

Building Automation and Water/Wastewater

Customer case study



World-class guest experience for island resort visitors

Highlights

- The CuisinArt Golf Resort & Spa is regarded as a top hotel in Anguilla.
- The CuisinArt Golf Resort & Spa was challenged with an unreliable building management system coupled with inefficient and expensive options for desalinating water for the resort.
- CuisinArt contracted EnergyIQ to implement a comprehensive building management system and a wastewater treatment plant controlled by Phoenix Contact's ILC 2050 BI Niagara controller.
- EnergyIQ and Phoenix Contact developed the SmartBox to meet the needs of many industrial applications, complete with Phoenix Contact's Limited Lifetime Warranty.

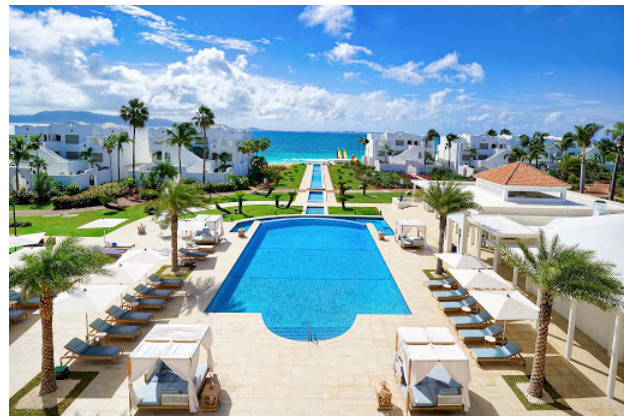
Building management system (BMS) optimizes guest comfort and access to freshwater

About the customer

At the CuisinArt Golf Resort & Spa in Rendezvous Bay, Anguilla, guest experience is of the utmost importance.

Challenge

During the early 2010s, the resort operated on older, inefficient equipment. Guests complained about room temperatures, and the possibility of failed equipment posed a threat to guest and staff safety.



The award-winning CuisinArt Golf Resort & Spa is regarded as one of the top hotels in Anguilla and the Caribbean.

Another challenge was the lack of freshwater. Caribbean islands typically do not have freshwater wells. Most of the water used at the resort comes from the ocean and requires an expensive desalination process. CuisinArt needed a way to optimize this process.

When EnergyIQ's team evaluated the system, it became evident that there were mechanical issues with the old system. In addition, there was not a holistic front end to control the resort facility. The original building management system had the components to address these needs, but the original controls were never set up due to financial issues.



SmartBox

Solution: Comprehensive building management system (BMS) for real-time monitoring and control

In 2010, CuisinArt commissioned EnergyIQ to upgrade the resort's water chillers to improve temperature consistency. After the successful installation and integration of the chillers, EnergyIQ continued to work with CuisinArt engineers to optimize the use of water at the resort.

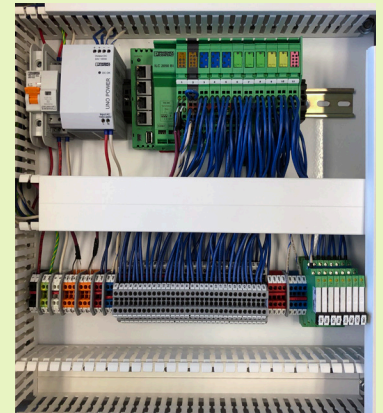
EnergyIQ led the development of a reverse osmosis plant and two wastewater treatment plants (WWTP). To control these systems, EnergyIQ created a comprehensive building management system (BMS) that made it easy for the facility engineers to get real-time insights into resort operations and efficiency.

Niagara Framework ties system together

As a leading IoT technology, the Niagara Framework by Tridium provides an open software platform for customized solutions with the ability to scale for future buildouts. For both WWTPs, EnergyIQ specified the ILC 2050 BI Niagara controller and I/O from its close partner, Phoenix Contact. Roger Gowder, Engineering Manager at EnergyIQ and project lead for CuisinArt resort, explained, "We chose Phoenix Contact because of the speed and reliability of the ILC 2050 BI combined with the I/O terminals. The UL 508 Listing enabled the controller to be applied to WWTP, chiller control, and other areas of the resort."

A ready-to-install, intelligent cabinet solution

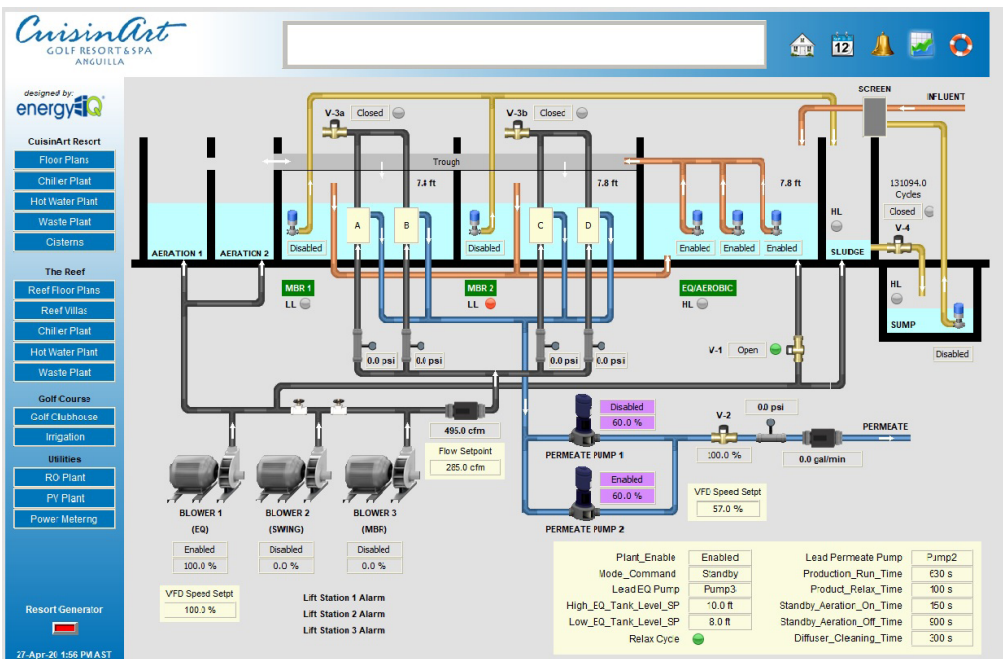
The SmartBox is a ready-to-install control panel that supports BACnet MSTP, BACnet IP, Modbus RTU, and Modbus TCP. Housed in a NEMA 4-rated enclosure, the control system in each SmartBox is assembled with Phoenix Contact industrial-grade control components. Every SmartBox is UL 508A rated, factory-wired, and can be purchased with the reference of a single part number (photo above right). Pre-wired to save you time and money, the system comes complete with Phoenix Contact's Cabinet Confidence, Limited Lifetime Warranty.* Using the Niagara Framework, SmartBoxes are suitable for scalable building automation, as well as more demanding applications like microgrid management and charging infrastructure.



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SmartBOX

EnergyIQ's custom-built control panels for the CuisinArt's WWTP led to the development of SmartBox solutions, available exclusively from EnergyIQ. (See sidebar.)



Results: Better data and better quality of life

The BMS includes web-based control alarming, so CuisinArt staff has easy access to the real-time data they need. If a failure occurs, staff members are notified via alarm emails and can utilize output logs to identify the issue. The resort staff is required to maintain output logs for environmental reasons. The BMS allows multiple parameters (turbidity, pH levels, etc.) to be logged, trended, and shared with environmental inspectors when needed.

*Warranty details provided on request or at www.phoenixcontact.com/llw

Since the WWTP was commissioned in 2018, it has produced 120,000 gallons of gray water per day.