



VANTIQ

Case Study

"We were actually trying to make the same product ourselves, but the hurdle was too high, so the moment we saw the power of the Vantiq platform we were immediately sold."

- Hironobu Tamba | VP and General Manager of IoT & AI @ SoftBank

Quick Facts

- ▶ Over 19 different technologies integrated in real time
- ▶ Increased safety and security for employees and guests
- ▶ Over 1,300 sensors including cameras, crowd detectors, and more
- ▶ Real-time traffic flow and transportation monitoring
- ▶ Smart signage detects gender, age, location, and more
- ▶ Development sandbox for future smart city projects

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SoftBank

With Vantiq, SoftBank was able to integrate IoT sensors, cameras, security systems, weather data, and more to develop the smartest city in the world, Port City Takeshiba. In addition to being the site of SoftBank's new global headquarters, the Takeshiba smart city complex seamlessly incorporates real-time technology into all facets of everyday city life.

THE CHALLENGE

As a leading global telecommunications company, SoftBank is always looking for innovative new ways to expand their business and better serve their customers. With the proliferation of IoT sensors and connected devices across virtually all industries, SoftBank knew they needed a way to quickly and efficiently develop real-time applications to take advantage of bleeding-edge technologies and address the pain points of everyday city life.

This however is no small feat, seeing how many had failed before them, SoftBank wanted a testing ground to experiment with developing, deploying, and integrating real-time applications for various city functions such as food delivery, security monitoring, personalized

billboards, automated cleaning, public transportation, and more. SoftBank created this real-life sandbox at Port City Takeshiba in the heart of Tokyo Japan, naming it the location of their new global headquarters.

In order to successfully orchestrate all of these different city systems and provide a seamless experience for both employees and visitors to Takeshiba, SoftBank needed a surefire way to develop and deploy real-time smart city applications.

THE SOLUTION

In order to efficiently integrate so many disparate systems and build their smart city, SoftBank needed an orchestration platform to manage the massive amount of incoming streaming data and integrate so many different technologies. To ensure the success of the Takeshiba project, Vantiq's real-time event-driven application development platform was chosen; below are a few of the key reasons why:



Real-Time Data Integration Tools

One of the main issues facing SoftBank in their goal of making Takeshiba the smartest city in the world was the sheer amount of IoT devices, cameras, algorithms, etc, required to properly equip the city. In total, 19 different technologies had to be integrated and able to communicate in real time including 7 AI algorithms, 8 different types of cameras/sensors, and 4 different web services.

SoftBank had tried multiple times themselves and even asked their Microsoft representative if this kind of smart city application could be built without Vantiq, to which they replied "no". By developing on Vantiq, SoftBank is able to



Seamless Interaction With Smart City Systems

SoftBank knew going into this project that they didn't want operations and security staff to be the only ones interacting with all the different new and exciting technologies in their smart city. It was very important for guests of Takeshiba to

be able to easily interact with restaurant booking/ordering systems, touchscreen maps of the complex, and personalized advertisement billboards, just to name a few. These displays also needed to take advantage of real-time technology to provide the most useful and up to date information possible.

By using Vantiq to ingest and analyze all incoming streaming data, SoftBank was able to focus on providing the best user experience possible on the public dashboards all across Takeshiba. These dashboards can be made fully autonomous or instructed to notify operations staff to assist the guest manually if a certain event is triggered.



Edge Computing to Curb Latency and Security Concerns

When building any real-time system (especially one of this size and magnitude) scalability and processing power are major concerns. By utilizing the power of edge computing and only sending the important actionable data to the main system, massive decreases in latency can be realized. For SoftBank, this was paramount to the current and future success of Port City Takeshiba with plans to rapidly expand the capabilities of their smart city application after the initial opening.

In addition to allowing the system to run more smoothly, edge computing also drastically reduces privacy concerns for employees and guests of Takeshiba. Because non-important data is immediately discarded directly on the edge device before anything is sent to a central database, occupants can rest assured knowing potentially identifiable information is safe from prying eyes.



"Once the concept was solidified, it became a template, making it easy to create a business that could be developed later on."

Hironobu Tamba | VP and General Manager of IoT & AI @ SoftBank

THE RESULT

Interactive Digital Signage Systems

One of the most interesting use cases for real-time technology in Takeshiba is the ability for signage throughout the smart city to immediately react to changes in the environment (such as weather delaying transit systems and signage automatically offering a drink coupon at a local bar) or even who is currently viewing the sign.

By combining image recognition cameras with AI algorithms SoftBank's smart city platform is able to determine the age, gender, location, and more to show the most pertinent information on the sign. This has opened up both new potential use cases and business opportunities for SoftBank.

Development Sandbox for Future Smart City Projects

With plans to expand their Smart City framework to other urban areas it was a must to have some way of testing at scale. With the introduction of Port City Takeshiba, SoftBank is now able to deploy robots, drones, 5G, and other new technologies into a living breathing city.

Having this smart city sandbox at their fingertips will allow SoftBank to stay one step ahead of their competition and help them to rapidly expand these technologies to other smart city projects around the globe.

Able to Quickly Adapt to Unforeseen Events

When the Takeshiba project was started there was no pandemic sweeping the globe, forcing entire nations into lockdown and bringing about new social norms. But as development on both the smart city infrastructure and real-time system was underway in the midst of this crisis, it became increasingly apparent how important it is to have an agile development framework at your disposal.

SoftBank is now able to quickly shift aspects of various smart city systems to incorporate social distancing procedures, automated cleaning systems, PPE compliance detection, and more. In the event of a future crisis, whether it be a pandemic or something else, cities that have the capability to quickly react and evolve like Takeshiba will see major quality of life improvements for



VANTIQ

Built on a modern reactive architecture, VantIQ is an agile development platform to build scalable, distributed, real-time applications. Founded in 2015 by Silicon Valley legends, VantIQ provides maximum agility for businesses to drive operational innovation and accelerate real-time business awareness. Learn More at www.vantiq.com
