



Increasing energy efficiency for Iliad Datacenter

Location

Paris, France

Segment

Data Centre

Problem

During the modernisation of its 5,000 m² DC2 site in Vitry, Paris, Iliad Datacenter needed a reliable UPS installation that would enable the company to increase its energy efficiency without compromising on service quality.

Solution

Five Eaton 9395 550 kVA UPSs, with a total capacity of 2,500 kW, featuring Energy Saver System (ESS) mode and Variable Module Management System (VMMS) technology, as well as Eaton's Powerware Hot Sync® technology.

Results

Energy efficiency increased to 98% from 92%.

Contact Information

To learn more about Eaton, please visit www.eaton.eu/datacentres

"Our old systems had an energy efficiency of 92 per cent, but we are now achieving 97.9. The 5.9 per cent efficiency increase really does represent a huge cost saving."

Nicolas Fontés, Sales Manager

Background

Iliad Datacenter is a subsidiary of the Iliad Group and one of France's largest data centre operators. The company designs and builds all of its own data centres and is a highly regarded operator that prides itself on the quality and security of its services

It has a number of major sites in the Paris region, including a 5,000 m² site in Vitry, and is also currently investing in a major new 11,800 m² site.

Challenge

When modernising its 5,000 m² DC2 data centre to incorporate 2N+1 fully redundant architecture, Iliad Datacenter required UPS equipment that would enable it to increase its energy efficiency without compromising on service quality, while also combining versatility and reliability. In addition, it was also important that the equipment helped to reduce the environmental

impact of Iliad Datacenter's operations and ideally had to be manufactured in France or Europe in order to comply with the company's corporate commitment to social responsibility and protecting the environment.

Solution

Following Iliad Datacenter's detailed evaluation of UPS systems from most of the major suppliers, the company ultimately decided that Eaton's 9395 products were the best match for its requirements. Iliad Datacenter deployed UPS chains with a total capacity of 2,500 kW, comprising five Eaton 9395 UPS's rated at 550 kVA. Each UPS is made up of two 275 kVA modules with separate battery banks.

The installation makes full use of Eaton's VMMS technology to ensure that all UPS modules operate at high loads – typically 75% or more – and therefore achieve maximum efficiency.



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VMMS constantly monitors the power requirements of the connected load and, taking advantage of the 9395's modular design UPSs, it ensures that only those modules necessary to supply the load at any particular time are in service. The remaining modules are held in a low-power standby mode, but because the system reacts instantly to changes in load level they can be brought online in less than two milliseconds when the load increases. This allows the modules in service operate efficiently because they are highly loaded, while the modules on standby consume very little power.

Iliad Datacenter is also benefiting from the 9395's ESS mode. This mode allows them to supply power directly from the mains, as long as it is within acceptable limits of voltage and frequency, but instantly switch to conditioned power if the mains supply moves outside these limits – thereby achieving a minimum efficiency of 99%.

"The ESS mode and VMMS technology offered by the 9395 UPSs were important factors in our decision," says Nicolas Fontés, sales manager at Iliad Datacenter, "as we knew they would help us to maximise energy efficiency."

The 9395's versatility and integral redundancy also influenced the company's decision. Iliad Datacenter uses Eaton's Powerware Hot Sync technology to maximise both the availability and energy efficiency

of its UPS installations. This technology allows the UPSs to be operated in parallel without the need for a common logic bus, which could potentially be a significant single point of failure. Hot Sync not only allows very accurate load sharing, but also enables detection of a faulty UPS in real time, as the operation of each module is self-monitored. If a problem is detected, the module affected is instantly disconnected and the additional load automatically distributed to other modules, thereby maintaining the integrity of the supply.

Results

By installing Eaton's 9395 solution, Iliad Datacenter has been able to make significant energy savings and reduce the environmental impact of its operations without compromising performance.

"The 9395 UPSs are delivering excellent performance at the DC2 data centre," says Fontés, "In fact, as part of the commissioning process we pushed the units well beyond their stated operational limits, particularly with short-circuit and overload tests, and I'm delighted to report that the results exceeded all of our expectations!"

Iliad Datacenter was so impressed with the results, it is now installing 24 Eaton 9395 UPSs at its new DC3 data centre, Tier 4 facility. Like those at the DC2 data centre, these are each rated at 550 kVA and made up of two 275 kVA



Eaton 9395 UPS 550 kVA

modules. Once again, full use is being made of VMMS, ESS and Hot Sync technologies to optimise energy efficiency and reliability.

"Eaton's project team has provided us with excellent service at both of our data centres," says Fontés, "and we're very

happy with the results we're getting from our new UPS systems. Our old systems had an energy efficiency of 92% but we are now achieving 98% efficiency. With a total load of around 22 MVA, that extra 6% efficiency enables us to make significant cost savings."