



Lasers for Defense 2026: Technologies, Applications and Market Trends

LASERS ARE CRITICAL COMPONENTS FOR MULTIPLE DEFENSE SYSTEMS INCLUDING RANGEFINDERS, GYROSCOPES AND WEAPONS

REPORT OUTLINE

- Title: Lasers for Defense 2026: Technologies, Applications and Market Trends
- 100 slides (PDF)
- € 4990 - Multi users' license

KEY FEATURES OF THE REPORT

- Overview of the factors and trends that influence the global market of lasers for defense
- Presentation of the most common laser technologies and their applications in defense
- Detailed technology breakdown for each application including revenues and number of units sold
- Presentation of the sales of lasers for defense by geographical region
- Detailed forecast of the market of lasers for defense for the period 2026-2031

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CONTACT

Susmita SRIDHAR, PhD
ssridhar@tematys.com
TEMATYS
 7 Rue de la Croix Martre
 91120 PALAISEAU, FRANCE
 Tel: +33 6 16 17 12 91
 Fax: +33 9 72 39 44 39
www.tematys.com

Almost immediately after their invention in the early 1960s, lasers were investigated for applications in defense. Due to their unique properties, it didn't take long before these devices found their way into systems that are critical to modern defense infrastructure. Nowadays, laser sources are core components in most electro-optical assemblies deployed in land, sea and air.

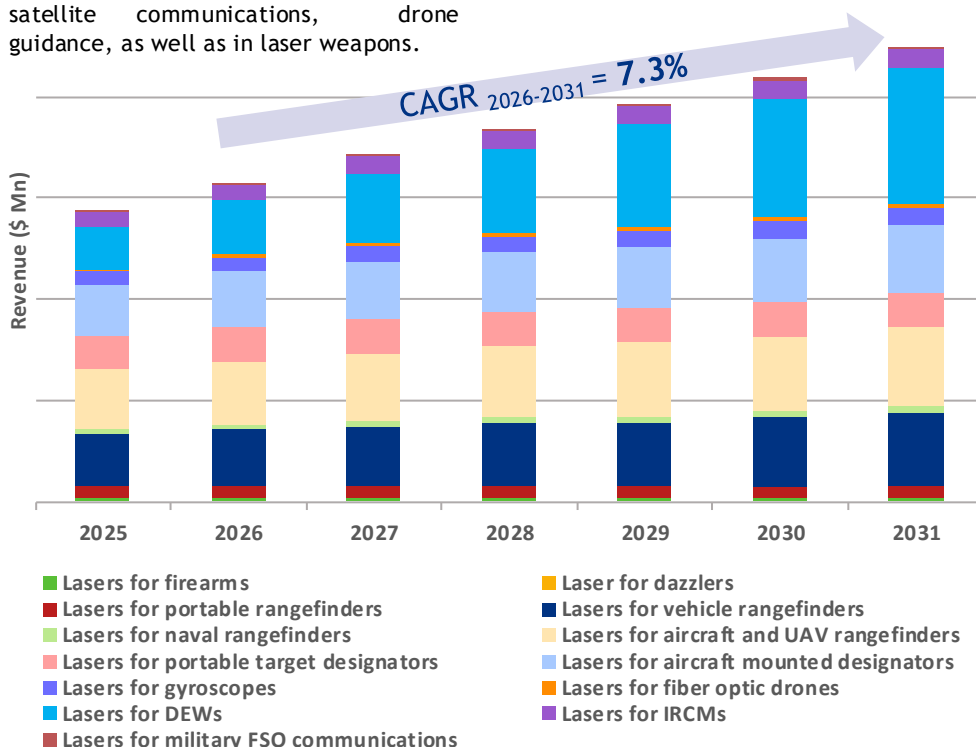
During their early history, laser sources were used predominantly in systems for rangefinding and for target designation. With the advancements of technology however and the commercialization of compact diode lasers and DPSSLs, the range of applications of lasers in defense expanded rapidly. Alongside their traditional applications, laser sources are essential components in infrared countermeasures (IRCMs), gyroscopes for inertial navigation systems (INs), satellite communications, drone guidance, as well as in laser weapons.

REPORT'S OBJECTIVES

The objective of this report, is to present a comprehensive analysis of the global market of laser sources for defense for 2025. The market is broken down by commercially available technologies such as diode lasers, DPSSLs, fiber lasers, HeNe ring lasers and QCLs and their applications in defense systems.

It examines the parameters that influenced the global market of laser sources for defense for 2025, including geopolitics, technological trends and macroeconomic factors.

The report includes detailed data and figures in terms of **revenues** and **number of units sold** for 2025, a market breakdown for APAC, EMEA and Americas and a forecast for the period 2026-2031.



NEW APPLICATIONS AND MARKET OPPORTUNITIES FOR LASERS EMERGE CONSTANTLY IN THE DEFENSE SECTOR



INFORMATION SOURCES

- In-house knowledge of laser technologies, their applications and their markets.
- Market data based on financial & business information of 100+ lasers manufacturers and integrators for defense systems.
- Interviews with key companies and industry experts that are involved in the business of electro-optical systems for defense.
- Bibliographic research.
- Participation in international conferences and exhibitions in the universe of lasers and photonic technologies.

The global climate of distrust in combination with turbulences in world politics and disputes over territory and resources among nations is fuelling tensions and conflicts worldwide. This in turn pushes many countries to increase military spending in order to modernize their arsenals and strengthen their defense infrastructure. At the same time, the rapid evolution of drone warfare, introduced new challenges for maintaining battlefield superiority and led to a paradigm shift in modern combat tactics.

Photonic technologies are essential in every modern defense system for a broad range of applications, including sensing and detection, target identification and acquisition, communications, guidance and navigation, and directly as weapons. Many modern military vehicles including infantry fighting vehicles (IFVs), main battle tanks (MBTs), naval vessels, aircrafts and UAVs are equipped with electro-optical systems that integrate a broad range of sensors and components with different functionalities. Cameras that detect in the visible are used for image and video capture during daytime operations. When visibility is reduced due to environmental factors, or during night operations, different sensors and cameras that can detect in the IR are used for spotting the thermal signature of living beings, machines and vehicles, and provide valuable field data.

Nearly every modern military electro-optical system is equipped with a laser source that serves different purposes.

The main application of lasers for defense is in rangefinders (LRFs). These devices measure the distance from an

object and they are critical for navigation, target acquisition and the operation of automated FCSs. LRFs can be man-portable, or integrated in different vehicles and platforms deployed to land, sea and air.

Target designation is based on specialized DPSSLs that shine pulses of light at specific frequencies (PRF) on targets. This method allows precision strikes on targets through laser guidance of different munition types. Laser designators can be either man-portable, or mounted on aircrafts, helicopters and UAVs.

Diode lasers and DPSSLs are used in firearms sights for pointing and target acquisition.

Laser-based fiber optic gyroscopes (FOGs) and ring laser gyroscopes (RLGs) are used for the precise navigation of aircrafts, submarines, drones and missiles.

Infrared countermeasures (IRCMs) based on QCLs, replace pyrotechnic flares for the protection of aircrafts from enemy heat-seeking missiles.

Satellite-to-satellite and satellite-to-the ground free space optical (FSO) communications, offer a fast, reliable and secure method for the transmission of sensitive and mission-critical data.

The evolution of drone warfare has proven that traditional air defense approaches based on autocannons and missiles can be expensive and ineffective. Laser-based directed energy weapons (DEWs) address these challenges by neutralizing fast airborne threats such as UAVs and artillery.

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Susmita SRIDHAR, PhD
ssridhar@tematys.com
TEMATYS
7 Rue de la Croix Martre
91120 PALAISEAU, FRANCE
Tel: +33 6 16 17 12 91
Fax: +33 9 72 39 44 39
www.tematys.com

AUTHORS



Kimon MORATIS, PhD:
Photonics Markets' Analyst



Thierry ROBIN, PhD:
Partner, Product Features Definition



Benoît d'HUMIÈRES :
Partner, Strategy consulting, Administrative Management



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Account No: 00020560739-46

SWIFT or BIC code: SOGEFRPP

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