

Everyday Use and Extraordinary Protection

Using Technology to Maximize Fire System Flexibility and Protection

Donald Boynowski



**MANITOBA BUILDING
OFFICIALS ASSOCIATION**

**ANNUAL
FALL SEMINAR**

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SIEMENS

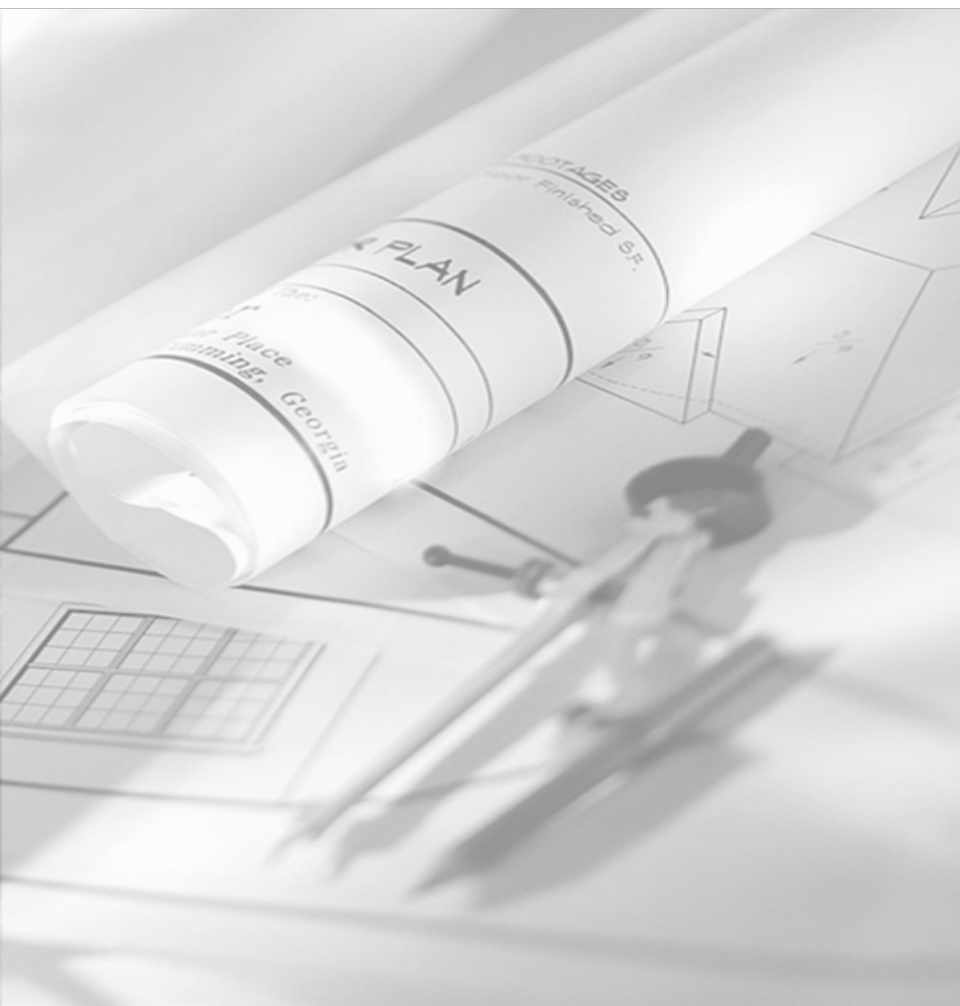
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Learning Objectives

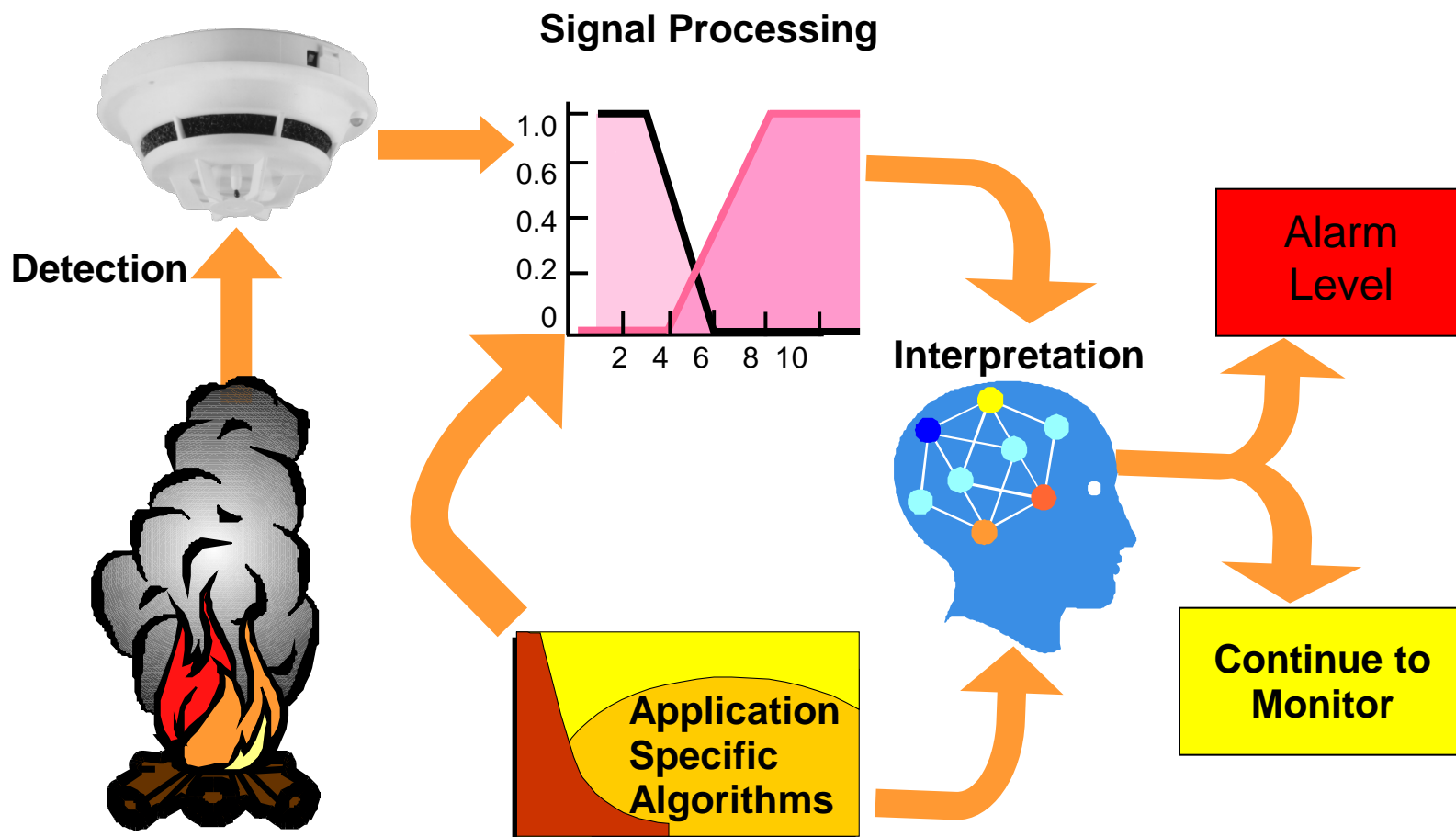


- Gain a better understanding of the challenges to using new technology with current design methods
- Identify how advances in technology provide opportunities to offer more comprehensive and flexible protection and communication options
- Explore how a multi-use fire alarm system can benefit the operation of a facility
- What this means to Building Officials and other AHJ's

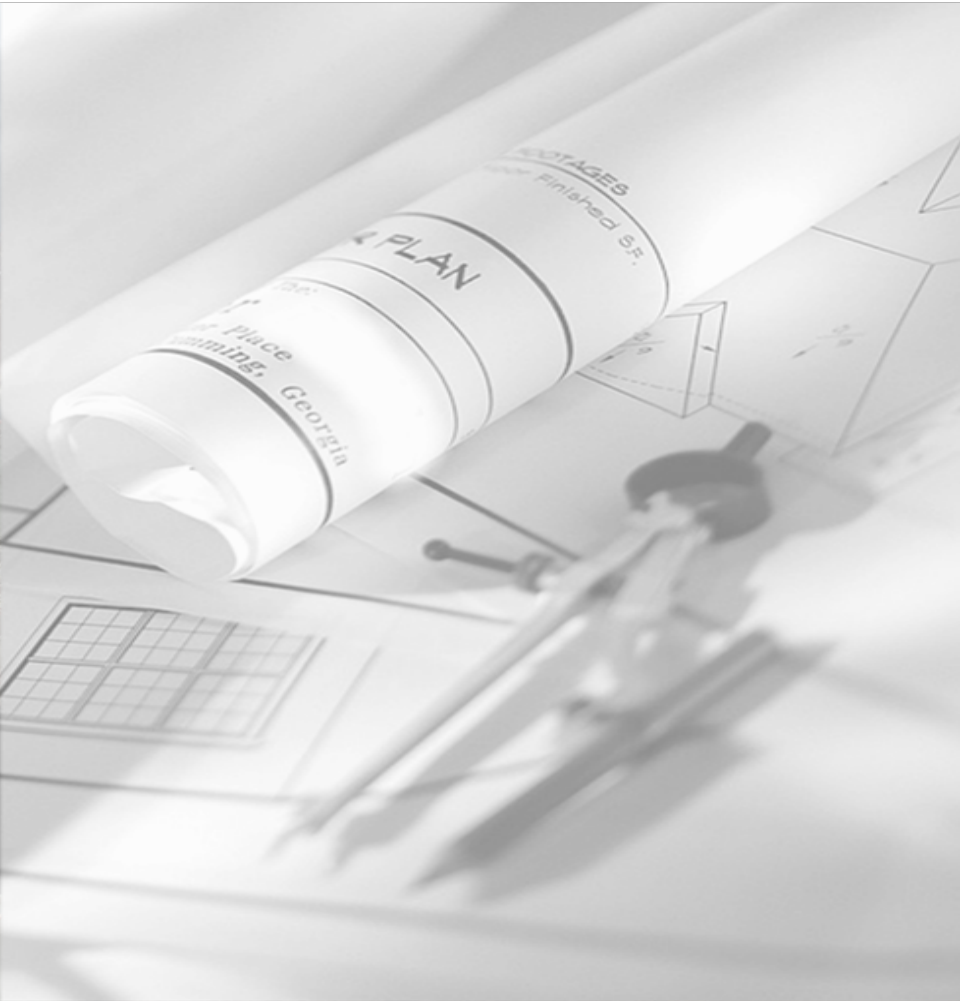
Why ?



The reality

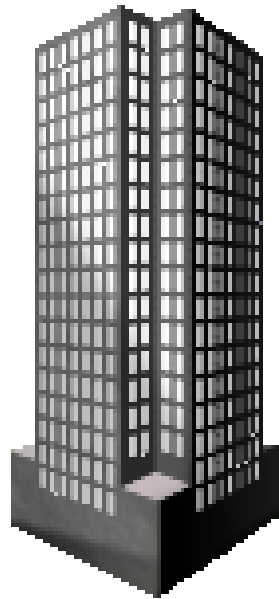
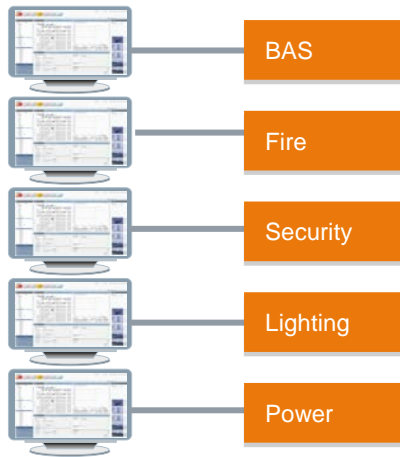


Outline

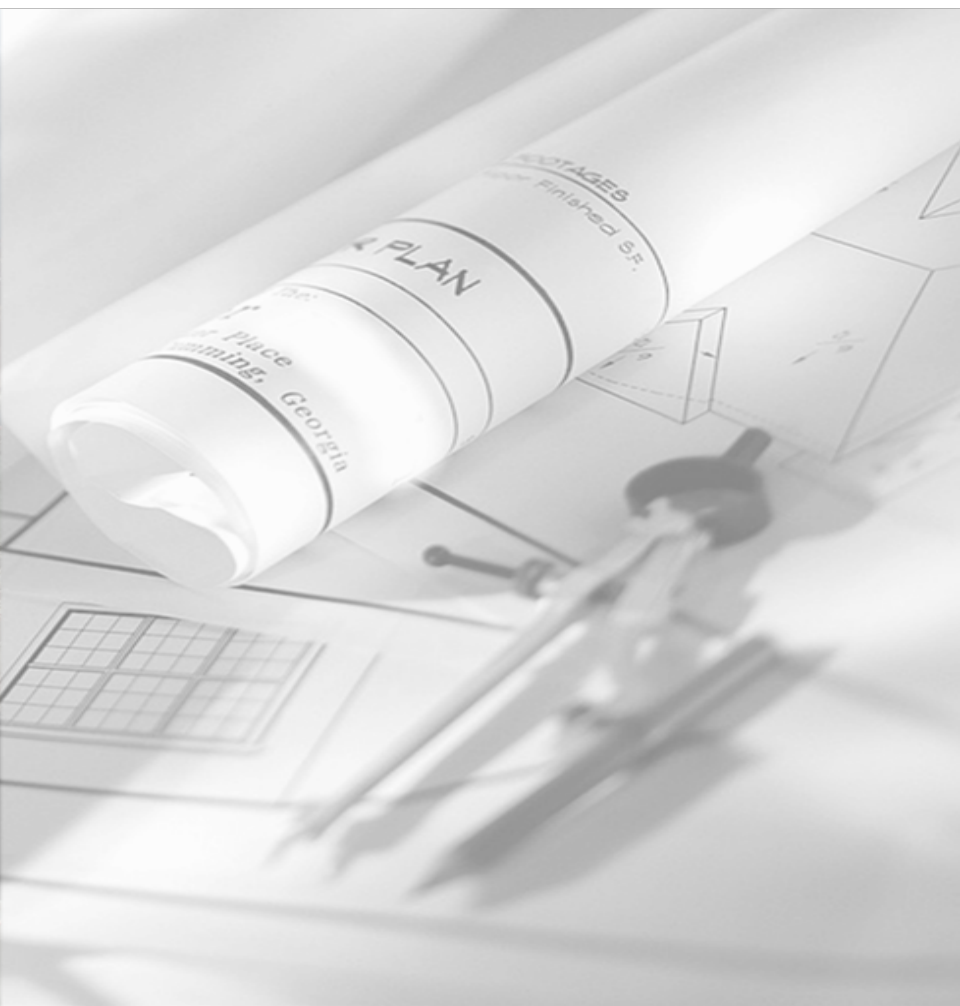


- **The Challenge – What do today’s Facilities Managers need from their building systems**
- Current Barriers to Multi-Use
- The Value of Integrating other building functions into the fire alarm system
- The Solution Set
- The Challenge to Building Officials and other AHJ’s
- Summary

Traditional Building Systems



Outline



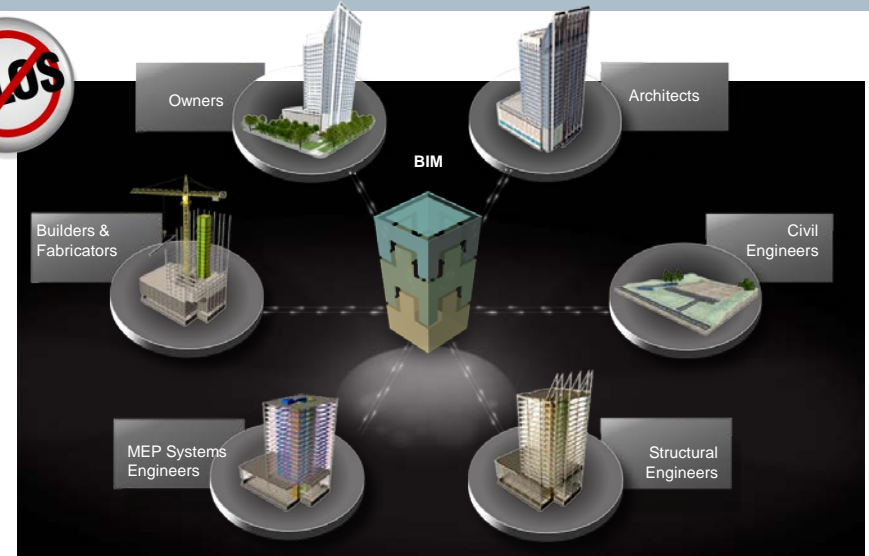
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Mechanical, Electrical, Plumbing and Fire Prevention Specifications have been Developed in Silos



The silo effect creates challenges to efficiency

- Inhibits efficient construction process
- Interoperability not clearly defined
- Creates functional gaps for the end user



Collaborative Design is Better

- Lean construction
- Lowers life cycle costs
- Better interoperability and functionality for the end user.

Integration in design results in an integrated solution

Multiple Disciplines – Multi-Use is not typically considered for Fire Protection



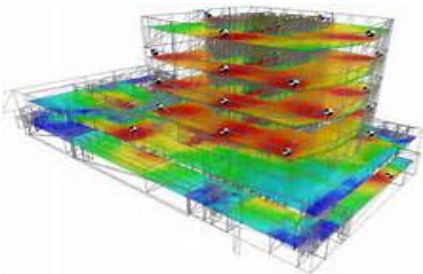
Electrical

- Fire & Life Safety
- Security Access Control & CCTV
- Lighting
- Structured Cabling



Mechanical

- HVAC Systems
 - Chiller Plant
 - Boilers
- HVAC Controls



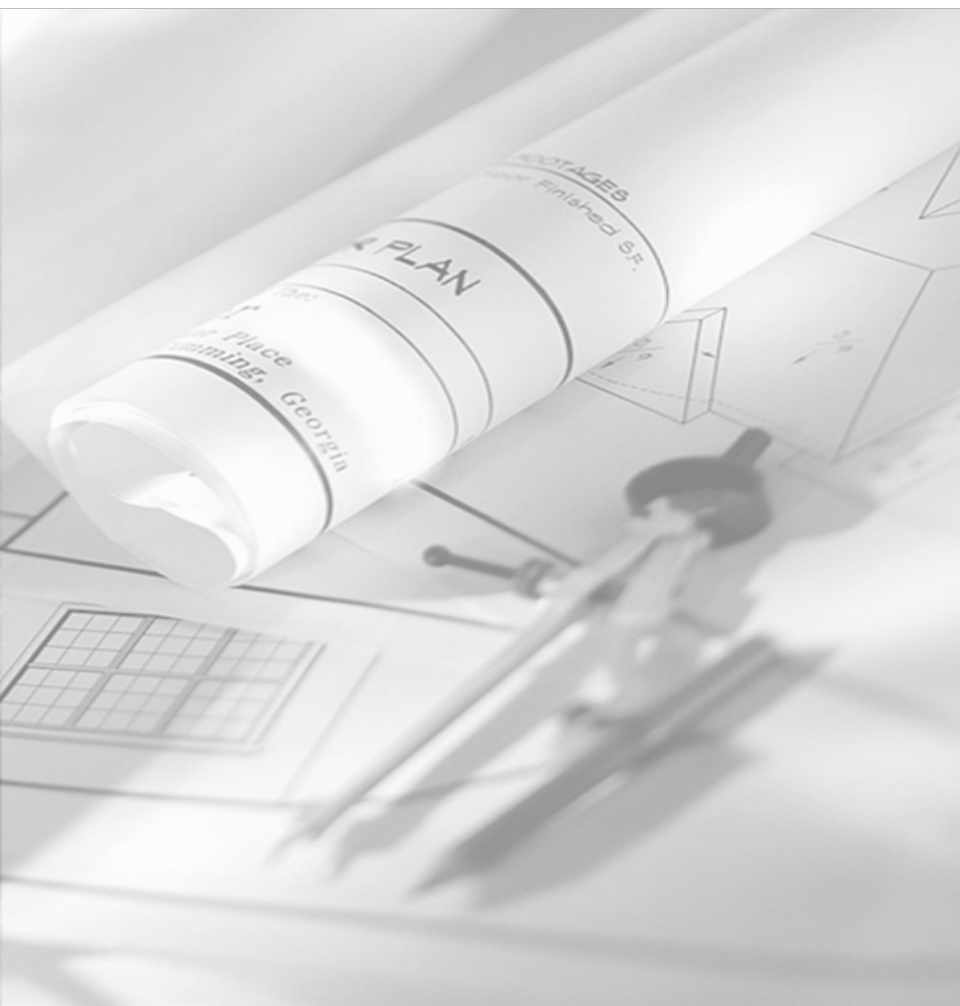
Specialty

- Network IT
- Wireless
- Emergency Responder Radio Enhancement Systems



*Specifications are not aligned
crossing multiple disciplines*

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Technology and How It can Help Your Design



Not the DVD remote. Where is the TV remote?

What is the real value ?

Reduced Operating costs

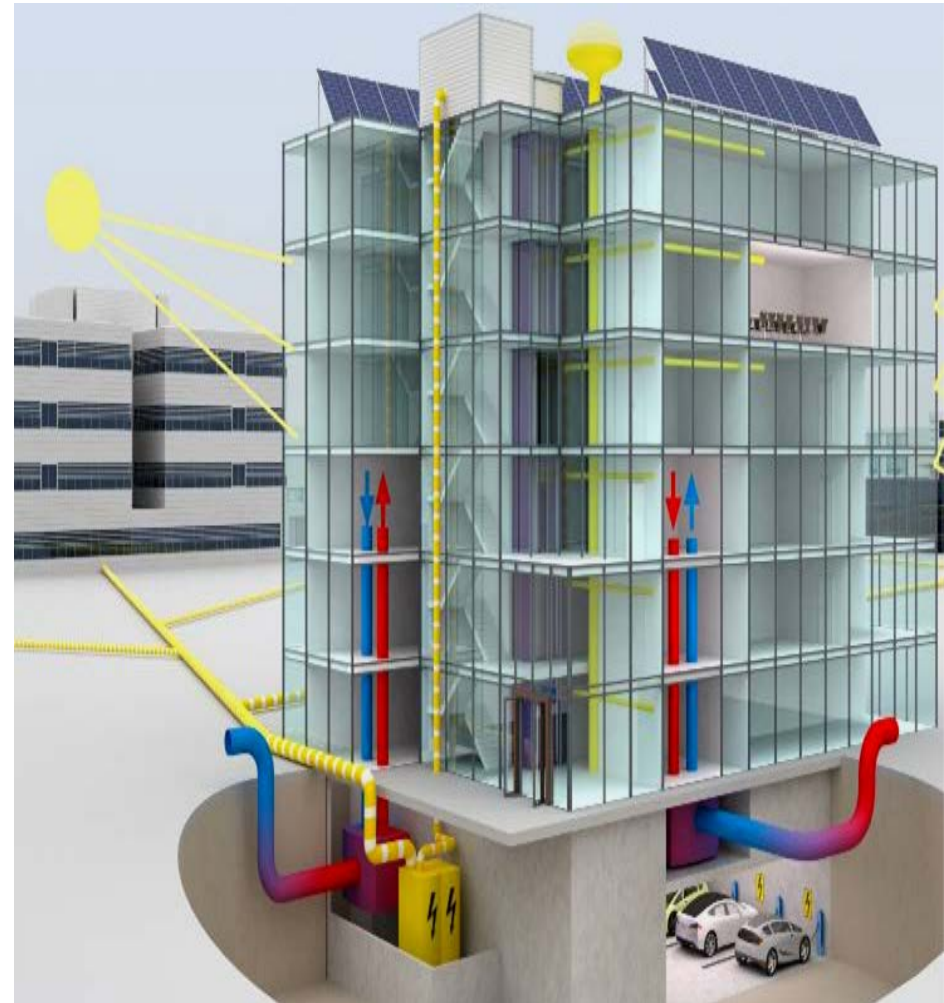
Improved Owner & User experience

Optimized Networks

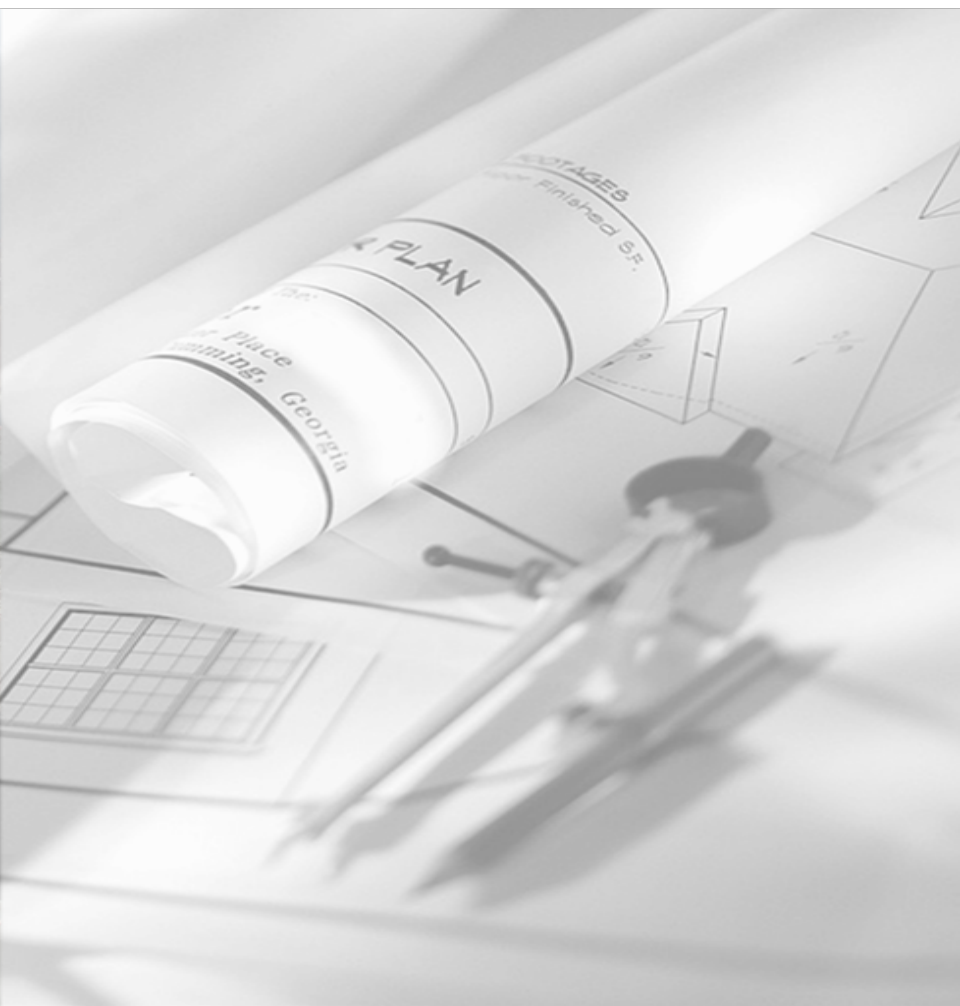
Automatic sequences that save time and increase accuracy

Intelligent Response

Flexible / Scalable solutions for your building



Outline



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Early Warning Prevents Disasters



Solutions for various environments from “clean” to “harsh” – all in one detector

Reduced Operating costs



Clean environment



Moderate environment

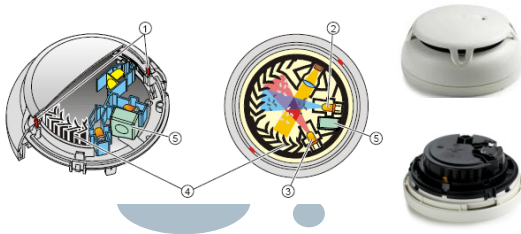


Harsh environment

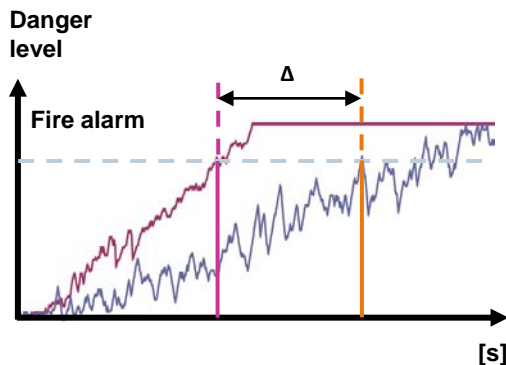
Flexible / Scalable solutions for your building

Advanced Multi-Criteria Detection with CO

Reduced Operating costs



Comparison during mattress fire

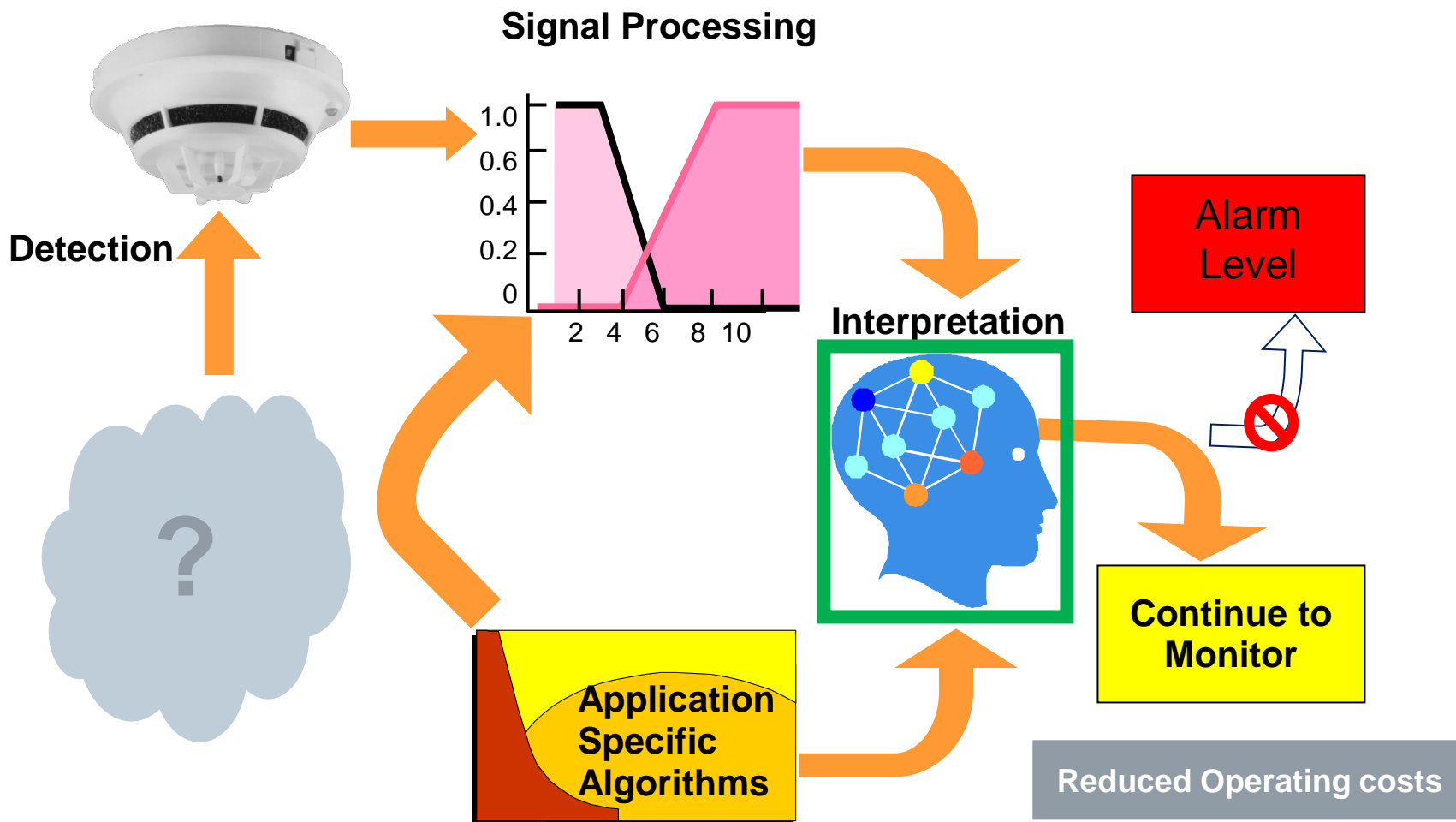


- Detector with two optical and two heat sensors as well as an additional carbon monoxide sensor
- Earliest and most reliable detection thanks to analysis of 3 criteria: smoke, heat, and CO concentration
- Very fast response to all carbon monoxide (CO) generating fires (e.g. mattress fire)
- Very early and reliable alarming in environments with deceptive phenomena
- Meets both Fire alarm and CO alarm requirements

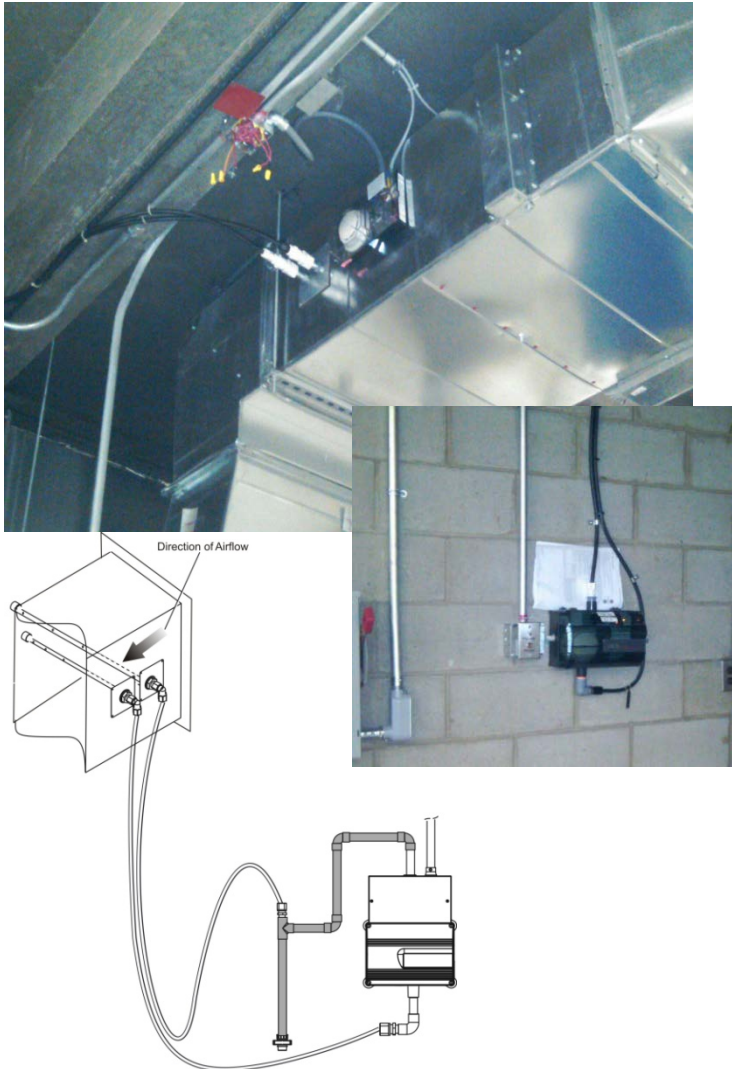
Also earlier detection in environments with deceptive phenomena thanks to CO detection

➔ **Enhanced protection – thanks to additional CO detection**

Technology can also find the right balance



Not all Technology Improvements are Rocket Science



Problematic detectors and difficult to access ductwork

- Rooftop HVAC Units
- Correctional
- Production Facilities
- Commercial Buildings
- Government Buildings
- Hospitals
- Educational spaces
- Entertainment venues
- Rooftop HVAC Units
- Manufacturing Plants

Reduced Inspection costs

Restricted "Open Areas"

Detectors can be installed in places with easy access. Only the sampling pipes are in the inaccessible area.

- Transformer vaults
- MRI Rooms
- Restricted government spaces
- Inaccessible laboratory spaces
- In elevator shafts
- Concealed roof or floors spaces
- Prisons
- Refrigerated areas



Reduced Inspection and Operating costs

Ambient temperature usage for thermal detectors

Reduced Operating costs

Automatic sequences that save time and increase accuracy

Thermal elements on multi-criteria detectors used for other applications

- Low-temperature warnings for sprinkler water supply
- Temperature warning for industrial processes
- Environmental warning for research facilities



Common Management Station

- Management stations for Fire Alarm, Building Automation, Emergency Communications & Security (video cameras) in the same station
- No impact to individual system stability
- One operator interface
 - Reduces training
 - Increases response time
- Common set of hardware
 - Only one monitor required in the facilities command center

Reduced Operating costs

Automatic sequences that save time and increase accuracy

Optimized Networks

Flexible / Scalable solutions for your building



Intelligent Response

Fire Alarm Voice

- Fire emergency information
- Other emergency information (MNS)
 - Tornado
 - Lockdown
 - Biohazard
 - Utility interruption
 - Suspicious package/person
- Non-emergency information
 - Convenience paging
 - ~~Background music~~

Reduced Operating costs

Improved Owner & User experience

Optimized Networks

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Intelligent Response

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**Fire
emergency**



**Non-fire
emergency**



**Non-
emergency**

Using Fire Alarm System Technology to activate Mass Notification System

- Leverage building infrastructure for alerting occupants of emergencies
 - Text messages
 - E-mails
 - Pop-up windows
 - Video display boards
 - External audio systems (outside)



Reduced Operating costs

Improved Owner & User experience

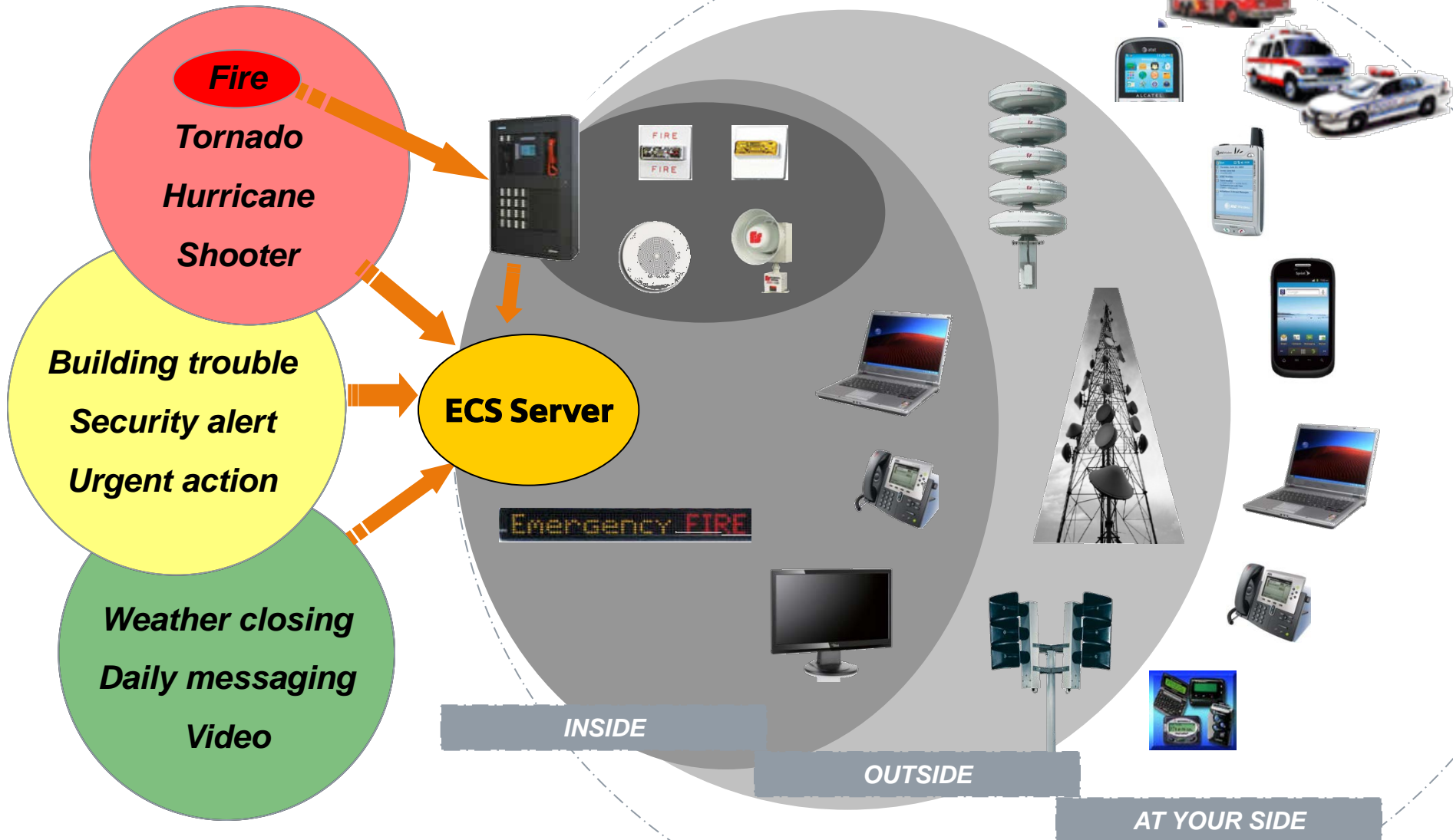
Optimized Networks

Automatic sequences that save time and increase accuracy

Intelligent Response

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Typical System Architecture



Leverage Existing Infrastructure & Resources



Fire Alarm Systems



Paging Systems



HVAC systems



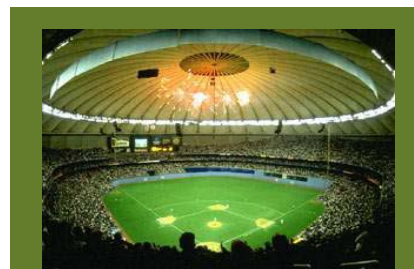
Telephone Systems



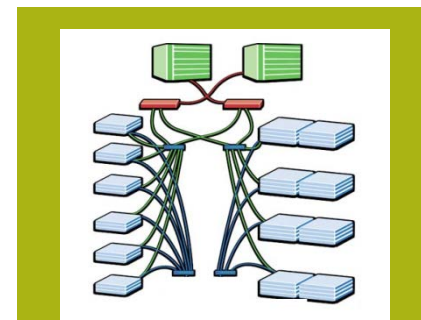
Scrolling signs & video monitors



Security Systems

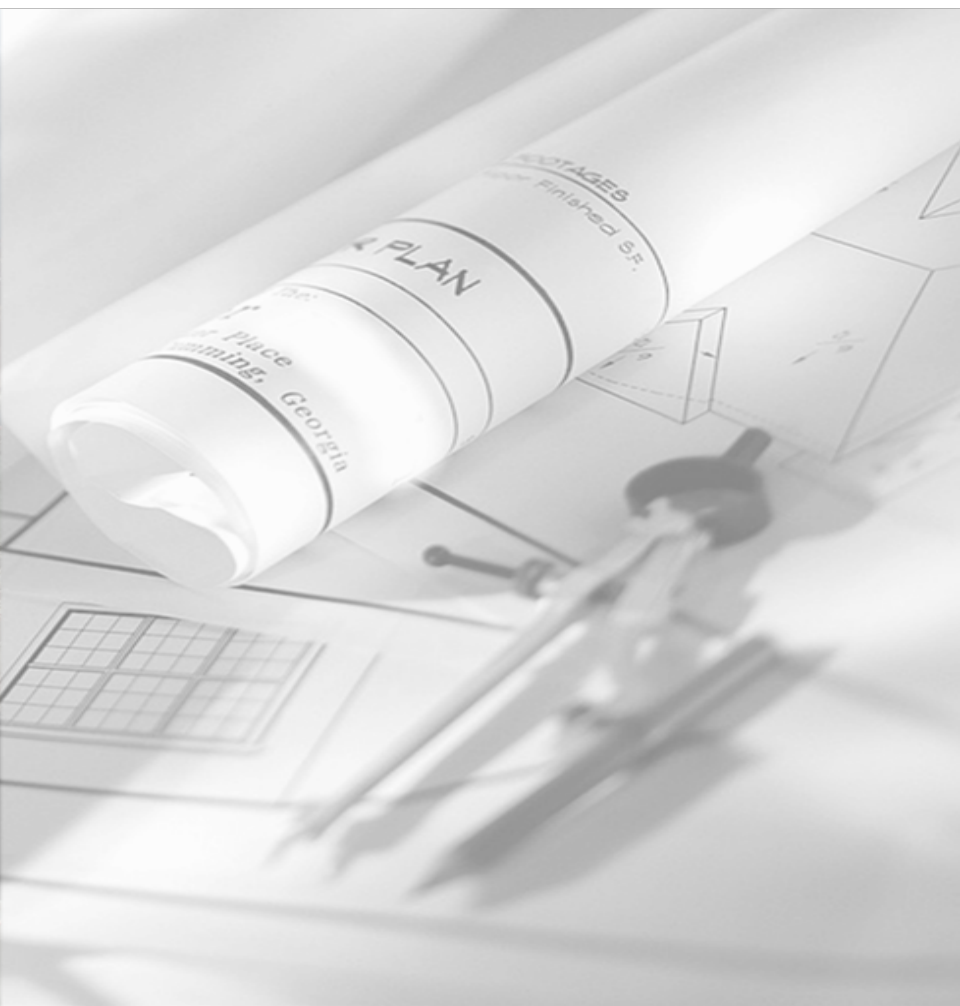


Scoreboards and Audio Systems



IT Networks

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The Challenge to Building Officials & other AHJ's

How to keep with changes in codes standards and technology?

- CFAA AHJ course



- Talk to manufacturers representative

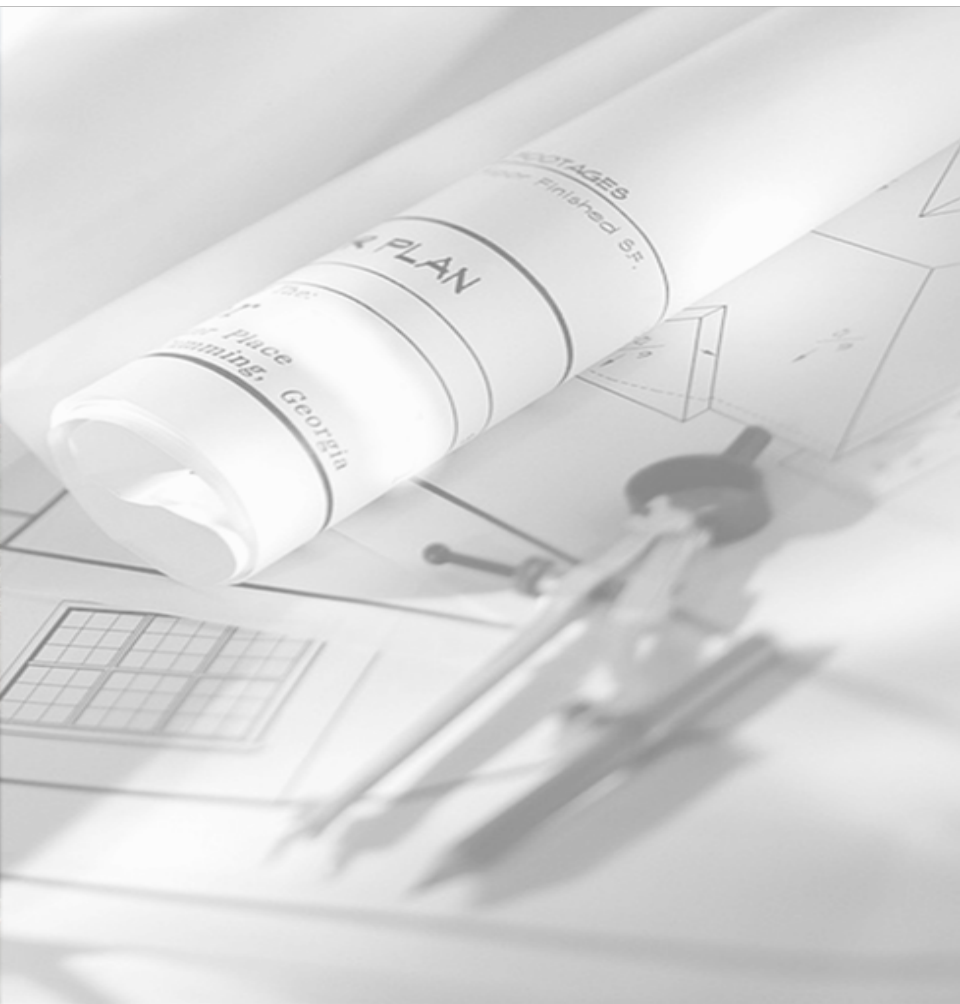
- Look for the Mark



- Be wary of the internet



Outline



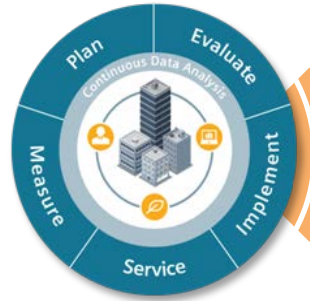
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Summary

- Facility managers have challenges balancing the needs of various systems within their buildings
- Separate systems are designed without considering other applications – resulting in redundant/confusing systems
- There is value in combining systems – from operation, training, maintenance and cost
- There are real world examples showing that this approach improves the efficiency and response of building systems

Summary

*Applying technology and resources, **specific** to your facility, which enables smart, efficient and sustainable operation of all of your current and future building systems*



Process



Scalable



Open Technology

Special Thanks to:



Maria Marks, National Sales Manager, Solutions

Maria Marks has been active in the Fire Life Safety and Security industry for over 20 years. During that time she has been an Account Executive with sales responsibility for Fire and Mass Notification in the Maryland, DC, & Virginia area for Siemens. Ms. Marks' current responsibilities include managing Siemens Engineering Advantage Program in the Northeast and central US.

A member of NFPA, SFPE, & AFAA, Ms. Marks holds both CFPS and NICET IV certifications. Currently she sits on technical committees for NFPA 101 (Education & Day Care occupancies), and NFPA 72 (Fundamentals). Ms. Marks remains involved with the MD-DC-VA chapter of AFAA & has served as President, Treasurer and Director at Large for the MD-DC-VA chapter of AFAA. She lives in the Metropolitan Washington DC area. Ms. Marks graduated from Wellesley College.



Mark Pavlica, Senior Product Manager

Mark Pavlica is the product management Team Leader for Advanced Fire Systems at the Building Technologies Division of Siemens Industry, Inc. His career spans more than 22 years of dedicated fire industry experience, including extensive work in specialized fire suppression (prior to Siemens). Mr. Pavlica has managed the full range of Siemens fire portfolio from conventional fire panels to large intelligent fire systems.

An experienced presenter, Mr. Pavlica can often be found advocating, on behalf of Siemens, the importance of voice communications for facilities of any size. He also moderates product advisory councils, gathering feedback from other industry professionals to determine future product developments. Mr. Pavlica lives in the New York metropolitan area and holds a degree in engineering from Stevens Institute of Technology.

Questions?



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Thank You!

Donald Boynowski