



## University of Bristol

### INTRODUCTION

The University of Bristol is one of the UK's most popular and successful universities, and was ranked within the top 50 universities in the world in the QS World University Rankings 2018.

The university is at the cutting edge of global research, with innovations made in areas ranging from cot death prevention to nanotechnology. It is this passion for research and innovation that means sustainability is a huge part of everything they do, including in their research, buildings, and student experience.

### THE CHALLENGE

Due to its sustainability focused ethos, The University of Bristol was looking for ways to reduce its energy consumption, in turn minimising its CO<sub>2</sub> emissions and electricity costs.

The university explored potential savings that could be achieved by voltage optimisation technology, and made contact with Powerstar as the market leader.

Due to the large range of equipment and activities on site, and the long operational hours, Powerstar agreed that the university was a valid candidate to benefit from voltage optimisation.

### THE SOLUTION

After a thorough site evaluation and inspection of the university's voltage profile, Powerstar found that several areas across the university were experiencing high, but fairly stable, voltage.

To resolve the site's overvoltage, Powerstar recommended the installation of 22 Powerstar LITE systems, a fixed low voltage optimisation solution that reduces the incoming voltage by a set, pre-defined amount. The Powerstar LITE systems ranged from 750kVA to 1250kVA depending on the specific requirements of each supply area.

Powerstar provided the energy saving technology as a fully bespoke, concept to completion, turnkey solution defined entirely by the requirements of the university. Additionally, due to the sensitive research processes which were undertaken at the university, it was critical that it was delivered with minimal disruption which Powerstar was able to achieve due to its experience with sensitive operational processes.

**LITE MAX HV MAX**

### SAVINGS AND BENEFITS

The Powerstar LITE systems reduced in the incoming voltage supplies varying amounts ranging from 7.5V to as much as 17.5V, producing an average consumption saving of 5.2%.

A couple of years after the initial installation and following further evaluation of the site's saving potential, Powerstar discovered that 8 of the units would benefit from a retro-fit upgrade to a Powerstar MAX solution, an electronic-dynamic voltage optimisation solution, to help deal with fluctuations in the incoming supply.

The retro-fit Powerstar MAX solutions helped The University of Bristol achieve an additional average consumption saving of 4.8% on the affected supplies.

### KEY FIGURES

➤ **Powerstar LITE solutions average consumption saving: 5.2%**

➤ **Powerstar MAX (retrofit) solution average consumption saving: 4.8%**

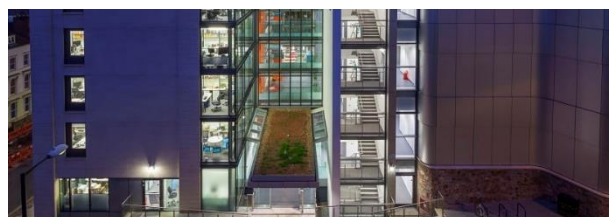
### CUSTOMER COMMENT

"Voltage Optimisation is a fit and forget technology that has been saving us energy since the day it was installed."

- Chris Jones, Sustainability Manager, University of Bristol



The University of Bristol is at the forefront of global research



Both electricity costs and CO<sub>2</sub> emissions have been reduced