

Global Pharmaceutical company partners with Johnson Controls and CBRE

Making more time for science



Integrating diverse **Sensor Information** Leveraging the power of **Data Analytics** Driving **Lab Services** from **Real Data**

As a leader in 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, working together through the CBRE JCI Building Innovation Lab, the partnership developed its Intelligent Laboratories solution to deploy with the pharmaceutical company.

Intelligent Laboratories is designed to analyze and identify laboratory utilization and productivity, and help create unprecedented strides in laboratory advancement.

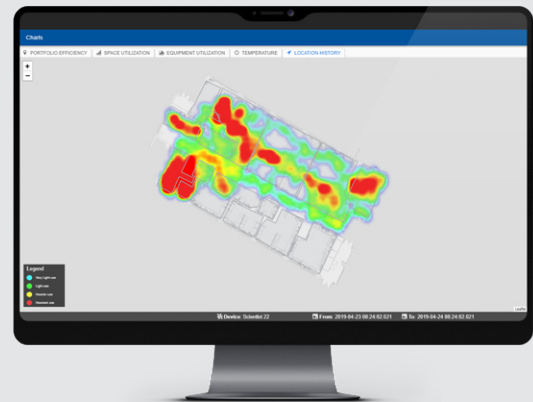
It is a software-based solution that gathers real-time data from sources such as environmental monitors, asset trackers, badges, and occupancy sensors to analyze temperature, equipment utilization, energy usage and assets, and people movement to identify problem areas and methods to fix them.

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.

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 minilabs 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. An assessment commenced to determine how often both machines were in use. 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 under-utilized equipment that could be removed to create more benchtop space.

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 due to increased load from the automation systems. To resolve, 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.

"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."

Scientist at Global Pharmaceutical Company

Outcomes achieved



Increased productivity

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



Reduced costs

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



Shorter time to market

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



Improved health & safety

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



Johnson Controls: *"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

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 and data technology and expertise, while CBRE provides knowledge about how laboratories operate and what's important within the 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 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.



About Johnson Controls

Johnson Controls Building Technologies & Solutions is making the world safer, smarter and more sustainable – one building at a time. Our technology portfolio integrates every aspect of a building – whether security systems, energy management, fire protection or HVACR – to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Ruskin®, Titus®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®.

About CBRE Group, Inc.

CBRE Group, Inc. (NYSE:CBRE), a Fortune 500 and S&P 500 company headquartered in Los Angeles, is the world's largest commercial real estate services and investment firm (based on 2018 revenue). The company has more than 90,000 employees (excluding affiliates), and serves real estate investors and occupiers through approximately 480 offices (excluding affiliates) worldwide. CBRE offers a broad range of integrated services, including facilities, transaction and project management; property management; investment management; appraisal and valuation; property leasing; strategic consulting; property sales; mortgage services and development services.

Please visit our website at <http://www.cbre.com>



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