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Trends in Fire Safety, Security and Building Automation 2013

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Twenty years from now approximately 60 percent of the world population will live in cities. The need for public safety and security to protect people, assets and infrastructures will increase dramatically because wherever many people live and work within a small area, security as well as comfort are crucial. Cities that are not able to provide a safe and secure environment are less attractive for people and companies to settle down.

The fire safety market is rather homogenous, even though requirements vary from country to country due to regional legislation. The security market, on the other hand, is a strongly fragmented one with few "big" vendors and many small and niche vendors. However, the market is starting to consolidate. Demand on the security and safety side is driven by the increasing threat of crime and terrorism, especially in urban agglomerations. In building automation, customers are asking for optimized energy efficiency and sustainability solutions.

Developments and Trends

Systems Integration

The traditional divide between security, safety and building automation systems is blurring. Customers are asking for complete, integrated emergency and building automation solutions as well as value-added services. Siemens' offering for those requirements is called "Total Building Solutions", which stands for the integration of numerous technical infrastructure systems: electric installation, heating, ventilation, climate control, lighting, access control, video surveillance, alarm systems, fire detection and evacuation.

Convergence

Convergence is being pushed further. Physical security implemented in buildings drives closer to the IT industry. Moreover, IT-based and IP-based solutions are drivers for convergence. Similarly, there are increased requirements to use existing IT infrastructures in medium to large installations, running business and security systems in parallel.

Wireless communication technology

As wireless communication technology matures, it will be used alongside wired communication infrastructure in order to optimize installations in specific security and safety environments. A good example are renovation jobs and refurbishing at locations where it is difficult to install wiring like in historical buildings or museums.

Data Leveraging

Data collected in different IT systems are being used for improving security solutions. For instance access control data could support safe evacuation in an emergency situation. This increases the need for data analytics and handling of large amounts of data. A good example is video analytics: With intelligent analytics it is possible to define an object in a video surveillance sequence and then automatically search for all sequences when the object was moved, such as a car in a parking garage or a suspicious suitcase in an airport.

Corporate Security

Today's Corporate Security Officers are not only faced with threats that are diverse and interconnected, but must also contend with an evolving business environment. Protective measures can no longer be just site-specific or even country-specific, but must take on a comprehensive approach. Such corporate security solutions range from single to multi-site scenarios and allow for complete situational awareness of sites, including remote operation. Centralized management stations deploy safety and security standards and processes across the entire organization.

Intelligence

Intelligent Response systems and solutions allow for an intelligent and dynamic handling of and reaction to incidents. That comprises the integration of fire safety with voice alarm, mass notification, evacuation, fire extinguishing, emergency lighting and building automation on one platform. The demand for intelligent evacuation is driven by buildings that are getting higher and higher, such as skyscrapers in urban areas, or big sports venues and large campuses. Siemens has recently presented the prototype of an evacuation simulation software that is used to simulate evacuations and optimize escape routes in buildings and stadiums. In addition to preventive use,

the software could also be used in future building automation and intelligent response systems in order to directly influence evacuations.

Total Cost of Ownership

In the view of the current economic situation, the total cost of ownership (TCO) of safety, security and building automation solutions is getting more important. Customers ask for solutions that show them the cost of ownership over the entire life cycle of the implemented solutions. Optimizing the TCO does not only mean consolidating all systems into one, making the access and operations far more efficient, it also means providing flexibility to adapt to the ever faster changes in the companies like opening or closing of branch offices, moving the production facilities and similar organizational adaptations.

Hosted Services / Managed Services

Customers want to focus on their core competencies. Therefore, safety, security and building automation providers are starting to offer hosted and managed services and comprehensive risk management to their customers. Today's increased awareness on safety and security risks, cost pressure and efficiency targets pose a higher demand on innovative security services in markets such as large corporations, chemical and pharma sector, airports and power utilities. This is expected to drive today's technologies into remote management and servicing of security and safety systems. Remotely commanding security operations and services can bring to the customers cost reduction, increased protection of manned and unmanned locations, and an efficient management of multiple remote locations from a central control center in a single location.

Energy Monitoring and Reporting

Energy performance monitoring means to constantly check installed building automation systems. Reports are being generated with the ultimate goal of optimizing and fine-tuning the performance of the installed systems. In some regions this is already part of the regulations facing building owners and operators: They have to monitor the energy consumption of the building and over time come up with optimization measures to reduce the amount of energy used for their building.

Vertical Solutions

Customers are more and more asking for customized solutions for individual industries and vertical markets. Siemens provides such specified solution packages that address individual industries, such as airports or data centers. A data center specific solution helps the center to be run 7x24. The offer comprises, among other modules, aspiring smoke detectors (ASD) to detect smoldering fires which are typical for data centers because of their cabeling. Conventional fire detectors would take too long to react to smoldering fires. For the extinguishing part, Siemens has developed its

Silent Extinguishing technology to prevent possible damage to hard disk drives caused by high noise levels while extinguishing fires with gas extinguishing systems.

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