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## CASE STUDY



### Ashworth Hospital

The hospital were looking for a reliable system to effectively reduce high energy costs and consumption caused by lighting, plant & IT equipment in the hospital.

The Powerstar system coupled with the technical expertise of the Powerstar team represented the best possible solution.



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#### Site Background

From half hour data supplied via the site Powerstar engineers were able to gauge that the sites maximum demand was 1234kW.

From the supplied information it was determined the sites annual electricity consumption to be 5,799,603kWh.

Based on an average of 11.1p/kWh, at a cost calculated at £644,293 per year.



#### Electricity Consumption Breakdown

The largest energy consumption areas on site include:

**Lighting.** Provided throughout the hospital and its grounds by a mixture of switch-start and high frequency fluorescent tubes/lamps.

Switch start fittings enable electricity consumption to be reduced after installation of the Powerstar system.

**Plant.** AHU; extraction; localised air conditioning; sewage pumps etc.

All fixed speed motors; therefore electricity consumption is reduced by the Powerstar system.

**IT.** The hospital benefits from a complete IT suite including all the usual peripherals e.g. PC's; printers; monitors etc.

This load is ideal for the savings provided by Powerstar.

**Other.** Generic workplace/healthcare loads. The majority of small power appliances have electricity consumption reduced by the Powerstar system.



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#### The Solution

The installation of three 800kVA Powerstar systems, one 750kVA Powerstar system and one 500kVA Powerstar system will provide savings between £53,065 and £84,124 (based on 11.1p/kWh) per year.

Additionally, energy consumption savings will be between 458,272kWh and 726,504kWh per annum which represents **a saving of between 10-15%**.

Based on these highlighted savings the payback period for this project for the site will be between 1.9 to 3.1 years

#### Quotation From Customer

***"Powerstar voltage optimisation has shown that significant savings can be achieved without compromising the operations of the hospital."***

Mark O'Grady, Managing Director, MITIE Engineering (North) Ltd.  
Facilities Management company for NHS.



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