

IoT in Verticals:

Smart Cities Powered by IoT

The idea that thousands of connected devices can drive efficiency, safety, and intelligence in suburban and metropolitan city applications is quickly becoming a reality. The Internet of Things is growing as an excellent opportunity to optimize and enhance operations on both the municipal- and private-sector level. Growing connectivity technologies, more affordable hardware, and strategic partnerships to ease the complexities of deploying, managing, and scaling IoT is helping put innovation to action in smart cities.

Kaleido Intelligence's recent survey, Enterprise Cellular IoT Demands & Opportunities Report, which breaks down the challenges and opportunities in IoT among key verticals.

These are the top 5 takeaways from the smart cities industry:

High Demand for Device-Centric Services

82% of cellular IoT adopters rate hardware design professional services as "very important," and 80% say the same for device management capabilities. This highlights a critical need for partners who can offer deep hardware expertise¹.

Strong Need for Ecosystem Simplification

62% of respondents reported a lack of expertise in the ecosystem to simplify deployments, a figure notably higher than the survey average of 56%¹.

Regulatory Compliance is a Top Priority

92% of smart city enterprises selected "regulatory/commercial restrictions" as a top-five concern for IoT connectivity, indicating that ensuring data privacy and adherence to local rules is paramount¹.

Security is a Major Hurdle

76% of respondents are considering a private LTE/5G deployment, however adoption is the lowest of any vertical at just 2%. The main barrier is a lack of confidence, with 74% of adopters citing concerns over security¹.

eSIM Valued for Flexibility Over Roaming

74% of adopters chose eSIM to avoid operator lock-in, while only 9% cited avoiding permanent roaming restrictions as a key factor¹.

IoT for Energy and Utilities

IoT provides many opportunities for smart cities to operate in a way that helps support sustainability, efficiency, safety, and quality of life through granular visibility and analytics. Leveraging sensor-based technology that creates actionable intelligence accessible through a unified platform helps build flexibility and optimality into operations and expansion.



Street Lighting

Energy conservation can aid in sustainability and help drive down costs for municipalities. Safety can also be enhanced by devoting resources to areas that require more lighting and intelligence through sensors and analytics can pinpoint troubled areas.



Waste Management

Instead of predefined waste collection schedules, sanitation trucks can be deployed when sensors indicate that waste bins need emptying, which helps conserve fuel, optimize efficiency, and have less reliance on a workforce.



Environmental Monitoring

Connected devices can take measurements of water and air for quality, send that data to a user interface, and analytics can help officials make informed decisions. This can help support quality of life, as well as help municipalities meet environmental goals.



Public Safety

Sensors and cameras can monitor areas of the city for 24/7 coverage, which can help reduce crime, and help solve crimes faster when leveraged by the law enforcement bodies.



Utilities Management

Through smart metering in energy and water, billing and usage are more well-defined and municipalities can make decisions with more analytics intelligence on the leveraging of resources. Public works can also be proactively monitored to avoid losses from damaged meters or pipes.



Traffic and Transportation Management

With comprehensive monitoring, predictive analytics can help mitigate traffic congestion in cities, which leads to not only a greater flow of traffic, but less idling for vehicles and less damage to air quality. Transportation, whether above ground or underground, can also utilize the predictive analytics from IoT-based monitoring to help move people across cities more efficiently.



A Single Source for Smart Cities Needs

When you're ready to add sustainability and intelligence to your smart cities applications, you're ready for KORE. With full-scale connectivity options – including an eUICC, Multi-IMSI eSIM – managed services, hardware, security, and holistic platforms, KORE makes IoT a success in utilities. Reach out to learn more.

¹Kaleido Intelligence, Enterprise Cellular IoT Demands & Opportunities Report, 2024