High-Energy Lasers

Raytheon's high-energy laser systems use photons, or particles of light, to carry out military missions and civil defense. This directed energy technology enables detection of threats, tracking during maneuvers, and positive visual identification to defeat a wide range of threats, including unmanned aerial systems, rockets, artillery and mortars.

HIGH-ENERGY LASER

See how Raytheon Technologies laser weapons protect people and assets against short-range aerial threats.

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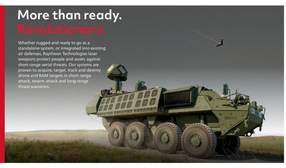
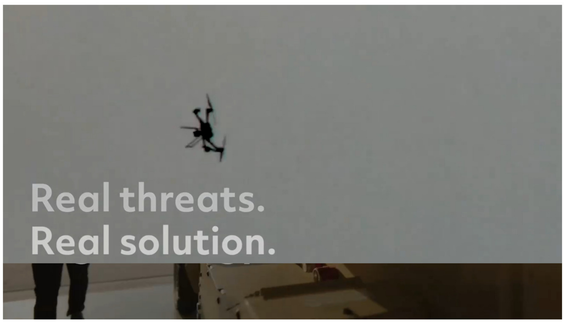


The directed energy weapon system — part of the U.S. Army's Directed Energy Maneuver-Short Range Air Defense, or DE M-SHORAD — acquires, tracks, targets and defeats mortars and large drones in complex swarming scenarios.

The U.S. Air Force's new palletized laser weapon is the first 10 kilowatt-class laser built to U.S. military specifications in a stand-alone configuration. It can be moved and mounted anywhere it's needed for counter-drone missions. Known as "H4," it is the fourth operational laser weapon system that Raytheon Technologies has delivered to the Air Force. It is shown here on the move in a civilian pick-up truck.

10kW palletized laser weapon
White Sands

Download Hi-res Image



Our laser systems are operational now

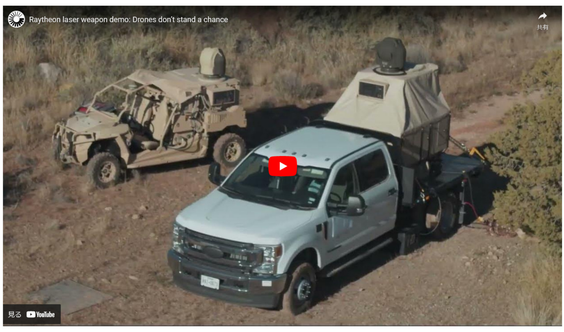
In 2019, the U.S. Air Force deployed our first High-Energy Laser Weapon System, HELWS, overseas, and it has more than 25,000 hours of operation. Certified for use in combat, multiple additional systems are now in theater.

The right defense for a range of targets

Raytheon laser weapon systems work on land, in the air and at sea, providing 360-degree coverage that protects bases, airports, stadiums and other high-value military or civilian targets. The system's open architecture adapts to the demands of the mission, while ruggedized packaging means it can be used as a standalone system or rapidly installed on a variety of military platforms. Raytheon has successfully completed full installation and testing on Army combat vehicles as well as an Apache attack helicopter.

Cost-effective solution for countering drones, rockets, artillery and mortars

HEL is an affordable and viable option to protect military and critical infrastructure, and rapidly defeat threats. With a low cost-per-shot ratio, lasers offer a nearly infinite number of shots, minimal logistics and precision accuracy with very low collateral damage. It is an affordable alternative to traditional munitions.



Raytheon High-Energy Lasers

Performance | Rapid Integration | Modular | Commonality

- Automated cueing to target from a full spectrum of electro-optical/infrared sensors, reducing operator workload and time of engagement.
- Scalable power level to respond to different threat types and extend reach to tactically relevant ranges.
- Proven reliability and production readiness.

News & Features

RTX delivers fourth combat-ready laser weapon to U.S. Air Force
Palletized 10kW laser can be moved and mounted anywhere

What it's like to fire Raytheon's powerful anti-drone laser
PopSci exclusively tested out a laser weapon in the high desert of New Mexico. Here's how it works, and what it does

Anti-drone laser weapon hub to be created in Scotland
Hub for high-energy laser weaponry is to be based in Livingston, Scotland

Repeatable success against mortars
Defeat multiple mortars and large drones with Stryker-mounted high-energy laser

Army short-range air defense laser prototypes take down drones at Yuma
Defense News covers Arizona live-fire test of 50kW laser

HELWS pairs with NASAMS to drop drone swarm
Raytheon's HELWS is the most compact laser weapon system of the 10kW-class