

MULTI POWER MAKES THE GRADE FOR UNIVERSITY DATA CENTRES



The modular Multi Power's combination of reliability, flexibility, and high efficiency in a compact footprint make it the ideal solution to protect key infrastructure at a leading university.

Established in 1963, the **University of East Anglia** is a public research institution on the outskirts of Norwich.

It is ranked 27th and 30th in the UK respectively by the prestigious *Guardian University Guide 2023* and *The Times/Sunday Times Good University Guide 2024*, and is renowned for the quality of its research.

Located two miles from the city centre, the university's 320 acre (120 hectare) campus is home to four faculties and 26 schools of study, with a particular emphasis in the fields of Arts and Humanities, Social Sciences, and Medicine and Health Sciences.

It also features two data centres that house the critical IT infrastructure essential to the university's day-to-day operations, including servers, storage, networking, and high performance computing.

Nearly 17,000 students, as well as more than 3,500 lecturers, researchers, and support staff, access services digitally, so any disruption to the computer systems or IT networks could have a catastrophic impact across the campus.

Any downtime would disrupt lectures, administrative tasks, communications, and research computing, all of which would result in reputational and potentially significant financial losses.

However, the existing UPS systems in the supporting rooms of both data centres had been installed several years ago and the clock was ticking before they would reach their end of service life. One of the systems, in particular, was already prone to experiencing failure.

TIME FOR AN UPGRADE

It was time to upgrade the power protection infrastructure, and the university turned to Riello UPS and long-standing authorised reseller and service partner **Technical Power & Maintenance (TP&M)**.

Based in Derbyshire and established in 2009, TP&M is run by experienced and approved electrical engineers, formed on a solid M&E background, with over 40 years' M&E and critical power expertise.

Taking into account the mission-critical nature of the university's data centres, Riello UPS's award-winning modular **Multi Power** range proved the natural choice to upgrade the existing system.

Multi Power offers a flexible choice of both power modules (15-25-42 kW) and cabinet sizes, making it a popular solution across a wide range of server rooms and similarly mission-critical applications.

The series delivers exceptional operating efficiency of up to 96.5% in online UPS mode. While its intuitive Energy Saving Mode also ensures high efficiency (>95%) at low loads, minimising energy waste across all load levels.

Offering unmatched power density in a compact space-saving footprint, Multi Power allows for risk-free 'pay as you grow' scalability by adding in additional power modules or cabinets in parallel.

While another advantage of the modular UPS's design is that each power module and battery unit is hot-swappable and accessible from the front of the unit.

This means engineers can easily service, maintain and even swap-out individual modules without having to power down the whole system, guaranteeing downtime-free maintenance.



PROJECT DETAILS

Due to the busy nature of the campus and the fact that the university didn't want both data centres out of action at the same time, the UPS upgrades were phased.

In addition, the university stipulated that no works could be undertaken during the vital UCAS Clearing period from July to October where UK higher education institutions fill the remaining places they have on their courses.

So to start with, Technical Power & Maintenance replaced the failing UPS system with a pair of 126 kVA Multi Power units for a total power installation of 252 kVA.

Each UPS comprised 3 x 42 kW power modules and 2 x battery cabinets totalling 80 batteries, along with a battery isolator panel, to provide autonomy of more than 1 hour 30 minutes. It is anticipated that this runtime will decrease in the future due to planned load increases.

The new UPSs were deliberately installed in a different part of the plant room compared to the original setup to enable much improved access for ongoing maintenance and servicing.

Following this successful first phase of the replacement, attention turned to the old UPS in the second data centre.

The three 80 kVA units were upgraded with two 210 kVA Multi Power in N+2 configuration, with each UPS comprising 5 x 42 kW power modules and 120 batteries housed on the existing rack to provide approximately 40 minutes runtime.

Not only do the new Multi Power UPS systems reduce the university's risk of downtime, but their significantly higher efficiency will reduce overall power consumption and help cut the institution's energy costs and carbon emissions.

In addition, its modular design and hot-swappable power modules will make it easier to maintain over the long-term, helping to maximise the overall lifespan of the solution whilst reducing the risk of any potential future failures.

POSITIVE OUTCOMES

The project was successfully completed with minimal disruption or risk, and most importantly, with no impact to the university's services.

The institution are "very happy that the UPSs provided are protecting power, ensuring the university's data centres are secure.

"We have successfully completed power failure tests to prove this."

