

CASE STUDY

Hotel

The Client

The client was a small developer who was renovating an existing building to provide a small hotel for short term lets near to the popular tourist destination of Cardiff Bay. The property consists of 5 self contained flats and sleeps 30 people. It has a large basement that was converted into an entertainment space containing a hot tub.

The Problem

The requirements were to have each flat controlled separately, and to reduce energy use as much as possible. As this is a venue that can be used for large parties, there was a need for the basement to be converted into a large meeting area with a hot tub which needed ventilation and control. It was important to the client that entry to both the main building and the flats was secure and simple to manage.



AT A GLANCE

Location	Cardiff, Wales, UK
Project Description	Small AirBnB hotel
atBOS Control Apps	Heating, Hot water, Ventilation, Lighting
atBOS Cloud Apps	Analysis, Alerts, Responses, MessageMe
Mechanical systems	Fan coil unit, extractor fans, Hot tub, DMX lighting, Thermostatic radiator valves,

The Atamate Solution

Atamate controls the heating, lighting and ventilation within each of the individual units. Heating in each zone is controlled by TRVs (thermostatic radiator valve) which use information from the PIR and temperature sensors in the Atamate sensor unit to turn on and off depending on whether someone is in the room.

Lighting control is on/off in individual flats utilising the PIR in the sensor unit to ensure lights are not kept on when there is no occupancy in a room. In communal areas, dimmable DMX lighting is installed and controlled by atBOS. Ventilation in flats is extractor fans in wet rooms, controlled from air quality sensors - humidity, CO2 and VOCs. Automating ventilation not only keeps the air quality optimal, but also helps protect the building fabric from mould growth.

In addition to the meeting room and hot tub area, the basement also contains the plant room.

Management costs are reduced by implementing Alerts. Messages are sent to the management company when systems are not operating as expected, reducing call outs.

INDIVIDUAL FLAT METERING AND CONTROL

Each circuit within the individual flat is metered meaning that the landlord can track energy consumption at a very granular level. As meters are monitored this information can if needed be used for utility billing.

There is a separate user interface for each flat, so occupants can have full control of their space. The communal areas are also separated, and services included there are controlled using switches and occupancy.

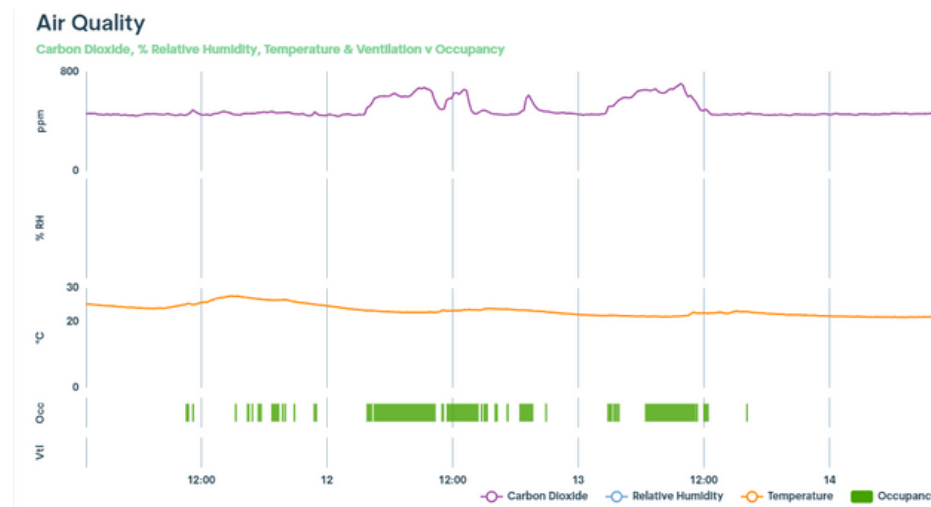


Figure 1. Bedroom Air quality data shows clearly the impact of occupancy on Indoor Air Quality (IAQ)



Image 1. As well as monitoring energy use and indoor environment, atBOS controls heating, and lighting in each bedroom

SIMPLE CONTROLS FOR COMPLEX SYSTEMS

The atBOS platform brings together often complex mechanical systems onto one platform so management and maintenance information can be seen on one dashboard. This installation incorporates

1. Twin boilers - hot tub fed directly from one, the other provides hot water for the flats
2. Low loss header - heat exchanger for hot tub, 1 x for space heating in flats
3. Fan coil unit - basement heating and ventilation for basement

Atamate Responses allow the bespoke automation that controls the filling the hot tub, heating, filling, pump control for jets, emptying so maintenance is simple.

Secure entry system

An NFC or keypad entry system is used on the main entrance to the building and each flat. No keys are needed and PIN codes can be issued for the specific time of each visitor's stay to increase security. The managing agents do not have to replace lost keys and can simply manage entry codes from the office both for tenants and maintenance staff.

Energy reduction

An NFC or keypad entry system is used on the main entrance to the building and each flat. No keys are needed and PIN codes can be issued for the specific time of each visitor's stay to increase security. The managing agents do not have to replace lost keys and can simply manage entry codes from the office both for tenants and maintenance staff.

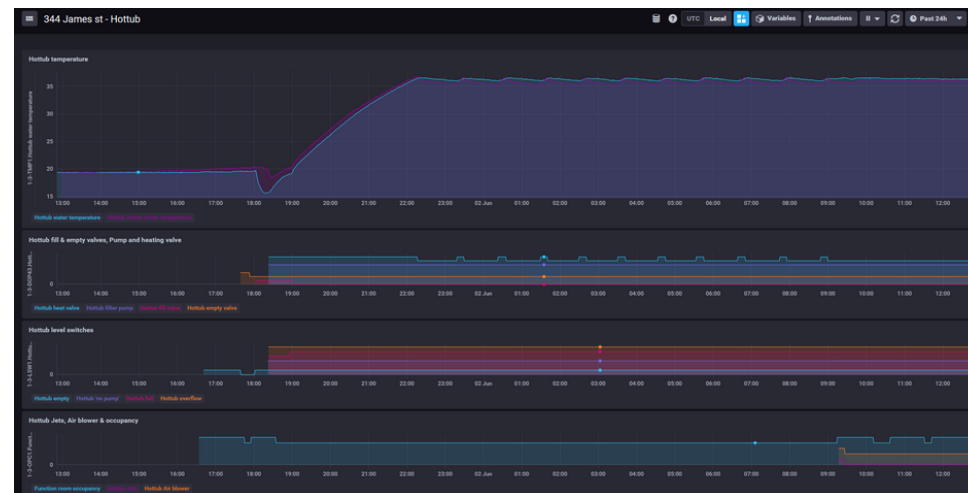


Figure 2. Data from the hot tub allows the landlord to track the heat up and cool down times as well as the testing of the jets and air blower which it can be seen was done at 9:15am



Image 2. The hot tub is fed by one of the twin boilers

The Result

Atamate reduced the capital expenditure on this project as atBOS can manage complicated mechanical systems on one platform. Operational expenditure is also reduced. Systems are turned off when there is no occupancy, and the management costs are also reduced.

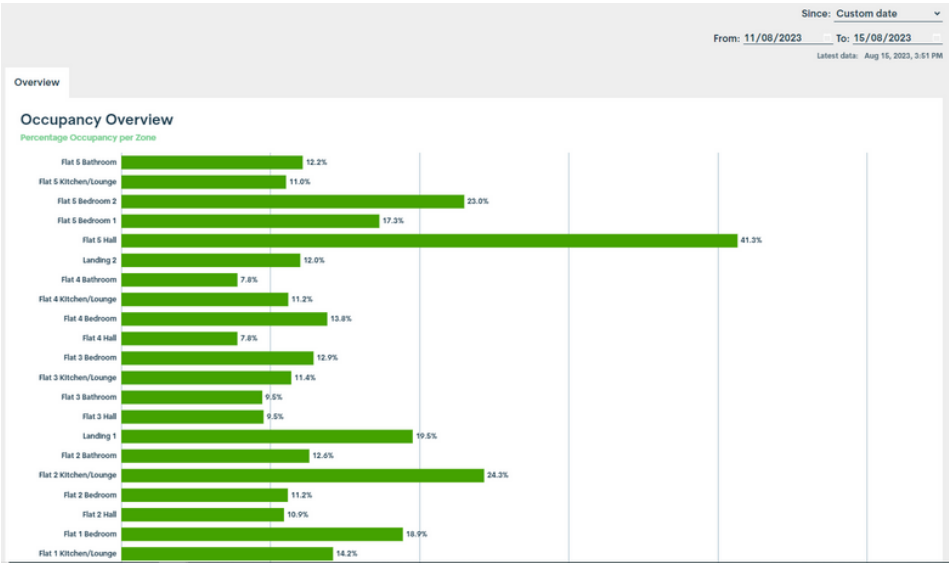


Figure 3. Building services are monitored and can be controlled on occupancy, temperature or other environmental data to reduce energy use and improve comfort levels

For more information or to get in touch about this project, please call **01865 920101** or email us on info@atamate.com