

**SMART
AND TO THE
POINT.**

IRON BEAM™ - M

Mobile Configuration of the IRON BEAM High Energy Laser System

Next-Gen Mobile Air Defense

IRON BEAM-M is part of RAFAEL's state-of-the-art suite of HEL systems. The first of its kind, it harnesses high energy laser technology to rapidly engage and neutralize a wide array of aerial and ground threats with pinpoint accuracy at ranges of hundreds of meters up to several km.

Engaging at the speed of light, with an unlimited magazine and almost zero cost per interception, the mobile system protects military forces and civilian populations while causing minimal collateral and environmental damage.

Exceptionally versatile, IRON BEAM-M can operate as a standalone unit or become part of a multilayered air defense system.

Benefits

- All-in-one system: From detection to interception
- Tactical system: Fast deployment and remote operation
- Operational flexibility: Operates from the vehicle or remotely
- High survivability: Designed for challenging field conditions
- Unmatched protection for maneuvering forces and strategic sites





Game-Changing Battlespace Technology

IRON BEAM-M is based on IRON BEAM's unique capabilities with modifications implemented for mobility. It is a 50 kW Class High Energy Laser System with a 250 mm aperture Beam Director and RAFAEL's high-performance Adaptive Optics.

Following threat detection by a radar or electro-optical detection system, the Beam Director acquires the target using a high-resolution thermal imager. The target is then tracked using an ultra-narrow Field of View, with the designated aim-point tracked by a high-bandwidth, fast steering mirror.

Unique technology allows the achievement of high operational efficiency compared with systems having much higher power.

Reference missions include air defense against UAVs and loitering munitions. Focusing on a specific point on an aerial threat enables neutralization within seconds with exceptional precision.

Power and cooling energy are provided by a battery storage bank that is charged periodically by a small generator – supporting the mission profile.

The highly modular system elements can be integrated into ISO-compatible pallets as well as tactical trucks and armored vehicles.



Main Capabilities

- Laser power: 50 kW Class
- Beam Director aperture: 250 mm
- Aim-point stabilization accuracy: several microradians (classified)
- Effective engagement range: several km
- Almost continuous lasing



RAFAEL Advanced Defense Systems Ltd.

A global leader in the field of Directed Energy, the company has been developing HEL systems for over 30 years. Serving as Israel's HEL National Center for Excellence, RAFAEL works closely with the Israel Defense Ministry.



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