# An Intelligent Workspace: Achieving Energy Efficiency in a Singaporean Modern Office

In 2018, The 1700 employee's Customer HQ relocated to a new building, spearheaded by their workplace innovation team, including software developers, to create a modern workspace that adheres to Singapore's stringent environmental regulations while enhancing employee experience, with a focus on the meeting rooms setup.

## The Challenge:

### Reduce Energy Consumption

Singapore's warm and humid tropical climate necessitate continuous air conditioning. The building's BMS (Building Management System) maintains each room's temperature based on thermostats, which do not respond fast enough to actual occupant's demand. Achieving energy efficiency while maintaining thermal comfort requires sensor data to be precise and seamlessly integrated into the BMS.

## Increase Meeting Room's Energy Efficiency with PointGrab's Data

### Integrate PointGrab Sensors data with the Building Management System (BMS)

By installing CogniPoint sensors in each meeting room, the Innovation team developed a "true usage override" interface over the room's thermostat using real-time people count. This allowed both temperature and fresh airflow control from the BMS system adjusting output instantaneously based on actual occupancy.

# Benefits of the Solution :

## Green Operations:

When more people enter the room, the air conditioning starts cooling immediately, accurately predicting the required temperature and enhancing occupant comfort. Fresh air flow is also controlled by this usage of the room. When the meeting ends and participants leave, the energy reduction model activates, adjusting energy usage downward. Even if a room is booked but not used, the temperature is adjusted accordingly.

## Trusted Accuracy:

PointGrab's occupancy sensors integration to the BMS provides real-time room usage data with unmatched precision.

## Custom Built Application:

Armed with granular data, the innovation team was able to build an Optimized HVAC application that activates the BMS controls based on the room actual usage

## Real-Time Efficiency:

The new data system allowed the Customer to reduce energy usage across all spaces even though meeting room demands are back to pre-Covid levels..

## Impact:

Five years into deploying the PointGrab Sensor Data System, it has become a cornerstone of energy efficiency, reducing energy consumption in meeting rooms by an estimated 10% and positively impacting the occupant's experience. The next steps planned are integrating the sensors with the lighting system to further improve energy efficiency in the Customer's modern office.

## A Testimony to Innovation:

"We are delighted with the CogniPoint sensors. Since implementing PointGrab's Occupancy Sensors in 2018, we have developed control applications that optimize our energy consumption and improve the office experience for our employees by leveraging accurate sensor data," remarked the Project Manager of the Innovation team. This success led to the renewal of the PointGrab data subscription contract in 2024..

## Conclusion:

### Optimized Energy Usage with demand-based HVAC

PointGrab's Sensor Data System, widely used in commercial real estate, provides precise people counting in each meeting room, optimizing energy and fresh air levels for both meeting start and end times, as well as no-show situations. In an energy-conscious country like Singapore, this integration with the BMS is a critical use case for the Intelligent Workspace.