University of Glasgow

The University of Glasgow estate covers approximately 200 properties, ranging from modern to historic buildings. The range of architecture and use of the properties presents a number of challenges due to their diversity. Furthermore, the campus is always very busy, given its thousands of students and multiple city centre locations.

The University of Glasgow launched a £16 million scheme to develop a combined heat and power (CHP) system and requested Laplace Solutions take on this project. The out of date system they were using was over 50 years old, and urgently needed upgrading.

Our Solution

A team of our expert engineers designed and wrote the software for all of the new and upgraded control panels across the plant rooms and energy centre. They then went ahead and built 45 new control panels, each with its own individual TREND controller pre-programmed for smooth installation process. All of the work was undertaken from our in-house team of dedicated and expert engineers. We meticulously planned this project and were involved in every aspect of it, meaning that we were able to have complete control, and work to a tight deadline. Additionally, we produced a monthly report on the system performance for a year after completion.

Aim & Objectives

The aim of this project was to upgrade and enhance the system controls to enable a high standard of energy efficiency. This would ultimately reduce the carbon footprint of the University and adhere to their public image of being a "green" establishment.

- Upgrade the University's steam plant into a modern CHP system.
- Upgrade the 55-satellite plant rooms and install new control panels.
- Upgrade the main control panel in the energy centre.

"Carbon emissions cut by 5000 tonnes annually!"

Benefits

- An efficient energy control system.
- Reduced carbon footprint.
- Reduced energy consumption.
- Reduced costs.
- Increased and sustainable efficiency.

On 15th April 2016, The University of Glasgow released a statement outlining the completion of the multi-million pound project. The system has reportedly cut the Universities carbon emission by 5000 tonnes annually. In addition to the clear environmental and financial benefits, the CHP unit is also providing an excellent teaching resource. A teaching and research area has been constructed beside the plant room, enabling students to view the CHP engine and other features in operation, including access to real-time data from the system.

Laplace Initiative

- Laplace has the capability to contribute significantly to the wider site team's strategy development. Publicising this fact to a greater extent would have allowed Glasgow University to extract even greater value out of their assets using our wider SMART techniques.
- Combined Heat & Power can have a significant contribution in the medium term to developing a low carbon economy. How to optimize the parameters to minimize risk and maximize opportunities is key to a successful installation. Laplace has gained these experiences through similar jobs and can bring its unique industrial problem-solving capability to the client's team to jointly achieve the longer-term aspirations.

University of Glasgow

VIA VERITAS VITA