

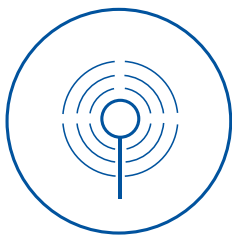
# OpenBlue Life Sciences

## Case Study



### Global pharmaceutical company partners with Johnson Controls and CBRE for enhanced lab operations

Johnson Controls Intelligent Laboratories solution makes more time for science



**Integrating diverse sensor information**



**Leveraging the power of data analytics**



**Driving lab services from real data**

As leaders in managing and optimizing laboratory environments, Johnson Controls and CBRE partnered with a global, science-led biopharmaceutical company with the goal of delivering an optimized lab environment for scientists who are hard at work researching and developing pharmaceuticals to bring lifesaving medications to market.

Mission-critical laboratory environments are optimized when scientists have what they need to work productively and comfortably with limited time wasted waiting for available lab space and equipment.

Realizing that no holistic solution existed, the partnership developed its Intelligent Laboratories solution by working together through the CBRE-JCI Building Innovation Lab.

## Intelligent Laboratories

Part of the OpenBlue Life Sciences suite of connected solutions, Intelligent Laboratories is a smart connected platform that analyses real-time lab data to deliver unprecedented operational insights.

It is a software-based solution that gathers real-time data from sources such as environmental monitors, asset trackers, badges, and occupancy sensors to monitor temperature, equipment utilization, energy usage and assets, and people movement to identify problem areas and methods to fix them.

It empowers scientists and lab managers to make informed, real-time decisions that improve lab efficiency and effectiveness.

This unprecedented level of insight is delivered in an integrated and customizable solution – unlike competitors' independent plug-and-play products. This cloud-hosted solution utilizes data generated by remote sensors in the lab area, which can be quickly deployed in a few days.



## Backed by OpenBlue - the blueprint for the future

OpenBlue is a complete suite of connected solutions that delivers impactful sustainability, new healthy occupant experiences, and respectful safety and security that combines our 135 years of building expertise with cutting-edge technology.

It also features a suite of tailored, AI-powered service solutions such as remote diagnostics, predictive maintenance, compliance monitoring, advanced risk assessments, and more.

## Key customer challenges

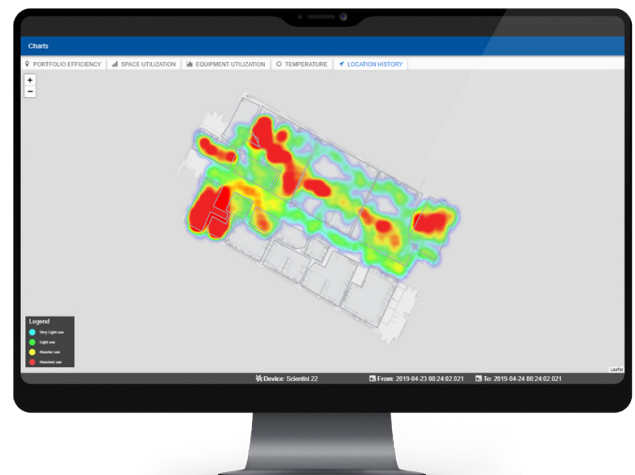
### Resolved mini-lab overcrowding

Several mini-labs existed within the main laboratory, each with a function and purpose. Through the space and equipment utilization data from Intelligent Laboratories, the pharmaceutical company discovered that certain mini-labs were becoming congested with too many scientists using highly utilized equipment, while other mini-labs remained mostly vacant with underutilized equipment. To address this space utilization imbalance, solve space issues, and ensure full utilization of equipment, a redesigned floor plan was rolled out. The new layout led to a significant increase in overall science activity, while at the same time improving the working environment for scientists, who are no longer squeezed into an over-capacity mini-lab.

### Alleviated equipment utilization and location concerns

Gauging how productive equipment is and where it is located is essential for optimizing workflow. The pharmaceutical company recently purchased two thermocyclers and questioned if the investment was sound.

Data obtained from the Intelligent Laboratories application determined that the purchase was justified, with each machine in use for at least four hours per day, double the work time of other machines. Recommendations were also made on other under-utilized equipment that could be removed to create more bench space.





"We learned a great deal about setting up and maintaining proper laboratory environments while working with Johnson Controls and CBRE, and its Intelligent Laboratories solution. They didn't just provide data collection but recommended and activated actual solutions that are already helping our scientists work more comfortably and efficiently."

### **Reconciled temperature irregularities**

Extreme hot and cold spots existed at various locations within the laboratory. One area was very warm, with temperatures transitioning outside the specified operational range, while other areas had issues with reagents freezing because of temperatures that were too cold.

After a closer look at the equipment and temperature controls in the space, it was noted that three large automation systems were causing a temperature spike when in use. This caused the HVAC system to engage, which created cold spots in other areas and caused reagents to freeze.

Intelligent Laboratories demonstrated to the pharmaceutical company that its HVAC system was imbalanced because of increased load from the automation systems. To resolve this, the pharmaceutical company's lead scientist used the insights from the Intelligent Laboratories platform to justify that chillers dedicated to space with the automation systems resolved overheating and system imbalance.

## Scientist at global pharmaceutical company

### **Increased productivity**

- Increased equipment utilisation
- Increased use of underutilised lab areas
- Improved workflows

### **Shorter time to market**

- Reduction in failed tests due to environment and contamination issues
- Re-designed workspaces facilitating increased collaboration

### **Reduced costs**

- Better mix of lab versus non-lab space for science
- Deferred or reduced capital expenditure
- Greater shift usage-based maintenance

### **Improved health and safety**

- Lone worker and out-of-hours alerting with duress support
- Improved work environment conditions
- Visitor monitoring for security and safety

## About Johnson Controls Intelligent Laboratories and CBRE Integrated Laboratory Services

Johnson Controls and CBRE are strategic partners with the shared goal of advancing a new generation of workplace solutions to help organizations reach their performance goals. Working together and merging their joint expertise, Johnson Controls provides hardware, smart buildings, and data technology and expertise, while CBRE provides knowledge about how laboratories operate and what's important within that working environment.

Together, the two companies have come together to deliver true differentiated outcomes for clients. Johnson Controls and CBRE worked together to optimize the R&D laboratory setting at a global biopharmaceutical company and make more time for science.

The OpenBlue Intelligent Laboratories application provides a fully customized plan and solutions to integrate into the environment, which helps the pharmaceutical company continually find better uses of space and equipment.

It is part of the new OpenBlue platform, which aims to deliver enhanced smart connected facilities that utilize data to improve operations.

"Partnering with CBRE to implement our Intelligent Laboratories application for this global pharmaceutical company was ideal because our companies have similar values including innovation, flexibility and expertise. Providing data-based solutions to advance the laboratory or any type of specialized environment is our goal, and we achieved it here."

Ger McNamara  
Director - Digital Solutions  
Johnson Controls



Johnson Controls Intelligent Laboratories was developed using Privacy by Design and supports Privacy by Default. All the features of Johnson Controls Intelligent Laboratories are available without directly identifying individuals, so the system is configured to focus on the what, not the who.

### About OpenBlue

OpenBlue is a complete suite of connected solutions that serves industries from workplaces to schools, hospitals to campuses, and beyond. This platform includes tailored, AI-infused service solutions such as remote diagnostics, predictive maintenance, compliance monitoring, and advanced risk assessments. A dynamic new space from Johnson Controls, OpenBlue is how buildings come alive. To read more about OpenBlue, visit: [www.johnsoncontrols.com/OpenBlue](http://www.johnsoncontrols.com/OpenBlue)