





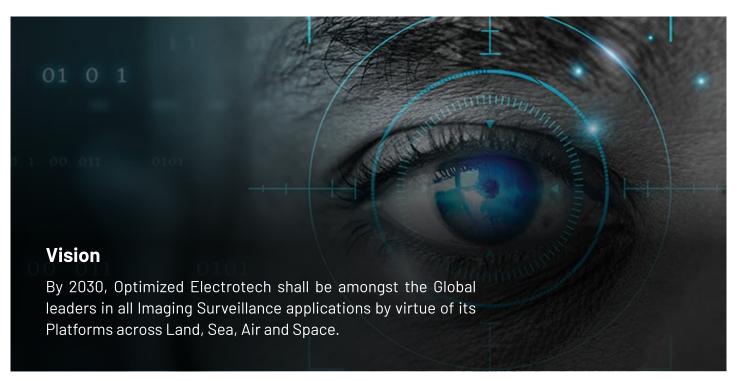
# Security & Surveillance

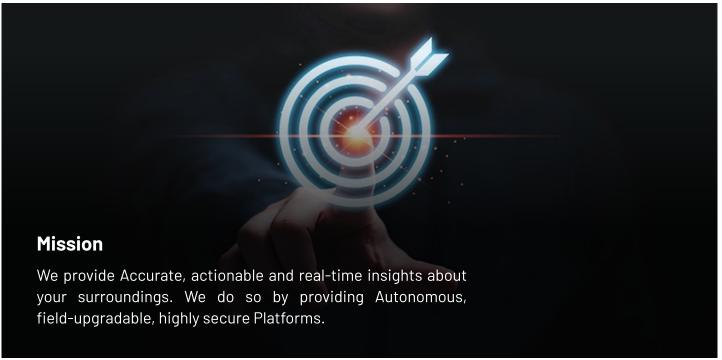
Vigilance for a better tomorrow

# **ABOUT US**

**Optimized Electrotech** envisages to become a global leader of Imaging Surveillance with Artificial Intelligence at its core. Indigenously designed technology for Electro-Optics and Infra-red imaging has been embedded in various Military and Civilin products by the organization.

The company since its incorporation has received various awards from multiple organizations including Ministry of Defence, TIE50 of the US, and ELCINA. The company is extremely focused on embedding Edge Analytics on Multi-Spectral Fusion imaging.









100+ Man-years of Design Experience









# **OUR** ADVANTAGES



Multi-Spectral
Day-Night Imaging



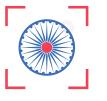
Facial Recognition Automated Alerts



Al Enabled Edge Intelligence



Adaptable to Civilian Use Industrial Imaging

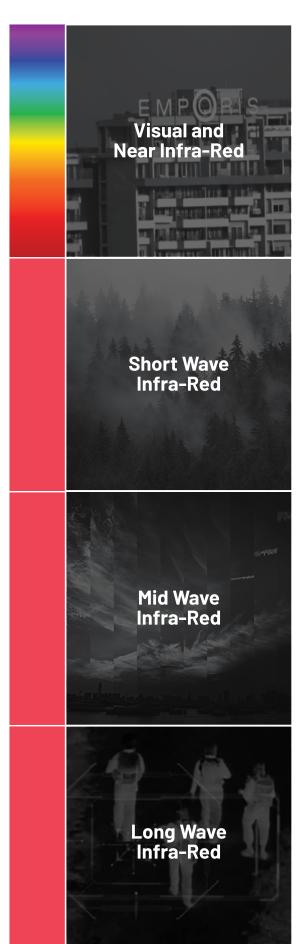


Indigenously Designed
Made In India

# **TECHNOLOGIES** WE USE

400nm -

1µm



### Near Infra-Red Spectrum (NIR)

The near infra-red spectrum is a subset of the IR spectrum. NIR offers sharper images with less noise and better contrast for long distance imaging.

Things like printed information on signs, vessels & vehicles, facial features, trees, plants and clothing can be more easily identifiable by NIR than in thermal. The detail and visibility of objects are improved at long ranges through NIR.

### **Short Wave Infra-Red Spectrum (SWIR)**

Short Wave IR deals with electromagnetic radiation between the wavelengths of 0.9 to 2.6 microns. This wavelength is not visible to the human eye; hence it offers more details than any VIS camera system. SWIR cameras and systems are immensely sensitive to light, with discrete pixels of the focal plane array identifying, capturing and detecting individual set of photons.

SWIR systems are effective for Identification and Friend or Foe Detection as their wavelengths can travel through glass. SWIR offers superior images as it can penetrate heavy fog, smoke and other atmospheric conditions. When blended with night sky radiance, emitting up to 700% more illumination than starlight, SWIR cameras can view objects with detail, even on moonless and starless nights.

### Medium Wave Infra-Red Spectrum (MWIR)

MWIR systems come with a high spectral range. MWIR technology can help view objects in all types of weather conditions and visible light.

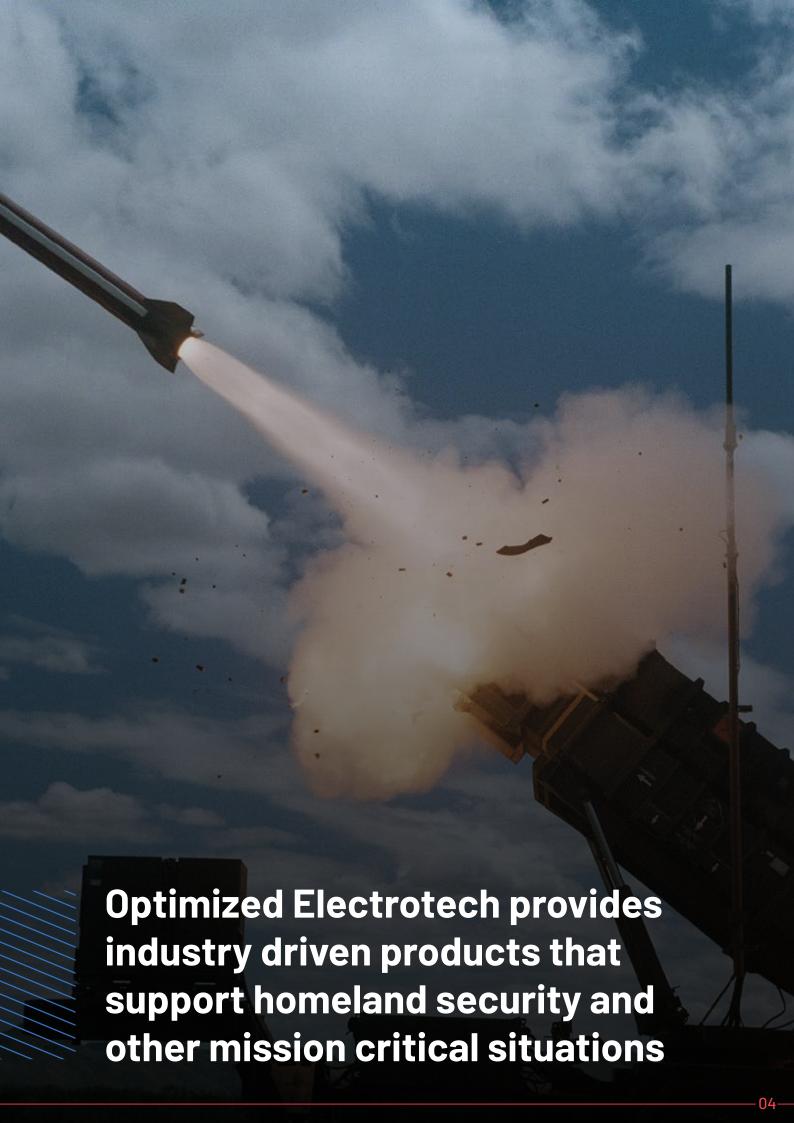
The MWIR is a very sensitive region with respect to temperature, therefore temperature radiation detected on farther distances can also be relied upon. MWIR systems come with a high focal length, backs camouflaging foliage detection, offers crisp images and delivers exceptional performance in diverse conditions. The spectral range of MWIR systems is  $3\mu$  –  $5\mu$ 

### Thermal Infra-Red Spectrum (LWIR)

TIR systems offer higher contrast images for post-processing and analysis with comprehensive abilities. The thermal infra-red spectrum with its thermal capabilities enables to capture the images even in zero light conditions.

The thermal remote sensing sensor calculates the radiation of the thermal infrared areas across the explicit electromagnetic spectrum. The spectral range of TIR systems is  $8\mu$  to  $14\mu.$  By leveraging TIR technology and using high-sensitivity thermal detectors, one can spot and swiftly identify even the slightest range of involved faults.

10 um -



# **INDUSTRIES** WE SERVE

The extensive range of products makes Optimized Electrotech a remarkable place in the tech oriented world.



### Defence

Original equipment manufacturers of Land systems such as artillery guns, anti-aircraft guns, missile defence systems, and infantry vehicle manufacturers can use our long-distance imaging systems to either activate fire control systems or to intimate the man in the loop.

### **Homeland Security**

Survillance to safegaurd a sovereign nation from infiltration or unauthorized access requires smart recognition systems that can work under different weather conditions



### Critical Infrastructure

Facilities that require continues protection due to their sensitive nature need multiple layers of security perimeter intrusion systems, face recognition systems and long-distance threat detection systems that can support the security personnel in better protection of critical infrastructure

### **Transportation**

All Public transportation hubs such as Railway stations, Bus stations, Airports, and Ports need to be on constant vigilance and these are the most vunarable locations for any country. Ai-enabled threat detection crowd monitoring and advanced enunciation systems can make public transport safer



# American

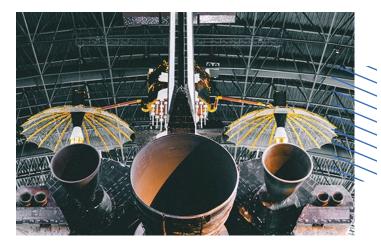
### **Airports**

Long, open spaces in and around the runway such as the runway and the space around it need to be clear at all times movement of unauthorized people vehicles or even animals can cost mortality. Long-distance imaging systems along with people monitoring systems can help make the airports safer

### Aerospace

HALE UAVs, MALE UAVs, AeroStats, and Surveillance Aircrafts are some of the best ways to conduct surveillance of a large portion of land. Our multi-spectral imaging systems with varying footprints can help aerospace manufacturers





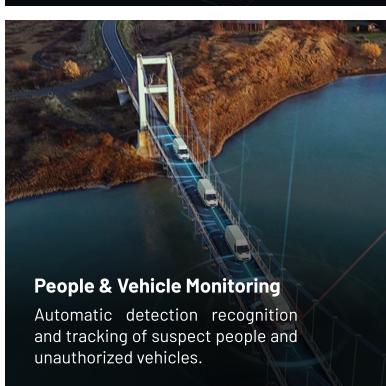
### **Satellite Manufacturers**

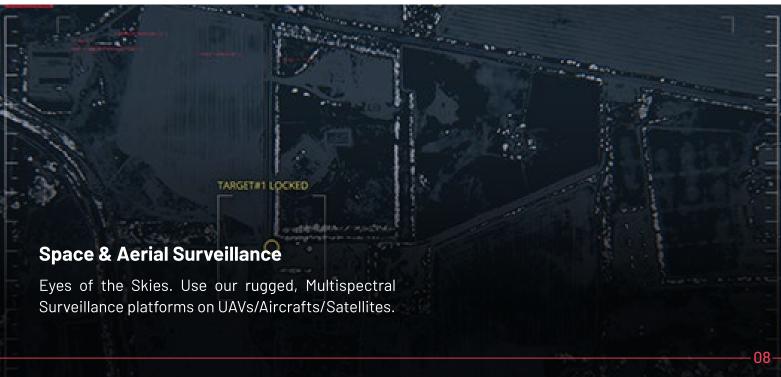
Low earth orbit aleo satellites for imaging require low swap payloads our experience of working with space and customizing payloads to the need can come in handy for all satellite manufacturing



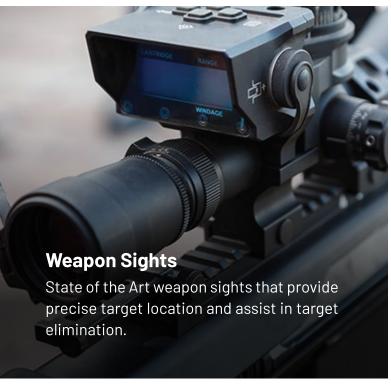


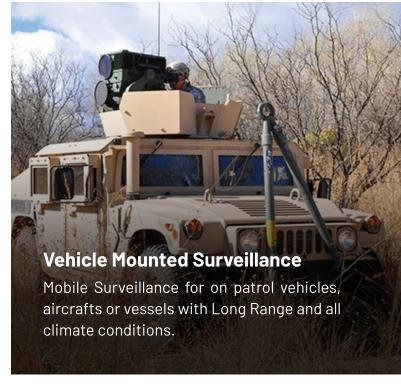








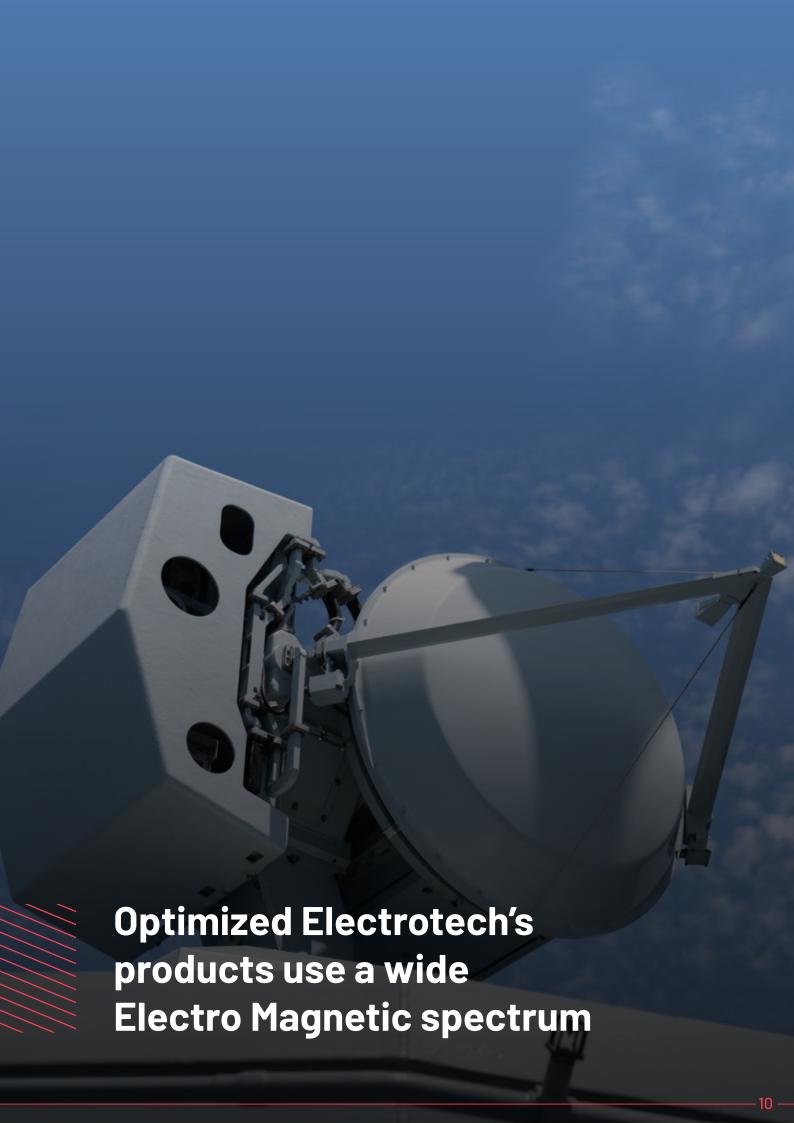






### **Anti-Drone**

Clear the skies with Long Range Surveillance platforms capable of recognizing, identifying & tracking even small drones/UAVs.





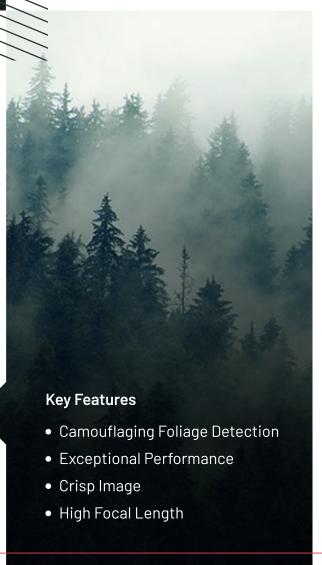
# **VISION SERIES**

A VIS + NIR long-range electro optics system indigenously designed for low footprint applications in visible light. It delivers clear images in dawn, dusk, and moonlight and optimally fits the client's requirements.

Spectral Range: 0.4µ - 0.9µ
Daylight Surveillance | Vehicle Detection at 30 Kms

A SWIR long-range electro optics system indigenously designed for observing cross-border traffic, fog penetration and enabling critical infrastructure surveillance, providing close-up pictures of people and vehicles from afar.

Spectral Range:  $0.9\mu$  -  $1.7\mu$  &  $0.4\mu$  -  $0.9\mu$  Fog Penetration



A VIS NIR + MWIR electro optics system with a high spectral range. It is indigenously designed for all weather conditions and visible light, providing close-up pictures of people and vehicles from afar.

Spectral Range: 3μ - 5μ & 0.4μ - 0.9μ All weather application



Key Features

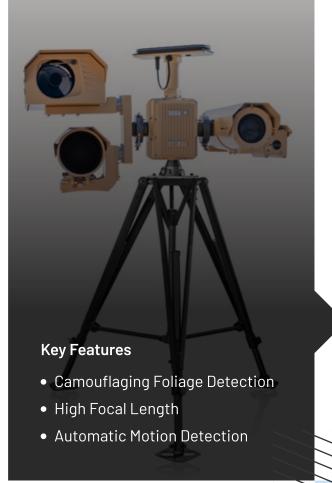
• Face Recognition

• Auto Focus

• Object Detection and Tracking

A VIS NIR + LWIR electro optics system for night vision. It is used to detect threats in visible light, night conditions and enables zero light imaging. It applies Thermal (TIR) Imaging cameras and enables Visible (VIS) light spectrum technologies.

Spectral Range:  $8\mu$  -  $14 \mu \& 0.4\mu$  -  $0.9\mu$  Day/Night 24X7 Surveillance



A VIS NIR + SWIR + MWIR long range electro optics system with fog penetration and night vision. It is indigenously designed to detect threats hidden in all weather and all light conditions with close-up pictures of people and vehicles from afar.

Spectral Range: 0.9μ - 1.7μ, 3-5μ & 0.4μ - 0.9μ Entire EM Spectrum Utilisation

# **EYE SERIES**

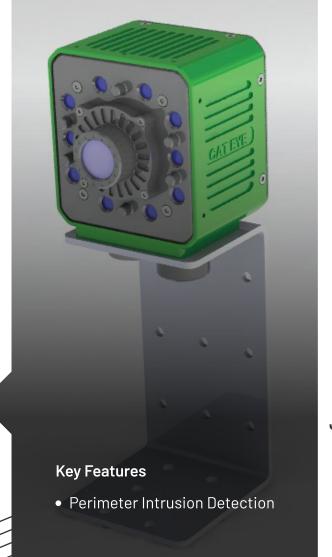
An optimally engineered product aligned to steer access control, thermal screening, organization compliances, event counter, and automated attendance report generation.

Crowd Thermometry Facial Recognition



A perimeter/motion activated Intelligent Optical Sensor that assists you in keeping an eye on intruders or malicious activities 24\*7 and spot intervention of people both day and night.

**Clandestine Perimeter Intrusion Detection** 





# **Sights**

A long range thermal imaging sight for LMG, MMG, Granade Launchers with day time colour images and night time B&W images.

Spectral Range:  $8\mu - 14\mu \& 0.4\mu - 0.9\mu$ 



A thermal sight to be mounted on LMG and MMGs.

Spectral Range: 8 $\mu$  - 14 $\mu$ 

A hand-held thermal binocular designed for law enforcement professionals for extended observation and reconnaissance.

Spectral Range: 8µ - 14µ



# **FEATURED IN**



# **RECOGNIZED** BY







# **OUR** ACHIEVEMENTS









- marketing@optimizedelectrotech.com
- www.optimizedelectrotech.com



### O Corporate HO

B-505, The First, Vastrapur, Ahmedabad, Gujarat, India-380015

### Prototyping Facility

107, Brigade IRV Center, Nallurhalli Road, Whitefield, Bengaluru, Karnataka, India-560066

## Registered Office

310, ATMA House, Ashram Road, Ahmedabad, Gujarat, India-380009

