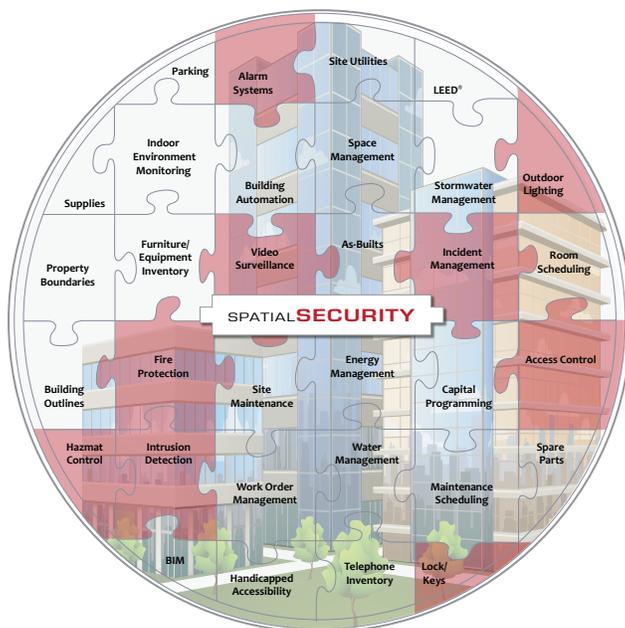


SPATIAL SECURITY

Facility security takes a number of forms—intrusion detection, theft detection, access control, fire detection, etc. A variety of technologies are utilized to provide this security in a typical facility—standard key locks, card access, motion detection/alarms, fire/smoke detection, video surveillance, and paid guards to name the most common. Key to providing adequate security is having a system in place to prevent unwanted access, to detect attempted access or intrusion, to be able to monitor the facility whether an event is occurring or not, to identify when and where an event is taking place, to be able to provide reaction by authorized security personnel in a timely manner to avoid loss of property or life, and to be able to document an event for the purpose of apprehension, crime solving, or prosecution.

Most Security Systems are Passive in Nature

- Locks and access card systems are designed to prevent unauthorized entry
- Motion detection systems are designed to alert authorities when activity is sensed during a period when the facility is intended to be secure
- Fire and smoke alarm systems constantly monitor facilities for the occurrence of high temperatures or products of combustion
- Video monitoring systems are designed to constantly record what a camera is pointed at and to provide the ability to review recorded data upon demand



Each of these systems is intended to provide security to a specific area or portion of an area. Sometimes the area is the parking lot or campus. Other times the area is a building, a suite within a building or an individual room within a suite. Each of these areas can be defined spatially with a computerized mapping system. The location of the security devices can also be depicted spatially, and the area that the device is intended to secure can be defined. When an event takes place that one or more of the sensors identifies, a spatially-aware security system can provide an operator with detailed information regarding **where** the sensor is that triggered the notification, the spatial extent of the area that sensor is designed to protect, and an indication of other sensors in the vicinity that security personnel may want to check to determine whether an actionable event is taking place. We call this integrated and spatially aware security approach **SpatialSecurity**.

Proactive Security Approach

Increasingly sophisticated devices and analytical tools are becoming available that can be integrated into an existing security system. Cameras that operate in low light or have pan/zoom functionality are examples. One relatively recent tool that is of particular value is video analytics. Video analytics increases the value of standard video camera and recording technology by the addition of continuous automated monitoring. Whether the intent is to:

- detect movement and to draw the attention of guard staff to an event that may be occurring
- count the number of people or vehicles traversing within the range of a camera
- attempt to identify individuals through face recognition video analysis and compare the identity against a known list of suspected individuals
- analyze video of an area to identify when an object is left behind
- analyze video of an area to identify when an object becomes missing

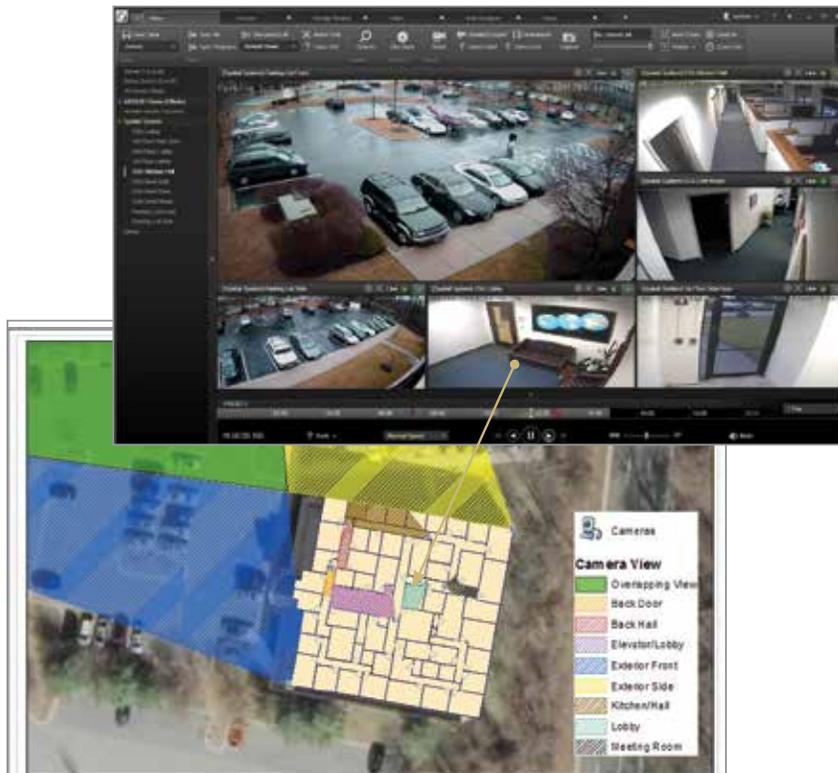
or any similar analysis, video analytics combined with a spatially-aware security system provides the best possible active/passive approach to securing a campus, building, or suite. Once an event has been



“discovered,” the video recording system can be used to provide additional information related to the event, including a video record of the intrusion, theft, or other occurrence.

As a spatially aware system, **SpatialSecurity** can also be used to assess vulnerabilities that are not currently covered by the existing security system:

- Areas that are not covered by current video technology
- Spaces that are not adequately protected by intrusion systems



This graphic depicts the location of video cameras on the outside and inside second floor of the subject building. The spatial extent of what is visible to each camera is shown in plan view, and the identity of each camera is defined in the accompanying legend. For the exterior cameras, areas that are visible to multiple cameras are shown as “overlapping view.” The image then shows the layout of the video camera display from the video system, highlighting in particular one camera image and the space within the building that the subject camera is recording.

Integrated Telephone Systems

911 call centers receive requests for assistance from police, fire and EMS all the time. A typical call forwarded to a 911 call center includes the address of the location from which the call originates. However in a campus environment that typically has thousands of telephones located in perhaps hundreds of buildings, what good is an address? SpatialSecurity has been integrated with the 911 call center in campus environments, depicting the location of each phone on the campus. When a call comes in, SpatialSecurity provides a map display to the operator showing not only the building but the floor and room from which the call is originating. Combined with available access control and video, the operator and responders can not only know where the call is coming from for response purposes, the operator and response personnel can view live camera feeds that cover the area to provide better situational awareness prior to arrival on-scene.

Additional Sensor Devices

SpatialSecurity has been integrated with additional sensor technology, access control, motion detection, alarm, body scanning, ground vibration sensors, and fire protection systems; all of which are spatially located in the system. When a sensor provides an alert to security, campus management or building management personnel; the individual has access to a map showing the location of the device that generated the alert along with other

monitoring technology that may be protecting the same area. The operator can then select the devices that are most appropriate to view either in real time or historically to better understand what is happening or what happened at that location to generate the alert. From a response perspective, this gives responding personnel (police, fire or simply building management) a situational awareness that would otherwise not be available.

Please contact us for a demonstration of SpatialSecurity and an evaluation of how it may be implemented individually or collectively to assist in managing your facilities.

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SPATIAL SECURITY 

