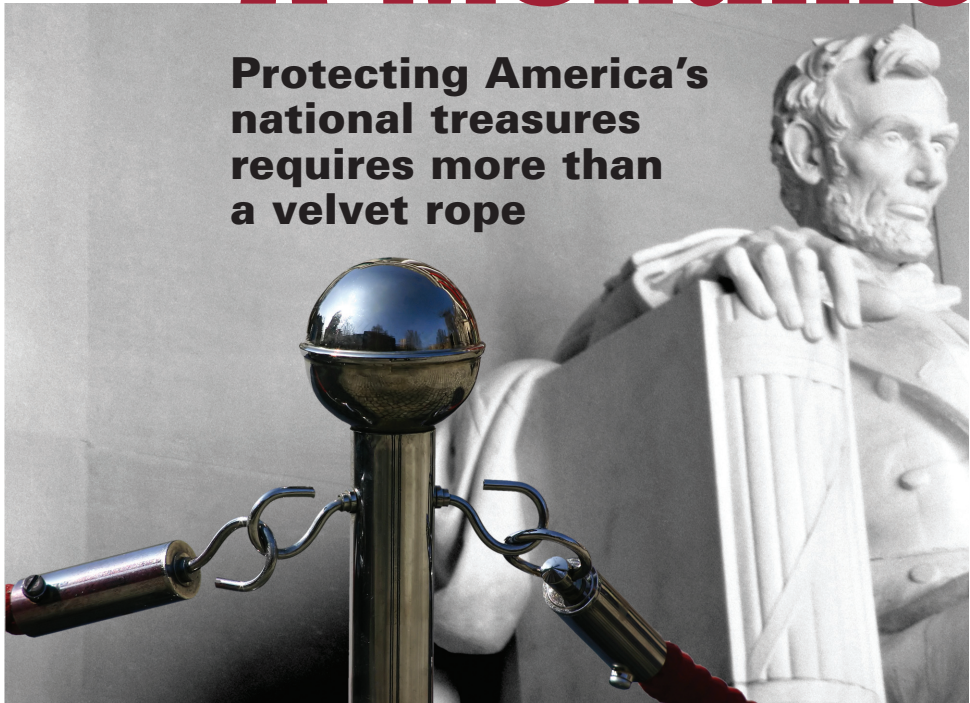


Highlight**Monument Security**

A Monumental Task

Protecting America's national treasures requires more than a velvet rope



When it comes to protecting national monuments and treasures, security has had to change significantly in the past six years as a result of heightened terrorism concerns. Traditional monument security issues of theft and vandalism remain, but now those concerns are equaled, if not surpassed, by the fact that these sites, which represent national pride and would strike a symbolic blow to the American psyche if lost to terrorism, must be considered possible targets of terrorists.

Additionally, with daily visitors numbering anywhere from hundreds to thousands, a balance must be struck between providing optimal safety while not creating an aura of fear in those who visit these monuments.

Logistical concerns include the need to not interfere with monument and venue aesthetics, balancing monument security with a feeling of openness/visitor accessibility, the differences that exist between open-hours and after-hours protection needs and potentially remote and/or rugged locales.

Such concerns were paramount to a particular national monument venue—a U.S. gallery with a range of both national and international artwork and sculptures, and a plethora of historical documents and artifacts. Officials at the gallery looked to advancements in sensor technology, specifically the use of ultra-wideband (UWB) technology, to solve and improve upon security issues.

IMPROVED MOTION RESOLUTION

Ultra-wideband signals have been used for decades in geophysical characteristic applications. When UWB signals are employed in geo-

physical analysis systems, the sensor is moved in order to detect and map underground stationary objects.

New developments in UWB products reverse the application method: rather than moving the sensor over terrain, the sensor is positioned beneath or within terrain in a stationary position, enabling the sensor to see the motion of objects within that terrain. Further, as in geophysical applications, where echoes from targets that arrive at different times help define the distance of an object from the moving sensor, in the reversal of the process, these same echoes can aid in determining the distance from the stationary sensor of a moving object and its velocity toward the sensor.

This reverse application of UWB technology takes motion detection to a new level, enabling it to see through barriers like walls, roadbeds, sidewalks or ceilings. Moreover, the measuring of subject mass eliminates false detections of falling debris or animals in outdoor applications. Like most security technologies, UWB sensor products can integrate with access control systems, day and night vision cameras with PTZ capabilities, alarming systems and building management systems. This enables security personnel to determine appropriate actions based on the combined understanding of a detected occurrence, the size of the detected subject, and the location and velocity of that subject from the object or location being monitored.

A UNIQUE CHALLENGE

An advantage of UWB technology in motion detection, especially in relation to monument security, is the ability to effectively deploy systems outdoors. It is one of the chief concerns of many galleries, since securing not only indoor areas surrounding specific monuments, art pieces and artifacts, but also the building itself, is a requirement. In addition, the facility must be secured covertly to either decrease or eliminate any effect on the aesthetics of the building and to minimize the risk that harm-doers can circumvent or tamper with the system.

UWB technology is the only effective technology that can be deployed in a manner that solves these concerns. UWB sensors can be buried beneath concrete sidewalks, within walls or columns, or inside planters or myriad aesthetically-pleasing choices.

Additionally, proper placement of UWB sensors and integration with other systems adds a layer of intelligent motion detection for facility protection. For example, when deployed, a product like UltraVision's UltraSensor™ UWB sensor can be integrated with existing CCTV cameras. Any detected motion sends an alert to an

internal security console, and the appropriate CCTV cameras are directed toward the location of the sensor detecting the motion.

As a sensor detects motion and the corresponding camera is alerted, an intelligent network of sensors and cameras is created. This network provides security personnel an opportunity to follow a detected threat, thoroughly assess what type of danger the threat poses and take appropriate action. Further, the system can integrate with methods of alarming so off-site or patrolling personnel can be alerted to unusual circumstances. For example, with multiple sensors in place, a security guard receiving alarms from sensors in four different locations within a short time frame would have a great deal of proof that something suspicious might be afoot.

PROTECTING THE GOODS

For monument security in indoor environments, the need to protect while allowing access creates a diametrically-opposed set of circumstances. During the daytime, a monument might be surrounded by only a velvet rope. Conversely, after hours, a threat to a monument must be detected from much greater distances for early apprehension. Solving open-hours versus after-hours issues with one technology is now possible with UWB.

The ability to deploy UWB technology covertly does much to make protection possible during open hours without putting unappealing and ominous-looking security products in the field of view of a monument, piece of art or artifact. Further, covert deployment, whether in open- or after-hours applications, provides people with harmful intentions a false sense of security, as there is no visible sign of the detection device.

An even more important feature designed in UWB sensor products available is the ability for detection distance to be dialed up or dialed down as needed to cover open- and after-hours circumstances. During the day, the field of detection for the sensor may be dialed down to as little as a few feet from the monument, providing a detection notification only when someone crosses a physical barrier like the velvet rope. Once the facility is closed for the night, the sensor can be set to automatically increase the field of detection, finding a threat long before it has a chance to become a harmful incident.

Protecting national treasures means keeping security threats far from them or knowing well in advance when a threat exists. By securing both perimeters and indoor environments through a more accurate and discreet application technology, UWB adds a far more effective layer of protection.



By Bill Lozon

Bill Lozon is vice president, sales and marketing, for UltraVision Security Systems Inc.