



powered by



# Our platform gives you remote eyes on your assets anywhere in the world...

Providing you with insights to manage energy demand and asset anomaly detection for your critical assets and operations before failure occurs.

Saving you money, whilst keeping you open for business.



# Your assets need never fail again

Conventional maintenance provides limited insight into how assets are behaving over time. Mindsett PRISM® moves maintenance from reactive and periodic to predictive, proven and continuously improving.

Mindsett successfully identified early-stage failure in a Fan Coil Unit (FCU) within a live commercial building, months before traditional maintenance would have detected the issue.

The Mindsett platform not only predicted the fault but also proved the effectiveness of the planned and corrective maintenance, validating a new baseline for future performance.

## THE ASSET PERFORMANCE CHALLENGE

Mindsett PRISM® was installed to monitor two Fan Coil Units (FCUs).

Which were operating on alternating schedules from a shared power outlet.

Initially, Mindsett showed both FCUs performing 'normally'.

Traditional Planned Preventative Maintenance visits, by engineers, showed no indications of any underlying degradation of the Fan Coil Units.

The risk of unplanned failure, would be inefficient temperature control, and the expense of reactive engineer call-outs.

## INSIGHTS FROM MINDSETT

Mindsett created a digital harmonic fingerprint for each Fan Coil Unit.

One unit (FCU-1) demonstrated a gradual deterioration trend, with anomalies in the Mindsett data, increasing over time.

The second unit (FCU-2) remained stable, enabling a direct performance comparison.

This clearly demonstrated Mindsett's predictive insight capabilities - beyond what is achievable through Planned Preventative Maintenance activity.

## THE MINDSETT EFFECT

- Predictive maintenance avoided potential failure and disruption.
- Maintenance activity was targeted, justified and verified.
- This fault has been added to the Mindsett fault library to accelerate future diagnosis.
- FCU-2 flagged for monitoring, enabling early intervention if the same trend emerges.

## EVIDENCE OF MAINTENANCE OUTCOMES

The engineer, on inspection, confirmed the AC capacitor degradation on FCU-1 and replaced the capacitor.

Post-maintenance continuing Mindsett data confirmed:

- Anomalies ceased.
- Current reduced from 1.9A > 1.66A.
- Power Factor improved from 90% > 96%.

Harmonic fingerprint returned to the learned pattern of 'normal behaviour'.

Mindsett enabled the effectiveness of the maintenance intervention to be measured, not assumed.

# Fast, targeted intervention

Mindsett delivers real-time protection for a business-critical infrastructure, turning electrical data into actionable insights and proven outcomes.

Mindsett successfully detected rapid degradation in the power supply serving a critical server rack at the client's HQ -enabling fast, targeted intervention.

The platform not only identified the degradation in real-time, but also confirmed the success of corrective maintenance, protecting a business-critical infrastructure.

## THE ASSET PERFORMANCE CHALLENGE

Mindsett was installed to monitor the power supply supporting a server rack on the 41st floor of a commercial office building.

Initially, the server rack was monitored as operating within normal parameters.

Any sudden degradation to the power supply to the server rack, risked unplanned outage to critical IT services. A failure at this level carries immediate operational and business risk.

## INSIGHTS FROM MINDSETT

Mindsett created a digital harmonic fingerprint for the power supply to the server rack.

An initial anomaly in data was detected at 01:00hrs and an alert sent to the customer.

Severe degradation across all metrics was highlighted by Mindsett ten hours later

Mindsett, provided an early warning and alerted a clear need for escalation to repair - enabling rapid response and the prevention of operational and business risks.

## THE MINDSETT EFFECT

- The avoidance of server downtime and business disruption.
- Enabled rapid, evidence-based maintenance decisions.
- The switch fault was added to the Mindsett fault library to accelerate future diagnosis.
- Continuous monitoring allows early intervention before failures occur.

## EVIDENCE OF MAINTENANCE OUTCOMES

On investigation, the engineer confirmed that there had been a network switch failure supporting the server rack.

Once the faulty switch was identified, a reactive task was raised, and a replacement switch installed.

Post-replacement of the switch, Mindsett data confirmed that:

- All metrics returned to normal operation within 24 hours.
- Anomalies ceased.
- Successful maintenance was validated.

# A 13% reduction in daily energy consumption

LED upgrades delivered proven energy savings. Further gains are achievable through improved controls, sensors and operational alignment.

By combining predictive maintenance, harmonic analysis, and asset-level energy monitoring, the organisation achieved 13.5% reduction in daily energy consumption, prevented asset downtime, improved power quality, and unlocked annual cost savings of \$41,554 (49,868 kWh).

## THE MINDSETT EFFECT

### Immediate results

#### Overall consumption reduction

- 13.5% Reduction in daily energy consumption.
- \$41,554 (49,868 kWh) Annualised savings.

#### Lighting system improvements

- 24.5% Reduction in lighting energy use during operational hours.
- 14.3% Energy reduction out of hours.

### Long-term benefits to the client were

- 10% saving on maintenance costs.
- Prevention of FCU downtime.
- Improved power factor (PF) and reduced current draw post-maintenance.
- Asset health stabilisation confirmed via post-event analysis.

## THE ASSET PERFORMANCE CHALLENGE

A leading global technology business partnered with Cloud's Mindsett PRISM® platform to address rising energy consumption, inconsistent asset performance, and a need for more proactive maintenance.

This case study outlines how predictive analytics and high-resolution monitoring transformed operations across lighting, and the wider electrical infrastructure – demonstrating the measurable value of data-driven Smart FM.

## INSIGHTS FROM MINDSETT

Before LEDs were installed, PRISM® had already been collecting baseline lighting data. This enabled a direct before-and-after comparison showing:

- 15.4% Overall lighting reduction.
- 30% Savings across main office workspace areas.
- 21% Savings in the external pantry area after correcting sensor installation issues.

Post-installation analysis revealed that lighting sensors in one area, had not been installed correctly. As a result, lights stayed on continuously for four months—an insight only made possible through PRISM®'s granular monitoring. Once corrected, PRISM® validated that the lighting profile returned to expected levels.

## EVIDENCE OF MAINTENANCE OUTCOMES

Beyond energy optimisation, the other benefits of Mindsett PRISM® are 'condition-based maintenance' and 'preventative maintenance' via real-time harmonic analysis.

In this instance, we were able to identify irregularities in Fan Coil Unit (FCU) performance; enabling engineers to act before complete failure of the unit.

One Fan Coil Unit (FCU 1) displayed progressive harmonic distortion beyond acceptable ranges. A capacitor replacement resolved the issue, with immediate improvements in Power Factor and current draw.

# Reducing risk and extending assets' lives

Mindsett shifts maintenance from reactive response to predictive control, allowing organisations to intervene before failure, not after it.

Mindsett demonstrated how predictive maintenance using harmonic analysis, can identify asset degradation before failure occurs.

Live monitoring of a Low Temperature Hot Water (LTHW) pump, revealed abnormal operating behaviour in advance of the pump's breakdown.

Early intervention, prevented failure, reduced risk, and extended asset life.

## THE ASSET PERFORMANCE CHALLENGE

Prior to installing Mindsett PRISM®, maintenance at the premises, had been reactive, with no means of early-warning detection.

The asset Mindsett PRISM® was monitoring, was a critical Low Temperature Hot Water pump, operating within an ageing plant room.

The LTHW pump's failure risk was increased due to continuous operation and age (12–13 years).

Traditional maintenance was unable to detect early-stage internal degradation. And engineers had limited visibility of how close assets were to failure.

## INSIGHTS FROM MINDSETT

Mindsett monitored live electrical harmonics from the Low Temperature Hot Water Pump.

Each harmonic represented a specific internal component's behaviour.

Mindsett's machine learning capabilities established a normal operating baseline.

Gradual and sudden shifts in the 1st, 5th, and 7th harmonics indicated:

- Increased internal stress.
- Rising motor heating and torque imbalance.
- The LTHW was operating outside normal parameters.

This provided clear, data-led evidence of deterioration.

## THE MINDSETT EFFECT

Earlier intervention could have:

- Prevented failure
- Reduced reactive maintenance costs
- Extended remaining asset life

Predictive maintenance enables:

- Targeted repairs based on component-level insight
- Reduced operational risk for critical plant
- Smarter decisions on repair vs replacement timing

## EVIDENCE OF MAINTENANCE OUTCOMES

Harmonic patterns showed abnormal clustering as failure approached.

When the LTHW pump failed, it confirmed the prediction signal that had been provided by Mindsett data some days earlier.

The site team confirmed that they had some awareness of problems with the LTHW, but were surprised by Mindsett's:

- Speed of detection.
- The accuracy of diagnostic insight.

Resolution confirmed via Mindsett after 3 days.

The Mindsett data showed that the failure was predictable and preventable.

# Turning reactive problems into preventable events

Mindsett converts refrigeration monitoring from manual, reactive checks into automated, predictive protection - delivering immediate operational and financial value.

Mindsett demonstrated how predictive maintenance and IoT monitoring could have identified a refrigeration fault 31 hours before it was reported. Early detection, would have removed the risk of stock loss, reduced operational disruption, and avoided unnecessary engineer call-outs.

This case proved how early insight turns reactive problems into preventable events.

## THE ASSET PERFORMANCE CHALLENGE

A walk-in refrigeration unit was found to be operating outside acceptable temperature parameters.

The fault was only identified once staff noticed an elevated temperature.

Breakdown in refrigeration would risk wastage of £1,500 of stock, broken food safety compliance rules, and disrupted the continuity in trading.

Staff time was diverted from customers, while the problem was dealt with, and the business absorbed avoidable cost and risk.

A reactive engineer call-out was made, for what could have been a simple reset task.

## INSIGHTS FROM MINDSETT

Mindsett identified abnormal harmonic and temperature behaviour.

A fault was detected by Mindsett, at approximately 08:00 the day before a reactive task was logged.

The deviation in Mindsett data, highlighted

- Temperature variance.
- Changes in the harmonic “fingerprint” of the asset.

Mindsett provided 31 hours of early warning before human intervention was able to detect that there was a problem.

## THE MINDSETT EFFECT

- Customer Service - Staff can remain focused on customers, not fault logging.
- Cost Reduction: Avoids engineer call-outs for simple interventions.
- Stock Protection: Eliminated risk of food waste and lost trade.
- Compliance Confidence: Continuous temperature monitoring and audit trail.
- Future Ready: Enables predictive maintenance, energy optimisation, and Net Zero pathways.

## ACTUAL OUTCOME VS PREVENTABLE OUTCOME

### Actual Outcome

- A reactive task was logged.
- An engineer attended and reset the condenser.
- Cost incurred: £125 call-out fee.

### Preventable Outcome with Mindsett

- Automated alert issued at point of ‘fingerprint’ deviation.
- On-site staff guided to reset the condenser immediately.
- No engineer visit required.
- No stock risk or compliance uncertainty.
- Maintenance effectiveness would have been immediate and measurable.

# Reducing risks, cost and downtime

Mindsett from reactive maintenance to predictive insight for a leading healthcare maintenance provider.

Mindsett was installed across MRI and CT scanner assets, to assess its capability of delivering predictive, condition-based insight. The anomalies detected by Mindsett, consistently aligned with real maintenance events and operational changes, accurately reflecting asset behaviour.

The data provided early indicators of abnormal performance and clear visibility of energy and maintenance impacts. Overall, the solution enables a shift from reactive maintenance to predictive asset management, reducing risk, cost, and downtime.

## THE ASSET PERFORMANCE CHALLENGE

High-value MRI & CT scanner assets, are mission-critical, technically complex and energy-intensive.

Traditionally maintenance is reactive, with limited visibility into real operational behaviour.

It is difficult to distinguish emerging faults versus normal operational variance in these assets.

Rising energy costs and sustainability targets, increase the need for accurate, asset-level energy intelligence - something not typically available from existing systems.

## INSIGHTS FROM MINDSETT

Mindsett provides continuous, non-intrusive electrical monitoring. It uses AI-driven anomaly detection to reveal:

- Early fault indicators.
- Energy inefficiency.
- Impact of maintenance activity.
- Abnormal operational behaviour.

## THE MINDSETT EFFECT

- Predictive insight: Anomalies detected before and during fault conditions.
- Maintenance optimisation: Helium impact visible for 3-4 months → quarterly optimisation opportunity.
- Energy transparency: Quantified energy impact of temporary CT installation.
- Model accuracy: Retraining eliminated recurring false anomalies once behaviour stabilised.

## EVIDENCE OF MAINTENANCE OUTCOMES

Across multiple MRI and CT systems, Mindsett data accurately aligned with known real-world events, including:

- Helium compressor top-ups.
- Transmit box installation and testing.
- Radio frequency amplifier replacement.
- Coil testing.
- Temporary CT scanner installation.

Mindsett data points consistently reflected asset condition and intervention timing.

# A 12% reduction in run-rate savings across the estate

Cloud's partnership with the Rank Group, owners of Mecca Bingo and Grosvenor Casinos, is working to overhaul their sites' asset portfolio and help reduce their carbon consumption.

Grosvenor is the UK's largest multichannel casino operator (by venues) with 51 venues and Mecca is the second largest bingo operator in Great Britain (by venues) with 56 venues.

Over a three-year project, Cloud has deployed Mindsett PRISM® and its energy management technology, across Rank Group's sites. Delivering asset monitoring and data consultancy we're helping them to minimise energy consumption and maximise carbon reduct

## THE ASSET PERFORMANCE CHALLENGE

Initially installing over 600 PRISM® devices across 40 Rank sites, with a phased roll-out plan across their full estate over time.

Cloud has provided bespoke reporting, dashboards, and a mobile app that will help the teams at Mecca and Grosvenor take ownership of their consumption and enable positive behavioural change.

## INSIGHTS FROM MINDSETT

An agreed set of outcomes to reach over the project, include:

- Joint energy reduction targets across all sites to a saving of £1.9 million in electricity costs and an 12% reduction in run rate.
- A return on investment in just 18 months with a 204% ROI in five years.
- The provision of dashboards and an energy management app for all key staff at each site.
- 12,000 assets will be connected to Mindsett PRISM® devices in Phase 1, allowing us to collect over 10 billion data points annually.

## THE MINDSETT EFFECT

Within 6- 12 months of installation Mindsett will enable Condition-Based and Predictive Maintenance, contributing to a reduction in capital replacements, non-trading events, and planned maintenance costs

## TESTIMONIAL

“We set out some ambitious goals in our latest ESG report with the aim to invest in efficient and responsible operations to reduce our impact on the environment. Our partnership with Cloud is helping us to accelerate carbon reduction plans across our estate. Cloud has developed some great technology that gives a granular view of energy use in real-time and a framework to be able to use that information to change behaviours that will benefit the environment.”

Matt Austin, Group Property Director  
The Rank Group

# Changing employees' attitudes and behaviour

Mindsett utilises PRISM® at the Cloudfm Group head office to reduce the carbon footprint. Utilising Mindsett PRISM® data and a combination of behavioural coaching and detailed reporting, to influence a change in energy-saving behaviours across the organisation.

The pandemic sparked a change for Cloud, and as the work from home order was lifted, the team were offered the option to work remotely. This shift in working patterns brought with it a change in energy consumption patterns.

Occupation numbers at the head office, vary considerably, from day to day. With varying levels of energy consumption, it became increasingly important for building managers to find a way to understand and manage their energy usage.

## THE ASSET PERFORMANCE CHALLENGE

One of the key challenges facing building managers was the lack of visibility over which assets were consuming energy and when.

Without this level of understanding, it was difficult to construct a plan to reduce usage. And changing colleague behaviours towards energy, can be challenging.

Managers faced another hurdle when it came to implementing a realistic energy reduction strategy and reporting this progress to the board as part of Net Zero reporting.

## INSIGHTS FROM MINDSETT

As a result of installing Cloud's Mindsett PRISM® device at the office's distribution board. The device's innovative design was able to pull data directly from the relevant assets and use this information to provide a detailed outline of which assets were the biggest offenders for energy consumption.

With Mindsett's data team's reporting, energy consumption was broken down to MWh at the asset level, to help understand potential areas of saving.

These insights have helped colleagues understand, for example, why certain asset classes are showing an increase in consumption and in turn, those observations have changed staff attitudes towards energy usage at the office.

## THE MINDSETT EFFECT

Cloudfm Group has seen significant benefits from installing Mindsett PRISM®, including:

- A 30% reduction in energy consumption.
- 5 tonnes of CO2 saved over 9 months.
- Increased staff engagement when it comes to implementing energy saving behaviours.
- 40% reduction in energy consumption from kitchen equipment.

# ‘Eyes’ on your assets – 24/7

Cloud worked alongside Krispy Kreme to install Mindsett PRISM<sup>®</sup>, at a production facility in Tipton, UK. The aim was to provide insight into energy consumption and move towards predictive maintenance for Krispy Kreme’s facilities.

Krispy Kreme engaged with the Cloudfm Group to maintain their sites and provide technology that would ensure their teams had time to spend with customers, not solving problems. To gain a better understanding of their energy consumption and insight into their assets, at a production facility in Tipton engaged with the group to trial the Mindsett platform and the IoT asset-level monitoring device – Mindsett PRISM<sup>®</sup>. Prior to this, the facility had no in-depth energy information on their assets and could not accurately assess the performance of individual assets.

## THE ASSET PERFORMANCE CHALLENGE

To help Krispy Kreme see what was really happening at their production facility our Cloud team installed Mindsett PRISM<sup>®</sup> devices at the Tipton site. This enabled us to monitor over 85 assets across 14 separate categories.

This included 5 Krispy Kreme production lines, turning out over 170,000 donuts per week.

## INSIGHTS FROM MINDSETT

There were several key outcomes, including:

- Gaining full visibility of each asset’s energy consumption. With this information teams at the Tipton site were able to actively work towards reducing their consumption, in turn, reducing their carbon emissions.
- The introduction of immediate, real-time alerting when an asset is switched on or off. This ensures that in the event of a technical fault that moved the asset to the off position, teams can act quickly.
- 24/7 performance monitoring. The Cloud team provided Krispy Kreme with a harmonic view of each asset. These views illustrate data points that indicate a fault in an asset prior to it happening, meaning that the team at Krispy Kreme Tipton could take proactive maintenance measures.

## THE MINDSETT EFFECT

- Gaining full visibility of each asset’s energy consumption.
- The introduction of immediate, real-time alerting when an asset is switched on or off.
- 24/7 performance monitoring.
- Asset health scores.
- Mindsett’s data enabled teams to make quick decisions involving capital spend.

- Just one figure to identify asset health. With data collected on assets over the course of a year the Mindsett data team can provide a starting benchmark for asset health, which is then compared to ongoing performance.
- Mindsett’s data enabled teams to make quick decisions involving capital spend. For example, one Krispy Kreme production line, showed an asset with a score of 92% in February 2022, that had deteriorated to under 53% by January of 2023. As all other assets were performing as they should, spend could be directed to either replace or perform maintenance on this asset.

# Asset-level energy intelligence

Mindsett worked closely with Zizzi in Bluewater, part of the Azzurri Group, to install PRISM®. This was with the aim of providing them with asset-level insights, advising them on energy saving behaviours, and enabling behavioural change.

The Azzurri Group has been a long-term client of Cloudfm Group, and engaged with the IoT technology in 2021. What was originally a trial, progressed to a full-scale partnership, with visibility and ROI front of mind.

## THE ASSET PERFORMANCE CHALLENGE

Prior to engaging with the Cloud team, Azzurri had little to no visibility over the assets, their performance, or energy consumption. Installing PRISM® was a key step in the group taking control of their usage, getting employees to engage in energy saving behaviours, and being able to accurately report on the ROI of projects relating to asset data.

To help the team at Zizzi Bluewater better understand their consumption, Cloud installed Mindsett PRISM® devices at their site. They were also provided with regular reporting on their assets and consumption in the form of reports and dashboards.

This site's kWh consumption was significantly higher than other similar sized Zizzi sites and we were keen to find out why and help to reduce it.

## INSIGHTS FROM MINDSETT

As a result of installing Mindsett PRISM® devices at the Bluewater restaurant, there were several key outcomes, including:

- The introduction of asset-level energy consumption data. In addition to consumption per asset being outlined in kWh, the site teams were also able to see how much this was costing them in £ and carbon tonnes.
- Consultation and advice on how to interpret the data from the dashboards and reports and implement action in a meaningful way.
- Data gathered by PRISM® showed that Bluewater's energy consumption was significantly higher than other restaurants of a similar size in the group. Thanks to the asset-level energy intelligence, it was found that this was due to the site air conditioning unit being left running out of hours.

## THE MINDSETT EFFECT

- The introduction of asset-level energy consumption data.
- To implement action in a meaningful way.
- Asset-level energy intelligence.
- Reduction in energy consumption on a single asset by 2,485 kWh per week to just 1,645 kWh.

Prior to having this knowledge, the Zizzi Bluewater location was consuming on average per week 4,130 kWh on AC alone. This was with an average external temperature of 8 degrees celsius. At the time of this project this was costing approx. £702 per week.

- Having isolated the offending asset, the team at Bluewater made a united effort to shut off the AC at the close of day and managed to reduce consumption on that single asset by 2,485 kWh per week to just 1,645 kWh. This is a saving per week of £422.

Combined with the fact, that by this time, the average external temperature had risen to 12 degrees Celsius, meaning the unit was having to work harder in the time it was switched on.



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