



Sabesp completes Latin America's largest IoT project with 100,000 smart water meters across São Paulo, connected to the WND Brasil 0G Network

The Challenge

As one of Brazil's leading water supply companies, Sabesp needed a way to collect timely data on water consumption across 367 cities, faster and more reliably than with manual water meter readings.

The Solution

Sabesp chose the Metrolink Consortium to design, build, and manage an IoT-enabled smart water meter solution. The solution is connected to the WND Brasil 0G Network and automates water meter readings with 24x7 remote monitoring.

The Results

Sabesp's smart water meter solution lets the company:

- Remotely measure water usage 24x7
- Improve operations with fast, reliable insights to water consumption
- Rapidly detect water leaks, theft, and waste
- Improve billing accuracy
- Save time and money by removing most manual meter readings
- Help customers reduce water use

0G Network Operator



WND Brasil operates Brazil's national public 0G Network dedicated to the IoT, powered by Sigfox technology. The company runs 0G network coverage for more than 360 cities and over 120 million citizens. For information on WND Brasil visit their website. www.wndgroup.io

Solution Partner



The Metrolink Consortium, composed of Laager Tecnologias Sustentáveis, experts in sustainable technology solutions, and Vita Ambiental, specialist providers of engineering services for sanitation companies, delivered Sabesp's smart water meter project. www.laager.com.br vitaambientalengenharia.com.br

Customer



Sabesp is Brazil's primary water supplier and the largest sanitation company in the Americas, and the fourth largest in the world. www.sabesp.com.br

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Founded in 1973, Sabesp is responsible for supplying water and collecting and treating sewage in the 367 municipalities of São Paulo state in Brazil. It delivers 27.9 million people with water and provides sewage collection services to 21.5 million people.

Traditional methods of measuring water consumption relied on manual water meter readings across the state. As Brazil's population grew, manual readings became time-consuming, challenging to complete, and error-prone. Many water meters are in areas with difficult access, and some customers don't allow access to the meter. The COVID-19 era posed an additional risk to water meter readers who may have unknowingly been exposed to the virus while doing their job.

Currently, there are approximately three million people in Brazil without access to safe drinking water. The communities with access experience everyday challenges from disrupted services, wastage, and deficiencies [caused by poor infrastructure](#). Water theft is also a local challenge. The World Economic Forum reported in September 2020 that between 30 to 50 percent of the world's water supply is stolen, often to [sustain agricultural industries](#).

Sabesp needed a fast, reliable water meter reading solution. The solution needed to give customers a real-time view of water consumption, detect water leaks, wastage and theft, and help Sabesp meet ISO compliance requirements, and improve billing accuracy.

After a bidding process, Sabesp engaged the Metrolink Consortium to develop, implement, and manage an internet of things (IoT)-enabled smart water meter solution. The Metrolink Consortium is a partnership between Laager Tecnologias Sustentáveis, experts in sustainable technology solutions, and Vita Ambiental, specialist engineering services providers for sanitation companies.

The Sabesp Solution: Retrofit Traditional Water Meters with Smart Reading Devices Connected to the WND Brasil 0G Network

The Metrolink Consortium designed a smart water meter solution for Sabesp based on telemetering, the remote reading of water meters, to automate its measurement of water consumption 24x7. The smart water meter solution was created by attaching an IoT-enabled device to an ordinary water meter. The IoT device automatically captures and shares small bytes of data from the meter with a centralised data platform that stores and displays water consumption patterns.

Data is shared from the smart water meter across the WND Brasil 0G Network, powered by Sigfox technology. The 0G Network is the public, low-cost, low-power wide-area network dedicated to connecting industrial Internet of Things (IoT) devices over long distances.

Sabesp chose the 0G Network to connect its smart meters because of the network's capability to share data wirelessly, over long distances with minimum energy consumption and no maintenance. The devices will operate for at least five years without the need to change or recharge the battery.

One of the most significant and successful IoT initiatives in Latin America, the project introduced smart water meters to 100,000 Sabesp customers across São Paulo.



The adoption of low power wide area network (LPWAN) technologies, especially Sigfox, ensured the economic and technological viability of the project.

Felipe Duque Estrada, CEO at Laager

IoT-enabled Outcomes Improve Water Management for Sabesp and its Customers

Historically, Sabesp's team of water meter technicians manually measured water consumption monthly. The new smart water meters let Sabesp measure water consumption multiple times a day. The information is accurate and available on-demand. The solution also alerts the Sabesp team when water consumption is outside normal parameters, enabling rapid detection of leaks.

Readily available water consumption data gave Sabesp valuable insights on usage trends and customer statistics to strengthen the operational effectiveness of its entire water network. Billing accuracy and efficiency have improved, which helped customers save money. Finally, customers have actionable information at their fingertips to reduce water consumption and help protect the local environment.



This project marked the large-scale adoption of the IoT concept by Sabesp. The new technology allows our customers to monitor water consumption daily, detect leaks, save money, preserve the environment, and lets our company better manage water resources. We hope to be able to expand the project in the coming years.

Ricardo Batista, Division Manager at Sabesp



Through strong collaboration with Sabesp and the Metrolink Consortium, and using the right expertise to create a fit-for-purpose IoT solution, we're pleased to have delivered one of the most significant industrial IoT projects in Latin America. The outcomes for Sabesp demonstrate how the easy, fast, reliable connectivity of the OG Network over long distances transforms the operational efficiency of distributed businesses using small bytes of data.

José Almeida, CTO at WND Brazil