



**A-1 FENCE**

Protecting Assets | Protecting Borders | Protecting People



# INTRUSION DETECTION SYSTEMS

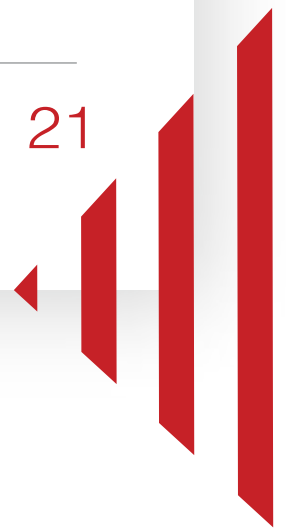






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# Integrated Perimeter Security Solutions Provider

A-1 Fence was established in 1998. Over the years it has expanded globally into 4 countries and 6 manufacturing facilities spread between the United Arab Emirates, Oman, South Africa & India and 8 sales offices across the globe. We have transformed from a fence manufacturer to an Integrated Perimeter Security Solutions provider. We do this by bringing out cutting edge intrusion detection systems that complement our physical high security fences and barriers.

We have our own Electronics and mechanical R&D departments and we also tie up with leading global OEMs like SpotterRF, Polus (Radiobarrier), JVA & Silent Sentinel.



Our products and services cater to a wide gamut of industries ranging from farmlands to military forces in more than 50 countries.

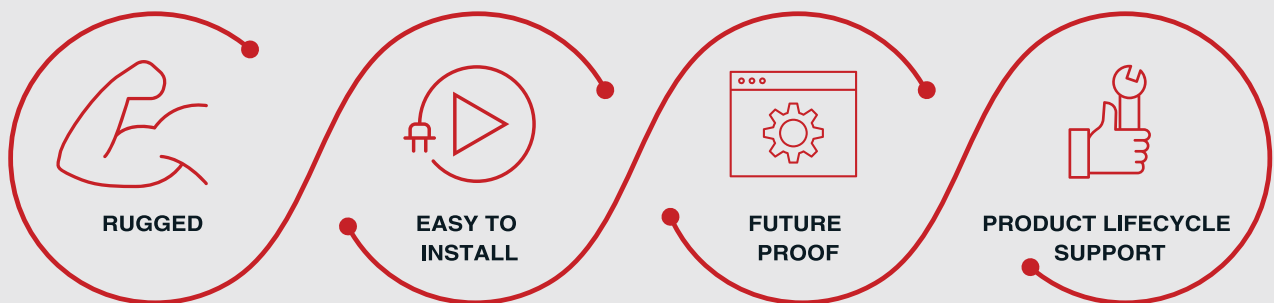




# Our Partnering Philosophy

We help in designing a complete security solution package by understanding the intrusion threats at site and selecting suitable combinations of products and integrating all of them. With our 2 decades of experience in the perimeter security domain and our deep knowledge of site conditions, requirements of diverse client needs and that of the perimeter security industry helps us carefully select OEM's which are able to provide best in class security solutions suitable for the global market.

While choosing our partners we looked for the products to be:



Our in-house technical team is trained by the OEM to locally provide:



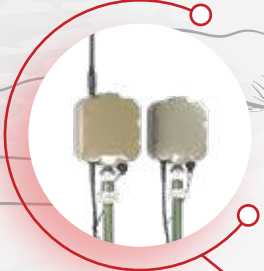
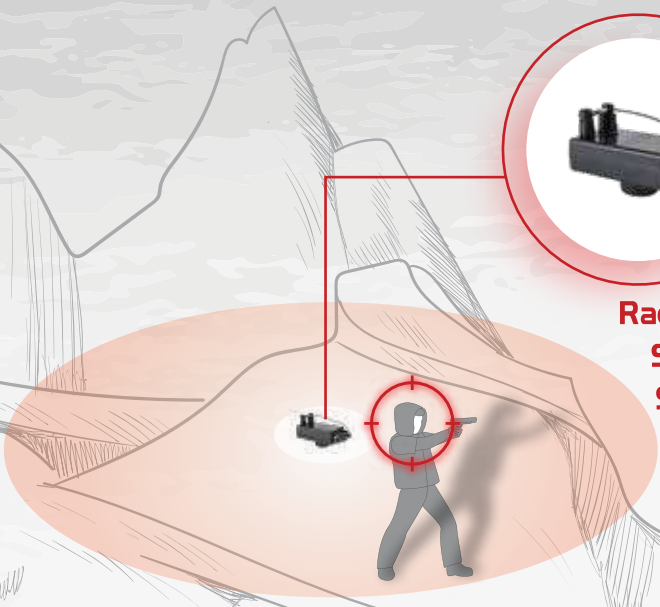
## Our Vision

**10X** growth through **entrepreneurial spirit**, **global connect** and **passion for excellence**.

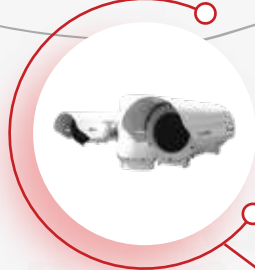
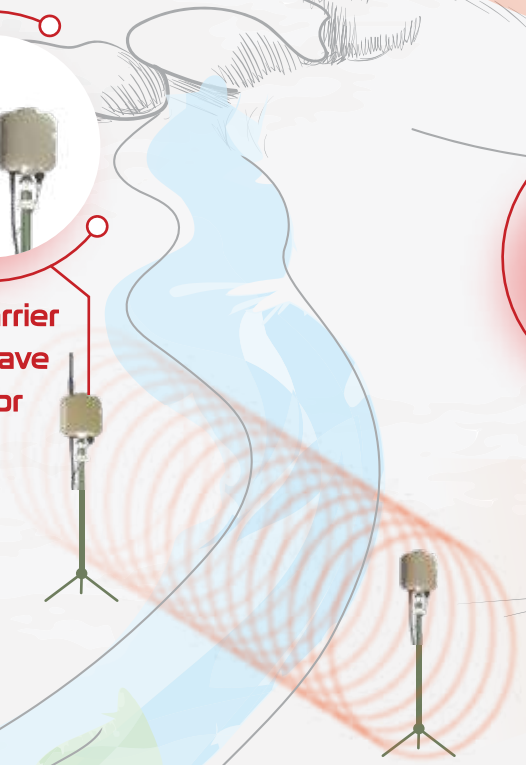
**20** YEARS OF  
★ OF  
PERIMETER  
SECURITY  
EXCELLENCE



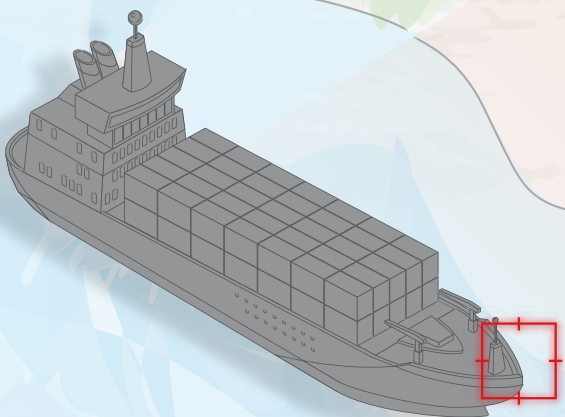
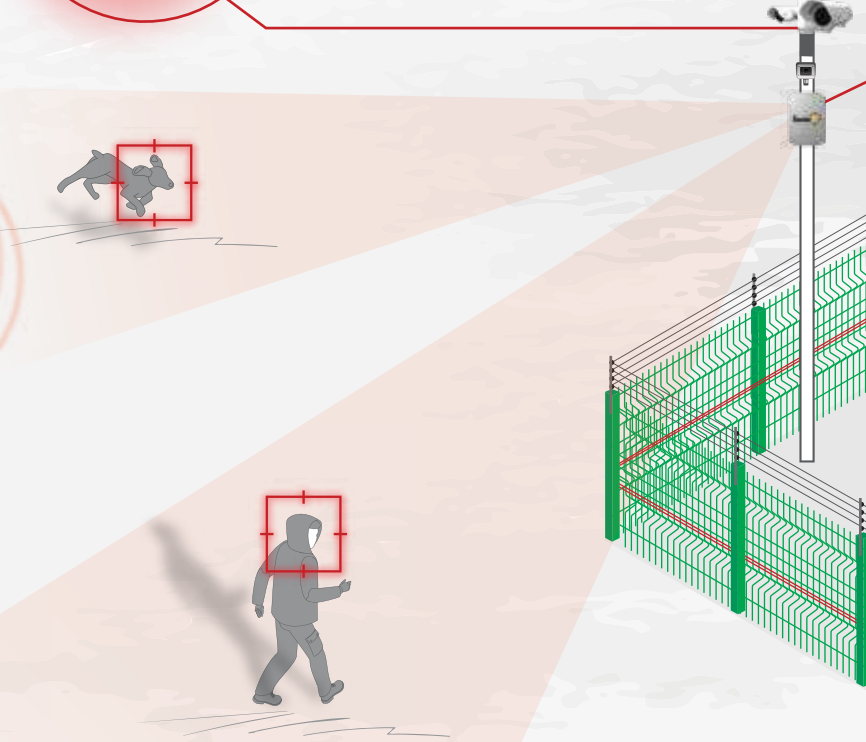
**Radiobarrier  
Seismic  
Sensor**



**Radiobarrier  
Microwave  
Sensor**



**Silent Sentinel  
Long range  
bi-spectral  
PTZ Camera**





## EARLY WARNING

These intrusion detection systems provide early warning against any intrusions far away from the perimeter. These systems can also provide alerts against intrusions where direct line of sight is not available. The intrusions can be detected via land, water & air thus providing complete perimeter protection.

## FINAL WARNING

These intrusion detection systems provide ultimate warning against any intrusion attempt of cutting, climbing or damaging the fence by sensing any disturbances on the fence. These systems provide accurate location of intrusions and also provided visual confirmation when integrated with PTZ cameras.



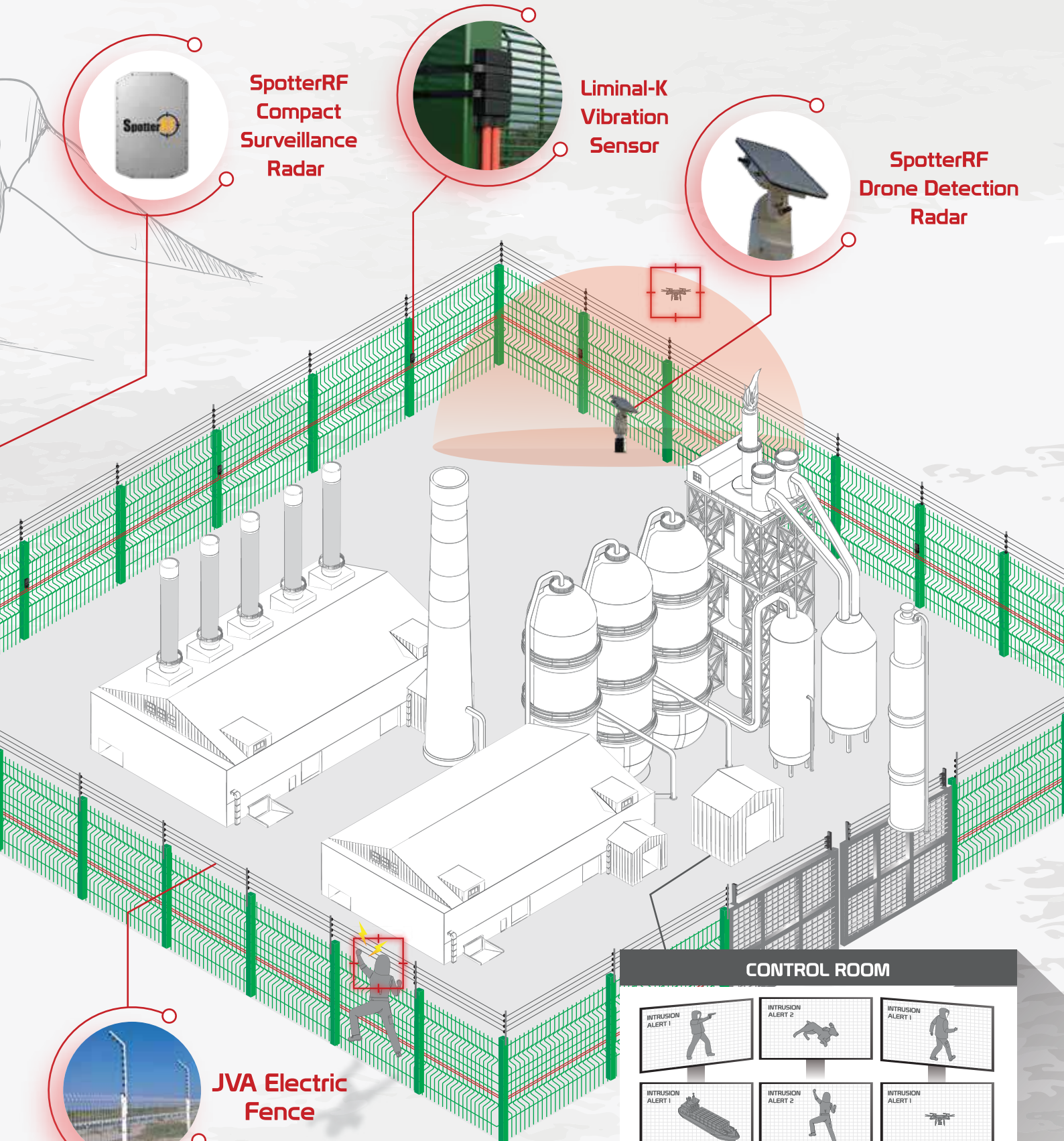
**SpotterRF  
Compact  
Surveillance  
Radar**



**Liminal-K  
Vibration  
Sensor**

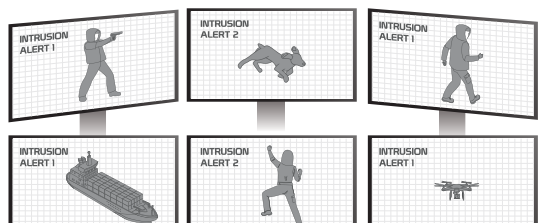


**SpotterRF  
Drone Detection  
Radar**



**JVA Electric  
Fence**

### CONTROL ROOM



# SpotterRF Compact Surveillance Radars

Compact Surveillance Radar (CSR) System for perimeter, ground, air, sea and drone detection leveraging artificial intelligence that has a wide area of detection and tracking capabilities along with visual confirmation via PTZ cameras.

## Protection beyond fences

SpotterRF radars are equipped with advanced artificial intelligence which are capable of detecting intruding targets in various environmental & daylight conditions. The AI is also capable of identifying the type of intruder like human, vehicle or animal which helps in reducing the false alarm and to take appropriate action. Intelligent drone detection is also included to combat aerial intrusion which a physical barrier can't stop.



## Variants

C series



CK series



3D Series X Band Air Rotating



## / Features



### Wide Area Coverage

SpotterRF has a very wide coverage area ranging from 15 - 380 acres and distances upto 1.4 Km away. The entire area can be divided into multiple zones with configurable actions.



### No blind spots

Track upto

# 20

targets simultaneously.



### AI Based Target Classification

Classifies the target as Human, Animal, Vehicle, Ship, Drone or Bird using AI and ML.



### Visual Confirmation

Integrates with leading PTZ cameras to track the target continuously along with exact coordinates, distance, speed, direction etc



### All weather operation

Unlike Cameras, the Radar works well in all weather conditions be it extreme heat, cold, rain, sunlight or fog.



### Portable

A portable kit that contains radar, tripod, battery pack, hub and rugged laptop making it comfortable to carry & deploy in less than 20 mins.

## / Software UI

**Auto Cues PTZ**

**Track Multiple Targets simultaneously, AI based target classification**

**Outputs - Coordinates, distance, speed, direction etc**

**Long Range Early Warning, Wide Area Surveillance, 2-380 acres - Range up-to 1.4 km**

**Multiple Zones with configurable alerts and actions**

**All weather 24x7 operation**

**Track Info:**

Estimated Altitude:	8.56 m
Approach Vector:	-2.25 km/h
Change in Altitude:	0.20 m
ID:	412273
speed:	5.67 km/h
Heading:	178°
Displacement:	51.85 m
Roll:	137.24 m
Duration:	70s
RCS:	0.43 m²
Accuracy:	2.60 m
Zone(s):	Open zone, class zone, Alarm Area

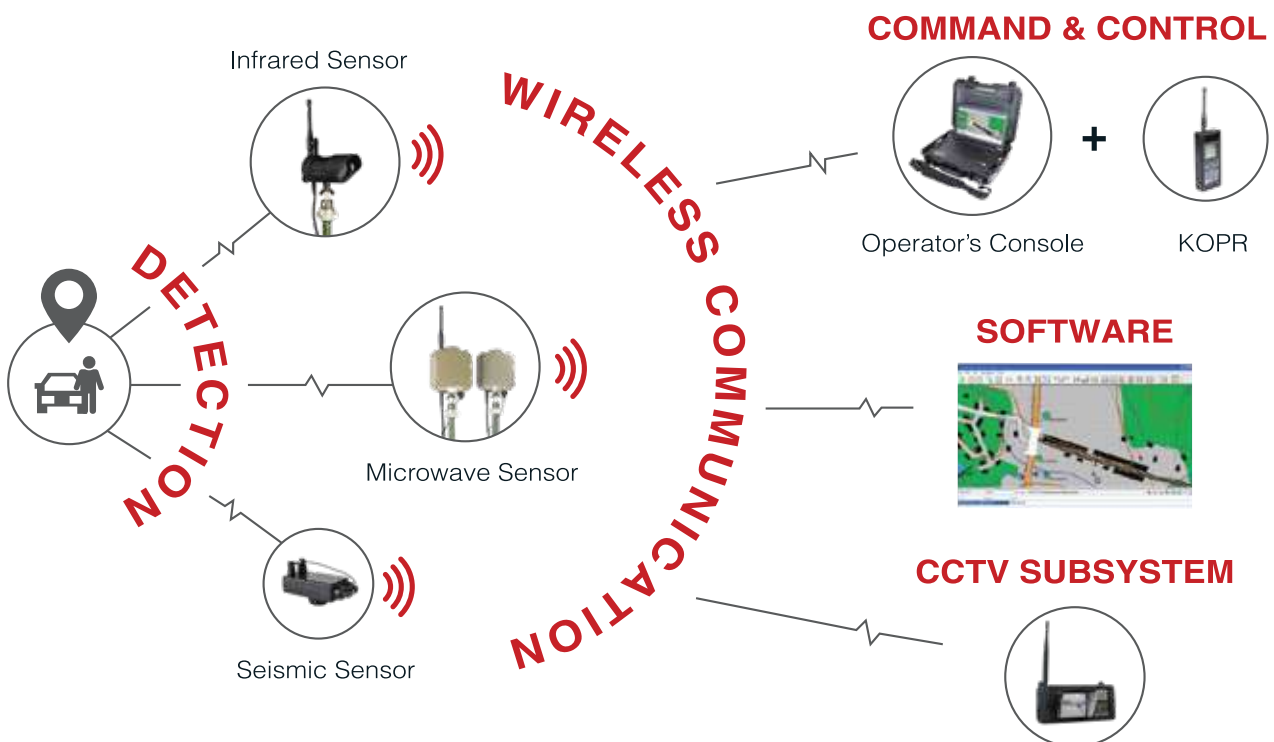
2 of 3 tracks

# Radiobarrier Wireless Sensor System

RADIOBARRIER is an advanced perimeter security system for area surveillance and perimeter protection of zones with little to no access to communication and infrastructure. This fully autonomous system utilizes different combinations of sensors like seismic, microwave and infrared to achieve the efficient detection of moving targets.

## Protection beyond fences

- ▶ RADIOBARRIER's advanced AI based technology can not only detect & classify targets like human & vehicle but also cue the appropriate CCTV surveillance cameras for video output.
- ▶ The systems communicate with each other wirelessly in a mesh network & have autonomous power backup.
- ▶ These systems can be remotely configured and can be monitored and controlled using handheld or desktop receivers.





## / Features



### Mesh Communication

All the RADIOBARRIER systems/sensors are a node in the communication system & communicate wirelessly in a mesh format.



### Long Life

The Radiobarrier devices have a mission life of upto 5 years owing to the various types of batteries and accumulators on which they function.



### Reliability

With a RADIOBARRIER system data transmission can be done to a longer distance with guaranteed delivery & secure communication channel.



### Ergonomic Design

The Radiobarrier products have a modular & user friendly design that provides for an easy & quick setup of the sensors and other components.



### High Performance

The systems can perform really well irrespective of the weather condition owing to their industry standards and IP rating.



### Integration

The systems can be used as an autonomous security solution along with the set of software programs providing full control over the system.

## / Variants

### Seismic Sensors

Compact sensors capable of detecting intrusions by picking mechanical oscillations on the ground and providing coordinates of intrusion.

- ▶ RS-U Multi-sensor
- ▶ RS-N Directional multisensor
- ▶ RS-U v2.0 Multi-sensor



### Microwave Sensors

These sensors create electromagnetic fields around the perimeter which detect any crawling, walking or running targets near the perimeter.

- ▶ RS-L 100/200 Microwave Sensor
- ▶ RS-L/433-EX Microwave Sensor



### Infrared Sensors

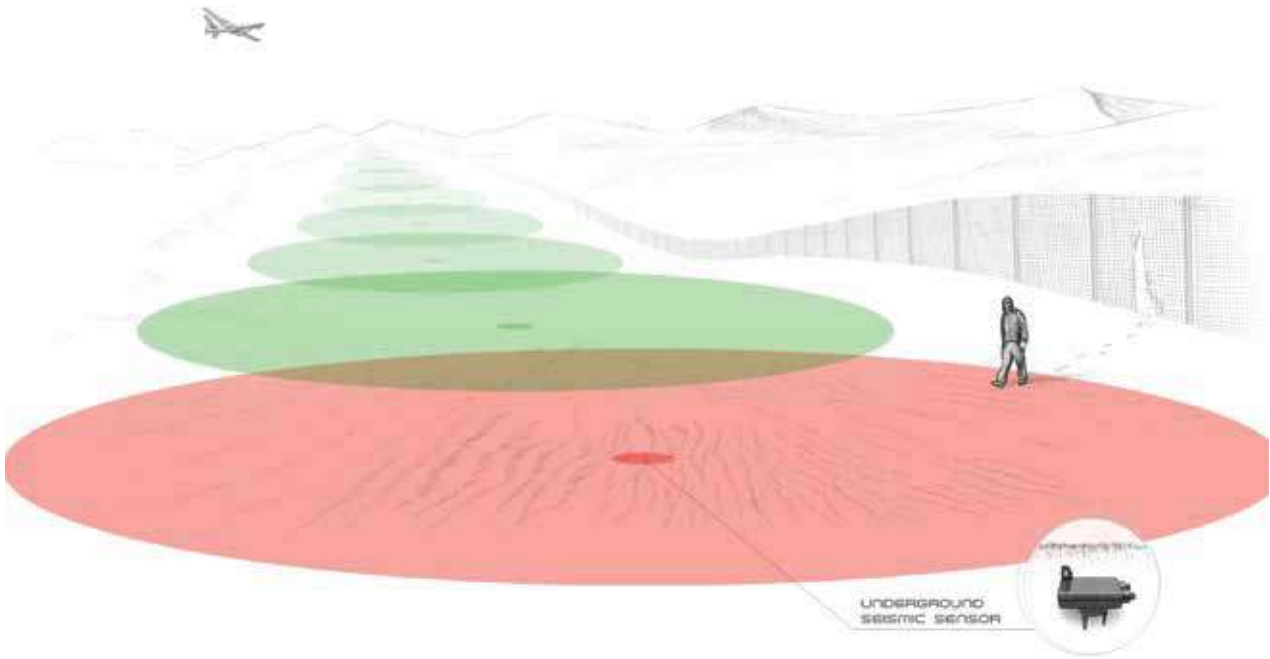
Sensors that accurately detect any human or vehicular intrusion by processing the thermal signatures from the targets.



## Product Applications

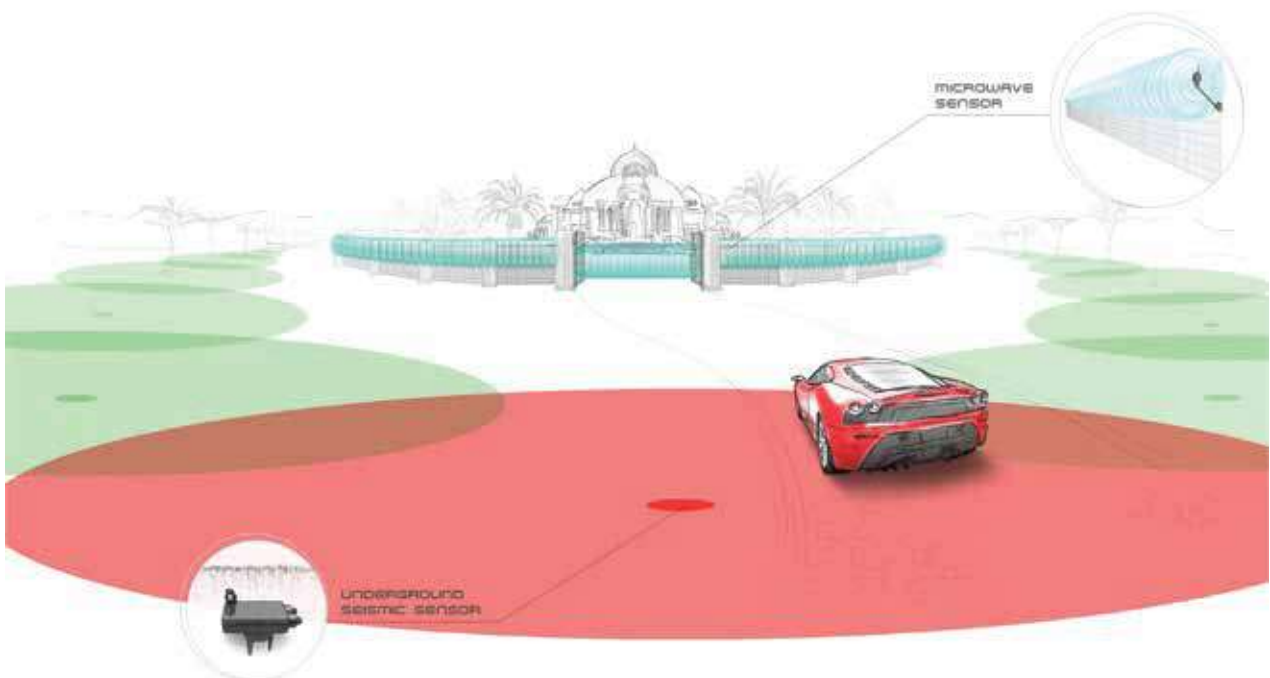
### Seismic Sensor

RS-U Multi-Sensor for Border Surveillance



### Microwave Sensor

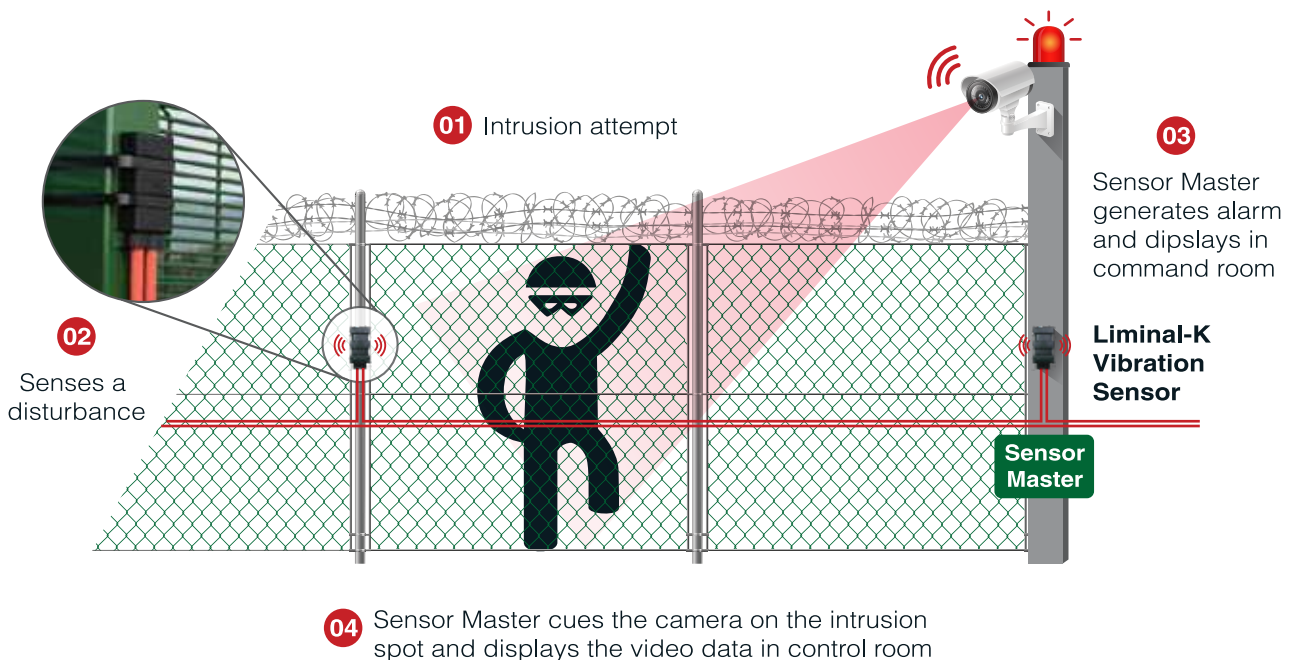
RS-L Microwave Sensor for Remote Facility Security





# Liminal-K Vibration Sensor System

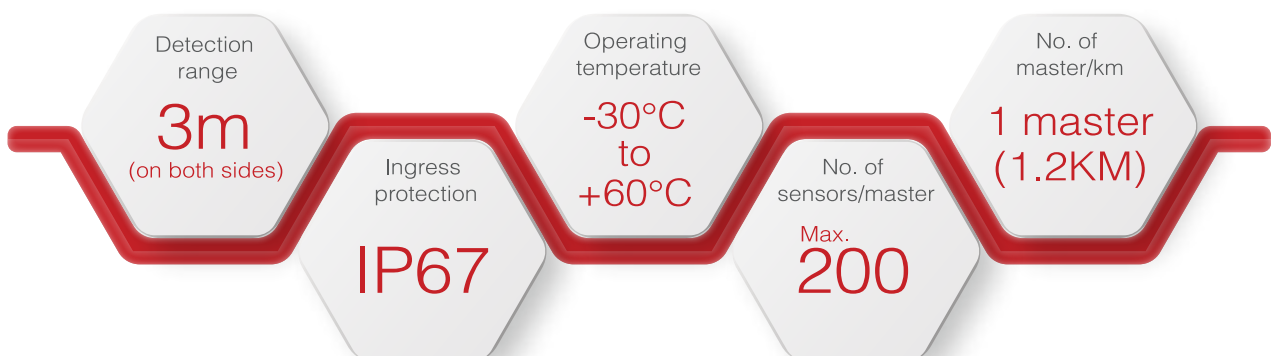
LIMINAL-K (Vibration Sensor) is a fence/wall mounted intrusion detection sensor. It raises an alarm against intrusion attempts like climbing, cutting, breaking etc. by measuring the kinetic energy imparted to the fence/wall. The sensor along with the Sensor Master & the VIGIL Software makes a complete perimeter intrusion detection system. The sensor complies with the latest, as per security & international standards.



## Software

A-1 VIGIL can be integrated with industry leading surveillance monitoring softwares which helps in converting the sensor data into useful video output.

## Specifications

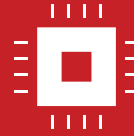


## / Features



### Temperature Alarm

Liminal-K senses the increase in temperature whenever any attempt is made to melt or burn down the sensor and immediately reports to the control room.



### Magnetic Sensor

Magnetic chips are installed in sensors at equal intervals to make sure that the patrolling of the site is recorded with ease.



### Surge Protection

Any fluctuation in voltage is sent to the ground thus leaving the sensor and its components unharmed.



### Tilt Detection

Any changes in the position of the sensor due to weather are easily detected and forwarded to the control room.



### Tamper Proof

As per HCIS compliance, Liminal-K provides tamper proof operation such that the sensor chain, control panel & the software continues to operate normally even after detecting a failure in a few components. It ensures that the system has built in redundancy for contingency management.



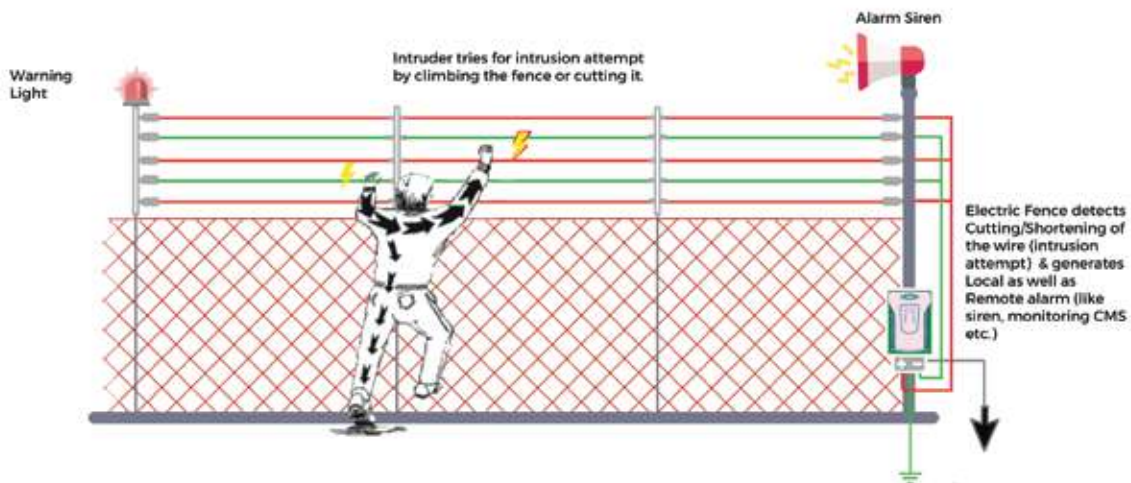
### Hassle-Free Installation

The ergonomic design and the plug & play modules of the system provide for hassle-free installation. The modular stainless steel clamps/UV resistant cable ties allow the system to be installed on any type of post.

# JVA Electric Fence System

An active perimeter security system which gives a non lethal but powerful shock to intruders and also generates local and remote zone wise audio-visual alarms in case of climbing or cutting attempts. Exclusive distributor of JVA systems in Middle East and India.

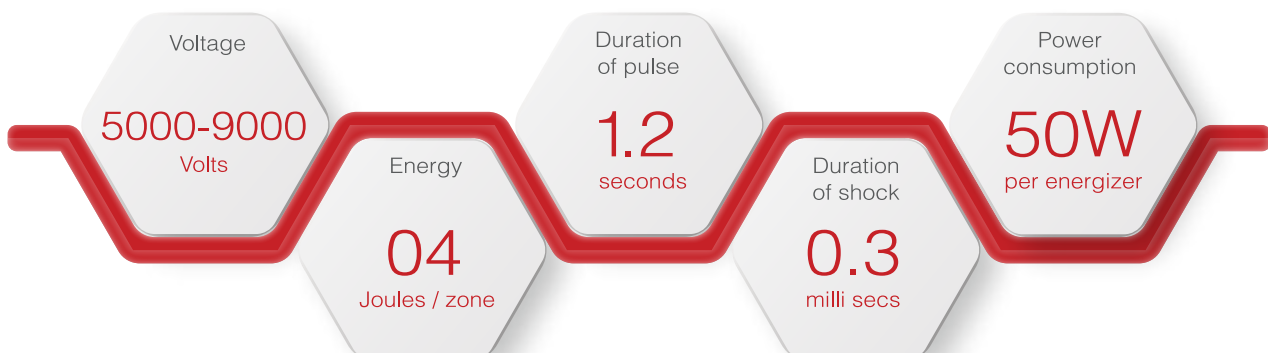
Electric Fence is made of multiple conductive wires that run horizontally along the fence & are parallel to each other. The wires are connected to a device known as Energizer which transmits short & continuous high voltage pulses all along the fence line. The voltage ranges from 5000 V to 9500 V. In case someone disturbs the fence by cutting or shorting the wires then an audio & visual alarm is raised immediately. So one trying to tamper the fence will be immediately detected.



## / Multiple Zones

Entire Fence length can be split into multiple zones for understanding detection areas. Typically each side of a plot is configured as an independent zone. Recommended zone lengths are of maximum 500 m.

## / Specifications





## / Features



### Powerful yet Safe

The fence system adheres to IEC 600335:2:76 standard which ensures that shock from the fence is safe but strong enough to create a psychological barrier for the intruder.



### Intrusion Alarm

Any attempt to cut, short or tamper the wires is immediately detected and a zone wise alarm is generated and reported through audio visual notifications & also via SMS/Email. Power loss and communication failure is also detected and informed.



### Software Control & Integration

A sophisticated perimeter patrol software with a map based UI helps in monitoring and controlling the electric fence system zone wise. It also maintains an alarm log for post event analysis. The system can be integrated with industry leading video management softwares to connect PTZ cameras so that they cue to the zone where intrusion is detected.



### Adjustable sensitivity

The threshold for alarm sensitivity can be adjusted between the range 10% to 90% of the programmed output voltage. The missed pulse count can be adjusted from 1 pulse to 8 pulses ensuring that the alarm is raised only if voltage falls below threshold for a pre-decided duration equal to missed pulse count.

## / Configurations



**Fence Top  
Electric Fence**



**Wall Top  
Electric Fence**



**Piggybacking  
Electric Fence**

# Silent Sentinel Long Range Bi-Spectral PTZ Camera

Silent Sentinel PTZ cameras provide advanced and highly modular surveillance platforms for land and maritime surveillance applications. Our platforms are designed to be highly customisable and feature some of the latest electro-optical (EO) sensors. We are specialists in both cooled and uncooled, long range thermal camera platforms.

## **/ Integration with other intrusion detection devices**

Silent Sentinel PTZ cameras provide the flexibility to easily integrate with intrusion detection devices like SpotterRF radars, Radiobarrier sensors, Liminal-K & Electric Fence which helps in alerting about the intrusion with visual confirmation.

### **Oculus**

The Oculus is a compact, ruggedized, fully integrated, thermal PTZ camera. It is capable of supporting uncooled thermal cameras (with fixed lens options up to 50mm) and HD/4K visible cameras. There are 3 different options available



#### **EVO<sup>2</sup> Oculus**

Capable of offering human detection up to 1km and vehicle detection up 3.4km.



#### **Oculus Scout**

Capable of offering human detection up to 2.65km and vehicle detection up 3.39km.



#### **Oculus HD**

HD 30:1 visible camera with wiper and can be mounted upright or hanging

# Aeron

Aeron is an advanced, compact, highly ruggedized, mid range thermal PTZ camera. It is capable of supporting uncooled (LWIR) and cooled (MWIR) thermal cameras (with lens options up to 300mm), HD/4K visible cameras and enhanced scene illumination.



## **EVO<sup>2</sup> Aeron**

Cooled (MWIR) thermal camera with up to a 300mm zoom lens with wiper.



## **Aeron Scout**

Capable of offering human detection up to 2.65km and vehicle detection up 3.39km.



## **Aeron Ranger**

HD 30:1 visible camera with wiper and can be mounted upright or hanging



## **Aeron Searcher**

Capable of offering human detection up to 10.97km and vehicle detection up to 20.11km.



## **Aeron Hyperion**

Wavelengths: White Light, IR (810nm), IR (940nm), Red, Green  
Beam widths: 3 , 30 , 60 , 90 & 120



## **Aeron LRF**

LRF (Laser Range Finder)  
Capable of offering human detection up to 3.29km and vehicle detection up to 10.1km.



# Silent Sentinel Long Range Bi-Spectral PTZ Camera

## Osiris

Osiris is a fully integrated, modular, multi-sensor, highly ruggedized, PTZ camera. It is capable of supporting uncooled (LWIR) and cooled (MWIR) thermal cameras (with lens options up to 300mm), along with mid to long range low light HD / 4K visible cameras.



### Osiris Ranger

Thermal camera capable of offering human detection up to 4.93km and vehicle detection up to 15.22km.



### Osiris Ranger LR

Thermal camera capable of offering human detection up to 10.07km and vehicle detection up to 16.40km.



### Osiris Signal Light Gun

Thermal camera capable of offering human detection up to 4.93km and vehicle detection up to 15.22km.

# Silent Sentinel Long Range Bi-Spectral PTZ Camera

## Jaegar

Jaegar is a fully integrated, modular, multi-sensor, high powered PTZ platform. It is capable of supporting uncooled (LWIR), cooled (MWIR), and cooled HD thermal cameras (with lens options up to 960mm), along with very long range low light HD / 4K visible cameras and a through shaft to allow for radar mounting.



### Jaegar Ranger

Thermal camera capable of offering human detection up to 4.93km and vehicle detection up to 15.22km.



### Jaegar Ranger LR

Thermal camera capable of offering human detection up to 11.97km and vehicle detection up to 18.85km.



### Jaegar Searcher

Capable of offering human detection up to 24.17km and vehicle detection up to 31.17km.



### Jaegar ULR Camera

Capable of offering human detection up to 30.30km and vehicle detection up to 50.00km.



### Jaegar Sonus

Capable of delivering 154db of sound pressure, which can provide clear, directional and intelligible speech at ranges up to 2.5km.

## **/ Other Offerings**

### **High Security Fences & Barriers**



Delay Rated Fence

Anti Vehicle Barrier

Anti Climb Fence

Static Bollard

### **Conventional & Aesthetic Fences**



Weldmesh Fence

Chainlink Fence

Camel Fence

Sand Mitigation Fence

Sports Fence

## Entrance Control



High Security  
Swing Gate

High Security  
Sliding Gate

## Pedestrian & Road Safety



Twin Wire  
Pedestrian Fence

Guard Rail

Gabion





- CUSTOMER BASE
- MANUFACTURING | SALES OFFICE

**DUBAI OFFICE**

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We are here to assist you!  
 We would like to hear about your problems/grievances with anything so we can improve!  
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