Smart Cities are Better Cities, and that's Great News for IoT Providers

AT A GLANCE:

Virtually every aspect of city operations can be made smarter through IoT / M2M — from embedded roadway devices to advanced lighting. That means there is unlimited potential for IoT providers to deliver a variety of solutions to meet the ever-increasing demands for efficiency and cost reduction.

The migration to cities now is a global trend that research indicates will continue for the foreseeable future. While this shift has lifted the economic well-being of millions, it also has placed incredible demands on infrastructure and threatens the quality of life of inhabitants (Beijing is a good example).

Compounding these problems is the fact that tax bases and budgets do not match the ever-growing needs. This is where Internet of Things (IoT) and Machine-to-Machine (M2M) solutions can have a significant and immediate impact.

IoT / M2M enables traditional cities to become 'smart' by incorporating ecosystems that offer remarkable efficiencies, cost savings, and advanced resource management via automation and connectivity. Unlike traditional infrastructure projects, IoT-based initiatives are relatively easy to install and operate as they usually can piggyback on existing equipment and structures. For example, a traffic light can become smart simply by attaching an IoT-enabled wireless device. Combined, these factors make it the ideal time to be a smart city IoT provider.

Opportunities on Every Corner. Literally.

City infrastructures, by definition, encompass a wide range of components and associated departments. Virtually every aspect of operations can be made smarter through IoT / M2M — from embedded devices in roadways (congestion management) to maximizing limited water resources to advanced lighting. That means there is unlimited potential for IoT providers to deliver a variety of solutions to meet the ever-increasing demand. The following are just a few applications with tremendous market potential:

Solar energy is gaining traction across the world as more governments realize dependence on fossil fuels is not a long-term strategy. IoT enhances the

efficiencies of solar through automated metering, improved demand response, load balancing, remote real-time monitoring, predictive maintenance, and superior control. These advances help cities manage energy networks more effectively while limiting outages.

Environment monitoring is a mission-critical necessity for any city, regardless of size. Using IoT sensors to detect air quality levels provides real-time indicators of air pollutants, temperature variations, and other vital environmental parameters. Employing this data, real-time alerts can be sent to residents when air quality hits unsatisfactory levels.

Street lighting is an area in which municipalities spend a great deal of money to maintain and upgrade systems that ensure safety and better liveability for citizens. New smart lighting systems enable better management, optimization of electricity usage, guaranteed uptimes, reduction in work hours needed for repairs and upkeep, and real-time detection of faulty light points.

Trash collection on a large scale can be an inefficient and expensive process, one that drains resources better spent elsewhere. Smart garbage systems—IoT devices embedded in both trash cans and collection trucks—allow cities to track performance trends and the status of garbage pick-ups, better schedule waste collection, send automated service alerts, and facilitate proactive maintenance.

"Only Aeris is a carrier-agnostic service provider, offering both GSM and CDMA connectivity, including 2G, 3G, and 4G LTE. That means with one network, you always are connected, regardless of device type or location."

Smart Cities Demand Smart Networks

Smart devices that gather immense quantities of data, and communicate that data in real time, require all new levels of internetworking capabilities. This includes:

Dedicated end-to-end connections

Legacy analog networks cannot handle the amount of data traffic and 24/7/365 usage demands. Digital remedies from carriers do work, but are built on a consumer infrastructure—with IoT / M2M communications added as an afterthought. What's needed is a network dedicated exclusively to the unique requirements of IoT / M2M.

Ease-of-use and zero learning curves

There are so many components to a smart city that in-depth training and similar efforts take too long, cost too much, and generally aren't practical. Most workers have little or no tech knowledge. That means smart devices and their networks must be up and running right out of the box.

Pay-as-you-go pricing

The dynamic nature of smart devices and their applications require flexible pricing structures. The traditional "one size fits all" pricing models would make IoT / M2M systems cost prohibitive.

Ironclad security

Security always is of paramount concern but, with smart cities, there are so many devices in diverse locations that the network always must be the first line of defense.

Future proofing

IoT / M2M technologies constantly are changing, and cities cannot afford to be locked into obsolete solutions. That's why a network infrastructure must take into account ever-increasing data loads, new device types added, and constant updates regarding a variety of unplanned events.

AERIS IoT SERVICES IS THE LEADER IN CELLULAR IoT / M2M NETWORKS. HERE'S WHY.

Aeris offerings were designed from the ground up exclusively for IoT / M2M connectivity. That means unparalleled flexibility and "future proofing", in addition to remarkably simple operation.

Just look at the advantages:

Reliable and secure dedicated network

Aeris IoT Services offers an always-on service, anywhere, regardless of the amount of data being generated. And that data is secure as your traffic always is separate from the public internet, unlike competing solutions.

A single provider for all your connectivity needs

With so many devices moving across disparate geographic areas, having multiple networks can be problematic. Aeris is a carrier-agnostic service provider, offering both GSM and CDMA connectivity, including 2G, 3G, and 4G LTE. That means with one network, you always are connected, regardless of device type or location.

Device management portal provides complete visibility

Using the Aeris IoT AerPort management portal, Aeris clients have total visibility into every device, including data usage and billing. The AerPort dashboard allows you to manage, monitor, and troubleshoot devices to gain insight into your network operations in near real time. In contrast, Mobile Virtual Network Operators (MVNOs) need hours to register and analyze data going through the network.

Operational support ensures continuous uptime

At Aeris, we back our industry-leading solutions with industry-leading customer support. Our team is staffed exclusively with IoT / M2M experts ready to help. Aeris Infinity Support is available five days a week with five-minute response times, proactive monitoring, and issue identification.

Lowest total cost of ownership

Through our flexible pricing and transparent management portal, Aeris IoT Billing ensures "bill shock" never happens. We give you complete visibility into the operation and billing of every device, no matter how many or where and how they are dispersed.

ABOUT AERIS:

Aeris is a technology partner with a proven history of helping companies unlock the value of IoT. For more than a decade, we've powered critical projects for some of the most demanding customers of IoT services. Aeris strives to fundamentally improve businesses by dramatically reducing costs, accelerating time-to-market, and enabling new revenue streams. Built from the ground up for IoT and road tested at scale, Aeris IoT Services are based on the broadest technology stack in the industry, spanning connectivity up to vertical solutions. As veterans of the industry, we know that implementing an IoT solution can be complex, and we pride ourselves on making it simpler.

Visit **www.aeris.com** or follow us on Twitter **@AerisM2M** to learn how we can inspire you to create new business models and to participate in the revolution of the Internet of Things.

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