Thermal Cameras
More than meets the eye for the Maritime market

Presented by Robert Hampton
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Overview

• The evolution of thermal imaging
  – Video, Night Vision, Thermal

• Search & Rescue

• Harbor Safety

• Port Security
Prior to the inception of thermal imaging, typical surveillance devices utilized light as their sole source of producing images.
Thermal Imaging is Here

• Low Light Conditions:
  – From Cameras to Night Vision Technology

• No Light, obscured visibility, and bright light conditions: Thermal sensors are able to display images based on a radiant heat source delta between environment and object.
  – Low/no light
  – Obscured Visibility
  – Bright Light
Maritime Search and Rescue

• Poor visibility conditions while at sea
  – Ships and small vessels are identified
  – People in the water, on deck, and life rafts.
• Vital for successful overboard missions and rescues.
  – Even in the darkest conditions, thermal imaging can pick up overboard victims through heat detection.
  – You can see the tops of the victims 10-20 minutes before water temperature and body temperature become very close.
• Result: increased response time.
• Ultimate benefit: increased recovery and survival rates.
Port Harbor Safety

• Thermal imaging detects obstacles from greater distances. Can even detect some floating objects.

• Coupled with Radar detection and/or other technology, objects are better identified in terms of vessel size and type - more quickly and accurately.

• Vessels approaching port perimeters can be more accurately identified and monitored.
  – Decrease collision risk through more accurate vessel identification and distance measures
  – Can see a ship in pitch black, light fog, rain, etc. Heavy weather conditions can slightly affect vision.

• Security and Law enforcement can assess a situation without being detected by possible perpetrators.
Port Security

– Understanding the threat mitigation model - DDR
  • Design Based Threat as the core to build from
  • Areas of magnitude and critical assets
  • Detection, Delay, Response & where thermal sensors fit

– Detection vs. Identification – Thermal technology limitations & usage
  • Restricted areas, Perimeter
  • Inside Perimeter, Common Areas

– Optimizing thermal technology through integration
  • Analytics
  • Geo tracking
  • VMS/PSIM with comprehensive alarm management/situational awareness
Optimizing Through Integration

- Integrated solution for long range day/night PTZ night vision
- 60x IR-corrected motor zoom lens with focal length of 12.5-750 mm extending to 25-1500 mm with doubler function
- High performance Dinion 2X CCD imaging core
- Dual ZX700 IR illuminators provide night vision performance to 1200 m (3900ft) for classification-level performance
- SLED 10-8BD IR Illuminators for medium range night vision

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Understanding the limitations and proper use of technology is in the DNA of the Systems Integrator. Understanding the safety, vulnerabilities and threats to a facility is in the DNA of their Security Director. Consultative collaboration between the two is the best approach to effectively implement technology in a Safety and Security Program.
Thank You!

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