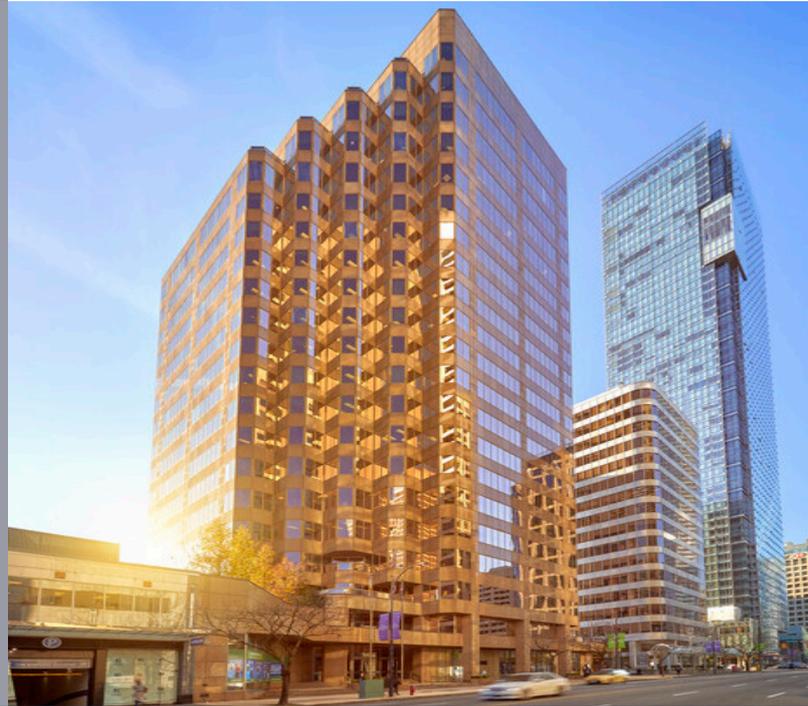


## CASE STUDY

### Cadence Financial Group & AssetCare™ HVAC and IAQ

Commercial office tenant upgrades indoor air quality to safeguard health and safety of customers and employees.



Looking for a simple turn-key solution, Cadence Financial Group turned to mCloud and AssetCare™ HVAC and Indoor Air Quality (IAQ) — an all-in-one solution delivering proven technologies capable of improving the air quality of their office space and providing ongoing assurance to clients and employees.

## Overview

In 2021, Cadence Financial Group, a professional wealth management firm based in Vancouver, Canada, made the commitment to protect the health of its clients and employees having seen the business impacts of the Covid-19 pandemic. Cadence decided that improving the air quality of their leased office space would be central to their plans.

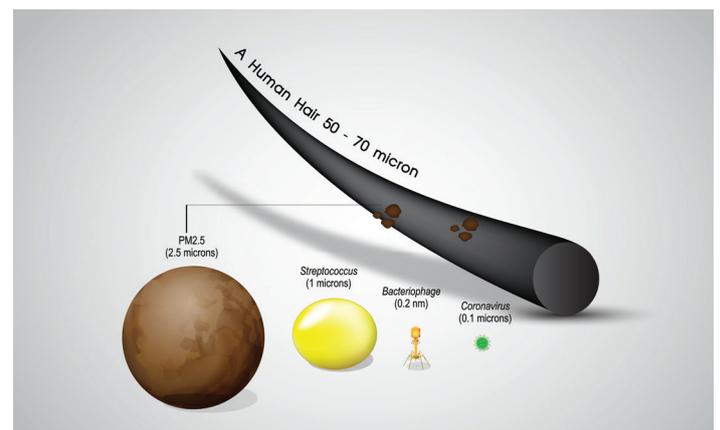
Through AssetCare HVAC and IAQ, mCloud has helped Cadence measurably improve the indoor air quality of their office by continuously eliminating 77% of the micro-particles and pathogens less than one micron in size, similar to airborne viruses, which were present before the installation of AssetCare. AssetCare has further helped Cadence continuously eliminate 86% of larger particles (bacteria, allergens, dust) known to impact the health and safety of building occupants.

In addition to improving the indoor air quality at Cadence, AssetCare also helped improve the energy efficiency of their operations by improving ventilation and reducing the demand for building HVAC. Through connected IAQ sensors and an innovative IAQ Assurance Badge — a special QR code that Cadence employees and clients can scan with their smartphone — AssetCare has given Cadence the ability to be transparent about the quality of air in their office to their staff and clients on-demand.

## Challenge

Cadence Financial Group leases 10,700 square feet on the fourth floor of the Grosvenor Building, a 22-floor, class A office tower in Vancouver's Financial District.

*"We wanted to ensure the safety of clients attending meetings and employees working in the office during the pandemic by providing clean air for them to breathe,"* said Laura Furtado, Cadence's Head of Business Development. *"We also wanted to look at how this might help us improve the energy efficiency of our office."*



We demand clean water so it only makes sense to properly clean our air as well and have visibility to its quality – it's essential to the health and wellness of our employees and customers.

– Laura Furtado, Cadence's Head of Business Development

## Solution

In rolling out AssetCare, mCloud building specialists carried out a complete implementation program for Cadence:

- Conducted a site assessment and measured on-site air quality and energy use prior to the implementation of AssetCare.
- Replaced the existing filtration in the floor's air-handling unit with an electrically-activated air purification and filtration system, and six high-efficiency MERV-13 air filters.
- Installed connected indoor air-quality monitoring sensors in the boardroom and reception area.
- Tested for smaller particle sizes using a hand-held, lab-certified particle counter, the same typically used to assess pharmaceutical and microchip cleanrooms.
- Installed the AssetCare IAQ Assurance Badge – a QR Code in the common area of the building that provides details on the monitoring and mitigation technologies used on-site for visitors. Additional badges were installed on both on-site sensors to provide live air-quality readings.
- AssetCare provides continuous monitoring to create ongoing visibility into indoor air quality and office energy efficiency at Cadence.

*The implementation of mCloud's 24/7 IoT-enabled air quality monitoring and AI-driven connected air purification solutions produced impressive results.*

## Results

The implementation of mCloud's 24/7 IoT-enabled air quality monitoring and AI-driven connected air purification solution produced impressive results:

**Significant reduction in larger particulate matter** - The installation of activated filters reduced the concentration of 2.5 µm-sized particle matter (e.g., allergens, mold spores) by 84% in the boardroom and 86% in the reception area.

**Reduced concentrations of smaller particles** - Concentrations of 0.3 µm-sized particles (e.g., airborne viruses, smoke and smog particles) were reduced by 77%. Concentrations of 0.5 µm-sized particles (e.g., bacteria, dust, allergens) were reduced by 58%.

## 5 Key Indoor Air Quality Indicators

- 1 Temperature:** Thermal discomfort impacts productivity, can cause dehydration
- 2 Carbon Dioxide (CO<sub>2</sub>):** Accumulations can cause headaches, loss of attention, increased heart rate.  
**Target: <1,000 ppm**
- 3 Relative humidity:** Promotes growth of mold and bacteria, can dry out respiratory tract.  
**Target: 40-60%**
- 4 Total Volatile Organic Compounds (TVOC):** VOCs impact eyes, nose and throat, can even impact liver, kidney and nervous system functioning.  
**Target: <109.5 ppb**
- 5 Particulate Matter (PM):** Can infiltrate nose and mouth, affect lungs, heart and overall health.  
**Target: <35 µm/m**

**Detected high levels of toxin** - Ongoing monitoring detected high levels of Volatile Organic Compounds (VOC), the source of which was traced and then addressed through strategic operational improvements. The monitoring team measured a 30%-plus reduction in VOC daily averages after improvements.

**Introduced transparency** - QR-codes on AssetCare IAQ Assurance Badges provide visibility about the real-time quality of air and detail the monitoring and mitigation technologies being used in the office.

**Reduced energy use** - The installation of high-efficiency air purification with activated filters, combined with continuous monitoring and AI-driven optimization, lowered the pressure drop on the air delivery system and reduced HVAC energy consumption.

## About mCloud

mCloud is unlocking the untapped potential of energy-intensive assets with AssetCare™, using AI in the cloud to improve air quality, curb energy waste and optimize performance and reliability. There are AssetCare™ solutions for commercial buildings, wind farms, heavy industry and connected workers. Visit [mcloudcorp.com](http://mcloudcorp.com) for more information.