

GlaxoSmithKline gets smarter with wireless

GlaxoSmithKline's Cork plant in Ireland is reporting success with monitoring water usage, using Emerson's smart wireless.

Emmett Martin, site services and automation manager at GlaxoSmithKline, says that Rosemount wireless flow and pressure transmitters, installed on two new storage tanks, have enabled a better understanding of water usage throughout the plant.

The installation was about trialling the technology and creating a network for adding new process instrumentation at lower cost in the future.

"GlaxoSmithKline is continuously looking to improve plant performance by increasing the number of parameters measured," states Martin. "Water is a considerable overhead to the plant, so it is important that we monitor flow rates to manage consumption and to help identify any usage trends."

He explains that the Cork site manufactures a range of bulk active



ingredients for prescription drugs. The existing water storage facility was too small and had no instrumentation.

However, when the new storage tanks were installed 300 metres from the control room, there was no cabling, and a wired installation would have required new power and data cables in trenches. By adopting a wireless solution, these costs were avoided, he says.

Ten smart wireless devices were installed, comprising six pressure, two flow and two level transmitters. Flow data is now received every 30 seconds, and pressure and level every 300 seconds at a smart wireless gateway, positioned on the control room roof and connected, via a serial link, to the plant's existing DeltaV automation system.

"We regard the installation of wireless very much as a two-stage process," comments Martin. "The first step is to establish a wireless network and let it prove itself over a period of time. The next step is to expand the network and use wireless whenever it is more cost effective than a wired alternative."

"We are more than satisfied with the solution, which is proving to be reliable, with no signal loss," he continues.

"Based on a successful implementation, at some point in the future we are, perhaps, looking towards a plant with no wires."

Webster & Horsfall cuts energy costs by 33%

Wire and strip manufacturer Webster & Horsfall is reporting one third energy cost savings since converting from an inefficient steam boiler to thermal fluid heating. The firm installed a Babcock Wanson TPC600B heating system, following a survey by The Carbon Trust and its offer of an interest free loan.

The unit installed is an automatic coil type, multi-pass thermal fluid heater, with integrated burner, control system and safety devices, and is being used in the company's process area for heating tanks for metal treatment.

On advice, Webster & Horsfall went for a mid-range thermal oil, because it meant a reasonable initial capital cost, along with long fluid life. Also, the existing tank heating system could be modified.

"The new heater is one third more efficient than our previous steam-based boiler, which allows us to operate more efficiently, reduce our energy bills and have a considerable impact on reducing our carbon footprint," states Robert Horsfall, finance director.

"What we hadn't expected is the level of control. It's amazing. It alerts us to any potential issues, is easy to maintain and is quick to respond."



Spirax Sarco helps Heinz save 473 tonnes of carbon per year

Heinz says it is saving 6% of the average steam load, and 473 tonnes of CO₂, per year at its baked bean factory in Wigan, having completed a relatively modest project to recover energy from its effluent.

Barry Aspey, Heinz environmental compliance manager, explains that the cooking process involves blanching haricot beans in hot water, which requires regular purging.

Purged hot water was disposed of to drain, but Heinz's new system, designed and built by Spirax Sarco, now uses the discharge to pre-heat the blanching make-up water – saving around 1,500kW of power.

"The system has now been in place for 18 months and we are still seeing excellent results from the heat recovery," states Aspey.

Filtered effluent is passed to one of two heat exchangers, which pre-heat the water, cooling the effluent in the process. Make-up then passes through another heat exchanger, which uses steam to raise its temperature before entering the blanching vessel.



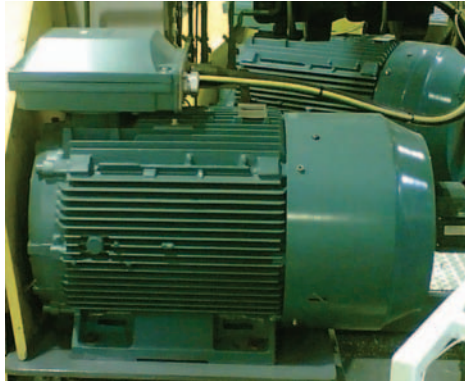
Alma Products saves £80,000 pa from drives

Runcorn, Cheshire-based plastics manufacturer Alma Products reckons it is saving £80,000 worth of electricity per annum since installing ABB ac motors and low voltage ac drives.

Alma engineering manager David Green says that ABB motor service partner Quantum Controls examined its extruders' energy usage before recommending the plant upgrade, with financial assistance provided by The Carbon Trust.

The extruders were running on a dc drive system, he explains, which took load, whether required or not, since dc motors draw current even while producing zero torque. He also states that maintenance costs for the dc motors were becoming an issue.

Green says Quantum offered a hire trial to prove projected savings, with one of the dc systems being monitored for two weeks (using a three-phase energy data logger), before fitting a



temporary ABB 132kW ac drive and 132kW motor for a further two weeks.

That demonstrated a greater than 25% energy saving, backing up the estimated total of over £80,000, if all four main extrusion lines were converted to ac drive technology.

Following the tests, Quantum was awarded the contract to fit the motors and variable speed drives, with the

project funded by a £100,000 loan from The Carbon Trust.

"Quantum was extremely helpful. They wrote the application for The Carbon Trust loan to suit our requirements [and] we were very pleased with their performance," comments Green, adding that he expects a two-year payback.

Now, he explains, the drives are fed from 4–20mA signals from pressure transducers before and after the extruder pump, to enable speed control and correct back pressure for material feed control.

"There is another potential benefit of the drives installation, in that it gives us more information on what is happening with the process," comments Green.

"In time, this will help us to calculate throughput, and give us a better idea of the load the machine is handling and how efficiently we are making use of its production capacity," he explains.

STW improves pump plant

Severn Trent Water's sewage treatment works in Newthorpe, Nottinghamshire, reports improved pumping efficiency since installing a Chroma progressing cavity pump.

The equipment, from framework supplier Nov Mono, is pumping digested sludge to the site's centrifuges for thickening – a service that had been problematic, with the previous pump experiencing gearbox failures, resulting in significant plant downtime.

Regional maintenance advisor at Newthorpe STW, Andy Berry, says that de-ragging the pump was also a problem, due to its small access port.

NOV Mono delivered the Chroma PC pump on a quick lead time basis, also specifying the equipment as a direct interchange with the existing pump to avoid pipework modifications.

"As well as benefiting from improved control over the process, with a variable speed drive, de-ragging is much easier, and we can take advantage of excellent spares lead times and pricing, due to Nov Mono being a UK based manufacturer," comments Berry.



"We have a superb working relationship with the NOV Mono team and a strong framework agreement. We couldn't be happier with the solution they have provided for us," he adds.

Just Trays spreads plant cost

Shower tray firm Just Trays says that lease purchasing its upgraded compressed air plant from Boge has made new essential equipment affordable.

The Leeds-based manufacturer has invested more than £1 million on improved equipment over the last two years, according to senior production manager Rick Dumbleton.

He explains that compressed air is used in production to spray gel coats onto the tray bases, but that the previous system had become inefficient and could no longer match capacity requirements. Boge recommended replacing the ageing air system with a Boge CLD10RM350, which includes a CL series screw compressor and a refrigerant dryer, mounted on a horizontal compressed air receiver. Integrating all components virtually eliminates external pipework, so reducing internal flow losses and making the CL highly efficient.

"The Boge compressor and service proposal was competitive," states Dumbleton. "Additionally, we knew we would be dealing direct with the manufacturer, which is on our doorstep, to meet our backup and service requirements."

And he adds: "Having the option to finance the equipment through lease was also a key factor in our decision... With a number of projects on the go, we had a limited budget to upgrade the compressed air system – lease made investing in the new compressor affordable."

