



Technology-Enabled Solutions to Re-Open Buildings and Change Operating Paradigms

Better Buildings Series

Prepared by Joseph Aamidor, Aamidor Consulting

April 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
- www.aamidorconsulting.com

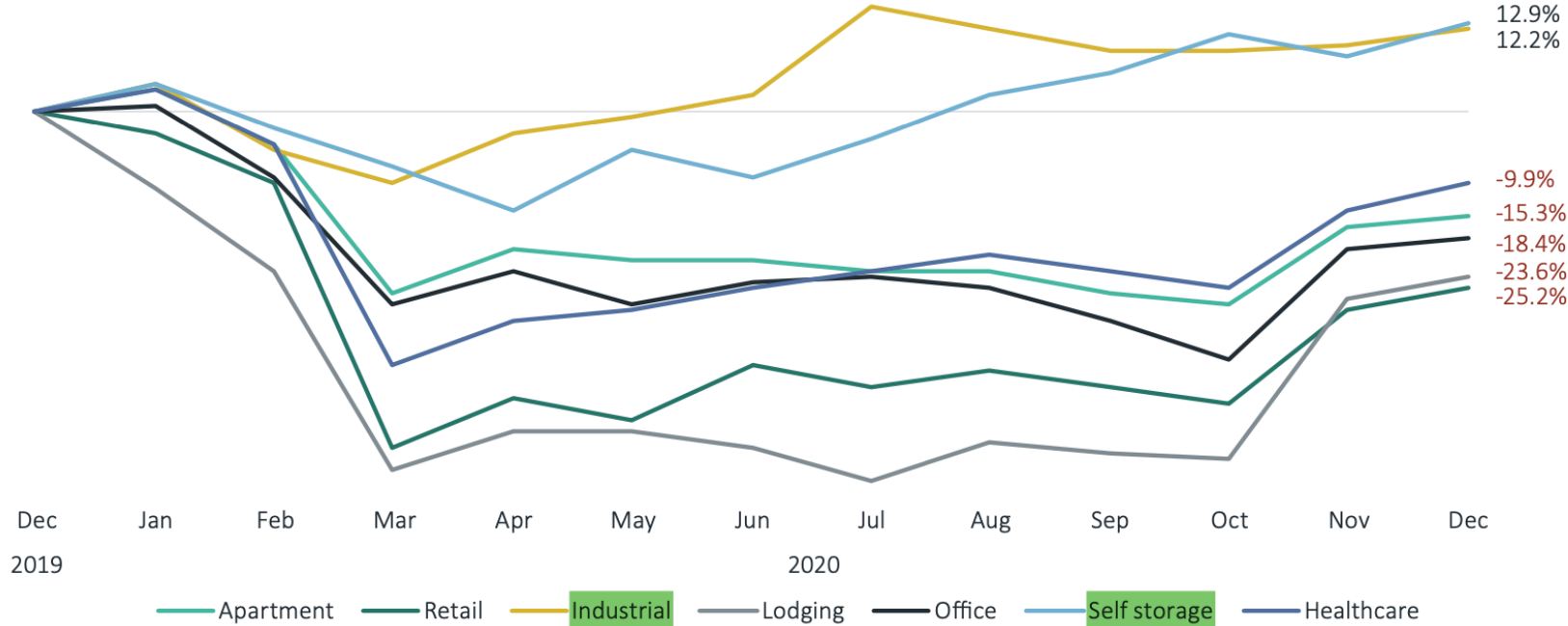


The role of the office: what is changing?

- Late 2020
 - “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 CEO 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 (conducted in late 2020, published early 2021)
- 2021
 - “Our plan is to return to an office-centric culture as our baseline. We believe it enables us to invent, collaborate, and learn together most effectively.” Amazon Employee Memo
 - “I do think for a business like ours which is an innovative, collaborative apprenticeship culture, this is not ideal for us and it’s not a new normal. It’s an aberration that we’re going to correct as quickly as possible.” Goldman Sachs CEO David Solomon.

Real Estate Dynamics

One-year total return for select REIT indexes



Industrial and self storage are two bright spots.

Employees recognize the value of the office.

■ 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



Value of office in-person collaboration : harder to quantify

Some signs indicate that in-person collaboration is the real productivity driver, but this may vary by industry and type of role.

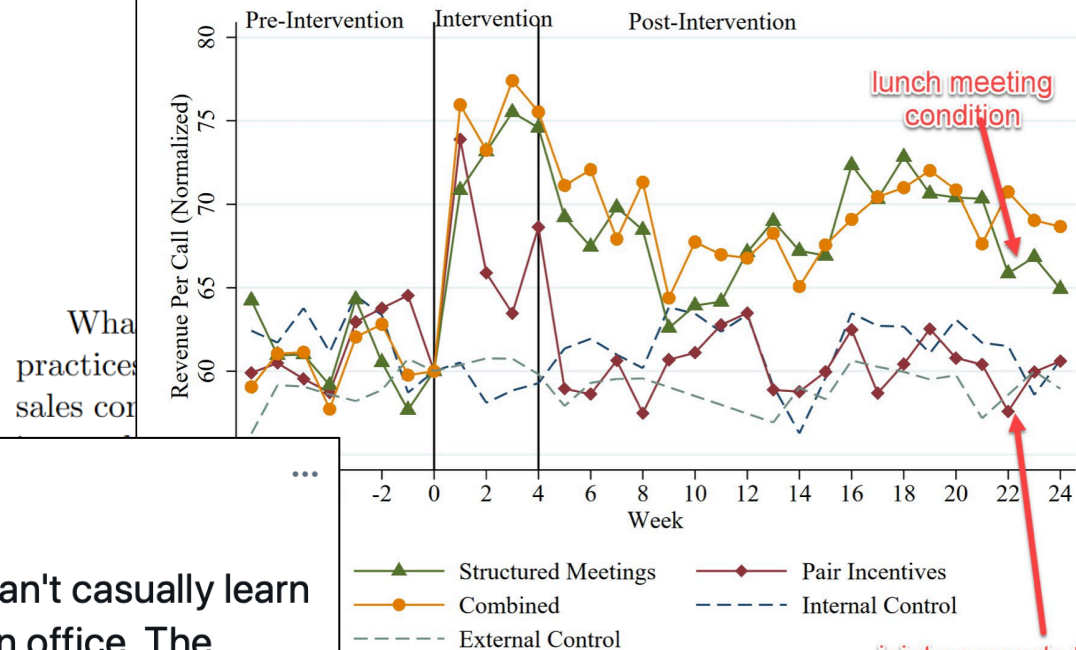
Workplace Knowledge Flows

Jason Sandvik*
Tulane University

Richard Saouma†

Nathan Seegert‡
University of Utah

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



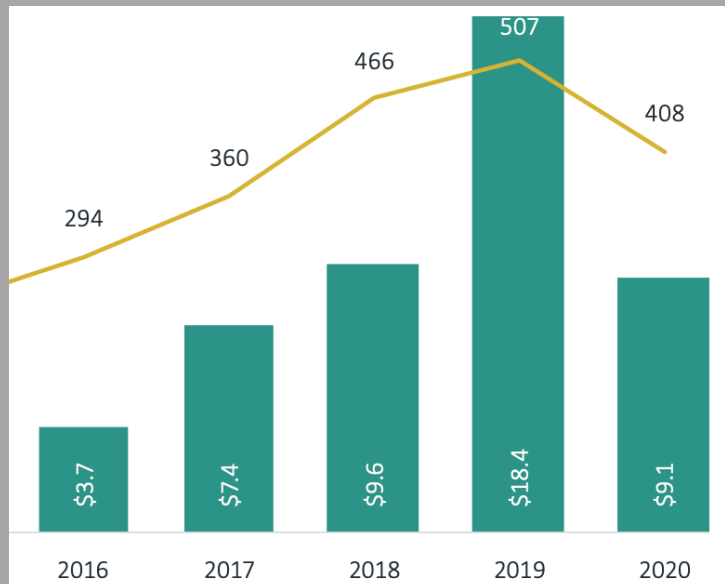
Ethan Mollick
@emollick

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!

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Technology Adoption in Real Estate: More opportunity on the horizon



PropTech VC has been rising; 2020 was down.

iREIT PropTech		iREIT PropTech SPAC Index						DATE: 2/24/2021	
FORMER SPACS		Ticker	Price	Sponsoring Firm	Date Merged	MC (\$MM)	Primary/Target Sector	Notes	Disruption Notes
APPHARVEST, INC. (XNAS:APPH)		APPH	\$ 33.48	Novus Capital	2/1/2021	\$3,329	AgTech	Novus 1st SPAC	ENV: Threat to traditional farming
OPENDOOR TECHNOLOGIES INC. (XNAS:OPEN)		OPEN	\$ 30.82	Social Hadosophia II	12/21/2020	\$16,065	PropTech	Chamath Palihapitiya SPAC	IBUYING homes, real broker mix?
Porch Group, Inc. (XNAS:PRCH)		PRCH	\$ 19.43	PropTech Acquisition I	12/24/2020	\$1,553	PropTech	Hennsey Capital 1st SPAC	Home improvement
VIVINT SMART HOME, INC. (XNAS:VVNT)		VVNT	\$ 19.30	Mosaic/Fortress	1/17/2020	\$3,833	PropTech	Fortress 1st SPAC	Home automation
SPACS/DEFINITIVE AGREEMENTS (DA)		Ticker	Price	Sponsoring Firm	DA Date	MC (\$MM)	Primary/Target Sector	Notes	Disruption Notes
Gores Holding VI		GHVI	\$ 18.55	The Gores Group	2/8/2021	\$800	PropTech/mapping	Matterport	3D property mapping/virtual tour
NEW PROVIDENCE ACQUISITION CORP. (XNAS:NPA)		NPA	\$ 15.49	New Providence (SAM)	12/16/2020	\$472	SpaceTech	AST & Science/SpaceMobile	New cellular/data from space
TS Innovation Acquisitions Corp (XNAS:TSIA)		TSIA	\$ 14.29	Tishman Speyer	1/25/2021	\$539	PropTech	Latch	Home automation/commercial
CF FINANCE ACQUISITION CORP. II (XNAS:CFII)		CFII	\$ 10.31	Cantor Fitzgerald	11/30/2020	\$676	PropTech/smart windows	View	ENV: all commercial windows
SPACS/SPECULATION (includes partial warrants)		Ticker	Price	Sponsoring Firm	IPO Date	\$ raised	Primary/Target Sector	Notes	Notes 2
Supernova Partners Acquisition		SPNVU	\$ 12.13	Supernova	10/20/2020	\$350 MM	SPEC: Tech	ex-CEO Zillow	HIGH PREM/ FIRST SPAC
Equity Distribution Acquisition Corp		EQDU	\$ 11.15	Equity Group Inv.	9/15/2020	\$360 MM*	SPEC: Industrial sector	Sam Zell is leader	Logistics, SP/PLD targets?
PROPTech INVEST II UNIT (XNAS:PTICU)		PTICU	\$ 10.97	Hennsey Capital	12/3/2020	\$200 MM*	SPEC: PropTech	1st SPAC was PRCH	The PORCH team 2nd SPAC
Fifth Wall Acquisition I		FWAA	\$ 10.96	Fifth Wall	2/4/2021	\$300 MM	SPEC: PropTech	Fifth Wall's 1st SPAC, no warr.	LA-based PropTech investors
Lionheart Capital Acquisition II Corp		LCAPI	\$ 10.95	Lionheart Capital	8/13/2020	\$200 MM	SPEC: PropTech	REOC in US, Brazil, Caribbean	MIAMI GUY, Wall St moving to FL
CF ACQUISITION IV UNIT (XNAS:CFIVU)		CFIVU	\$ 10.90	Cantor Fitzgerald	12/22/2021	\$450 MM*	SPEC: Fin, Prop, Health, Software	Cantor Fitzgerald 4th SPAC	Cantor FAST ACQUIRE HISTORY
CBRE ACQUISITION HOLDING UNIT (XNAS:CBHU)		CBHU	\$ 11.00	SCBRE	12/10/2021	\$350 MM*	SPEC: Real estate related	To leverage CBRE position	CBRE talent is A+
Novus Capital Corp II		NXUU	\$ 10.82	Novus Capital	2/3/2021	\$250 MM	SPEC: AgTech, ESG smart tech	SWPG Chair, 1st SPAC SAPPH	APPH team, adding to bench
Tishman Speyer Innovation II Corp		TSIBU	\$ 10.65	Tishman Speyer	2/11/2021	\$300 MM*	SPEC: PropTech	Tishman's 2nd SPAC	Latch team
CF Acquisition Corp. V		CFVU	\$ 10.62	Cantor Fitzgerald	1/28/2021	\$250 MM	SPEC: Fin, Prop, Health, Software	Cantor's 5th SPAC	Cantor #5 /FAST ACQUIRE HISTORY
CF Acquisition VI		CFVIU	\$ 10.57	Cantor Fitzgerald	2/19/2021	\$300 MM	SPEC: Fin, Prop, Health, Software	Cantor's 6th SPAC	Cantor #6 /FAST ACQUIRE HISTORY
Simon Property Acquisition Group Holdings		SPGSU	\$ 10.53	Simon Property Group	2/19/2021	\$300 MM	SPEC: First REIT-sponsored SPAC	Largest U.S. mall REIT	
Crown PropTech Acquisitions		CPTKU	\$ 10.29	Chera/Spranger	2/8/2021	\$240 MM*	SPEC: PropTech	ex-Cantor Fitzgerald manager	LOW PropTech SPEC SPAC PREM.

Many SPACs have been focused on PropTech, among other industries.

BAROMETER THIS WEEK

24.2%

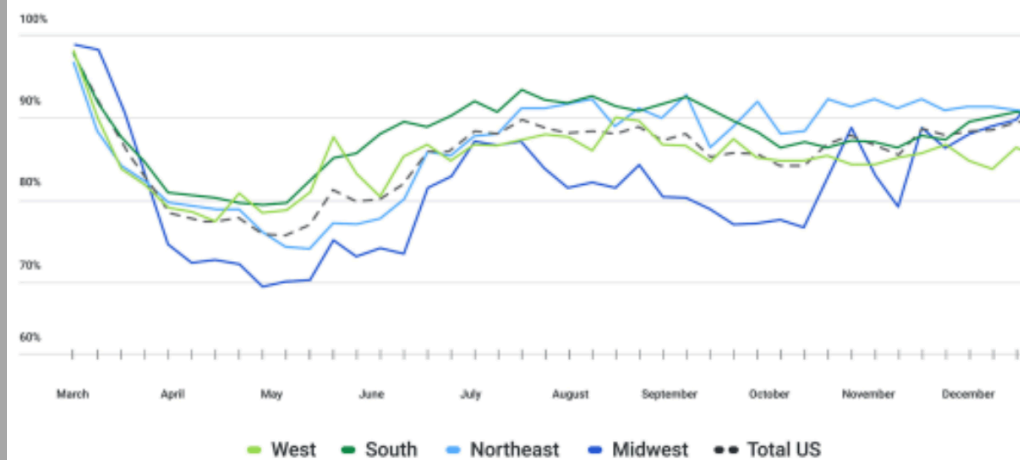
10 CITY AVERAGE OCCUPANCY



	Wed 3/17	Wed 3/24	% Change
Los Angeles metro	27.9%	25.0%	2.9% ▼
Austin metro	34.2%	32.3%	1.9% ▼
Dallas metro	36.5%	38.1%	1.5% ▲
Houston metro	34.0%	34.7%	0.7% ▲
San Jose metro	16.5%	17.0%	0.5% ▲
New York metro	14.7%	14.2%	0.4% ▼
Average of 10	24.5%	24.2%	0.3% ▼
Washington D.C. metro	21.9%	21.7%	0.2% ▼
Chicago metro	19.9%	19.9%	0.1% ▲
Philadelphia metro	25.5%	25.5%	0.0% ▲
San Francisco metro	13.7%	13.7%	0.0% ▲

U.S. Commercial Building Electricity Consumption

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

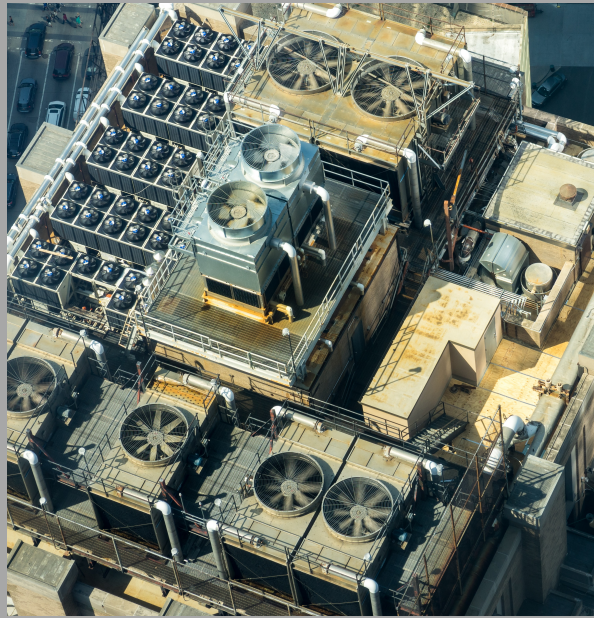


Occupancy is down significantly...

But energy consumption is not...

Source: PitchBook, iREIT PropTech SPAC Index, Kastle Systems, Energy data from Hatch Data.

PropTech Examples: A review of selected offerings



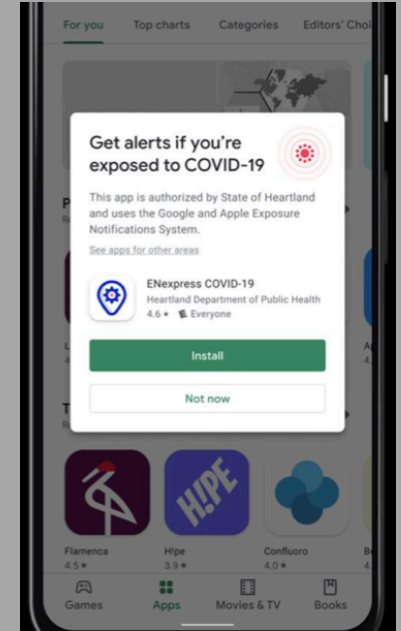
Smart Equipment (HVAC)

- IOT equipment added to RTUs, chillers, etc.
- JCI says 66 percent reduction in time to repair, 66 percent reduction in emergency repairs
- Examples: JCI, Carrier, Trane



Space Utilization

- Real-time measurements support flexible office ops
- Data about use can be used to redesign spaces
- Examples: Density, VergeSense



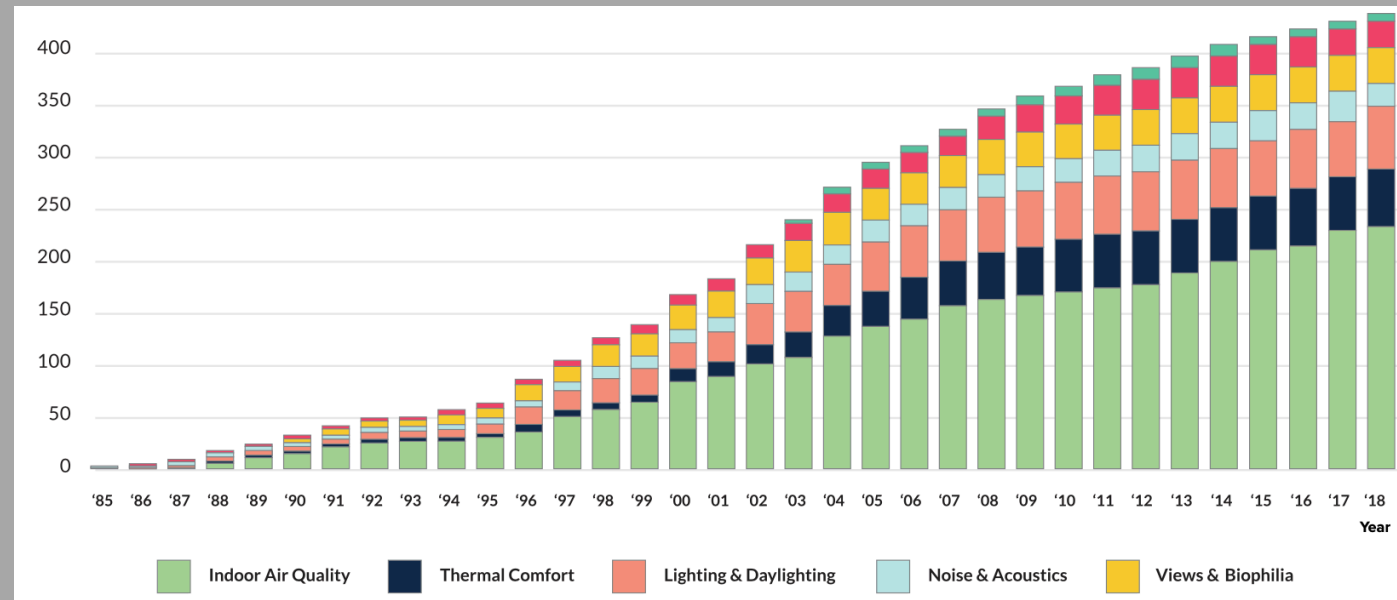
Tenant Amenity Apps

- Digital concierge to tenants
- Use cases expanding in a post-covid, flexible work environment
- Examples: HqO, Lane, Comfy (Siemens)

Healthy Buildings: The Real New Normal.

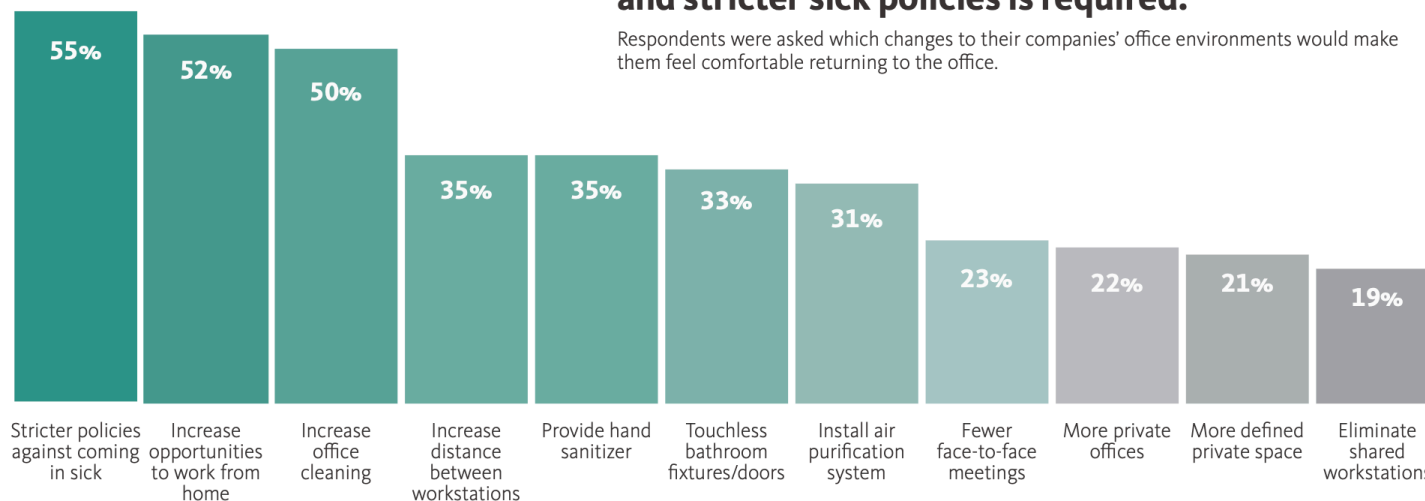
Credit Suisse estimates \$35B in US TAM for IAQ pandemic-related upgrades.

Indoor air quality studies have been on the rise for decades...



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.



Healthy buildings will be one area of early and ongoing investment. But, occupant expectations are not always tech-centric.

Business Models: How is smart building tech paid for?



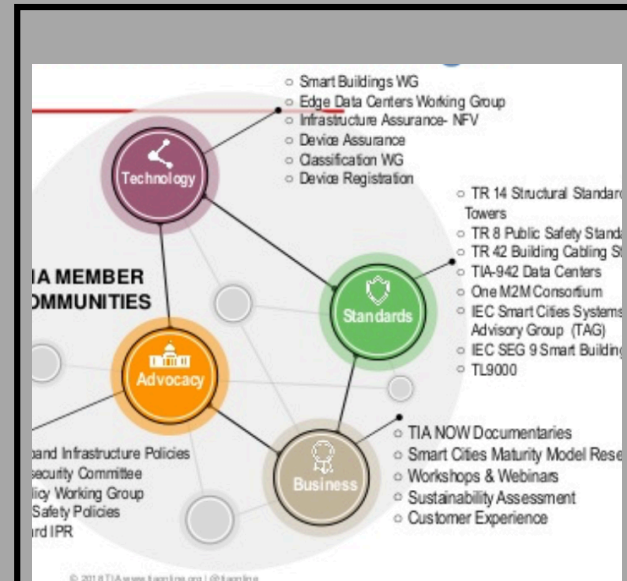
As-a-service models

- The opportunity to reduce energy use via operations can fund other improvements
- HVAC as a service, data as a service, space as a service



Increased OpEx

- “Break-fix” and “run to failure” may be less common as firms seek better performance and reduced CapEx.



Standardization

- Just as LEED and Well can drive higher rents and higher property values, emerging smart building standards may do the same.

Real Estate Technology Adoption: Remaining Challenges

Technology adoption in real estate may be hampered by some industry-inherent ways of doing business, such as:

- RE technology has certain costs, uncertain benefits, risk-averse buyers. (Aspirational or “best case” ROI)
- The market and channels remain fragmented
- Many innovative solutions are offered by startups, which are inherently unstable (RE is risk averse)
- Low willingness to pay for cost savings
- Traditional procurement methods and preferences favor hardware and services, not data and software

Thank You!!

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Access these slides at:

www.aamidorconsulting.com/april

About Us - Aamidor Consulting: Experts in Smart Buildings

- Strategic and market insight for investors: commercial due diligence, review of/feedback on investment thesis
- Product strategy for vendors (small and large): competitive intelligence, voice of customer research, market sizing, go-to-market
- Market research for enterprises and industry stakeholders: provide an independent, data driven perspective on the industry, opportunities for growth, current and future trends
- Advisory services for real estate owners/operators: technology adoption strategy development, procurement support

For More From Aamidor Consulting

Past Projects:

- For a private equity firm, helped develop an investment thesis in the smart buildings space and identify target firms to bolt-on to existing portfolio companies.
- For a venture capital firm, conducted commercial due diligence for an investment in a building and facility management cloud-based software firm. This included a review of the roadmap, assessment of the leadership team, and validation of the total addressable market opportunity.
- For multiple building technology startups and vendors, developed initial business cases and reviewed initial market opportunities for adjacent and bolt-on business units.
- For real estate firms and their trusted advisors, developed a scope of features and functionalities for facility, energy and building management software products. Described key functionality, data acquisition capabilities and developed a pricing framework to ensure that vendors would provide consistent pricing guidance with their bids.

[Subscribe to our bi-monthly newsletter](#) on the smart building market (or available here: <http://eepurl.com/c7nrtv>)

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