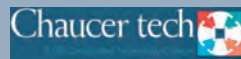


case study



Project/Customer	Chaucer Technology School
Industry/Application	Education
Year of install	2011
Annual kWhr consumption	525,000kWhr
iVolt Unit Size	3 x 600Amps (396kVA)
% Energy Saving	12.78%
Co ₂ emissions reduction	35.2 metric tonnes



A UK school chooses iVolt to reduce both their bills and their carbon footprint

A secondary school in Kent is saving thousands of pounds a year after investing in an iVolt unit as part of efforts to reduce its carbon footprint.

Chaucer Technology School's A level students pushed for the software, which has reduced the site's Co2 emissions by some 35.2 tonnes and shaved around £6,500 from its power bills.

Not only did the project earn the pupils a place in the finals of a national Science and Engineering competition at the NEC, but the forward-thinking school plans to use the money saved to invest in more efficient lighting and equipment which will, in turn, lead to further savings.

Based in Canterbury and with buildings dating back 50 years, the 1,000 pupil school is a designated Technology College and installed the voltage optimisation system following a study by a group of students working with Cummins Power Generation as part of the Engineering Education Scheme.

The teenagers were tasked with reducing the school's Co2 output by at least 10% and worked with energy conservation specialists Responsible Power to identify iVolt as a cost effective solution. From there, Cummins PG and consultants Bright Green Shoots helped the team put together a funding bid from Salix-Siemens – an independent non-profit organisation supported by the Department for Energy and Climate Change. The bid was successful and an interest free loan was approved, to pay for the installation, based on predicted savings of 10.28% and a payback period of five years. Funding was also awarded to replace three oil boilers with bio-mass boilers.

Following a site survey, which included full power quality logging and consultation, an iVolt IVO3x600-12-2 unit was installed in November 2011. The system is less than two cubic metres in size and fitted easily into the school's existing switch room.

The iVolt is designed to take the existing supply (measured at 245v during the survey) and reduce it to a steady 220v (+/-1.5%). It does this by measuring the incoming supply over 3,000 times per second and selecting the best of nine tap-settings on the independent auto-transformers. The iVolt also monitors the frequency and compensates automatically for

continued overleaf



“The savings we have seen are higher than we had originally hoped for and we’re delighted with the system and the impact it’s having.”

Ges Cocker, Director of Specialism
Chaucer Technology School

fluctuations, protecting electrical equipment from damage caused by brown-outs or spikes. The added benefit of running all the electrical equipment at its optimum voltage also produces indirect savings; maintenance costs are reduced, lamps last longer and motors need servicing and replacing less often.

Unlike other voltage optimisation systems on the market, the iVolt features unique Intelligent Real Time Energy Monitoring technology which enables accurate tracking of usage and savings in real time. A year after installation, the IRT data recorded shows that the school's actual energy saving is around 13% - more than the 10.28% initially predicted. Previously its yearly bills topped £51,000 while its annual consumption totalled around 525,000kWh.

Ges Cocker, Director of Specialism at Chaucer, said he was "delighted" with the results and explained that the school was using the money saved to make further improvements to its efficiency.

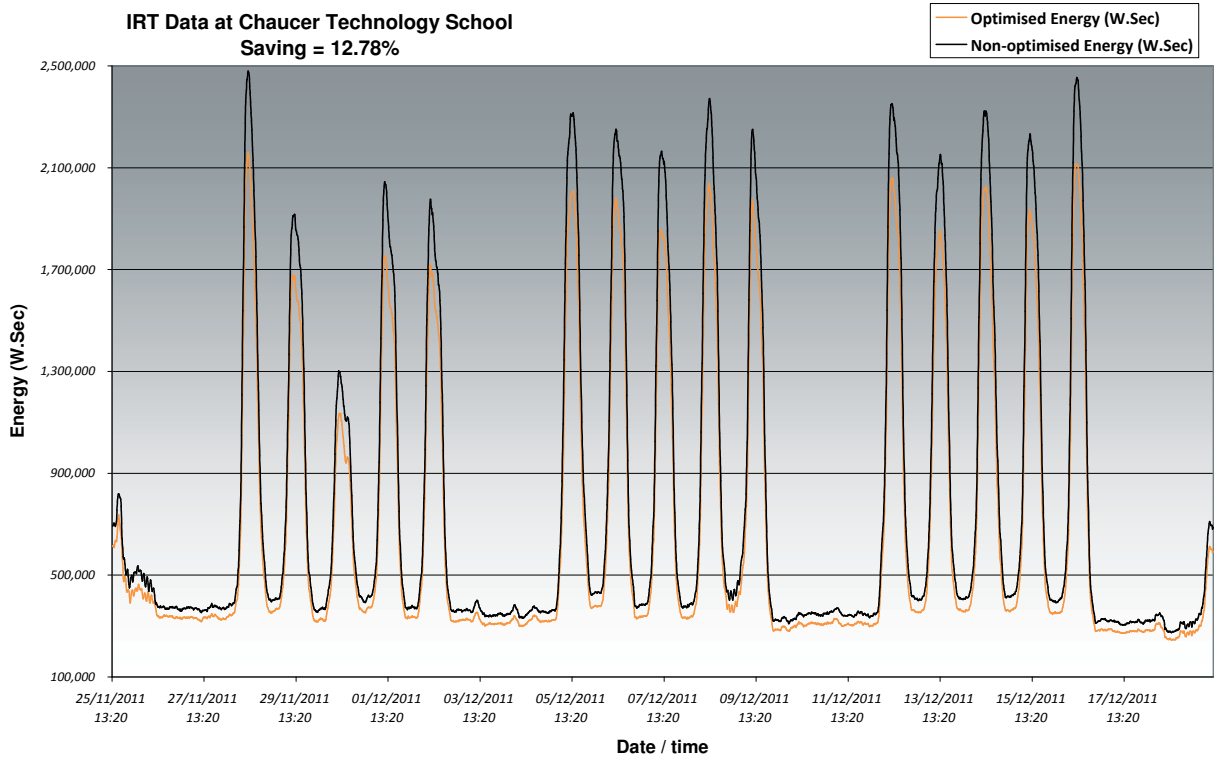


Internal view of the iVolt

"Reducing our carbon footprint is very important for the school and we had already reduced our energy use by around 10% as a result of smaller initiatives such as turning classroom PCs off at a set point in the day. Installing the iVolt system has quickly taken this work further and has led to a reduction in Co2 of 35.2 tonnes plus cost savings of around 13%.

"These figures are higher than we had originally hoped for and we're delighted with the system and the impact it's having. iVolt is a brilliant company to work with and the students have found it incredibly interesting and inspiring. We're now hoping to use the results we've seen to convince the Local Education Authority to help replace the lighting in the school with LED lighting to further reduce costs and impact.

Additional electrical work is taking place on some of the infrastructure and the ICT equipment is being upgraded so further long term savings should be possible too."



Cumulative 3 phase IRT data taken from Chaucer Technology School

Our international Clients