

- Rapidly growing Building Optimization Software company
- Based in Glasgow Scotland
  - US operations started 2018
- Strong team of building scientists, simulation engineers and software developers
- Strong relationship with Strathclyde University
  - UC Davis relationship started 2018
- Product lines focus on energy simulation and Indoor Environmental Quality

The Arbnco logo is displayed in white lowercase letters within a teal circle. The background of the slide is a photograph of a modern building with large glass windows and a paved plaza with benches and trees.

arbnco

# IEQ Product – arbn well



buildings don't use energy, people do  
(Janda, 2011)



healthy buildings more likely to be  
efficient



engagement promotes demand reduction and  
efficient operation



satisfaction is  
✓ subjective  
✓ inconsistent  
✓ driven by perception



difficult to address without  
✓ localisation  
✓ personalisation  
✓ immediate suggestions



good energy-efficiency practices can be undone  
by lack of engagement

# Major Components

Continuous and ubiquitous  
**sensing**

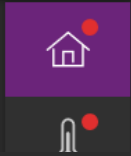


Bespoke **reports** and  
intelligent **analysis**

Real-time **visualisation** and  
customisable **alerts**



**Mobile apps** for  
engagement



TEI



arbn<sub>well</sub>

14/07/2018 00:00

21/07/2018 00:00

arbnco office

TEMPERATURE

Performance status ☐ Contour map

## OVERALL

### CO<sub>2</sub>

ppm

2200  
2000  
1800  
1600  
1400  
1200  
1000  
800  
600  
400

Apr 2

Apr 3

Apr 4

Apr 5

Apr 6

Apr 7

Apr 8

Apr 9

Apr 10

Apr 11

Apr 12

30

20

15

Jul 14  
20:00

Jul 15  
20:00

Jul 16  
20:00

Jul 17  
20:00

Jul 18  
20:00

Jul 19  
20:00

Jul 20  
20:00

Oct 12  
1:00

how would you describe the

# TEMPERATURE

Too cold

OK

Too warm

CONTINUE

# Welcome

to the arbn well feedback app

Please respond to the questions for your current location as best as you can.

There are no wrong answers, since your perception is the most important aspect of managing your work environment.

Perception is subjective

CONTINUE

VIEW KNOWLEDGE BASE (FAQ)

← back

your results

# DASHBOARD

TEMPERATURE

24°C

your opinion:

Too warm

HUMIDITY

30%

your opinion:

Fresh

OK

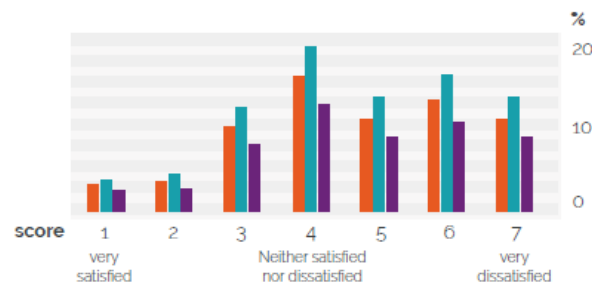
## Occupant Engagement

The following is a summary of feedback and the impact of the indoor environment on the occupants.

### Feedback

Total number of votes: 100

- Present reporting period
- Last reporting period
- Lifetime average



This graph shows the %age of votes for each score, averaged over all environmental parameters polled (temperature, humidity, light levels). A higher score is better, so if the bars to the right of the midpoint (4, neither satisfied nor dissatisfied) are larger, then the responses were more positive. The votes from this period are plotted along with those from the last reporting period and the lifetime of the building.

### Word cloud

present reporting period

smell cold  
stuffy  
uncomfortable  
storage hot

### Word cloud

last reporting period

uncomfortable  
smell cold  
hot stuffy dry

## General Summary

### Overall building status



### Temperature



### CO2 Co2 Emission



### Light level



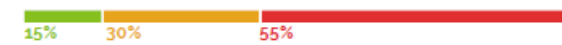
### Humidity



### P.M. 2.5



### VOC



These bars show the percentage of time the status of each parameter, and the overall status of the building, was either good (green), acceptable (orange), or investigate (red). Only occupied hours are counted, during the period of this report. To see how the overall building status is calculated from the individual parameter statuses, see the FAQs at the end of this report.

The period of this report is **3 months**.

The indoor environmental conditions recorded by **86%** of the sensors in your building were **within your chosen limits** for approximately **76%** of the hours of operation. This means that, during the hours of operation, it is **likely** that the occupants of your building found the conditions to be optimal for productive work.

Based on the pollutants that our sensors are able to measure, the air quality inside your building during this time was **not a concern, but there is scope for improvement**. Please see the air quality figures below for details.

There were **15 feedback tickets** raised during this period, which is **25% more** than the last equivalent period of record and **5% more** than the lifetime average for this building. The most common complaints were about **light levels** while highest levels of satisfaction were reported for **humidity**.