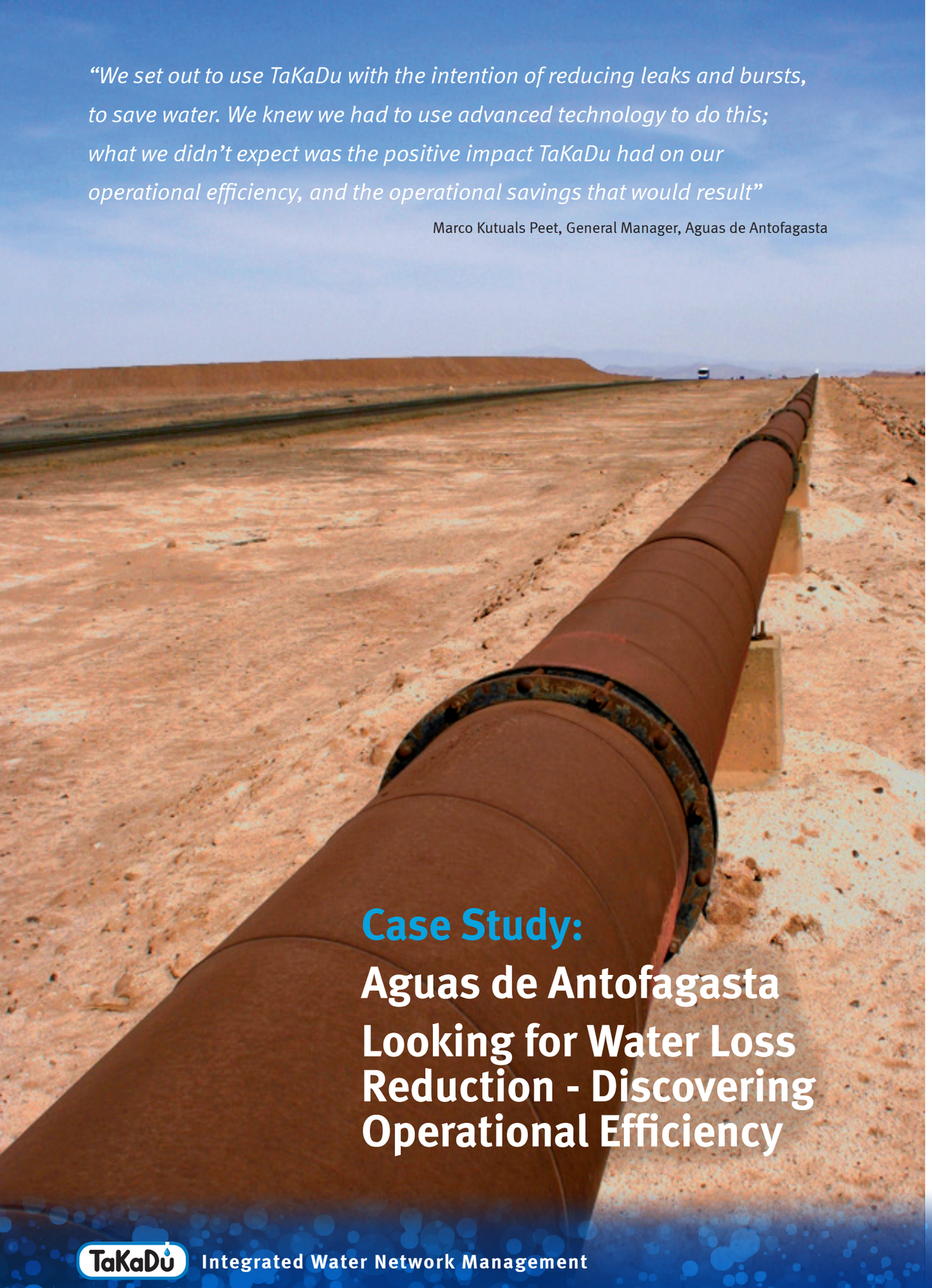

"We set out to use TaKaDu with the intention of reducing leaks and bursts, to save water. We knew we had to use advanced technology to do this; what we didn't expect was the positive impact TaKaDu had on our operational efficiency, and the operational savings that would result"

Marco Kutuals Peet, General Manager, Aguas de Antofagasta

Case Study:

Aguas de Antofagasta

Looking for Water Loss Reduction - Discovering Operational Efficiency

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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

aguas antofagasta

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 heavily relies on water and 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 (NRW) 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 often do not surface above ground.. Asbestos mains that were installed decades ago are brittle and prone to breaks.

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

"Before TaKaDu we had missed opportunities to improve our operations due to the limited capabilities of our systems. We were forced to use discrete analysis that required significant human and technical resources. **With TaKaDu, we receive 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*

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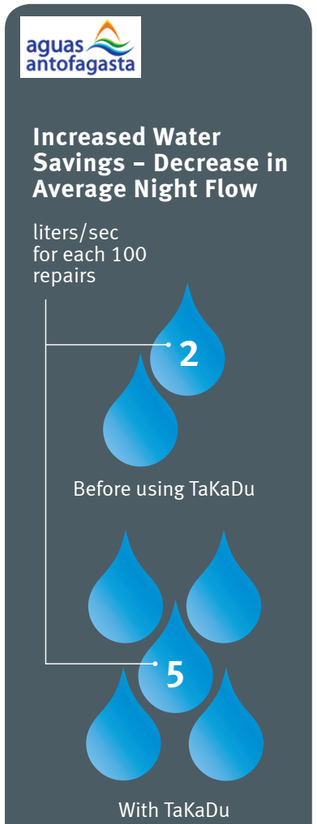
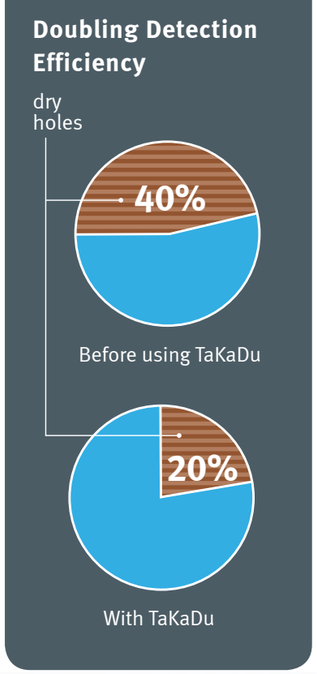
Increased Water Savings – Decrease in Average Night Flow



Doubling Detection Efficiency



Saving More Water Through Effective Repairs: Before TaKaDu, the utility achieved an average decrease of 2 liters/sec in nightflow for every 100 repairs. With TaKaDu, the average decrease in night flow for the same 100 repairs increased to 5 liters/sec. This increase in saved water was achieved within 3 months of deploying TaKaDu, with water loss reduction figures continuing on this track.

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 would yield 40 'dry holes' or 40 instances where no leak was detected. **With TaKaDu, the number of 'dry holes' was cut by 50%.**

Higher Monitoring Availability: Prior to using TaKaDu, meter data was hard to analyze and often resulted in false alarms. As a result, data was being ignored and network visibility was limited. **With TaKaDu, meter availability is monitored and constantly increasing, so alerts can be trusted and managed immediately.**

Repair Verification Saves Money and Time: Prior to using TaKaDu, meter readings indicating that a problem was still unresolved 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: Following deployment, **TaKaDu alerted on several major bursts before other indications were available**, allowing the utility take immediate action and pre-empt customer calls.

Alerting on Background Leakage (Flow Trends): Small leaks, evolving over years, are almost impossible to detect using existing methods. TaKaDu has demonstrated the ability to identify these slow, developing problems through flow trend analysis. Shortly after deployment, **TaKaDu alerted the utility that several flow increase trends had been ongoing for months.** The utility acted on TaKaDu's alert and reversed these trends to further reduce water loss.

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

TaKaDu is a leader in **Integrated Water Network Management**, empowering utilities to efficiently manage their networks by optimizing tactical and strategic decisions. TaKaDu's patented technology utilizes raw data from multiple sources, analysing it to produce and prioritise network insights which enable data-driven decision-making across utility functions and departments. The solution transforms the way water networks operate, ultimately helping utilities reduce water loss, shorten repair cycles, and improve customer service.

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