



A Division of Allied International Support

Port and Harbour Security

Profile Of Capability

"an Effective Security Shield"

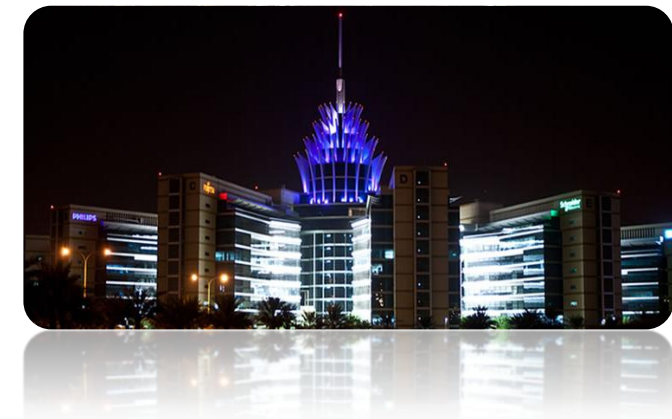
www.AISecuritySolutions.com

- ⦿ A GCC **Defense Solutions** company, in business for 10 yrs.
- ⦿ A division of Allied International Support
- ⦿ In Defense, Aviation & Security sectors
 - ✓ Supply Chain Management
 - ✓ System Integration Support
 - ✓ Defense Program Management
 - ✓ Integrated Security Solutions
 - ✓ Integrated Training Solutions

AIS Oman - Ruwi



AIS International – Dubai Silicon Oasis



One of the fastest growing companies in GCC:



- ✓ Over 30 key customers
- ✓ Over 250 major OEM's represented
- ✓ Real value-added services
- ✓ True commitment to local skills development



Key Partners



Strategic Programs:

- ✓ Maritime Surveillance & Security
- ✓ Coastal / Port Protection, Port Management
- ✓ VIP Protection
- ✓ Military base security

Key to Success:

- ✓ Thorough Understanding of **Customer Mission** / Security Threat
- ✓ Diverse Workforce with Strong **Program Management**
- ✓ Dedication to **Customer Support** through project life cycle

Mix of **Ex-Military** (*Oman, Europe, North America*), **Engineers & Logistic Support** specialists

ISPS – Port Security Officer Certified

PSIM Solution Engineer certified



Key DAHRA/AIS Facts:

- ✓ Order intake 2013-2015 ~\$300m
- ✓ Staff in Oman and UAE – 68 (Engineers, Technicians, Programs, mix of skills)
- ✓ Delivering 85% Omanization, goal 90% by 2013
- ✓ ISO 9001:2008, QC100 Certified
- ✓ Export license from state department- USA. TRACE membership, Broker Registration

Only Omani defense & security company operating outside of Oman (Qatar, Bahrain, Libya, Turkey, Holland, USA, UAE)



Multi-Skilled – Ex-Military, Engineering, Systems, Projects, Analysis



Ray Minhas
Managing Director

MBA, MSc (Mech), MSc (Aero),
BSc (Hons)
25 years experience – Defense,
Security and Aerospace.



General (r) Younis Al-Balushi
Operations Director

MSc, BSc, MBA
Royal Air Force of Oman. 33
years experience - Military
Operations, Security ConOps.



Prarthana Kaluarachchi
Market Development Director

MBA, BA
12 years experience in defense
and aviation business
development in Gulf



Lee Wagstaffe
Lead Engineer

BSc (Eng)
10 years experience in
Command & Control & security
systems development.



Soofwan Minhas
Lead Consultant

BSc (Eng), MSc
12 years experience in security
systems development:



Bob Bartsch
Program Manager

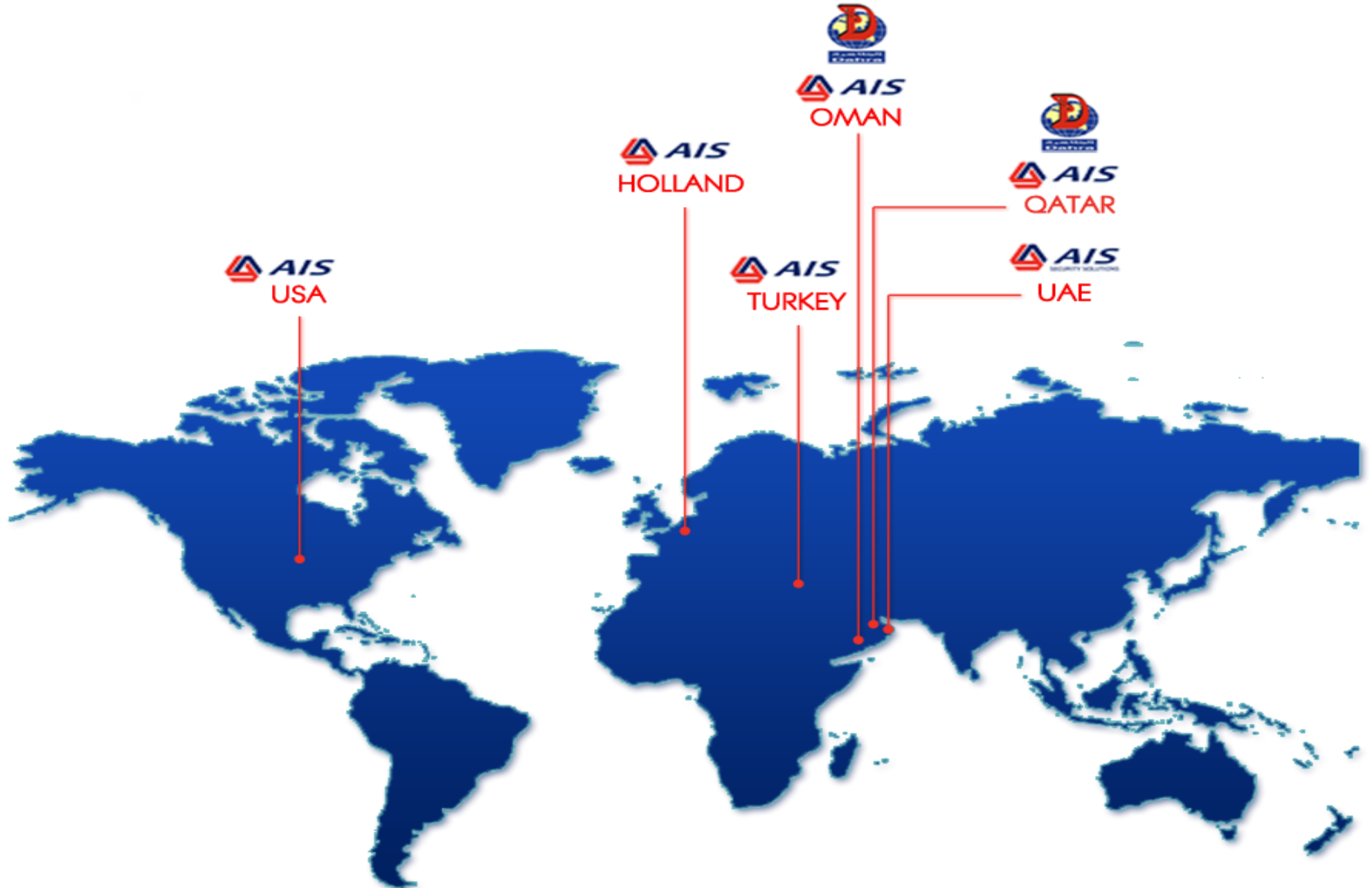
36 years experience with Security
Systems; CCTV, Access Control,
Radar, Sonar, PIDS



Mary Ann Lumang
Marketing Executive

BSc
Software Development, Business
Analysis and Marketing





We have the resources and expertise to provide a turnkey solution for any complex security application: from large scale military, commercial, industrial and border security to local and VIP security.



Airport Security

wide-area surveillance
multi-layered security approach
full airport operations maintained
access control and screening



Port Security

Maritime & land surveillance
access control and screening
intrusion detection multi-layered
security



Border Security

x-ray & baggage screening
container screening and tracking
narcotics & explosives detection



Power/Utilities Security

intrusion detection
ID and access control
day/night persistent surveillance
Immunity to EMI/RFI



Oil & Gas Security

On-shore & Off-shore protection
ID and access control
day/night persistent surveillance
continued operation



VIP Security

protection of VIP palaces
perimeter security of aircraft
Personnel & vehicle security

SECURITY DESIGN & CONSULTANCY

Our team of military experts, system engineers, and program delivery specialists are able to design a security solution tailored to your specific needs.

Designed for maximum peace-of-mind

AIS will undertake a full evaluation of your exact requirements, carry out site surveys as required, produce detailed reports, technology specifications and drawings to design a **complete security solution**.

SECURITY TRAINING & DEVELOPMENT

Our diverse team will design & implement tailored Security Training to national and international standards covering all aspects of safety & security, optimal use of technology, and tactics.



Requirements Capture



Technology Assessment

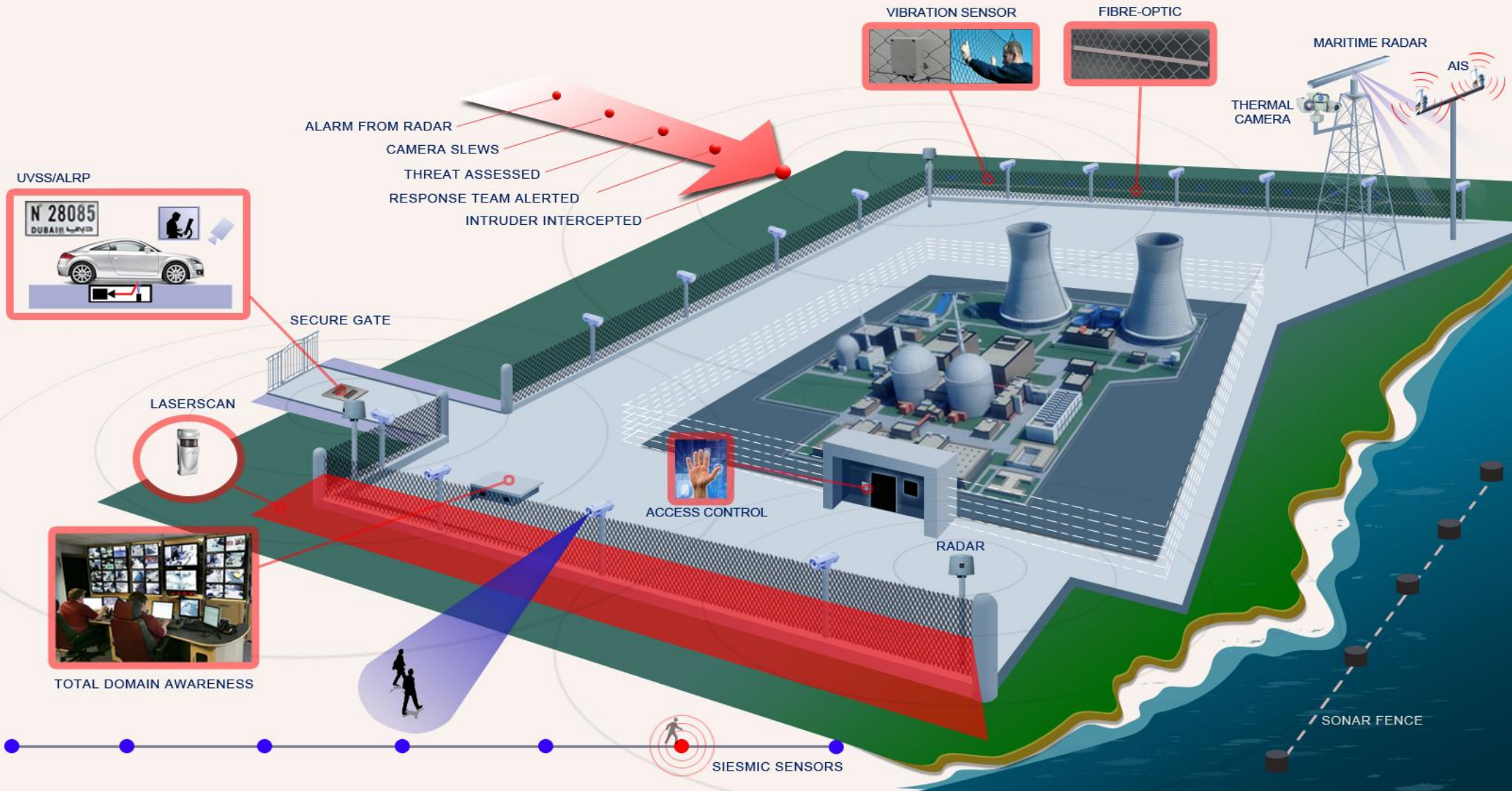


Detailed Design



Integrated Project Team

MULTI-LAYERED SECURITY



Effective Security Shield with a Common Operational Picture

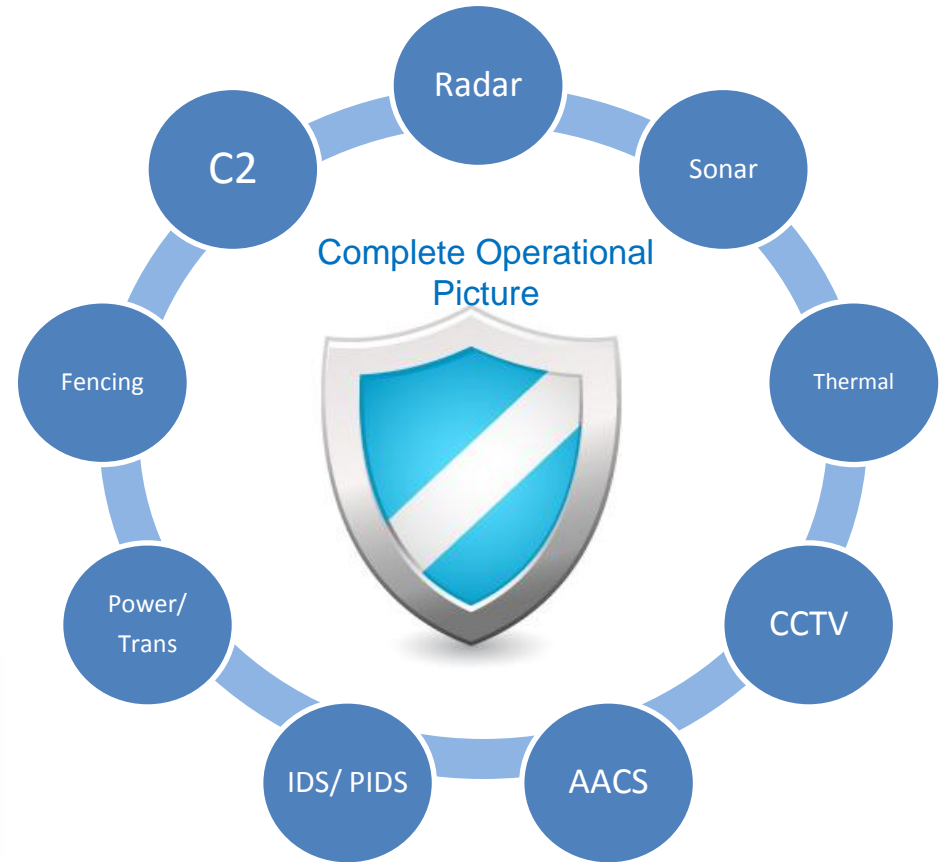
Select individual best-of-breed COTS-based technologies

- *make work in harmony*
- *Open-architecture – designed for growth*

→ multi sensor fusion

All sensors working seamlessly

Integrated Command & Control → *Total Domain Awareness*



Guaranteed Long Term Operational Availability

- ✓ Security infrastructure managed in one program
- ✓ Pro-active Security Environment
- ✓ Comprehensive on-site Support
- ✓ Logistics & Training
- ✓ Compliance with International Standards



Integrated Port Operations System (POS) - a single umbrella ensuring the secure & efficient flow of goods through the port while managing port facilities to maximum efficiency



Integration Platform (POS):

A **holistic management** system (covering security, port community & facility management)

→ Designed to integrate multiple different systems into a **Common Operating Picture (COP)**

The POS resides **on top** of all the other systems with a single interface for:

Monitoring, Controlling & Reporting on all the sub-systems.

Simple method of centrally monitoring multiple different systems from multiple vendors:

Radar, Sonar, VTS/AIS, Access Control, Video Management, SCADA, Utilities Management, Fire & Security alarms, Life Safety, Intrusion Detection, Intercom, Mass Notification, Network Activity & many others.

Required when facilities reach a certain size → need **central** monitoring & control of these disparate systems.

With POS - all accomplished without **interfering** with the operation of any sub-systems.

Each sub-system continues to operate **autonomously** & simply **shares** information with POS.



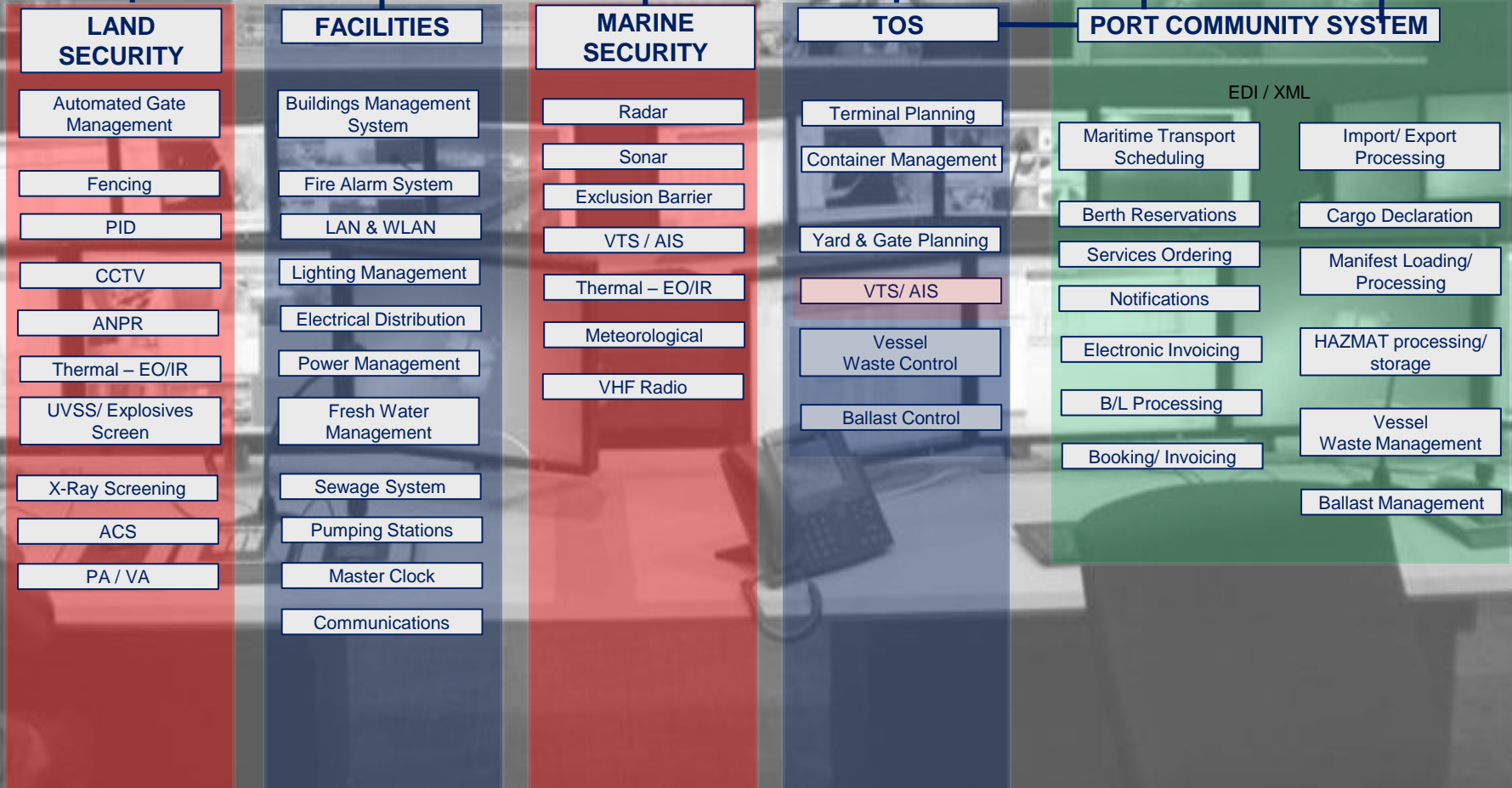


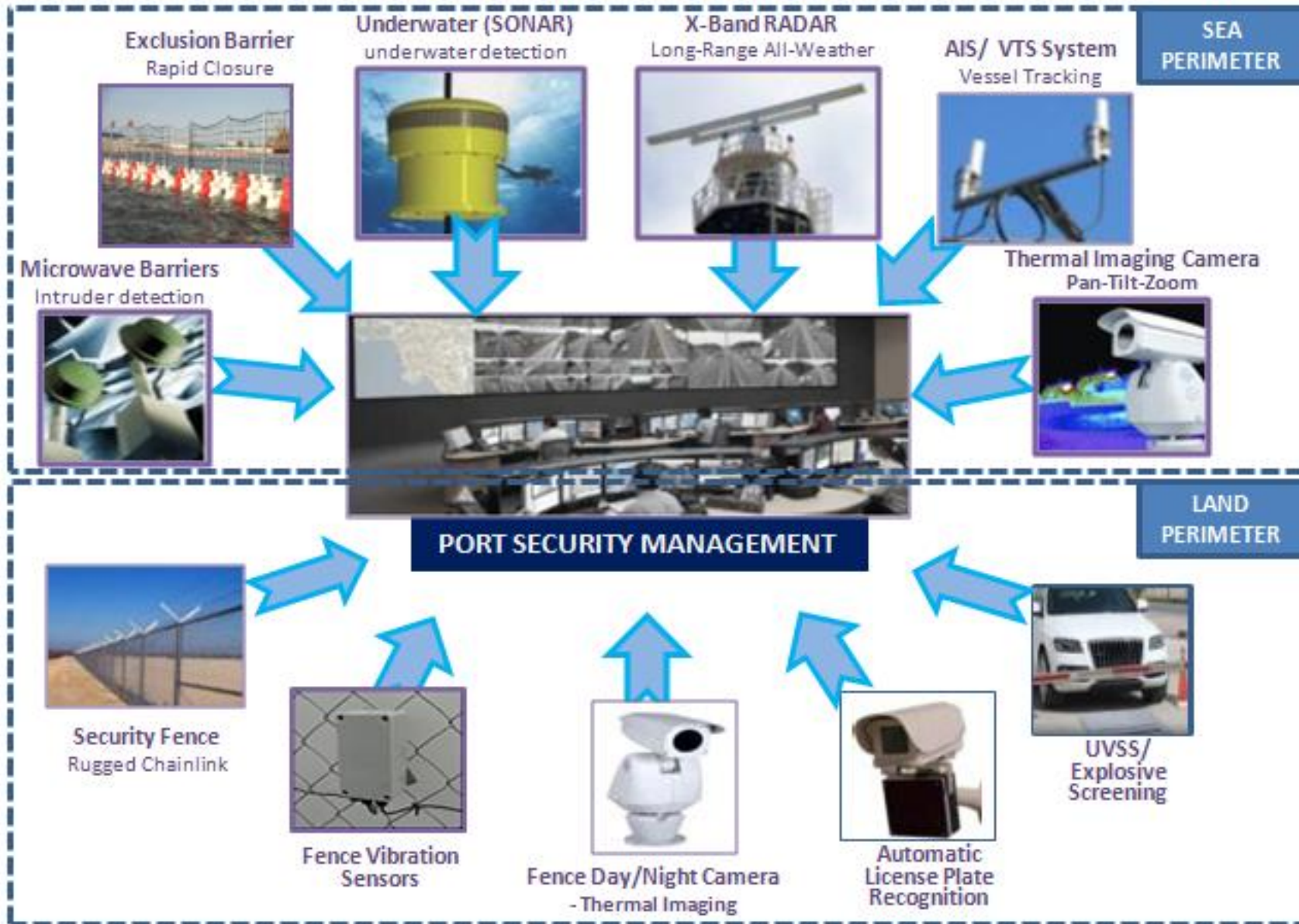
Emergency Response Centre

- Incident Management System
- Resource Management System
- Integrated Comms System

Community Web Portal

PORT OPERATIONS SYSTEM





THE LAND-SIDE BOUNDARY

Complete Fencing Solution around land-boundary:

High-Security Chainlink/ Diamond Fencing



High-Security WeldMesh fencing



Anti-climb
Anti-cut
Flat panels

Galvanised/ PVC-coated
Concrete embedded posts
High-Integrity galvanised Barbed Wire



High-Integrity Crash-proof Security Gates

Automatic Sliding
Rolled Steel, Galvanised
Shark-tooth top-plate for security



Gates located at major entry points into Port facility



Bollards & Crash-proof Vehicle Arrestors



Under Vehicle Screening System (UVSS)



Automatically identifies any threatening objects to the underside of vehicle & raises alerts to Security Room.

Integrated with Security Screening Procedures.

Automatic License Plate Detection & Recording

Automatic licence plate detection is made for all vehicles entering site
Knowledge of which vehicles are within Port Facility
Storage/ Recording of Data and Playback



Installed at all Entry Points to Port site:

Hand-held Explosives Detector

Detection of Explosives Vapour from Vehicles



Under-Vehicle Explosives Inspection System

Day/Night Inspection Mirror



Day/Night Surveillance

Hi-resolution seamless surveillance on boundary fence

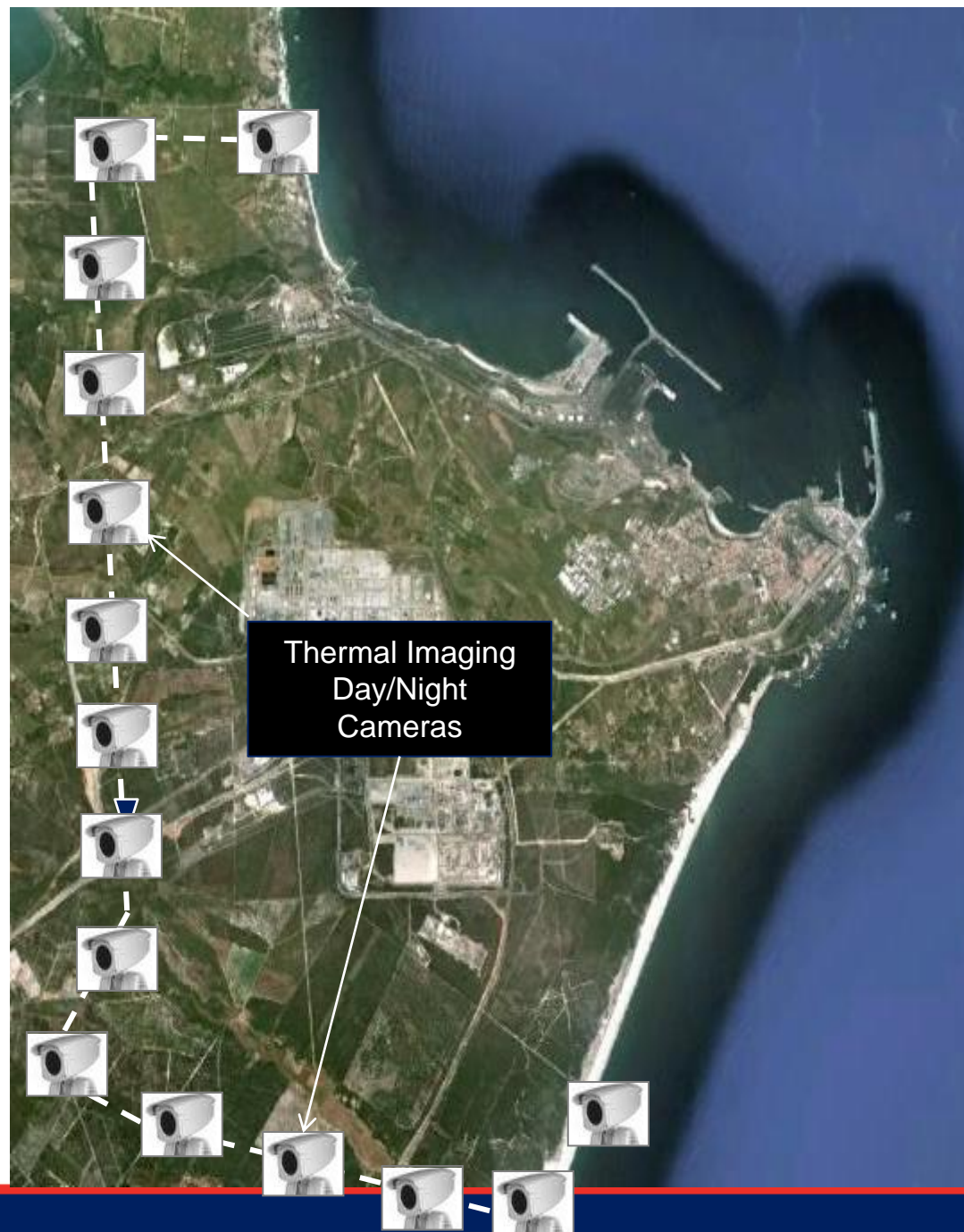
Thermal Day/Night Camera solution on Fenceline

Integrated with PIDS sensors → *slew-to-cue*

IP-based with Video Analytics

Built-In IR Illuminators

The world's most advanced perimeter detection day/night camera systems



Perimeter Intruder Detection

Fence Vibration Sensors for intruder detection:

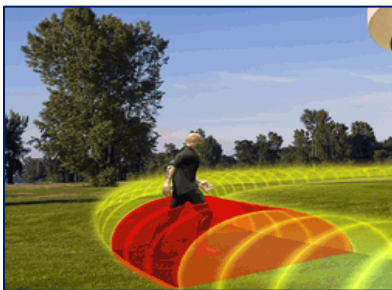
- Provides exact location of intruder on fenceline
- Exact location indicated on geo-spatial map
- Climbing fence/ cutting triggers alarm
- Designed for operation in extreme environment



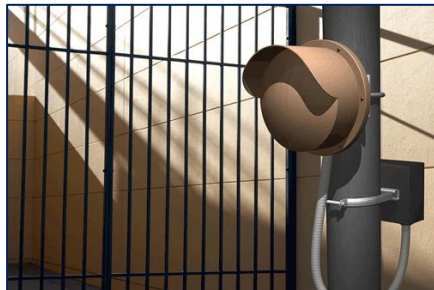
TripWires for Intruder Detection:

- Provides exact location of intruder
- Invisible radar detection field/ microwave field

Buried Volumetric Sensors



Microwave Solutions



Wireless Communications/ Data-Transfer

Data from sensors; CCTV, PIDS, Radar, UVSS/ALRP transmitted to Security Control Room and the Remote Security coordination teams by **high-bandwidth, secure** WiMax antennas.

Proven in challenging environment.

→ avoid trenching.
Omni-directional antennas mounted adjacent to the sensors to transmit the imagery from sensor to the SCR with encryption (AES 256).

The small footprint antenna can be mounted on rigid poles attached to the fence posts.



Wireless Power

Rugged & reliable **solar power & wind power** source.

Provides energy in remote surveillance locations.

Photovoltaic cells used in the solar panels provide superior energy production and offer a life expectancy in excess of 20 years.

Delivers 20W of uninterrupted power to surveillance equipment (CCTV, PIDS, etc).



THE MARITIME BOUNDARY

Typical Port will require different ZONES

Integrated Surveillance Fence

Radar + Sonar + Microwave + Thermal Camera



Complete Surveillance Picture in Command & Control
Surveillance & Tracking

- Sea-surface targets (small boats to large ships)
- Sub-surface targets (divers, submersibles)
- Intruder Detection & Identification



X or S-Band long-range Radar All-Weather for Vessel Surveillance & Tracking

Features:

- Solid-State, Pulse Compression → max accuracy
- Range – up to 30km
- All-environment
- Track while scan
- Multiple target tracking
- Range to target, Target velocity, heading and position
- Targets tracks displayed on C2 System
- 360 degree surveillance

Multiple Surveillance Radars for all-round surveillance



Slew-to-Cue



*long-range
PTZ thermal camera
for Target ID*



**Location of Radar on
Tower – end of Jetty**

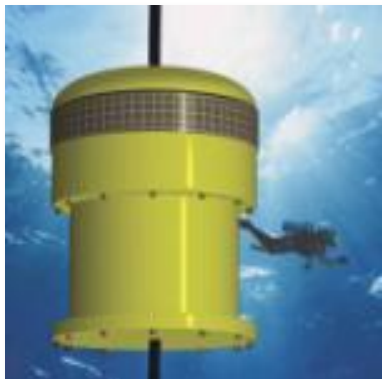
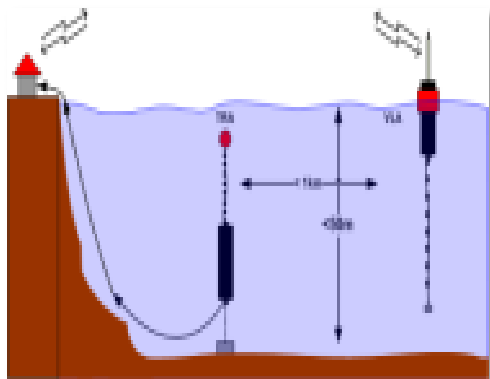
Underwater Sonar Barrier

Below surface Sonar – SONARS deployed **at entrance to port**
Detection & Tracking of all difficult to detect underwater targets
Operation across all Sea-States
Detects all potential sub-sea targets - *divers, submersibles, submarines*

Waveguide to Command Centre for Display on C2 S/W

Typical Sonar Features:

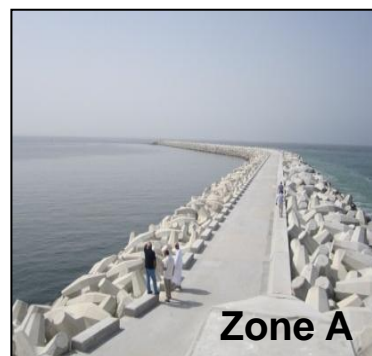
- Fully automated underwater security solution
- Up to 1500m range (>7km² coverage) per sonar head
- Active and Passive Detection and Classification
- Man portable allows rapid deployment
- Multiple sonar capability enables extended coverage
- Can distinguish between diver & fish/dolphin



Microwave Barrier on Jetty – Zone A & Zone B

Accurate Intruder Detection & Alarm

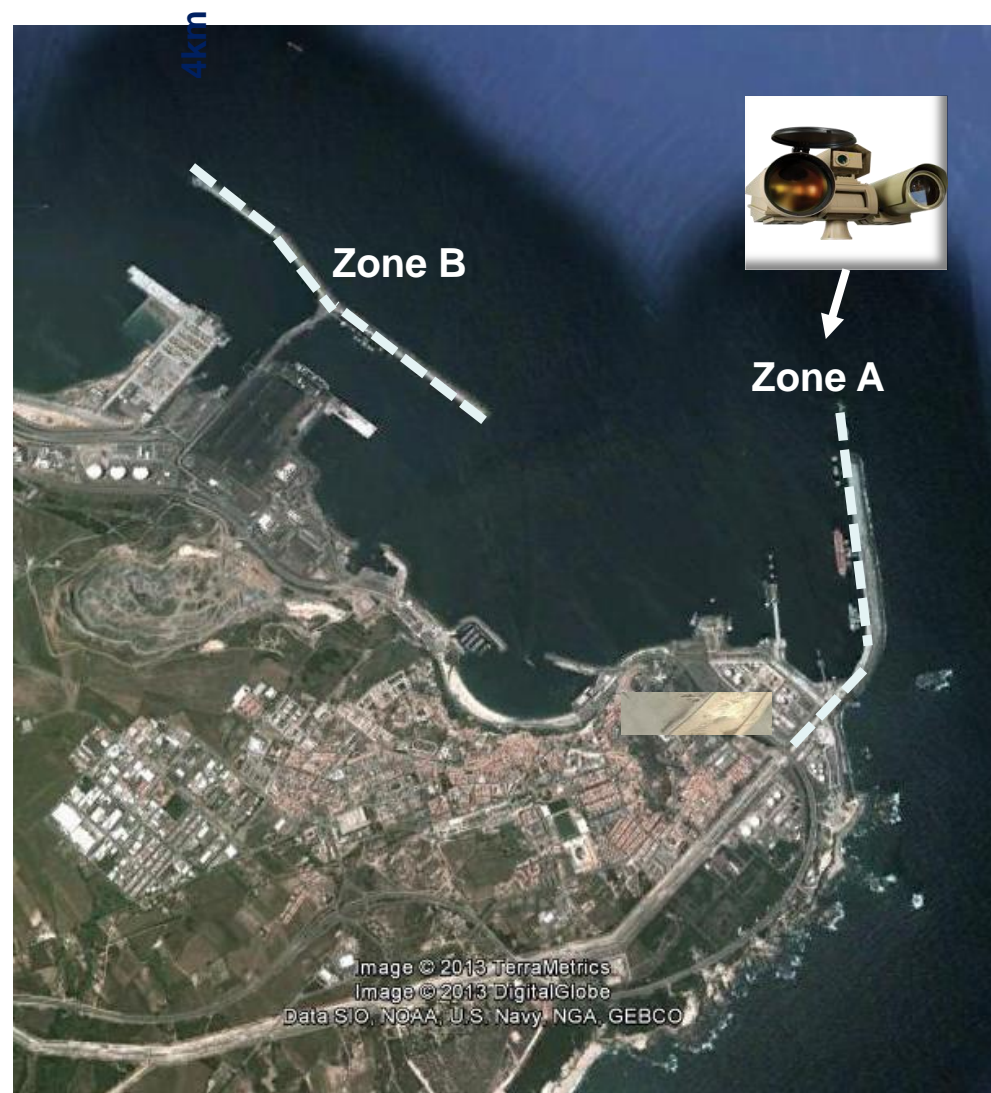
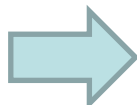
- Generates microwave beam in X-Band
- Provides exact location of intruder on Jetty
 - *slew-to-cue to camera for positive ID*
- Unaffected by fog, rain & EMI
- Located every 200m on each Jetty
- One sensor transmits, other receives



Long-Range Day/Night Surveillance

Hi-resolution surveillance on sea boundary
Thermal Imaging Cameras
Slew-to-Cue on Radar/ Sonar/ microwave targeting
PTZ for Intruder ID after Detection

Very long-range surveillance (up to 25km) for man-in-sea
Co-located on tower with Radar



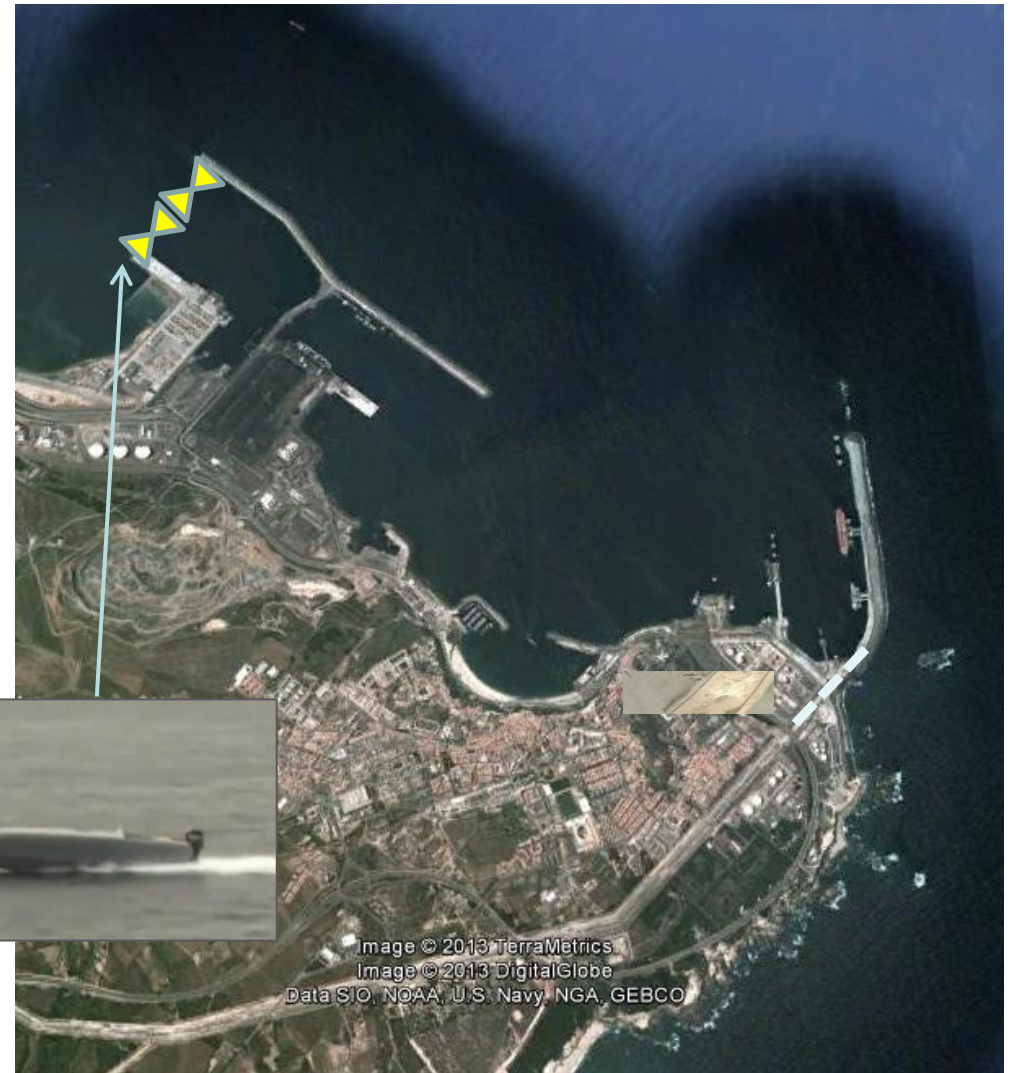
Harbour Protection Barrier

Vessel Exclusion Barrier (EVEM)

Rapidly put into place at entry to port

creates a significant barrier to intrusions and/or entry by unauthorized/threatening vessels.

High-strength capture net designed for vessel incapacitation/ stopped for all forward motion.



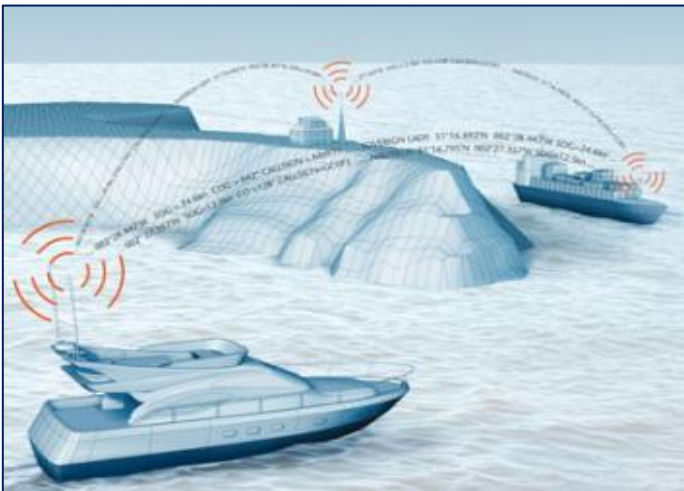
Automatic Identification System (AIS)

AIS Base Stations – transmit/ receive for ship's identification/ position & tracking

AIS - Integrated into the C2 Centre

Automatically identifies & locates vessels by electronically exchanging data with other nearby ships & AIS Base stations.

Supplements marine radar for collision avoidance

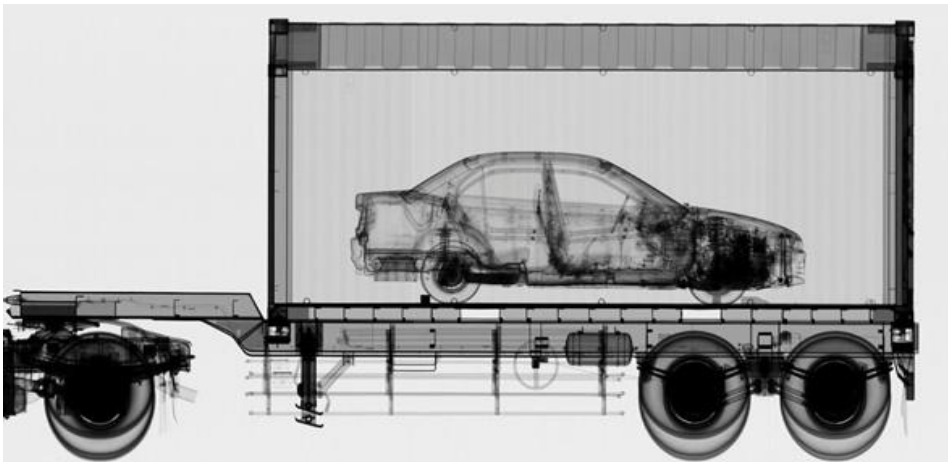


Container Screening & Tracking

to be proposed after customer discussion:

Security at first entry into Port: HCV high energy X-ray screening solution

- optimises security checks at ports
- radiation Screening System for containers
- container Tracking Systems (RFID) after screen
- integrated into Command & Control system



Complete Situational Awareness

- Multiple Operator Consoles
- Integrated Video Wall
- Touch-screen Functionality
- Total Solution over Sea and Land



For further information, please contact:

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