Port and Harbour Security

Profile Of Capability

“an Effective Security Shield”
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
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
Key Facts - AIS

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 Facts - AIS

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)
Our Core Team

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

Ray Minhas
Managing Director
MBA, MSc (Mech), MSc (Aero), BSc (Hons)

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.

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

Lee Wagstaffe
Lead Engineer
BSc (Eng)
10 years experience in Command & Control & security systems development.

Mary Ann Lumang
Marketing Executive
BSc
Software Development, Business Analysis and Marketing
AIS – 3 core businesses

Defense Solutions
- Integrated Security Solutions
- Border Security
- Security Design & Consultancy
- Security Training & Development

Simulation & Training
- Operator & Maintainer Training
- Simulator Training & Support
- Training Needs Analysis
- Bespoke Training

Logistics Support
- Supply Chain Management
- Engineering Support
- Spares Provisioning
- Depot / Repair Services
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.
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:

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.
An Effective Security Shield – Land & Maritime

- Exclusion Barrier: Rapid Closure
- Underwater (SONAR) Underwater Detection
- X-Band RADAR: Long-Range All-Weather
- AIS/VTS System: Vessel Tracking
- Microwave Barriers: Intruder Detection
- Thermal Imaging Camera: Pan-Tilt-Zoom
- Security Fence: Rugged Chainlink
- Fence Vibration Sensors
- Fence Day/Night Camera: Thermal Imaging
- Automatic License Plate Recognition
- UVSS: Explosive Screening

**PORT SECURITY MANAGEMENT**
THE LAND-SIDE BOUNDARY
Effective Security Shield – Land-side

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
Effective Security Shield – Land-side

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

Security Gate w Explosives Detection
Effective Security Shield – Land-side

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
**Effective Security Shield – Land-side**

**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
**Effective Security Shield – Land-side**

**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**
Effective Security Shield – Land-side

**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
Effective Security Shield – Maritime

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
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
Effective Security Shield – Port Operations

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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