

## Transforming Commercial Building Operations with Building Analytics

CIM's building analytics technology and world-class customer support team is helping some of the world's largest Real Estate Investment Trusts and facilities management companies to transform their building operations, with greater transparency over the performance of their plant and equipment and the teams that run them.

Although no two buildings or portfolios are the same, the following case studies demonstrate the results are consistent, with significant efficiency, sustainability and tenant comfort improvements.

## Commercial Real Estate Company

### KEY FACTS

- ✓ **Portfolio-wide** solution for commercial real estate company
- ✓ **222,120** square meters across 12 commercial sites
- ✓ **\$293,256** of energy savings to date
- ✓ **36,305** monitored points
- ✓ **7,674** rules deployed
- ✓ **3,232** faults identified

### Challenge

Commercial real estate and facility management (FM) companies operate multiple complex building portfolios and manage numerous vendors and contractors. Their FM teams often rely upon the expertise and gut instinct of these third parties to ensure the buildings under their control are operating at peak performance. This reliance comes at a high operational cost, which FM teams are under pressure from building owners to reduce.

This large commercial real estate company needed a strategy to help their FM teams manage complex asset portfolios more cost effectively and efficiently while improving tenant satisfaction and lease longevity.

### Solution

Buildings are now generating a wealth of data that can be unlocked through building analytics to drive better decision making, improve operational performance and deliver value for owners and tenants.

This commercial real estate client has deployed CIM across a number of assets to help manage the buildings within its remit in a smarter, more data-driven way. This approach is helping the company to cement its reputation as a standout-facility management company, maintain a competitive edge in the market and attract and retain key building portfolio accounts.

As the preferred building analytics provider for its Australian assets, the company engaged CIM to help it manage and uplift the performance of a portfolio of small-to-medium sized property assets in Sydney and Melbourne. It leans on CIM's PEAK platform and customer success team of engineering experts to provide the right advice on building tuning, optimisation, maintenance, and CAPEX decisions. CIM also helps manage vendors and contractors on their behalf.

### Results

PEAK has facilitated more than £88,272 of realised energy savings and demand reductions across these sites, proactively identified over 2,000 faults and tuning opportunities, provided diagnosis and resolution, and improved contractor and building management team workflows.

On one building alone, CIM reduced peak energy demand by 23%. On another, CIM helped maintain an average thermal comfort rating of 96% which means temperatures are maintained between 21-24°C across the entire building 96% of the time. This is the best performing building from a comfort perspective of any CIM site.

Through ongoing collection and analysis of building data, CIM will assist the client's FM teams to reduce planned maintenance, move to a predictive maintenance regime, and drive smarter, data-driven CAPEX planning.

## Heritage Listed Commercial Office

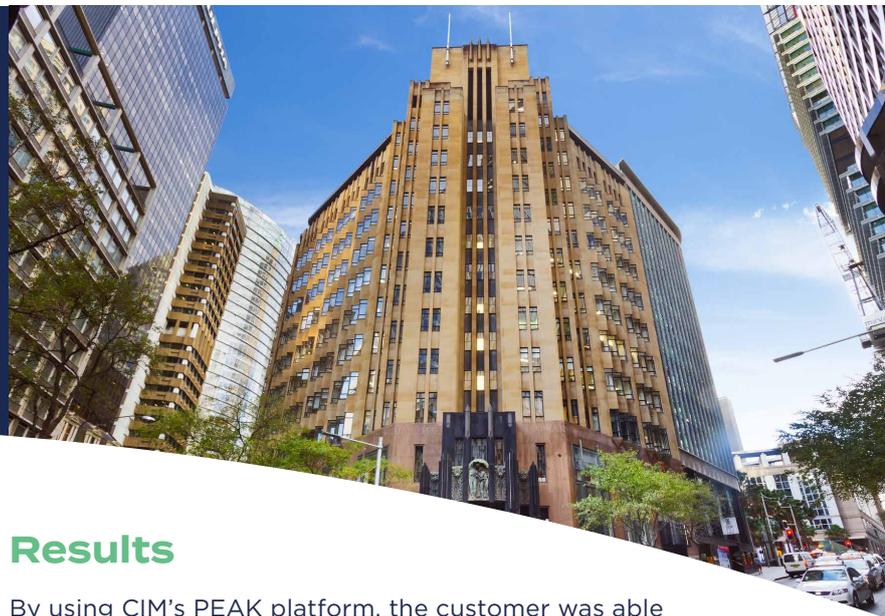
### Challenge

During a building's commissioning period, building owners often rely on independent commissioning agents to inspect a building and determine if systems and equipment are working as specified. These consultants will perform their analysis with checklists by looking at BMS data and observing a building's mechanical equipment.

This non-scientific approach to design and validation is a very time consuming, manual and costly process that is carried out at a specific point in time. It misses the opportunity to identify issues in real-time across the entire validation period through continuous intelligent monitoring of a building's data.

### KEY FACTS

- ✓ **9,000** square meters
- ✓ **10,120** monitored points
- ✓ **1,526** rules deployed
- ✓ **377** faults identified
- ✓ **28%** reduction in energy consumption



### Solution

On the back of a referral from another building portfolio owner who has been successfully using PEAK since 2015, the building owners of this heritage listed asset approached CIM to help it gain more visibility into actual building performance through data, rather than expertise and recommendations based on visual observations.

CIM helped this customer complete a HVAC upgrade project over an eight month period in 2018. PEAK connected to the building's network and collected all performance data to understand how the building operates and its specific requirements. Based on the insights found within that data, PEAK recommended plant and equipment upgrades to the customer.

Once the upgrades were complete, PEAK re-analysed the data, collected from more than 10,000 data points, to validate the upgrades and ensure everything was working as intended.

### Results

By using CIM's PEAK platform, the customer was able to move from manual inspection to automated intelligence system commissioning, removing the need for an independent commission agent which saved a significant amount of consulting fees.

The issues PEAK identified were discussed in the building operation workshops and contractors were then engaged to carry out the works. The FM team and contractors had access to a live fault dashboard to track the identification, diagnosis and resolution of issues which held the contractors accountable as the data validated that the work was being performed properly. By using PEAK, all the issues pertaining to the HVAC upgrade were closed out on time, the contractors were paid out their bank guarantees, and the building owners were left with exactly what they paid for—a fully functioning building with minimal plant room interruptions.

The upgrades recommended by PEAK and CIM's customer success team enabled the customer to achieve its end goal of reducing energy consumption, improving thermal comfort, and lowering operational costs. PEAK continues to monitor building performance and will support future building upgrades for this site. The customer is also looking to use PEAK in other assets within its portfolio.

## Kyko Group

### Challenge

Kyko Group sought a technology provider that could help it optimise building performance and operations during a refurbishment of 99 Elizabeth Street—a 15-level prime boutique commercial office building—by using the data and information that already existed within the building.

Kyko's objectives were to lower energy consumption, increase the building's NABERS environmental rating, improve thermal comfort and create substantial sustainability benefits with minimal CAPEX investment.

### KEY FACTS

- ✓ **6,836** square meters
- ✓ **3,320** monitored points
- ✓ **1,692** rules deployed
- ✓ **5.5** NABERS rating
- ✓ **89%** average thermal comfort rating
- ✓ **15%** reduction in base building energy savings despite increasing occupancy
- ✓ **6 months** investment payback



### Solution

During the refurbishment, PEAK provided visibility into actual building performance enabling Kyko Group to measure and improve operational and energy efficiency without having to replace old equipment, undertake expensive capital upgrades, rely on contractor judgment or the limited data from the building management system (BMS).

During the refurbishment, PEAK identified and resolved 69 building performance faults, 52 BMS faults and 17 faults relating to large equipment lifecycle issues.

PEAK continues to collect, monitor and analyse building data at 99 Elizabeth Street every 15 minutes to identify the faults and opportunities in existing equipment and systems. It helps keep Kyko's contractors honest, allowing teams to validate contractor performance and ensure they are getting the best out of contractors without unnecessary costs. Arduous contractor negotiations and reactive maintenance is now a thing of the past.

### Results

Through continuous maintenance, tuning and optimisation, PEAK enabled Kyko Group and CIM to deliver on 99 Elizabeth Street's objectives during the refurbishment, with no CAPEX investment and an investment payback of 6 months.

In terms of the quantum reduction in energy consumption, CIM's PEAK platform exceeded Kyko Group's expectations by reducing base building energy consumption by 15% since 2016, despite occupancy increases and energy price rises. This contributed to an increase in the building's NABERS star rating, which jumped by four stars in three years—an excellent improvement from the 1.5 indicative NABERS star rating at the time of refurbishment.

By using PEAK's thermal comfort module, CIM targeted the problem and poorly performing areas within the building to lower hot and cold complaints and achieve an average 89% thermal comfort rating.