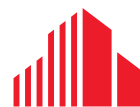


THE EDGE

MAGAZINE
Vol. 8



**Making the
Future**
Issue



**CUSHMAN &
WAKEFIELD**



Let's Make it Happen

In our new post-Covid era, the urge to make an impact has never been greater. At Cushman & Wakefield, we sense a renewed spirit to make the most of every opportunity we have—both at work and in our personal lives. It's an ethos we aspire to, and we're not alone—we see that same spirit in the people, companies and organizations we work with each day.

The Edge has always been a medium for us to explore the ideas and innovations emerging around us. Some of the topics explored in these Edge stories are already impacting the commercial real estate industry. For others, the effect on CRE is yet to be determined, but they reflect the desire to make a better future. This volume of the Edge is no different as we look at the ways workplace design for the neurodiverse can enhance the employee experience, how single-family rental housing continues to attract diverse segments as an alternative to homeownership and multi-unit rentals, how MedTech is building momentum and impacting the life sciences sector, and how the intersection of farming and urban real estate could be a place where communities, building owners and occupiers and the environment all win.

Each of our stories in one way, shape or form points to a desire to make a greater impact. No doubt there are challenges on the horizon, as forecasts suggest. Through it all, though, we will continue to make the most of every opportunity, **because life is what we make it**. We look forward to working with you to make it happen.

Best,

Brad Kreiger
Chief Marketing & Communications Officer

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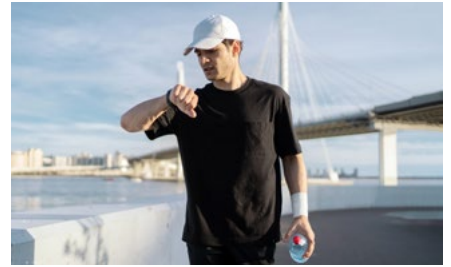
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Additional stories in Volume 8 that feature great imagination and thinking are forthcoming. We encourage you to [subscribe](#) to receive the latest.



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SINGLE-FAMILY RENTALS & THE ART OF NEIGHBORING



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On any given day, you'll find Claudia Finney sporting sunglasses and walking her two dogs, Cooper and Lula, through The Havenly Fountain Hills, a single-family, detached-home neighborhood about 20 minutes northeast of Phoenix, where she and her husband Kelly rent one of the 147 houses in the gated community.

"It's perfect for us," she said, of the newly built, 1,421-square-foot, two-bedroom, two-bathroom lofted house with stunning vistas of the McDowell Mountain range and views of the famous 330-foot fountain at the center of Fountain Hills, one of the largest fountains in the world. "It's beautiful, it's the perfect location and it feels like we own it, even though we don't."

The Finneys aren't alone in eschewing homeownership right now. Both in their early 60s, they represent a growing number of people—from Millennials to mid-career professionals to retirees—who find themselves drawn to housing that offers a single-family lifestyle without the long-term commitment, maintenance and financial burden that often accompany homeownership.

The pandemic accelerated this trend across the U.S. As more people left congested urban areas seeking suburban space to accommodate working from home and remote school, the housing inventory tightened. Home prices soared, bidding wars became the norm and soon thereafter a surge in demand for single-family rentals. According to our research, more than 60,000 built-to-rent single-family rental units were built in 2021 in the U.S., in cities like Memphis, Oklahoma City and Fort Worth. Single-family rentals were especially desirable in cities like Austin, where, according to the Burns Single-Family Rent Index, home values rose 38% in 2021, but where average single-family rental rates increased just 6%.



F I've seen people come here after taking advantage of the hot market and selling their homes with the intention to build or buy a new house, but they end up staying because they love it so much."

Colleen Sweet

Property Manager
The Havenly Fountain Hills



The Havenly Fountain Hills is just one example of built-to-rent, single-family housing that exploded in the past year, increasing 63% from 2021, according to the National Association of Homebuilders. Like many built-to-rent, single-family communities, it offers residents multiple floor plan options, luxury finishes and fenced backyard spaces. Paved walking paths wind through the neighborhood, past a fitness center, clubhouse and swimming pool, as well as a collection of one-, two- and three-bedroom homes that are consistently tidy, but still boast their own personalities—everything residents could want from a single-family neighborhood, but without the responsibility to maintain regular upkeep or pay annual property taxes. In addition, single-family rentals often offer the intangible: a sense of community among neighbors, sometimes an unexpected perk for residents who may have chosen a single-family rental as a stop gap between homes or living situations.

“I’ve seen people come here after taking advantage of the hot market and selling their homes with the intention to build or buy a new house,” said Colleen Sweet, property manager at The Havenly Fountain Hills. “But they end up staying because they love it so much.”

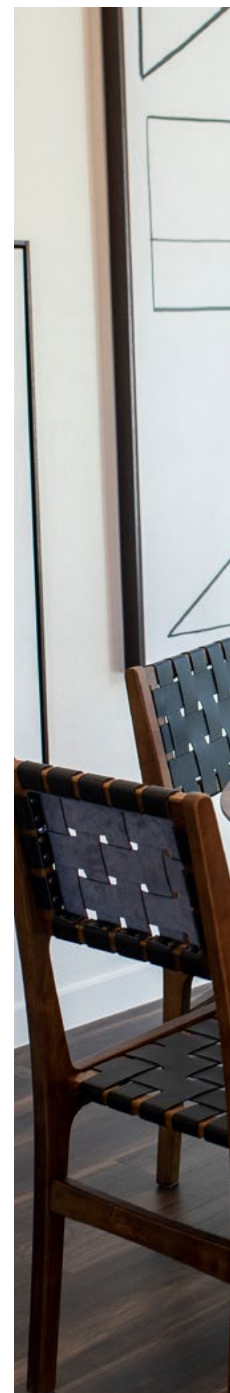
It doesn’t surprise Sweet—often called the “Mayor of Havenly”—who has mastered what you might call the art of neighboring, by fostering that sense of community and



small-town feeling with regular activities for residents. “Wellness Wednesdays,” movie nights at the pool and cookoff contests are regular events on the Havenly calendar. For Claudia and Kelly Finney, Saturday night card club is a must—and a far cry from one bitterly cold day about seven years ago, when the couple looked at the snow and freezing rain collecting outside of their home in West Chester, Ohio, and asked each other, “Why do we live here?”

It’s not that the leafy suburb of Cincinnati hadn’t been good to them; it had been the ideal place to settle down and raise their two children, a daughter, now in New York, and a son in Arizona. Cincinnati had been their home for decades, and they planted deep roots, building a 5,200-square-foot custom home that overlooked the third hole at the Wetherington Golf and Country Club, where Kelly was the head golf pro. They had always envisioned their empty nester, downsizing stage of life to be a slightly reduced version of what they already had: a smaller home, still in Cincinnati. But with both of their kids living so far from Ohio, they decided to get closer to at least one of them—and since Arizona has “better weather than New York,” they packed up, leased their West Chester house and moved to Scottsdale for a test run at life in the Valley of the Sun.

“We had to see if we loved Arizona first,” said Claudia, who wasn’t entirely convinced that she’d love the Arizona heat all year long.





F We've seen it all come together from the ground up," said Claudia. "It feels like we built the place ourselves."

As it turned out, Arizona—and its heat—was a perfect fit for the Finneys, who leased a house for six years until they decided that they wanted to make the move permanent. They discovered and committed to a home at The Havenly Fountain Hills before the houses were even built.

"We've see it all come together from the ground up," said Claudia. "It feels like we built the place ourselves."

In a post-pandemic real estate landscape with continually rising interest rates, spiraling inflation and an ever-growing housing shortage, the increase of single-family rentals isn't surprising—and those demand-generating conditions will continue to have the attention of the real estate investment community. But the single-family rental has become more than a viable housing option. It's a beacon of suburban space, comfort and ease, especially for those who now have the flexibility to work from anywhere, or for people seeking to buy a home—but can't—due to an undersupplied housing market or because high mortgage interest rates have priced them out of the type of home they want.

In some cases, single-family rentals are simply the next right step in life. Two years ago, Amy Schmidt packed up and sold her Rutherford, New Jersey home and moved in, temporarily, with her daughter in Scottsdale. A self-described "Jersey girl," Schmidt had retired after 33 years of employment with a major pharmaceutical company, and she was ready for something new and different. A master gardener, Schmidt fell in love with the natural beauty and walkability of Fountain Hills—and though she wanted to live in a house, she didn't want to own one anymore. When she settled into her Havenly home a few months ago, she set out to walk, hike and explore the natural beauty of Arizona.

"The nature is one of the reasons I moved out here," she said. "Now, I just have to figure out how to grow a garden in the desert."

As for the Finneys and their two pups, they're not leaving The Havenly anytime soon. "Why would we leave?" said Claudia. "We have everything we need here, and it sure is a heck of a view."



THE GROWING OPPORTUNITY FOR URBAN FARMS

For grocery shoppers and diners in cities like Barcelona, New York, or Singapore, there's a growing chance the food they're purchasing has come from a local **urban farm**. That's because urban farming, also called urban agriculture, has become increasingly popular in recent years. Champions of the concept point to its positive outcomes—boosting the efficiency of food production, for example, and lowering the impact on the environment relative to traditional farming by using water more efficiently and shortening the supply chain to lower carbon emissions. Advocates also note the social, educational and community-building benefits of urban farms, especially in the case of community farms and gardens.

But in the face of the pandemic and the ongoing threat of climate change, which have further exacerbated food security issues faced by millions worldwide, urban farming for commercial purposes has become even more relevant in today's supply chain-constrained and inflationary market—and more cities and businesses are taking heed.



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FORECASTS SUGGEST CHALLENGES FOR TRADITIONAL AGRICULTURAL PRODUCTION

Climate change and supply chain disruptions continue to have a dramatic impact on food production. Agriculture currently accounts for [70% of annual global freshwater use](#). Within this century, according to the [Intergovernmental Panel on Climate Change \(IPCC\)](#), global temperatures are expected to increase by two to four degrees Celsius. Further, precipitation is expected to decrease by 10-30%. Some forecasts suggest rainfall will become much more sporadic and unpredictable, often characterized by intense periods of heavy rain, all of which could very well lead to the erosion of land and loss of agricultural capacity.

Some experts warn that these increasing temperatures will not only threaten crops, but will also lead to [increased pesticide use](#), negatively impacting human health. Additionally, to offset the loss of fertile soil caused by intensive agricultural practices, more fertilizers will likely be required to sustain crop production levels.

Beyond these environmental challenges, food security will be further strained by a growing global population, estimated at 7.7 billion today and expected to reach 9.7 billion by 2050. The corresponding rise in food demand will put acute pressure on the world's agricultural producers. And with more than 60% of the world's population living in cities by 2030, urban centers will likely need innovative solutions.

While solutions to these global climate and demographic challenges may emerge and mitigate threats to feeding the world, innovators are working today to be prepared nonetheless, and some are looking at commercial real estate as part of the answer.





THE INTERSECTION OF COMMERCIAL REAL ESTATE AND URBAN FARMING

Rapid urban development and geographical constraints globally have been reducing available arable land near population centers for decades. To potentially fill a gap, more companies, organizations and building owners are turning to vertical farming operations like hydroponics, aeroponic and aquaponics (see page 6). These vertical farms require less space relative to traditional soil farms to produce similar yields, and they can be located in underutilized assets or surface areas such as rooftops and empty parking lots. While only a small percentage of commercial and residential projects are currently incorporating vertical farming, the nascent effort is a global one—from Asia to Europe to the United States, urban farming pioneers are exploring the possibilities.

Singapore, for example, has been historically dependent on imports for 90% of its food supply, making its residents particularly vulnerable to supply issues. But Singapore's first commercial rooftop farm, ComCrop, is working to change this dependence. Occupying what was once a massive vehicle parking lot, the 8,000 sf rooftop farm uses California-based AmHydro's hydroponic growing systems to produce vegetables and herbs, and it yields six times more than a conventional farm of the same size. An added bonus, ComCrop also employs the elderly and people with disabilities from nearby communities.

In Europe, Basel, Switzerland became the first city in the world to make green spaces a legal requirement on all new and retrofitted buildings with flat roofs. More than 11 msf of green roofs have been constructed in the past 15 years as a result, making Basel one of the greenest cities in the world. UrbanFarmers built the first commercial rooftop aquaponics farm in Basel in 2012. The 2,800 sf aquaponics farm produced 1,550 pounds of tilapia and 7,700 pounds of vegetables within its first year, which it then sold to local restaurants.

Projects in the U.S. include JetBlue's urban farm at the John F. Kennedy Airport in New York, the first functioning urban farm in the world at an airport property. The 24,000-square-foot farm relies on 2,300 plastic milk cartons to create plant beds whose soil is created by food waste donated by the airport's restaurants. Three thousand crates of blue potatoes, arugula, beets, mint, basil and more are produced and distributed annually out of this unique operation.

Given that innovators like these are demonstrating that commercial food production can be integrated into commercial buildings both from a technical and economic standpoint—and given that commercial real estate occupiers and investors are increasingly interested in sustainable practices and projects—it's not hard to imagine that commercial real estate industry participants will have increasing incentive to consider vertical farming operations.



HOW IT ALL WORKS

Vertical farming can thrive both indoors and outdoors within multiple property types—from industrial facilities to commercial offices. Within commercial spaces, for example, vertical farms can be housed on underutilized rooftops, within parking structures, courtyards or other common areas. Vacant or obsolete industrial properties are good candidates for indoor vertical farming systems, given their large spaces and given that soil and sunlight aren't required. The Plant in Chicago a good example of a vacant industrial facility in Chicago's historic Union Stockyard that underwent such a transformation, becoming an innovative development that is now part vertical farm, part food incubator, part research facility and part educational space.

Indoor operations: While vertical farming in indoor spaces requires an energy-intensive, controlled environment, it uses water highly efficiently, requires fewer pesticides and reduces the area required to grow the crops relative to conventional agriculture. For example, two and a half acres of recirculating hydroponic greenhouses can potentially replace 25 acres of land while saving 75,000 tons of freshwater each year.

Operators can gain additional efficiencies by harvesting rainwater and using treated building grey water in the growing process. For instance, hydroponics systems for lettuce production can reduce water consumption to near net zero, consuming only 3% of the water required for soil-grown lettuce.

Additionally, because the operations are enclosed, plants are protected from variable weather patterns and are largely protected from pests, greatly reducing pesticide use.

Outdoor operations: Outdoor food production on walls and roofs is less energy intensive than indoor practices, but it does come with some trade-offs. For one, it requires more water. Additionally, crops are more exposed to pests and severe weather.



WHY URBAN FARMS MAY CONTINUE TO GROW

Although some vertical system technologies are still nascent and require considerable capital investment, the potential upside and benefits may continue to draw more attention from building investors and operators around the world.

Commercial building benefits. Experts propound that urban farming lowers the carbon footprint of a building by making it greener and more sustainable, helping investors achieve their ESG goals. Integrating agricultural production into building design, for example, can help reduce building energy demands by providing additional insulation to buildings, leading to [1-15% in energy savings](#). According to the National Research Council Canada, a simple storefront hydroponic vertical garden in a multistory building was found to decrease energy consumption by reducing the need for cooling by 23%.

Beyond ESG benefits, real estate owners can achieve greater economic outcomes as green buildings generally command higher rents (see our series [Green is Good](#)). Tenants too can benefit by occupying these kind of facilities, satisfying their own ESG commitments and demonstrating that commitment to employees who want to work for good stewards of the environment.

Environmental and health benefits. Like other urban green spaces, urban farms contribute to microclimatic effects that help regulate city temperatures, provide sound insulation and [purify the air](#). Vegetation absorbs and retains rainwater runoff, as well. Several studies have reported the enormous positive impact that these green urban pockets have on human health by reducing stress and cardiovascular diseases.

Community benefits. Urban farming, advocates say, can enhance social cohesion in communities. While less so for commercial operations, community urban farms often incorporate educational- or community-led programs allow for individuals to participate in harvesting their own produce. Alternatively, Community-Support Agriculture (CSA), which involves consumers supporting a local farm and sharing operational costs, is increasingly acknowledged throughout Europe as a more sustainable food production system and has been found to save consumers between [27-72%](#) compared to retail values.

Economic benefits. By incorporating food cultivation into the building environment and community, experts suggest we effectively integrate more circular economy practices in our food supply chains while also creating green jobs and educational programs and upskilling employees. Urban agriculture has the potential to stimulate a green economy by attracting professionals such as farmers, engineers, technicians and scientists. It also provides opportunities for local food processing while contributing to a high quality and sustainable service economy.



Hydroponics, Aeroponics and Aquaponics—what's the difference?

All three of these technologies are soilless, but differ in technique:



HYDROPONICS
grows plants suspended
in water



AEROPONICS
grows plants
suspended in air



AQUAPONICS
is a unique combination of
hydroponics and fish farming
in an integrated system



A Snapshot of Urban Farms Around the World

ASHBURN, VIRGINIA

Home to one of the largest agrihoods, a farm-focused housing development, **Willowsford** consists of 300 acres of managed land and offers 100 different varieties of vegetables through its CSA and farm stand.

BOSTON, MASSACHUSETTS

On top of the **Boston Medical Center**, you'll find a rooftop farm with more than 25 crops. The farm provides fresh, local produce to the hospitalized patients, cafeterias and the Preventive Food Pantry, a free food resource for low-income patients.

HONG KONG

One Island East Farm is the highest urban farm in Hong Kong, situated 300 meters (984 feet) above ground.

JOHANNESBURG, SOUTH AFRICA

Neighbour Roots, a rooftop farm located on top of a shopping center in Johannesburg grows lettuce, spinach and a variety of herbs, which are sold to restaurants inside the shopping center.

MONTREAL, CANADA

Lufa Farms opened the world's largest commercial rooftop greenhouse in 2011, and today its combined Lufa Farms facilities have 137,000 sf of growing space, offering approximately 75 types of vegetables.

PARIS, FRANCE

The Parisian rooftop farm, **Nature Urbaine**, is the largest in the world and produces up to one thousand kilos of fresh produce per day.

ROTTERDAM, NETHERLANDS

The **DakAkker** is an 11,000-square-foot urban rooftop farm, where organic fruits, vegetables, flower, and herbs are grown and bees are kept. It is the largest open-air roof farm in the Netherlands.

SINGAPORE

A parking lot roof was turned into an urban farm – **Citiponics**.

THE BRONX, NEW YORK

On top of a LEED-certified affordable housing building sits **Sky Vegetables**, an 8,000-square-foot hydroponic farm that employs local residents, a project development by AmHydro.

AUTHENTIC LEADERSHIP: TECHNOLOGY, DATA AND BEING HUMAN

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At a recent cybersecurity conference, Salume Comanieh was one of only seven women in a room of more than 150 technology leaders. While some in that position might be proud of such a moment to stand out in the crowd, “Sal” isn’t one to long for the spotlight. She’s here for the job.

As the newly appointed Chief Digital & Information Officer for Cushman & Wakefield, there’s no question that the job is a big one—but she’s been preparing for it since she was the only girl playing quarterback in the backyard football games orchestrated by her older brother and cousins.

“Between my dad, brother, cousins—and now my husband and two young sons—I’ve always been surrounded by male supporters,” she said. “When I was growing up, I never heard the mantra that ‘girls can’t do this or can’t do that.’ There was never a delineation in talent capability.”



”

I want to help others understand that what I’m doing is not that much different from what they’re doing—it’s just that the scale and perspective is different.



It’s a message that Sal took to heart—and one that has become a clear trademark characteristic of her leadership style. Though Sal didn’t always envision herself in the C-suite role she holds today, she possesses a deep understanding for and appreciation about why she’s here. She’ll also be the first to tell you how much she benefitted from mentors along her career path and why she’s committed to guiding and helping others grow their career trajectories—especially women and minorities in technology.

“It has taken a long time for me to demystify taking a seat like this,” she said. “As a female in technology—and a minority female in tech—it’s easy to create this aura around the role that seems completely unattainable and so much bigger than it really is. The role I am in now is a phenomenal opportunity, and one that I’m eager to make an impact in. But I want others to see that they may not be as far away from an opportunity like this as they may have built up in their minds.”

Sal sees her role now with a threefold purpose to drive an impact broader than the job: to lead by example by showing up as her authentic self; to

create and build value for the company and for clients; and to uplift historically underrepresented groups and create space for them in technology roles.

“I want to help others understand that what I’m doing is not that much different from what they’re doing—it’s just that the scale and perspective is different.”

Sal sat down with The Edge to tell us more.

You often say that you did not “grow up in technology,” but here you are, holding the top technology seat for a Fortune 500 company. Tell us about that.

I went to school for industrial distribution management, so I studied supply chain and logistics strategy, and started my career in strategic consulting across multiple industries. Somewhere along the way, I ended up applying my distribution skills to tech—and I discovered that the intersection of technology, data and process is all a language of its own, and I have a real passion for aligning them and weaving them together. That’s where real transformation happens, and it’s a key to growth for a lot of organizations.

You sound really excited about this role. We can see it in your eyes.

I am. We have such a great opportunity right now to optimize the experience of our colleagues and our clients. We just completed restructuring our technology organization and hired our first Chief Data Officer. We have world-class real estate services paired with world-class technology and world-class technology talent—all laser focused on delivering value for our clients by unlocking the value of our data.

It seems like the technology is just one component of a much bigger vision you have. Is that true?

Yes, because technology cannot be a siloed agenda. The technology and data alone will not drive real and meaningful transformation. They must be aligned to our business values and goals—and that takes an acute understanding of every function of our organization and every service offering so that we can create a holistic, end-to-end experience within our internal operations and in our service delivery for clients. That’s how we make an impact on our employees and how we consistently show up better for our clients.



That seems daunting in an organization with more than 50,000 employees worldwide.

It's a challenging role, yes—we're delivering a diversified set of capabilities to our diverse clients, many of which have unique technology and connectivity challenges. But the challenges are exactly what makes the role interesting. We are transforming the company and an entire industry from the inside out, connecting the technology with the people who use it. That's how technology makes an impact.

Can you share some examples?

Yes! It really starts with fundamentally changing the way we work as an organization. We're leading with a theme of "showing up together" with a threefold strategy. First, we're continually investing in building out the architecture of how we collect and curate our data—and how we utilize it to drive insights for both our colleagues and our clients. Second, we're strategically integrating our cloud- and mobile-first infrastructure with partnerships and investments in innovative tech. We're intersecting a curated, customized digital experience with a physical experience, which adds real value for our organization and for our clients.

Can we stop you right there for a second so you can tell us more about that—combining a digital experience with a physical experience?

Post-pandemic, a lot of clients are seeking to explore what the future of the office is going to be. Cushman & Wakefield has the largest survey data set in the world in this arena with our [Experience per SF™ \(XSF\)](#) survey. This data, coupled with our property and facility asset data allows us to have a rich dialogue with our clients on how best to optimize their portfolio. One of the overarching themes from the XSF survey is that people want flexibility and choice when it comes to choosing a physical or virtual space to work. It needs to support their personal circumstances, and the functionality and experience of that physical or virtual space is critical. So, we use ubiquitous digital interfaces that help our clients and employees have seamless, compelling experiences, whether they are in a corporate office or working from home.

Is there even space and time for a third strategy?

Definitely, and it's a big, critical strategy. The third component is fortifying our [Environmental, Social and Governance \(ESG\)](#) commitments by reducing our carbon footprint and making our [Diversity, Equity & Inclusion \(DEI\)](#) goals an integral part

of who we are as an organization. We're giving our employees the support, the tools and access to learning, all of which creates a more inclusive workplace where people feel a sense of belonging.

How important do you think that is today—to have a sense of belonging at work? And have you always felt that?

The ability to drive a sense of belonging at work is no longer a “nice to have.” It's the most important sentiment you can drive as a leader, especially in this competitive talent landscape. I was born in Iran during the war, and we moved to the U.S. when I was eight years old. When you're accustomed to looking at life through the lens of an immigrant, your sense of belonging is tested on a regular basis. As a female in tech, the sense of belonging can always feel tested. But if the past two years taught us anything about work, it's that it's critical to have a sense of belonging—at home and at work. Before the pandemic, we had our work persona and our personal personas—and those personas have melded quite a bit over the past two years. I hope this level of concentration on bringing your whole, authentic self to work stays because it's a critical component to feeling like you truly belong. The pandemic gave us the gift of conversations, connection points and transparent dialogue, all of which yielded meaning and authenticity vs. the rigidity that often comes with everyday work conversations.

What's your superpower?

I love this question because I think we all have superpowers in some way. I would say mine is the ability to intentionally listen to connect the dots across an organization. My lived experiences afford me the ability to quickly pivot and see situations through the eyes of others. And my years of consulting helped me build the muscle of learning at pace. Combining that with my deep desire to bring human and business connections together results in my ability to be present, listen, educate, and connect with colleagues and clients.

If you could send a note to yourself—say 20 years ago—when you were at the beginning of your career, what would it say?

Surround yourself with a network of support—family, friends and colleagues who have core competencies you want to learn from and those that genuinely believe in you. Continue to push your North Star and your goals to the next level and always remember no individual or setback defines you. I'd also remind myself daily that I don't need to apologize for being a committed parent and member of my broader community, and that balancing my commitments is my responsibility and no one else's. Also, I'd tell myself to double down on what you know, lean into every chance to learn, and embrace every opportunity that allows you to show up and be authentic to who you are.

Do you think you've followed that in life and in your career?

I believe I have. It's always a work in progress—life is a work in progress. We keep forgetting that we're all human. But I think walking through life, really leaning into it, and knowing that you always have more to learn is a good way to live.

Does that play a role in leadership too?

Yes, I think it's a good way to lead as well. It's my intention to be a great tech leader, and that means being a constant learner. I believe that supporting others and creating space for them to excel are key fundamentals to great leadership. I'm learning daily, and I'm creating room for others to learn, make mistakes and grow in a space where they can be who they are, authentically. I see that as my duty.

What is one piece of wisdom you hope to impart during your tenure in this role?

That we all matter. Every single one of us has knowledge or talent to add, a connection or a voice to be heard. When we hear someone say, “Someone should do something about that,” remember that you may be that someone. Raise your voice to speak, raise your hand to volunteer and roll up your sleeves. You can lean into the situation, learn something new and not allow it to be someone else's problem to fix. Also, don't allow yourself to get stuck, bound by the notion that your title equals your impact. Your impact can go far beyond organizational structure and job title. We are all here for a purpose, and we all have something to add.

”

It's always a work in progress—life is a work in progress.



WORKPLACE DESIGN FOR THE *NEURODIVERSE* HELPS EVERYONE

Sometimes late into the night, Elizabeth Beck finds herself still awake, seated at her home-office desk, intently focused on work. She calls it her “goblin mode,” and it’s the quiet time where she finds solitude and space to focus on heads-down analytical work, with fewer distractions that make it difficult to regulate and direct her attention—a challenge sometimes for Elizabeth, who discovered last year that she was autistic. She is often sensitive to light and sound, so she works underneath soft, white LED lights, because she says she can sometimes hear fluorescent lighting, which she finds sterile and unsettling. Diagnosed with ADHD in her early 20s, she takes medication that can make it difficult to regulate her body temperature, so even in the heat of Atlanta—where she lives and works as an appraiser for Cushman & Wakefield—she might sport a fleece and a thick, knit puffball hat.



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When designing this piece for The Edge, our designers chose neutral, muted, mind-friendly colors that offer a soothing, safe and calming environment and avoided over-stimulating colors and those that some neurodiverse people perceive as fluorescent or too intense.




As someone who navigates the assets and liabilities of both autism and ADHD, Elizabeth identifies as neurodivergent—meaning she’s neurologically divergent from neurologically typical, or neurotypical, folks. That doesn’t mean it’s difficult for her to connect with others or do her job well. Elizabeth’s colleagues adore her—not only for her intelligence and depth of knowledge but also for her enthusiasm and disarming sense of humor. They describe her as thoughtful, caring and blunt—but in a great way. They also say she is supportive, creative, and articulate with complex topics and abstract feelings—and that she’s the epitome of a team player, always looking to engage and help in any way she can.

It’s clear that her co-workers don’t accept Elizabeth despite her neurodivergence—they embrace her because of it. They’re asking questions like, “How do we find more talent like Elizabeth?” and “How do we keep the Elizabeths we already have?”

They’re not alone in asking questions like these. From household names like [Microsoft](#) and [Citibank](#) to England’s [Manchester City soccer team](#) and even the [local zoo](#), organizations around the world are recognizing that diversity, equity and inclusion (DEI) incorporates forms of diversity that go beyond race, gender and religion to include neurological differences like dyslexia, autism and ADHD. They’re affirming that an authentic DEI initiative is one that not only embraces

and opens opportunities for the neurodivergent—by some estimates, 15-20% of the global population, and growing—but also develops an inclusive culture and creates mind-friendly work environments to support a neurodiverse workforce.

In theory, that looks like inclusive design, with spaces that accommodate everyone. But people, whether neurodivergent or not, work and interpret their workspaces differently. The same environment that relaxes or energizes some people can overwhelm or threaten others. The constant beeps, pings and background conversations of a conventional open-floorplan office, for example, might not faze a neurotypical person, but it might make their neurodiverse colleague feel like they’re being thrown into the middle of a crowd. The hour-long commute to the office and expectation to sit at a desk all day might not bother someone with neurotypicality, but it might send his or her co-worker into a tailspin of frustrating distraction and sensory overload. Even patterns, like the black and white zigzags on office chairs, which some might consider to be stylish and sophisticated, may cause others to experience dizziness or even crippling vertigo. In other words, inclusive design—though well-intended— isn’t always inclusive enough. Considering the many ways in which a neurodiverse population experiences physical space—and designing for those diverse experiences—puts us on a clearer path to creating less stressful, more supportive places to work.



“ We’re moving away from an outdated medical model that declares neurological differences as something that is broken and must be fixed and toward a social model that sees the disabling environments as broken and something that must be fixed.”

Here’s the unexpected perk: designing sensory-aware workplace environments that support neurodivergent people also support, well, everyone—because not everyone knows that they are neurodivergent. Every human has a distinct sensory composition to process and manage stimuli from spatial and social environments. These senses connect us to everything in our world—and because every brain is wired in its own unique way, everyone interprets and experiences their environments differently. When we design spaces that respect the senses, we not only reduce stress responses—which no one is immune to—but we also support the mental health and overall wellbeing of every employee.

Inclusive design for the neurodiverse can offer other benefits, too. People with neurological differences—obsessive-compulsive disorder (OCD), dyspraxia and social anxiety for example—are the proverbial canary in the coal mine; whether hypersensitive or hyposensitive to stimuli, they will be the first to experience environments neurologically stressful, either through a surplus or a deficit of neurological sensitivity. Yet this same sensitivity often coexists with a high level of creativity, empathy and out-of-the-box thinking. The social challenges experienced by someone with autism, for example, are often overshadowed by an acute memory and critical attention to detail. Similarly, the time management difficulties that someone with ADHD experiences might be eclipsed by creative thinking and ability to hyper focus on important, time-sensitive projects.

Neurodivergent colleagues—like Elizabeth—bring a wealth of talent, passion and perspectives to our workplaces. The value that they bring to our companies and organizations underscores the importance of designing mind- and sensory-friendly environments that consider lighting, motion, sound, color, smells, temperature and even air quality, all of which can all affect neurological conditions, present themselves in myriad and unpredictable ways and contribute to a growing accumulation of stress in the brain and body. When we’re forced to consistently mask the sensory overload we experience in our environments, it leads to persistent cognitive strain and chronic stress, which reduces our ability to focus, actively listen and connect with others as well as our capacity for creativity, innovation and problem solving. It’s survival mode for the brain and body, often requiring additional time to become anchored and to regulate an overpowered nervous system—and it leads to a forced state of resilience that is neither natural nor sustainable. The result for people is pain and sensory exhaustion; the result for organizations is disengagement and attrition. In other words, chronic stress equals pure burnout.

According to a recent **report by KPMG**, the financial implications of employee burnout add up to at least \$4,000 per employee, per year. Multiply that by hundreds, or even thousands, of workers who are under a stress-induced level of burnout, and you have thousands of dollars in lost revenue, not to mention a subset of the workforce that is chronically, toxically stressed.



SOME CONDITIONS THAT ARE COMMON AMONG PEOPLE WHO DESCRIBE THEMSELVES AS NEURODIVERGENT INCLUDE:

- Anxiety Disorder
- Attention Deficit/Hyperactivity Disorder (DHD)
- Autism Spectrum Disorder (ASD)
- Bipolar Disorder
- Developmental Speech Disorders
- Dyscalculia
- Dysgraphia
- Dyslexia
- Dysnomia
- Dyspraxia
- Obsessive-Compulsive Disorder (OCD)
- Post-Traumatic Stress Disorder*
- Sensory Processing Disorder
- Tourette Syndrome
- Traumatic Brain Injury (TBI)*

**Indicates an acquired condition*

The good news, neurodiversity experts note, is that we're moving away from an outdated medical model that declares neurological differences as something that is broken and must be fixed and toward a social model that sees the disabling environments as broken and something that must be fixed. Part of this road to repair involves meaningful dialogue about design and creating spaces that cohere with different cognitive styles—and it's just as much about company culture and flexibility as it is about physical space. If people feel ashamed to utilize—or even privately benefit from—amenities or work-style options, the design won't matter, and no amount of mind-friendly design adaptations will make up for the human need for flexibility, autonomy and self-management. Purposeful, inclusive, sensory-friendly design is intentional, incorporating accessible spaces for employees to bond and socialize but also to rest and recuperate. It might include implementation of the following:

Localized temperature control

gives workers command over the indoor climate of their workspaces and increases overall comfort level and productivity. (This isn't only neurodiverse-friendly design—it's also [gender equal](#).)

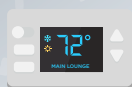


Acoustics design with sound

masking reduce noise distraction and offer rest for the mind and nervous system. This can be especially helpful for people with misophonia, a hypersensitivity to sound that can trigger anxiety, anger and a fight-or-flight stress response.

Air filtration systems

improve indoor air quality and can be a complete game changer for individuals whose hyperosmia, an increased sensitivity to smell, can feel assaultive.



Hypersensitive/neurodiverse-friendly workstations and work environments or neighborhoods

—heavy on muted, neutral design—accommodate a variety of needs by providing understimulating environments that reduce sensory overload.



We are on the cusp of discovering the uniqueness and complexity that lies within neurodivergent populations, many of which seem to be growing at an unforeseen rate. Dyslexia, for example, currently affects one in five people, according to recent research from Yale University—and that number appears to be rising. It is estimated that more than 13% of the population struggles with ADHD. Forty years ago, autism was thought to affect one in 2,000 people; today it is believed to be one in 54. It's safe to say that very few people have not had their lives touched in some way by neurodiversity—whether they've been diagnosed themselves or have had a child, parent, sibling or friend receive a neurodivergent diagnosis.

Circadian lighting that supports biological rhythms provides signals to the brain that mimic the natural light we'd encounter if we spent less time in the office and more time outside, all of which helps regulate our bodies to perform or work during daylight hours and transition to the innate nighttime functions of winding down, rest and eventually sleep.



American artist Amanda Hebert Hughes, who identifies as autistic, designed this calming, mind-friendly artwork as part of her curated sensory-gated art collection. Learn more about Amanda: www.SensoryGatedArt.com

Mind-friendly design patterns allow people, whether neurodivergent or not, to perceive, process and organize spatial orientation without assaulting the senses and causing dizziness or a sense of imbalance.

Uncluttered, predictable wayfinding that considers cognitive differences and neurodiverse thought processes reduces disorientation and frustration for workers who might struggle with finding their way across complex office layouts and campuses.

Inclusive technology—such as speech recognition software, computer screen filters or digital recorders—provided for everyone and embedded into the workplace culture demonstrates an appreciation for the many ways in which people engage in their work.

Workplace location choice and schedule flexibility allows employees to work at the times and in the location that optimizes personal strengths, maximizes individual energy levels, boosts engagement and ultimately ensures an employee's full potential. (Cushman & Wakefield's [Experience per Square Foot™ \(XSF\)](#) survey of nearly 35,000 employees around the globe from October 2020 to May 2022 supports this: employees with location flexibility have a 27% increase in workplace experience satisfaction and a 40% increase with schedule flexibility.)

Despite this sharp growth, one of the key issues that affects neurodivergent people—and anyone experiencing chronic stress or a decline in mental health—is the invisibility of many conditions and often the reluctance to talk about it. Today though, the conversation about neurodiversity is growing, and we're beginning to destigmatize the dialogue about neurological differences. TikTok is [exploding with videos](#) of adults in their 30s, 40s and even 50s sharing their #adultADHD story, sometimes with aha! moments of taking medication for the first time or feelings of grief over a lifetime of struggling with the hallmarks of ADHD, including time management, organization and task initiation. When celebrities like [Trevor Noah](#) and athletes like [Simone Biles](#) openly disclose their personal experiences with ADHD, it helps begin the dialogue for everyone to talk about sensory health, mental health and neurological differences. It also serves as a reminder that, as humans, we may often feel like we're running uphill—but some people are carrying a heavier cognitive load as they run.

It's time to add to this conversation and shed a bright light on cognitive diversity and the many ways it influences the way we experience physical spaces. When we recognize that designing accessible, sensory-friendly environments helps everyone, we're one step closer to creating diverse, equitable and inclusive workplaces that empower people to feel safe and supported, to self-manage and to do their best work. The result is an intentional workplace that embraces cognitive differences, contributes to everyone's neurological health and uncovers the limitless potential of the Elizabeths of the world.



Eight Practical Ways Employers Can Improve the Workplace Experience—for Everyone

1

START TIMES

The quality of sleep of different neurotypes ranges broadly and at different times of day. Some neurodivergent employees experience time blindness, an inability to sense the passage of time.

Opportunity for Culture and Design Intervention

Offer flexible working hours—which can be more conducive to energy levels and productivity—where people can choose to work at their peak performance. Rethink punctuality relative to the role. Is the fact that someone is seated at their desk by 9:00 a.m. critical to performance? Cushman & Wakefield's Experience per Square Foot™ ([XSF](#)) data shows that people with a flexible schedule have a 40% better workplace experience.

2

THE COMMUTE

Commuting can cause sensory overload and over-stimulation to different neurotypes. Unpredictability of commute factors can cause stress and anxiety for those who rely on structure and pattern.

Opportunity for Culture and Design Intervention

Hybrid work schedules offer employees the opportunity to work in an environment that is comfortable for them and that they can control. Flexibility can offer off-peak commuting options to reduce the time lost while commuting and the added stress and anxiety associated with rush hour.

3

CONFERENCE ROOM MEETINGS

Photosensitivity has long been associated with autism. Some neurodivergent people have trouble hearing and processing sound, ultimately increasing cognitive strain.

Opportunity for Culture and Design Intervention

Ensure rooms are not over-lit and that lighting levels are adjustable. Avoid fluorescent lighting. Consider circular tables in conference rooms to help ensure everyone can hear and participate. Also, consider the use of a CART, a speech-to-text app that makes it easy to capture the richness of an entire meeting.



4

HALLWAYS AND PASSAGEWAYS

Some neurodivergent employees struggle to find a sense of order in passageways that lack directional signage and indicators. As a result, the office layout can feel disorganized.

Opportunity for Culture and Design Intervention

Create a welcoming workplace and design spaces that are intuitive and easy to navigate. Emphasize wayfinding cues through repetition of signage and consistent messaging, with strong graphics and a common theme. Incorporate artistic landmarks, such as memorable photos or paintings, to help with a sense of place and direction. Use naming conventions, such as conference room names, that are logical and easy to find.

6

CAFÉ OR BREAKROOM EXPERIENCES

Though not always, some neurodivergent people avoid small talk, and tend to avoid café and breakroom-type spaces.

Opportunity for Culture and Design Intervention

Consider spaces that allow for “parallel play” and shared activities that don’t require continual conversation. Also, not all break rooms or cafés need to be the same. Design some as “we-space” to promote conversation and interactions, while providing a balance of “me-space” rooms for quiet, personal time to read, focus and recharge without distractions.

5

INDIVIDUAL WORKSTATIONS OR OFFICES

Noise and visual distractions can have an inordinately large impact on neurodiverse staff, causing focus to suffer. Additionally, sensitivity to temperature can impact their ability to do their best work. People like to have their bearings of where they are in the workplace, as it can be uncomfortable and stressful to lose a sense of where you are in a floor plan.

Opportunity for Culture and Design Intervention

Encourage the use of noise-cancelling or -reducing headphones to limit distractions and reduce peripheral volume that may be intruding personal workspaces. Individual seating “neighborhoods” with different temperature levels enable neurodiverse staff to find the zone that works best for them. Make sure that wall heights are not too high so that people don’t lose sense of where they are in the workplace and not too low so that there are too many visual distractions for those trying to do heads-down tasks.

7

VIRTUAL TEAM MEETINGS

Ambient noise can be especially distracting to neurodiverse staff. Overtalking and multiple conversations can render comprehension a challenge.

Opportunity for Culture and Design Intervention

Offer alternative space types, such as quiet rooms or phone rooms, where people can get away from their desk to take a virtual meeting in a quiet, secluded room void of external stimulus. Consider turning on closed captioning for all meetings so that all participants can improve comprehension and engagement during meetings. Create a friendly environment where people can openly discuss when meetings have too many overlapping conversations.

8

AFTERNOON COFFEE WITH COLLEAGUE

It isn’t only neurodivergent minds that need to decompress and take a break from workplace stimulus; everyone needs this.

Opportunity for Culture and Design Intervention

Incorporate natural elements, such as wood floors, natural greenery and water, as well as access to the outdoors and natural light, all of which help humanize the space and help people relax when they are away from their desks.

MEDTECH BUILDS MOMENTUM



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The speed of technology advances within the healthcare sector has been remarkable over the last several years. Today, apps can monitor and regulate diabetes. Robots can perform surgeries, reducing the risk of human error, while 3D printers can customize arm casts. Our smart phones can track our steps, heart rate and blood pressure. And like the patches that help smokers break the nicotine habit, a wearable patch is even in development to burn body fat.



Medical technologies (MedTech) aren't new to the healthcare sector—they've been improving and prolonging lives for years. EEGs, EKGs, pacemakers, dialysis, ultrasound technology and prosthetics are just a few examples. However, several factors have accelerated the growth of MedTech, including the intersection of three major developments: the increasingly global accessibility of the internet through mobile devices and cloud computing, especially in areas that have previously been lacking medical care; a quickly growing aging population in need of additional medical care; and the global pandemic, which propelled the need for such connections much more quickly than would have otherwise happened.


In tandem with these conditions, an entire ecosystem of technologies continues to proliferate around digital health and wearables within the greater MedTech sector. To take advantage of the massive potential these opportunities present, companies like Apple, Google and Medtronic are ramping up their research and development, targeting both the healthcare industry and retail consumers.

That growth is likely to continue to have rippling effects on commercial real estate. As a subsector of life sciences, MedTech has already generated significant real estate demand. Over the last five years, MedTech companies have signed more than 11.4 million square feet (msf) of leases across several markets in the U.S. alone. What's more, the global pandemic, which impacted leasing in other sectors, did not dampen the pace of leasing in this sub-sector. In fact, 33% of leases were signed pre-pandemic between 2018 and 2019, with the other 66% signed between 2020 and 2022.

¹Source of U.S. leasing data is Cushman & Wakefield Research through Q3 2022. This leasing activity does not include leasing by the FAANG group of companies which also have MedTech divisions. Since it is difficult to calculate the space they dedicate to wearable R&D and other technology, they are excluded from the leasing dataset.

What Makes Up **MedTech?**

MedTech encompasses medical devices, diagnostics and digital health. More recently, artificial intelligence (AI) and machine learning has been integrated into MedTech, improving diagnostic capabilities.



The San Francisco Bay Area has been at the epicenter of much of this activity in the U.S., recording 1.8 msf of leasing in the last five years. Approximately 43% of that activity—780,000 square foot (sf) — has taken place over the last two years.

A solution for the flight-to-quality conundrum?

Could MedTech growth be an opportunity for other segments of the real estate sector? It's possible. The flight-to-quality phenomenon has been prominent in headlines for some time as office-using companies are increasingly interested in higher quality offices. The preference for the best office buildings in the best locations is a response to new ways of hybrid working, a strategy to entice employees into physical office environments. Some voices are already suggesting this shift to quality may be a fundamental change in the industry. Regardless, the trend is already bifurcating office properties in two segments: the best of the best and everything else.

If demand for those offices in the everything else category remains weak, it's likely many of those properties will need to be repositioned at some point. Alternative uses will no doubt vary—life sciences, residential, biotech, medical and education are just some potential directions. But the demand for life sciences space has already spurred several office conversion projects for life sciences use in cities like San Diego, Boston and San Francisco. Conversions more specifically for MedTech use could be an additional solution, even though those projects are challenging, given the space needs of MedTech companies.

While requirements of MedTech occupiers depends greatly on each business model, most companies generally need a mix of dry lab and clean room space. The scope of those improvements can vary greatly depending upon the type of product the company is developing and the level of air particulate/ISO required in the clean room. Lab requirements, therefore, are very specific to each company's product and the respective manufacturing process and production line. Freenome, for example, recently signed a 300,000 sf, 12-year lease in the Genesis Marina, a life sciences campus under construction in San Mateo County. Freenome, a cancer diagnostics company, aims to develop blood tests that will make cancer testing routine, and the requirements dictated a more bespoke build-out because of the nature of the product.

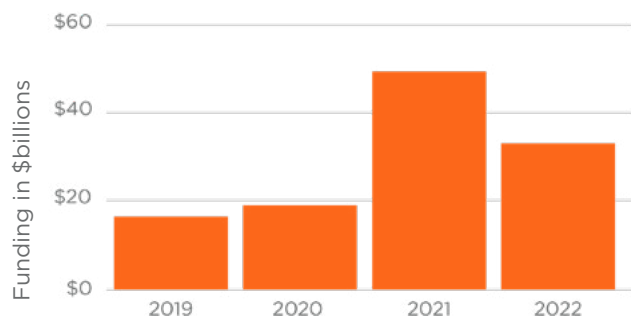
While uneven, funding continues to flow

Of the 18,325 companies globally that operate in the MedTech sector, nearly half (48.9%) are headquartered in the United States according to Pitchbook data. While some MedTech companies are public, most are privately held and backed by venture capital. Access to this capital has allowed many of these companies to either expand their real estate footprint or move to new locations. How much funding is available to privately-held MedTech companies in the next few years will greatly influence demand for office and lab space.

Technology Spotlight

Through clinical trials, Theranica recently developed a wearable device called [Nerivio](#) that alleviates episodic migraine pain. When the user feels a migraine coming on, they simply activate their wearable via their smartphone to alleviate the pain. Recently, the [company filed an amendment](#) with the FDA requesting that the device be considered preventative after a new series of clinical trials were successful. The startup, headquartered in New Jersey, has raised \$87 million since 2019 and was successful in August 2022 in raising an additional \$45 million in series C funding.

Flow of Funds



Source: Pitchbook, C&W Research

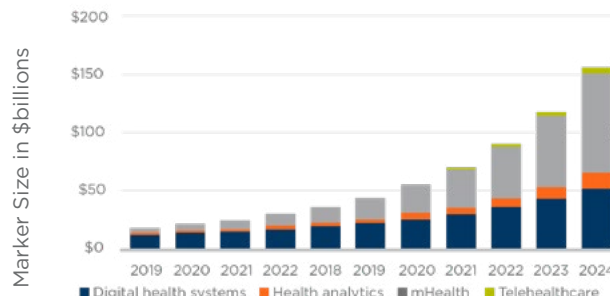
For the time being, the trend looks positive. Even though flow of funds to the MedTech sector has been uneven this year, mirroring a general pullback in the overall funding in the markets, 2022 is on pace to being one of the highest funding years on record. And capital continues to be attracted to opportunities in the MedTech space. California, where most privately-held MedTech companies are located, has enjoyed a lion's share of recent transactions—a total of \$8.1 billion in deals were funded relative to California-based companies through Q3 in 2022.

A promising future

Revenue in the MedTech sector has grown 5.1% annually at a compound annual growth rate (CAGR) in the last five years and is forecast to grow an additional 6.5% rate in the next six years. As of 2022, revenue is forecast to total more than \$200 billion, an 11% growth year-over-year and 22% higher than pre-pandemic levels in 2019.

Digital health, a sub-sector of MedTech, has experienced its own rapid growth in both the consumer sector and the greater healthcare sector. Overall market size has nearly quadrupled since 2014 and is forecast to more than double again by 2024. Growth in mHealth technology within the digital health sector—that is, mobile health or apps—has seen the fastest growth and is expected to garner more than 50% market size by 2023.

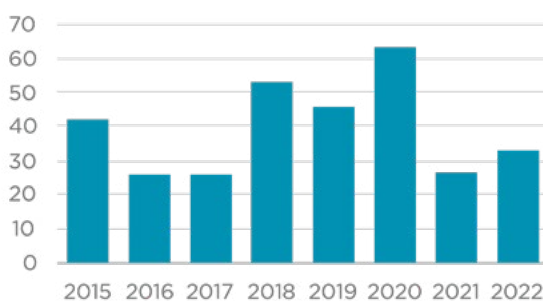
U.S. Digital Health Market Size by Technology Forecast



Source: Statista, C&W Research

Further, as of publication, more than 650 active clinical trials around the U.S. are focused on medical devices and diagnostics, including studies of wearables, digital therapeutics and diagnostics. Over the last five years, more than 200 new device and diagnostic approvals have been granted by the FDA. Although COVID-19 caused delays in FDA approvals in 2021 when the agency struggled with surges in volumes, social distancing and travel restrictions, most of these hurdles have been cleared. As the approvals process picks up momentum, it will mean new market opportunities and presumably additional growth for the industry.

FDA Medical Device Approvals



Source: Statista, C&W Research

It's an open question how large of an impact MedTech growth will have on real estate in a post-pandemic world—whether spurring new development or filling a potential gap for existing buildings left behind in the flight-to-quality migration. But if the last five years are an indication of the sector's potential, it seems a safe bet that MedTech will not only significantly influence human health, but the health of the property sector.

WELCOME

WELCOME TO THE

OFFICE VERSE

Bringing the Metaverse to the Workplace

The [metaverse](#) may seem far out there for some—almost other worldly. But the reality is that the concept applied to the virtual workplace (aka the officeverse) is quickly gaining some down-to-earth traction amongst companies, especially when it comes to attracting talent that wants unique options for where and how they work.



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OFFICE



THE

EVERS



Some organizations are boldly going where few have gone before

It shouldn't be surprising that several first adopters are already testing the officeverse. Morningstar, for example, has had great success delivering its Morningstar Investment Conference (MIC) virtually over the past four years with Mesmerise's Gatherings platform, which delivers a virtual experience through virtual reality headsets. In a recent article published by Skift, Leslie Marshall, Head of Experiential Marketing at Morningstar, noted that the conferences have been so successful that the [company is now trialing virtual reality](#) for individual meetings that could make a significant impact on future corporate travel. She added that it's more important

So what exactly is the Officeverse? Imagine a virtual environment—available in 2D or 3D formats—that simulates physical office workplaces by incorporating traditional features like meeting rooms, huddle rooms, tables, writing boards, projectors and even lunchrooms. Imagine joining coworkers in avatar form without having to leave the comfort of your home and attending a virtual in-person meeting (if we allow the oxymoron). That's the essential promise of the officeverse—going to the office without the commute. And if executed correctly, the officeverse can provide an innovative, economical and sustainable solution for organizations looking to enhance company culture and collaboration in a world increasingly shifting to hybrid work models.

Is the day coming when the officeverse replaces physical office workplaces? Highly unlikely. But in time, it is likely to augment or enhance physical office spaces—perhaps sooner than we might imagine. While office-using organizations continue to assess the best way for work to get done in a hybrid model, more organizations are looking at the officeverse as an additional workstyle option within a larger workplace ecosystem that offers employees choices among a variety of physical spaces and virtual tools. Yet, like most innovations, the officeverse will only be successful for organizations after they carefully assess where and how it will be most valuable for their respective business and talent.

Until that time, understanding the diverse applications that make the officeverse possible and the benefits the officeverse can generate is a good initial step.



than ever to educate the financial community about the metaverse and its anticipated impact on the future of the industry, given the significant efficiencies.

Another company that has taken advantage of the officeverse is eXp Realty. The residential brokerage uses a platform called Virbela, which enables remote teams to be connected and productive. Through Virbela, users can meet, host events, hold classes and more, enabling the company to service an entirely remote workforce all in an immersive and engaging world. In contrast to Mesmerise's technology, Virbela's experience comes to life on a 2D screen—think desktop or tablet—rather than through a virtual reality headset. As an early adopter, eXp Realty has grown to over 82,000 agents and employees and expanded to 21 international markets since implementing Virbela in 2016. And by at least one metric, eXp is [ten times more efficient than its peers](#) in terms of operating costs, much in part to its use of the officeverse, according to the company.

Other companies such as Accenture, Deloitte and BCG, too, have introduced virtual reality headsets to their digital workplaces. Growing interest from leading brands such as these has spurred companies like Apple and Microsoft to invest more capital into augmented and virtual reality hardware and software. Continued competition and further development will likely create greater options for businesses and drive costs down. But already the cost barrier is relatively low. In many cases, outfitting a workforce with VR equipment and software is comparable to the cost of issuing that same population a pair of desk monitors.

So much more than video conferencing

The best part of the officeverse may be its versatility—it has the potential to be the best of both remote work and the physical office—as well as the potential to address several workplace challenges.

An aid for culture building: Organizations deliver a lot of intangible value through their physical spaces. The physical office is the primary place where culture is built and sustained, and where the organization's values are best translated and manifested. The layout of the space, its décor, style and branding all help establish the tone for the workplace, as well as communicate the type of company the organization aspires to be. The officeverse has the potential to deliver some of those same culture-building attributes.

A way to facilitate collaborative encounters:

One of the bigger criticisms of remote work is that it doesn't facilitate organic, impromptu interactions between colleagues—the kind that often leads to the best ideas. But through their avatars, employees in the officeverse have the opportunity to experience those unplanned encounters, a chance to see familiar or unfamiliar faces and to escape a desk at home without leaving home.

And for those who prefer fewer distractions so they can concentrate on heads-down work? Not to worry. They simply toss on some headphones on their avatar and tune out the noise—still having the ability to wave hello to colleagues as they walk by.

An opportunity to level the workplace playing field for everyone: By its very nature, a physical workspace can be limited in its ability to appeal to every employee, all the time. Tying work to a specific site can cause inconveniences such as long commute times. It can also hinder flexibility for caregivers to be where they're needed outside the office. Even the best designed office can pose barriers to people whose sight, hearing or mobility are limited, or those to whom an office environment is overwhelming or unproductive.

The flexibility of the officeverse, however, may be an answer to these challenges. Every employee can be seen by their colleagues and leaders, and anyone can have casual conversations with peers, managers or company executives—equitable virtual representation, in other words—even if they're located on the other side of the globe. Mobility can be democratized. Captioning can be provided for the hearing impaired. Employees can also represent themselves the way they want to be seen through their avatars. The examples are many.

While these benefits are great for the workforce, they also have the potential to generate value for the larger organization, too. From [Cushman & Wakefield's Total Workplace](#) research, we know that people who feel seen and represented have a higher sense of belonging and wellbeing. Employees with a higher perception of wellbeing are 2.5 times more productive, so facilitating a sense of belonging is both business- and people-critical.

A way to operate more sustainably: The built environment contributes as much as 40% of global CO2 emissions, and a company's real estate footprint accounts for nearly 60% of its emissions, on average. The officeverse, however, may be a path to lessen the built environment's impact on the planet. It could potentially reduce the demand for new construction and allow for more repurposing of existing space, for example, providing a lower emissions option to companies grappling with ESG targets. Further, employees "commuting" to the officeverse from their desks at home would reduce real commutes, presumably providing additional positive outcomes for the environment.

A way to reestablish real connections: Many office workers have become accustomed to working remotely. As Cushman & Wakefield's Experience Per Square Foot™ (XSF) Survey data shows globally, once office workers started working from home and demonstrated they could be successful in their jobs, being in the office five days a week seemed less imperative. But here again, the officeverse can play an important role. The connections people experience in the officeverse have the potential to fill a void for the connections employees miss on the days they work remotely.



While only time will answer how far and wide the officeverse grows, here's what we know. Physical real estate is not going anywhere. Adoption of the officeverse will not happen overnight, and it may never be widespread. Further, not every organization can be or should be a first adopter. But the officeverse has the potential to provide an important virtual bridge between remote work and the physical office. For organizations that see some of its potential and value, the officeverse may provide yet one more “place” for employees to do their best work.



Exploring the Officeverse Firsthand

Understanding how the technology behind the officeverse works was one thing, but experiencing the officeverse mattered more to us. To that end, a team of 40 Cushman & Wakefield employees across five countries tested virtual reality headsets in a global pilot throughout the course of two months last year. After conducting a series of tracked situational tests, and before and after qualitative assessments, the team concluded that the experience of meeting someone in virtual reality does in fact help form bonds outside of the officeverse. Ninety percent of the new connections formed in the metaverse translated to further cross-regional collaboration and client development

as relationships were grounded in having had this new experience together. That, in turn, translated seamlessly to new connections and higher interaction between colleagues. The consensus was that augmentation of reality allowed our employees to experience a new style of adhoc communication, introduction and connection that we previously thought exclusive to physical interactions.

As part of the ongoing research and piloting, the Cushman & Wakefield team is evaluating both virtual reality as well as 2D virtual spaces to determine the benefits and challenges of each type. Mesmerise

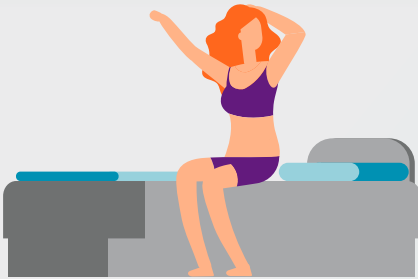


provided the pilot in its virtual reality office, allowing the team to learn about the bonds and limitations of the headset applications. Its 3D “immersiveness” keeps participants focused on the event, but the headset limits the ability to do standard tasks one might do during the event like taking notes. The 2D space, however, is a gamification of the normal office experience and lends itself to multi-tasking or doing standard tasks while participating in meetings. Indicators would suggest that both 2D and 3D spaces will play an important role in the officeverse going forward.

The team is also evaluating the opportunities and influence the officeverse may have on the [future of real estate](#). The officeverse has the potential to support the rightsizing of real estate portfolios and giving the physical environment a clear purpose in the workplace ecosystem. If implemented and utilized correctly, the officeverse environment could ideally motivate people to connect in real life as well as virtually. The concept would allow organizations to create a global campus in the metaverse—reducing the need to travel great distances or develop large areas of land, which can have significant impacts on sustainability.

A Day in the Life

A day in the life example of how an employee can work in the officeverse.



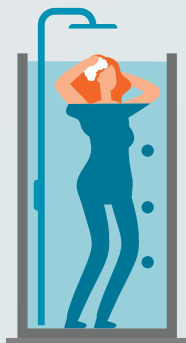
5:25 am

Yvonne wakes up in her New York City area home for her 5:30 am meeting with her team in Turkey. She stumbles out of bed, sits down at her laptop and “goes to work.” In a matter of seconds, she changes the outfit on her avatar, teleports to the office, and walks into the meeting room right on time for her meeting.



6:30 am

After the meeting, Yvonne leaves the office and directs her avatar to the gym. She could just log out, but she likes the idea of having her avatar there while she heads down to her real-life treadmill.



7:30 am

After her run, she showers, eats breakfast and goes back to work.



8:30 am

She walks her avatar back into the office where she sees Mark, which is great because she realizes his opinion is perfect for the idea she had on the treadmill. After talking to Mark, she walks to her desk and on the way has the chance to say hello to others. Later, while Yvonne is responding to email, she casually chats with her colleagues about a Netflix show, the weather and the day’s meetings.



9:00 am

Yvonne heads her avatar over to a conference room to meet with marketing about a new campaign.



9:30 am

Walking out of the meeting, she takes a moment to walk with Jamie, complimenting her on a project before heading back to her desk. On the way, she sees a new face at one of the pods, so she introduces herself. Turns out it's Fred's second week with the firm and they went to the same university.



10:00 am

With her avatar back at the desk, Yvonne needs to get some work done. She tosses on her avatar's headset, which mutes ambient noise and signals to others she is busy.



5:00 pm

After work, Yvonne and a few colleagues have gotten into the practice of participating in one of the collaborative activities available in their virtual campus—from exploring various lands to playing a game.



12:00 pm

At lunch, Yvonne's avatar sits at a table in the kitchen. She has found this to be a fun way to “lunch” with colleagues. Meanwhile, she's physically sitting outside on her deck enjoying the last nice day of the season.



6:00 pm

After the activity, she simply leaves the officeverse and is already home. She gets some laundry done and then pulls herself together to head out with some friends. She plans to make it an early night as she's heading into the physical office in the morning. It has been a couple days since she's been in, and she is looking forward to seeing people ‘in real life.’



2:00 pm

Yvonne has a training session on a new product launch. She heads over to the VR room with her avatar at which point the meeting launches in her Oculus headset. Yvonne physically puts on the headset and says hello to those who have already gathered. She has a chance to say hello to product leads from around the globe and catch up briefly. Once it begins, they are guided through a “hands on” session where they work with virtual models of the product to learn how it works and provide feedback before they head to final production.



From **PUTT** to **PINT**

Everyone Wins with Competitive Socializing



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What do you get when you combine high-end dining and competitive games with a group of people hungry for unique, fun experiences that they can brag about to their friends? A growing trend called “competitive socializing,” which not only provides much-needed, out-of-the-home experiences with friends and coworkers, but also a unique opportunity for landlords looking to revitalize their assets and fill large vacancies at the same time.

Not to be mistaken with experiential dining, which ranges from posh Michelin-starred restaurants to unique food trucks to cat cafes, competitive socializing goes beyond food and beverage to include a highly social and interactive element, such as mini golf, axe throwing, beer ping pong and even a concept called Chicken N Pickle, serving up wood-fired chicken alongside your pickleball paddle.

The concept isn’t new; people have been throwing darts and knives in pubs for centuries, and arcades like Chuck E. Cheese and Dave & Buster’s have been around for decades. But today’s competitive socializing version has evolved into a new level of sophistication where people choose experiences over things—especially if those experiences are ideally both “Instagramable” and TikTok-friendly. According to a Harris Poll survey, before the pandemic, over 75% of Millennials chose experiences over things, and that desire has only grown.

With Gen Z and Millennials making up nearly half of the full-time workforce in the U.S., this thirst for experiences is a trend that cannot be ignored, and this concept has taken heed. According to Cushman & Wakefield research, competitive socializing concepts have grown 386% since the beginning of 2021.



Competitive Locations are Key

When it comes to competitive socializing, just like a sports bar, the right location is everything. Highly urban environments provide not only the dense population and foot traffic needed, but also the young and trendy office spenders as well. At its core, these concepts provide large format spaces for gatherings that aren't night clubs or run-of-the-mill sports bars.

Swingers, the premium competitive socializing concept from London, is focusing expansion efforts on key cities in the U.S.

"We have been representing Swingers on their U.S. expansion. With five locations currently open (two in London) and three in the U.S., it's clear how well both customers and prospective landlords appreciate their commitment to design and the amazing experience they create," said Jason Greenstone, Executive Director, Retail Services at Cushman & Wakefield. "Their key to developing the pipeline has been in finding the right landlord partners coupled with interesting and unique real estate that is well located within city centers with great central access." Having enough space is also critical to Swingers' locations. Ten months ago, Swingers recently opened its New York location in a 22,500-square-foot lower level of the Virgin Hotel. The incredibly designed space is complete with three, nine-hole golf courses, multiple bars and an elevated dining area, offering some of the top food operators in NYC.

State of Play Hospitality Limited is a creator and operator of several competitive socializing concepts, including Flight Club, Bounce, AceBounce and Hijingo. According to Alan Cichon, the company's president of U.S. operations, when they are looking for a new site, they primarily look for locations that are close to the central business downtown of major metro areas. "A key thing we look for in all locations is proximity to our core customers as well as group corporate business," he said.

For Puttshack, a mixed-use, highly amenitized office and entertainment complex in Atlanta's West Midtown called The Interlock, has been a hole-in-one for the competitive socializing concept. "We were so fortunate to have Puttshack choose our site as their first location in the United States, said Justin Latone, Senior Vice President of Leasing for SJC Ventures, the developer for The Interlock. "Although they have opened several other locations across the country, The Interlock is one of their busiest locations nationwide, with reservations required days in advance."



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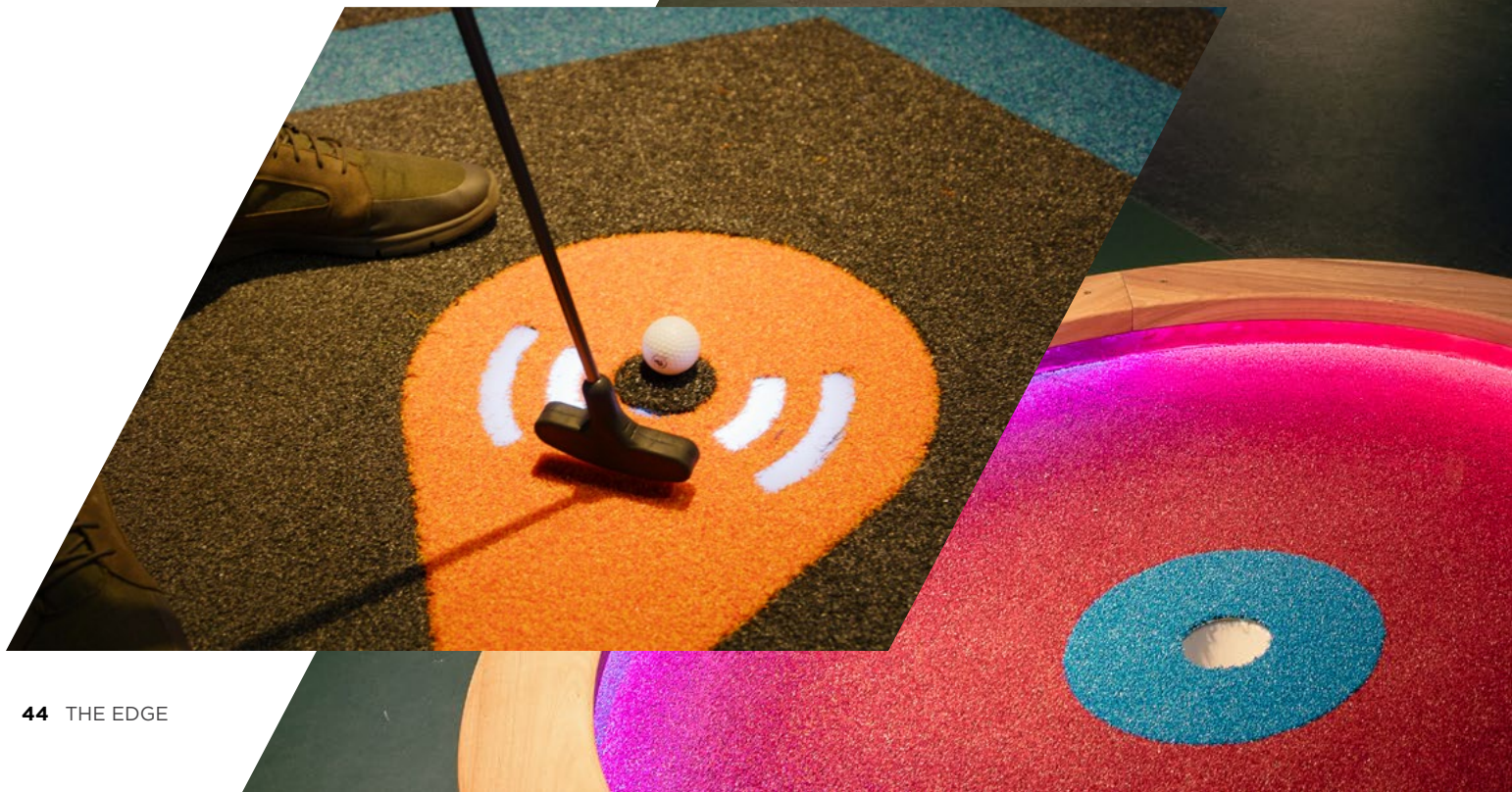
“Our unique blend of sophisticated design and gourmet food and beverage, alongside a competitive activity, is appealing to discerning guests in both the UK and the U.S.,” said Jeremy Simmonds, CEO of Swingers. “We look forward to bringing Swingers to major cities across the world over the coming years by working with forward-thinking landlords and developers.”

COURTESY OF SWINGERS NYC

The Competitive Edge for Landlords

Once concepts find a home in one of these competitive locations, they bring with them a more diverse tenant mix, improved guest experiences, elevated branding, innovation, placemaking—and signed leases for large, and oftentimes underutilized, spaces. Other retailers in the development will also benefit from increased foot traffic and sales from customers who want to shop or even grab one more drink after their visit to the concept—drastically increasing dwell time for the development.

"There are many instances where landlords at first blush do not understand the draw and impact a concept like Swingers can have on a neighborhood, but once they see the concept in person, the reaction is almost unanimous," added Greenstone. "They can't believe how amazing it is both as an amenity and draw for the neighborhood."





"As one of the first tenants to open at The Interlock as well as the first location to open in the U.S., Puttshack hosted several pre- and post-opening developer/investor showcases, which brought great exposure to The Interlock," said Latone. "The property as a whole has dramatically benefited as well as ancillary revenues, and a large part of that is attributed to Puttshack's early and continued success. We have found that people come to experience Puttshack and stay to experience other parts of the project, with dwell time being well over an hour on location."

Malls and lifestyle center landlords could look to benefit from one of these concepts as well. In 2022, the overall mall vacancy rate was 8.8% compared with a low point of 3.9% in 2016, according to Costar data. Anchor tenant vacancies have factored into this rate with 6% of Class A++ malls and 22% of Class A+ malls reporting one anchor vacancy, according to Green Street. With more anchor tenants evacuating malls, landlords are left with large amounts of vacant space that could potentially be well suited for these concepts. Typical sizing ranges anywhere from a sizable 10,000-30,000 sf, on average, which can be split up in creative ways.

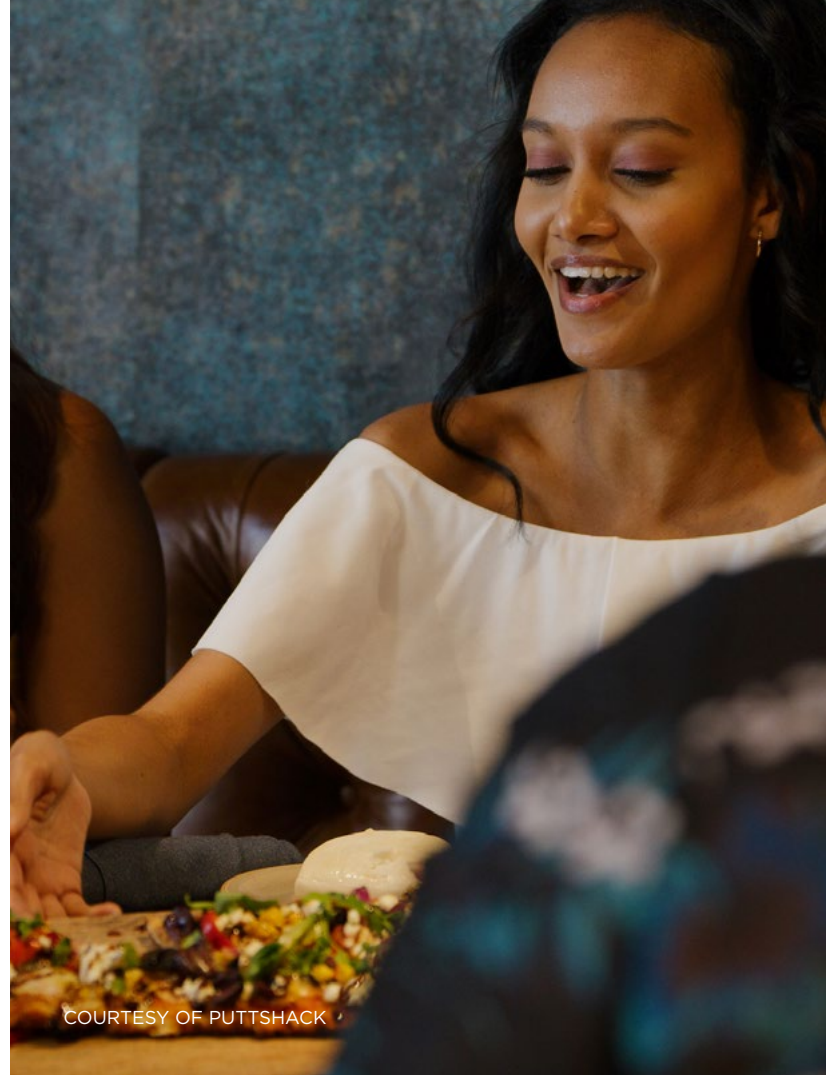
COURTESY OF PUTTSHACK

Positioned for Competitive Growth

With so much demand and opportunity, competitive socializing concepts are setting their sights on growth. According to Cichon, State of Play set a goal of growing 6-8 units a year in the U.S. market, while the global company continues to expand in the UK and internationally.

Currently, Swingers has two locations in London, two locations in D.C., and one in New York with additional locations in the pipeline to be announced shortly. "It's been an exciting experience working with the team at Swingers to truly understand each market and sort out which locations are ultimately the best fit for the brand," added Greenstone.

Fortunately, these concepts are attracting investors who recognize a profitable and scalable experiential business model with a faster return on investment—satisfying the Instagram generation's appetite for experiences at the same time.



COURTESY OF PUTTSHACK



COURTESY OF FLIGHT CLUB

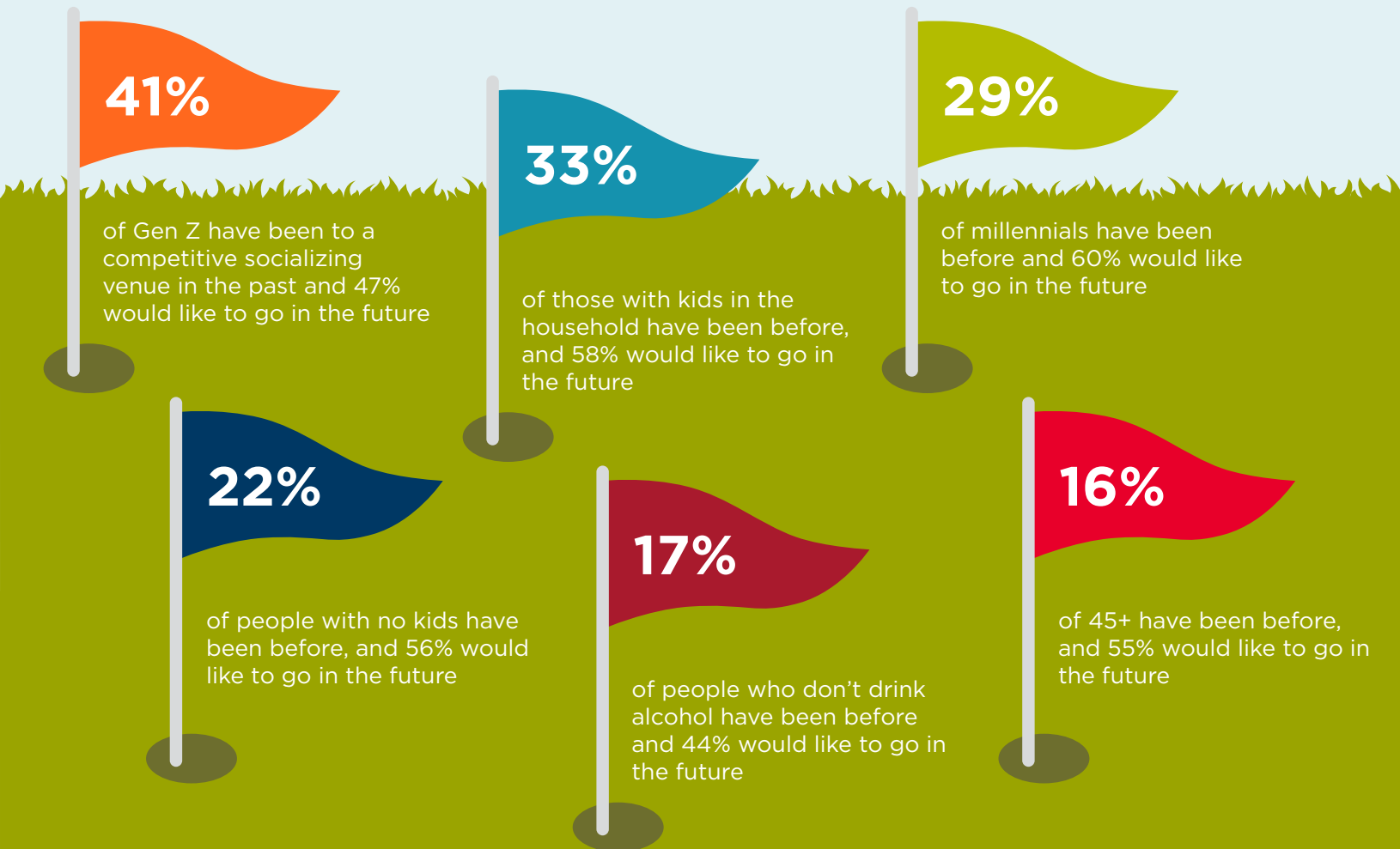
Getting it on the 'gram

A recent Morning Consult survey found that 54% of Gen Z consumers spend at least four hours a day on social media. Combine this stat with the fact that competitive socializing venues provide not only the experiences this cohort craves, but also unique instagramable pictures and tweets that can be easily shared and you have a winning marketing proposition for these concepts. It's in these Insta moments that social media can reach a far wider audience than typical marketing, and it's exactly what these concepts hope for and want. That's because unique competitive socializing experiences don't just create personal memories, [research has shown](#) that being able to impress others with their nights out is just as important as the actual activities themselves. After all, according to an Eventbrite study, 70% of Millennials experience anxiety about missing social events, especially if they know their friends will be there.

It's "a Hole in One" for Everyone

In a world where screens have become so prevalent, these concepts demand your full attention and to be present in an organic way, which is well received coming out of the pandemic. A wide range of generations can get their competition on in these venues, not just Millennials and Gen Z. Although most concepts are traditionally geared toward adults with a core demographic of 25-36, the brands are enjoyed by younger and older audiences too.

"We believe these concepts resonate because play is an important component of everyone's existence and mental health," said Cichon.



[KAM Media](#) provided the statistics in their recent competitive socializing report.

These types of concepts are what today's consumer wants and are vital to creating successful mixed-use districts that give people something engaging to do outside of their house, with a range of amenities. And they provide something for everyone. Not only do they provide the landlord with an opportunity to sign a unique tenant with great commercial appeal, but it also offers a great amenity to the building. From the tenant perspective, there's potential for repeat business and to differentiate their space. And the consumer is happy because they get more concepts that are approachable, fun and a meeting place for their friends, family and co-workers.

When it comes to competitive socializing concepts, everyone wins.

EXAMPLES OF COMPETITIVE SOCIALIZING BRANDS

ACEBOUNCE



Typically 10,000-15,000 SF

The AceBounce concept has been widely regarded by the industry as a game-changer in social entertainment venues, which combines three elements of hospitality: bar, restaurant and entertainment activity—all set against stunning design and the highest standard of finishes. AceBounce is an immense ping pong playground with award winning chefs and mixologists, creating an unprecedented party experience. There is currently only one AceBounce, which is located in Chicago.

PUTTSHACK



Typically 20,000-25,000 SF

Inspired by arcade and fairground games, Puttshack is mini golf reimagined. With upscale interactive courses, high-end drinks and casual dining, the best part of Puttshack is there's no need to keep score as the game will keep track for you. Puttshack currently has five locations open in the U.S. and four in the UK with more venues opening soon.

SWINGERS



Typically 21,000+ SF

Swingers - the crazy golf club - has reinvented mini golf for an adult audience by adding gourmet street food, delicious cocktails and live DJs for a party atmosphere. Having started seven years ago in London, Swingers now has multiple sites in New York City and Washington, D.C. with more to be announced soon.

CHICKEN N PICKLE



Typically 10,000-30,000 SF

Chicken N Pickle is a unique, indoor/outdoor entertainment complex whose mission is to provide an atmosphere that fosters fun, friendship, and community for all ages. The indoor/outdoor entertainment complex includes a casual, chef-driven restaurant and sports bar that boasts pickleball courts, a variety of yard games and enough space to kick back and relax with your favorite people. Seven locations are currently open in the U.S. with more coming soon.

LARKS ENTERTAINMENT



Typically 10,000-15,000 SF

With an emphasis on competitive socializing, Larks will be launching new concepts such as shuffleboard, obstacle courses, mini golf and an arcade and scaling them through franchising. Within these sectors of entertainment, Larks will be the first to create a conglomerate of concept options that cross multiple age groups (children, teenagers and adults) and at various price points for both franchise partners and consumers.

FLIGHT CLUB



Typically 8,000-12,000 SF

Flight Club has shaken up the Bar and Hospitality industry by reinventing the classic pub game of darts in one of the most unique venues with a technology that is exclusive to Flight Club. With five locations currently in the U.S. and one new venue on the way, the concept continues to take flight in the UK, U.S. and Australia.

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