

GLASGOW HOSPITALS MORE EFFICIENT AND GREENER



NHS-Greater Glasgow & Clyde shaving thousands of pounds off its annual bills after adopting iVolt technology in its support facilities.



NHS GGC has been making a concerted effort over the past few years to become more environmentally friendly, and thanks to the installation of iVolt technology (in 2015), its CO₂ emissions have so far been cut by approximately 2,500 metric tonnes. The 3 sites where the iVolts have been installed are critical for providing hygiene equipment across Glasgow's hospitals; the central laundry in Hillington alone despatches some 60,000 items from the warehouse each day. The Pan Decontamination and Theatre Sterile Supply Units also contribute towards reducing the carbon footprint and energy costs.

The sites have a combination of inverter driven and direct online motors (amongst other loads) which are used to clean, sterilise and process a variety of reusable hygiene equipment including surgical equipment, uniforms,

bedding and towels. iVolt engineers attended all 3 sites and conducted a survey at each one to ascertain the electrical load profile, existing electrical distribution, voltage levels and to itemise equipment including lighting, HVAC and plant items. The information collected during the surveys is used to populate the iVolt bespoke algorithm and thereby create a Client Savings Profile or CSP for each site. For example, the laundry operates on an industrial scale and washes, dries, presses and folds the items whilst moving them through the system on conveyors, feeders and stackers. All laundry equipment is driven by motors and 39% of these are fed via Inverter or Variable Speed Drive (VSD) with the remaining 61% being Direct On Line, Star Delta or Soft Start. The 61% of motors that were not provided with Inverter or VSD will benefit from voltage optimisation.

at a glance

NHS - SCOTLAND



5,704,586
TOTAL ENERGY
SAVED (kWh)



3x300A
3x400A
3x1000A
iVOLT SIZE



20/06/2015
INSTALL DATE



11.85
ROI ACHIEVED
(MONTHS)



2,441,580
CO₂ EMISSIONS
REDUCED (kg)



11.36
ENERGY
SAVED (%)



Combined, the iVolts save an average of 11.36% across the 3 locations; contributing not only to a reduction in CO₂ emissions but provides the Trust a sizeable annual saving in energy expenditure; allowing this to be utilised elsewhere.

The multi-award-winning iVolt is a dynamic voltage optimiser that has helped reduce the amount of electricity used at these sites from the moment it was turned on by lowering the incoming power supply from 246V (average across the sites) to 220V (+/-1.5%), the level at which electrical equipment operates most efficiently. This stable, optimum voltage will also extend the life of the equipment and lower the need for future maintenance and servicing.

With a vast range of products ranging from 63A to above 3,000A in both single and three phase, the iVolt protects equipment like motors, pumps, and lamps by regulating voltage and minimising power surges. Another unique factor of the iVolt is that the voltage settings can be adjusted in single volt increments to account for a site's volt drop, without the site to be shut down again. Also integrated within each iVolt is a patented IRT energy monitor that transmits data through a GPRS modem every 15 minutes allowing the client full visibility of their savings in a real time via secure cloud-based portal.

For more information on iVolt:

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The iVolt® was designed in the UK and production takes place at its facility near Heathrow Airport. The company is part of the global Sollatek group and is accredited to ISO9001:2008

iVolt® offer a vast range of product sizes, ranging from 63A to 3,000A and above in both single and three phase, with a number of installations having been completed throughout the commercial, retail, manufacturing, leisure and public sectors.

iVolt®
Intelligent Power Optimisation