VERTIV.

Case study

Acciona achieves cooling energy reduction with Vertiv™ EC fan and Vertiv™ Liebert® iCOM™ control upgrade

Background

Acciona develops and operates renewable energy plants, transportation infrastructure, water treatment facilities, and construction projects in more than 65 countries. The company's corporate headquarters in Madrid houses the digital infrastructure that supports real-time monitoring, operations control, and coordination across its global portfolio of infrastructure assets.

Challenge

Acciona and Vertiv have maintained a multi-year service contract supporting regular system reviews at the company's Madrid headquarters. During a routine assessment, the Vertiv service engineer detected that the fans in the Vertiv™ Liebert® HPM cooling system were reaching end of life.

Most of these fans had operated for approximately 12 years, with the existing cooling configuration consisting of traditional AC fans running at a fixed speed, consuming approximately 2,000 MWh annually with limited ability to adjust to changing workload demands.

Analysis showed that upgrading to advanced fan technology would deliver significant efficiency gains. To validate projections before committing to full deployment, Vertiv and Acciona implemented a pilot upgrade on two units, confirming expected benefits before proceeding.

Company profile:

Operating in more than 65 countries, Acciona is a global group leader in providing regenerative solutions for a decarbonized economy, spanning renewable energy, infrastructure, transportation, water and services.

Industry: Infrastructure management and renewable energy.

Region: Madrid, Spain.

"At Acciona, we would like to thank the entire Vertiv team for the excellent management of this project. After conducting measurements before and after replacing the fans in the Vertiv systems, we estimate a return on investment within a period of between three and three and a half years."

— **Carlos García Fernández,**
Head of Engineering and Processes at Acciona

Solution

Vertiv replaced Acciona's existing fixed-speed AC fans with high-efficiency EC (Electronically Commutated) fan kits with variable speed control. Unlike fixed-speed fans that run at constant power regardless of demand, EC fans adjust output dynamically, consuming only the energy required to maintain optimal conditions while avoiding energy losses associated with traditional motor designs.

This upgrade modified ventilation systems across multiple Vertiv™ Liebert® HPM chilled water units with different power ratings. Units were upgraded with the Vertiv™ Liebert® iCOM™ control system, which provides precise ventilation speed regulation, and coordinates operation across multiple units.

Replacements were carried out during working hours without disrupting operations. The cooling system's redundancy allowed each unit to be shut down individually for service while maintaining continuous data center cooling.

Results

The upgrade delivered energy savings of almost 70%, reducing annual consumption significantly beyond initial projections. This reduction translates into substantial cost savings and avoids CO_2 emissions that directly support Acciona's decarbonization objectives.

The Vertiv™ Liebert® iCOM™ control upgrade contributed decisively to these results, improving efficiency, refining airflow regulation, and enabling seamless unit coordination.

Based on current estimates, Acciona expects a return on investment (ROI) in approximately three years. The solution also freed cooling and power capacity within the data center, enabling Acciona to plan future expansions without compromising infrastructure stability or operational resilience.

This initiative adds to a long list of projects that reflect Vertiv's focus on technological innovation and energy efficiency. In this context, the collaboration between Vertiv and Acciona continues to strengthen, as both companies work closely on projects for third-party clients and pursue new joint initiatives focused on innovation, environmental responsibility, and energy optimization in critical infrastructure environments.

"This project is a clear example of how a proactive maintenance approach, combined with the implementation of advanced technology, delivers real and measurable benefits in terms of cost savings, efficiency, and operational capacity. Working with Acciona has been seamless thanks to the long-standing relationship of mutual trust between our organizations, as well as the strong commitment and collaboration on both sides for the success of this initiative."

— Jorge Olaya,
Service Sales Manager for Spain at Vertiv

CS-10020 (03/26)