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WHITE PAPER

Improving Public Safety With Smart Security

Physical security can enhance safety in neighborhoods and improve the quality of life for residents. Using smart technologies, communities are not only protecting critical infrastructure and improving the safety of work and leisure places, but also positively affecting residents' lives.

In the U.S. News & World Report's Best Places to Live, crime rates are measured as 30% of the total quality of life index.

Similarly, in the publication's list of Best States, public safety is weighed as 50% of its crime and corrections ranking. Perceptions of security influence property values, encourage investment and increase the desirability to live in urban areas, cities and communities across the country.

In an era of developing smart cities, city and county governments now have the ability to leverage the increasing number of security technologies to create more secure environments for their residents in cost-efficient ways.

GOVERNING SPACES

The process of urbanization is almost as old as the United States itself. While the late 1800s saw 95% of the population living in the rural countryside, the 2010 U.S. Census Bureau finds more than 80% of Americans living in U.S. cities and urban areas.

Governments and local officials recognize the role that community spaces can play in residents' lives. Through strategic planning and thoughtful use of resources, cities are stepping up to create environments that allow for vibrant, productive social spaces and communities.

However, for cities striving to improve public safety or incorporate safety within a larger smart city concept, the challenges can be daunting. Local governments manage a wide variety of services and spaces that can overtax planning resources as public safety improvements are considered.

Regardless of scope, protecting the welfare of the general public is typically the responsibility of local governments. While the overarching goal is to safeguard the public, counties and municipalities across the country are benefiting from adopting a broader perspective.

SMART SECURITY

The inhabitants of any area — residents, businesses, schools, governments, visitors — already have the capability to connect via the internet. Mobile devices, computers, clocks, headphones, lamps, music players, traffic lights, wearable devices, airplanes and more are communicating and connecting more and more, offering increased value and more efficient services.

Known as the "internet of things" this connectivity continues to grow between people and the devices surrounding them. According to Gartner Inc., a technology research firm, it is expected that 8.4 billion connected devices will be in use around the world in 2017, an increase of 31% from the previous year.

The internet of things and the technology that enables it can help governments become more responsive to the needs of its residents, businesses and visitors. With a strategic and thoughtful use of the internet, technology, data and sensors, cities are becoming smarter.

From planning traffic light patterns to accommodate a traffic surge to scheduling staff to pick up the trash after an event, security technologies already in use can be leveraged to provide information that can improve the use of resources — making things more efficient, enhancing economic development, attracting investments and increasing public safety.

CITY ASSETS THAT ABSORB SIGNIFICANT RESOURCES

- Courthouses and libraries
- Government buildings and offices
- Parking garages
- Parks, open spaces, bike and running trails
- Public transportation, roads and bridges
- Recreation centers, swimming pools and playing fields
- Schools and universities
- Stadiums, arenas and conference centers
- Utilities, power generation and distribution
- Water supplies, treatment and distribution

SMART TECHNOLOGIES

A variety of existing technology can be levered with emerging tools, and the applications are limitless. Combining software, hardware, location services, the internet and sensors, can increase the livability of urban areas and improve the efficiency of local services.

Several security-related technologies already in widespread use provide a foundation to create real "smart city" benefits. For example:

Digital signage

Communities already rely on clear signage for public notices, traffic flow, tourism and emergency information. Incorporating smarter, digital signage goes beyond simple information display and can provide real-time and interactive information to help the public find their way. Options now include the ability for the public to sync the kiosk or signage information with their mobile device to take the details with them, such as redirecting traffic when a full or rerouting traffic to avoid a stalled vehicle.

In emergency situations, digital signage provides instant, on-the-spot navigation to safe exits and areas. Smart signage technology enables rapid news updates, emergency alerts and weather. Digital public kiosks can incorporate targeted messages based on demographics, adding a further level of security.

Surveillance

Existing urban areas and city infrastructure typically include a network of video and closed-circuit surveillance cameras that cover public areas. Upgrading and installing newer digital surveillance and data storage technology can significantly enhance an entity's ability to respond to or even prevent crime — thereby increasing public safety.

Smart surveillance cameras can now incorporate analytic software to identify contraflow (people or vehicles moving in opposite directions than expected), over speed or accelerating vehicles in low-speed areas (e.g. toward a crowded area), packages or bags left unmoved for a period of time, and even irregular shapes in humans that might indicate they are concealing something. They also can be used proactively to provide real-time monitoring of crowded areas and events, such as concerts, conventions, VIP visits and airports.

Public surveillance systems can be linked with private security systems, such as in commercial buildings or private housing, to avoid gaps in information and provide greater insight into urban areas. Sharing information via global positioning system (GPS) mapping and smart phone applications, local authorities and emergency services can improve communication to each other and determine what public alerts may be required.

Intelligent lighting

Advancements in urban lighting have moved well beyond energy efficiency. Lighting can now be incorporated into the broader safety infrastructure by using already-existing assets found on virtually every street corner.

Lighting fixtures in city environments can integrate smart technologies and sensors to track foot and street traffic, even to collect air quality samples. Lighting can be remotely operated to aid in dispersing event crowds, or brightness adjusted during low-traffic hours to reduce the use of electricity in public spaces.

Upgrading lighting networks allows for additional crime-related monitoring, such as detecting gunfire in urban areas or around schools. With built-in, high-quality speakers, light poles can serve as mass notification systems in cases of emergency. At a minimum, city governments can install LED lighting to save money and improve visibility in urban areas.

Data coordination

As communities begin to implement smarter technologies, new information can be collected on traffic flows, public activities, weather, crime and more. By collecting and sharing this insight among relevant stakeholders, the security of neighborhoods can be exponentially increased, speeding response and the overall efficiency of city operations.

Sensors and physical devices, such as digital video and lighting, will become city assets. Instead of having municipal departments working in silos or using standalone technology that does not communicate with other assets, effective smart cities are integrating surveillance and data streams to create a centralized platform accessible to emergency services and municipal departments.

Quick response and coordination among major stakeholders are made possible by including information from the various sensors and security devices. The opportunity to detect and map hazards can allow for faster response and long-term process improvement.

Governments can realize better asset management, improved decision-making and increased productivity for citizens.

CHALLENGES AND OPPORTUNITIES

City and county governments embracing smart security solutions are applying technologies that enable the exchange and analysis of information to help define and determine behavior, coordinate response and improve the lives of urban dwellers. The approach not only plays a part in improved quality of life but also improves the efficiency of government services.

Public safety is part of the mandate of all agencies within a city, and smart technology aims to make it more efficient — but challenges still exist. Aging or missing infrastructure, limited budgets, data storage and retention, analysis capabilities and ongoing maintenance are considerations that must be weighed. Likewise, protection of citizen identities and rights is a significant concern in smart city development.

Although these challenges are daunting, it is worth noting that creating a return on the investment to offset the costs involved is possible. Crowd surveillance for rented venues, concerts and touring events can be used to save on security, response and stand-by costs for emergency services. Digital video camera networks can be used to identify available parking spaces, encouraging visitors and allowing for kiosk-free payment. Speakers can be used to announce information that helps reduce response times or alert crowds to urgent circumstances.

SMART APPROACH

Whether considering security improvements within an existing framework or as part of a smart city initiative, smart technology gives city agencies an opportunity to increase operational efficiency and improve the quality of life.

An understanding of critical infrastructure requirements and risk management strategies are an important part of developing a smart approach to the implementation of this technology. Doing so is critical to overcoming urban security challenges. These six steps can provide a smart starting point:

Set goals and identify budget

Clear, strategic goals help to define an entity's security mission and how that mission will affect communities.

Determining budgets, timelines, contingencies and progress measures are key to helping smart security projects stay on task and on budget.

Inventory and prioritize existing assets and infrastructure

Identify the availability of current network components, assets that can be improved, areas with and without coverage, redundant technologies, internet and data gaps, network strength, data storage capabilities, etc. Analyze against defined goals and prioritize areas according to vision, readiness and cost.

Determine suitable technologies

Categorize appropriate security technology options and infrastructure requirements based on strategic goals and prioritization. By considering defined requirements, cost and implementation schedule, agencies can then assess project priorities, re-evaluate necessities and develop an execution plan.

Detail contingency plans

Develop measures to assess smart security implementation and progress against defined goals. Include operational planning for system testing, authorization, authentication, software updates, maintenance, documentation and critical support response.

Consider revenue and cost offset opportunities

While determining a smart security roadmap, identify opportunities for revenue and economic growth from specific technologies and security measures. Evaluate and capture areas where efficiencies created by the improvements can translate into cost savings.

Identify key community stakeholders and partners

With a clear vision and sound business case for improvement, consider other community stakeholders and businesses that will benefit and be impacted by the project. Open communication lines concerning any smart security initiatives to create awareness and attract investment.

About 1898 & Co.

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