

The Future of Workplace Occupancy



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The Future of Workplace Occupancy

1. Introduction

2. Recap: Workplace Occupancy

3. Observations on
Coworking Occupancy

4. Smart Buildings & the
Future of Occupancy

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AAMIDOR CONSULTING

Joe Aamidor is an expert in the smart buildings market and has extensive product management experience in the building and energy management industry. He most recently served as Director of Product at Lucid Design Group. He also held product management responsibilities at Johnson Controls, managing two applications within JCI's Panoptix SaaS building management offering.



Mary Bartlett is Chief Operating Officer at The Reserve coworking space. She's an executive with a diverse skill set in human resources, operations, strategy and client services. The Reserve has three professional coworking locations in Minnesota: Edina, Roseville, and Woodbury.

TEMPERATURE CHECK

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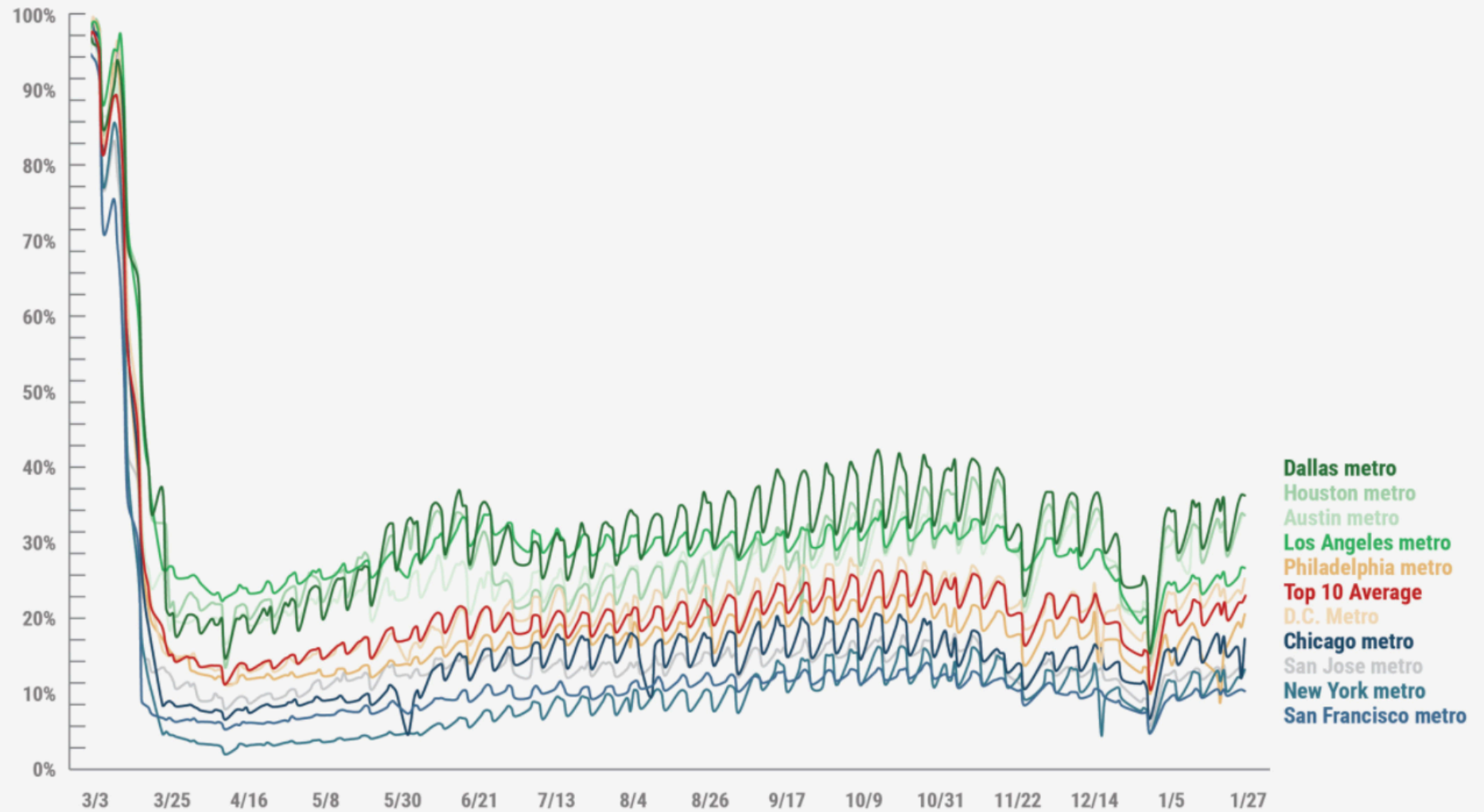
KASTLE BACK TO WORK BAROMETER

2.1.21

Weekly Occupancy Report from Kastle Access Control System Data



OCCUPANCY OVER TIME — MARCH 3 TO JANUARY 27



KASTLE BACK TO WORK BAROMETER

2.8.21

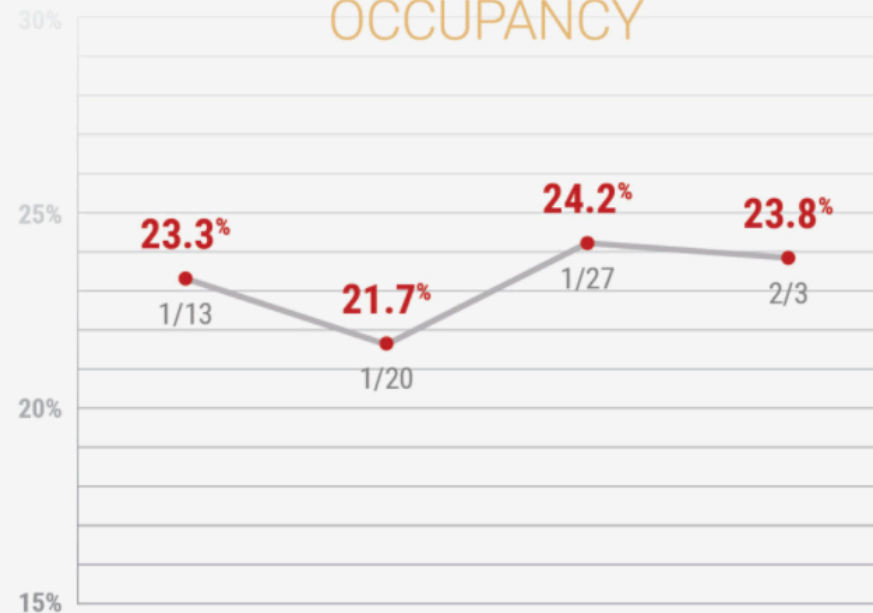
Weekly Occupancy Report from Kastle Access Control System Data



BAROMETER THIS WEEK

23.8%

10 CITY AVERAGE
OCCUPANCY



	Wed 1/27	Wed 2/3	% Change
Philadelphia metro	26.4%	23.6%	2.8% ▼
San Jose metro	14.2%	15.4%	1.2% ▲
New York metro	14.4%	13.3%	1.1% ▼
Austin metro	34.8%	34.0%	0.8% ▼
San Francisco metro	11.7%	12.5%	0.8% ▲
Washington D.C. metro	21.7%	21.0%	0.7% ▼
Dallas metro	37.3%	36.8%	0.5% ▼
Chicago metro	18.6%	19.1%	0.5% ▲
Average of 10	24.2%	23.8%	0.3% ▼
Houston metro	34.7%	34.9%	0.1% ▲
Los Angeles metro	27.8%	27.8%	0.0% ▲

Smart Groups

Named Schedule

Demand Response Schedule

System Parameters

HVAC Zone Parameters

Lighting Zone Parameters

▶ New Richmond	NR hours	Edit	
▶ Exterior Lighting	All Exterior Lighting (Pylon, Poles, Building)	Edit	
▶ Dining - All Days (6am-11:45pm)	Operating Hours	Edit	
▶ Kitchen Sun-TR (2:30am); Fri-Sat (3:30am)	Operating Hours	Edit	
▶ Kitchen Sun-TR (3:30am); Fri-Sat (4:30am)	Operating Hours	Edit	
▶ Dining - All Days (6am-12:30am)	Operating Hours	Edit	
▶ Kitchen Sun-TR (1:30am); Fri-Sat (3:30am)	Operating Hours	Edit	
▼ Test	0	Edit	

Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
12:00 am							
02:00 am							
04:00 am							
06:00 am							
08:00 am							
10:00 am							
12:00 pm	72		72		72		
02:00 pm							
04:00 pm							
06:00 pm							
08:00 pm							
10:00 pm							

Edit

Systems



All System



BF 4672 Dining

CO₂ : 412ppm | Humidity : 6%



BF 4672 Kitchen

CO₂ : 436ppm | Humidity : 17%



Use DX for Overnight Dehumidification



OFF

Compensate for Humidity

OFF

Stage 1 Fan Always ON

OFF

Demand Response Mode

OFF

Schedule Type

☐ System Schedule

☒ Named Schedule

No Schedule ▾

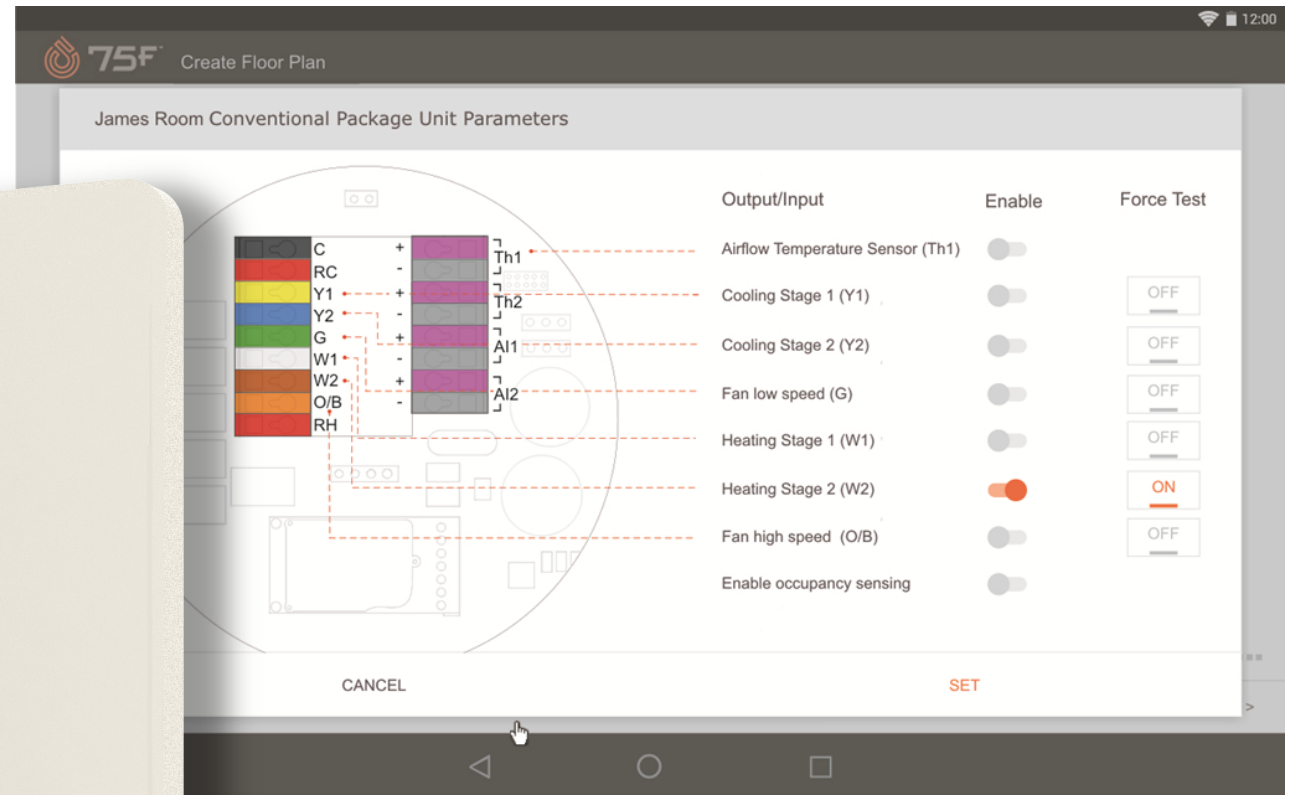
Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
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08:00 am							
10:00 am							
12:00 pm							
02:00 pm	68	68	68	68	68	68	68
04:00 pm							
06:00 pm							

- New Richmond
- Dining - All Days (6am-11:45pm)
- Kitchen Sun-TR (2:30am); Fri-Sat (3:30am)
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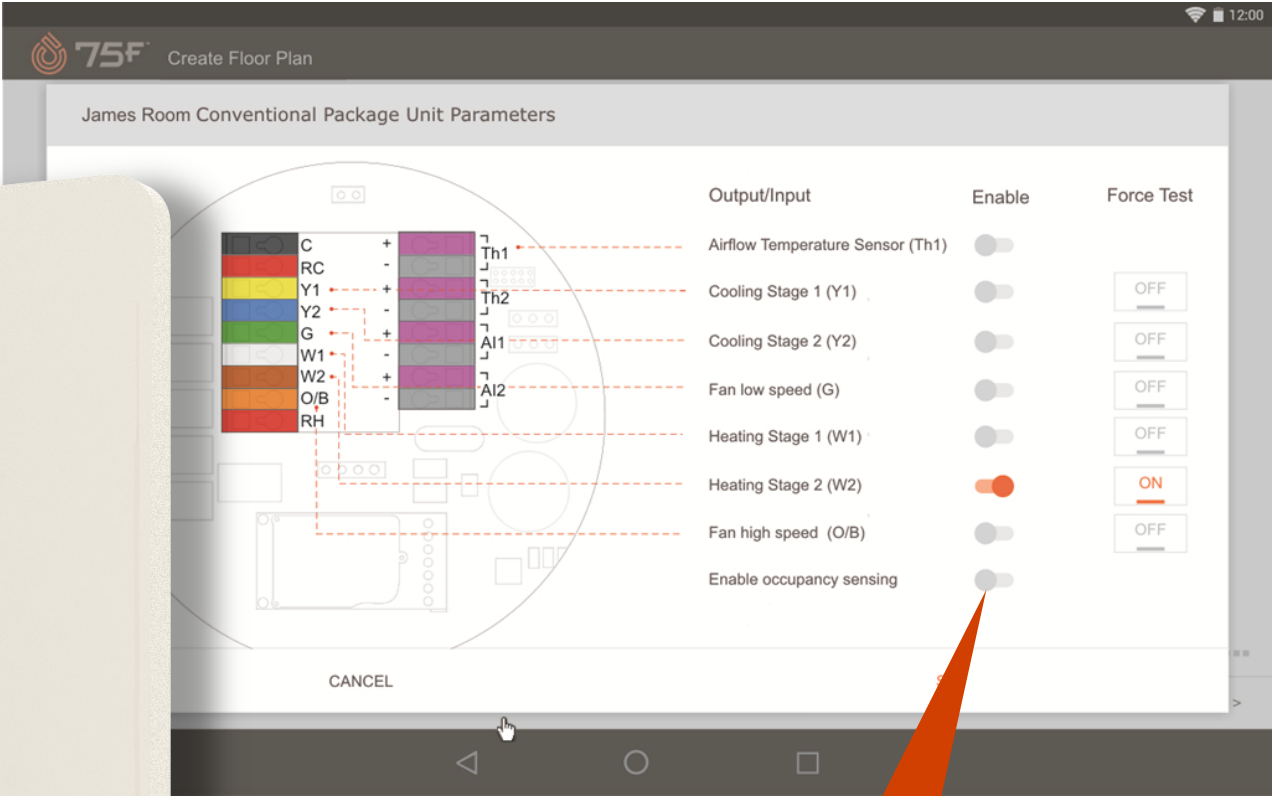
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Occupancy
Detection



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Returning to Work and the Tech That Will Make it Happen

Prepared by Joseph Aamidor, Aamidor Consulting

January 2021

About Joe Aamidor, Aamidor Consulting

- 15+ years in buildings, real estate, IoT, energy management, built environment
- Work with smart building innovators, investors, and real estate operators
- Publish the bi-monthly Smart Building Insight newsletter, covering M+A, investments, product launches and reports/news.
- Routinely speak at events around the world; Authored dozens of articles in industry publications like PropModo, CRETech, GTM, BuiltWorlds



Return to Work Themes

- Uncertainty! (It's hard to see out of the fog.)
- Survey data may be “aspirational”
- The value/impact of an office is a lagging indicator
- Hybrid work can take many forms!
- The journey from a pre-pandemic workforce/office experience to the next, standard workforce/office experience is not linear.

Current State of Affairs

State of Affairs - Returning to Work; When?

The New York Times | <https://nyti.ms/3dyWHeN>

July Is the New January: More Companies Delay Return to the Office

From Ford to Microsoft, white-collar companies are increasingly extending working from home through next summer.



By Gillian Friedman and Kellen Browning

Published Oct. 13, 2020 Updated Oct. 15, 2020

When the coronavirus pandemic shuttered offices around the United States in March, many companies told their employees that it would be only a short hiatus away from headquarters.

Workers, they said, would be back in their cubicles within a matter of weeks. Weeks turned into September. Then September turned into January. And now, with the delaying return-to-office dates once again, employers are

“None of us have all the answers”

Google was one of the first to announce that July 2021 was its return-to-office date. Uber, Slack and Airbnb soon jumped on the bandwagon. In the past week, Microsoft, Target, Ford Motor and The New York Times said they, too, had postponed the return of in-person work to next summer and acknowledged the inevitable: The pandemic isn’t going away anytime soon.

“Let’s just bite the bullet,” said Joan Burke, the chief people officer of DocuSign in San Francisco. In August, her company, which manages electronic document signatures, decided it would allow its 5,200 employees to work from home until June 2021.

“We’re still in a place where this is evolving,” she said. “None of us have all the answers.”

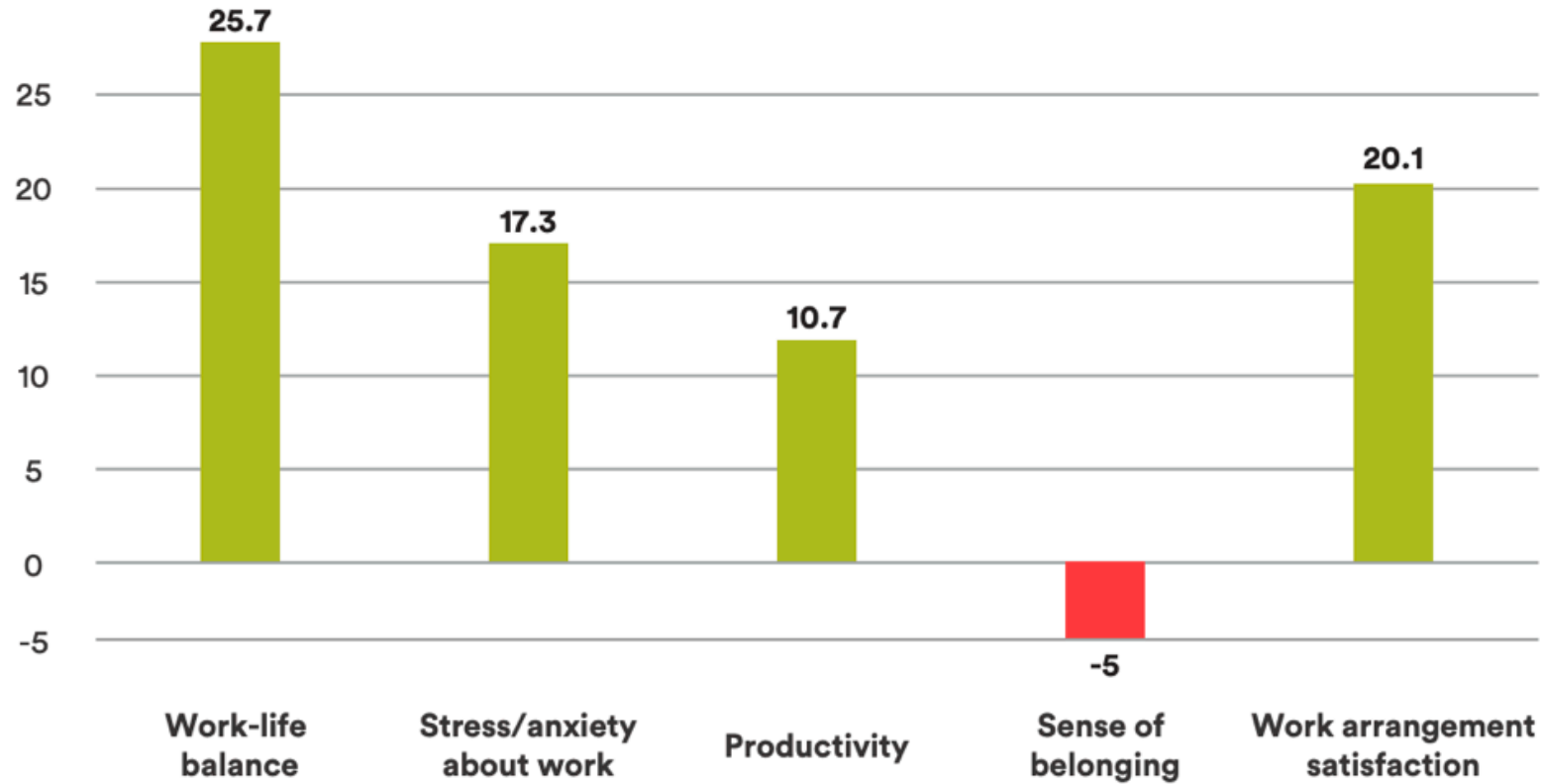
Biggest challenges to working remotely

Pulse of the American Worker Survey of 2,050 full-time employed adults; April 29-May 6, 2020



Data: Reproduced from Prudential/Morning Consult "Pulse of the American Worker Survey"; Chart: Axios Visuals

In Some Ways, Yes!



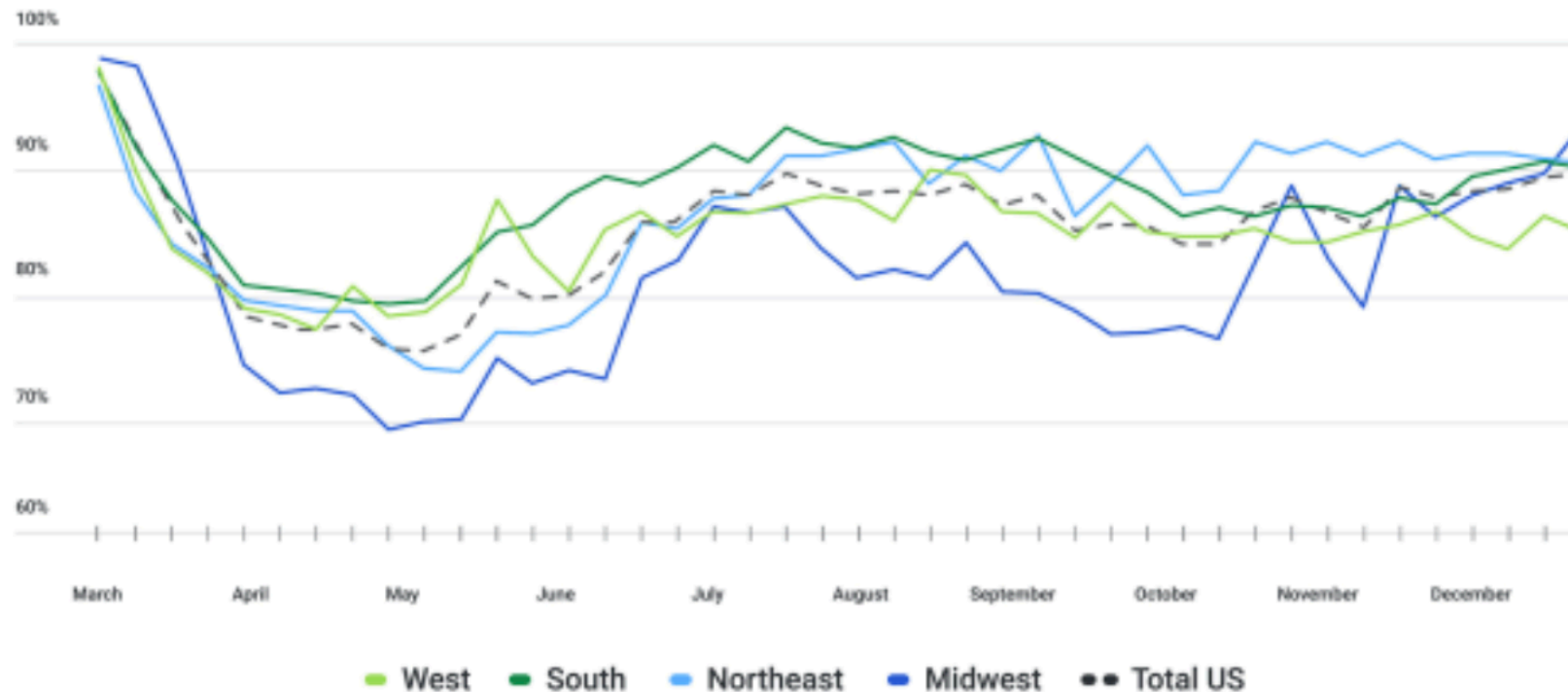
Change in satisfaction; pre-pandemic to post-pandemic

Source: Slack/Future Forum, Remote Employee Experience Index

Offices are Nearly Vacant, but They are Using Lots of Energy!

U.S. Commercial Building Electricity Consumption

As Compared to Week of March 1st, 2020 and Adjusted for Temperature

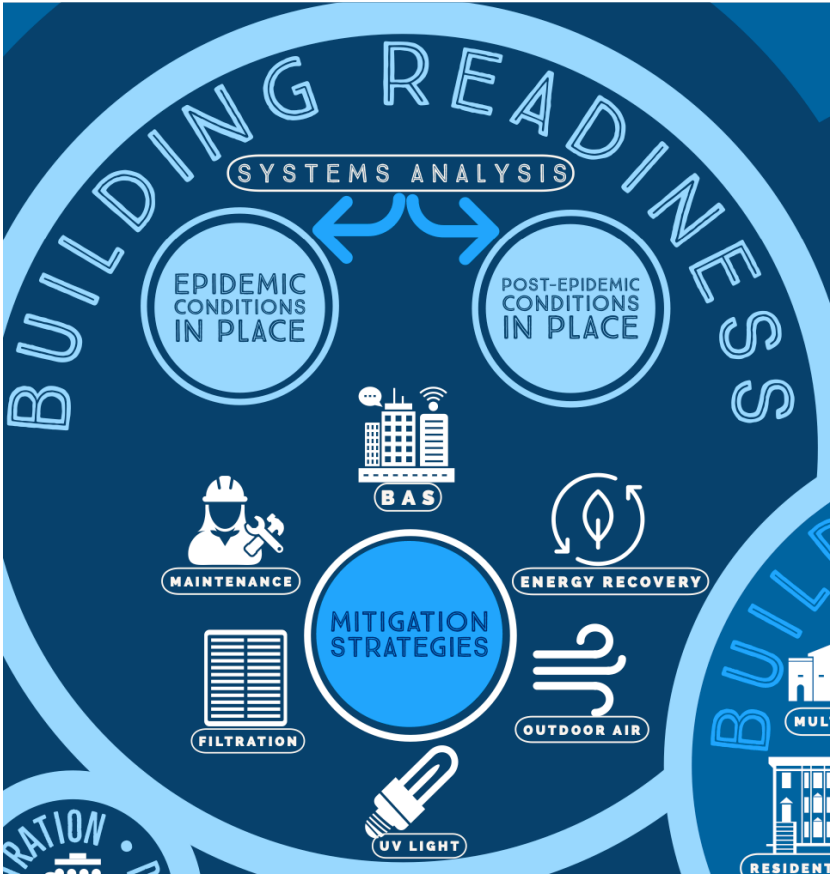


Source: www.hatchdata.com, Updated January 2021

Source: Hatch Data



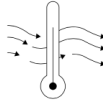

Healthy Buildings and HVAC

State of Affairs: HVAC, and Smart Buildings Broadly, to the Rescue?



Three different methods are commonly used to purify contaminated air.

Filtration is the most common air-filtration method, followed by irradiation

Filtration	Irradiation	Thermal	Other
			
<ul style="list-style-type: none">• Air is forced through fiber-based material or membrane• Efficacy varies, depending on filter type	<ul style="list-style-type: none">• Uses electromagnetic radiation, most commonly ultraviolet-C light, to deactivate pathogens• Cannot be used in occupied spaces, since light may be harmful to skin and eyes• Only practical when light can reach surfaces; many technical issues must be considered when installed	<ul style="list-style-type: none">• High-intensity targeted heating• Can be deployed in stand-alone units or through HVAC systems• Requires air to be exposed to heat for significant periods and thus may be difficult to apply when there is a continuous flow	<ul style="list-style-type: none">• Includes ionized purifiers and ozone generators; mechanism of action varies by technology
Virus still active	Virus is made inactive via sterilization process, which can be challenging for a continuous stream of air or aerosols		

Source: Expert interviews; McKinsey analysis

McKinsey
& Company

There has been a lot of focus on cleaning the air, but ventilation and other standard operating procedures also are effective.

Source: ASHRAE (left); McKinsey (right)

Healthy Buildings as a Growth Market (Before and After COVID)

"Wellness real estate grew 6.4% annually since 2015, to reach \$134 billion in 2017, and will expand 6% yearly through 2022 to reach \$180 billion. Comparison: that's 1.5% of the annual global construction market, and half the size of the global green building industry (\$260 billion). The U.S., along with a few key Asian countries (China, Australia, India) and Europe (UK, Germany), account for three-quarters of the market."

-Global Wellness Institute, "Build well to live well"

2 October 2020
Equity Research
Americas | United States



U.S. Multi Industry

Sustainable Buildings: IAQ Pandemic-Related Upgrade TAM Potentially in Excess of \$35B for the U.S.

Building Products | Environmental, Social and Governance (ESG) Research

Healthy Buildings as a Growth Market: This did not Start With COVID

CUMULATIVE STUDIES OF KEY DESIGN ELEMENTS AFFECTING OCCUPANTS

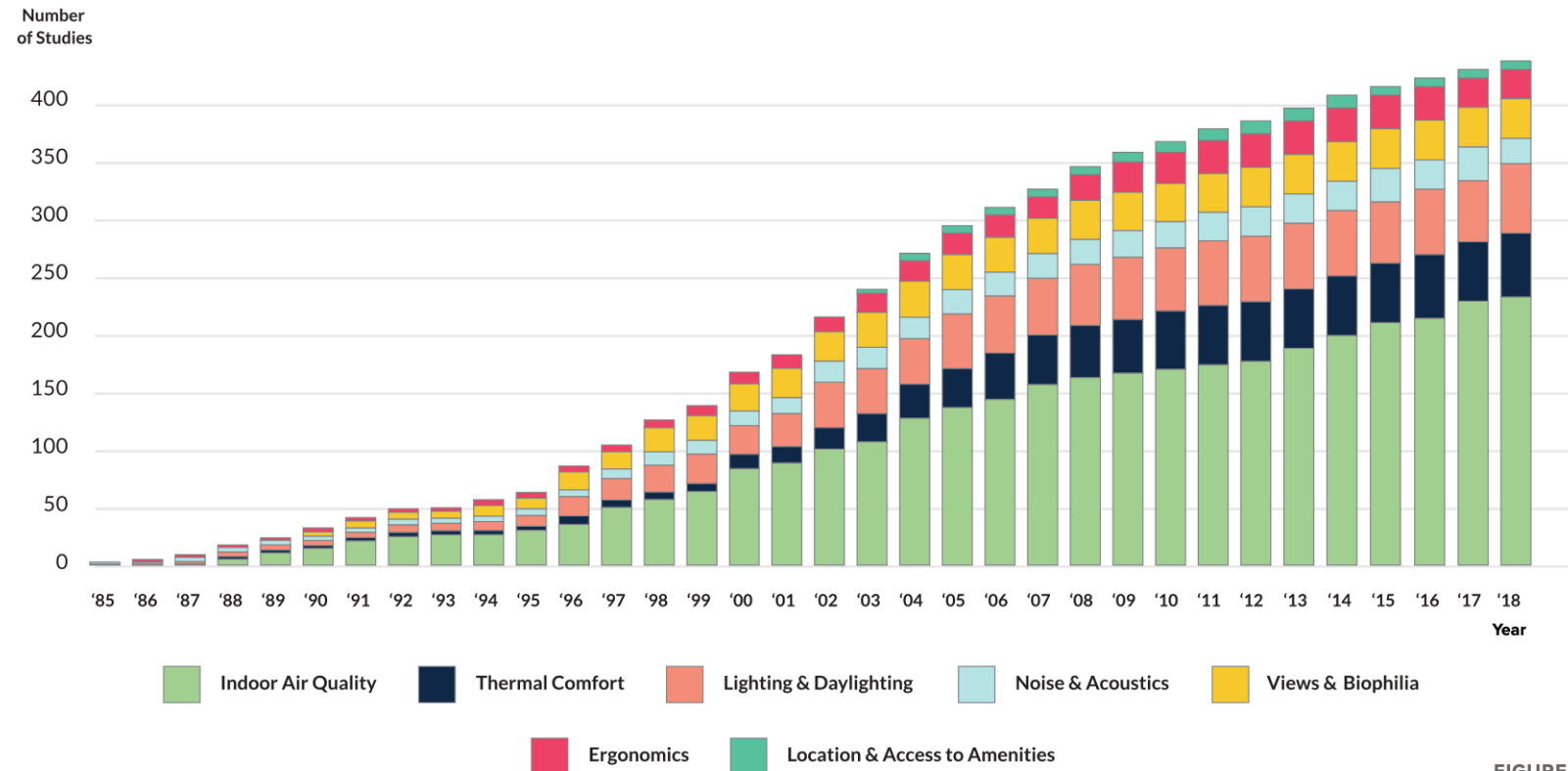


FIGURE 3

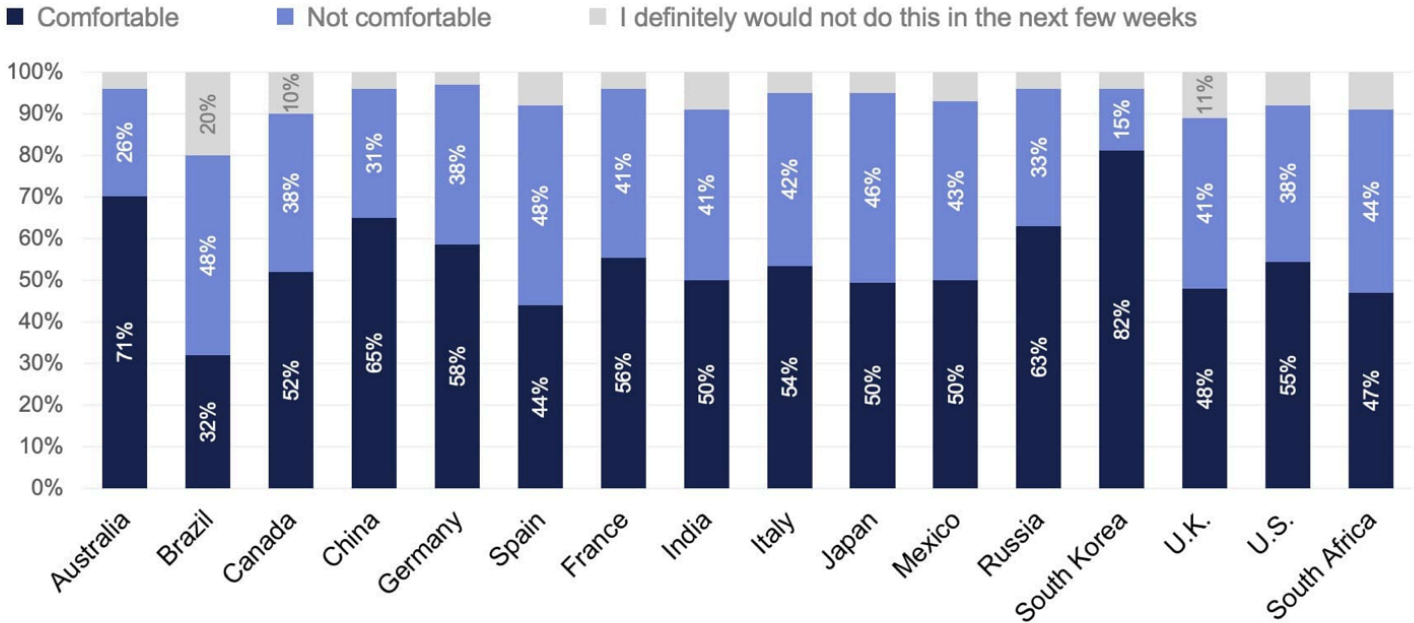
These studies also indicate that worker productivity rises over 8 percent with a combined elements of thermal comfort, ventilation, air quality, and biophilia.

Source: Stok, *THE FINANCIAL CASE FOR HIGH PERFORMANCE BUILDINGS*

Office Occupancy and Worker Sentiment

Back to the Office: What's Happening in Other Countries?

ARE YOU COMFORTABLE GOING BACK TO THE WORKPLACE?



Q: How comfortable would you feel doing each of the following in the coming weeks?
Going to your place of work.

Note: Data labels under 10% are not shown

10,495 adults polled in 16 countries from May 7-10, 2020



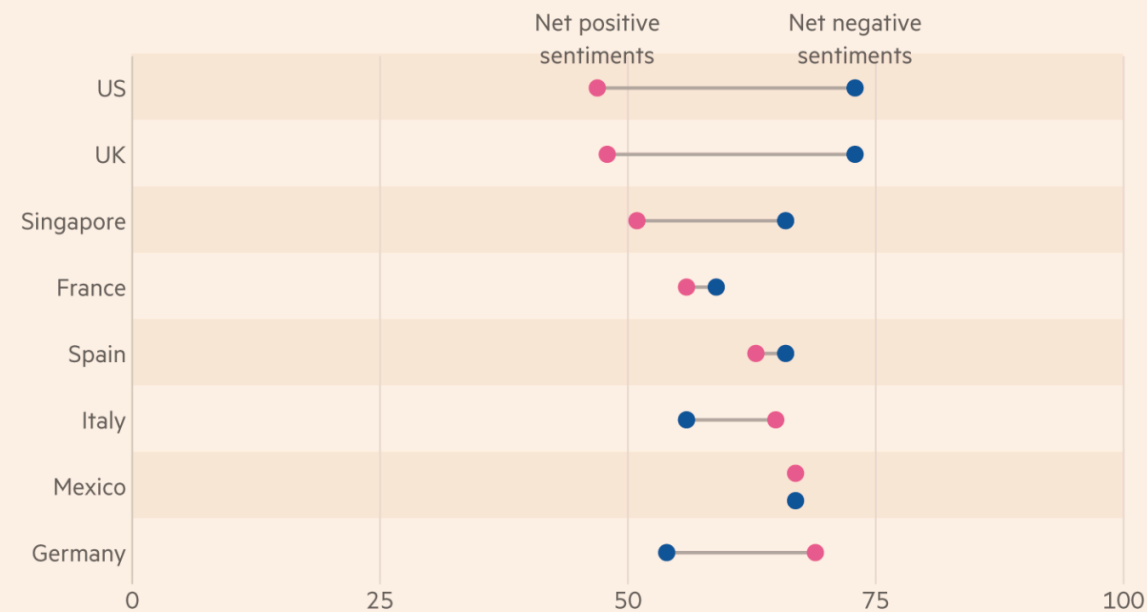
Survey from May 2020

Source: Ipsos

Back to the Office: What's Happening in Other Countries? (2)

The UK and the US feel most concerned about a return to office life

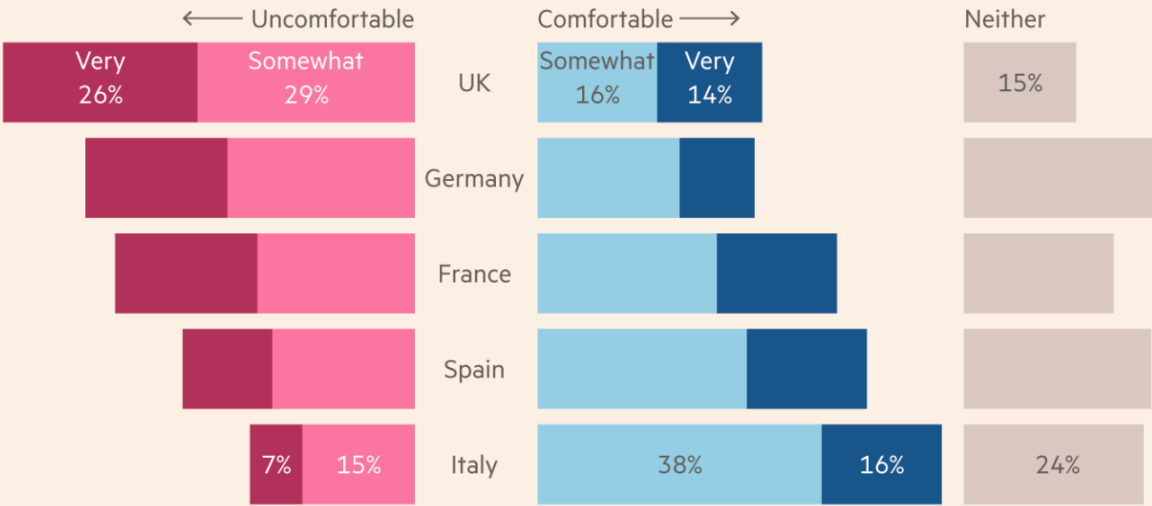
Responses to the question 'How do you feel about going back to your workplace?' (%)



Graphic: Alan Smith
Source: ManpowerGroup What Workers Want survey of 8,000 adults in 8 countries
© FT

The British are more concerned about hot desking than their peers

Once Covid-19 concerns have died down, if your employer were to introduce 'hot-desking', how comfortable would you be with this? (%)

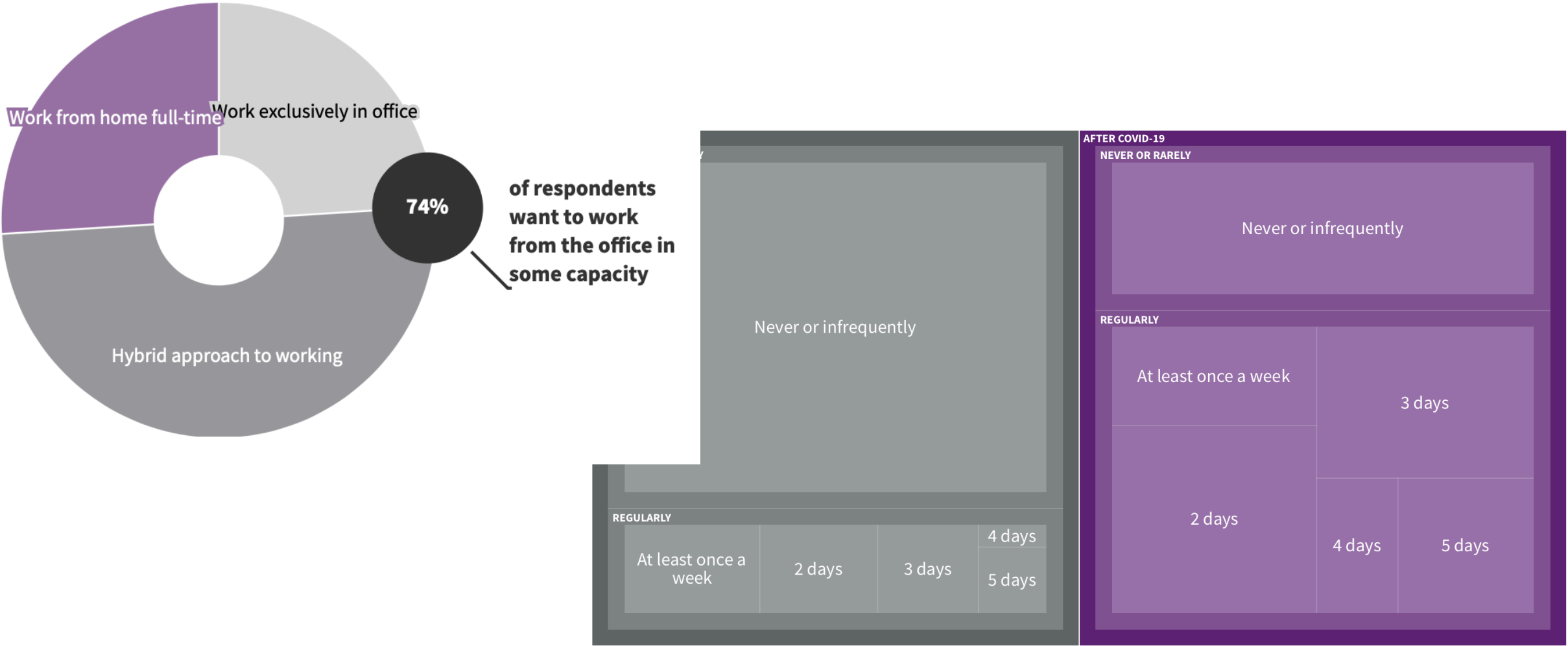


Graphic: Alan Smith Source: Morgan Stanley Research survey of 4,297 office workers, July 13-19 2020
© FT

Survey from Summer 2020

Source: Financial Times

JLL Human Performance Report Reinforces the Same Points (Oct 2020)



Source: JLL Research, 2020

Source: JLL, Human Performance Report

The Office is not Dead: “Knowledge Flows” are Valuable

Workplace Knowledge Flows

Jason Sandvik*

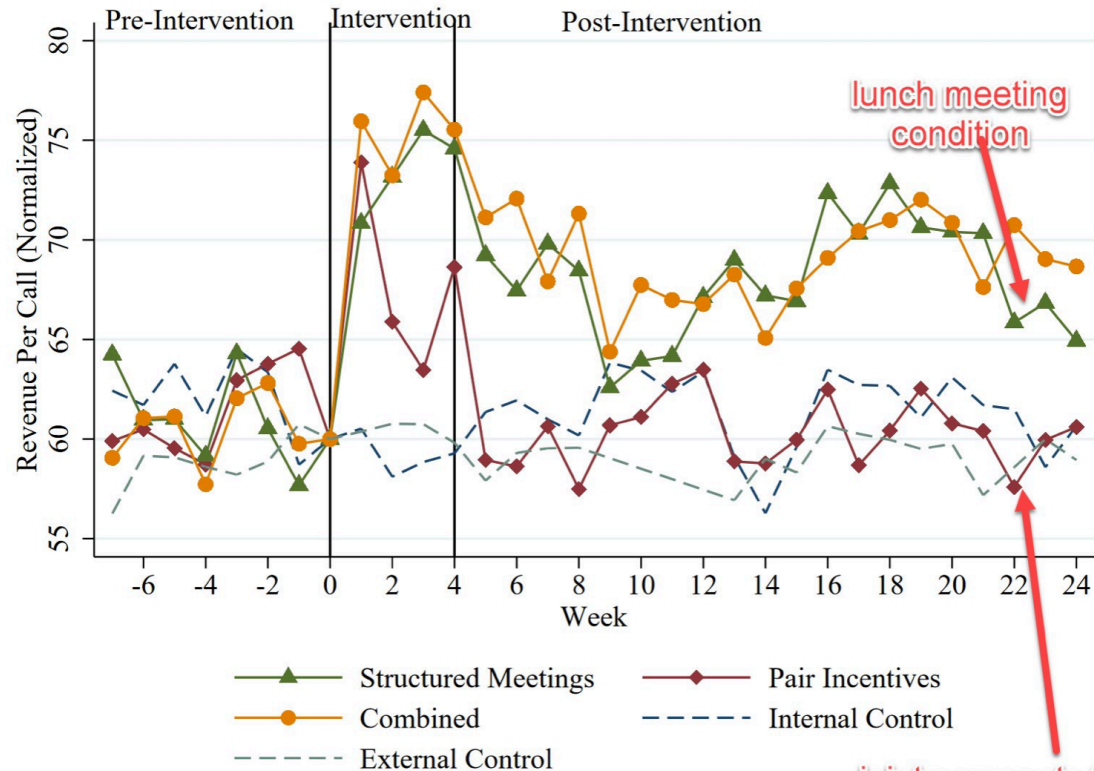
Richard Saouma†

Nathan Seegert‡

Tulane U

ty of Utah

Figure 3: The Evolution of Revenue-per-Call Over Time, by Treatment Group



Ethan Mollick ✓
@emollick

A downside of remote work is that we can't casually learn from each other the way we could in an office. The effects of such interactions are huge: Lunch meetings between two salespeople where they discussed sales approaches boosted revenues for both by 24% for months after!

joint payments to
both salespeople to
work together

The Office is not Dead: Workers Recognize the Value

■ Better in office ■ Better at home ■ Better in a third-party place

To learn and grow



To socialize



To solve work-related issues



To collaborate and run meetings



To manage or be supported by your management



Source: JLL, Human Performance Report

Other Views and Voices

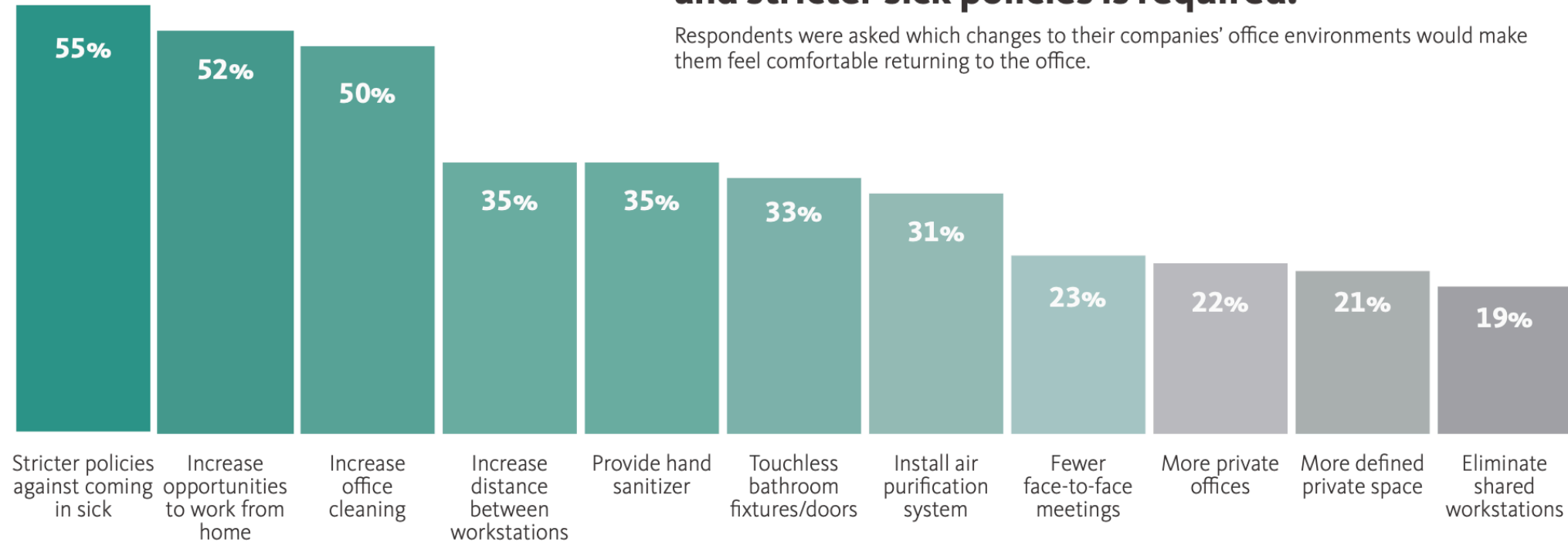
- “You’ll see a hybrid scenario. ... We think 80%-plus of that occupancy, if not more, will come back.” CBRE CEO Bob Sulentic
- “There’s a huge headwind against company executives to strongly push their employee bases to come back to work.” Douglas Linde, President of Boston Properties Inc.
- “Digital technology should not be a substitute for human connection, Digital technology should help human connection when there are constraints of space and time.” Microsoft C.E.O. Satya Nadella
- “Executives and employees [are] converging around a post-pandemic future with a lot more flexibility, yet few are prepared to completely abandon the office space.” PwC Survey

Post-COVID, Tech-Enabled Office Journey

Many Worker Expectations are not Tech-Focused...yet

For people to feel comfortable coming back to the office, a combination of more space, more cleaning, and stricter sick policies is required.

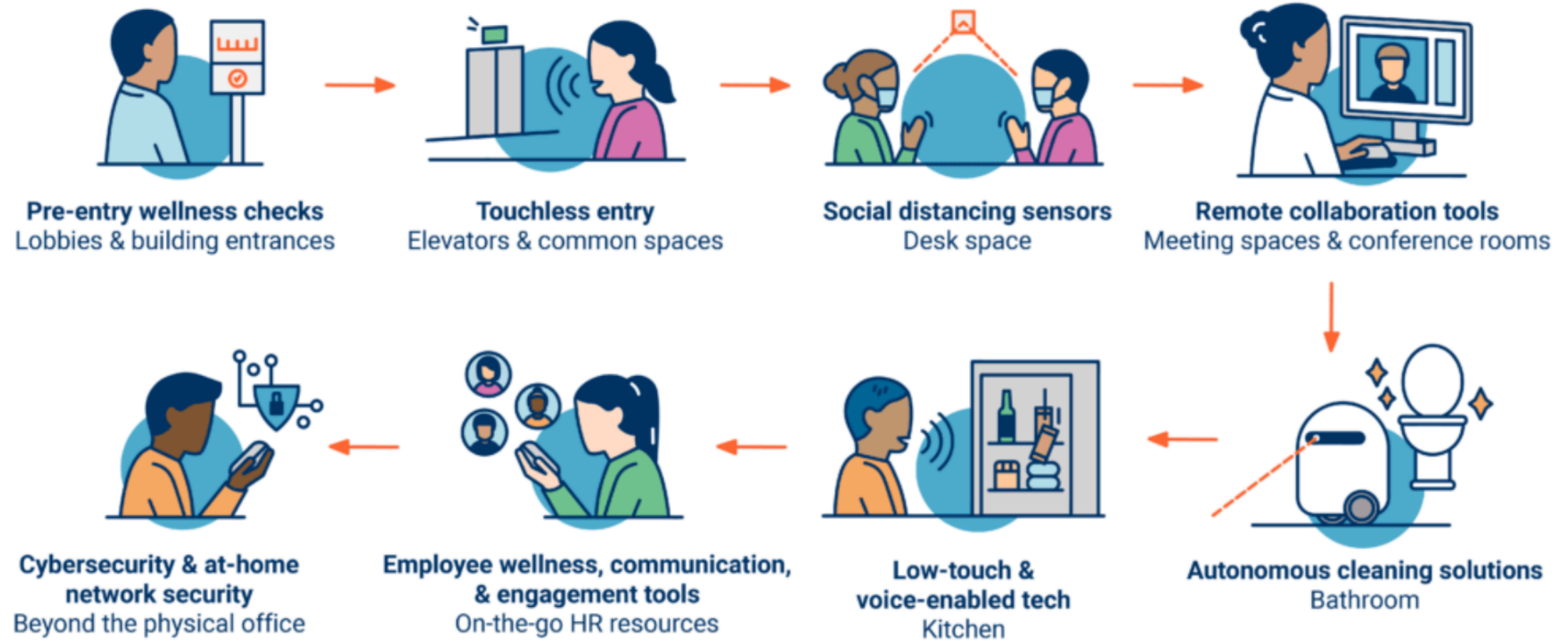
Respondents were asked which changes to their companies' office environments would make them feel comfortable returning to the office.



Survey from Summer 2020

Source: Gensler Research Institute

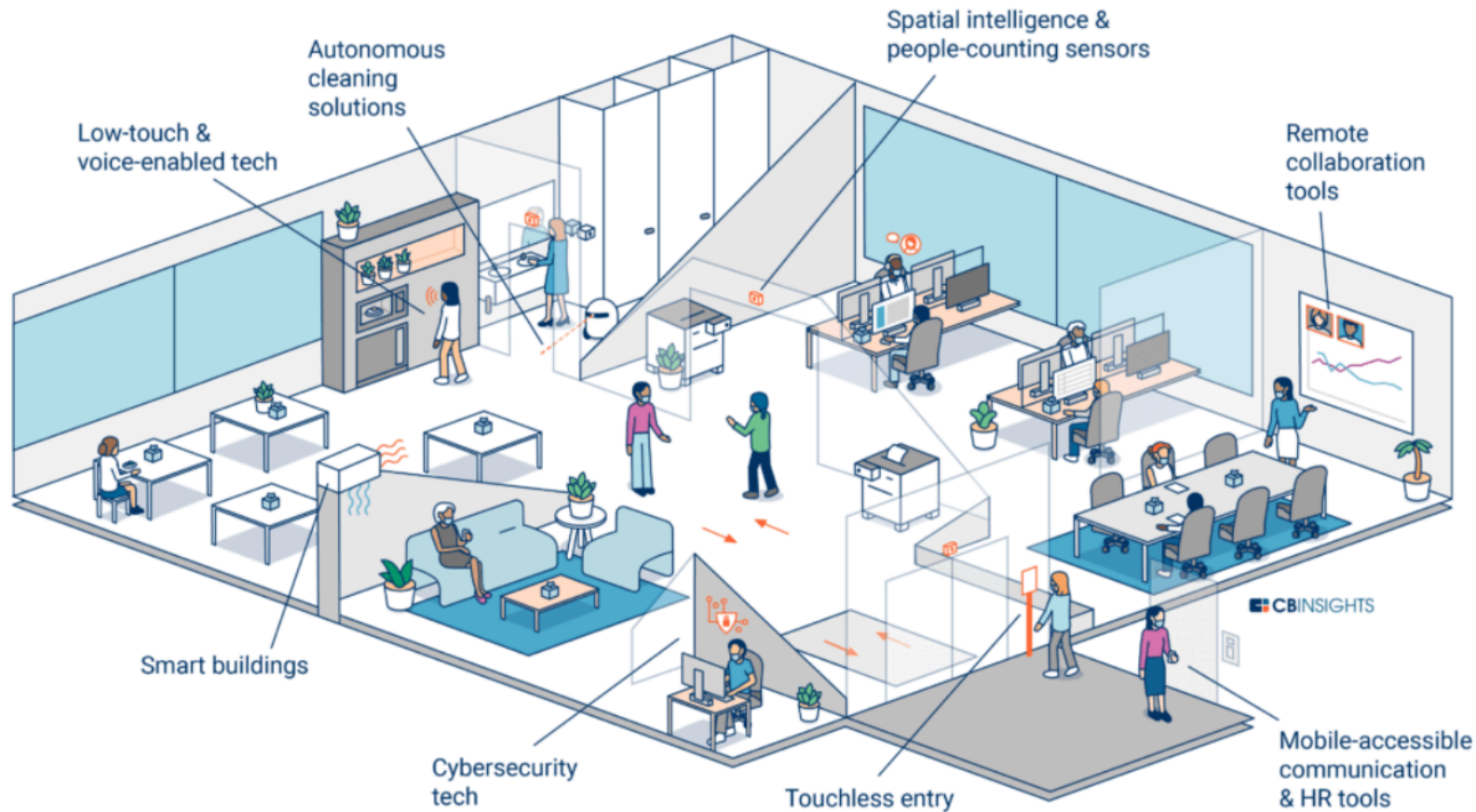
But, Technology Plays a Critical Role



Source: CB Insights

Smart Buildings and COVID Mitigation

Data Sources in the Post-COVID Office



Traditional data sources:

- Access control systems
- Calendar/room booking
- Email/chat
- Building automation

Source: CB Insights

Open Questions About... Data

Integrations

- Continued focus on open protocols/modern standards vs. urgency to deploy.

Privacy

- Gartner: “16% of employers are using technologies more frequently to monitor their employees.”

Data governance

- Had a plan? Need to develop a plan?

Data security

- Employee data, building operations, other. At home and off-site.

What happens when Covid is over?

Thank You!!

joe@aamidorconsulting.com

Q&A