

Worldwide Nanotechnology Mid IR Sensor Market Shares Strategies, and Forecasts, 2009 to 2015

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Abstracts

WinterGreen Research announces that it has a new study on Worldwide nanotechnology mid IR sensor markets. Mid IR sensors are poised to achieve significant growth as sensors become less expensive to manufacture and are smaller and portable. The ability to measure chemicals and light sources as heat is anticipated to drive market growth at a rapid pace. The study is titled Worldwide Mid IR Sensor Market Shares, Market Strategies, and Market Forecasts, 2009-2015.

Force protection addresses asymmetric threats worldwide. Military mid IR sensors are used to watch over forces worldwide. Mid IR sensors are used in long range systems, base and perimeter security imaging, vehicle vision and man-portable sensors.

Homeland security, military communications, infrared countermeasures, chemical warfare agent detection, explosives detection, medical diagnostics, industrial process controls, remote gas leak detection, pollution monitoring, and real-time combustion controls are uses for the mid IR sensors.

Mid-infrared (IR) laser sensors are able to measure change in device condition, chemistry, or temperature. The ability to measure change remotely, at an affordable price, has never been possible before. The coincident elaboration of the Internet availability on wireless devices and worldwide is creating demand for remote connectivity to sensing devices.

Infrared is a portion of the electro-magnetic spectrum that is not visible by the human eye because its wavelength is too long. Unlike visible light, infrared radiation (or heat) is emitted directly by all objects above absolute zero in temperature. The mid IR spectrum goes from 3-12 m.

The military is the only significant user of commercial mid IR sensors in 2009. The military uses mid IR sensor devices to predict whether there is enemy fire aimed at and coming toward a particular target. Firing of a rocket emits heat that is immediately detectable, long before the firing is visible via light. The mid IR sensor is able to provide early warning of a rocket or missile firing, detecting the initial flash from a large distance or underwater.

Target Acquisition Minefield Detection System (ASTAMIDS) is the latest weapon in the fight against improvised explosive devices (IED). It will provide a Unit of Action (UA) asset that can be used in Tactical Operations in day or night to detect and locate surface obstacles and recently buried minefields. ASTAMIDS is currently being tested in the MQ-8B Fire Scout unmanned aerial vehicle.

Turnkey mid-infrared laser sensor systems are based on technology that goes from 3-12 m. Others have a more narrow definition of this market. This 3 to 12 m definition is used because it captures the shift from bench type laser sensor systems to portable units that emit digital signals from remote locations. New systems open a broad opportunity for sensors based on core semiconductor Quantum Cascade and Interband Cascade laser technology. Laser systems are available in both multimode and single mode DFB versions.

Applications include process monitoring, chemical sensing, medical diagnostics and infrared counter measures. The initial markets are for military use of detection of enemy fire from a distance and night vision sensors. Commercial markets are evolving. Improved sensor detection and lower prices are meaning that commercial markets are opening up.

Markets for mid IR sensors at \$70.2 million in 2008 are anticipated to reach \$2.5 billion by 2015, growing in response to demand for remote devices that are network configurable and accessible. Lithium-ion batteries used in cell phones and PCs, are used in mid IR remote devices, giving them a long life and effectiveness that supplements manpower.

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COMPANIES PROFILED

Power Technology

SenseAir

Structured Materials

FLIR Systems

Li-Cor

Maxion

Agiltron

Consensus Business Group

Infrared Fiber Systems IFS

Infrared Semiconductor Lasers

Nanophase Technologies (Nasdaq NANX)

NovaWave Technologies

Power Technology Distributor of Sanyo Laser Diode Products

Sanyo

Tyco

VIASPACE Viaspace Subsidiary Direct Methanol Fuel Cell Corporation (DMFCC)

Cascade Technologies

Sofrdir

Industries Daylight Solutions

Hamamatsu

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