

Department of Electronics & Telecommunication Engineering

**Night vision technology**

Abstract

Night vision technology is a critical advancement that enables the visualization of environments under low-light or no-light conditions. This technology works by amplifying available light (image intensification) or detecting infrared radiation (thermal imaging) to produce a visible image. Initially developed for military applications, night vision has expanded into various sectors, including security, surveillance, wildlife observation, and even consumer electronics. Advances in sensor technology, image processing, and miniaturization have enhanced the capabilities and accessibility of night vision devices, making them more effective and versatile. This paper reviews the principles, applications, and future trends in night vision technology, highlighting its significance in modern society.

**keywords: Image Intensification, Thermal Imaging, Historical Development, Military and Law Enforcement, Security and Surveillance, Wildlife Observation.**

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**Guide**