

OpenBlue Central Utility Plant Plant Monitor



**Maximize Your Central Plant's
Uptime, Resiliency, Productivity,
Energy Efficiency & Sustainability**

The focus must start with your Central Plant. Here are the 8 reasons why...

Ensuring a Healthy 'Heart' for your Building

Looking at each Commercial or Industrial Building, one area that stands out as most critical is the central utility plant (or chilled water plant). In all high performance, green and smart buildings, the central plant is like the 'heart' of the human body. Yet because they are located away from occupant space and are highly technical, they may not get the attention they deserve.

Without a healthy 'heart' – the central plant, the building's performance could be compromised as it continuously supplies chilled water for the critical operations, including for human comfort, humidity control, and for critical equipment cooling like server room in the data center, surgical rooms in healthcare, production facilities. Thus, any deterioration or failure of the central plant can create negative impacts to meeting your operations, customer satisfaction, energy efficiency and sustainability goals.

Driving Sustainability to Mitigate Climate Change

There is also an urgent call for mitigation actions against global climate change. The impacts of climate change are felt everywhere and are already affecting your business and family. With the building industry consuming 40% of the world energy and emit about 1/3 of the world carbon emission, it is one key area you can contribute as a citizen of the world.

The central plant is typically one of the highest energy consumers in the building, consuming up to 30-50% of the electricity bill for the building. It uses the highest "kWh per GFA sq.m." of plant room and is considered one of the most polluting sources. While consuming the electricity to run the plant, the amount of indirect and direct CO₂ emission released is significant as it pollutes our environment and contributes to climate change.

Local Government Compliance & Sustainability Reportings

Due to the impacts of the central plant to the building's energy consumption, peak demand on the electricity grid, and the environment, many governments have placed compliance reporting requirements. Building owners often require to continuously access the central plant performance data as part of their sustainability and compliance reporting.

Managing the Risks toward your Building Operations

With the prevailing pandemic situation and potential resurgence of new waves of virus, the restriction to contractors access is common. It is expected that only contractor performing critical task will be allowed into the plant room or building. Any prolonged presence of the contractor at site will mean increased risk, particularly during trouble-shooting of faults can takes time.

The risk could be better managed only if there is better transparency and easy access to the required data of plant equipment installed. This could accelerate trouble-shooting of root cause(s). Better still, advanced condition-based maintenance AI and machine learning algorithms can help to pinpoint faults before it turns into an alarm. This makes predictive maintenance possible to ensure optimal plant operations at all times.



Enhancing Staff Productivity in Plant Management

Most facilities team currently struggle to finance operations and maintenance staff with experience running central plants as staff retire or turnover. New staff often join with limited site or plant knowledge. In addition, most of the staff who are involved in managing the central plant are also assigned with other tasks as they continue to do more with less. Coupled with the tightening operating budget, subject to the business performance particularly during this pandemic period, it is quite clear why the responsible staff are at risk of losing their focus. This could induce unnecessary risks to your central plant operations, and potentially impact your building performance.

Alarms Fatigue from the Building Automation System

Many of the operating staff are using the existing Building Automation System (BAS) to manage and control their Central Plant. One of the shortfalls of most BAS systems is its ability to store only limited of historical data on-premise (unless it is connected to the cloud). When alarms are triggered, it is often too late to take any proactive actions, resulting in the necessity to react to or "fire-fighting" situations. There are many of such alarms that over-shadowed the vital few key indicators versus the many confusing triggered alarms leading to "alarm fatigue".

Continuous Commissioning for Sustained Performance

All plant, equipment and accessories have a tendency to deteriorate in performance during operation due to the normal wear and tear. From experience, the performance deterioration can range from about 1% to 2% per year. If left unchecked, the decrease in operating and energy efficiencies can be significant after a few years. In such situations, many building operators hoped to have the important data on hand so that they know where to prioritize time and maintenance budget thru a process called continuous commissioning. If there are good data insights, building owners can also implement Energy Conservation Measures (ECMs) to improve the plant's energy efficiency.

Ensuring Customer Satisfaction

Balancing the many factors highlighted above can pose challenges to the smooth building operations that is necessary to ensure the satisfaction of the customers whether they are defined as tenants, employees, visitors, VIPs, or partners.

The stakes are high if there is a neglect to the central plant. Therefore, it is necessary to continuously monitor the critical assets in the heart of the building to ensure that the central plant is continuously operating effectively, efficiently and productively. This will enable the building owners to focus on running their core businesses.

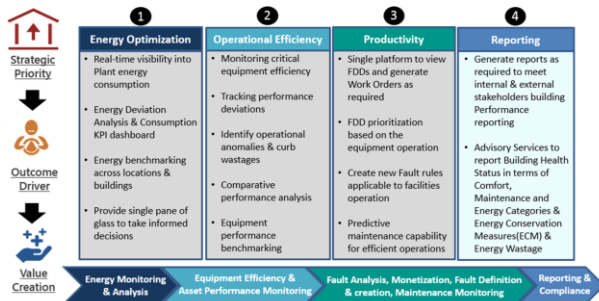
Leveraging Johnson Controls' domain expertise, we have the OpenBlue solution to enable you.



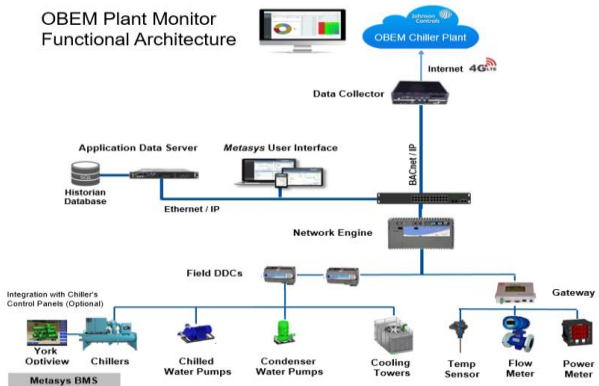
OpenBlue Plant Monitor

To address the multi-facet challenges illustrated that could impact your building operations and performance, and the need to maximize your central plant's uptime, resiliency, energy efficiency, productivity and sustainability, there is an urgent need to digitalize the way you manage your central plant in order to cope with the increasing expectations.

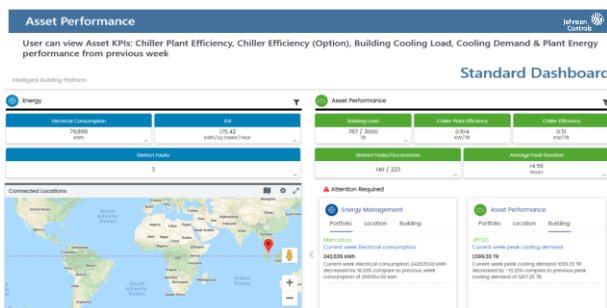
Leveraging on Johnson Controls strong domain expertise in building systems and technology, OpenBlue Plant Monitor has been specially designed to enable you to *Get Connected, Get Insights & Get Optimized* of your central plant.



This could form a part of your digital transformation program and to start with your central plant while allowing you to scale with its agile and flexible software-as-a-service (SaaS) solution potentially allowing you to expand across your whole building.



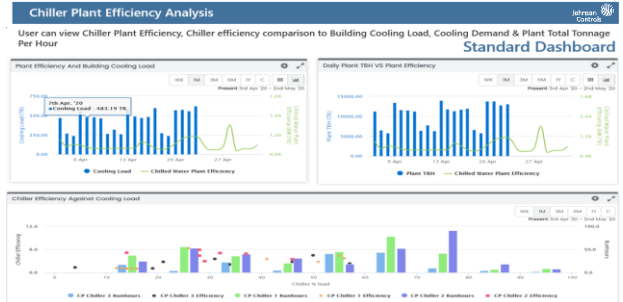
It is a web-service that enables you to determine the "pulse" of the central plant at any time, from any where and through any device. Thus, it enables you to address the multi-facet challenges head-on while delivering your important goals with greater data visibility, transparency and confidence.



OpenBlue Plant Manager is designed to be straight forward in the set-up and requires to be connected to the on site BAS that controls the plant equipment. This allows the relevant data to be ingested into the cloud through a highly cyber-secure connection.

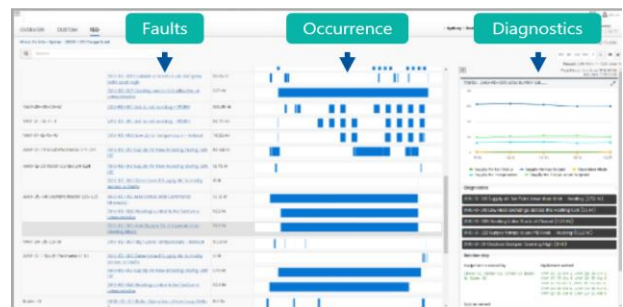
Full Transparency of your Central Plant Performance

With the proper data ingested, OpenBlue Plant Monitor will be able to analyze, benchmark and display every aspect of the central plant's performance, providing deep insights and allowing you to make better informed decision in optimizing your plant operations, maintenance, and energy savings projects.



Advanced Fault Detection & Diagnostic (FDD)

OpenBlue Plant Monitor incorporates a comprehensive FDD library that helps to uncover abnormalities before they turned into critical problems. This enables proactive actions to be taken to increase your plant's uptime, energy efficiency and resiliency. It also enables the predictive maintenance to enhance your plant performance and extend the life cycle of your plant equipment.

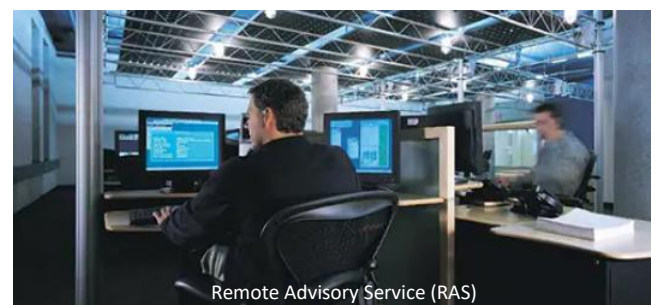


Customized Reports for Different Personas

To facilitate the information needs of different personas, OpenBlue Plant Monitor is built in with Power BI that allows the ease of customizing reports to suit. This enables the solution to be used optimally within the organization for different needs.

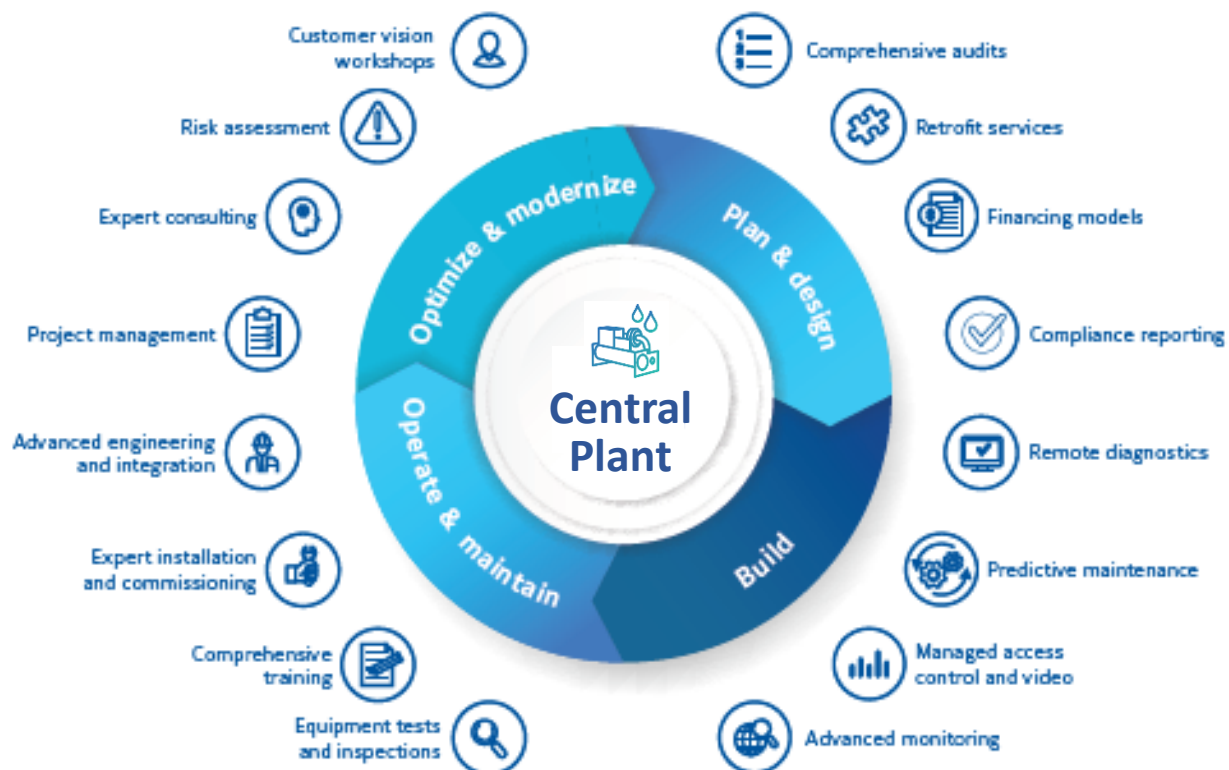
Remote Advisory Service (Option)

For building owners who do not have local skilled staff to use the solution, Johnson Controls provide an optional Remote Advisory Service to help interpret and submit monthly or quarterly report. It will highlight the key focused areas so that the central plant's performance is not compromised in anyway.



As an expert in central utility plants, Johnson Controls also provide a comprehensive suite of maintenance and retrofit services, and solutions to meet your diverse needs for chillers, cooling towers, flow meters, variable speed drives, air handling units, as well as clean air solutions.

Powering innovative and customized solutions across the full life cycle of your Central Plant



The Johnson Controls difference



Deep subject matter experts

Experienced service specialists at your fingertips. Providing best-in-class service is in our DNA.



OpenBlue technology

OpenBlue AI technology empowers you to manage your operations more systematically for greater visibility, enhanced performance, proactive planning, and overall building optimisation.



Tailored and flexible offerings

We offer scalable service options across a comprehensive range of HVAC, fire protection, and security services, delivering the services you want, the way you want them.

About Johnson Controls

At Johnson Controls, we transform the environments where people live, work, learn and play. From optimising building performance to improving safety and enhancing comfort, we drive the outcomes that matter most. We deliver our promise in industries such as healthcare, education, data centers, and manufacturing. With a global team of over 100,000 experts in more than 150 countries and over 130 years of innovation experience, we are the power behind our customers' mission. Our leading portfolio of building technology and solutions includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Ruskin®, Titus®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®.

Follow [@johnsoncontrols](#) on twitter

© 2021 Johnson Controls. All rights reserved.