

BACKUP POWER FOR CRITICAL FACILITIES

Repair Or Replace A UPS

Power Struggle: When's The Right Time To Replace Your UPS?



With data centres attracting more than €1 billion investment a year into the economy, keeping uninterrupted power flowing to all those server rooms is crucial. Riello UPS efficiency expert Chris Cutler explores the tricky issue of when to upgrade a legacy UPS system.

Ireland's reputation as one of the "go-to destinations" for data centre developers continues to grow at pace. Latest figures from Host in Ireland reveal the 53 facilities already in operation will be bolstered by another 34 within the next six years.

Tech giants Amazon, Facebook, Google, and Microsoft all have massive bit barns on the island. While Dublin Metro has overtaken London as Europe's largest data hosting cluster, housing approximately three million square foot of server room space.

All these data centres, not to mention other mission-critical sites such as hospitals, banks, or power

stations rely on a continuous flow of electricity to operate. System downtime is unacceptable, not just in terms of eye-watering financial costs, but also reputational damage.

That's why uninterruptible power supplies (UPS) are a facilities manager's best friend. UPS systems provide "no break" battery backup when there's a power problem.

They keep essential equipment up and running and offer vital breathing space until standby generators kick-in.

But every UPS system has a natural lifespan, leaving IT admins to face the classic conundrum: whether to stick

or twist. Should they try to squeeze as much life out of an aging UPS as possible? Or do the long-term efficiency and performance benefits promised by replacing with new make a compelling case that's impossible to ignore?

Making The Most Of What You've Got

Of course, it may be that you don't even have the choice. If support from the manufacturer has finished and there aren't any spare parts available, then you'll have little option but to buy new.

If that's not the case and you do opt to continue running a legacy UPS, there are two options. Firstly, there's "run to fail", which is slightly misleading as your UPS will still have regular service visits. Such reactive time and material maintenance becomes prohibitively expensive once a unit is around 10-years old though.

The alternative is a major overhaul which swaps out key components such as fans or capacitors ahead of their typical end of service life. This reduces the risk of serious system failure and helps to optimise performance.

However, you can't keep delaying the inevitable. Eventually you'll come to the point where replacement is necessary.

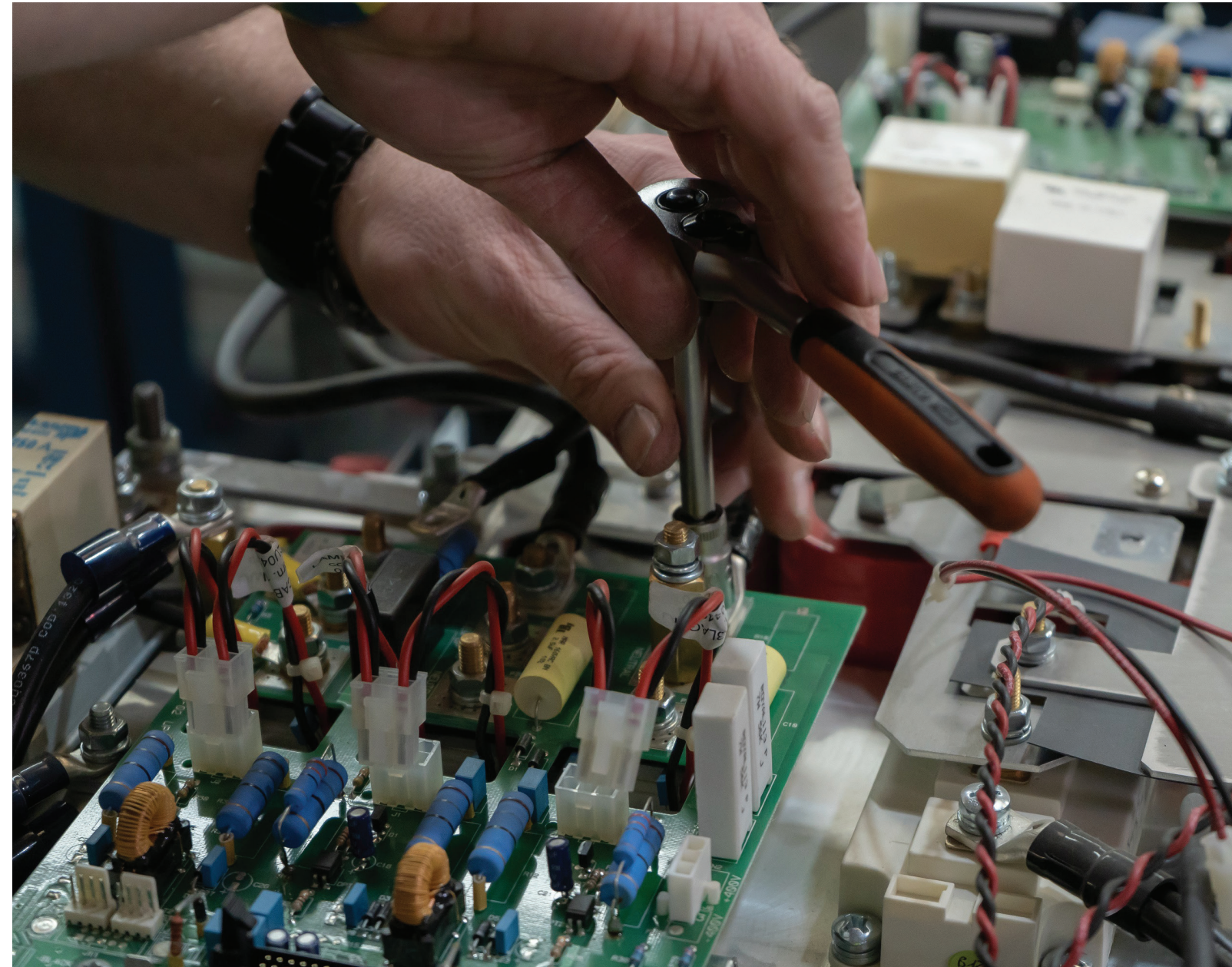
Long-Term Gain Trumps Short-Term Pain

Upgrading an old UPS with a brand new system obviously involves a sizeable up-front capital investment. There's also an increased risk of disruption during the changeover period. But these downsides pale in comparison to the potential benefits.

UPS technology has come on in leaps and bounds over the past decade. If you're still running a legacy unit, chances are it's a big, transformer-based system that can only deliver operating efficiency of 85-92%.

also offer the flexibility to "pay as you grow" by either adding in extra power modules (for modular systems) or paralleling several UPS together (for non-modular systems). This scalability gives far

tonnes (3,950kg). Replacing with a Riello UPS's Multi Power modular solution would only require 1.89m² footprint and weigh just 1,760kg, even when populated with all the power modules.



These old-style towers waste lots of energy and also need lots of air conditioning to operate safely. These days, most modern UPS use transformerless technologies that offer much-improved efficiency, even at lower load levels. And because they don't include bulky transformers, they generate less heat so don't need as much expensive air conditioning.

New UPS, particularly modular systems, are easier to right-size at initial installation. While they

greater control over the total cost of ownership (TCO).

Space optimisation is another added benefit. Compared to the massive monoblock old-style systems, modern UPS are far lighter and have a much more compact footprint. This makes them easier and more cost-effective to transport and install.

Take an 800 kVA legacy UPS as an example. Without any batteries, such a system typically takes up 3.2m² floorspace and weigh nearly four

For data centre operators this frees up valuable white space for lucrative server racks and additional processing power.

Replacing an aging UPS with new might incur a short-term financial hit, but the efficiency savings and improved performance will end up paying for itself many times over.