



Power Management Solution

Schneider Electric Partner: E+I Engineering
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Simon Killen, Energy Management Division Manager

Commercial Building Case Study
United Kingdom

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Schneider Electric and E+I Engineering to Make Rugby World Cup Most Sustainable Yet

Introduction

Twickenham Stadium is gearing up to host the 2015 Rugby World Cup in Autumn 2015. Recent additions to the ground in line with the impending event include: the installation of two new big screens at either end of the pitch, new LED low energy floodlights and improved Wi-Fi connectivity across the stadium. All of these elements significantly increase the amount of energy that the stadium will use during the tournament.

The next piece of the puzzle that the stadium had to slot into place before the crowds arrive in September was to commission a stadium-wide energy management system. This was to help cope with the energy distribution during those peaks when as many as 80,000 fans will be arriving at the ground for every match. Crowds of this size are going to have a significant impact on energy usage at the ground and the RFU was looking for a way to monitor and manage this strain, whilst ensuring the building was running in the most energy efficient way.

Schneider Electric, the global specialist in energy management, worked with its Critical Power EcoXpert partner, E+I Engineering, to provide a method of data collection for energy management at Twickenham Stadium. This system enables the monitoring of power quality, voltage, current and power factor, whilst enabling the proprietors to reach and maintain optimum energy efficiency. Data analysis will also highlight any irregularities in energy usage where rectification may be required quickly.

With its capabilities soon to be tested like never before, the RFU has found the work of E+I and Schneider Electric a welcome enhancement. The team's ability to access a wide range of easily accessed energy reports from StruxureWare Power Monitoring Expert tool is a key improvement. The installation of 250 metering points around the stadium has helped provide actionable energy consumption data to improve efficiency and cut costs. The customer is particularly happy with the reporting capabilities and reports that have been developed.

These allow the management team to split out and highlight how much energy certain areas of the building are using for comparison purposes. These can be accessed from any device using a web access portal, allowing site managers can have all of the information they need at the click of a button.

"Working on this project with Schneider Electric was ideal for our end users as the partnership provided a successful upgrade in line with the customer requirements. The success of the project is a result of Schneider Electric's EcoXpert programme and the training resulting from that. Both partners have worked successfully with the user previously, demonstrating that this project reinforces a very positive relationship between both Schneider Electric and E+I, and with the RFU and Twickenham Stadium," said Simon Killen Energy Management Division Manager, E+I Engineering.



Goal

To implement a stadium-wide energy management system. This was to help cope with the energy distribution during peak times. The RFU was looking for a way to monitor and manage this strain, whilst ensuring the building was running in the most energy efficient way.

Solution

Schneider Electric worked with its Critical Power EcoXpert partner, E+I Engineering, to provide a method of data collection for energy management at Twickenham Stadium. This system enables the monitoring of power quality, voltage, current and power factor, whilst enabling the proprietors to reach and maintain optimum energy efficiency.

Quote

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Integration

The choice of StruxureWare Power Monitoring Expert was a consequence of Schneider Electric's reputation as industry leaders in energy management, as well as the benefits of easy integration due to the brand matching with legacy Ethernet Gateways and Power Meters currently in place. It will not only allow the stadium to reduce its energy costs, but also increase the power reliability, availability, and improve power quality.

The system (including the EMS and switchgear) was extensively tested before leaving the factory, ensuring that very few issues needed addressing once the system was installed. This also reduced the amount of time the installation team spent on site to just three weeks, causing minimal disruption to the RFU.

Energy Management

Importantly, the new energy management system will help the stadium comply with a number of impending energy regulations. The ISO50001 is a specification for an energy management system, which enables an organisation or building to follow a systematic approach to achieving continual improvement of its energy performance, including efficiency, usage and consumption. It's also vital that the stadium complies with the ESOS energy assessment scheme due to its size and number of employees.

These ESOS assessments need to be carried out every four years, with the first required before December 5th, 2015. These assessments are audits of the energy used by their buildings, industrial processes and transport to identify cost-effective energy saving measures.

Installation

The installation of the energy management system is helping Twickenham to meet some of the key goals on its sustainability programme. It already had an automated sub metering system in place to help eliminate energy wastage across the stadium, and this was the next step in implementing a full building sustainability strategy.

Conclusion

"We're happy to hear that StruxureWare Power Monitoring Expert has allowed the RFU to better manage and understand its energy demands and act accordingly by providing easily understandable data. The customers themselves have praised the new system for its user friendly interface and the ease of integration with pre-installed Schneider Electric tools, such as our Power Meters and Ethernet Gateways," said Alan Rees, Channel Manager System Integrators, Schneider Electric.

The stadium has also made the information about its energy savings available to visitors. A dashboard has been installed in the main entrance, allowing visitors to see how much energy is being both used and saved. This is part of Twickenham stadium's wider sustainability programme, aimed at not only increasing energy efficiency, but also encouraging visitors and fans to take an interest in how the stadium has managed a task of this magnitude.



PME
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