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IoT - Managed Services - A/V - Security
SMART Technology, Redefined

What's Next for Smart Cities?

Smart City projects are gathering momentum, assisted by the availability and adoption of new, "smart" technologies that take advantage of the explosion in connected devices and the Internet of Things (IoT). These include networks of sensors, fixed and mobile smart devices, and systems that monitor and manage many elements of our public services and infrastructure, collecting vast amounts of data that can be used to improve life for citizens.

A portion of the data these devices generate is directly and simply actionable. For example, street lamps that report themselves when they fail are becoming widespread — reducing the cost and time needed to keep streets well-lit and with benefits for traffic and public safety. Similarly, overflowing trash cans can send alerts that trigger attention, minimizing the cost and inconvenience of these occurrences.

The Value of Combining and Analyzing Data

We can also connect, merge, and analyze the data provided by fixed and mobile sensors — reporting on conditions such as traffic flow, air quality, and weather — to predict where pollution and traffic-jam hotspots may occur. The results can be fed back to commuters, helping them avoid delays while improving the environment.

This data also yields insights when subjected to more sophisticated aggregation and analysis. For example, combining data about traffic flow and volumes, pollution levels, and ongoing street repairs could be fed to adaptive algorithms that control traffic lights — and then into publicly accessible apps, such as Citymapper™ and Google Maps™, to suggest alternative routes that will ease congestion and pollution. The same data can be fed into strategic planning activities that look for the patterns, trends, and capacity requirements, guiding future policy initiatives.

Sometimes, unexpected results and insights can affect the future trajectory of Smart City initiatives. In one UK city, a network of 700 sensors revealed that electric vehicle charging points were being blocked by commuters topping-up batteries that did not need charging before completing the journey home. Switching investment to rapid charging points on the motorways and major routes through the city helped alleviate the problem.

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Two Critical "Sensors": Citizens and Employees

Service users and employees are key to helping ensure the technology we deploy in the future not only operates as intended, but also delivers outcomes that improve the sustainability and quality of life for everyone. Their insight can greatly enhance efforts to map, understand, redesign, and fine-tune policy and operations. In addition to providing feedback on potholes, street light outages, and uncollected trash, citizens often want to voice concerns about bigger issues, such as city budgets, requiring organizations to evolve a culture and approach that allows all stakeholders a voice in their city's future development.

AI-based devices, such as Google Home™ and Amazon Echo®, are beginning to extend where and how technologies can materially improve our lives, allowing citizens to interact with public services conversationally, rather than using menus and screen-based interfaces.

The convenience of being able to check your trash bin collection cycle with a quickly voiced question to a smart device could help minimize the costs and inconvenience of putting out the wrong types of refuse for collection. Citizens would also be able to report a missed collection, enabling the lapse to be logged and actioned immediately and automatically, with attendant reductions in the volume of telephone and email complaints. Such reports might even be transmitted to the refuse truck's cab in real time for instant action.

Alternatively, smart devices might alert first responders or other agencies if sensors detect something worrying or out-of-the-ordinary — such as high levels of air pollution, or a gas leak. In an increasingly uncertain world, AI assistants could also be used to "push" essential safety updates to citizens about civic emergencies and security threats and "pull" (also from citizens) local observations that could help the authorities create a more comprehensive situational picture.

Solutions to Help Enable the Fully Connected World

The latest generation of configurable APIs can make collection of the alerts and data provided by IoT devices quicker to implement and more reliable in operation. Moreover, configurable process automation makes it easier for repetitive tasks to be carried out without human intervention, removing the need for re-processing in a so-called "middle office."

At AEB - IoT, we work hard to ensure that our solutions can take their place in a fully connected world, where AI and IoT will drive more and more of the service interactions that keep cities moving and help make life better.

AEB - IoT solutions include voice, video, and text recording and analytics; feedback management; and desktop and process analytics that can provide insight into citizens' issues and concerns — and how various service elements are captured, processed, and resolved. This data can provide invaluable insights into the current state of operations and how they can be improved and streamlined in the future.

Ultimately, sensors alone do not make a city smart. We must adopt the full range of appropriate technologies and other mechanisms available to us, including the living, breathing ones! And we must use the data and insights we collect imaginatively, openly, and effectively — not only to drive processes and fix today's problems, but to help citizens, politicians, and officials evolve our cities for the better in years to come.

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