

case study



Project/Customer	Imagefarm
Industry/Application	Food manufacturing
Year of install	2011
Annual kWhr consumption	654,000kWhr
iVolt Unit Size	3 x 600Amps (396kVA)
% Energy Saving	15.4%
Co ₂ emissions reduction	52.8 metric tonnes



A major london food production factory chooses iVolt® to help tackle growing energy costs

Bosses of a food production facility have shaved 15% off their electricity bills after installing an iVolt voltage optimisation unit.

In a bid to tackle rising energy costs and increase the lifespan of thousands of pounds worth of machinery, Imagefarm turned to the technology to regulate and improve the site's power quality.

The factory, which runs 24/7 and uses two main 500kVA transformers, has an energy bill of over £60,000 per annum but after installing the variable voltage optimisation unit in May 2011, is already enjoying savings of around £9,000 a year.

Operations Manager Andy Bowers said choosing the iVolt had proved a "win win" for the business, which expects to recoup the cost of installing the unit within three years.

"Our power use is relatively low compared to some factories but making savings is very important to us nonetheless," he said. "When we were considering how to cut costs we looked at a variety of options, voltage optimisation being one of them, and we were attracted to the iVolt in particular because it's the only system that allows us to monitor accurate savings in real time and also because of the long term benefits it will have on our equipment."

As Imagefarm operates round the clock with varied loads from motor equipment, lighting and refrigeration, variable (or stabilised) voltage optimisation was necessary to achieve the best return on investment and to improve the power quality to the factory.

An iVolt is likely to achieve 30% more saving over a fixed reduction unit, thereby reducing the return on investment significantly too.

Before installation at Imagefarm, a full three phase power quality survey was carried out over the course of a week, which showed significant variations in the incoming mains of between 236V and 250V, as well as significant voltage levels between the three phases. Surges and spikes were also identified as a problem.

Following installation, the iVolt unit substantially improved the power quality of the factory, balancing all three

continued overleaf



Part of the food production process at Imagefarm

"The iVolt looks like a win win for us as early indications show our savings to be in excess of 15% which means it will have paid for itself in three years."

Andy Bowers
Operations Manager
Imagefarm



Outdoor IP cabinet for the iVolt installation

phases independently and bringing them to 220V (+/- 1.5%) with a maximum variation of 3% between one phase and another, as opposed to up to 16% beforehand.

Class I & II surge, spike and lightning protection was also fitted to protect against lightning surges (>100kA class I 10/350ms) and nearby generated surges spikes (60kA Class II 8/20ms) while a manual by-pass was installed to allow easy future integration with a diesel generator as they require more power capacity than EDF – their utility provider - could supply.

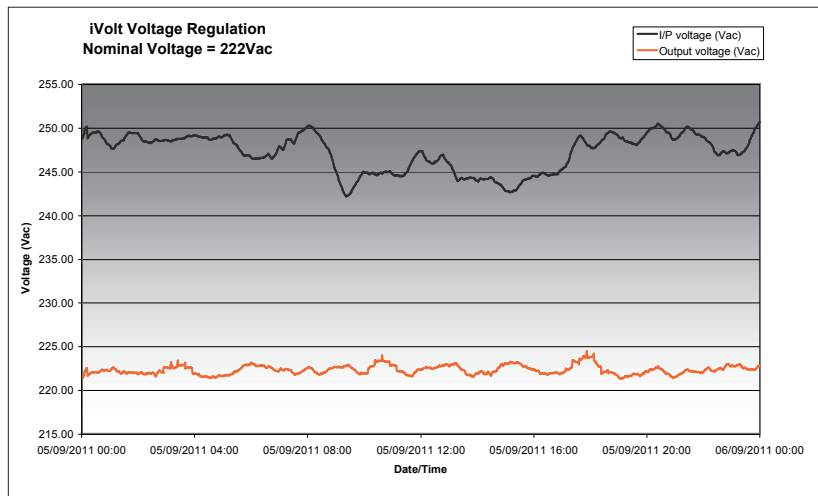
“Regulating the power supply to our machines and eradicating any peaks and troughs should mean reduced service costs and longer life-spans which saves us money on top of what we’re shaving off our electricity bills,” added Andy, who said the benefits to the environment had been an additional consideration.

“We work in a competitive world so being as efficient as we can is crucial but the bigger picture is important too. We want to reduce our carbon footprint and be as green as we can be – and I think in the future customers will start to demand that of us more and more. However there is a cost involved in installing new technology though and we have to consider that.

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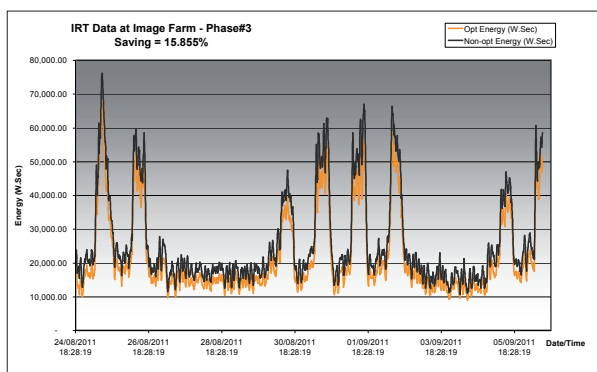
Internal view of the iVolt



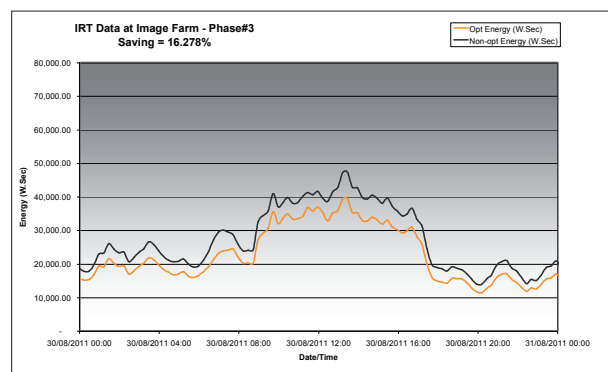
Voltage reading at Imagefarm before and after optimisation



Commissioning the iVolt



IRT data at Imagefarm - phase #3 for a duration of two weeks, showing a total energy saving of 15.855%



IRT data at Imagefarm - phase #3 for a duration of one day, showing a total energy saving of 16.278%

Our international Clients

Case Study - iVolt
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