



AVIP

PALACE SECURITY SOLUTIONS

2) Surveillance System Enhancement

Creation of an Integrated Security Picture:
Via open-architecture Multi-Layered, Multi-Sensor Surveillance solution:

LONG-RANGE SURVEILLANCE

- Radar
- Sonar (maritime)
- Long-Range Thermal



CLOSE-IN SURVEILLANCE

- LaserScan
- CCTV / Video Analytics



COMPLETE OPERATIONAL PICTURE VideoWall Touch-Screen Functionality



IDENTIFICATION Slew-to-Cue



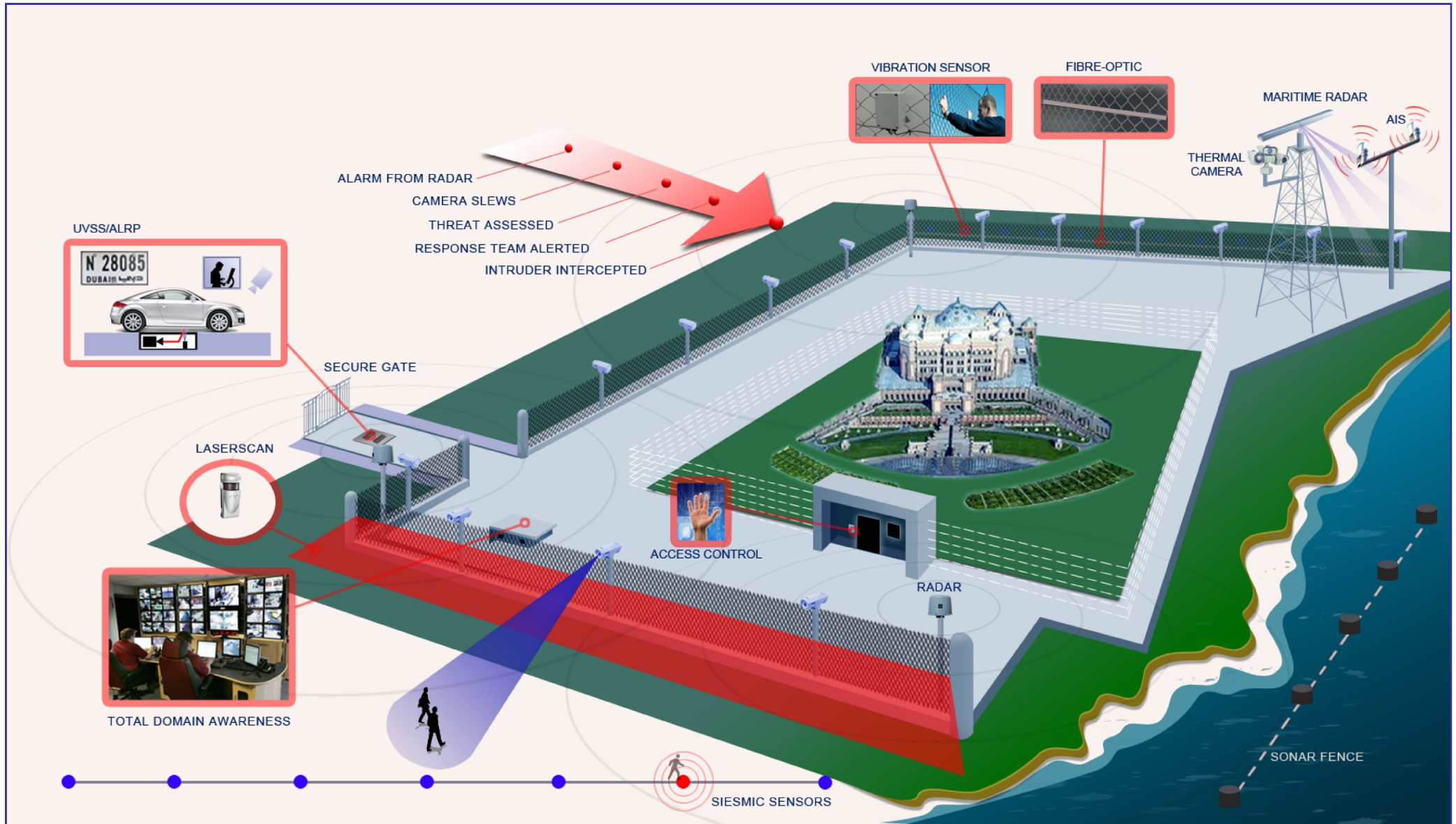
ACCESS CONTROL BioMetrics RFID



ACCESS CONTROL UVSS/ALPR Road Blockers



2) Surveillance System Enhancement



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Creation of an multi-sensor Integrated Security Picture to:

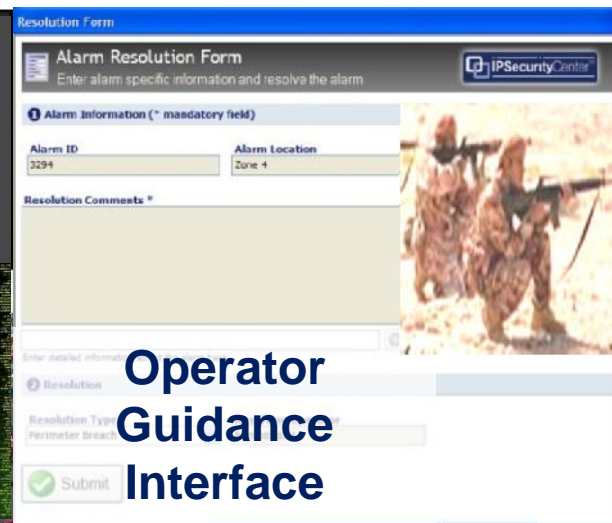
Detect



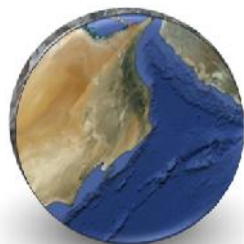
Visualize



Respond to Threats



**Electro-Optic/
Infra-Red**



Geo-Spatial



Radar



LaserScan



Video



Communication

Effective Security Shield for Sultan's Palace

STEP 1 - MULTI-LAYERED DETECTION:

DETECTION capability – up to 5km 'Electronic Fence' around perimeter wall

Intrusion confirmation before alarm

'rules-based' approach to target identification



STEP 2 - IDENTIFICATION:

Slew-to-cue existing cameras to **IDENTIFY** detected target



STEP 3 - RESPONSE:

MANAGE all sensors (camera, laserscan, radar)

→ One integrated command system

Accurately display target geo-spatially

Provide full target data to response teams for **intercept**



Multi-Layered Surveillance – for optimal protection

KEY FEATURES OF PALACE SECURITY SYSTEM

Total Protection of Palace – *via electronic surveillance, security training & measures in integrated multi-layered surveillance solution*

Electronic Fence around Palace Wall – *electronic fence (up to 5km) via radar giving earliest possible detection and tracking*

Video Analytics Surveillance Fence around Palace Wall – *video analytics surveillance to detect and track moving targets to a high degree of accuracy, minimizing nuisance alarms*

Command & Control Upgrade with Touch-Screen Operation – *robust, touch-screen operation with ‘drag and drop’ enables rapid alerts to be investigated via touch-operator display*

Slew-to-Cue functionality - *Radar and Video Analytics cameras detect target and slew existing PTZ cameras for positive identification.*

Geo-Spatial Positioning of Threats - *the complete multi-sensor Security Picture overlaid on GIS/ Geo-Spatial imagery of Palace*

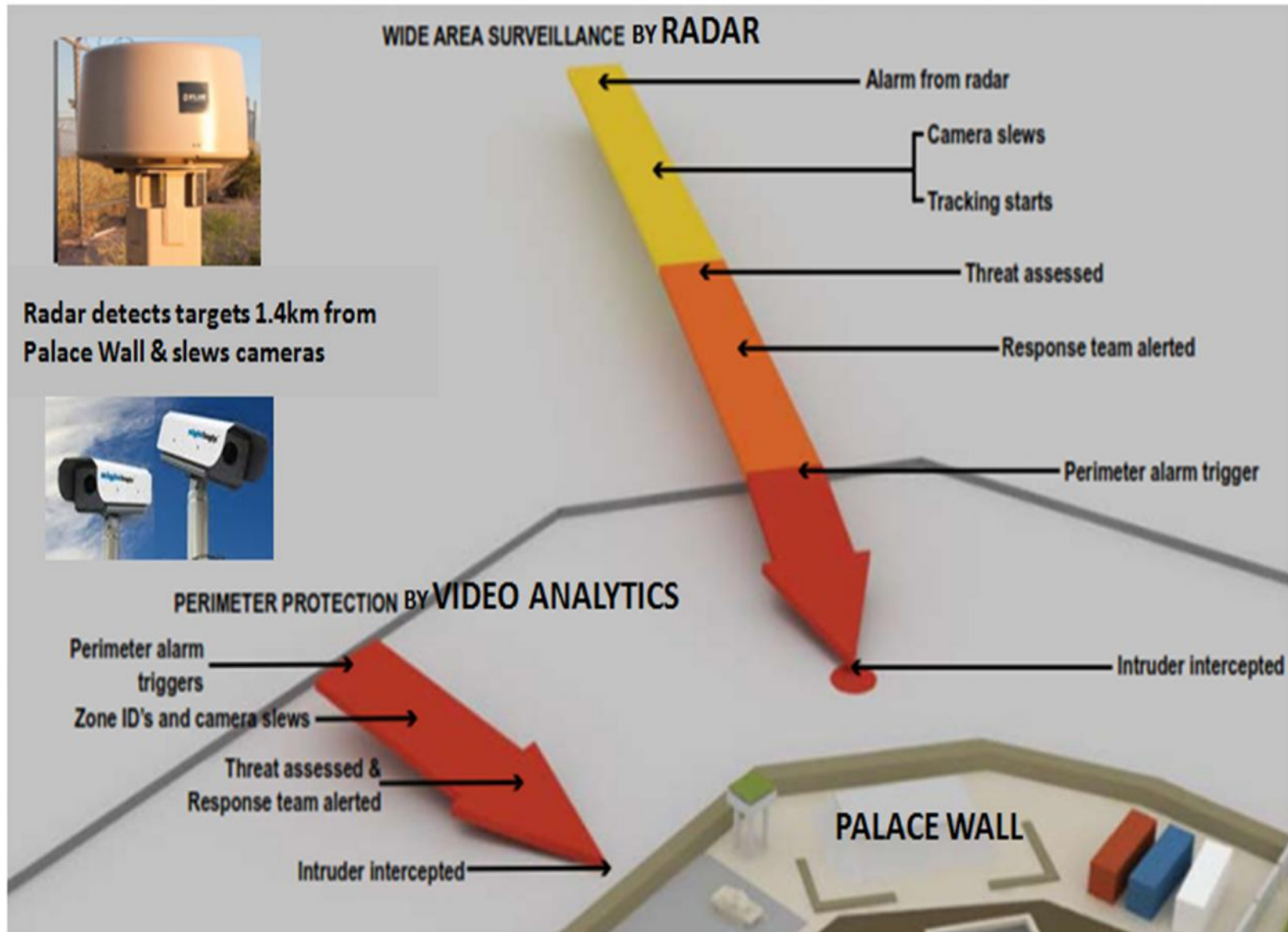
Response Team Intercept – *accurate Geo-Spatial data to enable Response Teams to accurately intercept target at earliest possible time*

Common Operational Picture - *providing maximum Situational Awareness to the Palace for all sensors*

Intrusion Confirmation before Alarm – *‘rules-based’ approach to confirm target before alarm*

Open Architecture Design — *Expandable & upgradeable multi-node architecture ensuring growth potential.*

Multi-Layered Surveillance – for optimal protection



Multi-Layered Surveillance – for optimal protection

With the complete solution the customer's security team shall be able to:

- ✓ **DETECT** all targets round the perimeter of the Palace Wall
- ✓ Slew the camera to **IDENTIFY** all targets around Palace Wall
- ✓ **TRACK** all targets around Palace Wall
- ✓ Provide accurate **POSITION** (geo-spatial) data of target position to Response Teams
- ✓ **INTERCEPT** target at earliest possible stage

Multi-Layered Surveillance – for optimal protection

Layering surveillance sensors of **different** types:

- 1) ‘**double-knot**’ for additional protection
- 2) allows cross-cueing & redundancy
- 3) confirmation of target parameters

LONG-RANGE DETECTION

via **RADAR**:

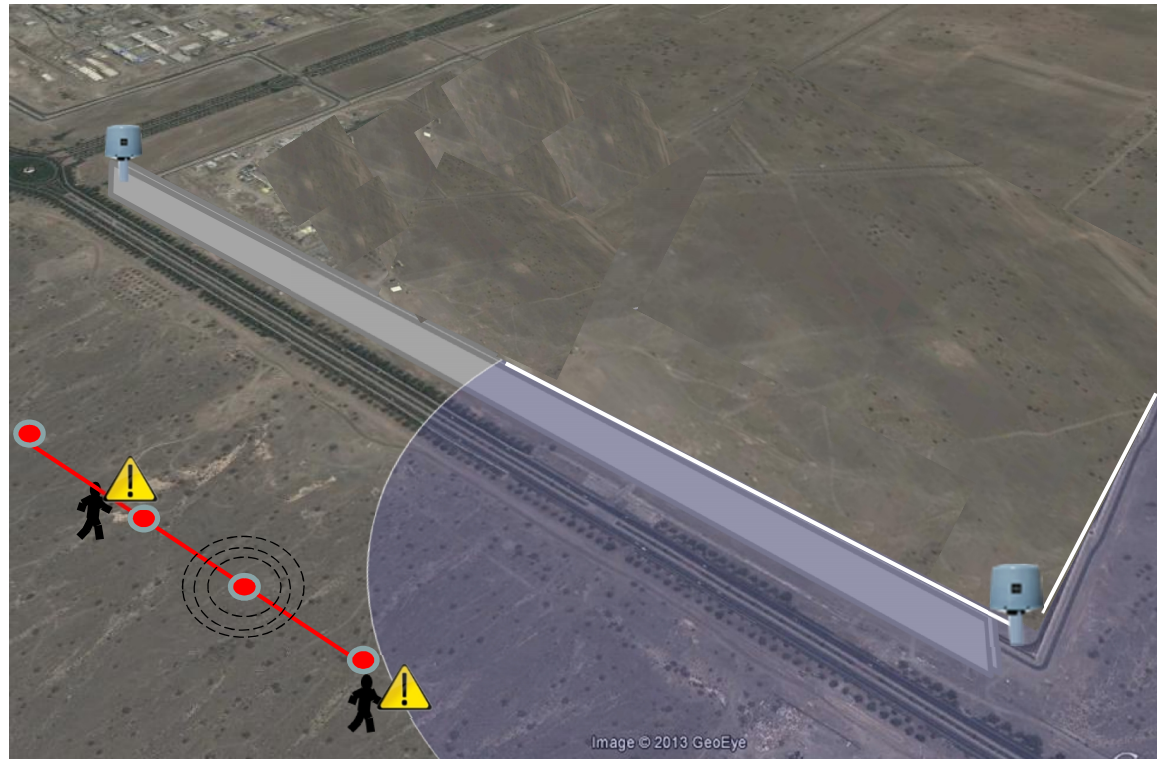


- ✓ Passive detection - continuously monitoring perimeter
- ✓ Rules-based detection methods
- ✓ Sector Blanking
- ✓ Slew-to-Cue Camera upon detection

Via **SEISMIC/ other Sensors**



- ✓ Passive detection - continuously monitoring perimeter
- ✓ Rules-based detection methods
- ✓ Slew-to-Cue to Camera



Multi-Layer Detection – Video-Analytics surveillance fence

CLOSE-IN DETECTION

DETECTION via CCTV/ Video Analytics

Seamless Electronic Fence in front of wall

- ✓ Video Analytics engine to detect and track moving targets to a high degree of accuracy
- ✓ rules-based engine to minimize false alarms
- ✓ Face-recognition software
- ✓ Creates **invisible Detection Shield** on length of wall.



Multi-Layer Detection – Video-Analytics surveillance fence

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'Rules-based' detection:

- Alarm Zones or Restricted Areas
- Motion Tracking
- Control alarm detection according to time of day
- Target Size Filtering – Eliminate objects smaller or larger than a specific height or specific width
- Target Size Filtering – Eliminate objects smaller or larger than a specific aspect ratio
- Loitering detection
- Object left behind
- Speed alarm detection

Multi-Layer Detection – LASERSCAN surveillance fence

CLOSE-IN DETECTION



DETECTION via LASERScan

Seamless Electronic Fence in front of wall

100% protection – all weather

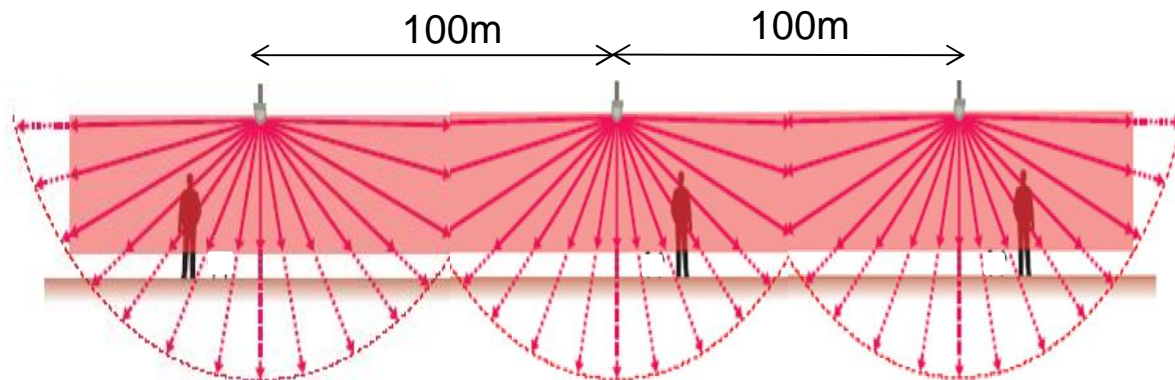
1 unit every 100m on wall

Detection range is 60m, 190 degree azimuth.

→ *Accurately CUES camera for identification*

Installed discretely on exterior wall

Creates **invisible Detection Shield** on length of wall.



IDENTIFICATION VIA SLEW-TO-Cue

SENSORS SLEW THE CAMERAS FOR POSITIVE IDENTIFICATION

Long Range



Close In



- ✓ Accurately cued by radar/laserscan/ video analytics
- ✓ Crisp hi-res images 640 x 480 pixels
- ✓ Sees in total darkness

WORLD-CLASS COMMAND & CONTROL SOLUTIONS

PALACE SECURITY CONTROL ROOM



- ✓ Open-protocol, open-platform Multi-Sensor Management System offering a Complete Operational Picture to Security Team (VMS)
- ✓ Touch-Screen, Drag & Drop Operation
- ✓ Multiple servers: Unlimited expansion capability allowing for easy expansion by simply adding more sensors and hardware without any degradation in the performance

MOBILE COMMAND & CONTROL SOLUTIONS

Command Centre HQ



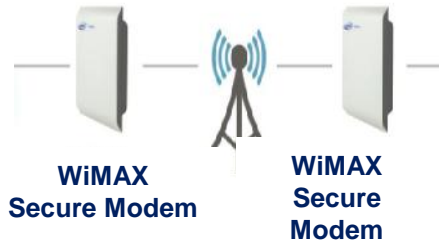
Response Team



**Remote
COMMAND & CONTROL**



**Handheld – IPAD/
Cellular**



**Secure WiMAX
Mobile Communication Network**



- ✓ Remote Security Team Coordination
- ✓ PDA SitRep via Secure WiMAX
- ✓ Highly flexible access to full Security Picture
- ✓ Live Access to Thermal Images/ Radar Imagery
- ✓ Mobile Command - ruggedised Apple iPad4®
- ✓ Secure via AES – 256bit encrypted Wifi

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