NHS Case Study

Northampton General Hospital

Strengthening critical power resilience across theatres and neonatal care

Northampton General Hospital partnered with Bender UK to strengthen critical power resilience across its orthopaedic theatres, recovery areas, and neonatal unit.

Through a tailored upgrade programme, the Trust modernised ageing electrical infrastructure, improving patient safety, continuity of care and long-term operational resilience.



Highlights

- Upgraded critical power infrastructure across theatres and neonatal care areas
- Replaced ageing Isolated Power Systems (IPS) with modern Bender technology
- Installed eight new 10kVA IPS panels with advanced monitoring capabilities
- Enabled remote monitoring and diagnostics with Bender Pulse™
- Improved fault detection, visibility, and maintenance planning
- Added equipotential bonding to enhance electrical safety in patient areas
- Completed works around clinical operations to minimise disruption
- Strengthened long-term resilience for critical healthcare environments

Problem

As part of a wider programme to strengthen electrical resilience, Northampton General Hospital needed to modernise ageing critical power infrastructure across some of its most sensitive clinical environments.

Supporting a busy surgical programme, the Trust relied on electrical systems that remained operational but required replacement to support long-term reliability and resilience. Any failure within the medical IT power supply could pose a risk to patient safety, disrupt surgical services and place additional pressure on hospital operations.

Building on previous investments in UPS infrastructure and backup power provision, the Trust required a solution that would strengthen resilience at the point of care, helping protect continuity across operating theatres, recovery areas, and neonatal services.

Challenge

Northampton General Hospital needed to modernise critical power infrastructure across its orthopaedic theatres, recovery areas, day surgery ward and neonatal unit, while maintaining uninterrupted power to essential clinical services.

The project involved replacing ageing medical IT (IPS) systems in live healthcare environments where continuity of power is critical to patient safety. This was particularly important in the Gosset Ward neonatal unit, which supports vulnerable and premature babies and required continuous power throughout the upgrade works.

With clinical areas remaining operational, the Trust faced the challenge of delivering a major infrastructure upgrade around surgical schedules and day-to-day hospital activity, while minimising disruption to patients and healthcare teams.

Patient safety

BENDER Design the future of energy

Solution

Bender UK delivered a turnkey critical power upgrade, providing specification, installation, and specialist project coordination. Across Manfield Orthopaedic Theatres, recovery areas, and the day surgery ward, eight IPS panels were replaced with new 10kVA systems featuring earth fault location and circuit trip monitoring. The solution was integrated with theatre annunciation, Bender Pulse™ remote monitoring and fault diagnostics, while new equipotential bonding infrastructure was installed to further enhance electrical safety and system resilience.

Outcome

The latest theatre and neonatal upgrades form part of a wider, layered resilience strategy developed by the Trust over several years.

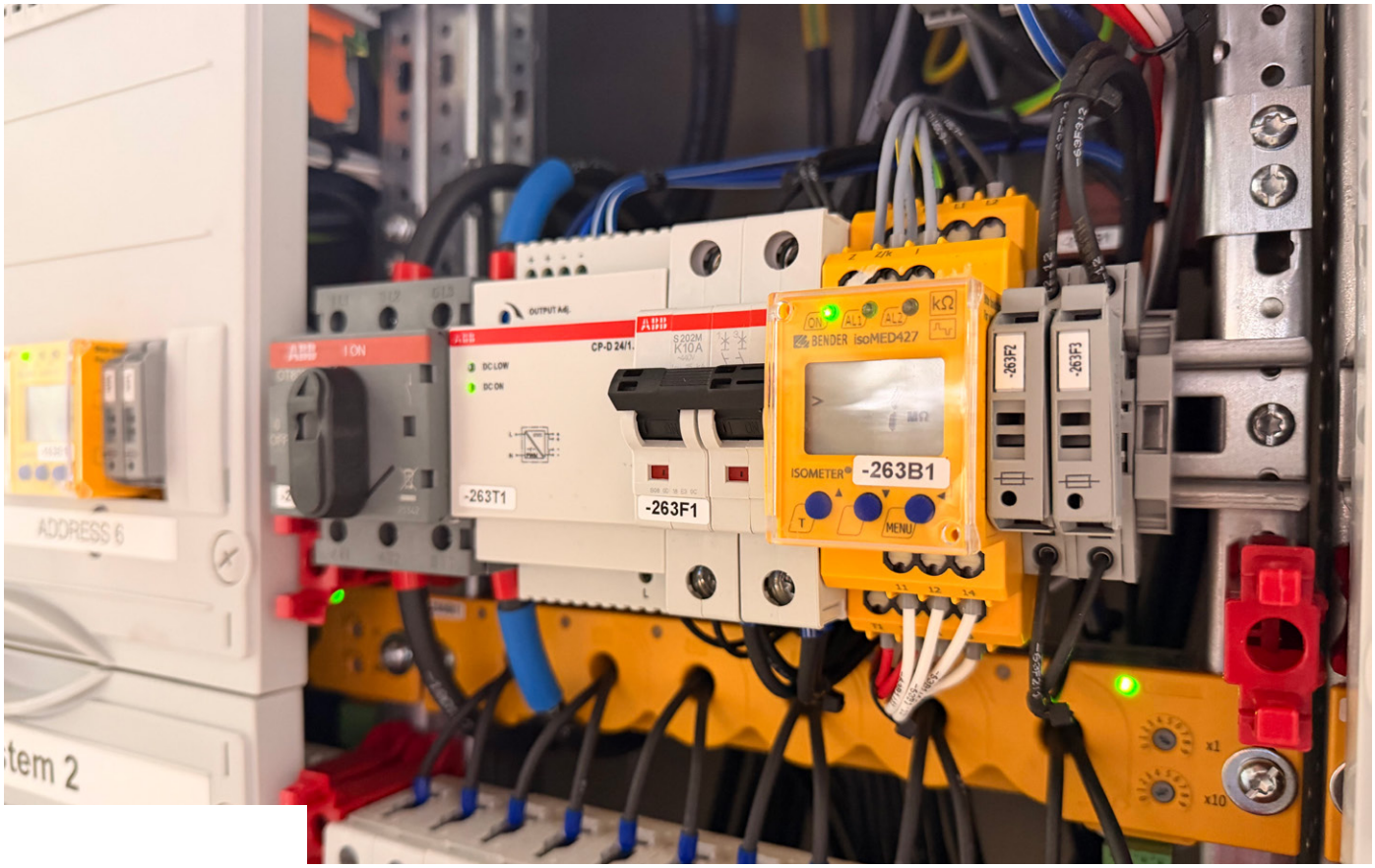
Together, the centralised backup systems, local GRP based solutions, refurbished plant rooms and upgraded IPS installations provide both upstream protection and localised system security for critical areas.

The new infrastructure delivers enhanced visibility, remote diagnostics, and improved fault identification capabilities. The new transformers emit less heat than the legacy equipment and no longer require cooling fans, removing a known single point of failure.

Working flexibly with the Trust, Bender largely completed works out of hours to avoid disruption to clinical teams, patients, and hospital operations.



The result is a modern, resilient, future-proof, and fit-for-purpose approach to critical power management, supporting the Trust's goal of identifying risk earlier, planning maintenance more effectively and protecting patients and essential clinical environments.



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