



SMART HOMES & BUILDINGS USE CASE



Eliminating Water Waste and Leakage

APANA DECREASES COSTCO'S WAREHOUSE WATER USAGE BY 20 PERCENT



REAL-TIME SMART WATER MANAGEMENT

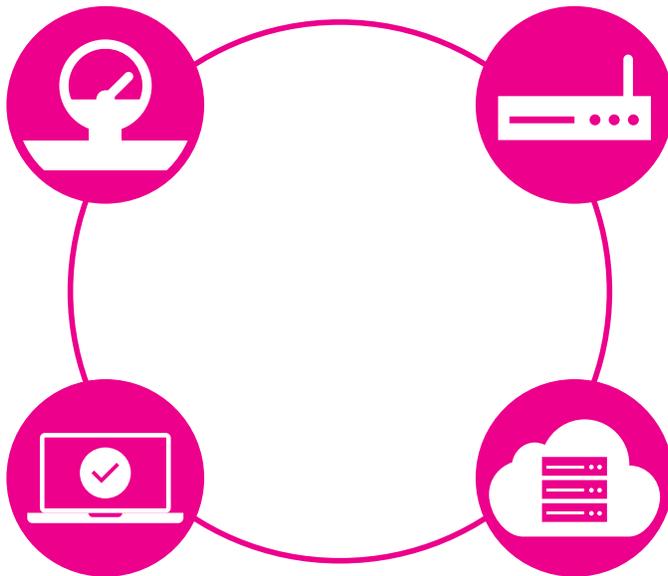
Founded in 2014, Bellingham, Washington-based APANA set out to become the “security system for water consumption.” The APANA water management solution provides businesses with detailed insight into its total water footprint by identifying process drift, mechanical malfunctions and failure points.

“Almost all buildings experience water waste. Using our APANA system, clients immediately begin receiving real-time help. Anomalies in water use are identified and actionable information is delivered to facility managers to guide quick response and resolution.”

– Matt Maher Peterson, CTO of APANA

APANA’S innovative Internet of Things (IoT) solution, based on Semtech’s LoRa® devices, has over 500 installations worldwide, and has saved over 500 million gallons of water to date. The company serves a wide range of water-intensive businesses including supermarkets, hotels, car washes, food and beverage processors, industrial, and commercial buildings.

HOW IT WORKS: APANA



The step-by-step process of APANA’s LoRa-enabled solution

LoRa® Use Case

IoT Challenge

- Monitor water consumption remotely and in real time
- Detect and prevent costly leaks
- Replace power-hungry Cellular networks as the means of data communication

LoRa Devices Used

- LoRa radio transceivers create LPWANs for simple deployment and flexibility
- LoRa-based sensors wirelessly connect to APANA’s Cloud analytics platform

Business Value

- APANA’s solution provides 18 – 25 percent reduction of water and sewer usage
- Customers typically receive return on investment in 18 months or fewer
- Successful pilot project with Costco expands to over 500 locations globally

For More Information

About Semtech’s LoRa devices for home and building applications, visit

semtech.com/LoRa

About APANA

apana.com



APANA PROVIDES

22%

average water and sewer reduction



APANA PROVIDES

18

months average return on investment



APANA HAS OVER

500

installations worldwide



APANA HAS OVER

2.3

billion gallons of water under management

AFTER TESTING, COSTCO INSTALLS ACROSS NORTH AMERICAN LOCATIONS

Costco Wholesale was an early adopter of APANA and continues to be one of its largest customers. The company was able to get a deeper, minute-by-minute look into how much water was being used in its buildings. This made it possible to see unusual spikes in water use and identify whether it was from faulty equipment, such as malfunctioning cooling tower, or wasteful operational practices.

After testing, the company noticed an average of a 20 percent reduction in water use and also saw an approximately 22 percent savings in its water bills. Following a successful trial deployment in Southern California, Costco deployed APANA'S LoRa-based water management solution across the rest of its North American locations.



SCAN, PINPOINT AND GUIDE RESOLUTION

The early stages of APANA'S product development presented some challenges, according to Matt Maher Peterson, CTO of APANA. The solution was designed to track water usage every minute. Cellular technology was evaluated and found too power hungry to meet one-minute requirements while maintaining a 10 year battery life. In addition, water meters are often located in difficult to reach areas for direct wiring, and replacing batteries for frequently transmitting device was not an option.

To solve this situation, Matt selected Semtech's LoRa transceivers as the backbone of its IoT devices due to its robust, long range, low power capabilities.

“What’s great about LoRa devices is the ease of deployment. Any plumber can survey the environment and install our LoRa-based sensors for a fraction of the cost of wired solutions.”

– Matt Maher Peterson, CTO of APANA



APANA'S water solutions are deployed by placing LoRa-connected waterflow sensors throughout a company's water infrastructure – both inside and outside of a facility. The sensors measure flow and pressure through piping networks and equipment. With the ability to handle millions of unique messages per day, APANA'S solution continually scans and sends real-time sensor data via LoRa devices to APANA'S secure, Cloud-based analytics engine.

If a malfunction occurs or an anomaly is detected, the solution pinpoints and sends alerts to staff with actionable information over the customer's medium of their choice. Automated alerts contain step-by-step instructions informing frontline operators that there is a problem, where to look and how to resolve it. Rapid notification and response are key to eliminating waste, cutting cost and reducing compliance risk.

For more information on APANA visit
apana.com

Contact Us

[Learn about Semtech's LoRa devices](http://semtech.com/LoRa)

semtech.com/LoRa

[Visit the LoRa Developer Portal to Access the LoRa Catalog](http://LoRa-developers.semtech.com)

LoRa-developers.semtech.com

[Join the LoRa Alliance®](http://LoRa-alliance.org)

LoRa-alliance.org

[Follow Semtech](#)

[LinkedIn](#), [YouTube](#), [Twitter](#), [Facebook](#)

[Contact Sales](mailto:sales@semtech.com)

[semtech.com/sales](mailto:sales@semtech.com)



Semtech's LoRa devices and wireless radio frequency technology is a widely adopted long-range, low-power solution for IoT that gives telecom companies, IoT application makers and system integrators the feature set necessary to deploy interoperable IoT networks, gateways, sensors, module products, and IoT services worldwide. IoT networks based on the LoRaWAN® specification have been deployed in over 100 countries and Semtech is a founding member of the LoRa Alliance®, the fastest growing IoT Alliance for LPWAN applications.



Semtech Corporation is a leading supplier of high performance analog, mixed-signal semiconductors and advanced algorithms for high-end consumer, enterprise computing, communications, and industrial equipment. Semtech, publicly traded since 1967, is listed on the Global Select Market under the symbol SMTC and has more than 32 sales and application support offices in 14 countries as well as representatives and distribution support locations in more than 30 countries. Semtech is dedicated to providing proprietary platforms, differentiated by innovation, size, efficiency, performance, and reach.



The LoRa Alliance is an open, nonprofit association that has become one of the largest and fastest-growing alliances in the technology sector since its inception in 2015. Its members closely collaborate and share experiences to promote the LoRaWAN protocol as the leading open global standard for secure, carrier-grade IoT LPWAN connectivity. With the technical flexibility to address a broad range of IoT applications, both static and mobile, and a certification program to guarantee interoperability, the LoRaWAN protocol has already been deployed by major mobile network operators globally and connectivity is available in over 100 countries, with continuing expansion ongoing.