

# Expanding the Perimeter

## Summit on Perimeter Security

May 17, 2005

**Denny Lengyel**

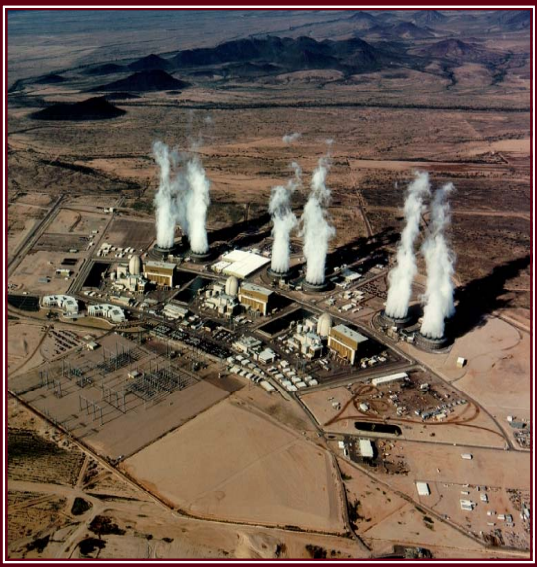
Vice President

Surface Transportation & Energy Systems

**ARINC**

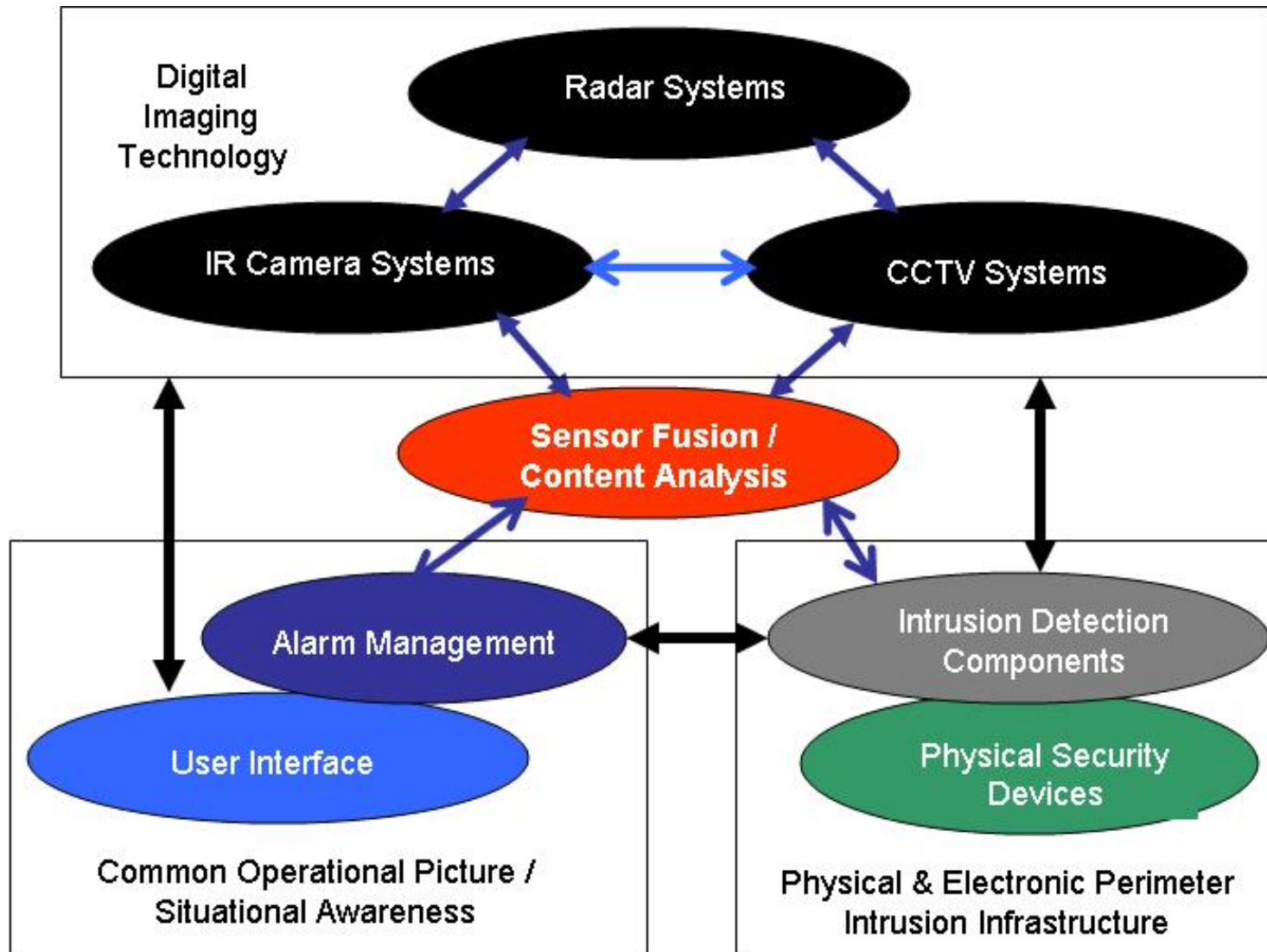
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# Operational Effectiveness is Achieved via Planning, System Engineering and Technology Selection



- **Requirements Driven Technology Assessment Avoids Selecting the Wrong Components**
  - Threat Analysis
  - Security Force Reaction Times
  - Environmental Considerations
- **Detailed Engineering and Sensor Fusion Maximizes Coverage and Minimizes False Alarms**
  - Probability of Detection
  - False Alarm Rate
  - Vulnerability to Defeat
- **Human Interface Critical to User Performance & Effectiveness**
  - Display Design
  - Alarm Management
  - Automation

# Securing Large Perimeters is Facilitated by Integrating Multiple Technologies, Sensors and Physical Security Layers



# Perimeter Intrusion Detection System Components

- **Sensors**
  - Open Areas
    - Video ( Optical, IR)
    - Volumetric (Radar, Microwave, Acoustic, IR)
  - Boundaries
    - Fences (Vibration, Fiber Optics, Strain, E-Field, Capacitance)
    - Underground (Pressure Line, Coax, Fiber Optic)
- **Communications Systems**
  - Fiber
  - Coax
  - Wireless
- **Alarm Processor**
  - Event Correlation
  - Image Processing / Content Analysis
  - Target Tracking
- **User Interface**
  - Audible, Visual ( graphical, tabular)
  - Alarm Geo Coding
  - Situational Awareness Displays



# User Interface – Tabular / Graphical Hybrid

Time >	Identification	Description	Type	State
15:24:39D 05/13/02	ZONE_6TA	TAMPER MW ZONE 6--SOUTH GATE	TAMPER	NORMAL
15:24:20D 05/13/02	CC404MC	INTRUSION ALARM CC404--638` CC N	INTRUSION	NORMAL
15:23:30D 05/13/02	TEST	TEST COMMUNICATIONS CHANNEL	TROUBLE	NORMAL
15:23:30D 05/13/02	ACP-616	CONTROL PANEL	TROUBLE	NORMAL
15:23:20D 05/13/02	ZONE_6INT	ALARM MW ZONE 6--SOUTH GATE	INTRUSION	NORMAL

- Acknowledge
- Clear
- Information
- Access Control

## Alarm Acknowledgement



Total Rows: 5  
Unacknowledged Alarms: 1

15:23:20D 05/13/02	ZONE_6INT	ALARM MW ZONE 6--SOUTH GATE	INTRUSION	NORMAL
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Guidance Area

# User Interface – Geo Coding

The screenshot displays a Microsoft PowerPoint window titled "Microsoft PowerPoint - [Presentation1]" with a timestamp of 15:26:16. The main content is a slide titled "display" showing a facility layout diagram. The diagram is divided into several labeled areas:

- PERIMETER**: A large rectangular area on the left, outlined in green and orange, containing internal structures.
- TURBINE BLDG**: A white rectangular building within the perimeter.
- REACTORS 1-2**: Two yellow circular icons with black patterns.
- TANKS 1-4**: Four white circular icons with black patterns.
- SERVICE BLDG**: A grey rectangular building within the perimeter, highlighted with a red border.
- OFFICE BLDG**: A grey rectangular building within the perimeter.
- WAREHOUSE**: A grey rectangular building at the bottom of the perimeter.
- COOLING TOWERS**: Two blue circular icons with horizontal lines, located to the right of the perimeter.
- MAIN SECURITY ENTRY**: A white line indicating an entry point on the right side.

The diagram also includes a navigation toolbar at the top with buttons for "Reset", "Fit", "Nav.", "1:21", "-", "+", "Tab", and "Help". At the bottom of the slide, there is a "Guidance Area" label and a small icon.