

CASE STUDY

Public Kiosks
Internet of Things Solutions



Helping Cities Connect, Communicate, and Compete in the Digital World

Miami-Dade delivers smart city services with CIVIQ solution powered by Intel



Challenge

Today, more than half of the world's population lives in urban areas; by 2050 that number could swell to 66 percent—with roughly two out of every three people living in a city.¹ The stress this puts on core services like transit, connectivity, and emergency response is extreme, and city planners are expected to not only manage this growth, but continually improve the quality of life for citizens.

Many cities are exploring a smart city vision that uses Internet of Things (IoT) technologies to collect and analyze data for better management of public resources and services. But outdated infrastructure, legacy systems, tight budget constraints, and diverse demographics present considerable obstacles to moving forward.

Solution

Miami-Dade County wanted to better connect with all of its stakeholders. Seeking a solution that would serve an ethnically and socioeconomically diverse population of more than 2.5 million residents, as well as international visitors and tourists, Miami Dade selected CIVIQ Smartscares, powered by Intel, to meet this challenge. With the 14th largest transit system in the United States, Miami-Dade was looking for innovative ways to elevate the transit experience, increase Internet access, streamline trips, and communicate relevant information to citizens

Mayor Carlos A. Giménez and the Miami-Dade Board of County Commissioners teamed with CIVIQ Smartscares and Intel to implement the nation's first fully integrated smart city solution. CIVIQ funds the solution installation and maintenance through digital advertising and bore the upfront costs. Miami-Dade can also look forward to an ongoing revenue stream from the project. Says county commission chairman Esteban Bovo, "We are excited about the benefits that this solution will bring to Miami-Dade. We are committed to improving the lives of citizens and look forward to delivering free public Wi-Fi, digital county services, and mobility across transit—all at a zero-net cost to taxpayers."

CIVIQ's installation includes up to 300 interactive digital WayPoints*, which include free public Wi-Fi, more than 1,000 Wi-Fi devices in public transit vehicles, and 51 additional Wi-Fi devices for transit stations. Says George Burciaga, managing director for global government development and innovation at CIVIQ Smartscares, "Miami Dade is a great example of a municipality rethinking the real value of technology as an enabler to livable, sustainable communities. The mayor is taking a very direct approach that will truly engage residents and reach out to them directly,"

Delivering benefits to cities and citizens

The system provides myriad benefits to citizens and the county, including better tracking and managing of its public transportation system, free high-speed public Wi-Fi for easy access to communications networks, timely transportation schedules to improve citizen mobility, and emergency alerts to enhance safety and security throughout the community. Future capabilities such as sensor tracking of everything from litter to gunshots to traffic flow are an integral benefit of the CIVIQ Smartscapes solution and promise to make the network valuable to the city for years to come.

Alice N. Bravo, Miami-Dade director of transportation and public works, speaks to the smart city vision that CIVIQ and Intel are helping to make a reality, "These new devices and services are much more than a new way to access the Internet. Greater connectivity in the transit system means increased efficiency, less downtime, and overall better experiences for our passengers."

Enabling new services

CIVIQ and Intel collaborated to pioneer a solution that provides intelligent urban infrastructure. CIVIQ's hardware, an interactive public WayPoint, and the CIVIQ Control Center* are supported by integrated software and a highly secured virtual private network, all running on high-performance Intel® processors.

Miami-Dade County will deliver free value-add services, while improving access to public Wi-Fi.

- Provide up-to-date transit information
- Show public transit routes and schedules
- Speed citizen reporting of emergencies
- Highlight upcoming city, cultural, arts, and sporting events
- Improve safety with remote location monitoring
- Monitor environmental conditions, such as air quality and sound levels
- Gather anonymous data on user interactions and behavior patterns
- Generate revenue through advertising

"We're looking for things that help improve access to transit, that help improve the reliability of transit," adds Bravo, "I think that is how we get more and more people to take public transit."

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Esteban Bovo, commission chairman, Miami-Dade County



CIVIQ and Intel bring data-smart public WayPoints* to Miami-Dade County

How it works in brief

CIVIQ Smartscapes, a leading developer of smart urban infrastructure and citywide networks, integrates media players with Intel processors into its WayPoint communications hub. These connected structures include large, interactive screens that feature premium advertising and public service announcements, while providing for two-way engagement between a city and its residents and visitors.

WayPoint features include high-definition touchscreen 55-inch displays; high-speed USB chargers; support for near-real-time analytics; high-brightness digital screens that display schedule updates and safety information, keeping users informed even if they choose not to interact with the touchscreens; and draggable subway maps to help find the best route to destinations.

All of this requires a lot of processing power. Intel® Core™ i5 processors with Intel® vPro™ technology provide the necessary performance, increased security, and remote manageability to power WayPoints 24/7. An IoT gateway seamlessly filters and routes edge data from the kiosks and sensors enabling actionable intelligence at the edge. Says Intel's vice president of the Internet of Things Group and global director for visual retail and digital signage, Jose Avalos, "CIVIQ's WayPoints integrate usage models from digital signage and its unique interactive communication capabilities. The WayPoints will enable features such as dynamic HD 4K video advertising and remote manageability to reduce total cost of ownership."

CIVIQ Smartscapes chief operations officer, Michael Foley, emphasizes the high standards that urban kiosks must meet, "CIVIQ's WayPoints are very robust, durable devices, designed to have a 10- to 20-year lifecycle. It's important that the uptime remains high. They're also designed and built to be scalable. And that's really important as new technology comes into play, as new partners come up with new devices whether for traffic management or security, we can add these to the system. We're creating a robust, scalable structure for the future." Supporting new, rich, dynamic experiences is the standardized, long-term roadmap provided by Intel® architecture.

Result

The CIVIQ Smartscapes solution is in progress. The service, when deployed, will be used by citizens throughout Miami-Dade County's transit system. Additional deployments are planned for more US municipalities.

George Burciaga concurs, "Today's savvy leaders now have the opportunity to make decisions that create immediate benefits for the community. The result is more efficient government, a stronger community identity and better connections for all who live, work, play, and visit the county."

Solution Summary

A plan was put in place to meet Miami-Dade County's goals for improved communication with citizens and increased Wi-Fi access through an ad-based and even revenue-generating model. The WayPoints bring riders free Wi-Fi, along with transit updates, alerts, route changes, and other services.

CIVIQ's solution creates value on many levels. WayPoints connect stakeholders to many services, while also running advertising that generates revenue for the municipality. Says Brad Gleeson, CIVIQ Smartscapes' Chief Commercial Officer, "We've had strong interest from other transit authorities, other municipalities, and countries, all looking for innovative ways to enhance engagement and improve a city's or a county's operating efficiencies.

The County, CIVIQ, and Intel collaboration establishes a new level of interconnectivity among different Miami-Dade public services—transportation, public works, public safety, and more—demonstrating the unlimited possibilities for smart cities.

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Alice N. Bravo, director of transportation and public works, Miami-Dade County

Solution Ingredients

- Intel® Core™ i5 vPro™ processors with Intel® Active Management Technology (Intel® AMT)
- Intel Visual Data Device specification
- CIVIQ Streetscapes WayPoint

Where to Get More Information

For more information on Intel digital signage solutions visit intel.com/publickiosks

To learn more about CIVIQ, visit civiqsmartscapes.com



1. "World's population increasingly urban with more than half living in urban areas," United Nations, July 2014, un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html.

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