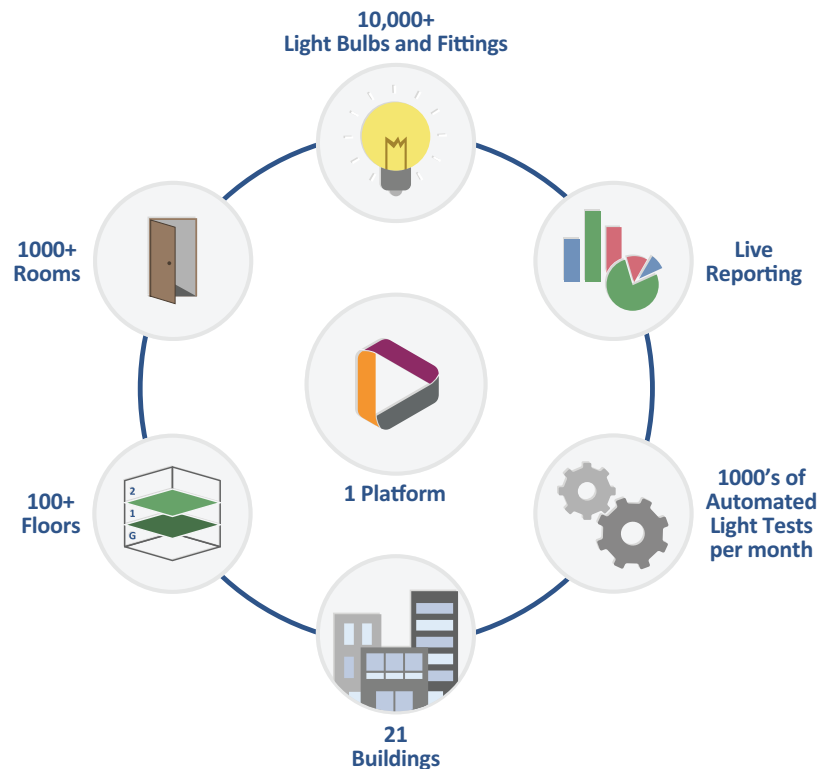# The University of Bath partners with Mvine to maximise value from its intelligent lighting control systems by saving money and building on its green credentials

10,000+
Light Bulbs and Fittings

1000+
Rooms

Live
Reporting

100+
Floors

1 Platform

1000's of
Automated
Light Tests
per month

21
Buildings

Challenge

- The need to manage energy consumption within defined time frames to benefit from low tariffs whilst reducing campus carbon footprint and associated electricity bills

- How to manage and present vast quantities of complex live data

- How to make, manually intensive, regulatory Emergency light tests more efficient

- No off -the-shelf solution

- Buildings spread across a 120-acre campus

The Mvine Solution

The Mvine platform offered The University's Energy management team the ability to manage, remotely, the energy consumption, by room, by floor, by building, within defined quotas, allowing it to benefit from lower electricity costs and reduce its overall carbon footprint - As well as automating emergency light tests and alerting maintenance crews when and where a light fitting failed.

• Together • Securely • Anywhere •

The Portal for Making Complex Data Accessible

The Mvine platform enabled The University of Bath to maximise value from its state-of-the-art lighting control system. Real-time analytics and accessible reports empowered the University to easily interpret and act in real time on vast quantities of complex data.

By automating resource-intensive processes, the portal not only improves efficiency – saving time and reducing cost – it ensures the University is compliant with emergency lighting regulations and on track for meeting its carbon emissions targets.

Reducing energy consumption

In 2012 the University began a £110 million, four-year programme to refurbish and enhance teaching, social and residential spaces throughout the 120-acre campus. In addition, two years earlier the University had been set challenging carbon reduction targets as part of the Government's CRC (Carbon Reduction Commitment) Energy Efficiency Scheme.

As part of the refurbishment programme and to help reduce carbon emissions, Bath implemented a DALI (Digital Addressable Lighting Interface) lighting control system throughout the campus. The system is expected to reduce energy consumption by at least 20 per cent.

Richard Hughes, Electrical Services Manager for the University of Bath explains:

"We fitted our 21 buildings on the campus with a DALI lighting control system, which allows us to alter the lighting for each separate room within each building from a central PC."

Where it all started

The University were searching for a product that could present the detailed and complex lighting control system data in an accessible format.

The lighting control system had all of the data needed, but it's very technical, and Bath needed to extract this complex information into a user-friendly place.

As Mvine Client Portals could be customised to provide the detailed analytics needed in an accessible format, it was clearly the right tool for the job.

Integration with the DALI system

The engagement began with a proof of concept to demonstrate that the raw data produced by the DALI lighting control system could be consumed by the Mvine portal and that Mvine could deliver the right level of data and reports needed.

The Mvine Business Intelligence (BI) Rendering Engine takes a live raw data feed from the Ethernet switch – which in turn receives data from the Ethernet routers connected to the DALI system – then displays the University's lighting energy usage and carbon footprint in the dashboard.

Mvine Solution

Mvine platform offered The University's Energy management team the ability to manage, remotely, the energy consumption, by room, by floor, by building, within defined quotas, allowing it to benefit from lower electricity costs and reduce its overall carbon footprint - As well as automating emergency light tests and alerting maintenance crews when and where a light fitting failed.

Features

- Provides data by building/ floor/room
- Exact fault identification
- Lighting level reductions possible automatically
- Feature Rich real time dashboard

Benefits

- Significant time and cost savings
- Consumes raw data
- Accessible real-time analytics
- Automated compliance and carbon reporting

"The Mvine Platform was customised to provide the detailed real-time analytics needed in an accessible format so it was clearly the right tool for the job. It enabled Bath to keep their costs down and save considerable time too."

Particularly impressive was the portal's ability to drill down to a building, floor or room level on each lighting system. Bath had never been able to report in such a sophisticated way before.

The intelligent lighting control system today

Mvine automatically reports faults in the main lighting system using data from the live feed, replacing time-consuming and error prone manual checks on data from hundreds of light systems. Traffic lights on the dashboard alert the facilities management to any faults on the system; they no longer have to rely on a technician to extract and decipher the complex data.

The portal tells you exactly where the fault is and you can click through to get more information including a photo of the faulty light and the location of a replacement part.

This new proactive approach ensures faults are resolved more efficiently, saving a significant amount of time and cost. All of these ancillary processes and operational costs add up. With Mvine's real-time analytics, Bath were able to keep their costs down and save considerable time too.

Also to comply with emergency lighting regulation the University runs a functional emergency lighting test every month to identify and resolve any faults and a full emergency light discharge once a year. Emergency lighting tests were very resource intensive and it was difficult to meet legislation with manual tests.

The Mvine platform automates testing, ensuring compliance with emergency lighting legislation while reducing costs by eliminating the inefficient manual testing process.

The portal clearly shows you whether each test has passed or failed, detailing how long the test was carried out for and how long the batteries lasted in an easily accessible report.

Phase Two: Carbon reporting and integration

When the Mvine platform is rolled out across the whole campus, Bath University focus will turn to phase two of the project: carbon reporting and integration with the energy management team. The University is on a variable energy tariff. At certain points in the day they get a red warning which tells them they need to reduce their energy consumption.

There is a plan to evolve the Mvine portal so that once the red energy comes in the energy monitoring team can issue a command that will reduce the lighting level throughout the campus and therefore save money.

And with the CRC Energy Efficiency Scheme requirements a major concern, Mvine will give the University a level of granularity that will enable it to report on its energy consumption and carbon emissions efficiently.

"Large organisations need to be able to prove that they have reduced their carbon footprint. Some of these reports may be calculated using historical records but when you have real-time data showing we have cut carbon by 20 per cent this is incredibly powerful and I think all universities should implement a system like the one Mvine enabled for us ."

280 350 420
210   490
140   560
70   **625.4 Watts**   630
0   700
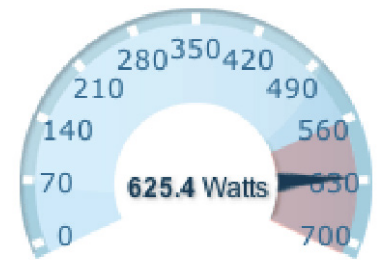
0.8 kWh so far today | **3.3** kWh daily average

Carbon Footprint

0.46 kg CO2

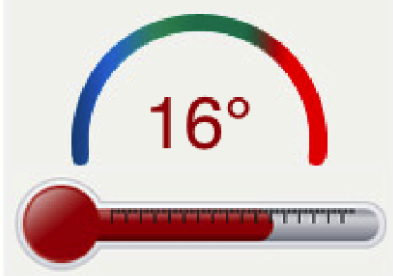**14.3** kg CO2 this month | **1.2** kg CO2 month average

No of Trees to offset

0 trees

0.7 trees this month | **0.1** trees month average

Current Temperature

16°

Products · Services

About Mvine

Mvine Ltd is an established British SME headquartered in London. The business is privately owned, stable, auto-financing and growing in its chosen markets. Its primary line of business is authoring and selling Cyber-Secure Platforms for Collaboration Portals and for Identity Management as well as delivering cloud support services.

Information confidentiality, integrity, availability and security is at the heart of everything we do. Our business complies to numerous standards; among the better known ones is Cyber Essentials. The Mvine platform itself has won plaudits for its superior cyber-security architecture, achieving a prestigious A rating in Qualys penetration testing.

www.mvine.com

About The University of Bath

Established by Royal Charter in 1966, The University of Bath is firmly established as one of the UK's top universities with a solid reputation for research and teaching. Sat on the edge of the city of Bath, the University's 120-acre campus hosts over 10,000 undergraduate and nearly 5,000 postgraduate students and is about a mile from Bath city centre.

www.bath.ac.uk

To find out how Mvine can help transform your organisation, please call +44 (0) 208 392 4820 or email sales@mvine.com