

Making the invisible, visible

By Yasir Quershi & Brad Croasdale
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HEALTHY INDOOR ENVIRONMENTS MATTER MORE THAN EVER

Changing Perceptions of Healthy

70% of occupants decide whether to visit a building based on perceptions of health – and **74% believe spaces impact their well-being.**

Higher Efficiency Standards

Rebate and tax incentives for buildings that meet efficiency standards are a key pillar of the new administration's plan.

Awareness of Air Quality

Nearly 50 million Americans experienced “unhealthy” air this year, as a result of the worst wildfires on record.

Sources: UN Environment, Global Status Report, 2017; Future Forum Research, The Evolution of Remote Work 2020; America's Offices Sit Half-Empty Six Months Into the Covid-19 Pandemic, WSJ, 2020.

Why Healthy Buildings



WE SPEND 90% OF OUR TIME INDOORS

We can use healthy building environments to:


Sources: <http://thecogfxstudy.com>, <http://thehealthfxstudy.com>.

IMPROVE COGNITIVE FUNCTION

in enhanced green buildings

Crisis response scores  **131% HIGHER**

Information usage scores  **299% HIGHER**

Strategy scores  **288% HIGHER**

IMPROVE PERSONAL HEALTH

In high-performing, green-certified buildings vs. high-performing, non-certified buildings

Sick building symptoms  **30% FEWER & better environmental perceptions**

Sleep quality scores  **6.4% HIGHER**

Primary support for the study came from Carrier. MacNaughton P, Allen J, Satish U, Laurent J, Flanigan S, Vallarino J, Coull B, Spengler. 2016. The Impact of Working in a Green Certified Building on Cognitive Function and Health. Building and Environment DOI: 10.1016/j.buildenv.2016.11.041

Carrier's Leadership



Healthy Buildings

Focusing on occupant health and wellness of indoor environments



Sustainability

Maximizing energy efficiency and system resiliency



Comfort

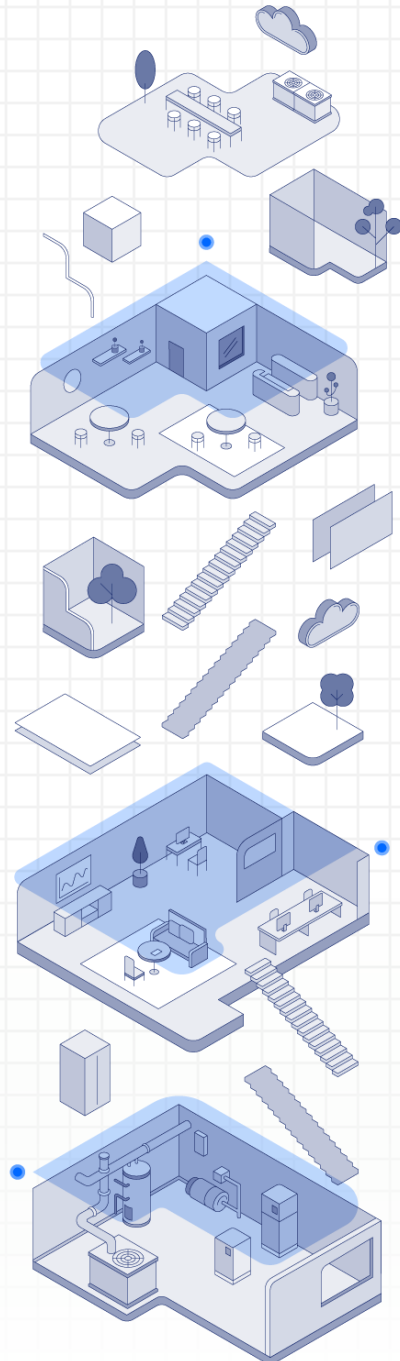
Increasing occupant comfort, and optimizing temperature and humidity control

Born out of Carrier's
commitment
to digital innovation, Abound
is grounded in Carrier's 115-
year history of expertise,
service, support, and
commitment to excellence.

Building systems ... is our business

The founder of modern air conditioning, Carrier is the leading global provider of healthy, safe and sustainable building solutions - and has a large footprint across building technologies.





Every building is an indoor ecosystem

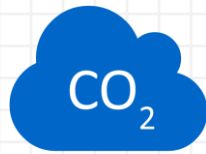
And that ecosystem can affect our safety, wellness and comfort. That's why it has to be its healthiest and most efficient.

Abound helps buildings meet that responsibility by fully reimagining what they can be:

Smarter, more sustainable, and more responsive.

Making the invisible, visible

Traditional Building Management Systems



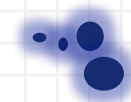
DCV applications

Thermal Comfort Energy Saving

Indoor Air Quality Monitoring



Radon



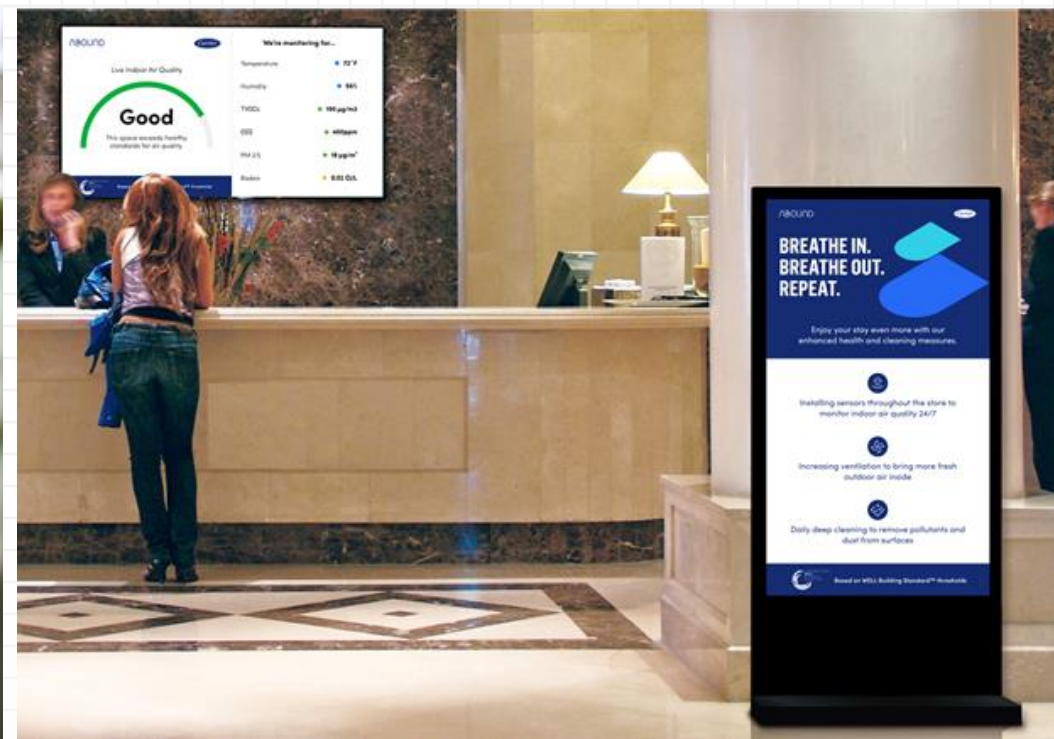
Particulate Matter

Full Spectrum IAQ & Wellness

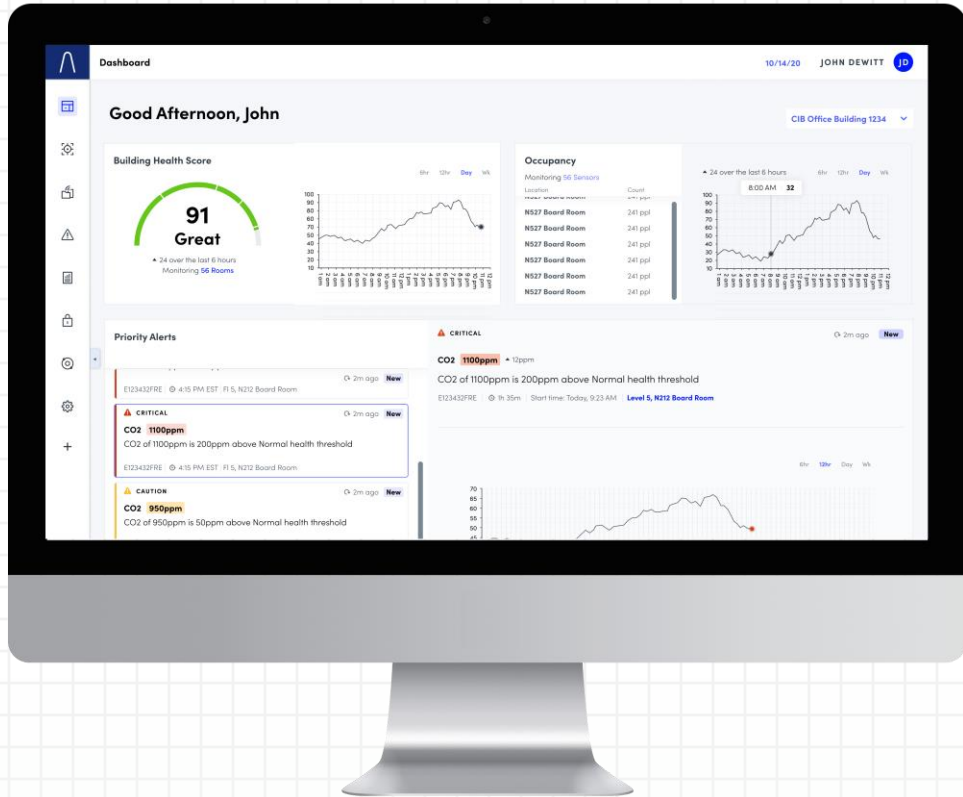
Making the invisible, visible

Real time, continuous IAQ monitoring informs decision making

Engage and communicate with occupants to instill confidence



Key features – Today



Live Indoor Air Quality Summary

View a real-time summary that compares your building’s indoor air quality performance to certification standards such as the WELL Building Standard™

Air Quality Monitoring

Monitor real-time and historical indoor air quality information, including temperature, humidity, CO2, VOCs, PM2.5 and radon – and receive alerts if levels move outside of a healthy range

Health & comfort

Increase occupant and visitor confidence by monitoring and displaying indoor air quality and comfort metrics, benchmarked with science-backed standards

People Counting

View real-time and historical occupancy data for individual spaces or an entire building

Equipment management

Improve performance and extend equipment lifespan with real-time equipment performance monitoring and anomaly detection

Energy Usage Monitoring

Monitor real-time and historical electric load for your entire building or individual sub-systems (e.g., HVAC, lighting, network)

What sets it apart



Expert-backed

Developed by Carrier, the leading global provider of healthy, safe, and sustainable building and cold chain solutions



Open

Abound integrates disparate data from various building systems, equipment and sensors and communicates effectively across multiple buildings



Science-based

Abound monitors building performance in line with scientifically based standards (e.g. WELL Building)



Modular & Scalable

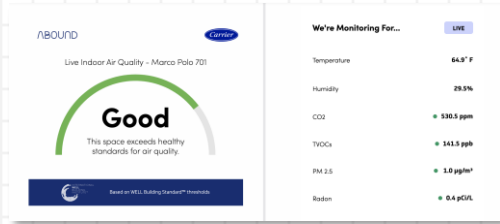
A cloud-based, SaaS solution that makes Abound rapidly scalable across a portfolio, and expandable to newer features & applications



Global Delivery

Our long-standing delivery channels offer onsite professional consultations, project delivery, and service in 180 countries around the world

Our Healthy & Sustainable Journey



Broadcast Health Inspire Confidence

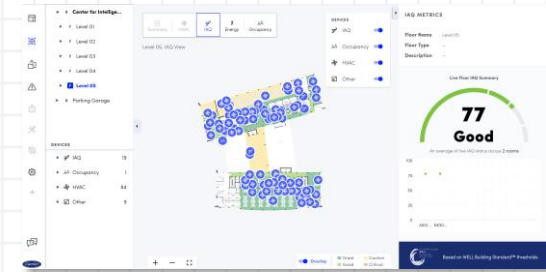
Healthy Building Airside Assessment



Balance Energy, Operations & IAQ

ABOUND

Real-Time Indoor Air Quality Baseline



Add Supplement Purification

Commission, Balance, Update Equipment



Optimize Controls & Sequences



Cherokee County School District – Metro Atlanta

ABOUND BY CARRIER



“ Implementing Abound ... has improved the facility staff and administration's ability to understand and manage the health and safety of our buildings

- Bill Sebring
Chief Support Services Officer

Truist Park – Atlanta Braves (MLB) Stadium

ABOUND BY CARRIER



“ The visual displays ... provide our guests a real-time look at how our systems are working together to improve air quality

- Jim Allen
Senior Vice President of Corporate and Premium Partnerships for the Atlanta Braves

The Abound Team



Mead Rusert
Carrier Global Controls &
President Automated Logic



Yasir Qureshi
General Manager
Abound & Digital Products



Brad Croasdale
Sales Director & Business
Development
Abound & Digital Products



Cheryl L Altany
Sales Manager
Abound & Digital
Products

The future of buildings starts with Abound

