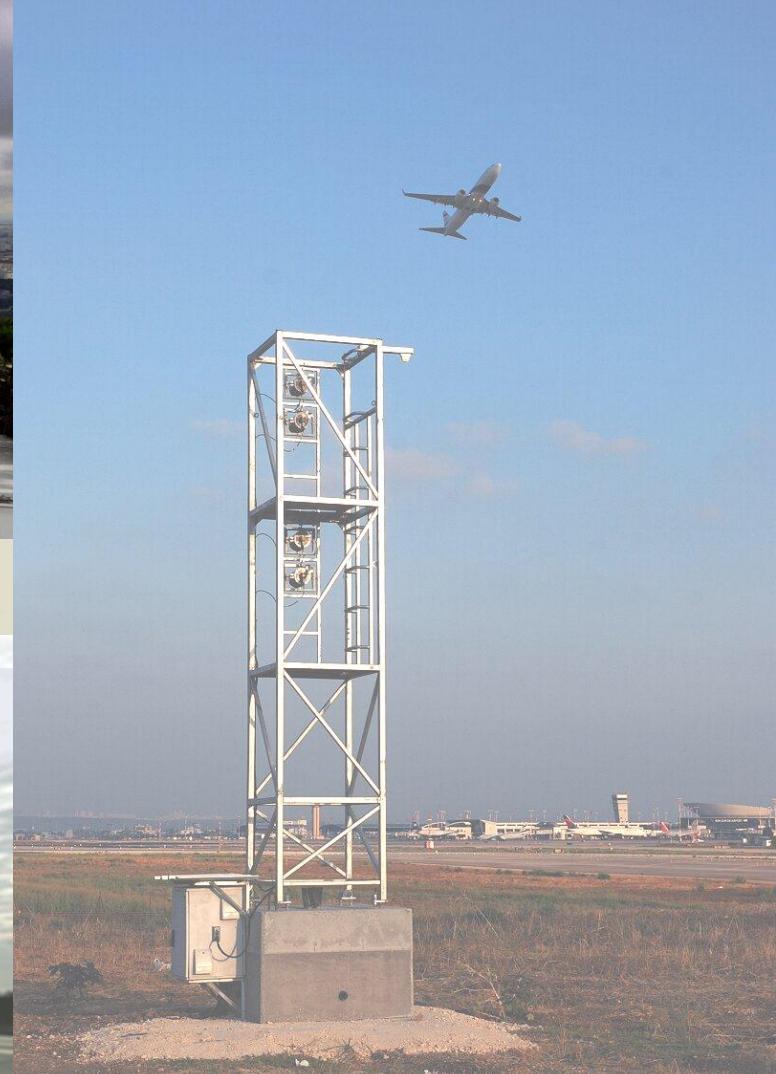




Passive Stereoscopic Surveillance System



Two eyes never miss information

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The Challenge

100% detection for any kind of intruder or tangible risk. While keeping an ultra low false alarm rate down to a negligible burden to the user



Two eyes never miss information

How does Magna deal with this challenge?

Magna uses the same principle as a human body – two eyes and a brain



Magna has two cameras (CCD or/and Flir) that recovers the third dimension.

$\frac{\partial \theta}{\partial \theta} T(\xi) = \frac{\partial}{\partial \theta} \int_{\mathbb{R}} T(x) f(x, \theta) dx = \int_{\mathbb{R}} \frac{\partial}{\partial \theta} T(x) f(x, \theta) dx$

$$\frac{\partial}{\partial a} \ln f_{a, \sigma^2}(\xi_1) = \frac{(\xi_1 - a)}{\sigma^2} f_{a, \sigma^2}(\xi_1) = \frac{1}{\sqrt{2\pi\sigma^2}} \int_{\mathbb{R}}$$
$$\int_{\mathbb{R}} T(x) \cdot \frac{\partial}{\partial \theta} f(x, \theta) dx = M \left(T(\xi) \cdot \frac{\partial}{\partial \theta} \ln L(x, \theta) \right) \int_{\mathbb{R}}$$
$$\int_{\mathbb{R}} T(x) \cdot \left(\frac{\partial}{\partial \theta} \ln L(x, \theta) \right) \cdot f(x, \theta) dx = \int_{\mathbb{R}} T(x) \left(\frac{\partial}{\partial \theta} \frac{f(x, \theta)}{L(x, \theta)} \right) dx$$
$$T(\xi) = \frac{\partial}{\partial \theta} \int_{\mathbb{R}} T(x) f(x, \theta) dx = \int_{\mathbb{R}} \frac{\partial}{\partial \theta} T(x) f(x, \theta) dx$$

Magna developed a sophisticated algorithm that could filter any disturbances and focus on the real target.

Magna Stereoscopic Technology



- **With stereoscopy technology all the target parameters are immediately and automatically calculated - no video motion detection is required**
- **Among Magna's system abilities are distance to target, dimensional size, velocity and movement directions, disturbing targets filtration etc.**



System Benefits

- Extremely low FAR (False Alarm Rate is 1 per 24h) negative and positive
- 100% Detection
- Detection of human target up to 1.5km
- 24/7 operational
- Simple installation, Full automatic operation
- Operational in Severe weather conditions
- Automatic target alert by visual and audio channels
- Custom and user defined filters
- Low power requirements



Unique and superior system to all others



HLS - Installations

Magna

The logo consists of a stylized 'M' shape formed by two curved lines that meet at the top, resembling a mountain peak or a swoosh. Below this shape, the word "Magna" is written in a bold, sans-serif font.

HLS – Detection Zone



The yellow strip represents the detection zone.
Only when the targets enter the zone, the system
will alert the operator



HLS – Distinguish Abilities



Distinguish ability between animals (circled in red) and people



HLS – Pre-Alarm

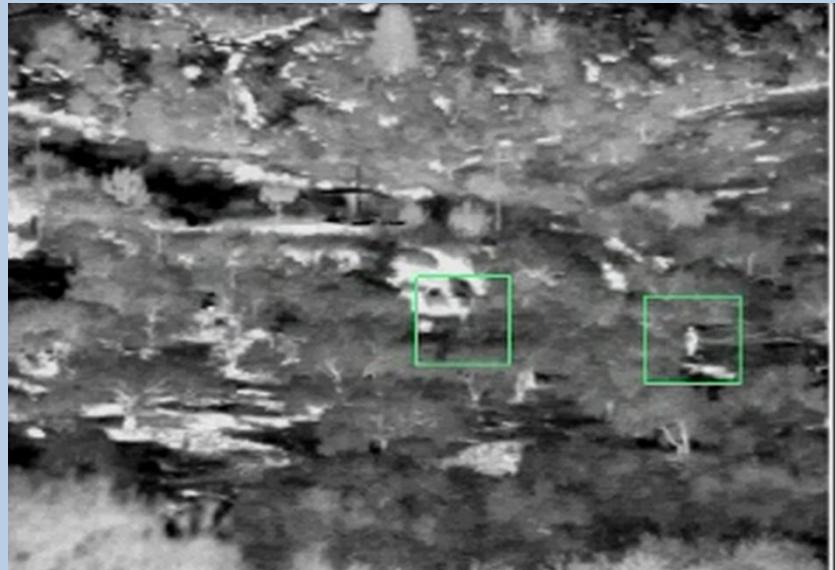


Magna's system gives a reliable pre-alarm and identifies security events before they occur. This feature helps the decision makers at the control room to act in a more efficient way.

HLS -Dense vegetation- Installations

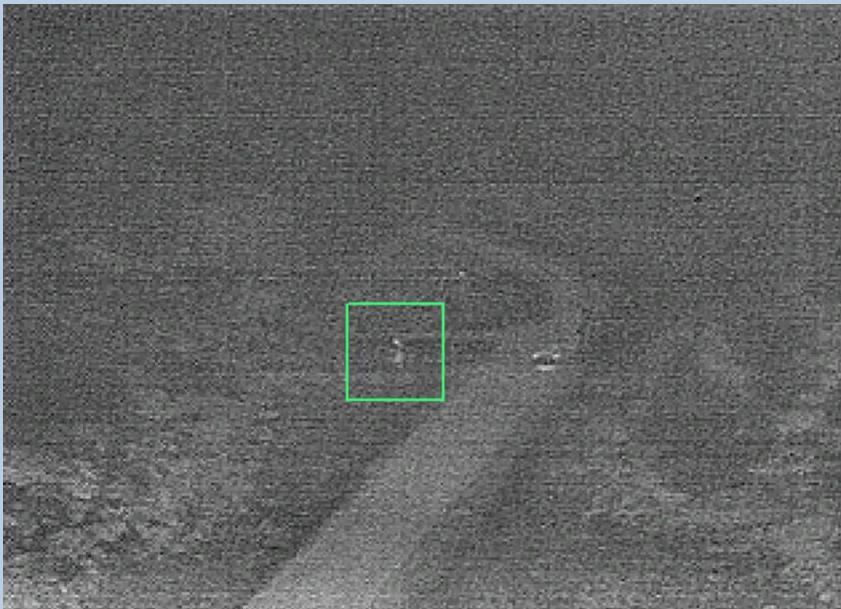


Filtering electric cable movements



Magna's system detects in places as dense vegetation that is considered to be a difficult detection zone for other sensors

HLS- Severe Weather



An intrusion event



An intruder on a horse

The pictures were taken in **severe weather** as fog, heavy rain etc.



HLS – Special Abilities



The yellow strip represents a fence. Only when the man reaches his hand through the fence the system sends an alert.





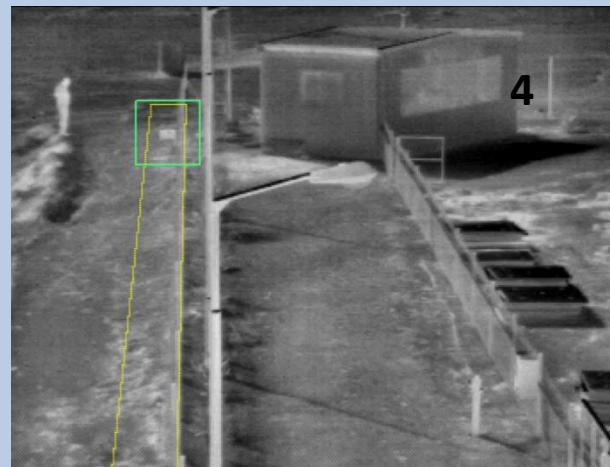
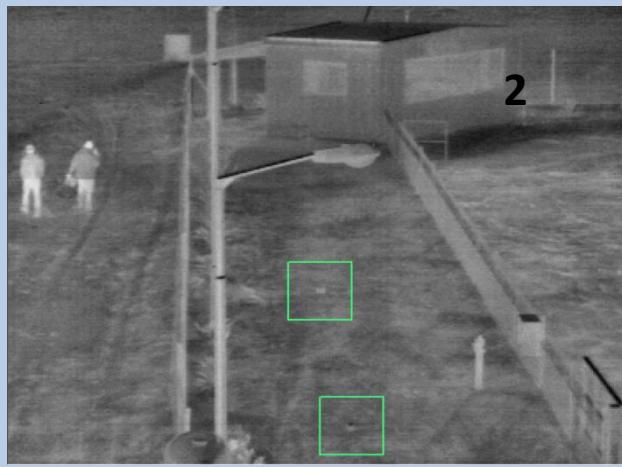
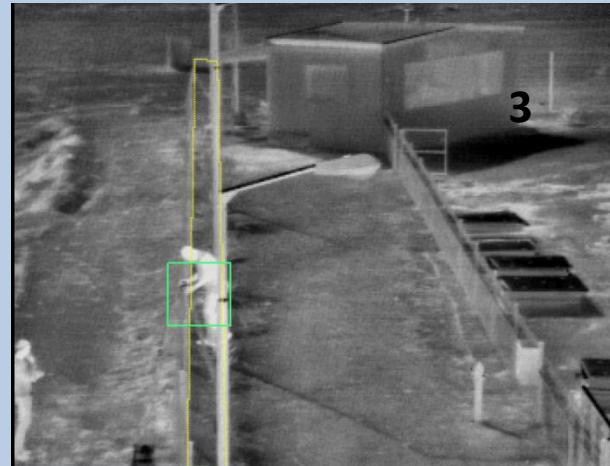
HLS – Special Abilities



Magna's system can detect **people's gathering**. In this case if 3 people stand at the same place for 30 seconds the system sends an alert



HLS – Special Abilities



Even sophisticated attempts that tried to overcome the fence as throwing an object (pic 1,2), climbing a ladder (pic 3) or leaving a package near the fence (pic 4) were revealed by Magna's system.



HLS Sea-side Installations

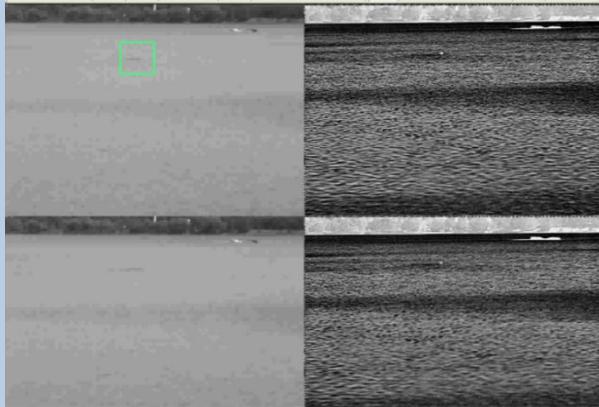


HLS - Sea-side



Magna's system has an exceptional performance at sea side. The system learns the pattern of the sea waves and can focus at the real target on real time.

More Sea-side Applications



Swimmer detection at 300 Meters. Magna's system is able to detect the swimmer although only his head is visible



Intruders detection on a breakwater in stormy weather and high sea waves



Detecting a swimmer and a small boat at 500 Meters



HLS – Nuclear Reactors Installations





HLS – Nuclear Reactors



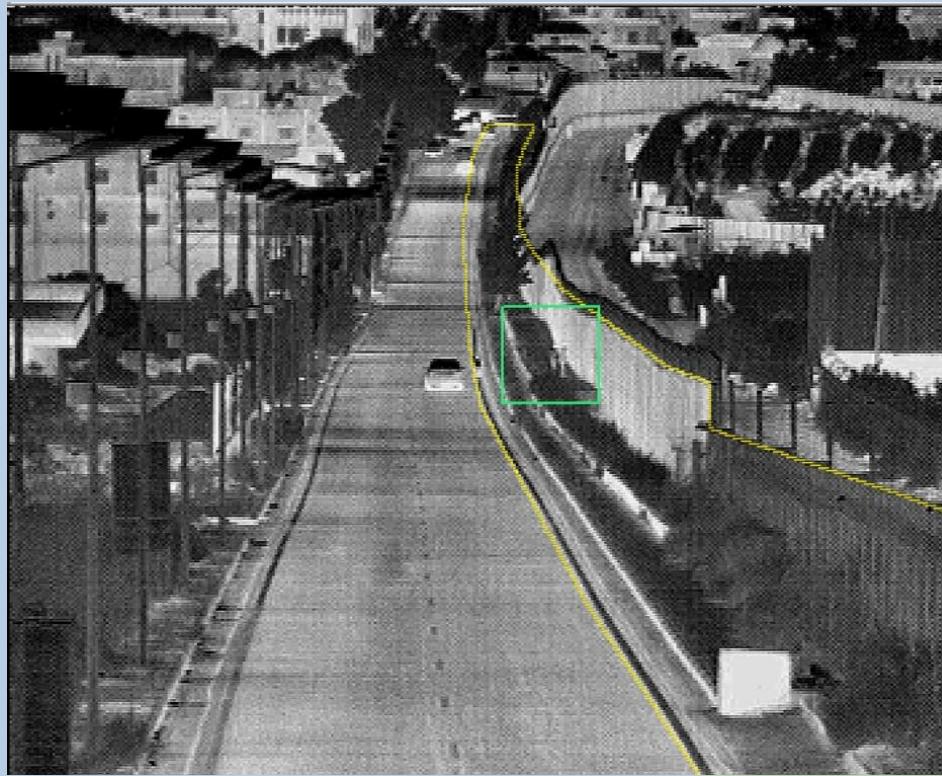
The only system that can give a full coverage of perimeter protection, land and maritime, of intruders and threats of any kind.



Israeli Borders Installations



Israeli Borders Installations



The yellow zone represents the tracing zone.

The system detects only human beings that climb on the wall, while ignoring all the other movements.

Israeli Borders Installations



The pictures were taken at the East Israeli border at day time

The system focuses on the targets and filters all the movements that are irrelevant

Thank you for your attention

For further information:

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