Security and Smart Building in the 21st Century

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SCI, Inc.
Agenda

• Background
• Smart Building Integration
• Core System Technology & Cost
• IFMA Competencies
SCI, Inc.

• SCI, Inc. established in New Mexico 1972

• Core Technology:
  • Access Control Systems: Card Access, Photo Identification, Alarm Management
  • Video Management Systems: IP Cameras, Software, Storage, Analytics
  • Emergency Notification Systems: Duress Alarms, Text Messaging, Email, Text-to-Voice

• Capabilities:
  • Design Development
  • System Engineering
  • Delivery, Installation, & Training
  • Monitoring Services
  • Preventive Maintenance & Emergency Service
  • Project Bid Development & Administration
Your Background

• What
  • Professional, Certification

• Where
  • Government, Corporate, Academic

• Why
  • Knowledge
Smart Buildings in the 21st Century

• A smart building is an integrated, intelligent, automated, high performance, advanced building.
  • Designed to leverage building systems (integration advantages)
  • Provide Rapid ROI: Operational efficiencies and energy savings (selective use)
  • Reduce Operating Expense: Detect and resolve using data analytics (power, hardware, software, manpower)
  • Leverage Amenities: Zoned HVAC & lighting, advanced security, modern (desirability, compliance)
  • Energy Savings: Modern technology, maintenance alert systems (integration advantages)
  • Improved Corporate Social Responsibility Profile: Integration as key tool in sustainability programs
  • Support Government codes, regulations, and mandates
  • Health Insurance Portability and Accountability Act - HIPAA
  • Occupational Safety and Health Administration – OSHA
  • Sarbanes Oxley Act of 2002 aka Corporate and Auditing Accountability and Responsibility Act (Disclosure Controls, Reports, Conduct, Penalties)
  • Homeland Security Presidential Directive – HSPD (HSPD-5, -7, -8, -12)
  • Americans with Disabilities Act – ADA
  • Uniform Building Code – UBC
  • National Fire Protection Association – NFPA
  • Jeanne Clery Act 1998 – CLERY (Campus Security Policy & Statistics)
Smart Building
THE COMMONALITY OF SMART AND GREEN BUILDINGS

GREEN BUILDINGS
- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation and Design Process

SMART BUILDINGS
- Data Network
  - VOIP
- Video Distribution
- A/V Systems
- Video Surveillance
- Access Control
- HVAC Control
- Power
- Management
- Programmable
- Lighting Control
- Facilities
- Management
- Cabling
- Infrastructure
- Wireless Systems

- Optimize Energy Performance
- Additional Commissioning
- Measurement and Verification
- Carbon Dioxide (CO2) Monitoring
- Controllability of Systems
- Permanent Monitoring Systems
- Innovation in Design
20th Century Technology

- Technology Continuation
- End-of-Life vs. End-of-Support
- Need to Change vs. Want to Change
- Audience
21st Century Technology

Database Integration

Software as a Service (SaaS)
21st Century Technology

Multi-Technology Credential

Public Transportation

Thermal

Community
21st Century Technology

Analytics
Security Technology

- Fire Detection and Annunciation
- Access Control
- Video Surveillance
- Intrusion Alarm
- Mass Notification
Fire

Overview: Codes, codes, codes, codes...

Importance: Qualified, Certified, Authorized, Supervised, Regulated

Costs: Detection, Annunciation, Control, Automation

- Particulate Detection
- Rate-of-Rise Detection
- Water Flow Detection
- Pull Station
- Sprinkler System
- X-Device Detection

Fire Control Panel

- Annunciation Panel
- Alarm Bell
- Elevator Control
- Evacuation Messaging
- Area of Safe Haven
- Central Sta. Monitoring

Knox Box
Intrusion

Overview: Codes, Connected, Devices, Automation
Costs: Detection, Annunciation, Control, Response

Magnetic Door Contact
Motion Detector
Glass Break Detector
Duress/Panic Alarm
Bill Trap
X-Device

Intrusion Alarm Panel

Annunciation Panel
Alarm Bell
Keypad
Messaging
Central Sta. Monitoring
Access Control

Overview: Codes, Stand-Alone, Client/Server, Web-Hosted, Network, User Experience
Importance: Integration & Connectivity, Visitors, Cards & Keys, Reports, Risk & Liabilities
Costs: Hardware, Software, Integration

Card Credential
Card Reader
Biometric Reader
Lock Hardware
Video System Integration
X-System: Go/No-Go
Food Service Financial Database

Access Control Panel
Building System
Database

Software
Messaging
Reporting
Network
Building System
Photo ID System
X-System: ERP/HR Fuel Distrib. Guard Tour Database
Video

Overview: Form, Function, IP, Parts, Pieces, Analog vs. Digital
Importance: Storage, Infrastructure, View
Costs: Hardware, Software

- Analog Camera
- IP Camera
- IP Encoder
- Desktop PC
- Video System Input
- Building System
- X-System Input

Video System Infrastructure

- Software
- Alarm Messaging
- Reporting
- Network
- Video Archive
- Photo ID System
- X-System Output
Notification

Overview: Mandates, Communication: Radio, VOIP, PBX, PA, Display, Desktop, SMS, Email, Audible
Costs: Detection, Annunciation/Integration

Customized Duress
Access Control System
Video System
Alarm System
Alert System
Building Management System
X-System Input

Notification Server

PA System
Phone/Radio System
PC/System Display
Digital Display
Email
SMS Text
X-System Output
Information from the Web

Google public alerts

Important alerts from across the web when and where they're needed most. Learn more

Show: all alerts, in all locations, sorted by relevance

A Tornado Warning for Montgomery County, Texas
Severe thunderstorms, tornadoes sighted or on radar. Seek shelter.
Alert active for next 1 minute
weather.gov

B Tornado Warning in Houston - Galveston
Severe thunderstorms, tornadoes sighted or on radar. Seek shelter.
Alert active for next 1 minute
weather.gov

C Severe Weather Statement in Houston - Galveston
Alert active for next 15 minutes
weather.gov

Winter Storm Warning in Northern Alaska
Heavy snow, heavy freezing rain, or heavy sleet is imminent.

Tornado Warning for Montgomery County, Texas
21 minutes ago
Issued 8:44 AM CST (52 minutes ago)
How likely: 
How soon: 
How severe: 
Severe thunderstorms, tornadoes sighted or on radar. Seek shelter.
weather.gov
Incident Map
Thank you!

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IFMA Competencies

1: Communication
   - Facility Communication Plan
   - Information Delivery
     - Business Case: Unique communication required for a disparate community: Stakeholders: staff, public, management, customers

2: Emergency Preparedness & Business Continuity
   - Emergency Preparedness
   - Business Continuity
     - Business Case: The Plan - The Implementation

3: Environmental Stewardship & Sustainability
   - Environmental planning
   - Sustainability programming
     - Business Case: Data in support of the plan and the program
• **4: Finance and Business**
  - Financial Management
  - Contract Development
  - Contract Administration
    - **Business Case**: Integration and Consolidation in support of the Operational and Capital Budgets. Ongoing coverage and cost justification. Procurement, outsourcing, and the enterprise

• **5: Human Factors**
  - Organizational Performance and Goals
  - Personnel Performance and Goals
    - **Business Case**: Provide systems for a safe environment and facility needs; physical, site security, controls, and information. Diversity, opportunity, and evaluation.
• **6: Leadership and Strategy**
  - Facility Leadership
  - Organizational Leadership
  - Organizational Strategy
    - **Business Case**: Communication and Conflict Resolution. Compliance Strategies. Strategic business requirements.

• **7: Operations and Maintenance**
  - Facility Conditions
  - Facility Operations and Maintenance
  - Occupant Services
  - Maintenance Contracts
  - Facility Systems
    - **Business Case**: Contractor management, maintenance performance metrics, system usage and status
• **8: Project Management**
  - Project Planning
  - Project Performance
    - *Business Case*: Contract Specifications and Scope Management

• **9: Quality**
  - Facility Standards
  - Measurement
  - Process Improvement
  - Code Compliance
    - *Business Case*: Systems and Performance Standardization, Codes, Regulations, Policies and Procedures
• **10: Real Estate and Property Management**
  • Facility Master Plan
  • Facility Assets
    • **Business Case:** Space utilization, portfolio management

• **11: Technology**
  • Business and Operational Technology
    • **Business Case:** Trends and Innovation, Technology Needs Analysis, Integrated Workplace Systems