Security for the Transport Sector

An Integrated IT and Physical Security System Approach

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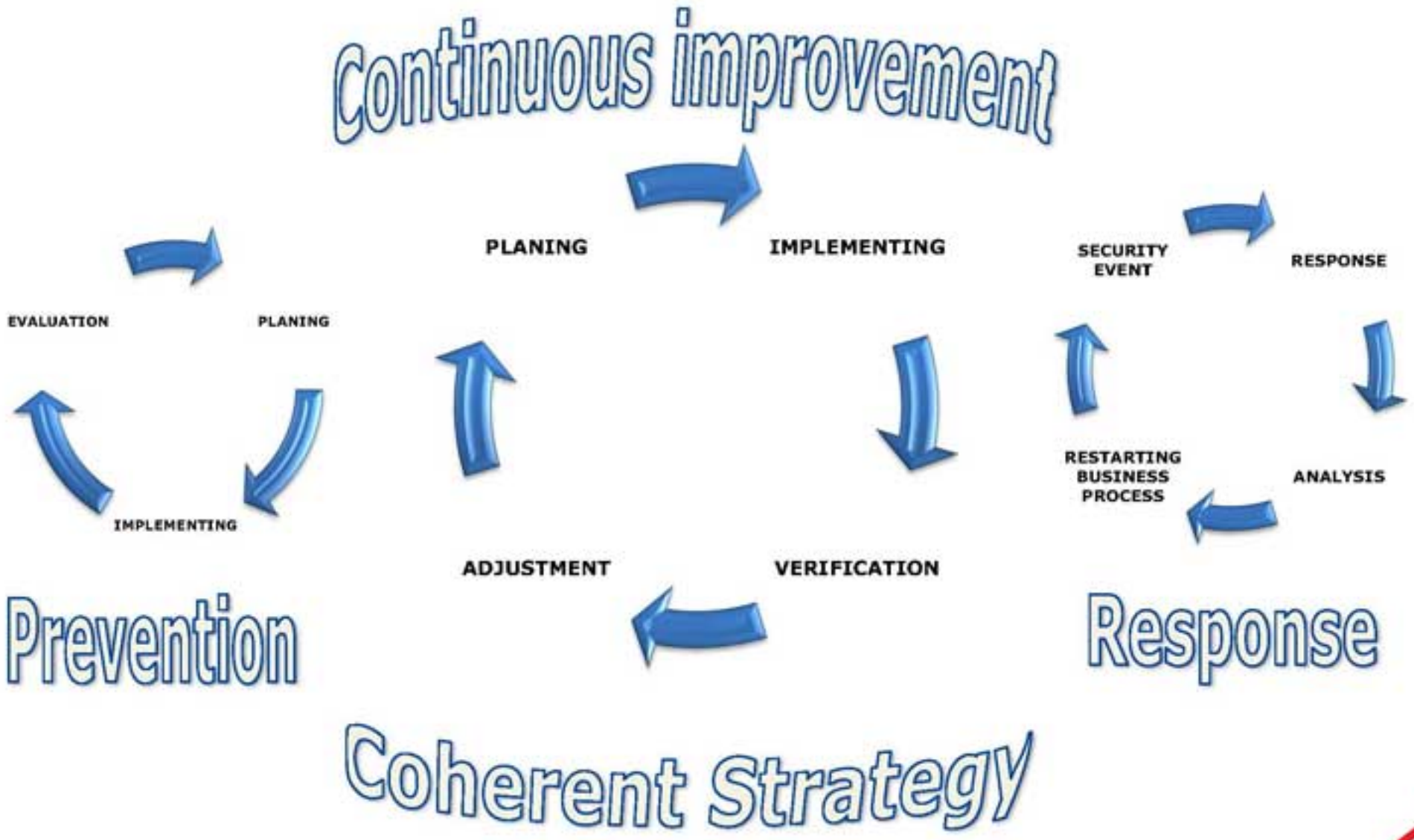
UTI Approach on Security

Systems Solutions

Wide Area Integration

References

Program development



CI Security Solution development

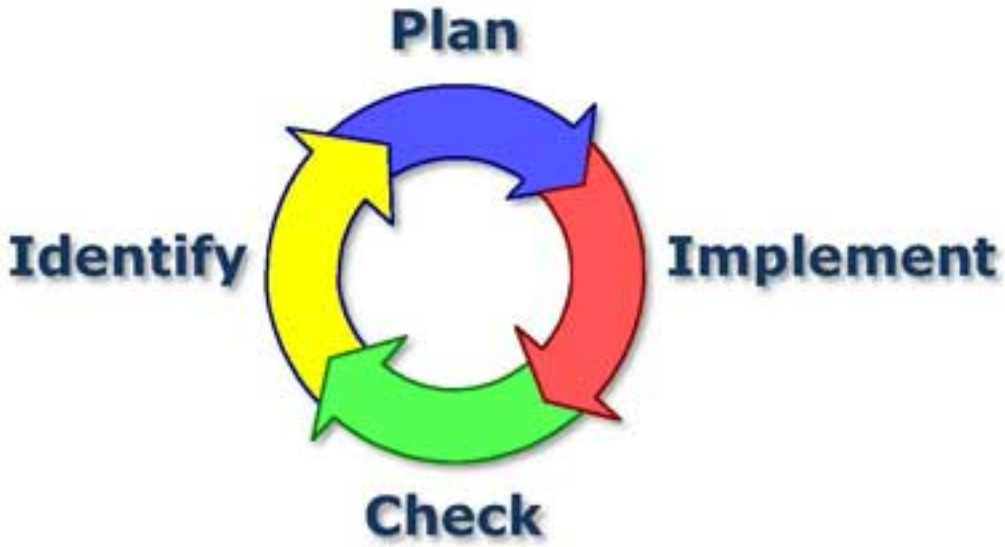
Methods and technologies

- Risk analysis, threat assessment
- Security audits and system design
- System integration: CCTV, access control, intrusion detection, perimeter security, multi level communication networks, physical security barriers, real time and near real time integration software and hardware
- Integrated monitoring centers
- Disaster recovery and business continuity
- Human factor assessment, recruitment and training

Introduction

Steps in security measures design and implementation

- Security risk analysis
- Security measures design and validation
- Security measures implementation
- Operation and periodic re-evaluation



Security Risk Analysis

- It is required to begin with for any security measures design
- It is required by regulations
- The analysis takes into account multiple threats and vulnerabilities identified during the assessment
- Threats' probability of occurrence and potential consequences depend on the vulnerabilities

Most Common Threats and Vulnerabilities

Potential threats

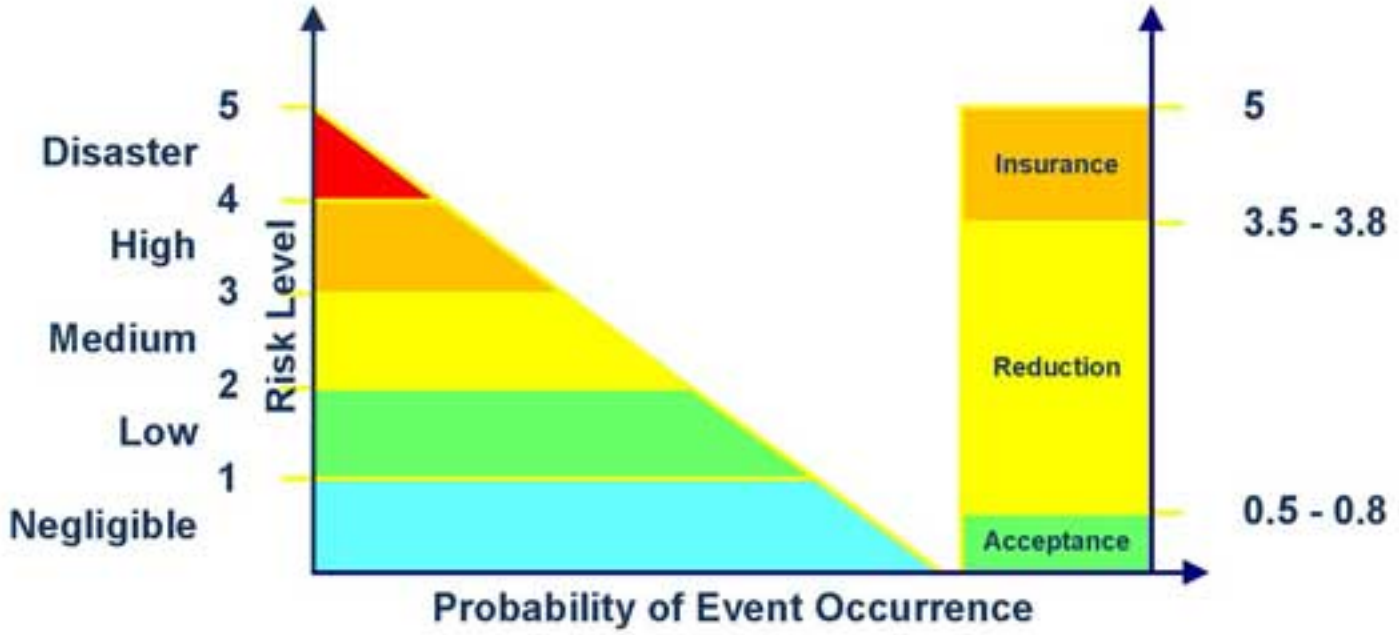
- Biological Contamination
- Theft of Assets
- Bomb Threats
- Chemical Spills
- Data Destruction / Disclosure
- Errors
- Fire
- Flooding/Water Damage
- Sabotage/Terrorism
- Vandalism/Rioting

Potential vulnerabilities

- Insufficient physical protection
- Lack of intrusion detection
- Superficial entry control/ personnel screening
- Lack of package control
- Improper plans for emergencies and incidence response
- Lack of security procedures/ policies/training
- Process installations vulnerabilities

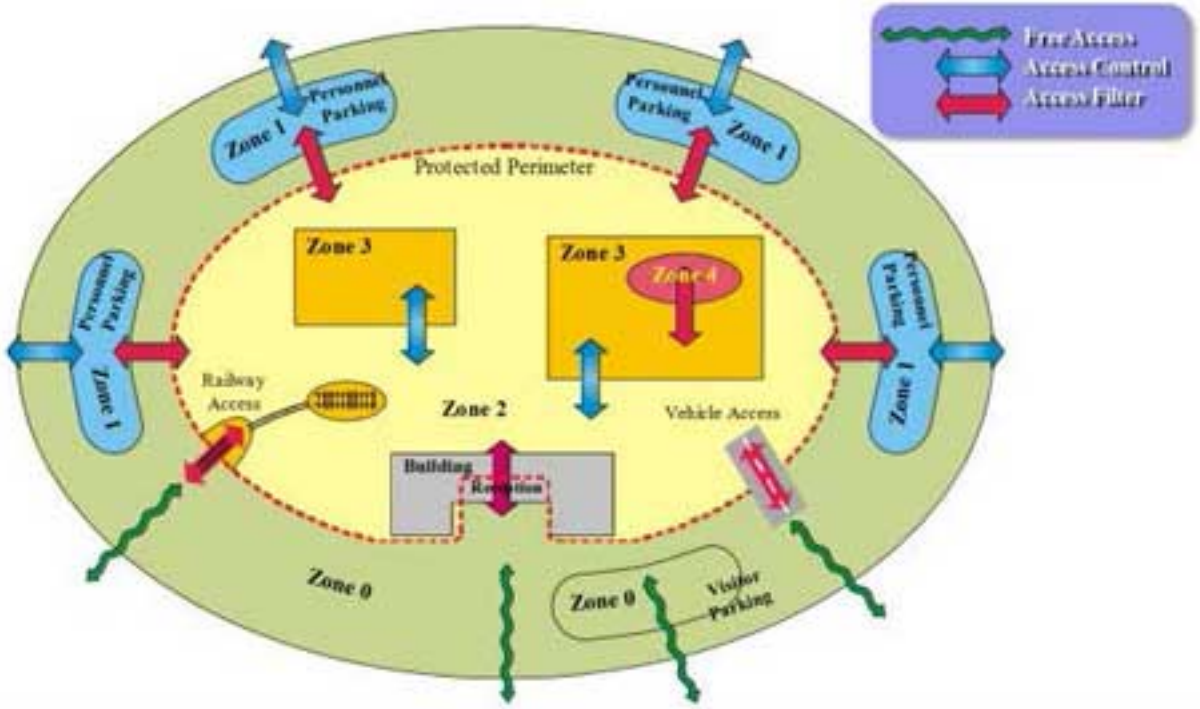
Attitude Towards Risk

- The risk analysis helps in prioritizing security measures
- Different risks may require different measures
- Investment should be targeted on the areas which provide the maximum return on investment (the maximum risk reduction)



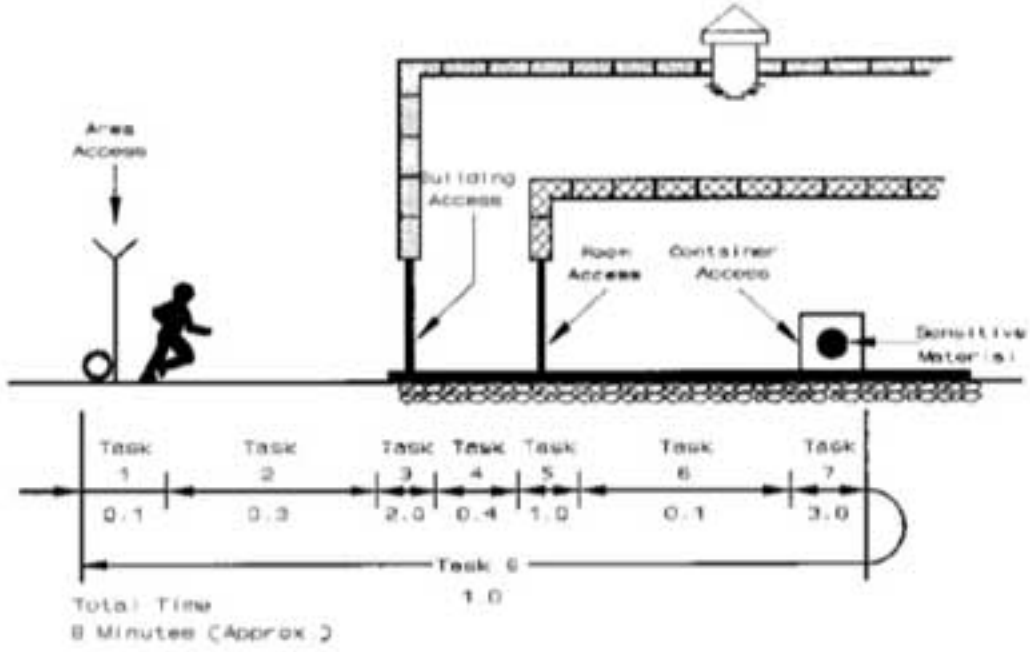
Principle of Defence in Depth

- In order to maximize the probability of detection and adversary action interruption, multiple layers of protection are designed and implemented.
- The Defence in Depth approach maximizes uncertainty for the intruders, provides appropriate protection for high sensitivity areas and optimizes the investment in security measures.



Principle of Timely Response

- Security is effective if an adverse action can be prevented or interrupted before completion.
- In order to be successful in denying an adverse action, the security response action should finalize before the adverse action finalizes.
- Careful design and simulation is required to ensure that the system guarantees the desired performance level.



Principle of Balanced Protection

- A security system is as strong as its weakest (easiest to defeat) point.
- An analysis is made to make sure the protection effort is uniformly distributed.
- Overprotection of an area in the detriment of the others means wasted money.

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Access Control – Personnel & Vehicles

- Control and monitor people and vehicles movement in and between security areas (layered approach)
- Permanent credentials for staff
- Contractors/Visitors badges
- Vehicle License Plate Recognition

Access Control - Materiel

- Screening of baggage, parcels and shipments
- Detect unlawful substances and items
  - Weapons
  - Explosives
  - Narcotics

Intrusion Detection

- Low false alarm technologies (taut-wire, dual technology sensors)
- Indoor detection in equipment rooms
- Integration with CCTV for alarm assessment

Physical Barriers

- Delay systems correlated to
  - Detection capabilities
  - Reaction force performance
- Deterrent effect

Surveillance

CCTV cameras

- For general surveillance
- For detection (VMD, video-analytics)
- For assessment – triggered by other subsystems

Intelligent video processing

- Detection of terrorist threats
- Detection of unlawful behaviour
- ANPR – Automatic Number Plate Recognition

Fire Protection

Early detection

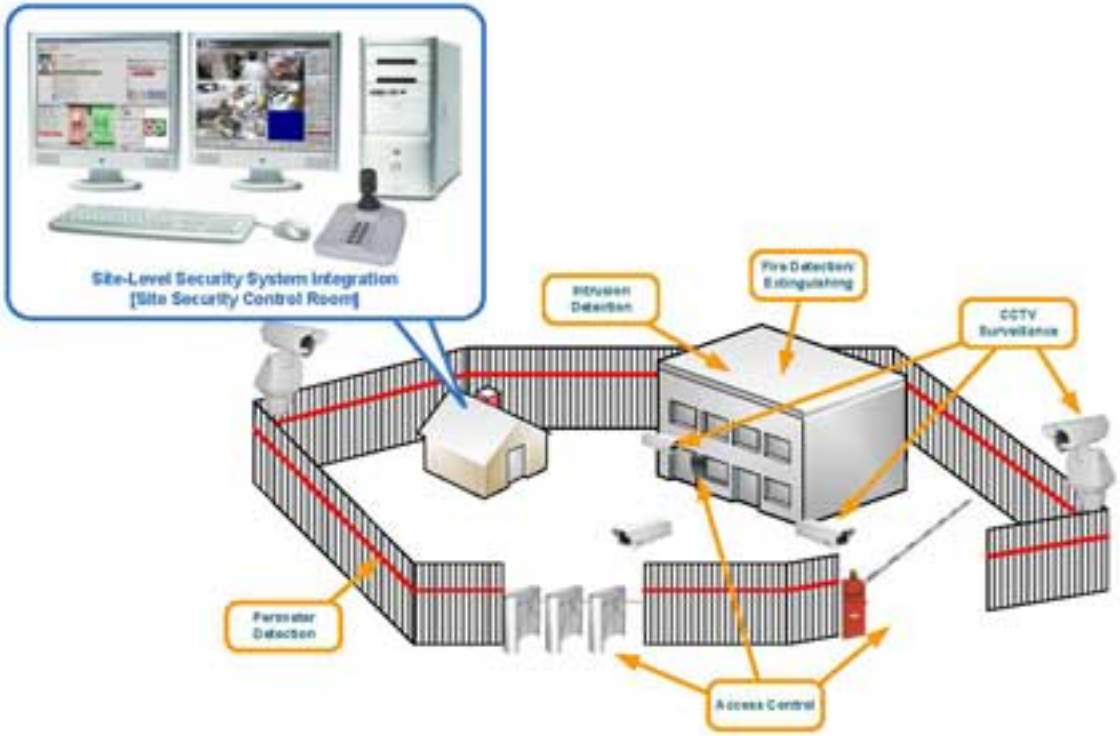
- Flame, smoke, heat detection
- Fast detection with absorption systems

Extinguishing

- Non-lethal extinguishing agents
- Business process continuity

Local Control Room

- Site-Level Security System Integration
- Consistent look & feel of the interface across systems
- Decision support
- Traceability



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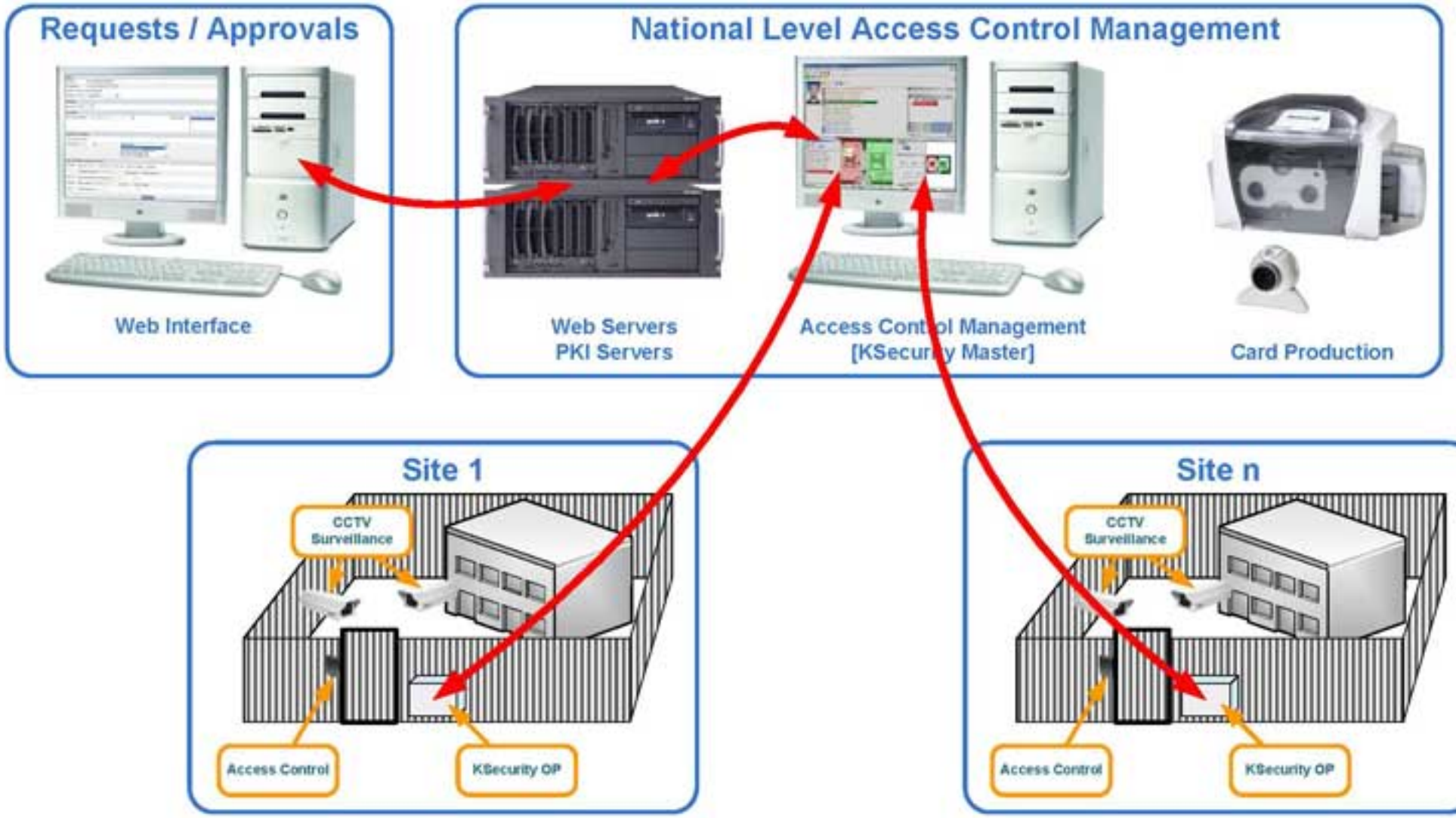
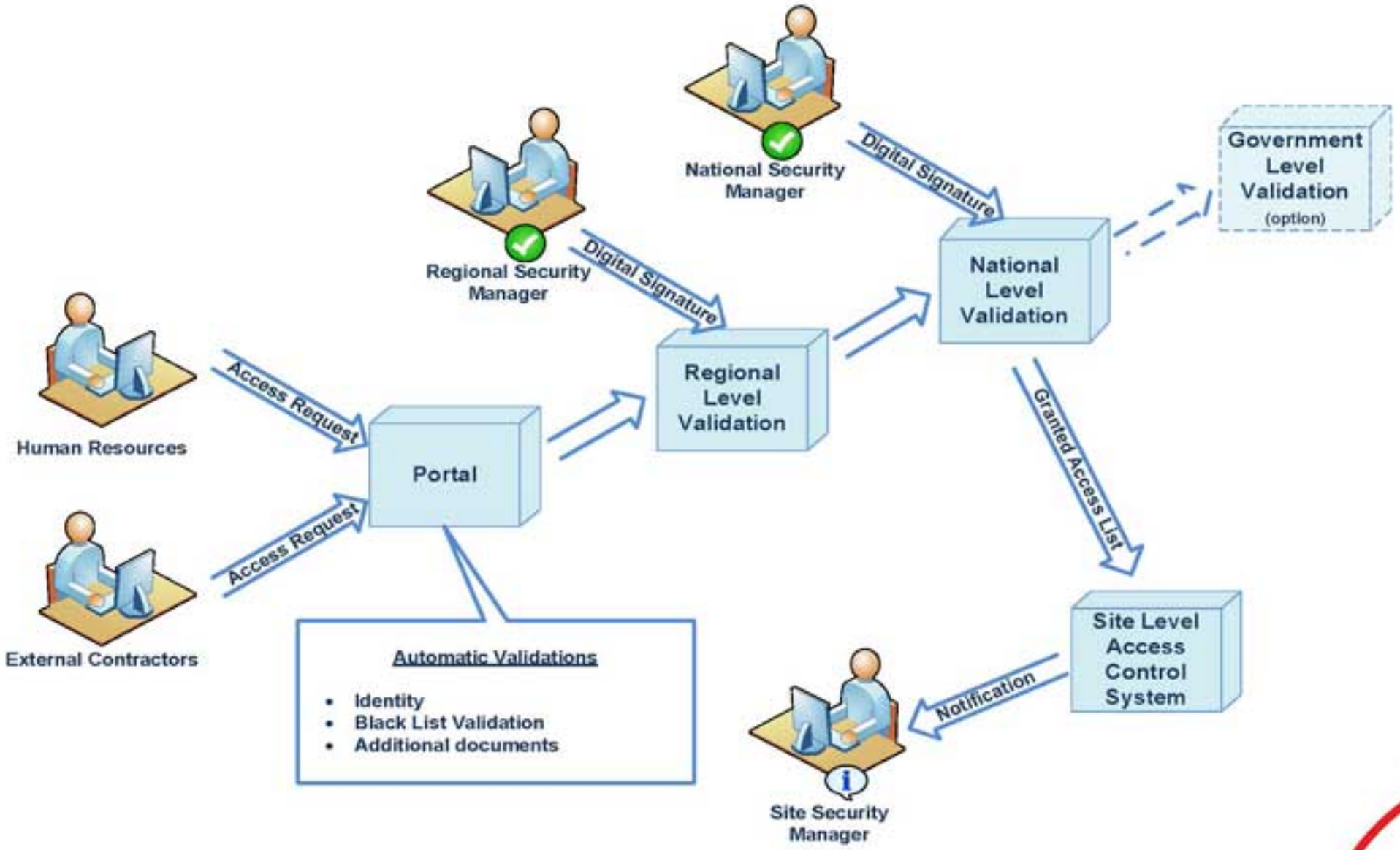
Access Rights Management System



Unified Access Rights Management



IT & Physical Security Integration

- Unified **Identity Management** system
  - Enrolment
  - Physical security permission management
  - Logical security permission management
  - Classified information clearance management
  - Training and certification information management
- **Unified Identity Credential** for physical and logical access
- Augmented logical access control – condition the logical access with the physical access
- Secure access to physical security systems based on PKI

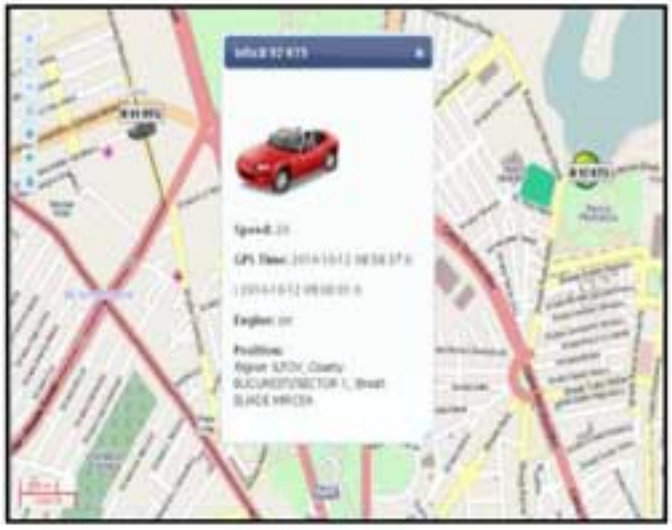
Security Resources Management

Security Agents Monitoring

- GPS positioning
- Direct voice dialling
- Remote-initiated listen-in
- Duress alarm
- Non-motion alarm
- Geo-fencing alarm

Security Teams Monitoring

- GPS positioning
- Mission status information
- Mission parameters monitoring
- Mission assignment assistance



Greater Mobility

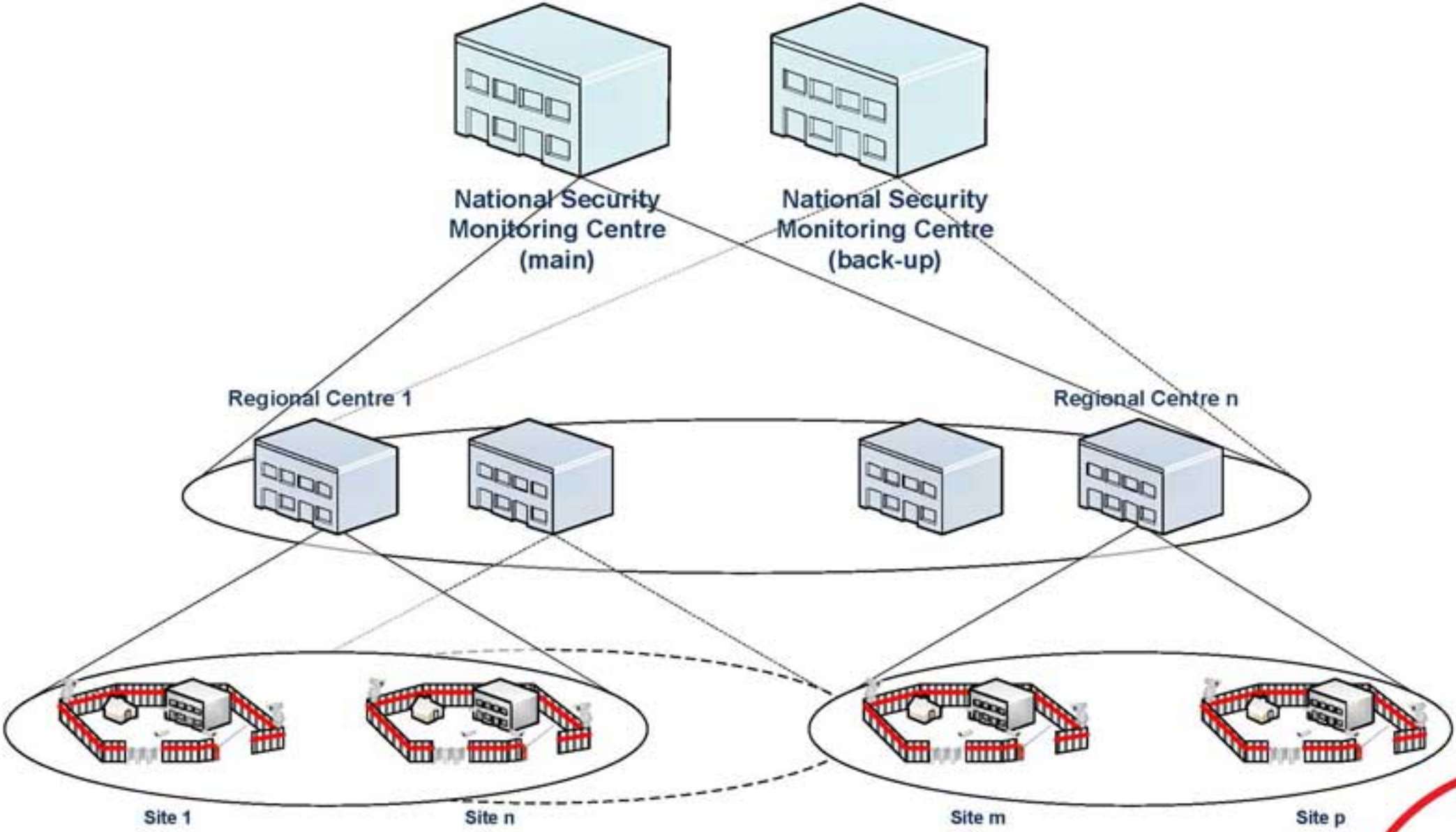
UAV for Forward Surveillance

- Pre-programmed flight
- Gyro-stabilized payload
- Choice of visible, thermal or multi-spectral camera
- Mobile control centre

Deployable Security Systems

- Temporary site protection
- Compensation for part unavailability of fixed systems
- Protection in case of emergency situations

National Level Integration



National Level Integration

- Increase **situation awareness** – create common operational picture and integrate it with other CIP players
- Share real-time information
  - Terrorist alerts
  - Other hazards
- **Realistic threat level assessment** based on wide-area fused information
- Monitor the **security response performance** and compensate for unavailability
- Optimal **resource allocation** in case of emergency situations
- **Centralized reporting and analysis**

Reassessment of Threats

- Analysis of availability of the physical security systems in case of extreme weather
- Analysis of vulnerability to "unconventional" terrorist threats (propelled grenades, car bombs)
- Analysis of insider threat as part of the security threat (stand-alone or in collaboration with outsider threat)

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Wide Area Integration
References

CAPABILITY FOCUS : PORT AND MARITIME SECURITY SOLUTIONS

Perform Security Assessments

Elaborate Security Plans

Design / implement / operate / maintain Security Systems

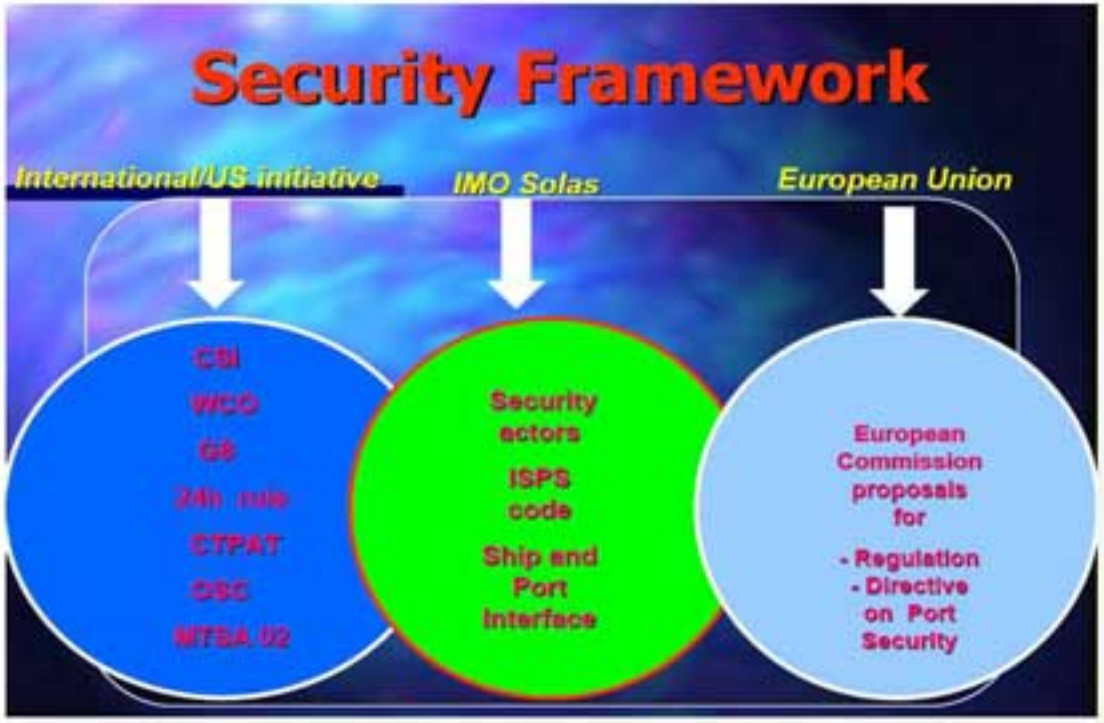
Perform Security Evaluations

FOR

Sea Ports

Inland Water Ports

Port Facilities



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CAPABILITY FOCUS: INTEGRATED SECURITY FOR SEAPORTS

Perimeter Protection

- Physical barriers
- Electronic detection
- Closed Circuit Television (CCTV)

Person Access Control

- Interface with the Port Operators systems
- Metal detection
- Detection of CBRNE

Vehicle Access Control and Screening

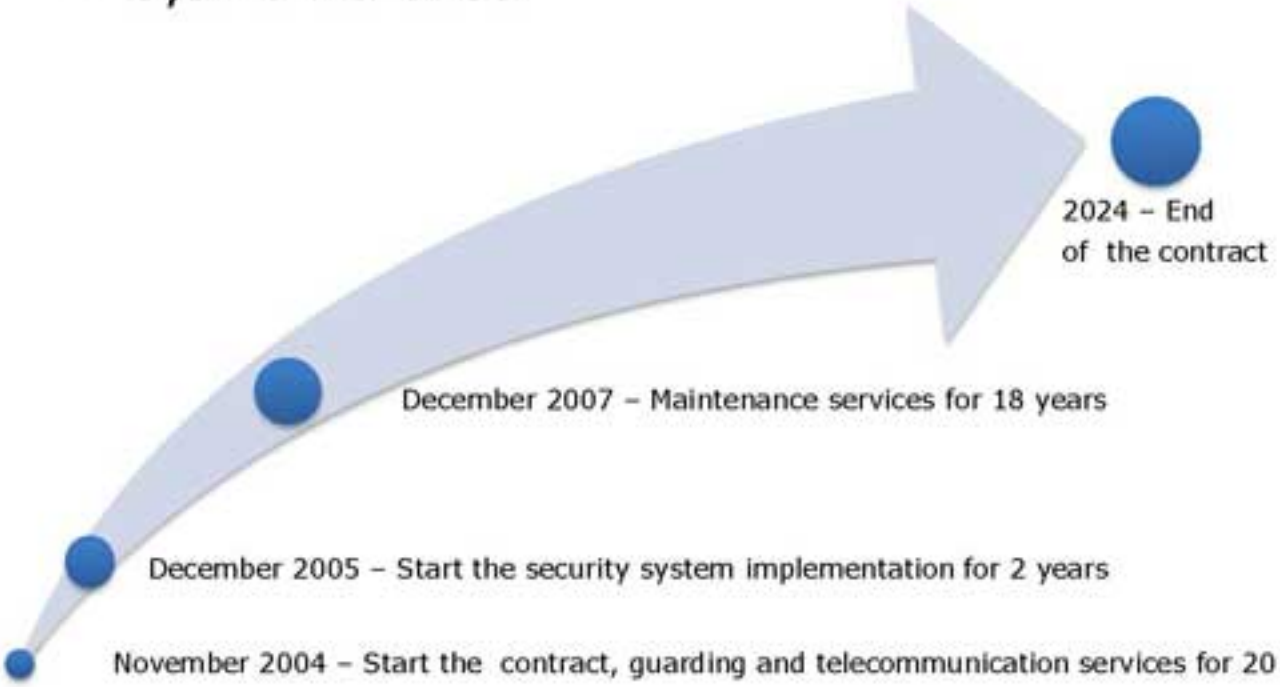
- Automatic Number Plate Recognition
- Interface with the Port Operators systems
- X-Ray Screening
- Detection of CBRNE

Ship, boat and diver detection

- Radar
- FLIR, Long-range Laser Camera

CASE STUDY:
CONSTANTA PORT SECURITY AND IT&C PROJECT

- 19 gates
- 12 km perimeter
- 29,83 km berth length
- 100 million tones/year capacity
- 3,926 ha area



CAPABILITY FOCUS: INTEGRATED SECURITY FOR AIRPORTS

- Construction and terminal installation
- Facility management
- Integrated physical and IT security
- Airfield lighting
- Parking and fleet management systems
- Baggage handling systems
- Integrated Airport Management Systems using our proprietary solution ICAR

CASE STUDY: BUCHAREST INTERNATIONAL AIRPORT SECURITY AND IT&C PROJECT

- 16,000 square meters
- 14 jet bridges
- 24 boarding gates
- Separate departures and/or arrivals flows for Schengen/non Schengen passengers
- Lounge and shopping areas

1996 – Phase 1 of the development and modernization plan : terminal security solutions, low voltage and telecommunication systems

1999 – Icar – ERP proprietary solution

2003 – Domestic Flight terminal: electrical and mechanical installations, baggage handling and passanger control systems

2011 – Phase 3: Schengen terminal construction – electrical and mechanical installations

CAPABILITY FOCUS: INTEGRATED SECURITY FOR SUBWAY

Integrated Security System

- Command and Control Center
- CCTV and Access Control
- Electronic Ticketing solution
- Fire Detection and Alarm System
- Public Address System
- Dynamic Information Display systems
- Radio Communications
- FO networking

Low voltage equipment

- General electrical power and distribution panels
- Warning systems and the energy supply safety systems

Medium voltage equipment

- Medium voltage cells

AC Equipment

- Software application;
- Fiber optic cables
- AC cells equipped with surveillance and protection

UPS System

- Emergency power supply system

CASE STUDY: BUCHAREST SUBWAY

- Metro tracks (main): 4
- Network lenght : 69.25 km double rail
- Depot: 4
- Stations No. : 51
- Average distance between two stations: 1.5 km

- Station's lenght : 135 – 175 m
- Station average depth: 12 m
- Gauge : 1432 mm
- AFC with magnetic card from 1995, upgraded on 2000. From 2006, together with RATB a functional platform was made to allow common ticketing.