



CASE STUDY



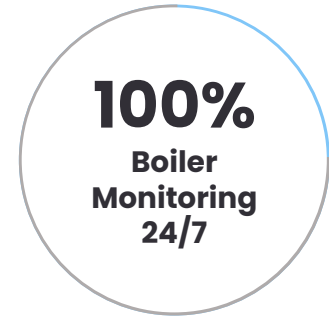
IOT & Boiler Monitoring



Winter Planning

As we leave Autumn and enter our Winter period, boiler and heating performance can become the bugbear of every Facilities Manager. While your BMS may already be monitoring these assets, it's not always the case, especially for remote buildings.

Often boiler issues are identified too late to be resolved, causing unnecessary inconvenience to employees. An early warning system can help to ameliorate this problem.



ROI Justification
Boiler Monitoring
Reduced Employee Complaints

Key Concepts
Early Warning
IOT
Energy Conservation



Client Overview



xerox™

Xerox is widely known for its printer products but is best described as a provider of document management and business solutions. Xerox has been in Ireland since 1989 with its main production facility in Dundalk.



The Problem

The facilities team were experiencing intermittent boiler issues with boilers failing to start within the facility. The problem was intermittent which made diagnosing the issue difficult. While the BMS on site would flag an issue with the boilers, it didn't have the facility to alert staff if they failed to start.

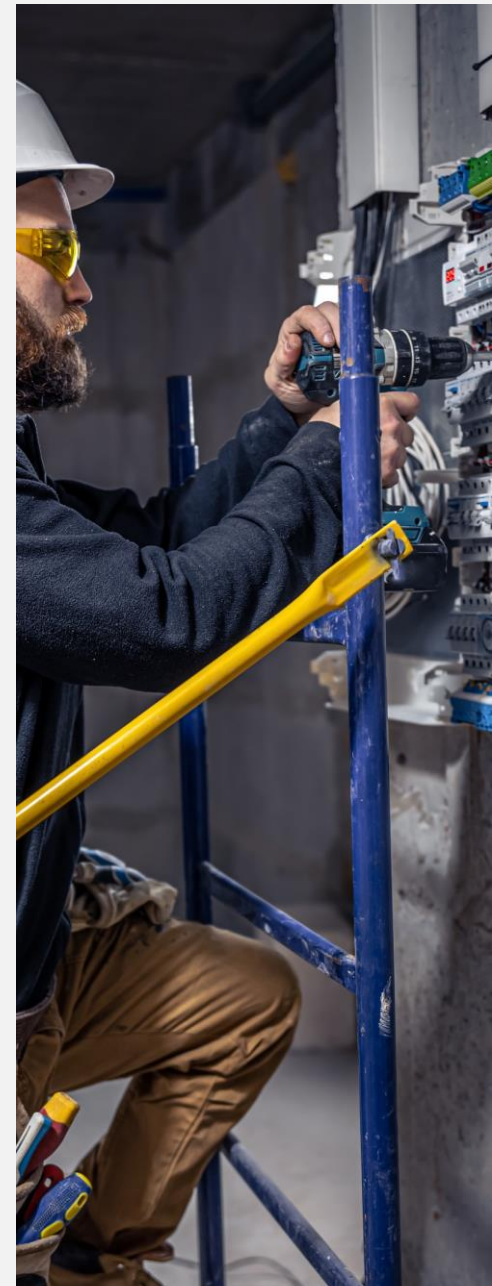
By the time the first FM team member was made aware of the issue, critical time was lost, and there was insufficient time to allow the building to heat before Xerox office staff arrived. The other issue was who to alert. Depending on the issue reported, a different technical resource was required.

The Solution

Xerox engaged Azolla Software to help deploy an IOT solution that could then generate alerts in the Azolla CAFM platform.

The Azolla CAFM platform includes a rules engine that allows users to generate sensor alerts based on predefined values. The rules also allow for alerts to be generated, if no sensor data is received. For example, if pump vibration is meant to be detected at a certain time and there is no data, then an alert is generated. The alert/email/work notification can then be sent to a particular person or group of people.

Three different sensor types were installed to correctly diagnose issues with the boilers. A CT clamp was used to check if power was going to the plant room. Vibration sensors were added to the pumps to ensure that all pumps were running when expected. Finally, temperature probes were added to ensure the correct water temperatures were being generated. Alerts from sensors are routed to the nominated technical resources via email or phone.





Voice of the Customer

The **Technical Services Department**, headed by **Brendan MacNeill** believed that this technology, along with an understanding of the engineering issues, would lead to a solution.

‘Deploying the IOT sensors allowed an early warning system to allow correct technical staff sufficient time to react, minimising the impact on the business and reducing staff complaints around building temperatures.’

‘By alerting the correct person, we minimised the level of disturbance to everyone on the team. Azolla also allows for an escalation process, if the initial person doesn’t respond. It is only then that the Facilities Manager becomes involved’.

The Financial Benefits

‘The key driver for this initiative wasn’t a financial one. It was around improving staff satisfaction.’

‘That said we were able to pinpoint the issue with the alert data generated, as well as reviewing the sensor data before an alarm was generated.’

‘In the end, we resolved the underlying issue while minimising the impact on the business. We reduced and eventually removed the callouts which reduced the cost of unplanned work and contractor visits to site.’



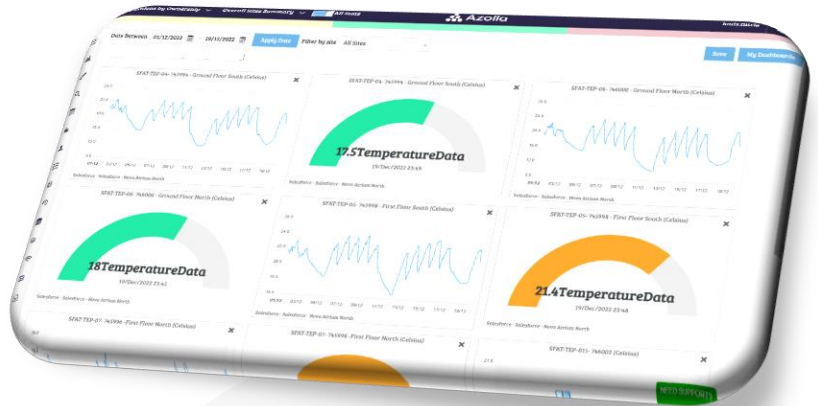


Evolving the Solution

No data is also information. By being able to identify when a boiler is meant to come on-line, the FM team can intervene earlier.

Solving Problems

The Azolla complex rule engine allows Xerox to monitor key assets 24/7, while generating valuable data for Root Cause Analysis.



The same solution can now be deployed to other assets like AHUs and pumps ensuring that they are running only when needed.

As part of an Energy Conservation drive mapping area occupancy in the building will also help support this initiative by understanding overall building use and justifying closing certain floors during the week.

The Benefits

An early warning system that gave Engineering time to react before the issue impacted the wider business.

Call out charges were reduced in quantity as well as in the number of incorrect alerts sent.

Engineering time has been freed up to focus on other root cause analysis using the data generated.

MINIMISED NEGATIVE BUSINESS IMPACT



REDUCED CALL-OUT CHARGES



ENGINEERING TIME HAS BEEN SAVED 25%





Azolla is an Irish software company consisting of a Web and Mobile App that incorporates CAFM, IoT and Asset Management features. Azolla Software was developed for facilities management by facilities managers using insights and experience gained over 20+ years.

Azolla allows you to implement a Facilities Management system capable of planning your day-to-day operations in real-time. By incorporating your planned maintenance programme with the real-time monitoring capabilities from IOT sensor technology, Azolla allows you to monitor multiple locations in real-time 24/7, alerting key staff as and when required.


The Azolla scheduling module allows you to plan visits to the site, automatically check insurance details, organise permit to work and attach service reports. Reactive work can be routed automatically to nominated staff or contractors based on the type of work or the location of the problem. By integrating sensor technology or data from your Building Management System (BMS), this work can be generated and stored in one place.

Using the Azolla App, staff can access their work on the move, make recommendations and file their paperwork electronically. Where external contractors are used, work can be sent and responded to via email and then Azolla can be updated based on the email response.

Key sectors using Azolla include: Facilities Management, Property Management, Service Delivery, Manufacturing, Retail and Healthcare.

Azolla supports the move from a passive to a predictive workplace.

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