Company Background

• More than 50 years of excellence in Infrared Technologies
• Design and manufacturing of Electro-Optical systems
• US Company parts of Carlyle Group
• Headquarters in Igny, France
• Sales offices in China, USA, India, Singapore
  Worldwide agent network
• ISO9001 certified for design, development, manufacturing, marketing and service
Company Products

Wide-Area Surveillance

Infrared Search & Track Panoramic Systems
IR Technologies : Detect and Track

The Spynel Solution

Xavier ELBAZ
Sales Engineer and Tech Lead
The Threat: Piracy
Piracy in Commerce Industries

Records of 2018

Piracy in Commerce Industries

Records of 2019


Location detail:
Around 16nm NW of Pulau Damar

Narrations:
Seven pirates armed with a pistol and knives in a small speed boat boarded a bulk carrier underway using a ladder attached with a hook. Master and the second officer taken hostage, tied up and assaulted by the pirates. The pirates stole cash and crew personal belongings before escaping. Incident reported to Korean Authorities.
Piracy in theater

Records of 2019
UK to seek European maritime mission to counter Iran's 'illegal acts of piracy'
Piracy in theatre

Records of 2019

American warship destroys Iranian drone in Strait of Hormuz
The Port Security advices
Port Security Advisory (2-09)

• Establish an anti-piracy plan commensurate to the threat level and vulnerability of the vessel that can be practiced and implemented by the crew. The anti-piracy plan should include:
  A. Hardening the vessel against intrusions.
  B. Non-lethal methods for repulsing invaders.

• Equip vessel with non-lethal means to disrupt, disorient, and deter boarders; e.g:
  ➢ loud acoustic devices,
  ➢ high energy light beams or other equipment to repulse attackers is recommended. j,
  ➢ **Outfit vessel with enhanced detection equipment** (night vision devices, high beam search lights, cameras, etc.).
The technologies to protect you
RADAR

- No Image
- Can be detected and identified
- Can be jammed
- Issue to detect small objects (jet-ski, RIB, skiff, swimmer…)
- One for Air targets, one for Maritime targets
The IR Technology

- IR is based on heat signature and thermal contrast
- IR sensors are completely passive
- IR based technologies are undetectable and not sensitive to jammers
EO-IR Sensor : PTZ

- Very narrow field of view
- Can not track multiple targets
- Can record video in one single direction
The IR Technology
The IR Technology

Tracking of small surface targets in light fog
The IR Technology
Spynel vs PTZ

The SPYNEL Concept

What Spynel sees

What a Pan&Tilt camera sees

The SPYNEL Concept

What Spynel sees

What a Pan&Tilt camera sees
EO-IR Sensor : Spynel

- Cost effective for wide area/perimeter surveillance
- Automatic Detection & Tracking capabilities
- Recognition of multiple intruders simultaneously
- UAV, RIB & human detection capabilities
- Proven and COTS technology
- Passive detection (undetectable, no EM disturbance)
- Automatic tracking before and after intrusion
- Fast & easy deployment (mobile/temporary surveillance)
- Insurance to record all intrusions (360° video recorded)
EO-IR Sensor: Spynel Typical installations

Oil&Gas facilities (FPSO, FLNG, CPF…)

Boats (Commercial boats, OPV, yachts, Frigates, USV…)

Harbour & Coastal surveillance
EO-IR Sensor: Spynel
Thank you

www.hgh-infrared.com