



/01 WORKPLACE OPTIMIZATION WITH ENVAIRO

# HOW CAN WE EFFICIENTLY DELIVER OFFICES THAT ENSURE HEALTH AND PRODUCTIVITY?

# FOREWORD. MAKE YOUR CITY.

**URBAN-X** second cohort of startups is once more reimagining city life. This year, the urban-entrepreneurs are putting humanity back into technology. This report presents **URBAN-X** startups within their own ecosystem, highlighting how each one of them is tackling a specific urban challenge from an innovative angle.

This thought piece has been put together by the **URBAN-X** team with research support from Felix Keser and Adrian Dahlin.

A city is a complex system. At **URBAN-X**, we seek to continuously improve this system by investing, connecting and guiding pioneering solution-driven companies.

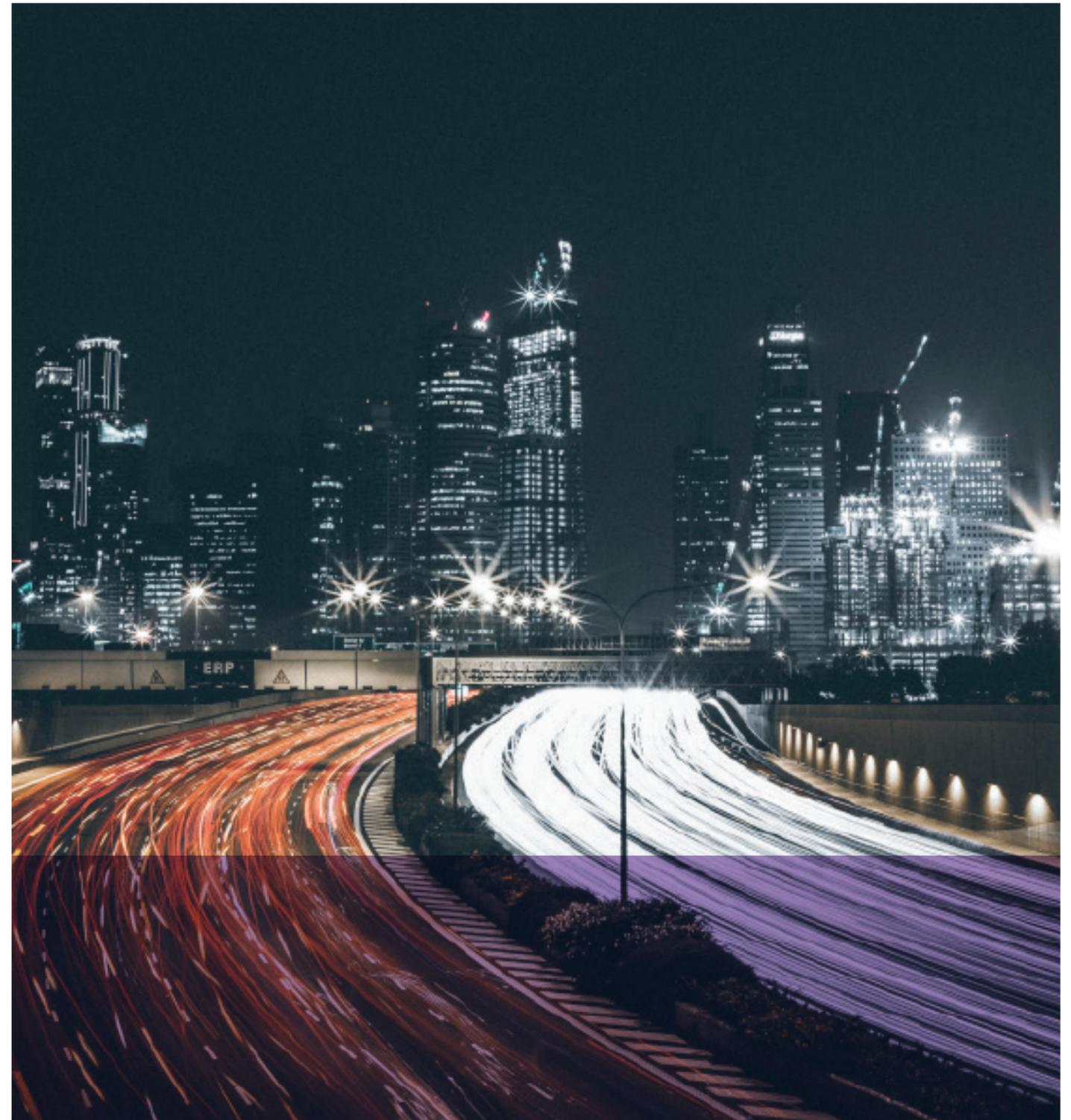
Each **URBAN-X** startup tackles a specific urban challenge through technology and design. **URBAN-X** presents its latest cohort of eight startups that are dedicated to improving city life. Their solutions tackle issues such as air pollution, energy waste, traffic and mobility for the disabled. Together, these startups shape the future of life, work and mobility in cities.

# THE CHALLENGE: OFFICES ARE OUT OF SYNC WITH PEOPLE, WASTING RESOURCES WHILE FAILING TO DELIVER HEALTHY, COMFORTABLE SPACES.

Too cold, too hot, stale recirculated air, no conference rooms available—the woes of office life are familiar. These daily pains cost companies billions in lost productivity as spaces don't match employee needs and cognitive function declines with poor air quality and thermal comfort. Improving air quality in offices can improve productivity by 10%<sup>1</sup>, equating to \$162 billion per year across all US office workers based on national average wages.<sup>2</sup> Estimates for healthcare savings from improved indoor air quality in offices range from \$17 billion to \$40 billion per year,<sup>3</sup> which does not account for benefits to quality of life—the vast majority of adults

in the US spend more than 40 hours a week in an office.

Offices need to deliver for the needs of the people inside, but they don't need to waste resources to do so. Less than 60% of office space is actually used.<sup>4</sup> Increasing space utilization by 5% by right-sizing office space requirements would save US companies \$34 billion annually (based on average rent).<sup>5</sup> Overventilation when occupancy is low accounts for excess energy use of 16% or \$6.4 billion per year in the US alone.<sup>6</sup> The first step to solving these problems is to provide visibility into how spaces are being used and how air conditioning systems are performing.



**ON AVERAGE, 30% OF THE ENERGY USED IN U.S. COMMERCIAL BUILDINGS IS WASTED.**

**BY THE NUMBERS—**

**60%**

Of office space is actually used

**\$162b**

Annual productivity loss in US from poor air quality

**\$6.4b**

Energy waste in US from overventilation

**1.01m 16b**

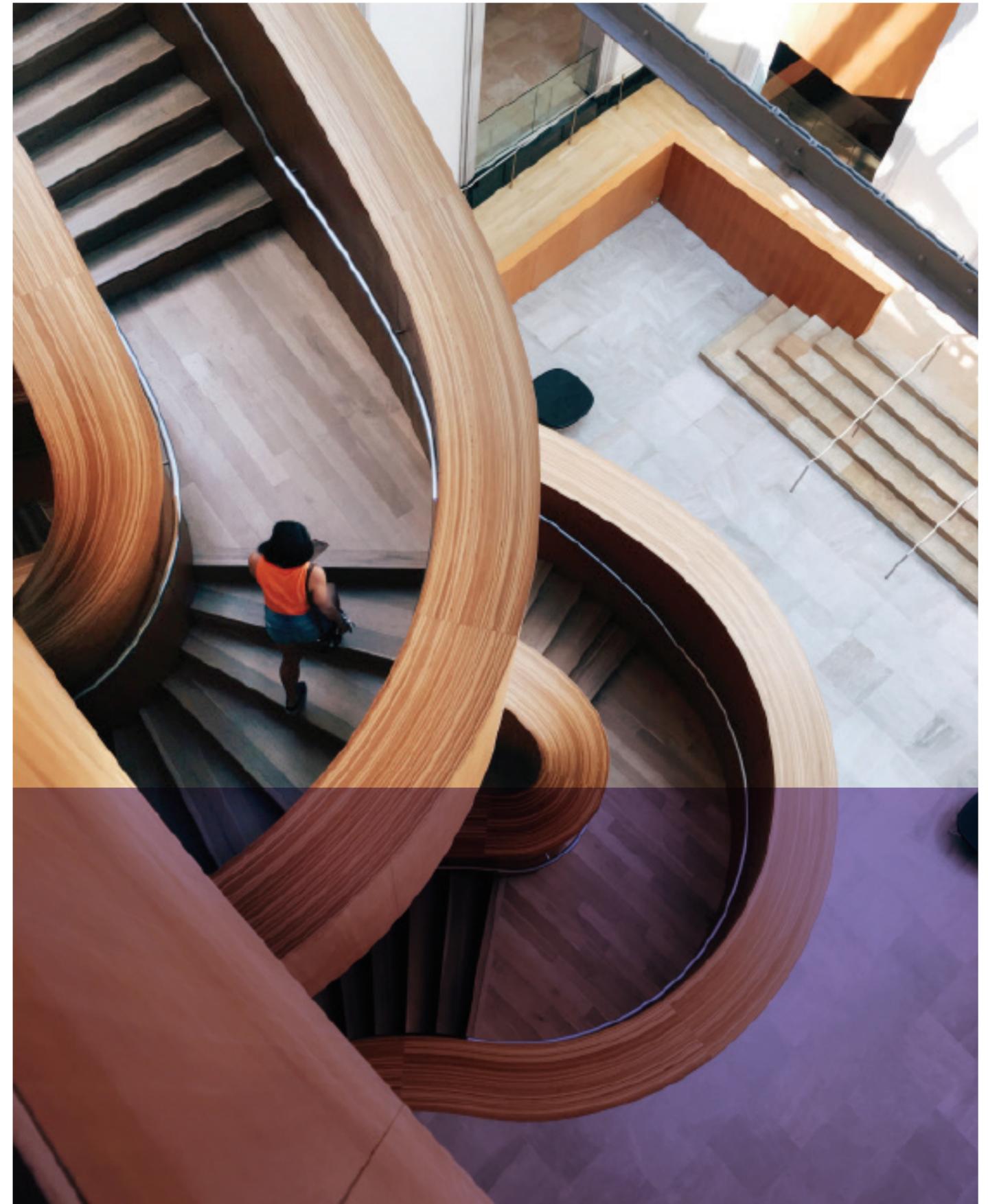
Number of office buildings in the US<sup>7</sup>

**16b**

Total square feet of office buildings in the US

**\$43.79**

Average rent per square foot per year for high rise office in the US<sup>2</sup>



# THE SOLUTION.

# envairo

## WHAT.

Envairo helps offices maximize employee productivity while minimizing real estate operating costs.

## HOW.

Envairo leverages HVAC sensors to determine the number of people in each room, enabling companies to plan and design their office spaces according to actual needs. Beyond monitoring, Envairo optimizes air conditioning and ventilation to ensure high thermal comfort and air quality while reducing energy consumption.



**HEADQUARTERS**  
Brooklyn, NY  
Founded in 2016



**FOUNDER**  
Gabriel Peschiera



**TAGS**  
CleanTech  
Real Estate  
Smart Building



**LINKS**  
[envairo.com](http://envairo.com)  
[gab@envairo.com](mailto:gab@envairo.com)

# A CONVERSATION WITH ENVAIRO

## What inspired you to start Envairo?

I've been working with buildings for the past 8 years, specifically HVAC systems. I saw firsthand how these systems underperform: freezing rooms, bad air quality, energy waste. I set out to solve these issues and found out that the data used to run HVAC can be used to determine how many people are in each room at a given time, a critical metric for architects and office space planners.

## What is your main mission?

Envairo's mission is to optimize the design and operation of office spaces. We optimize HVAC to make sure people are healthy and productive while ensuring maximum energy efficiency. We provide a unique window into how spaces are being used to inform interior design and space planning.

## How did being part of the URBAN-X ecosystem help you to grow and develop your initial product and deal with the roadblocks you have faced so far?

The URBAN-X space has been our living laboratory, allowing us to constantly test our product in a real-world building environment. The URBAN-X program has been critical for us to recruit our team and expand our network of friends and advisors while also connecting us to prospective early adopters.



**“A FUTURE WITH OUR PRODUCT IS A FUTURE WHERE OFFICE BUILDINGS ARE RUN MORE EFFICIENTLY & EFFECTIVELY.”**

—*Gabriel Peschiera,*  
*Founder of Envairo*

## What's next for Envairo?

We have just launched our solution at the headquarters of Gensler, a leading global architecture firm. With our MVP built, we are ready to go to market, showcasing results from our first deployment in the URBAN-X space to validate the product in the eyes of prospective clients. Beyond driving our first sales in the next few months, we will be working to raise a seed round very soon.

## What are the main risks you are facing in the future and how can they be mitigated?

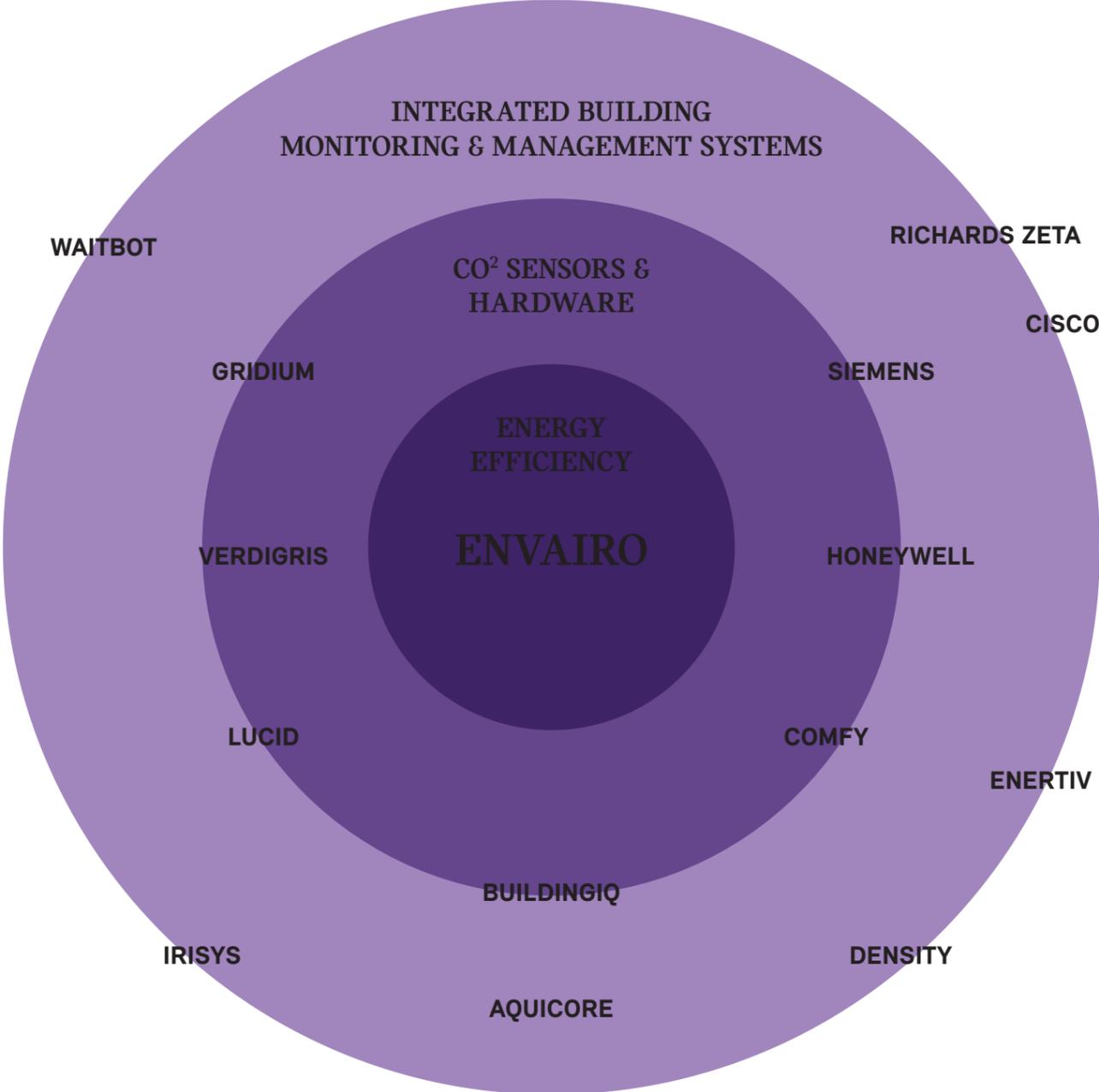
Runway! Early sales always take longer than expected, as does closing a round of funding, so we will be hustling on both fronts and eating plenty of ramen.

With regulatory trends - such as the passage of energy disclosure laws in New York or cities' motivation to become energy efficiency role models in a COP21 world - seemingly in your favor, how will Envairo harness its product to establish competitive advantage over potential new entrants in this growing market?

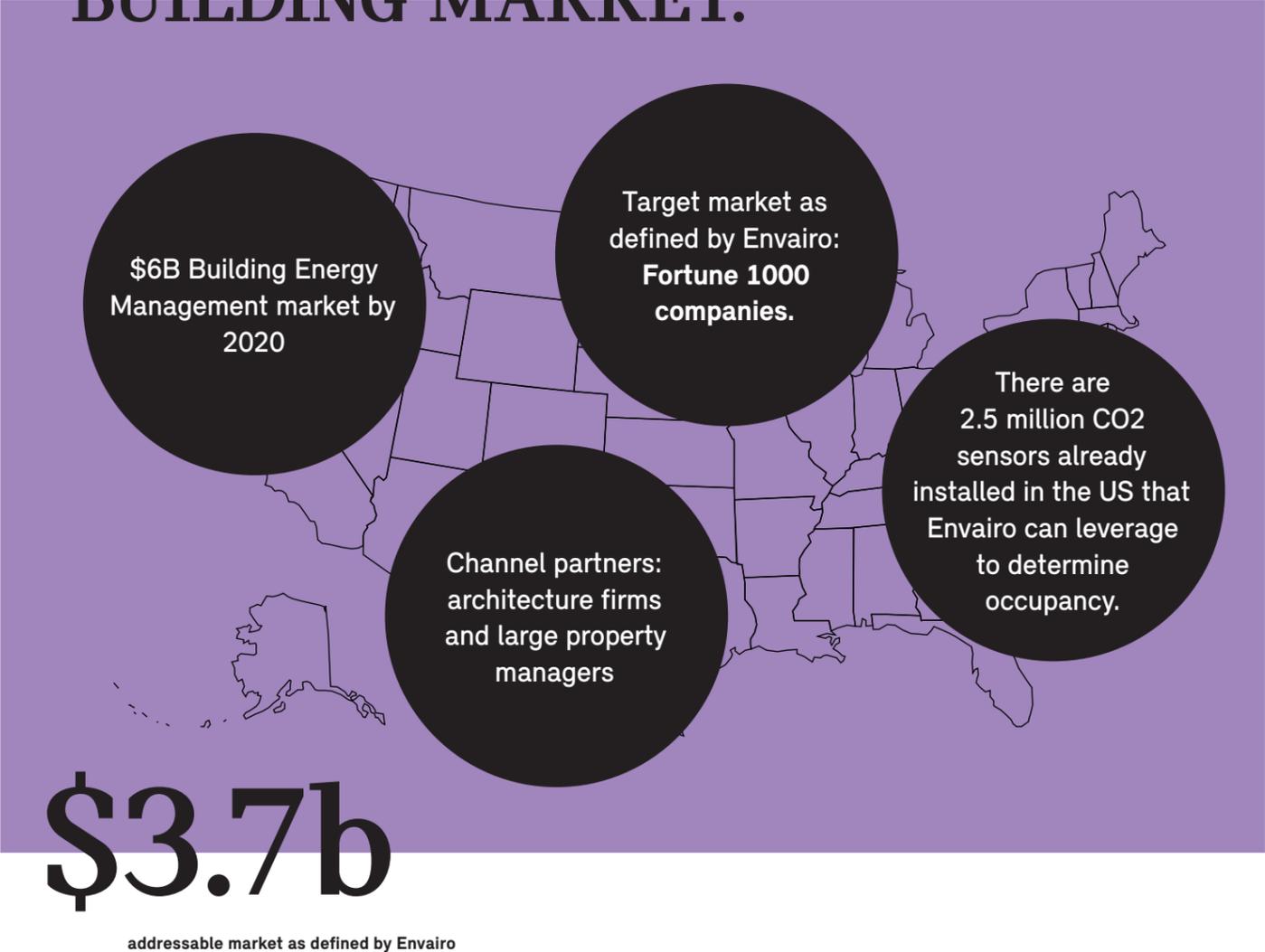
Energy efficiency is a significant part of what we do. That being said, right-sizing office space by using our occupancy metrics and ensuring work spaces are comfortable and healthy for occupants are actually bigger drivers for our clients. Envairo offers value for all commercial real estate stakeholders in three distinct ways: worker productivity, energy cost savings, real estate cost savings. The pull-through is there regardless of regulatory changes, though we welcome any policies that would provide a rising tide for all energy efficiency technologies. As far as competitive advantage, our unique technology enables us to offer a combined indoor air quality monitoring and occupancy measurement solution for offices at a cost that's lower than any other solution for sensing either.

# COMPETITIVE LANDSCAPE.

Envairo has four types of competitors: other startups using software to save energy and improve comfort; costly thermostats with CO2 sensors; hardware used to measure occupancy, such as wifi, cameras, doorway counters... and finally integrated building monitoring and management systems that need to be installed in advance. Envairo therefore provides the cheapest, fastest and most efficient solution in this market.



# COMMERCIAL BUILDING MARKET.<sup>8</sup>



# INVESTMENT LANDSCAPE.

	COMFY	ENERTIV	SHIFT ENERGY	BUILDINGIQ**
HQ	Oakland, CA	New York, NY	Saint John, Canada	Foster City, CA
WEBSITE	comfyapp.com	enertiv.com	shiftenergy.com	buildingiq.com
EMPLOYEES	51-100	11-50	11-50	11-50
FIRST FUNDING/ FOUNDING DATE	2012	2011	2009	2009
VC-BACKED	Yes	Yes	No	Yes
TOTAL FUNDING	\$19.85m	\$1.94m+	undisclosed	\$23.37m before IPO
# INVESTORS	13	14	1	4 before IPO
LAST ROUND	\$12M Series B 6/8/16	Undisclosed 10/1/16	Acquired (see below)	IPO on 12/18/15
INVESTORS	Formation 8, GV, Navitas Capital, Red Swan Ventures, The Westly Group...	NY Angels, Empire Angels, TechStars	Acquired by Mariner Partners in 2016	Commercialisation Australia, Aster Capital, next47, Paladin Capital Group

# KEY PLAYERS TO WATCH.

## COMFY

FOUNDED 2012  
TOTAL FUNDING \$19.85m  
EMPLOYEES: 11-50.

### COMPANY PROFILE.

Comfy is a building automation software that helps companies save energy on office air conditioning and heating while gathering employee-contributed data about the use and occupancy of a workspace.<sup>9</sup> It is one of Envairo's only competitors that measures building occupancy and as a result provides precise data points, permitting large energy efficiency gains.

### LESSONS TO BE LEARNED.

Comfy was founded in 2012 and raised \$19.85M in 3 Rounds from 13 Investors including GV and Microsoft Ventures. Its attractiveness lies in the fact that it is the first platform to empower workers to tweak the temperature around their cubicle and as a result improve comfort, happiness and productivity.<sup>10</sup>

## BUILDINGIQ.

FOUNDED 2009  
TOTAL FUNDING \$23.37m  
EMPLOYEES: 11-50.

### COMPANY PROFILE.

BuildingIQ's flagship product — its 5i platform — helps building owners and operators worldwide lower energy use, increase building operations efficiency and improve comfort. The energy intelligence service platform it provides is built on the 5 pillars of data capture analysis, advanced modeling, measurement & verification, closed loop predictive control, and expert human analysis. Data is captured through various data sources and translated into predictive models.<sup>11</sup>

### LESSONS TO BE LEARNED.

Building IQ's 5 pillars enable their services to deliver an optimized balance of energy savings, operational efficiency, and tenant comfort. Their software performs predictive analytics to inform their customers about trends and define where energy savings are most efficient. However, as their service does not measure occupancy, their results are limited.

\*\*Crunchbase. 2017. Crunchbase. [ONLINE] Available at: <https://www.crunchbase.com> [Accessed 14 August 2017].

\*\*AngelList. 2017. AngelList - Where the world meets startups. [ONLINE] Available at: <https://angel.co>. [Accessed 14 August 2017].

# FOOD FOR THOUGHT.



## MARKET INSIGHT.

Large companies are increasingly looking to collect space use data in order to right-size their real estate requirements.



## OPPORTUNITY.

Hardware for existing room-level occupancy measurement solutions cost >\$1 per square foot and often raise privacy concerns. Envairo leverages existing air quality sensors, and can also provide additional air quality sensors when systems are not up to par.



## WHY ENVAIRO?

Envairo is the only space use measurement technology that can leverage existing air conditioning system sensors, making it the least expensive and easiest to install solution.

# APPENDIX & REFERENCES.

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