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Night Vision Devices - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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Abstracts

The Night Vision Devices Market size is estimated at USD 8.68 billion in 2024, and is expected to reach USD 12.74 billion by 2029, growing at a CAGR of 7.97% during the forecast period (2024-2029).

Night vision is often employed in night surveillance at low-light security or completely dark conditions. Infrared cameras with night vision capabilities are excellent for anyone who needs to monitor in the dark for work or pleasure. Infrared cameras use infrared light (illuminator) rather than the usual illumination spectrum to create better photos in complete darkness or low light conditions. Many security systems now include both day and night versions of cameras.

The night vision equipment provides soldiers with color visuals in low-light situations on the battlefield. These devices have acquired appeal among wildfire experts in recent years, which is expected to increase demand for the devices. The demand was fueled by technological and application feasibility, such as head-mounted night vision and low cost. These gadgets provide clear visibility of more than 150 to 200 yards at night.

A major factor driving the market's growth is the growing military expenditure. As the global security threat deepens owing to issues such as terrorism, illegal migration, etc., countries across the globe are increasing their military expenditure to equip their protection forces with the latest technology devices, arms, and ammunition. For instance, according to SIPRI, the global military expenditure reached USD 2.240 trillion in 2022, compared to USD 1.807 trillion in 2017. With expenditures on military modernization anticipated to grow, such trends are anticipated to create a favorable ecosystem for the market’s growth.

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However, the higher cost and technical limitations of night vision devices, such as their limitations in targeting through transparent obstacles, continue to remain among the major challenging factors for the growth of the market studied.

The global outbreak of COVID-19 has had a notable impact on the growth of the market studied. For instance, during the initial days of COVID-19, the global supply chain of various industries was disrupted, resulting in a scarcity of raw materials and components used in manufacturing and other industrial applications. Furthermore, restrictions imposed on the use of manual workforce further intensified the pandemic's influence. During the pandemic, organizations across different end-user verticals also were averted on spending high on less crucial requirements. Hence, the market witnessed a slowdown.

However, with the conditions gradually improving and supply chain pressure easing out, industries across different sectors reported growth, which is anticipated to be the case going forward as the influence of the pandemic on different verticals has been reducing, leading to the normalization in the market conditions both in terms of demand and supply. As a result, the market's growth in the post-COVID-19 period appears promising.

Night Vision Devices Market Trends

Surveillance Applications to Hold Significant Share

Night vision devices are crucial gadgets of armed forces, and most modern armies equip each of their soldiers with these devices. Night vision aids military forces in defending an area or scanning for threats, such as tanks or persons wishing to harm them. Because the light reflects off the landscape, everything appears to have a greenish hue while utilizing these devices.

In automotive, night vision has become increasingly commonly used in the civilian market. In bad weather conditions or at night, automotive night vision systems can increase a driver's perception and viewing distance. Typically, they capture data via infrared or thermal imaging, which is occasionally paired with active illumination techniques, and then show it to the driver. Night vision has also been used in aircraft and helicopters, low-light hunting, and night shooting competitions.

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Recently, SWIR or short-wavelength Infrared Night Vision Camera systems have been used for vehicle navigation. Military ground transport vehicles such as trucks, tanks, and armored personnel carriers must operate in complete darkness, increasing the demand for Enhanced Vision Systems (EVS) with short-wave Infrared (SWIR) illumination and sensors. Infinite short wave infrared night vision camera systems to maneuver discreetly through dangerous territory. SWIR cameras, unlike MWIR and LWIR, can image through the windshield, allowing them to be positioned in the driver's compartment for a "driver's eye" view of the road ahead. Ruggedized outside housings can also accommodate SWIR cameras.

In January 2024, KYOCERA SLD Laser, Inc. (KSLD), a company in the commercialization of laser light sources, introduced its new LaserLight capabilities, including InGaN Laser Diodes for Applications in the Visible Spectral Range. The company is pioneering LiFi innovations for undersea, defense, and security applications.

The laserlight module-based headlight offers high-brightness white and infrared (IR) dual illumination for night vision and sensing. The company's laserlight LiFi system offers white and IR illumination with a 1 Gbps bi-directional transmission rate to support the future of wireless connectivity. The blue laser-powered technology expands the system's capability into underwater applications. The laserlight Modules are ultra-compact and have a slim profile with less than a 12.7 mm lens height.

According to NATO, in 2023, the combined defense expenditure for members of NATO was approximately USD 1.26 trillion, the highest NATO members have collectively spent on defense during the provided period. The growing military expenditure in the various regions also results in the growth of the market under study. Governments are increasingly focusing on improving their military capabilities, thereby providing opportunities for the adoption of night vision devices.

Such developments are anticipated to propel the growth of the night vision devices market in the military and defense industry during the forecast period.

North America to Hold Significant Market Share

The increased spending on military and defense in the region has allowed companies to conduct R&D activities, resulting in innovations, enabling them to manage better the

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safety and security of their people and the borders. Further, increased night vision use in firefighting activities to enhance night-time aerial firefighting capabilities increases the adoption of night vision devices in the region.

Technological advancements have enabled night vision devices to be integrated with machine learning and Augmented reality to enhance the night vision capabilities of the devices. Further, the US Army recently started training its forces using Enhanced Night Vision Goggle-Binocular (ENVG-B). These goggles provide data and imagery from the battlefield directly to the soldier's eye. The system includes a high-resolution display, an embedded wireless personal network, a rapid target acquisition system, and Augmented reality algorithms that enhance the night vision capabilities of army personnel.

In November 2023, Leonardo DRS, Inc. received an order for the production of its next-generation thermal weapon sights for the US Army. The production order for more than USD 134 million was made under the Family of Weapon Sights – Individual (FWS-I) IDIQ contract. FWS-I, a clip-on weapon sight, connects wirelessly to helmet-mounted vision systems, including the enhanced night vision goggle binoculars (ENVG-B) and the integrated visual augmentation system (IVAS). It offers rapid target acquisition capabilities to the soldier. It leverages DRS' uncooled thermal imaging technology, enabling soldiers to acquire targets day or night and in smoke or fog. The partnership will help the company to continue to deliver this vital technology to the US Army.

In May 2023, the Federal Aviation Administration (FAA) certified the Erickson Incorporated S-64F Air-Crane helicopter for night vision goggles (NVG) operation. Erickson's integrated NVG program offers customers increased flexibility and expanded operational capabilities. It ensures that the NVG flight crew maintains accordance with current FAA regulations. The certification will allow the company to increase tactical planning and agility in aerial firefighting and civil protection operations. Further, Erickson also collaborated with Aviation Specialties Unlimited (ASU) to modify S-64F to perform NVG operations.

Therefore, as the regional governments aim to evolve their night vision capabilities through development, integration, experimentation, laboratory and platform tests, and evaluation with integration with various systems in use, the market in the region is likely to grow.

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Night Vision Devices Industry Overview

The night vision devices market is semi-consolidated due to the presence of both global players and small and medium-sized enterprises. Some of the major players in the market are Teledyne FLIR LLC, L3harris Technologies Inc., American Technologies Network Corp., Elbit Systems Deutschland, and BAE Systems PLC. Players in the market are adopting strategies such as partnerships and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

January 2024 - Exosens announced the introduction of the 25 mm Image Intensifier solution. It is based on the company’s Hi-CE MCP technology and is available with advanced Hi-QE photocathodes.

December 2023 - Thales and the Spanish security company Trablisa formed a joint venture to complete the installation of the integrated surveillance system in the Melilla Command of the Civil Guard for intelligent border control. The surveillance system will enable the Civil Guard with high-resolution day and night cameras. The night vision cameras and the monitoring and control software (HORUS) allow the centralized management and control of sensors and actuators as well as the processing of images.

Additional Benefits:

The market estimate (ME) sheet in Excel format

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