



NSR – Airport Security Solution

February 2016

NSR | Delivering
Security
that Works



NSR – An Introduction

The Challenge

The Solution

Command & Control

Working Scenarios

NSR Program Methodology

Case Studies

The NSR Advantage

▶ Introducing NSR

NSR is a global provider of sophisticated, challenge-focused Security platforms, solutions, and services.

We combine our deep understanding of the Security world with extensive technical know-how to identify, design, and adapt relevant technologies to the needs of our customers.

Our systems are designed with the end user in mind, and focus on providing customized, cost-effective, operationally viable solutions that respond to real-world needs.

NSR – An Introduction

The Challenge

The Solution

Command & Control

Working Scenarios

NSR Program Methodology

Case Studies

The NSR Advantage

Airport Management Main Threats

Crime

- Assault
- Smuggling
- Theft
- Bribes



Terrorism

- Bomb threats
- Hostage situations
- Sabotage
- Shoot-out

Disruption

- Lost commuters
- Lost luggage
- Flight delays
- Weather



The Challenge

Airport Management Unique Challenges



Accessibility

Threats emerge from both inside & outside the facility, and can involve multiple points of contact.



Change

Threats are always changing (new tech, new contraband, new threats...)



Mobility

An airport is designed to facilitate movement, making it difficult to track threats and risks.



Complexity

Threat management requires integration of human elements, technology, procedures, and Intelligence.

NSR – An Introduction

The Challenge

The Solution

Command & Control

Working Scenarios

NSR Program Methodology

Case Studies

The NSR Advantage

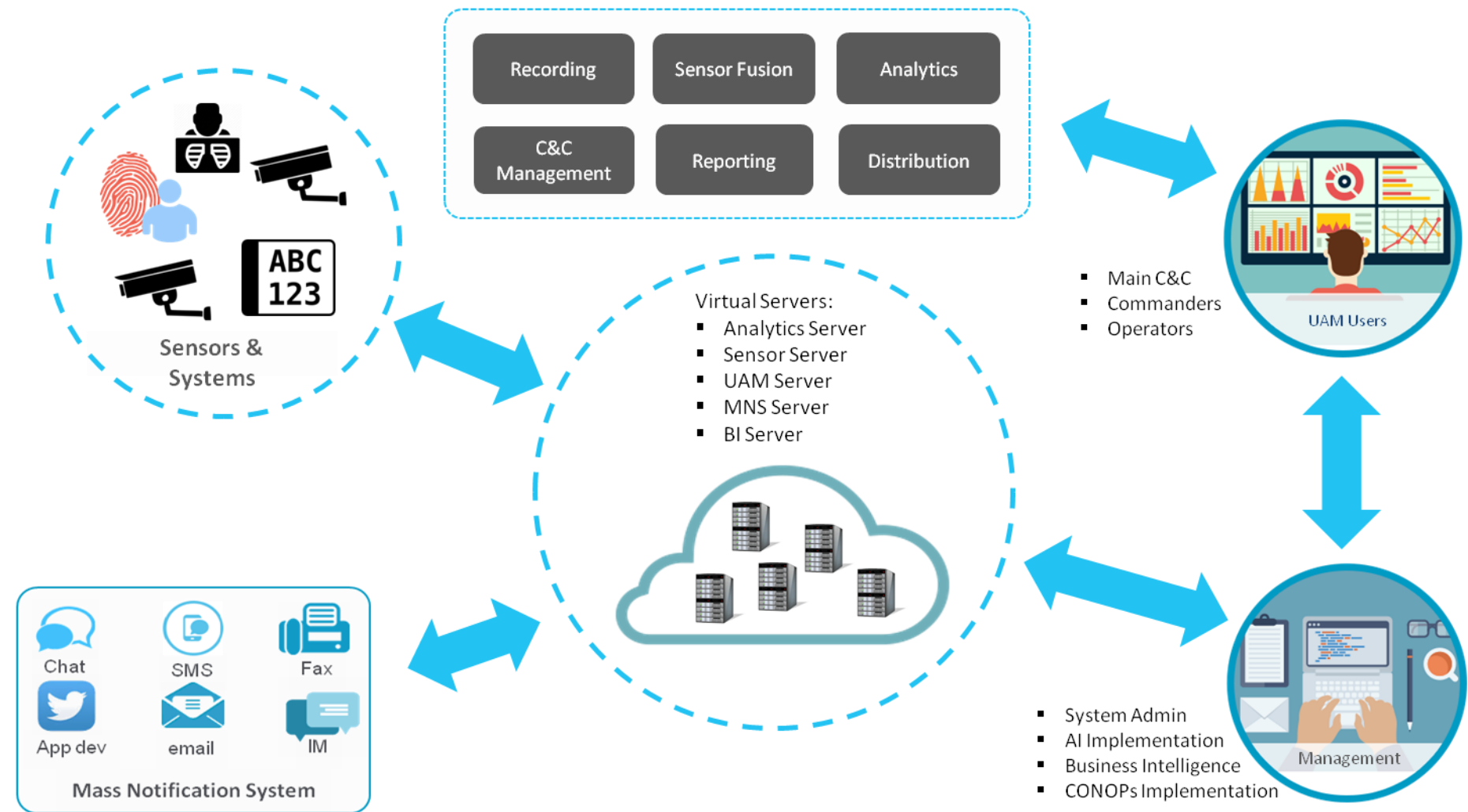
The NSR Solution

NSR offers a turnkey Security Solution uniquely suited to the challenges of the airport environment.

The NSR solution allows personnel of all types to manage the daily operations of a facility, and respond effectively to threats during routine and emergency operations.

The NSR Airport Security Solution is based on our Concept of Operations, which is the result of extensive experience in customizing security deployments for high risk environments.

Solution Architecture





The NSR Solution

- Based on the NSR CONOPs every airport complex is divided into different types of zones.
- Each type requires different data gathering elements, based on physical and operational characteristics.
- In order to integrate the different zones, sensors, and systems into a single operational unit, data, sensors, and subsystems are all managed via a unified Command & Control system.

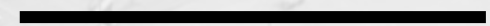
Closed Zones



Open Zones



Liminal Zones



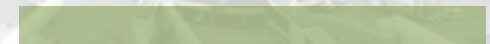
Roads



Gating Zones



External Zone



The Ether



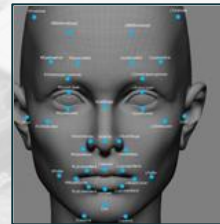
C&C Center



The NSR Solution

Closed Zones

- Closed zones have 4 walls + ceiling
- Commuters & employees movement
- Incorporate numerous operational systems
- Controlled lighting conditions.
- Etc.



Face Recognition



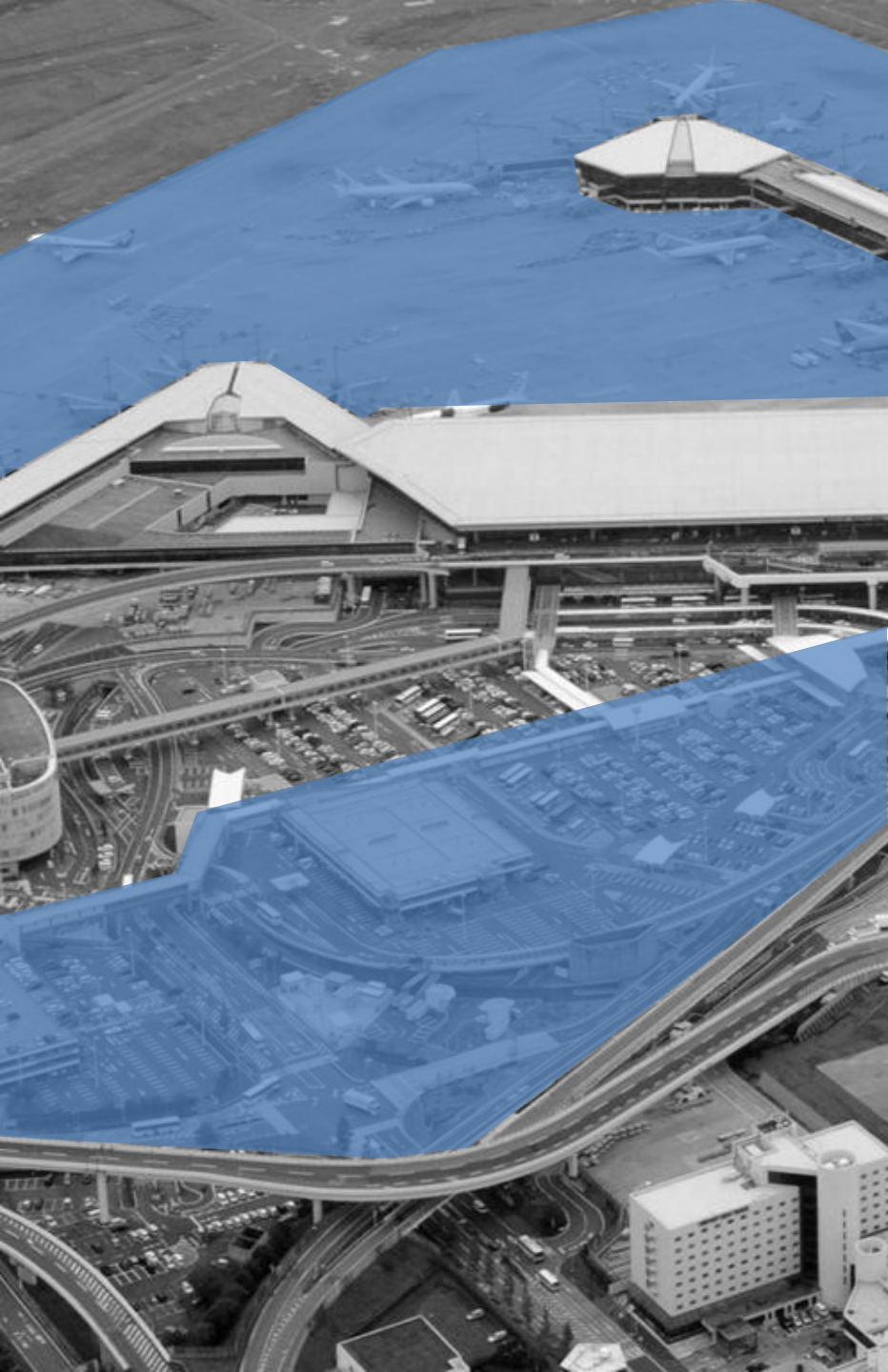
CCTV Cameras



Access Control



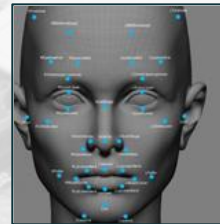
Audio Recorders



The NSR Solution

Open Zones

- Controlled spaces (passageways, parking lots) that have no ceiling and 3 walls or less.
- Movement of vehicles + people
- High ambient noise
- Uncontrolled lighting
- Etc.



Face Recognition



CCTV Cameras



Covert Video & Audio

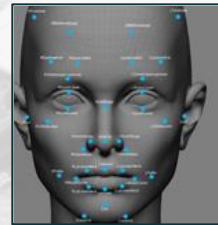


Cellular Interception

The NSR Solution

Liminal Zones

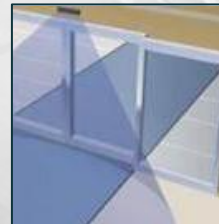
- Separating zones (walls, fences) – not crossing and opening (unlike gates/windows).
- No-approach zones
- Not to be crossed
- People should not loiter
- Etc.



Face Recognition



CCTV Cameras



Motion Detectors



Perimeter Protection

The NSR Solution

Roads

- Internal roads & external roads
- Vehicle traffic
- Speed limit
- Ambient lighting & noise
- Etc.



Video Content Analysis



CCTV Cameras



License Plate Recognition



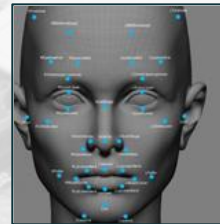
Speed Cameras



The NSR Solution

Gating Zones

- Any barrier that has open/closed modes
- People/goods movement
- Access control
- Etc.



Face Recognition



Access Control



Biometrics



Scanning: Cars,
People, Cargo



The NSR Solution

External Zone

- Anything outside the airport complex
- Uncontrolled
- Source of supplies
- Source of personnel
- Commuters & cars
- Etc.



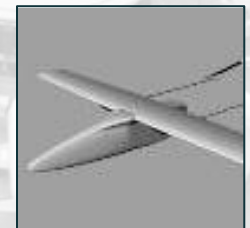
External Databases



SIGINT, OSINT, VISINT



Social Media
Monitoring



Early Drone
Notification

The NSR Solution

Ether

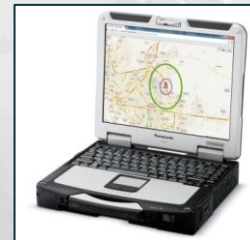
- Data/virtual environment: wifi transmissions, radio, data, cellular, etc.
- Covers and connects all zones
- Difficult to monitor
- Etc.



**Mobile Satellite
Phone Interceptor**



**Mass Cellular
Interception GSM &
UMTS & IDEN (2G, 3G)**



**Global Location
(GSM & UMTS)**



Cellular Jammers

The NSR Solution

Command & Control

- ▶ The C&C integrates the data and operational capabilities of different sensors and systems.
- ▶ The C&C ensures smooth “handover” between monitoring elements (tracking an object across multiple sensors), and between operational systems (door closing triggers light switch).
- ▶ The C&C receives, integrates, analyzes, and releases information to users across the airport complex management organization.

NSR – An Introduction

The Challenge

The Solution

Command & Control

Working Scenarios

NSR Program Methodology

Case Studies

The NSR Advantage

► ENSURA Command & Control

ENSURA C&C is a flexible, scalable, powerful Command & Control application that supports simplified integration of sensors and systems into a unified, operational security & management solution.

ENSURA C&C fuses data from separate sensors and systems, and integrates input and triggers from different systems and sensors to provide end-to-end security.



C&C

Core Features

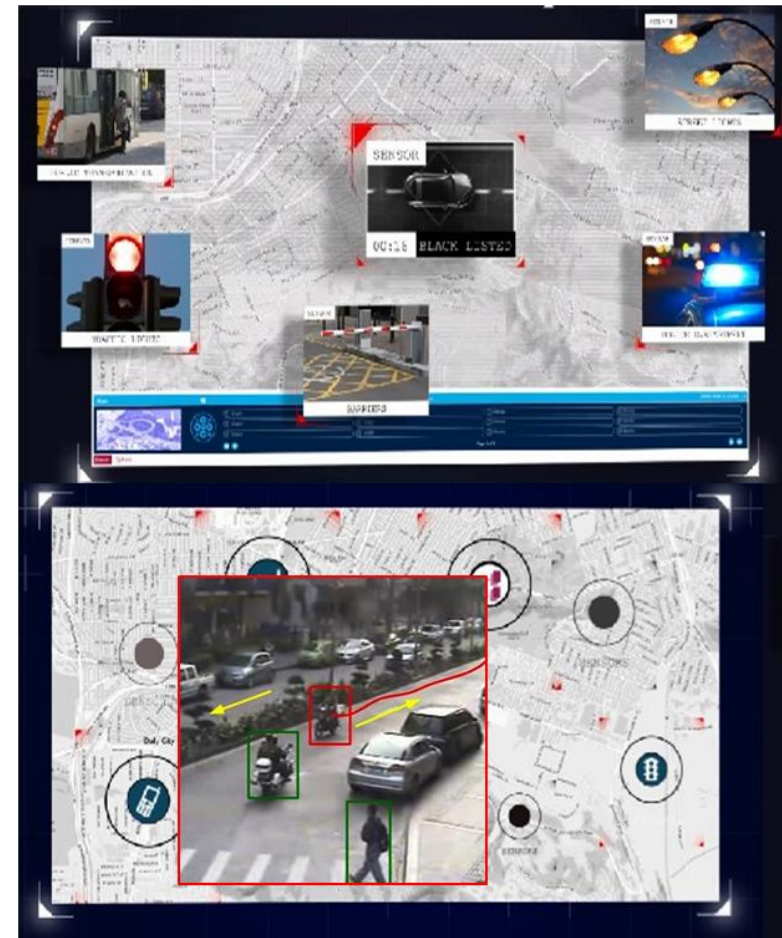
- **Visuals**- rich, customizable visual interface
- **Video Analytics** – integral video analytics for real-time intelligence
- **Fusion** – integration of multiple systems on the operational and data level
- **Sensor Agnostic**—any 3rd party element
- **Automation**—process automation wizards
- **Scalability** –endless sensors and systems
- **Logic Engine** –automatic process management



C&C

Video Content Analysis

- Video content analytics applications, including Intrusion Detection, Vehicle Detection, Unattended Baggage Detection, People Count, Line Control and Counter Flow Detection.
- VCA on both sensor and server side.
- User defined trigger parameters such as max/min size, speed, areas of interest etc..
- Analysis applications that analyze video streams in real-time and track objects moving through camera scenes.
- Any Content Analysis algorithm can initiate a Trigger which is an event/alarm in the system.

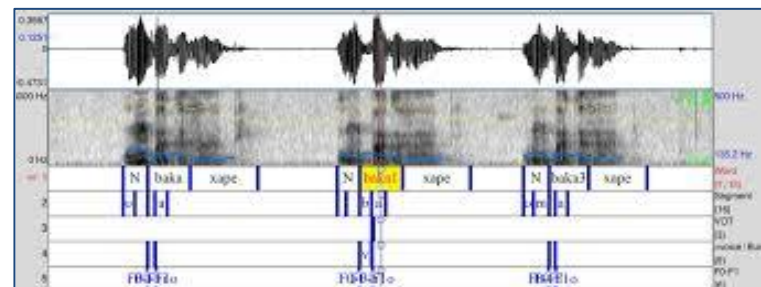


Speech Recognition & Transcription

- Automatic transcription from audio in real-time
- Highest reliability on market
- Learning system – accents & slang
- Word hotlists & blacklists
- Raw data is saved and can be automatically compared to corrected output
- Automatic alerts in the event of large deviations between automatic source and corrected transcription

Transcript "Tr" for Series "ECF", Episode "ecaf1"

```
108 B2: they they don't have a pci version of the [(card)
109 A1: [not yet they're working on it
110 (0.5)
111 B2: [but they don't know wh[at chips are they gonna=
112 A1: [( )]]
113 B2: =use inside
114 (0.2)
115 A1: a:uhm
116 B2: they said they didn't know
117 A1: i think they picked the glint
118 (0.6)
119 A1: [( )]]
120 B2: [but i] would-i would get like the diamond edge (.) ( )
121 C3: [that's]
122 B2: [( )]]
123 C3: (.) they're (0.3) yeah=
124 B2: =diamond edge is really good
125 A1: >if you got a pci bus board<
126 A1: if you have a veesa bus board i'd go with (your three dee blaster)
127 B2: but see you know like maytrox (0.3) maytrox stopped [shipping
128 C3: [i've got a three-eighty-six from nineteen ninety-one so ( )
129 B2: you know mayt-paul PAUL ORDERED] the maytrox in december (.)
130 A1: mmmm=
131 B2: and he called them today (0.3) a::nd it's on backorder they said (.)
132 wi'll begin shipping in may
133 (0.9)
133 B2: they don't have any windows ram anymore
134 (n a)
```



NSR – An Introduction

The Challenge

The Solution

Command & Control

Working Scenarios

NSR Program Methodology

Case Studies

The NSR Advantage

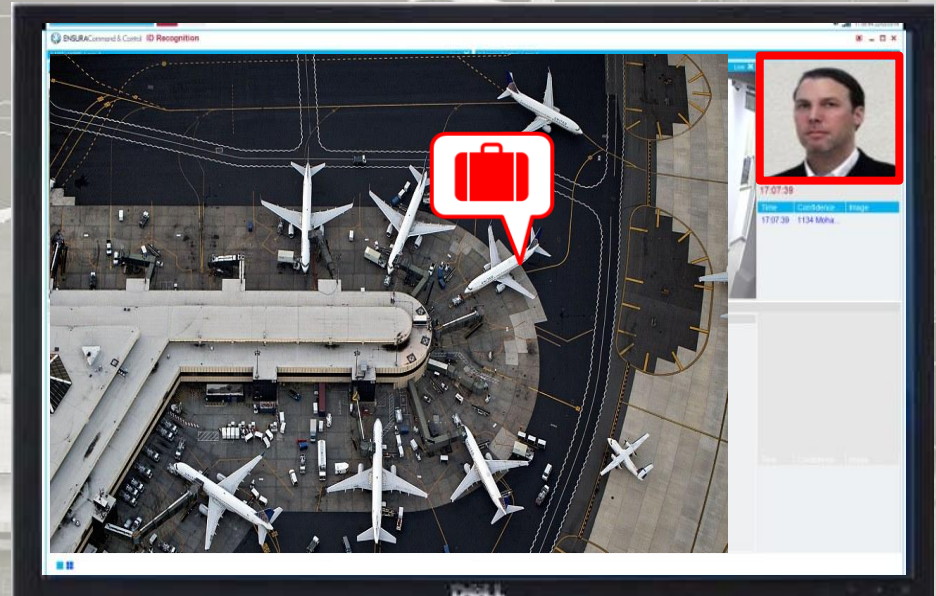
Security Scenario Example

1. X-ray scanning identifies suspicious substance on luggage about to be stowed.



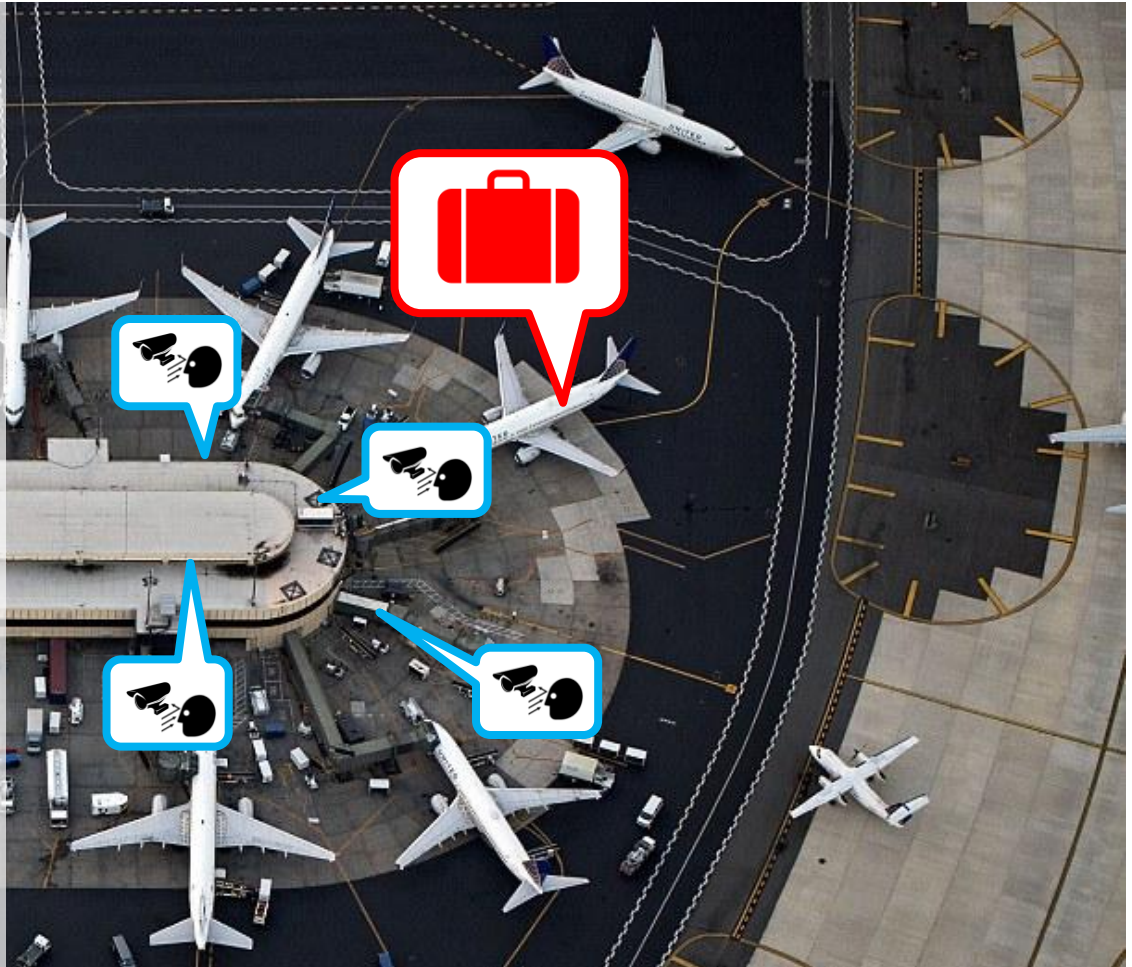
Security Scenario Example

1. X-ray scanning identifies suspicious substance on luggage about to be stowed.
2. BI engine connects passenger with luggage item.



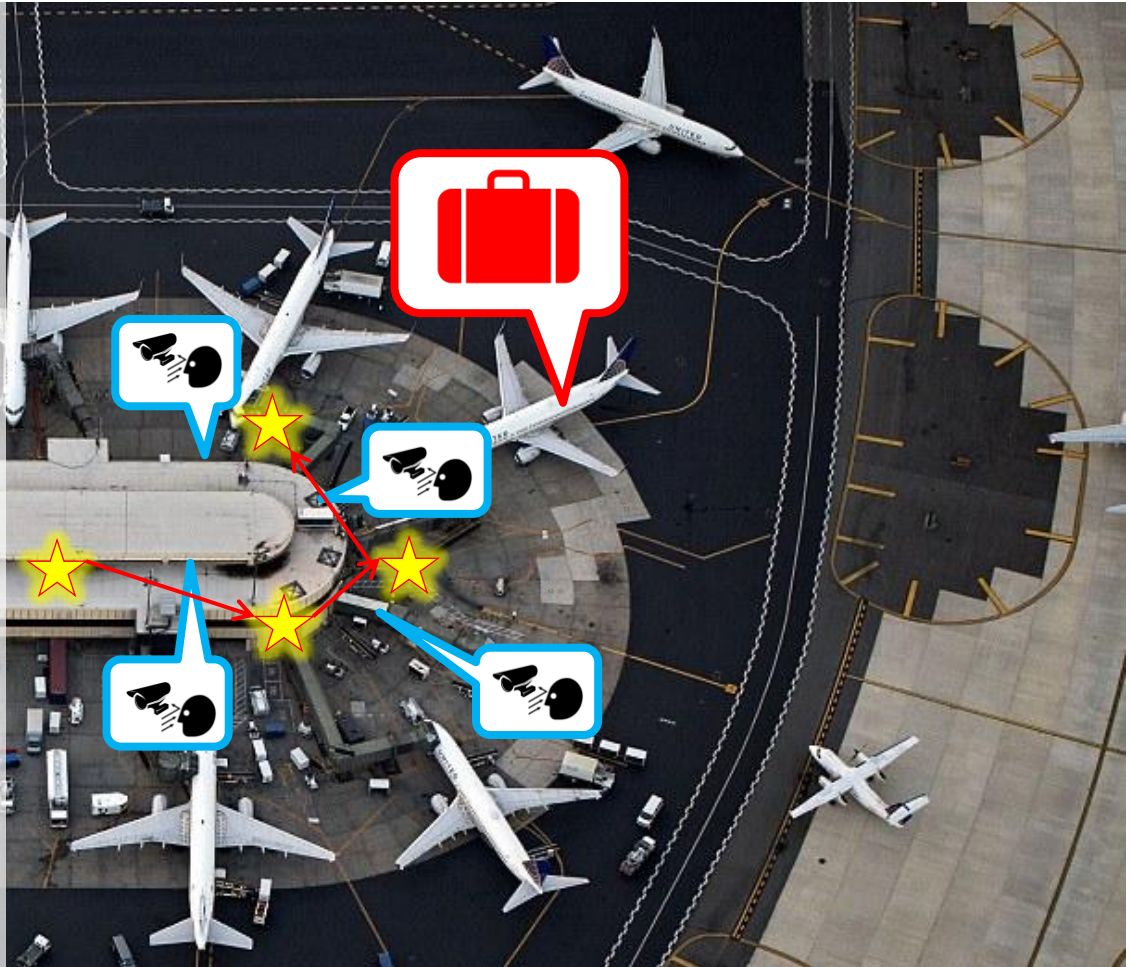
Security Scenario Example

1. X-ray scanning identifies suspicious substance on luggage about to be stowed.
2. BI engine connects passenger with luggage item.
3. Cameras & VCA triggered to search for passenger.



Security Scenario Example

1. X-ray scanning identifies suspicious substance on luggage about to be stowed.
2. BI engine connects passenger with luggage item.
3. Cameras & VCA triggered to search for passenger.
4. Access control tracks passenger movement over past hour.



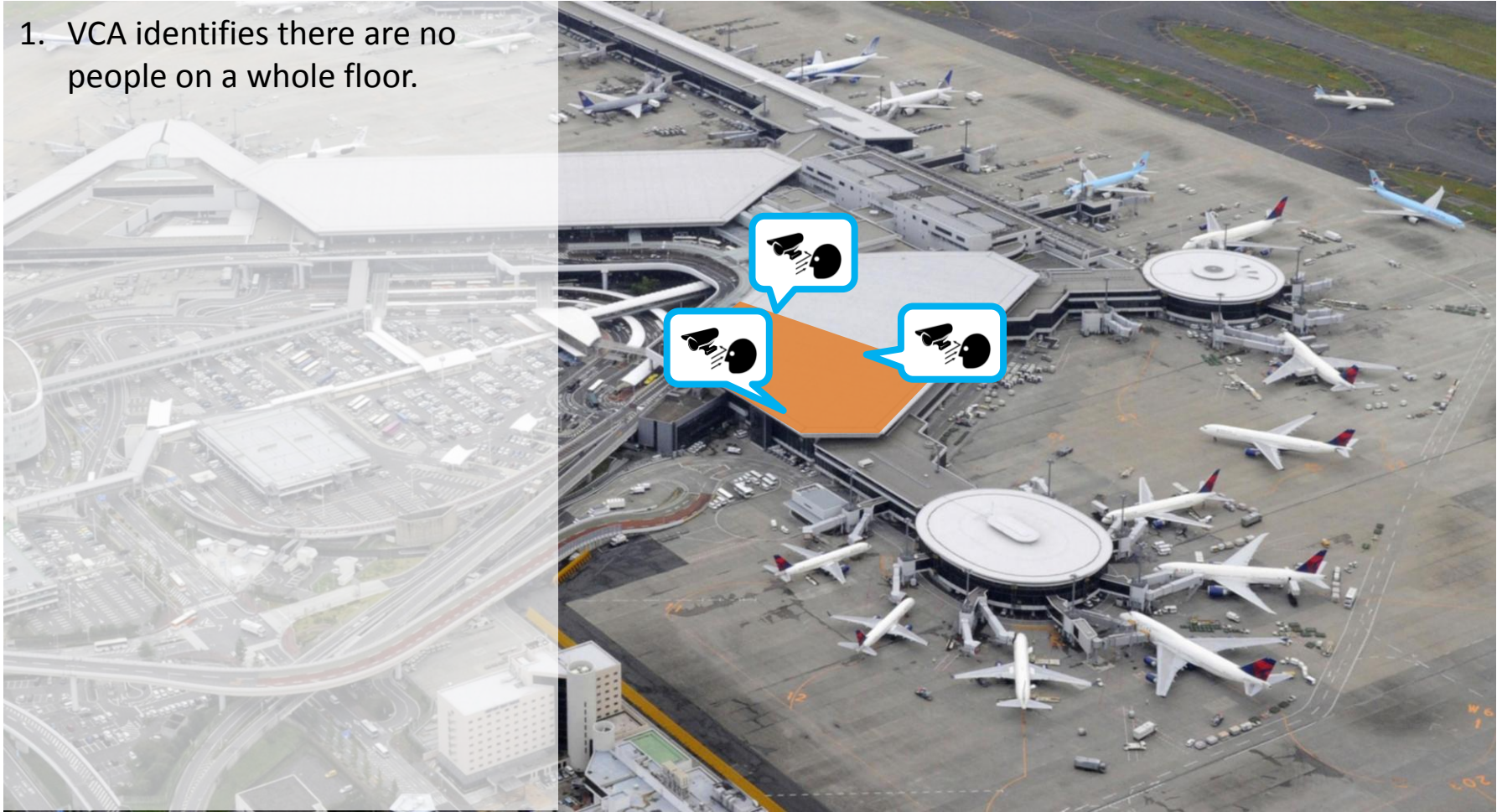
Security Scenario Example

1. X-ray scanning identifies suspicious substance on luggage about to be stowed.
2. BI engine connects passenger with luggage item.
3. Cameras & VCA triggered to search for passenger.
4. Access control tracks passenger movement over past hour.
5. Passenger is located
6. **Guards are dispatched to apprehend passenger for further investigation.**



Operational Scenario Example

1. VCA identifies there are no people on a whole floor.



Operational Scenario Example

1. VCA identifies there are no people on a whole floor.
2. Motion sensors are triggered to confirm that there is no movement on the floor



Operational Scenario Example

1. VCA identifies there are no people on a whole floor.
2. Motion sensors are triggered to confirm that there is no movement on the floor
3. **System automatically switches off A/C, dims light, stops escalators, etc.**



NSR – An Introduction

The Challenge

The Solution

Command & Control

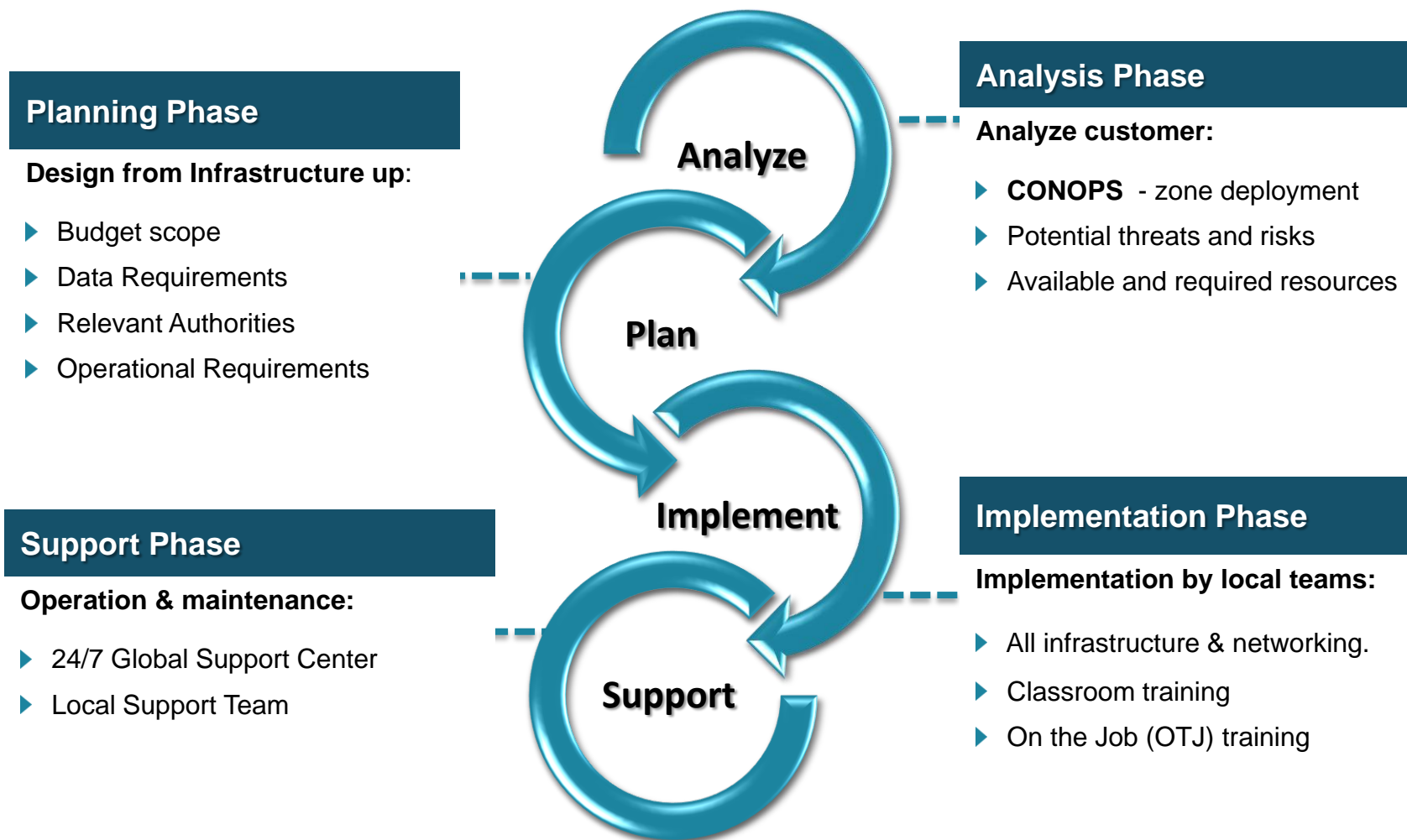
Working Scenarios

NSR Program Methodology

Case Studies

The NSR Advantage

NSR Program Methodology

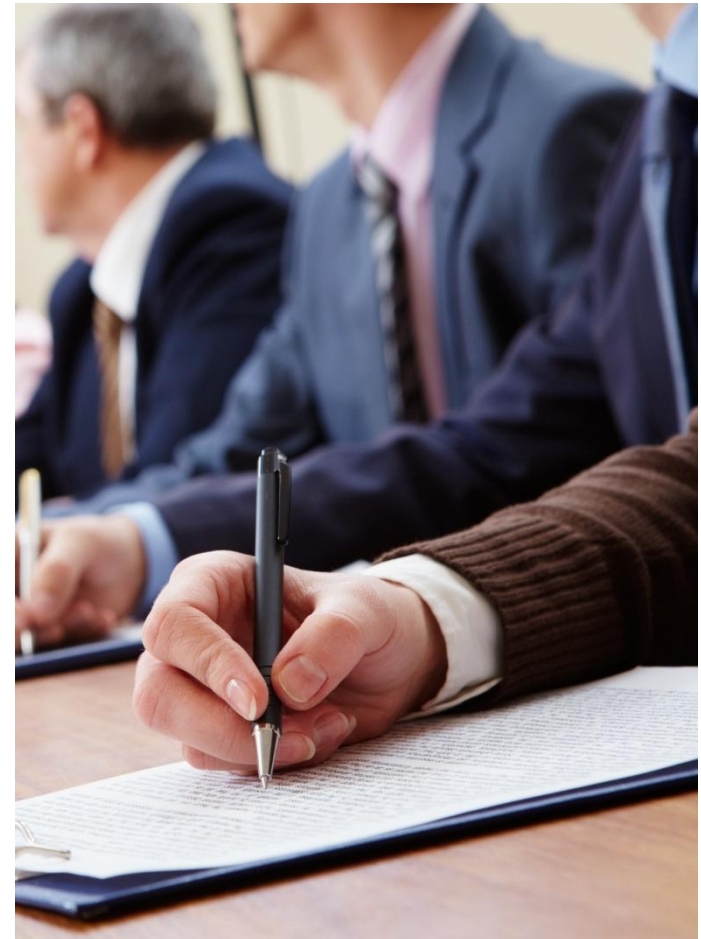


▶ Training & Support

As part of our turnkey offering, we provide training, OTJ training, real-time support, and 24/7 global services.

We will help your personnel master the system – and assign our own service team to operate if necessary.

From intelligence gathering teams, through C&C officers, to Access Control monitors, we can provide your people with the skills and tools they need to manage the NSR Airport Security Solution.



NSR – An Introduction

The Challenge

The Solution

Command & Control

Working Scenarios

NSR Program Methodology

Case Studies

The NSR Advantage

Airport - Nepal

Challenge

- Integrating the new solution with existing legacy systems.
- Providing a scalable solution on a limited budget.
- No interference with airport operations.
- A stable solution which could be supported and managed by the local system integrator.

Solution

We provided a solution based on unique distributed architecture, allowing the customer the flexibility required for integration with legacy systems, budgetary limitation, and plans for future expansion with various providers.

Why Us?

- Provide local SI with turnkey solution including design, hardware , SW and training
- Immediately operation VMS that could grow and expand
- Enable unprofessional local SI to deploy a complex project
- Endless scalability without further purchasing of software
- Stability and 24/7 remote support allowing a non- trained local SI to successfully deploy and support the system

The project has already gone through its 3rd upgrade in 4 years , while being expanded continuously.



Safe City - Singapore

Challenge	<p>A Safe City solution that will simultaneously supported several cities - each working independently while managing hundreds to thousands of sensors and applications.</p>
Solution	<p>The solution had to manage thousands of cameras, advanced video analytics such as ANPR, internal ID list, and detection suspicious cars.</p> <p>The system also had to enable integrations of sensors, SOS units, safety systems, operational systems, communications and 3rd party critical applications.</p> <p>Municipal employees manage local command centers, which feed into a federal C&C with oversight and control capabilities.</p>
Why Us?	<ul style="list-style-type: none">• Off the shelf & rapid customization• Intuitive GUI for design and management• Stand alone AND centralized C&C capabilities• Advanced data processing of 3rd party systems• Elite professional services teams

The project has already been expanded to 2nd phase.



Federal Prisons - Mexico

Challenge

A national agency in charge of securing high risk prisoners in the new Mexican Federal Jails (CPS) required a partner who can provide a 100% reliable system as well flexibly and customization for its very strict requirements in integrating 2000 video cameras, 1500 microphones, thermal cameras, and access control.

Solution

An integrated network with full redundancy and failover, with 24/7 support and maintenance SLA.

Why Us?

- Ability to integrate multiple systems.
- Scalability - since initial deployment the project has grown to over 12000 cameras and 15000 sensors, multiple control centers with hundreds of users simultaneously. Integrations of dozens of new cameras, and 3rd party systems.

The project has grown to over 12000 cameras and 15000 peripheral sensors, multiple control centers with hundreds of users simultaneously.



Sea Port - Netherlands

Challenge

The privately managed Rota port required a UAM solution which will enable it to control trucks and containers passing through. The demand was for one system that can respond to operational, security and safety needs .

Solution

Ensura BV utilized Ensura UAM, LPR cameras , servers and video analytics to provide a flexible system that responds to the complete needs of the end user.

Why Us?

- One stop shop for design, technology allocation, integration and deployment management
- Unique SW which can support the different port divisions
- Short time to air
- A scalable system that enables the port to adapt the system to its needs over the years

The project is currently in the final stages of testing and implementation, and will be fully operational in April 2016.



NSR – An Introduction

The Challenge

The Solution

Command & Control

Working Scenarios

NSR Program Methodology

Case Studies

The NSR Advantage

Our Approach

NSR utilizes a wide variety of proprietary and COTS products and solutions, drawing on proven skills to design and integrate complex solution in multiple environments.



Backscatter



CCTVs



Biometrics



Marine IFF



**Contraband
Detectors**



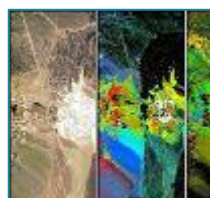
X-Rays



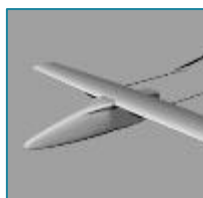
Metal Detectors



LR Thermal Imaging



Spectral Imaging



Tactical UAV



MSUs



Video Analytics



Smart Fences

Our Approach

NSR utilizes a wide variety of proprietary and COTS products and solutions, drawing on proven skills to design and integrate complex solution in multiple environments.



Financial Institutions



Critical Assets



Safe City



Stadiums & Arenas



Prisons



Borders



Fire Detection



Airports & Seaports



Perimeter Protection

What Makes Us Special

**“Out of the box” thinking -
adapting industry and non-
industry tools and technologies to
resolve Security challenges.**

**Deep understanding of Security,
combined with technological
know-how.**

**Maximum utilization of assets –
we will help you make the most of
your deployed sensors & systems.**

**Consideration of human factor –
people have to live and work with
our solutions.**

**We focus on what needs to be
done to achieve goals, rather than
applying preconceived notions of
what “Security” means.**



THANK YOU

NSR | Delivering
Security
that Works