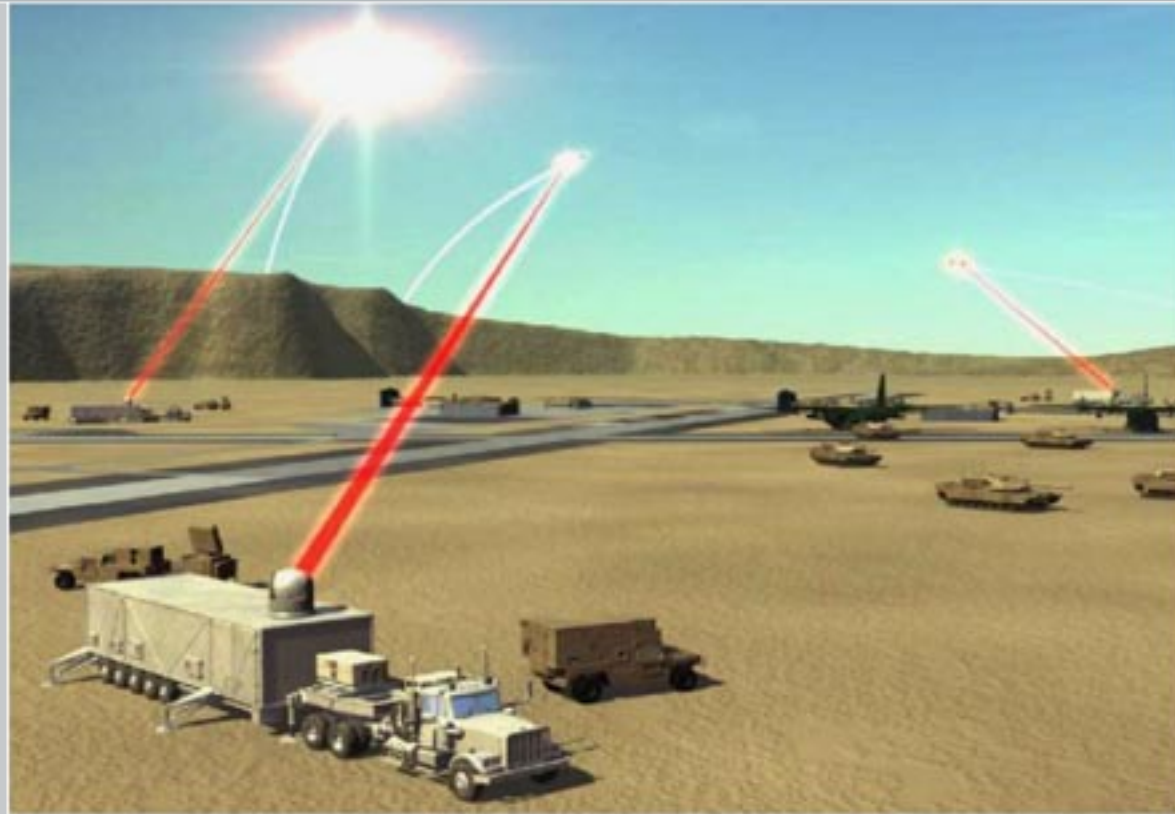


Mobile Tactile High Energy Laser (MTHEL)

Provides area air defense using a lethal and cost-effective laser weapon system to improve survivability of defended assets against attack.



DESCRIPTION AND SPECIFICATIONS

The U.S. Army and Israeli Mobile Tactical High Energy Laser (MTHEL) prototype weapon system uses mobile platform-based elements integrated into the Joint Common Air and Missile Defense architecture to protect assets from rocket, artillery, and mortar projectiles, unmanned aerial vehicles, cruise missiles, and tactical air to surface missiles. The MTHEL prototype program will develop a prototype weapons-grade laser on a mobile platform.

The MTHEL prototype system is the next evolutionary test bed from the Tactical High Energy Laser Test Bed. The Test Bed has demonstrated the ability to acquire, track, and kill targets ranging from unmanned aerial vehicles to high velocity artillery rounds. The Test Bed demonstrated the functional viability of a weapon grade laser system as a future component of the Air and Missile Defense System of Systems.

The MTHEL laser weapon system element consists of three system elements including the fire unit element; fluid supply element; and the laser weapon command and control (LWC2) element.

The LWC2 element monitors and controls the system. The LWC2 translates targeting and cueing information from the Common Air Missile Defense Battle Management System into real-time weapon targeting commands. The LWC2 provides battle management functions including target acquisition, engagement control, kill assessment, operator controls, and communications through the operator station assembly.

The fire unit element includes the optics and beam control subsystem (OBCS), laser gain generator, and ancillary equipment. The fire unit generates the laser beam, tracks targets, and houses ancillary system equipment. The OBCS uses integrated infrared and laser sensors to track targets and keep the projected laser beam on targets until the target is killed.

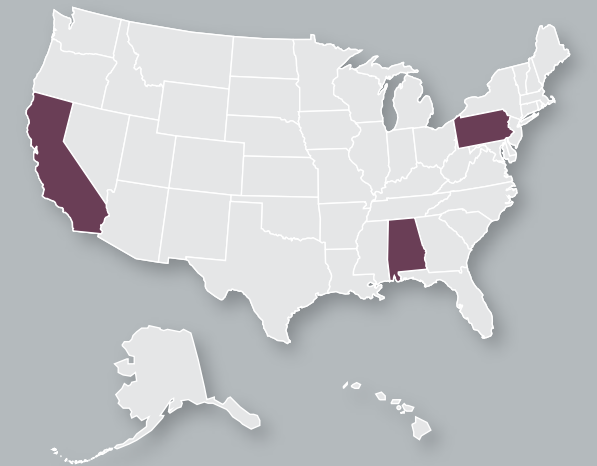
The operator station assembly provides the operator interface to the system. This includes system status, kill assessments, and operational controls from the laser weapon command and control. It also displays the integrated air picture generated by the Common Air Missile Defense Battle Management System.

PROGRAM STATUS

- **3QFY04-01QFY05** MTHEL test bed continued successful test program with more than 40 cumulative successful intercepts of rockets, artillery, and mortar projectiles
- **3QFY04** Shot down large caliber rocket
- **4QFY04** Shot down medium caliber mortar
- **4QFY04** Developed system technical requirements, extended lethality testing, and performed risk reduction to support Milestone B decision requirements
- **1QFY05** Shot down large caliber mortar

PROJECTED ACTIVITIES

- **2QFY05** Preliminary design review
- **3QFY05** Follow-on contract award



CONTRACTORS

Northrop Grumman (Redondo Beach, CA)
BAE Systems (Huntsville, AL)
SAIC (Huntsville, AL)
Brashears (Pittsburgh, PA)

INVESTMENT COMPONENT

Modernization

ACQUISITION PHASE

- Concept and Technology Development