Case study BROADGATE ESTATES

Reduction in operational hours per annum

1,840 hours

Energy savings identified kWh

1,935,876 kWh

Return on capital investment

17 months

Overview

Broadgate Estates have a drive to not only reduce the overall energy consumption of their clients building stock but to provide fair and transparent recharging of the utility costs to the occupiers. The purpose of the project was to deliver a technology independent energy management platform that included the following functionality ;

Intelligent apportionment of utility costs

Recharging occupiers based on actual usage for both direct consumption and shared central services across all utilities and using multiple tariffs.

Visibility of energy usage

Cloud based visualisations tailored to specific stakeholders including Broadgate Estates sustainability team and individual occupiers.

Integration to building management systems (BMS)

Seamless data exchange with the installed BMS to ensure that energy usage outside of the defined operational hours was captured and recharged accordingly based on actual occupancy.

Identification of energy reduction opportunities

Combine data from both the energy management system (EMS) and BMS to identify energy reduction opportunities and prove the outcome of the remedy.

Bill validation

Provide occupier billing packs to show consumption, cost and carbon impact with comparison to previous periods and validate the total consumption against the fiscal bill.

Energy threshold alarms

An automated alarm escalation process alerts when the current consumption exceeds the expected profile and allows a cloud based dialogue between all stakeholders complete with audit trail of event, action(s) and financial impact Phil Draper - Senior Technical and Sustainability Manager for Broadgate Estates stated:

The primary directive of the project was that it was to be built around the end outcome, rather than existing technology or solutions already available.

Next Controls assigned a team that consisted of the right disciplines and skill sets to implement any suggestion from the team and address any issues that arose during the development of the solution.

Through conception, development and implementation, Next Controls worked hard to deliver with the final objective always in mind.

The platform has already identified substantial energy reduction opportunities as well as providing clear visibility of the energy use throughout the estate.'







Broadgate Estates have experience in using the disparate technologies within a building to reduce consumption and deliver occupier bills but current solutions were not integrated or automated sufficiently in their opinion or there was a commercial bind between the software platform and a specific brand of hardware.

Broadgate Estates initiated a market test to identify potential partners based on their ability to deliver a technology independent software platform coupled with the capability to integrate the disparate data streams from the technologies that were installed within the estate and selected Next Controls and the AXON platform.

Carlo Gavazzi were selected to deliver the hardware components as the energy data accuracy, purity and resilience that their products provide is essential to the intelligent apportionment of occupiers in multi tenanted buildings or estates. The AXON platform has been installed within the London Bridge City estate including Hays Galleria, Cottons Centre, No 1 London Bridge City and is currently being installed in 2 & 6 More London.

Aside from providing visibility of the energy usage throughout the estate to both Broadgate Estates and the occupiers, the platform is used to review the performance of the HVAC plant and ensure that it is consistently operating on an optimal basis.

The majority of issues found, reported and now policed related to the operational characteristics of the HVAC plant where 'best practice' and 'housekeeping' measures should be introduced, for example;

- Manual overriding of plant
- Time schedule rationalising

- Holiday scheduling
- Control strategy improvements

Once these issues have been corrected, energy threshold alarms have been fine tuned to ensure that the energy savings do not leak away over time due to ad hoc changes and interventions.

A platform User Group with members from Broadgate Estates, Next Controls and occupiers / users of the platform has been established and a Development & Enhancement Plan sets the roadmap for future functionality which includes dynamic energy tariffs and real time plant coefficient of performance (COP) reporting.







Hays Galleria

The AXON platform has identified and delivered the following operational and energy efficiencies ;

| | Total Quantity Of Meters - 91 |
|-------------------|---|
| Ġ | Eliminated Manual Meter Readings - 200 Hours Per Annum - £10k |
| ₽ | Eliminated Manual Bill Production - 120 Hours Per Annum - £4k |
| 0 | Improved Revenue Collection - 57 Days Reduced To 30 Days |
| $\langle \rangle$ | Identified Annual Energy Savings - 1,298,155 kWh |
| | Annual Energy Savings - £130K |
| r I | Cost Of Implementation - £103k |
| | Return On Investment - 9 Months |







Cottons Centre

The AXON platform has identified and delivered the following operational and energy efficiencies ;









No1 London Bridge City

The AXON platform has identified and delivered the following operational and energy efficiencies ;

| | Total Quantity Of Meters - 202 |
|-------------------|---|
| Ē | Eliminated Manual Meter Readings - 400 Hours Per Annum - £20k |
| P | Eliminated Manual Bill Production - 360 Hours Per Annum - £8k |
| 0 | Improved Revenue Collection - 57 Days Reduced To 30 Days |
| $\langle \rangle$ | Identified Annual Energy Savings - 189,278 kWh |
| | Annual Energy Savings - £19k |
| r F | Cost Of Implementation - £31K |
| | Return On Investment - 20 Months |



