

“We set out to use TaKaDu with intention of reducing leaks and bursts, to save water. We knew we had to use advanced technology to do this; what we didn’t expect was the positive impact TaKaDu had on our operational efficiency, and the operational savings that would result”

Marco Kutuals Peet, General Manager, Aguas de Antofagasta



Case Study: Aguas de Antofagasta Looking for Water Loss Reduction - Discovering Operational Efficiency

Benefits of Using TaKaDu’s Solution:

↑ 50%
increase in the efficiency of repair crews by avoiding “dry holes”

↑ 2x
more water saved for the same amount of repairs

↓ 17%
reduction in the average minimum night flow in the zones monitored with TaKaDu



140,000	43	1,100	23%
domestic connections	million cubic meters supplied	kilometers water mains	NRW in 2011



Aguas de Antofagasta

operates a concession for the distribution of water in Chile's Antofagasta Region, supplying water to the five largest cities in the region.

The Antofagasta region is located in the Atacama Desert, the driest desert in the world, rich with copper and minerals. Mining relies on water. As a result the utility desalinates 60% of its water supply to the city of Antofagasta; by 2015 it expects to supply 100% of the city's consumption from desalination.

The average non-revenue-water rate in Chile is 35%, yet the utility's running rate is 23%. The area's unique topography, with a steep elevation from sea level to hills, poses significant pressure management challenges. In addition, the salty and rocky ground means that leaks do not surface over ground but remain hidden under it. Asbestos mains that were installed tens of years ago are brittle and prone to breaks.

With TaKaDu, the utility's leak detection program more than doubled its performance. **More invisible leaks were detected and repairs doubled their impact as measured by water loss reduction.** Since using TaKaDu made the return on repairs higher, the utility doubled its investment in preventive maintenance and expand the use of TaKaDu to additional cities.

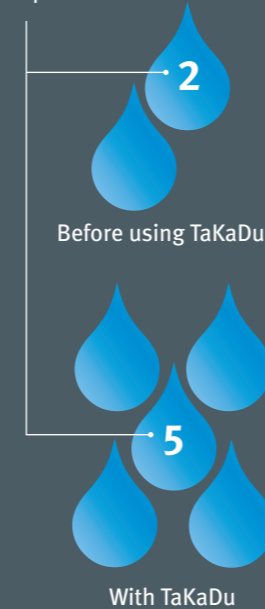
"Before TaKaDu we had missed opportunities to improve our operations due to the limited capabilities of the systems we had. We were forced to use discrete analysis that required significant human and technical resources. **With TaKaDu, we get a complete list of actionable events that is updated continuously.** Today analysts work on TaKaDu events on a daily basis and that helps us run a more efficient operation"

Mario Corvalan, Manager of Service Management, Aguas de Antofagasta



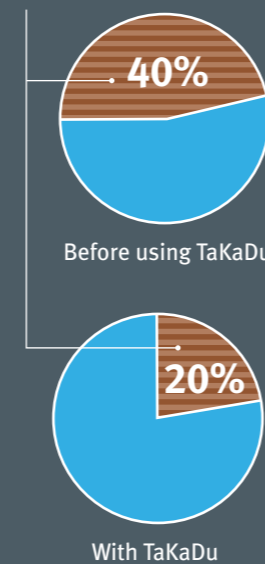
Increased Water Savings – Decrease in Average Night Flow

liters/sec for each 100 repairs



Doubling Detection Efficiency

dry holes



Saving More Water Through Effective Repairs:

Before TaKaDu, the utility achieved an average decrease of 2 liters/sec in the night flow for each 100 repairs it made. With TaKaDu, the average decrease in night flow for the same 100 repairs jumped to 5 liters/sec. This improvement was achieved within 3 months of deploying TaKaDu, and water loss reduction figures keep increasing.

Doubling Detection Efficiency:

A significant challenge faced by detection crews is avoiding 'dry holes' – digging in the wrong place. Before using TaKaDu, every 100 detection jobs yielded 40 'dry holes' (no leak detected). **With TaKaDu, the number of 'dry holes' was cut by half, to 20.** This is the result of the ability to concentrate leak detection efforts by using TaKaDu.

Higher Monitoring Availability:

Prior to using TaKaDu, data about the network from meters was hard to analyze and often resulted in false alarms. As a result, data was being ignored and network visibility was low. **With TaKaDu, meter availability is monitored and constantly increased, so alerts can be trusted and handled immediately.**



Repair Verification Saves Money and Time: Prior to using TaKaDu, meter readings indicating that a problem (believed to be fixed) still existed were ignored. **TaKaDu clearly indicates if an event was successfully handled or not, saving the utility money and time.**

Detecting Invisible Bursts, Pre-empting Customer Calls: Immediately following deployment, **TaKaDu was able to alert on several major bursts before any other indication was available,** allowing the utility take immediate action and pre-empt customer calls.

Alerting on Background Leakage: Small leaks, evolving over years, are almost impossible

to detect with existing methods used in many utilities. TaKaDu has demonstrated the ability to identify these slow, developing problems. Shortly after deployment, **TaKaDu was able to alert the utility that several flow increase trends were ongoing for months.** The action taken on the basis of the TaKaDu alert helped the utility reverse these trends and reduce water loss.

Quality of Service Improvement: Based on the utility's internal measures, the quality of service offered to its customers was increased considerably following the introduction of TaKaDu, in terms of both pressure and continuous supply.



is the global leader in Water Network Monitoring, providing a Software-as-a-Service (SaaS) solution for water utilities. TaKaDu's solution detects, alerts and provides real-time insight on leaks, bursts, network breaches and other network inefficiencies. The solution

is based on complex algorithms which analyze existing online data from meters within the network (flow, pressure, etc) and external data. TaKaDu's patented technology is easy to deploy, requiring no network changes, no additional devices and no capital expenditure. The service is in use by leading water utilities worldwide. The company has won several industry awards, including the prestigious Technology Pioneer 2011 award from the World Economic Forum.