

Nini Improves Distribution Center Automation With New Data Center Infrastructure



A Vertiv Case Study



Background

A wholesaler that has been present in Argentina for the last five decades, Nini is located in two strategic areas in Buenos Aires. Its distribution center in Moreno is equipped with an automated warehouse with 117,000 storage position shuttles, a high bay warehouse (HBW) with 37,000 pallet storage positions, and work stations for picking.

This distribution center uses a German system in which all merchandise is moved through robots that rely on wireless networking technology (Wi-Fi). It stores approximately 9,000 products in 32,000 square meters which is more than four football fields of space.

Challenge

Due to the enormity of this Nini operation and its reliance on Wi-Fi-enabled automation, ensuring power continuity via critical system redundancy was a top concern. Plus, the wholesaler needed a more automated system for visualizing stock and inventory needs in real time. Supporting these converging systems required a complete data center build with implementation of Vertiv power, cooling and monitoring solutions.

Solution

Nini not only sought a critical infrastructure provider offering leading technology, but a partner that had the experience necessary to provide total project management from end to end, including design planning, engineering, equipment installation and testing, and ongoing technical support. This new data center build was a comprehensive civil engineering feat with all the structural and calculation challenges that entails.

Solution planning started alongside procurement as the data center was designed based on the equipment being purchased. The 3D prototype developed by the Vertiv team allowed Nini to better visualize the proposed infrastructure.

With power efficiency as one of the main objectives, Nini opted for the transformer-free Liebert® APM UPS system which offers an ECO Mode of operation delivering up to 94% efficiency with loads at 50-100%. This system also offered Nini some design flexibility for its dynamic environment. The wholesaler could opt to have the power and battery modules in the same cabinet or use only power modules depending on the UPS capacity.



With increasing reliance on automation for systemized order taking and inventory management, this leading Argentinian wholesaler required enhanced information technology and a partner with the industry and equipment expertise needed to ensure a newly constructed data center space would meet project deadlines while also delivering both short- and long-term business benefits.



The engineering of Nini's new data center was no small task. For starters, the Vertiv team had to ensure the technical floor would support the weight of the Liebert® APM unit that was to be enclosed in a protective rack. Following weight calculation, structural modification ensured the floor could handle the 1,200-kilogram solution.

Nini also needed power system redundancy which included electrical system engineering and installation, resulting in a N+1 architecture. To house installed servers, network wiring, and the Wi-Fi system infrastructure, access racks were positioned at the perimeter of the space.

Beyond power, the data center needed a cold-aisle containment to maximize the efficiency of three Liebert® CRV in-row cooling units and the ability to monitor its critical assets using SNMP protocol, further safeguarding business continuity.

Results

Partner with end-to-end expertise ensures successful data center build

By relying on the experienced project managers and engineers of Vertiv, Nini was able to adhere to data center build best practices while still implementing an infrastructure solution that was tailored to the wholesaler's specific needs.

The data center build not only met project completion deadlines, but it addressed the company's most critical needs including power and cooling system efficiency, power system redundancy, and improved visibility and control — changes that maximized availability and ensured business continuity. Additionally, consistent and ongoing service support from the Vertiv team means Nini maintains an informed workforce and long-term peace of mind.



Solution Benefits

Liebert® APM UPS

- Modular power that allows for a quick and easy increase in capacity in dynamic environments
- Technology that enables power and control redundancy
- Improved energy efficiency and reduced power expenditures as system is sized to match capacity
- Minimized single-point-of-failure risk with distributed controls
- Increased reliability and safety due to matching bypass and distribution cabinet

Liebert® CRV cooling system

- Highly efficient row-based cooling at both full and partial load
- Cooling precision via real-time environmental control using rack sensors
- System integration flexibility provided by various control modes
- Automatically optimized cooling due to intelligent controls and teamwork modes of operation
- High availability due to remote monitoring capabilities
- Simplified serviceability as all components are easily accessible from the front or back

To learn more about how Vertiv power, cooling, and service solutions benefit retail and wholesale environments, visit the [retail solutions page](#) of the Vertiv website.

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