

ISO 50001 award for effective energy management

Endress+Hauser UK's energy consumption remains at the same level



Endress+Hauser opened its first UK sales centre in 1968. Its current UK headquarters in Manchester was expanded in 2007, when a brand new building to accommodate around 200 staff was built in the grounds of the existing sales centre.

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Wes Allen,
Energy Solutions Manager
Endress+Hauser

The old building has since been repurposed into a state-of-the-art training centre. But despite the expansion and the integration of its compressed air flow rigs from another site, Endress+Hauser UK's energy consumption has remained at the same level as in 2007 and the organisation has been awarded ISO 50001 accreditation for energy management. This was achieved by implementing a solution that Endress+Hauser provides for customers in the process industries.

The challenge Concerns were raised that energy usage could rise considerably with the expansion of the site. As well as air-conditioned offices and meeting rooms, a small production centre, new demonstration rigs, calibration facilities and a restaurant all added to the total energy consumption. As a result, a site-wide energy management system was created, encompassing Endress+Hauser instruments, technology and software. "We wanted to be able to monitor our energy usage to see where savings could be made but also to demonstrate the service

we can provide to our customers," explains Wes Allen, Endress+Hauser's Energy Solutions Manager. "We were confident that we would be able to manage our energy consumption better, with both financial and environmental benefits."

The solution Energy and utility sub-metering was installed around the site, including in the main sales centre, the newly developed training centre and the despatch warehouse. Devices including electricity meters, gas meters, water meters and ambient temperature sensors were installed. Meters were either wired or wirelessly connected to Endress+Hauser's data acquisition systems that collect measurements at five-minute intervals and transfer the data to cloud-based software, known as eSight. As Wes Allen explains, "eSight software enables effective targets to be set and provides decision-making support if energy usage exceeds a baseline. That means you don't find out by accident when you look at your next invoice that you're using more energy than expected - you'll be immediately alerted to any changes."

By monitoring compressed air consumption, air quality, electricity and pressure, a plan was developed to reduce energy consumption. A number of potential savings were identified relating to the use of compressed air in the production centre, which accounted for 25% of the site's total energy use. By repairing a compressor drain valve, implementing dew point control and making pressure reductions, the amount of energy consumed by the compressor was reduced by 44%.

In addition to the compressed air energy efficiency improvements, a number of energy-saving measures were identified and implemented both in the new sales centre and in the redeveloped training centre. These included updated lighting, employing virtual servers instead of physical hardware, adjusting heating controls and investing in new machinery for temperature sensor production. Staff were also encouraged to save energy in offices, calibration labs and production facilities by switching off machinery when it wasn't in use.

The benefits Despite the introduction of new equipment, the development of the training centre and overall increased occupancy, the installation of a site-wide energy monitoring solution has helped Endress+Hauser to keep its energy consumption down and achieve ISO 50001 certification. As Wes Allen

says, "ISO 50001 is an important standard for any company wishing to demonstrate they take energy management seriously. Using eSight software is a simple and inexpensive route to ISO 50001 as it provides the automatic and continuous monitoring of performance to baseline targets."

Saving energy can realise huge financial benefits for energy-intensive industries such as food & beverage, life sciences, chemical and wastewater. "It's quite unusual for a commercial building with a small production facility like ours to have such a comprehensive energy management system," admits Wes Allen. "But the principle is the same no matter what the scale. Our customers in the process industries have the most to gain from addressing their energy use."

Saving energy is now a compulsory requirement for many businesses in the UK. Since 2015, the Energy Savings Opportunity Scheme (ESOS) requires all large businesses to undertake mandatory assessments on energy use every four years. Endress+Hauser consultants delivered ESOS assessments for customers during the first compliance period and since then has been working with them to develop ISO 50001 energy management systems and assess their energy usage regularly."



Meters and sensors monitor energy use

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Devices are wired or wirelessly connected to data acquisition systems

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eSight software continually checks energy use

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A route to ISO 50001 compliance

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