

# WATER FROM STONE: MANAGING RESOURCES IN TENERIFE

Isolated communities face unique challenges when tasked with providing safe, reliable resources to residents, businesses and visitors. The confines that come with geographic isolation, combined with the demands of importing assets from the mainland, necessitate conservation efforts, education and forward-thinking best practices to protect the limited availability of assets and prevent what feels infinite from becoming depleted.

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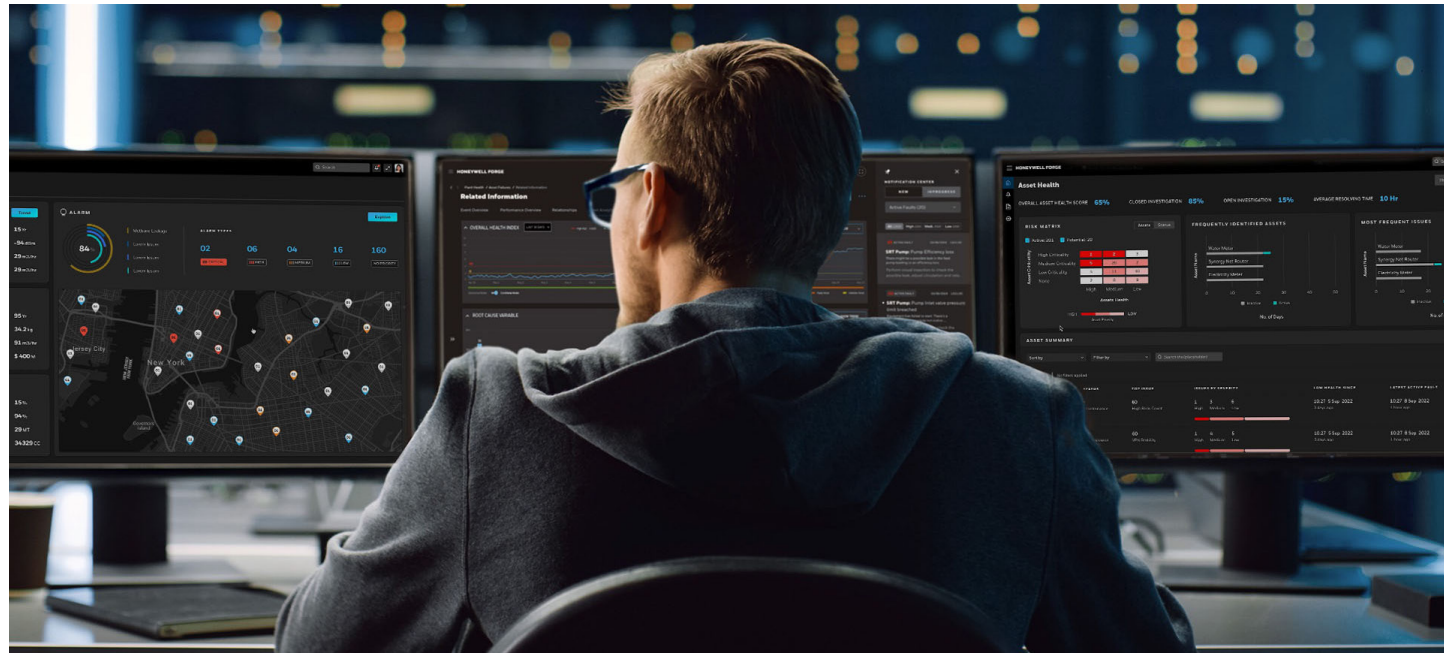
Case Study

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Honeywell





## INTRODUCTION

The Canary Islands are an autonomous community of Spain, located about 100 km off the northwest coast of Africa in the Atlantic Ocean. It's home to 2.1 million people<sup>1</sup> and a popular destination for 14.1 million tourists in 2023 who flocked to the sunny, rocky terrain.<sup>2</sup> The chain of seven main islands are largely very arid, receiving on average fewer than 10 inches of rain annually.<sup>1</sup> The urban area including and immediately surrounding Santa Cruz de Tenerife is home to more than 500,000 people and the Parliament of Canary Islands, serving as a critical port city and cultural centre.

Water is essential to sustaining life anywhere, and that's especially true on this 7,447 square km volcanic outcrop, which is roughly the size of County Cork, the largest in the Republic of Ireland.<sup>3</sup> On the Canary Islands, water comes from two sources: groundwater and multiple desalination facilities, which use the reverse osmosis (RO) process to treat seawater.<sup>4</sup>

The population's health and well-being, in addition to the prosperity of the islands' two primary sources of economic development — agriculture and tourism<sup>1</sup> — has made and continues to make the effective and efficient management of potable water an increasing priority.

## CONNECTING THE PIECES

Honeywell was selected in December 2023 by a leading Spanish water utility provider to serve as the exclusive partner to digitalise water services for Santa Cruz de Tenerife, one of two capitals of the largest island in the Canary Islands archipelago, along with Las Palmas. Honeywell Connected water solution was quickly identified as the only end-to-end resolution that could deliver effective and efficient system-wide connectivity — providing links from customer meters to a central digitalisation management system that ultimately delivered reliable data to the customer. It was a lot to ask and included no shortage of challenges, for most systems.

As an added challenge, this system needed to serve as a bridge between what was already on Tenerife and what would need to be added. It had to accommodate equipment upgrades, the installation of new smart meters and also retrofit existing equipment. This meant an end-to-end solution that could connect new Honeywell smart meters, existing Honeywell equipment that was still delivering as promised and competitors' meters — all of this across two different connectivity networks, LoRa and NB-IoT. This turnkey, end-to-end solution

provided the customer with a single-point-of-contact, and accountability, that reduced system risk and complexities while delivering more predictable ownership and operational costs.

## A SUM OF MANY PARTS (AND PATHS)

Timing and urgency were additional variables to consider, adding to the challenge of implementing a system-wide transformation. The project needed to reduce overall system complexity, and risk, plus provide connectivity and deliver energy-use data for the provider and their customers. Despite the variety of obstacles, Honeywell presented an implementation process that was simple and efficient but not lacking depth or functionality.

With best-in-class products already at its disposal and experience providing end-to-end solutions, a combination of Honeywell products was selected, including a combination of Honeywell products that connect field devices via LoRa and NB-IoT technologies to bring data to a Honeywell AMI Operations Application HUB.

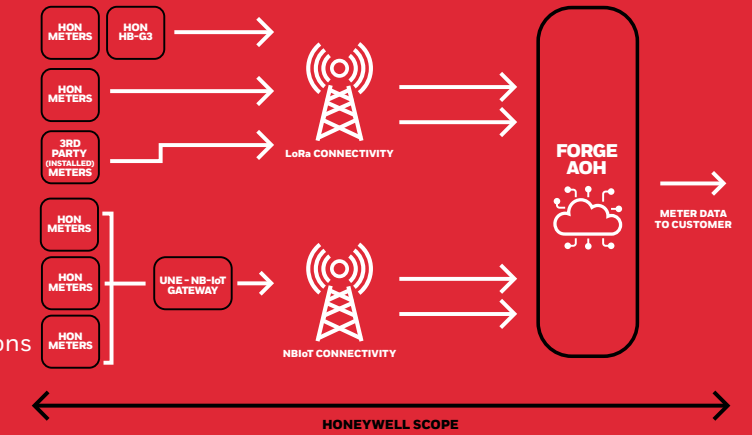
Across the entire installation base, two connectivity paths were established, with both the NB-IoT and LoRa paths transporting meter data to the Honeywell Forge AMI Operations HUB Application. This application gathers data from Honeywell meters as well as from existing meters supplied by other vendors (Approx 65,000 metering points in total). This comprehensive approach proves the application's multi-vendor and multi-communication capabilities ensure seamless integration and functionality across various devices and communication protocols. Here's how each was implemented and played a role in presenting a simplified and efficient process:

### PATH 1

Honeywell retrofitted 30,000 existing water meters with MERLIN 868 HB-G3 clip radio modules, added 10,500 new S220 single-jet water meters also outfitted with HB-G3 modules, linking all these various devices with LoRa connectivity.

### PATH 2

A collection of 20,500 Honeywell Y290 hybrid meters linked via a NB-IoT gateway to Honeywell's AMI Operations HUB, reducing the project's complexity and risk while also conforming to stringent budget demands.



## CONNECTED SOLUTIONS — A TRUSTED PARTNERSHIP

Honeywell applied simplicity to the complex situation, provided connectivity to previously disjointed components and delivered a unique end-to-end solution that was ultimately a competitive differentiator the utility provider could not have found elsewhere. The unique solution also helped the utility provider secure next-generation funding from the EU and deliver energy-use data to all users. Existing meters were merged seamlessly with new meter technology as part of this streamlined and simplified process that met investment plans. It's easy to say Honeywell was selected because of solution versatility and flexibility that includes data collection from rival equipment, saving the utility provider and its customers time and money. However, being a known, trusted partner because of a relationship that has developed and grown with time proved to be the ultimate connection.

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### For more information

<https://automation.honeywell.com/us/en/solutions/smart-energy>

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