

THE EDGE

MAGAZINE
Vol. 5

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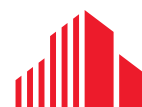
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WAKEFIELD**



While there are no easy answers during this uncertain time, we remain focused on keeping our clients informed on the continually evolving commercial real estate (CRE) landscape. In this volume of The Edge Magazine, we look at the pandemic from a new perspective—shining a light on new opportunities that have materialized, as well as discussing possible outcomes for the global economy and what that means for our industry.

From the impact COVID-19 is having on the global economy, to retail's ability to adapt, to how virtual technology is changing even the most physical operations of commercial buildings, we hope you'll find these stories interesting and thought provoking.

In order to provide you with the most up-to-date content, we'll be sharing articles in real-time over the next several weeks. Be sure to subscribe to be notified as articles are released and added to The Edge Volume 5.

Stay safe and healthy.

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How COVID-19 is hitting the reset button on the global economy and property

Recessions create stress. Stress on businesses, households and entire industries. As demand for goods and services declines, how these businesses, households and industries react can have a direct impact on property across the globe.

If there was ever a recession that could cause stress, it is the COVID-19 Recession of 2020. Not only is it unlike any downturn we have seen before, but it already has the distinction of being the worst contraction in history. The U.S. collapsed at a 31.7 percent annual rate in the second quarter of 2020 and the economy lost more than 20 million jobs in one month as schools, stores, restaurants, hotels, theaters and other places people congregate were closed. These changes are impacting properties across the globe. Whether they are winners, losers or somewhere in between, major and/or niche property types are sure to provide opportunities for occupiers and investors during this recession and well into the recovery.



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HERE'S HOW WE SEE THINGS:

Winners



INDUSTRIAL / LOGISTICS



DATA CENTERS



LIFE SCIENCES

In-betweeners



OFFICE



MULTIFAMILY

The most challenged



RETAIL

WINNERS

The winners are those sectors that were already benefiting from long-term demographic and structural shifts in the economy, only to see those shifts accelerated by COVID-19. They are also benefiting from the rapid evolution of technology and its application to a specific set of challenges.

Industrial / Logistics

The move to online shopping has been happening for some time now. Internet sales were estimated to account for 16.7 percent of all core retail sales (defined as total sales minus auto, gasoline and restaurants) at the end of 2019. Six months later, that share had surged to 22.5 percent as large segments of the population remained at home to reduce health risks. In the second quarter of 2020, internet sales surged 44.5 percent year-over-year. In this environment, it is no surprise that demand for logistics space is nearly back to pre-crisis levels and occupancy is near all-time highs. When have we ever seen a recession lead to higher demand for space of any kind?

Data Centers

Most of us have been on numerous video conference calls since the national economy went on lockdown. Working from home (WFH) has forced many companies to rely on cloud computing to connect with their employees, and data centers are at the heart of that. Since it's likely that WFH will become a larger part of most corporate occupancy strategies, the demand for data centers is sure to grow even more rapidly in the future.

Life Sciences

If there is one sector expected to thrive in a recession caused by a pandemic, it is the life sciences sector—the industry that is devoted to finding ways to keep people healthy and to prolong life. Already in growth mode due to the aging baby boomer generation, the pandemic is further boosting funding to the sector, leading to higher employment and more need for space.



IN-BETWEENERS

“In-betweeners” are those sectors that are being significantly impacted by the recession, but also have structural factors in place that are creating long-term tailwinds that will ultimately help these sectors re-emerge when the recession is in the rearview mirror.

Office

Major headwinds faced by the office sector are the WFH scenario and the job losses coming out of the recession. In the U.S., office-using industries lost 2.9 million jobs in March and April and are slowly recovering those jobs (+880,000 since April). We estimate it will take about two more years to get all those jobs back, keeping demand for space below pre-downturn levels. In addition, labor force utilization will change, creating a structural dampener on office demand. Put simply, more people will work from home both permanently and on a rotating basis. As a result, as jobs are added, those jobs won't have the same impact on absorption of office space. Demand will rise though as the structure of the economy continues to shift to more service and knowledge-

driven industries. This means that as the economy adds jobs, a greater proportion will be in an office-using industry. Netting it all out, there will be a full recovery in office occupancy, but it will be somewhat delayed. For occupiers, these structural shifts add up to a slower recovery and more opportunity. It's important to remember that real estate is intensely local—pricing and opportunities in local markets will depend on both demand and supply in any given market, but the broad national trends suggest that demand growth will lag economic growth.

Multifamily

Job losses will most certainly negatively impact the apartment sector's fundamentals, but there is long-term strength in this sector. Half of the millennial generation is still in their 20s—prime renting ages—and Gen Z is right behind them. By some estimates, Gen Z is even larger than millennials. Finally, as baby boomers retire, many will become empty nesters in need of apartments. We suspect the apartment sector will rebound in fairly short order with many years of strong fundamentals ahead.



THE MOST CHALLENGED

The most challenged sector, retail, had already been undergoing major structural changes leading to reduced demand for space and, at the same time, had been hardest hit by the lockdown.

Retail

With so many stores forced to shut down, retailers have had to move sales strictly online. Although people still have to shop and necessity retail (grocery, convenience drug stores, etc.) is doing well, 2020 is expected to see record bankruptcy and owners of retail real estate are facing declining revenues. Restaurants started offering outdoor dining and take out with the hopes of surviving, and others turned their operations into ghost kitchens (see article on pg. 8 "Ghost kitchens: cooking up a response to COVID-19"). After COVID-19, experiential concepts may come storming back. People are pining to go out and shop, eat and be entertained—pent up demand will be unleashed. But there will be longer-lasting implications for certain concepts—the U.S. was over-retailed, so a lot of this retail will need to be reimaged (see article on page 20, "Can the shopping mall survive COVID-19?").



The stresses caused by the 2020 global recession will have a major impact on property fundamentals across the globe over the next several years. The cycle has been deep, and the recovery will be prolonged. Sectors that have healthy demographic and structural drivers will recover more rapidly while others will be more challenged. But for occupiers, it's important to note that the stresses in local markets can and will create opportunities, particularly in the near-term.

Ghost kitchens: cooking up a response to COVID-19



Ghost kitchens (also referred to as cloud, commissary, dark, delivery or shadow kitchens) are delivery-only restaurants that, with the rise of third-party delivery app services like DoorDash, GrubHub and Uber Eats, were already on an accelerated growth trajectory even before the crisis. Their offering to restauranteurs was simple; they provided a vehicle to economize their real estate and labor costs.

While the COVID-19 crisis has completely upended life for most of us—and appears to have forced a radical reinvention of most business models—the reality is that black swan events like these tend to simultaneously accelerate (and even decelerate) trends that were already at play in the marketplace. One such trend that has been accelerated, ghost kitchens, had been on the rise pre-COVID-19 as they provide an efficient and creative means for restauranteurs to have food produced and delivered via delivery apps without all the real estate and labor costs typically associated with restaurants. With restaurants struggling to survive and today's world all about convenience, ghost kitchens have proved to be a win-win during the pandemic as well.

After all, restaurants are a slim margin business. While there can be wide variances depending upon the type of restaurant, on average, 30 percent of gross sales goes to the cost of food (fine dining tends to be higher, fast food lower); labor accounts for 30 percent of costs (fine and casual dining expenses tend to be higher, while quick-service and fast casual restaurants lower); and real estate costs fall typically in the 10 percent range. This leaves 30 percent of sales to cover everything else—from marketing to utilities and all the other miscellaneous operating costs of running a business.

Taking all of this into account, food and beverage operators who find themselves with a 10 percent profit margin should consider themselves rockstars.

Ghost kitchens 2.0

In addition to ghost kitchens, emerging new Food & Beverage (F&B) models like food halls were also gaining a lot of attention before the pandemic. For restauranteurs, both models offer significantly lower start-up costs, less labor, all-inclusive rents (or licensing fees) that, while a higher percentage of gross sales than the traditional real estate model, also absorb most miscellaneous operating costs. Additionally, assuming streamlined menus in a more cooperative setting than a standalone, they also offer the potential to drive even greater efficiencies and less waste with food costs. But while food halls, prior to the pandemic, were all about the in-person experience, ghost kitchens are all about the convenience of eating at home.

Unlike many other businesses negatively impacted by COVID-19, the pandemic has had a significantly positive impact for ghost kitchens. The logic is simple; delivery demand equals potential ghost kitchen demand. And prior to the pandemic, delivery demand was already soaring.



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The investment community has taken notice

Technology analytics firm CB Insights reports that ghost kitchen funding in 2019 had grown at 12.5 times the rate of the previous year to more than \$520 million. CloudKitchens, DoorDash Kitchens, Epic Kitchens, Ghost Kitchens USA, GrubHub, Kitchen United, REEF Kitchens, Salted, Uber Eats and Virtual Kitchen Co were joined by dozens of independents as they started rolling out locations. Plans for growth were already aggressive; Kitchen United alone entered 2020 with plans to open as many as 400 locations over the next few years. Meanwhile, Uber founder Travis Kalanick's Cloudkitchens raised more than \$400 million in funding and has plans to open more than 100 virtual kitchens in the U.S. by 2021.

NEW ENTRANTS TO THE MARKET THIS YEAR

- **Butler Hospitality**
- **iKcon**
- **Inspire Brands**
The owner of Arby's, Buffalo Wild Wings, Jimmy John's and Sonic is reportedly planning to launch concepts based on names it trademarked earlier in the year—Alliance Kitchen and Inspire Kitchen.
- **Karma Kitchen**
- **Kitopi**
- **Kroger**
The grocery giant announced a partnership with ClusterTruck late last year.
- **Zuul**
- **C3** (Simon Properties)

PROSPECTIVE GHOST KITCHEN TENANTS OR OPERATORS

- **Brinker**
- **Capriotti's Sandwich Shop**
- **Fat Brands**
(Elevation Burger, Fatburger and Johnny Rockets)
- **Muscle Maker Grill**
- **Quizno's**
- **Rachael Ray**
- **Taco Del Mar**
- **Wingstop**

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Ghost kitchens are here to stay... or are they?

The competitive landscape for ghost kitchens has moved from being wide open to incredibly crowded overnight. During the lockdowns, virtually every restaurant became a ghost kitchen. While there may currently be a gold rush mentality around these concepts, it's critical that market players don't forget what the original offering of this business model was (and will eventually become again)—to allow end-users to economize their real estate and labor costs. The long-term viability of ghost kitchen projects will be based on those precepts and upon dealing with the challenges of delivery expense.

The emphasis in this industry has been on growth over profitability, but it remains to be seen if the ongoing wave of market consolidation will build the more efficient economies of scale that this industry needs to survive. There also remains the challenge of fee structures to restaurants that typically have averaged between 15 and 30 percent per transaction. While most of the major delivery services have offered reduced fees to end-users during the crisis, it does not change the fact that most restaurants struggle to reach a 10 percent profit margin.

Delivery models do not have long-term sustainability if the restaurants that rely on them cannot make a profit. Prior to the pandemic, this was less of an issue. The pool of potential end-users was incredibly deep in an industry where entrepreneurialism, reinvention and, yes, turnover, are constants. But the slim margin model, combined with the fact that roughly 90 percent of restaurants in the U.S. are small businesses (independents and franchise), has made it one of the most vulnerable industries to the pandemic, despite consumer demand and affection. Yelp reported in July that nearly 16,000 restaurants in their listings had closed permanently. We anticipate that one-third of U.S. restaurants (+/- 325,000) are not likely to survive if the pandemic is prolonged. This will prove to be a challenge to the delivery app players.

The restaurant industry will rebuild

Consumers will demand it, investors will see opportunity and invest in it, and restaurateurs will fight their way back. Food halls and ghost kitchens, with their low barrier to entry, will be major rebuilding mechanisms for the industry (in most cases, you can open a concept in either for roughly a tenth of the cost of opening a standalone restaurant). That rebuilding process will begin long before the pandemic is over.

This confluence of factors actually could prove a major opportunity for the delivery players as they enter the ghost kitchen arena; if they can create modeling where the combined costs of real estate and delivery to end users can make sense, they may end up dominating the space and finding their way to permanent profitability. The critical factor for all ghost kitchen operators will be the control of delivery costs.

We have always believed that the ghost kitchen model should have a seat at the table, but that it would not become the entire table. The general movement of retail (with some category exceptions) has been towards maximizing revenues by moving from being single to omnichannel. Because, for most restaurants, it doesn't make sense to go delivery-only permanently.

Meanwhile, restaurants that don't survive the pandemic will ultimately lead to more restaurant space available alongside a reset in asking rents. In some markets, those rates may even compete with the non-traditional space that ghost kitchen operators had previously sought, allowing these food and beverage operators to make the best out of a not-so-great pandemic situation.

*Currency listed in USD



Introducing the Virtual Technician—technical support during a turbulent time

A HIGHLY CONNECTED WORLD OF EMERGING TECHNOLOGY PAIRED WITH THE NECESSITY OF SOCIAL DISTANCING HAVE PAVED THE WAY FOR MODERN TECHNICAL SUPPORT.



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The Virtual Technician takes skilled technicians and augments them with top engineers and information from anywhere in the world at any time.

In these unprecedented times, the necessity of social distancing coupled with advancements in communication technology has accelerated the introduction of an innovative new means of technical support: the Virtual Technician.

Traditional facilities management (FM) technicians face complex challenges at the work site every day and, unfortunately, some issues may be beyond an individual's experience or skill level. Historically, in this situation, an Original Equipment Manufacturer (OEM) and/or a more experienced and skilled employee elsewhere within the portfolio would be called in to resolve the issue. However, with COVID-19 and its corresponding travel and quarantine restrictions, everything has changed. OEMs are no longer readily accessible or available to respond.

MODERN TECHNICAL SUPPORT FOR A MODERN TIME

A technology solution to this 'in person' challenge had fortunately already been in the works pre-COVID-19 and was only further accelerated in response to the pandemic: the Virtual Technician. Due to great improvements in the realms of augmented reality (AR) and wearable computers, two individuals—the FM technician and the OEM—can now collaborate in a real-time, hands-free environment. Through this innovative technology, the FM technician essentially becomes the Virtual Technician and now has immediate access to information and documentation essential to maintenance tasks and troubleshooting. This means that experts from around the world can immediately assist

technicians in the field via a headset and virtual review—a benefit during times of limited travel, but also a long-term solution to address the shortage of highly skilled labor. Technicians are not simply collaborating but are augmented by the technology they wear to become immediately higher-skilled, more productive and resolve issues much faster.

HELP...WITHIN MINUTES

Through a headset, OEMs can be reached within minutes to review issues and help technicians resolve them. In a highly connected and collaborative environment, on-site technicians become “the hands” of the remote personnel, who can see and hear everything while directing procedures. This significantly increases recovery time as travel and associated costs are avoided.

HANDS-ON LEARNING

In kinesthetic learning, students absorb information by carrying out an activity as opposed to watching a demonstration or listening to a lecture. Examples include learning how to ride a bike or building a piece of furniture by following instructions. Edgar Dale's Cone of Learning model demonstrates learners can remember 90 percent of what they do versus 30 percent of what they see. Virtual Technician implementations support kinesthetic learning, enabling personnel to work on new, complex tasks under the guidance of a remote instructor. Utilizing this technology also allows trainers to support multiple sites at once, reducing travel time and expense. It is also convenient for ad-hoc training on short notice.



CREATING OPPORTUNITIES ACROSS THE BOARD

The Virtual Technician can support centralization of highly skilled individuals, who can then be used as shared assets across an organization, resulting in several advantages:



Shared Resources

Cost-sharing of highly skilled support personnel across multiple sites.



Improved Productivity

Skilled support personnel maximize their productivity by rotating from one challenging task to another across a network instead of only resolving the hardest problems in their own location.



Technical Resourcing

The labor shortage in the skilled trades has created cut-throat competition for top talent. By leveraging the Virtual Technician, a facility doesn't need as many senior technicians on-site, which relieves talent-acquisition pressure.



Career Extension

Engineers and technicians spend a lifetime honing their skills, so when they retire, they leave a great void which is often difficult to fill. Via the Virtual Technician, they can extend their careers by working from home. Without having to travel or deal with day-to-day issues at a site, they can train, troubleshoot and mentor junior technicians. This helps close gaps in labor shortages and knowledge transfer.

Real-world scenario

"For an automotive manufacturing client with 30 distribution sites in the U.S., the Virtual Technician is a huge time saver," said Ali Mohammed, Sr. Director, Reliability Engineering for C&W Services. "Our operations manager typically travels about two hours each way to reach sites that need additional support. With the Virtual Technician, the Operation Manager will save countless hours of drive time, and more importantly, we will resolve issues that could affect site up time quickly and efficiently."

STAYING COMPLIANT VIRTUALLY

The Virtual Technician does more than just resolve issues on site, it also helps keep an organization compliant. Periodic audits and inspections of compliance standards are important—but they're also time consuming and expensive. Conducted via the Virtual Technician, audits and inspections uphold standards, at a fraction of the time and cost.

A VIRTUAL SOLUTION FOR BOTH THE SHORT AND LONG-TERM

The Virtual Technician provides one more example of how an organization can leverage technology to perform complex tasks faster, smarter and better—all at a fraction of the cost. Not only is the technology providing a much-needed workaround to the COVID-19 travel and quarantine restrictions, but it's also sure to provide a long-term solution to address the shortage of highly skilled labor while keeping ongoing costs in check.



The Virtual Technician in action

The Virtual Technician quickly proved its merit when C&W Services supported the commissioning of a new 200,000-square-foot food manufacturing plant for a large U.S. fast-food chain. COVID-19 travel restrictions were enacted as commissioning began, sidelining C&W Services Reliability & Engineering experts, OEMs and subcontractors who would normally spend extensive time on-site. Via Virtual Technician, the team was able to remotely support the resolution of issues with robotics and other equipment during start-up. Client requests to expand engineering scope at the site were quickly evaluated and responded to using the new technology. The Virtual Technician was also a critical component of establishing sound governance, allowing remote monitoring during the setup of the tool room, MRO and inventory processes. Not only did the Virtual Technician support engineering and maintenance—even the client's senior executives got a taste of the new technology when it was used to conduct virtual tours of the plant for all levels of the organization.

How do we move forward after COVID-19 changed the world? - Part 2

In Volume 4 of The Edge Magazine, [I shared my views on the state of the world](#). Looking back to that piece written only a few months ago, we were correct in our assertions that the office has changed forever, technology is no longer optional, physical has become digital and real change has come and is still coming.



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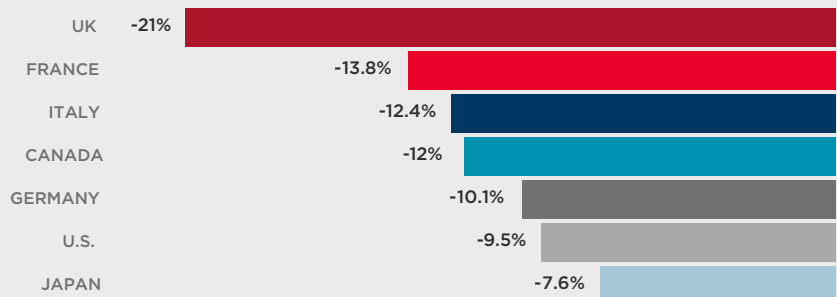
The global populous has continued to adapt incredibly well to the vagaries we're seeing arise as part of the ongoing pandemic. People have recognized, that at least for an extended period, this is the life we're living, and these are the adaptations we need to make. As predicted by many—epidemiologists, politicians, economists and even real estate professionals—the virus hasn't dissipated, it hasn't vanished, and all isn't well after a short sharp shock to our system. Instead, COVID-19 continues its grip on major parts of the world.

We've experienced new outbreaks in places the virus was thought dormant or hadn't seen cases for 30 days or more. New Zealand, Australia, South Africa and Hong Kong have all seen (and the distinction is still to be made) either second waves or more likely an extension of the first. Dramatically increased numbers are now being seen in Western Europe. And the numbers we're seeing across the globe continue to rise, although as we get better at testing, there is some evidence to suggest this is a factor of test volumes as opposed to a true increase in numbers. Whatever the detail around the numbers, we recognize that until there is a vaccine, our lives will continue to be challenged and disrupted.

IMPACTING THE GLOBAL ECONOMY

As expected, the pandemic has had a dramatic impact on global economies, unemployment, consumer spending and the political narrative. The U.S. dollar has seen a near 10 percent drop since the high reached in March 2020, which has been greeted in positive terms for the economy, at least in the short-term. A weaker U.S. dollar naturally boosts competitiveness relative to overseas suppliers and it makes countries attractive to foreign currency investment and tourism (although tourism, of course, has not yet recovered to its pre-COVID-19 levels). The U.S. stock markets remain near record highs with investors sticking to the view that the economy will recover, and spending levels will increase.

GDP figures for Q2 2020 across the G7 nations have seen dramatic quarter-on-quarter change:



*OECD data



The UK saw its biggest slump on record entering a recession for the first time since the Global Financial Crisis (GFC). The U.S. and Eurozone already confirmed their recessions as the global economy continues to struggle in the grips of the sharpest downturn since the great depression in the 1930s. On a positive note, we are now technically already out of recession as we are very likely to see GDP growth through the end of the year (albeit not getting us back to pre-pandemic times).

GDP figures will bounce back as factories open and resume production, and shoppers head back to stores for items other than the essentials they have been purchasing to date. There is a sense of pent up demand, as shopping centres across Europe have reopened. We've experienced footfall returning to pre-pandemic levels and bars and restaurants have had turn people away because they are too busy. The issue with this recession has not been one of demand, it's been supply led. We haven't had the chance to spend the money we'd like to, as opposed to not having the money to spend.

We will have to contend with relatively high levels of unemployment for a period of time and whilst we have had visibility of what that looks like in the U.S., we are yet to truly understand the impact it will have on major European countries once furloughs end. At the time of this writing, one third of all employees in France, Germany, Spain, Italy and the UK are being sustained by government. While this is high, in New Zealand, the virus has seen 74 percent of people actively participating in a job retention scheme.

TRENDS TAKING OFF

The pandemic has been an accelerant of many of the trends that we have been experiencing over the past few years:

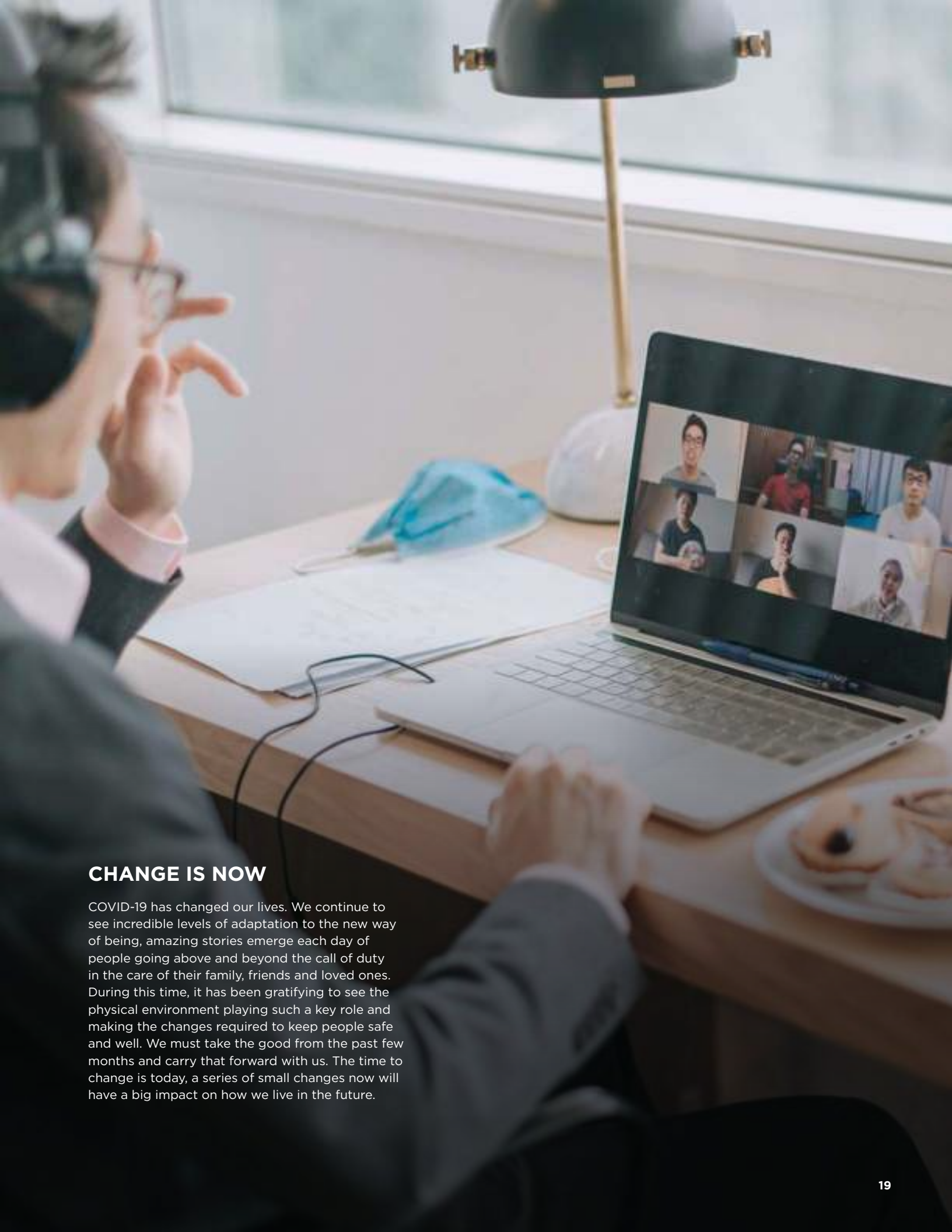
- The evolution of retail and growth in logistics and warehousing
- Working from home and the capacity to be a digital nomad
- The development of online education and learning platforms
- A recognition that there is a direct link between business and the environment

Those that say with confidence that once the virus has faded away, we'll move back to the old way of life are simply wrong and mistaken.

This isn't a bump in the road, this is a major fork and we've been given the opportunity offered to few generations—the chance to make long lasting, significant and positive change.

There have been terrible consequences of the pandemic: loss of life, devastated families, education interrupted, businesses folded and jobs lost. We can't hide from this and we shouldn't. I do believe that we now have a responsibility as a society and as individuals to make a fundamental difference.

The topic of mental well-being has been addressed over the past few years and has gained a greater degree of acceptance over the past six months. We've taken a great leap forward in recognizing the importance of well-being, both physically and mentally. One such question that needs to be considered is how we maintain visibility of the health of colleagues when they are away from the office workplace. There will be a new way of working that will address this important topic. Through Cushman & Wakefield's proprietary [Experience per Square Foot TM \(XSF\) tool](#), we've captured 1.7 million data points from more than 50,000 respondents in the current work from home environment — and it's reassuring to see the data reflect the importance surrounding positive health and wellbeing.



CHANGE IS NOW

COVID-19 has changed our lives. We continue to see incredible levels of adaptation to the new way of being, amazing stories emerge each day of people going above and beyond the call of duty in the care of their family, friends and loved ones. During this time, it has been gratifying to see the physical environment playing such a key role and making the changes required to keep people safe and well. We must take the good from the past few months and carry that forward with us. The time to change is today, a series of small changes now will have a big impact on how we live in the future.

Can the shopping mall survive COVID-19?

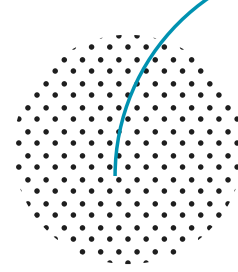


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There are currently more than 1,000 malls struggling to re-engage a consumer distracted by the convenience of digital offerings. With the continued growth of e-commerce, the introduction of new paths to purchase, and the impact of COVID-19, mall developers are faced with difficult challenges and the ultimate question: what does the future hold for the shopping mall?



THE EVOLUTION OF THE MALL

As children of the 70s, the mall represented a magical place. A symbol of possibilities. Armed with our allowance, the options were endless: denim from the Gap, shoes from Thom McCan, a quarter pounder from McDonald's. The mall welcomed everyone and it housed everything. As time progressed, so did the mall. Movie theaters, food courts and bars extended our stay and expanded our spending. Each year, developers, landlords and retailers put more emphasis on driving footsteps to shops, restaurants and theaters. Wall Street rewarded strong sales with strong stock performance. Then, in the early 2000s, everything changed as consumers shifted their focus to experiences over clothes, and convenience over community.

During the last decade, we have seen even further erosion of the mall experience. Malls have seen thousands of stores close, consumers disengage and communities struggling to understand the intrinsic value to the neighborhood. But instead of writing retail's obituary, we should think of the retail market as merely evolving. Successful retail adapts as consumer preferences, habits and technology change—and one of the most prominent of these changes has been the shift to e-commerce.

But instead of writing retail's obituary, we should think of the retail market as merely evolving.

Online sales had been effectively growing at a compound annual rate of 15.2 percent from 2010 to 2019, vs. 4.2 percent for physical store

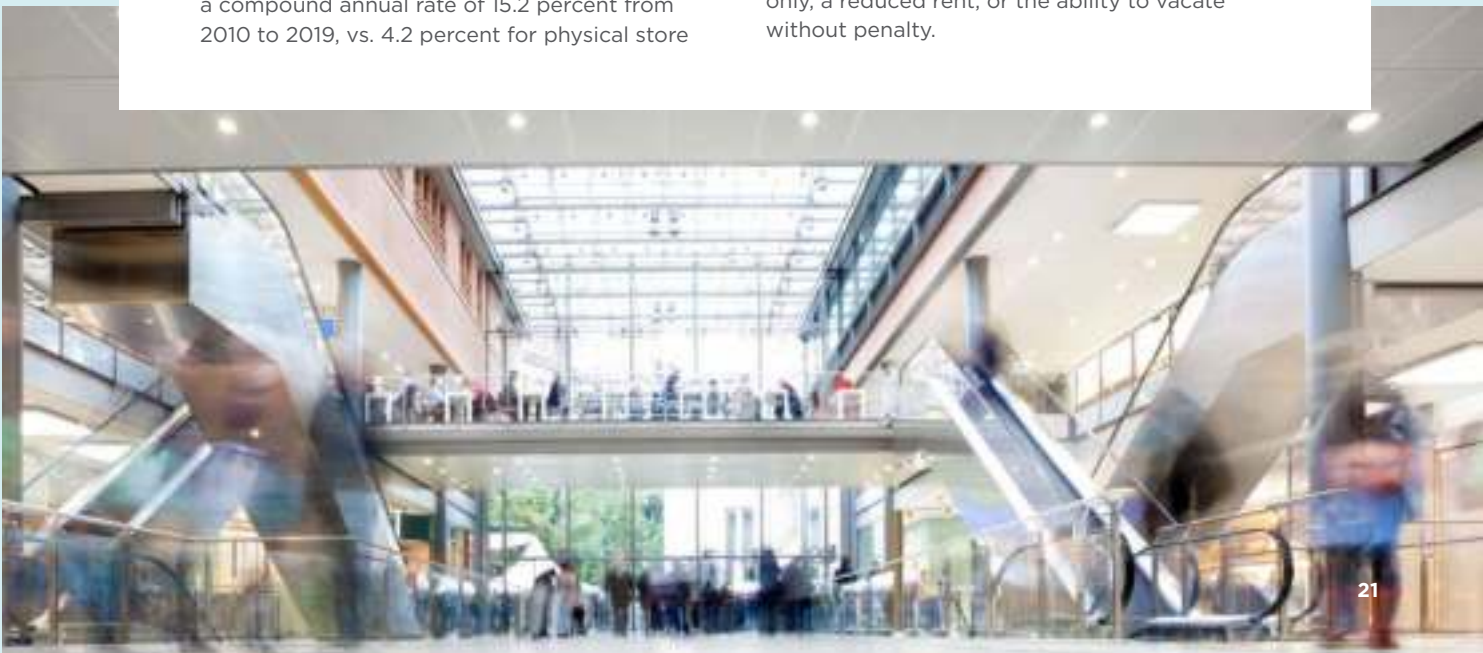
sales (U.S. Census Bureau). Putting it into perspective, this channel accounts for about 16.1 percent of all retail sales. And COVID-19 has forced consumer behavior to adapt to this platform at an even faster rate. To that end, some analysts expect that e-commerce sales could account for 20 to 25 percent of all retail sales by 2025.

The reality is that physical stores that are still doing business the same way are no longer convenient in the age of e-commerce. To stay viable, both retailers and mall owners need to adapt to these fast-changing consumer preferences.

SURVIVAL OF THE FITTEST

For the past several years, the department store model—once the lifeblood of the mall—has been in transition. There have been countless bankruptcies, closures, consolidations and liquidations within this once formidable segment of the retail industry. At one time, department stores were the center of the retail universe and viewed as innovators in merchandising techniques and customer service. But unfortunately, department stores started to lag their nimbler competitors and saw market share slip from more than 10 percent to under two percent today.

Besides having to deal with millions of square feet which will need to be backfilled or repurposed, mall owners are faced with looming co-tenancy clauses that can be triggered if they can't replace an anchor tenant with an acceptable alternative. Co-tenancy clauses allow tenants to opt to pay percent rent only, a reduced rent, or the ability to vacate without penalty.





Over the past several months, mall owners have been in daily discussions with tenants to find ways to survive this crisis. This has resulted in some creative give-and-take from both the landlord and the tenant as each strives for the necessary modifications that work for all parties. Lease modifications continue to be achieved with the most common structure being deferral of a portion of the rent which is expected to be paid back over the next six to 12 months. Smartly, landlords are using these concessions as an opportunity to revamp clauses considered favorable to the tenant for their own benefit.

An interesting example of a survival strategy entails a shopping center owner buying a retailer, Aeropostale, who is a tenant in many of their malls. In 2016, Simon and the mall owner General Growth Properties, which is now owned by Brookfield, teamed up with Authentic Brands Group (ABG) to rescue the embattled teen apparel retailer. The three won an auction to buy Aeropostale out of bankruptcy court, salvaging hundreds of stores, for a price tag of \$243.3 million. By all reports, this has turned out to be an accretive investment for the venture. This was soon followed by the acquisition of Forever 21. More recently, ABG and Simon, through a joint venture known as SPARC Group, have announced the acquisitions of Lucky Brand and Brooks Brothers. Brookfield and Simon separately have made an investment in JC Penny and we expect that there will be more examples of this strategy in the near future.

As the long-held belief that the department store was the anchor for a mall's success has diminished, we have seen several new, innovative uses replace these fortress stores such as food halls, movie theaters, entertainment concepts and gyms—and grocery stores could be next on the list. This is a natural evolution of the slow but steady shift over the last decade of bringing more food and entertainment into the mall while reducing the footprint of apparel given its vulnerability to digital competitors. An example of a successful reuse of a former JC Penney store is when Wegmans, a privately held American supermarket chain, moved into Brookfield's Natick Mall in Natick, Massachusetts, the first such location in a mall for the chain.



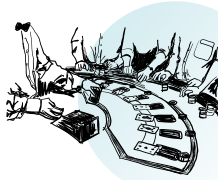
ADAPTIVE REUSE

Adaptive reuse is another viable option mall owners should consider. Repurposing unused vacant spaces can be an excellent way to recoup revenue losses.

Architects welcome the challenges brought on when tasked with repurposing vacant boxes, especially when given a full runway of artistic expression. From casinos to data centers to aquariums and everything in between, adaptive reuse options seem to be endless.



AQUARIUMS



CASINOS



COMMUNITY SERVICES



DATA CENTERS



FOOD HALLS



GOVERNMENT OFFICES

Healthcare Centers

Mall owners, blessed with public transportation systems and large parking lots, are tapping into the \$3.5 trillion healthcare industry. Doctor offices, outpatient clinics and day surgery centers provide an important reuse for failed retail space, especially as healthcare systems have recognized they can be more accessible by offering smaller, value care facilities in shopping centers whose large parking fields make them easily accessible.



HEALTHCARE



HEALTH CLUBS



HOTELS



HOUSES OF WORSHIP



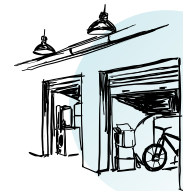
LIBRARIES & MUSEUMS



MULTI-FAMILY APARTMENTS AND CONDOS



SCHOOLS



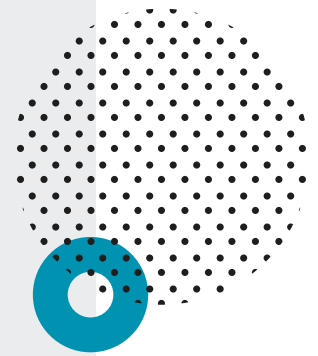
SELF-STORAGE



SENIOR HOUSING



TRAMPOLINE PARKS



DON'T FORGET ABOUT THE OUTSIDE

COVID-19 has and will continue to influence changes within the mall, but what about outside the mall? Savvy owners have embraced ideas on how to make their parking lots revenue-generating. About a year ago, Walmart launched “Walmart Reimagined” to create town-center type developments on parking lots at its Supercenter stores with the goal of creating a gathering place that encourages the community to hang out longer in the area. We’ve also seen pop-up drive-in theaters and workout classes make parking lots their temporary homes. Other uses such as community programming, ice skating rinks and farmers markets are getting strong interest as well. And in one ominous sign of the times, many mall parking lots are hosting drive-thru COVID-19 testing tents.

CHANGE IS NOT AN OPTION, IT’S REQUIRED

The business of delivering retail goods and services has reached an inflection point shaped by the competitive challenges transforming the industry before our eyes. COVID-19 has only accelerated this pace of change. Smart retailers and owners are making significant strides in adopting and implementing new strategies that will shape retail over the ensuing decade. Change is not an option; it is required for survival.





A CHANGING RETAIL EXPERIENCE

Retailers that recognized the shift to digital early on and invested wisely in omnichannel strategies are now benefiting the most.

1

Shopping with AR

The future is now: augmented reality (AR), machine learning and artificial intelligence (AI) are here to stay. Retailers are leveraging AR technology to bridge the gap between the digital and the physical. Mega-brands like Target, Lowe's and Amazon have launched AR features that allow shoppers to picture furniture in their homes. With the AR market anticipated to reach \$133 billion by 2021, smaller retailers are undoubtedly close behind. Another AI-powered retail trend, "visual search," allows shoppers to find and buy a product just by snapping a photo. AI works its magic to identify the product (or similar ones) across multiple sites and retailers in just a click.

2

Physical stores for digitally native brands

While digitally native brands like Bonobos, Glossier, Casper and Warby Parker started online, many are launching and expanding their physical presence. According to real estate experts, digitally native brands are predicted to open 850 brick-and-mortar stores in the next five years, with New York being the most popular destination.

3

Omnichannel experiences

The rise of omnichannel is sure to continue so retailers need to offer a consistent buying experience across channels, both online and off. As the lines between digital and physical shopping experiences blur, retailers need to be agile and responsive to customer needs with branded touchpoints at all parts of the buying journey.

4

Pop-up shops

Temporary storefronts leverage the scarcity principle and the excitement of never before seen products to provide a social buzz and an experience that drives shoppers. This is a potential \$80 to \$100 billion business.

5

Social shopping

E-commerce and social media are becoming intertwined. Shoppable Instagram posts and stories have been very popular and an efficient way to promote the brand. Sought after "influencers" have become wealthy as this new form of marketing has exploded.

6

Same-day delivery

When it comes to online shopping, it seems like customer expectations for ship times are only getting faster. First came 2-day via the rise of Amazon Prime, then next-day. But in the age of instant gratification, shoppers want their orders ASAP. PwC reports that 88 percent of consumers are willing to pay for same-day or faster delivery. Walmart and Target reported Q2 results and they have made significant strides in this area. Reliance on third-party shipping partners could also become retail history. Long term, you'd expect to see other large retailers vertically integrate into fulfillment and last mile to better control their own destiny.

7

Rental apparel

The rental apparel market is also becoming a huge business on the heels of Rent the Runway's success. Major department stores and others like Urban Outfitters have joined the trend. This drive to have the most current products manifests in an innovative concept created by Re:store in San Francisco, which offers a rotational display of products made famous on Instagram. We do note that LeTote's acquisition of Lord & Taylor may become the first casualty in this segment in the COVID-19 era.



...digitally native brands are predicted to open 850 brick-and-mortar stores in the next five years, with New York being the most popular destination.



Do amenities still matter in a post-COVID-19



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Over the past decade, amenities in and around office buildings had grown in quantity, popularity and creativity. The proliferation of office amenities was the outcome of several trends coalescing into a perfect storm of office real estate transformation: stiff competition for in-demand talent, supply-demand mismatch in employment, demographic shifts, higher-than-ever expectations from users, technological advances changing how and where work can be done, and a wealth of new, high-quality office development. As work can be done more easily from anywhere, landlords and occupiers were creating desirable and inspiring spaces where employees actually “wanted” to work.

And overall, this strategy had paid off for both investors and occupiers:

Investors: A 2019 Cushman & Wakefield study of 250+ office buildings in North America showed that pre-COVID-19 highly-amenitized buildings had an 18.3 percent rent premium compared to the surrounding submarket prior to the onset of COVID-19. The premium was even more substantial in the central business districts (CBD) of gateway markets (+21.6 percent).¹

Occupiers: Leading into the current recession, the biggest concern among CEOs—regardless of sector or geography—had been attracting and retaining talent.² The workplace had become an extension of corporate culture, offering one of the first impressions for potential new hires and driving connection to the corporate brand and culture for

existing employees. (One of the most problematic impacts of the COVID-19-induced work from home (WFH) has been that half of employees have struggled to connect with their company culture.³)

COVID-19’s impact on amenities—in the short term

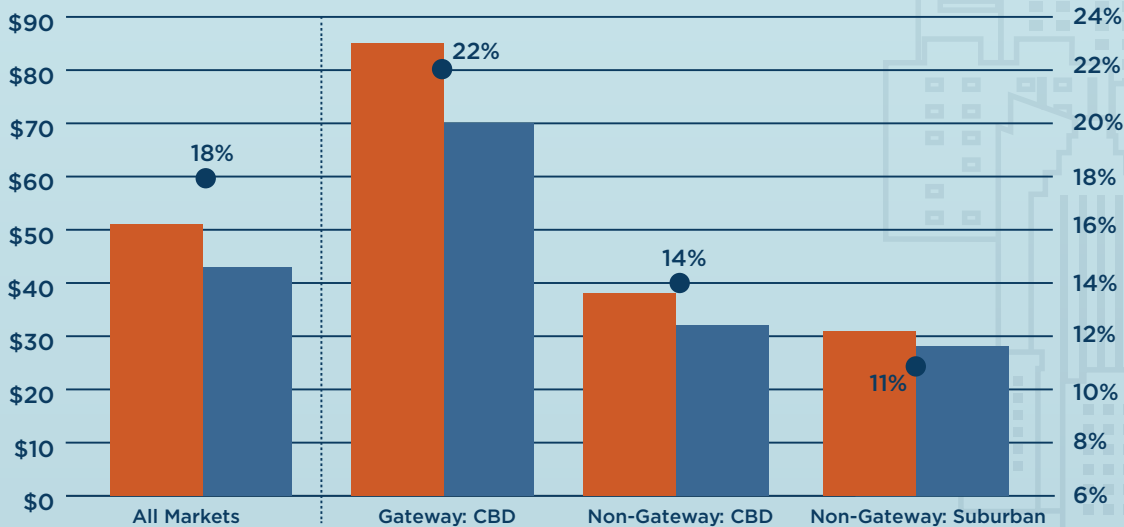
In the face of COVID-19, the initial challenge for employers and landlords has been how to create environments that attract workers back into the office while ensuring the proper health and safety measures are being taken. This is not only true for the workplace, but is also a concern for the office lobby, spaces in and around the office building, and the commute itself.

Much of the return to the office timeline revolves around the types of amenities designed to make life safer and more manageable while COVID-19 continues to be a concern. However, they don’t necessarily speak to what a post-COVID-19 world will look like for office amenities. In fact, these short-term solutions are often just ‘table stakes’ for getting workers back into the office space.

- Expanded personal space around workstations⁴
- Enhanced cleaning protocols⁵
- Improved indoor environmental quality (IEQ)⁶
- Covering out-of-pocket transportation costs⁷

Highly amenitized buildings outperform

(Pre-COVID-19 Q3 2019)



Examples of on-site office service amenities

WORK-LIFE INTEGRATION	PERSONAL SERVICES	CONCIERGE	WELLNESS	COMMUNITY DEVELOPMENT
Auto cleaning & maintenance	Dry cleaning 	Event planning	 Biometric screenings	Beer / wine tastings 
 Bike storage and repair	 Flowers & gifts	Discounted tickets 	Fitness classes	Charity drives
Childcare 	Healthy, fresh food delivery	Flexible meeting space in building	Flu shots 	Communities of interest / clubs
Home cleaning coordination	Holiday gift wrapping 	Gift cards	Health & wellness seminars	 Exclusive on-site music events
Moving coordination	Mobile salon	Local attractions	Massage	Industry-specific programming & speakers
 Pet services	Same-day grocery delivery	 Personal travel arrangements	Nutrition coaching	Social / happy hours
Smart lockers	 Pop-up food options	Transportation services (local)	 Telemedicine	Speaker series
			Virtual fitness classes	Sports leagues 



What changes in the long-term?

For good reason, the majority of thought leadership over the past six months has been focused on managing distributed teams through a global pandemic and subsequently how to reenter the workplace safely and effectively. However, now is the time to understand what the future of work will look like once the worst of the pandemic is behind us.

First, the office's demise is greatly exaggerated right now. Certainly, WFH and remote work will continue to be a larger part of economies around the globe. Even prior to the current recession, global office space utilization was approximately 60 percent on any given day.⁸ Post-COVID-19, we will see a growth in firms offering formal WFH policies. A recent Mercer employer survey found that 83 percent of companies plan to allow more people to WFH on the other side of the pandemic.⁹

This will inevitably impact the office real estate market. In fact, current estimates peg the impact of working from home on office demand between 3-17 percent over the next decade. The drag on aggregate demand is expected to be lower across Asia Pacific (five percent or less) and higher across Europe and North America (15-17 percent).¹⁰ However, countless CEOs have stated that even if workers are in the office

less than they were pre-COVID-19, the benefits of working together face-to-face remain critical for innovation, work quality, productivity, relationship building, culture and professional development.¹¹ With 70 percent of workers indicating they would like to work in the office most of their week once COVID-19 is no longer an issue (and only 12 percent desiring 100 percent virtual work),¹² the office will continue to directly impact the majority of employees on any given day.

Second, what the office offers workers will be more important in a post-COVID-19 world, not less important. The current crisis has confirmed that certain types of work are equally possible inside or outside of the office. As a result, the office space and its amenities will need to be retooled to support the functions that happen best in the confines of the office. Differentiation through amenities will be more vital for landlords and occupiers seeking to create vibrant spaces for employees who now have more options for where and how to work.

Given that many people are generally productive at home, the primary purpose of the office moving forward will be to support collaboration, reinforce culture, train and develop team members, and drive social interaction. The office—its workspaces, amenities and services—will need to be redesigned to support these efforts more directly. Many of the pre-COVID-19 trends in amenities and services will continue, accelerate or shift when workers return to the office.

- 1 Cushman & Wakefield Research.
- 2 The Conference Board, *2019 Global Survey*.
- 3 According to Cushman & Wakefield's Experience per Square Foot™ (XSF@home) Total Workplace consulting analysis (*The Future of Workplace*).
- 4 *6 Feet Office*.
- 5 Cushman & Wakefield, *Cleaning & Operational Solutions that Help Promote Safe Property Operations*.
- 6 Cushman & Wakefield, *How COVID-19 Made Healthy Indoor Environments and Wellness a Priority*.
- 7 Ralston, William. "Bosses Are Doing Weird Things to Get People Back in the Office." *Wired*, 17 September 2020, <https://www.wired.co.uk/article/companies-coronavirus-back-to-office-incentives>. Accessed 22 September 2020.
- 8 Cushman & Wakefield, *Office Utilisation by Region*.
- 9 Wolff-Mann, Ethan. "Poll: 83% of companies ready to embrace new work conditions after coronavirus." *Yahoo Finance*, 11 September 2020, <https://money.yahoo.com/poll-83-of-companies-ready-to-embrace-new-work-conditions-after-coronavirus-114611114.html>. Accessed 22 September 2020.
- 10 Cushman & Wakefield, *Global Office Impact Study & Recovery Timing*.
- 11 Cutter, Chip. "What CEOs Really Think About Remote Work." *The Wall Street Journal*, 23 September 2020, https://www.wsj.com/articles/what-ceos-really-think-about-remote-work-11600853405?mod=hp_lead_pos11. Accessed 23 September 2020.
- 12 Gensler Research Institute, *U.S. Work from Home Survey 2020*.

Amenities before & after COVID-19

KEY THEMES	REASONS
Wellness is mainstream	<p>Providing access to the outdoors and having abundant natural light increases satisfaction and productivity which is ultimately what occupiers care about. The future of wellness is going to lean heavily on technology throughout office buildings: sensors, temperature control, air quality, etc.</p> 
Going beyond physical health	<p>Employees' ability to perform at their best is not just determined by physical health but is greatly impacted by mental health. It is estimated that 80 million workdays are lost each year in the United Kingdom due to mental illnesses.¹³</p>
Humans want connection 	<p>Spaces that bring people together and encourage interaction are vastly superior to those that keep people isolated. Amenities that enable connection around work and relationships allow for the necessary productivity and renewal workers need each day. Property management teams are increasingly including "community management" as part of their job description in order to facilitate social events and build camaraderie across companies.</p>
Convenience: making employees' lives easier	<p>Office has taken a page from the hospitality sector as an increasing number of offices and employers offer concierge-type services to workers. For companies, the service amenities most in demand revolve around providing hospitality services to their employees and to guests or clients. For individuals working in an office environment, the desired amenities suite has to do with the integration of their work and their life. The workplace can be a source of relief by offering service amenities that ease workers' daily routines.</p>
Access matters	<p>Getting to and from work is a vital consideration in both city and suburban locations regardless of market size. Locations that have multiple options offer ease and versatility. (No matter how much we might wish otherwise, parking remains a primary concern for accessing office buildings.)</p> 
Being important is important	<p>People and companies like to feel valued. The democratization of office space has led to smaller and fewer offices, so status is recognized more broadly through high-quality views, dedicated spaces and elevators, and access to tailored services and technology. Spaces that communicate status to organizations through such amenities provide value beyond the physical space.</p>
Flexibility remains king	<p>Flexible office / coworking was on a meteoric rise prior to the current recession because it offered occupiers with the flexibility to ramp up and down their portfolios quickly.¹⁵ Companies need to be nimbler than ever, and space-as-a-service allows for a greater range of space types and service amenities without tenants having to "overbuy" office space.</p>

¹³ World Health Organization, "[Mental health and work: Impact, issues and good practices](#)."

¹⁴ Kaiser Family Foundation, "[The Implications of COVID-19 for Mental Health and Substance Use](#)." Accessed 23 September 2020.

¹⁵ Cushman & Wakefield, "[CRE Executive Perspectives on Coworking](#)."



CHANGES IN A POST-COVID-19 WORLD?

- The return to work timeline is heavily dependent upon employees' comfort level with the safety of getting to and working in the office. Many of these adjustments may be more short-lived such as increased cleaning levels. However, others are continuations of trends that likely will proliferate even after the spread of COVID-19 is less of a concern. For example, improved ventilation / HVAC, increased access to outdoor space and natural light, indoor greenery, meditation space, nap rooms, yoga studios, etc.
- The circumstances related to the pandemic, a severe economic recession, and many office employees working from home have led to negative impacts on mental health and wellbeing.¹⁴ While economic, health and social conditions will likely improve, the focus on employees' mental health will remain a top concern. This is an HR and management challenge, but also an opportunity for workplace design and strategy solutions. The mental health benefits of social connections are clear; this is where the office has a central role to play.
- The greatest challenges with the forced WFH experience have been the impact on personal interactions, both formal and informal. The post-COVID-19 office will have a greater emphasis on spaces that serve these needs.
- Social: Opportunities to run into, sit with or have fun with colleagues, as well as meet new people, building strong social connections, deepening trust and providing personal meaning. As landlords provide these, it will be with the intention of building shared communities where tenants co-locate with other similar tenants.
- Learning: Spaces and programs that support onboarding, ongoing learning and development and in-person mentorship.
- Ambassadors: Occupiers also foster human connection, reinforce corporate culture and support employee productivity through "community managers" with skills historically found in hospitality and retail settings.
- The workplace is no longer just a place to get work done. In fact, a lot of focus work can get done as well—if not better—in other locations. The office then is a place to make employees' work better and lives easier. Service amenities can save workers with personal, concierge, wellness, community development and work-life integration services. Employees have been bringing work home with them; moving forward, the workplace will need to be designed to support employees' lives.
- In the short-term, health concerns related to public transportation will require creativity, particularly in higher density cities. COVID-19 has created new challenges related to public transportation. Landlords and employers have an opportunity to consider how to support the safe transition of workers from home to the office as some large San Francisco Bay Area tech firms have been doing to connect their Silicon Valley campuses.
- Long-term, locations with better connectivity and a multitude of commute options—public transportation, vehicle access, bikeable, near greenways—will provide ease to employees and create value for landlords.
- WFH has its perks, but the office is uniquely positioned to provide environments that feel "special" and communicate culture, brand and values to employees and to clients.
- Access to dedicated "third places" can also be an exclusive amenity outside the office. This could be via coworking, satellite locations or, in warm weather, "outdoor offices," that provide the social and mental health benefits of the outdoors while supporting work through Wi-Fi, mobile conference rooms and food truck meals.
- Value matters. While companies are generally looking to shrink their portfolio square footage and reduce their real estate spend, the value of that space will increase. Amenities that give occupiers flexibility, reduce employees' wasted time and increase engagement, create more value for tenants.
- Tenant-only access to flexible office / coworking, on-demand conference space and/or event space is a valuable service that allows occupiers to be more efficient and flexible with their office space.
- This is not just a building-by-building solution as occupiers can utilize enterprise arrangements that provide dedicated flexible space across multiple markets to support dispersed teams and/or to quickly enter new markets.



Automation accelerated: make way for the cobots

Many of us entered lockdown armed with the best of intentions, prepared to learn a new skill or get caught up on reading. Instead, we seem to have spent most our time in front of screens—whether that be on Microsoft Teams, streaming movies, playing video games and/or video chatting with friends and family. A recent McKinsey survey found that the pandemic has accelerated the adoption of digital technologies, bringing it forward several years—in some cases as much as seven.



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INTRODUCING THE COBOT

Robots—developed to do work in place of employees—are not a new concept, but have been around for decades. Cobots, or collaborative robots, however, were more recently designed to work alongside humans, enhancing an employee's capabilities by taking over repetitive tasks. Rather than functioning completely on their own, cobots require maintenance and instruction, both of which come from human co-workers. Cobots are easily programmable and are capable of learning on the job. From cleaning to logistics to healthcare, cobots have become invaluable resources during this incredibly challenging time.



Image by Brain Corp.

COBOTS AND CLEANING

COVID-19 has created the need to constantly clean and disinfect high foot traffic areas such as grocery stores, airports and hospitals. Fortunately, cobots are especially well equipped to handle these repetitive tasks. When the national shelter-in-place orders were lifted, consumers needed assurances that public places were safe. Since cobots can move about in places many of us can't or may not want to, they help us socially distance by stepping in to do the close human-to-human work for us.

HOSPITALS: Autonomous cleaning cobots can clean and disinfect a hospital room in 20 minutes, freeing up staff to focus on other critical care functions. About 70 Veterans Administration hospitals in the U.S. received LightStrike cobots to assist in the cleaning and disinfection process.¹ These UV-light-zapping germicidal robots come with an approximate \$125,000 price tag per unit.

GROCERY STORES: Cobots have enabled grocery store workers, considered essential workers, to focus on keeping shelves stocked for customers as cobots cleaned and disinfected in the background. Brain Corp, an AI software company, partnered with several original equipment manufacturers (OEMs) and have supplied cleaning robots to grocery stores nationwide, including Walmart.²

AIRPORTS: Cleaning and disinfecting cobots have been deployed at several airports around the world. At Pittsburgh Airport, Carnegie Robotics modified floor scrubbers to autonomously clean and disinfect with both a chemical disinfectant and UV lights mounted on the front of the units.³



Image by Xenex

Post-pandemic, these cobots are likely to continue providing cleaning services in both public and private spaces, freeing up human labor to focus on other high-skill tasks.

1 Richard Blake, "In Coronavirus Fight, Robots Report For Disinfection Duty", Forbes.com, April 17, 2020, accessed October 2020

2 Lana Bandoim, "Robots Are Cleaning Grocery Store Floors During The Coronavirus Outbreak", Forbes.com, April 8, 2020, accessed October 2020

3 Kim Lyons, "Pittsburgh's airport is the first in the US to use UV-cleaning robots", TheVerge.com, May 7, 2020, accessed October 2020

COBOTS IN THE WORKPLACE

Developments in artificial intelligence (AI) have accelerated intelligence in robotics—so much so that cobots that work with humans can actually learn on the job. For instance, through human machine interfaces (HMIs) similar to a smartphone, human workers can teach cobots a series of steps to complete a task. Once learned, the cobot will be able to repeat the task as needed—the perfect co-worker.

Cobots have also become a fixture in warehousing and logistics where they help sort, pick and pack your daily purchases. During this pandemic, they have become especially critical to operations as they allow the flow of work to continue with minor interruptions when warehouse staff need to socially distance. Due to the non-repetitive nature of fulfillment tasks, cobots are not advanced enough to entirely replace the human touch. Instead, they act as a significant productivity enhancement.

Manufacturing facilities have also found cobots useful during the pandemic. When a coronavirus outbreak at a meat packing plant recently forced some of the workers to quarantine, cobots were deployed to keep the plant running and keep the food supply chain moving seamlessly.⁴



As more workers begin to return to offices around the country, cobots can be instrumental in assisting owners and occupiers to promote health and safety. In addition to being co-workers, cobots can take on the role of care takers as well. Here are some examples of cobots that you may potentially encounter as you return to the office:

- **NURSE-BOT:** Programmed with healthcare capabilities, these cobots can take employee temperatures as they arrive at the office as well as ask simple yes/no health questions.
- **TEST-BOT:** Currently under development are cobots that can administer a COVID-19 swab test for companies that want their employees tested regularly.
- **DELIVERY-BOT:** Delivery cobots can alleviate some of the anxiety around picking up your daily lunch. In several European cities, it's common for cobots to make office building deliveries, including retail purchases.
- **JANITOR-BOT:** Disinfecting cobots can roll down the hallways during the evenings to deep clean the office after employees leave for the day.

And in the retail sector, major brands have deployed cobots to read labels and help with restocking efforts. In turn, they provide analytics on consumer buyer behaviors.

COBOTS IN THE FUTURE

Advances in automation and artificial intelligence have improved cobots' ability to move about in the public domain, untethered to workstations. But to ensure wider adoption takes place, cobots will need to overcome the hurdle of open, uncontrolled spaces.

Connectivity is key for cobots to function in open spaces. The rolling out of 5G communications improves the ability of cobots to function autonomously by decreasing latency. Additionally, the pandemic has accelerated the implementation of cloud and edge computing capabilities among many large and small enterprises. This increased capability allows cobots the flexibility to be connected both at the source (edge) and remotely (cloud).



According to a recent Accenture report, the mobile robotics market is expected to grow from \$8.6 billion in 2016 to \$31.0 billion in 2025, a 361 percent increase.⁵ Additionally, 61 percent of business executives surveyed expect their organizations to use robotics in uncontrolled environments in the next two years. As the confidence in robotics being able to navigate in the open increases, expect to encounter cobots with higher regularity.

Potential applications of cobots are countless. In the coming decade, our interactions with cobots will inevitably increase from non-existent to several a day. Accenture makes a bold prediction that in 10 years, "there will be a 1:1 ratio between autonomous robots and healthcare professionals in every major hospital."

Given the current environment, it's probably safe to say that this timeline has been accelerated as well—since the cobots are already here.

4 Jacob Bunge and Jesse Newman, "Tyson Turns to Robot Butchers, Spurred by Coronavirus Outbreaks", The Wall Street Journal, July 9, 2020, accessed October 2020

5 Paul Daugherty et al., "Technology Vision 2020: We, the Post-Digital People", Accenture, accessed September 2020

Asia Pacific on the rise

Despite the severe economic and social impact of the COVID-19 pandemic felt across the globe, recent data in Asia illustrates a profound resilience in the region. In fact, growth expectations over the next decade are not only still intact, but the region's enviable pre-pandemic economic outlook, supported by massive demographic tailwinds and strong forecasts for regional corporate expansion plans, remain very much in play and will continue to propel the region forward to 2030.



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Why is this decade Asia Pacific's time to shine?

An Economic Powerhouse

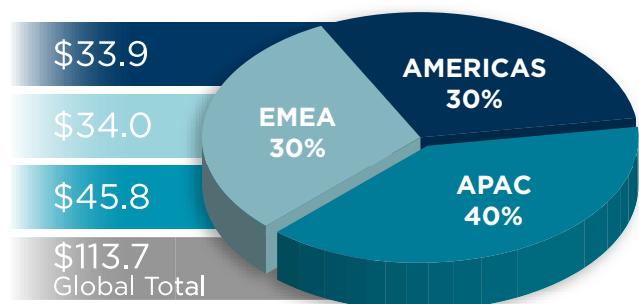
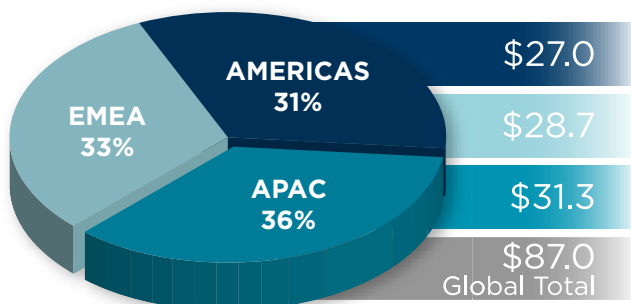
Asia Pacific will drive global economic growth over the next decade. At the end of 2019, Asia Pacific's regional economy stood at USD \$31.3 trillion, accounting for 36 percent of the global total, making Asia Pacific the largest region in the world by total GDP. By the end of the decade, Asia Pacific's economy is expected to reach USD \$45.8 trillion and represent more than 40 percent of the global total. Not only is Asia Pacific the largest region, but it is also forecast to outgrow the rest of the world at 3.5 percent per annum, with EMEA forecast to grow at 1.6 percent per annum and the Americas at 2.1 percent per annum.

Underpinning this is the growth of several powerhouse economies. The Chinese economy continues to grow at an impressive rate and is forecast to expand by USD \$9.2 trillion—equivalent to three French economies—by 2030. And India will ascend the rankings from seventh in 2019 to the fourth-largest economy in 2030. Asia Pacific expects to house three of the four largest economies in 2030 (plus Japan), with Australia, South Korea and Indonesia also included in the top 15.

2019

GDP Growth
(USD Trillions)

2030

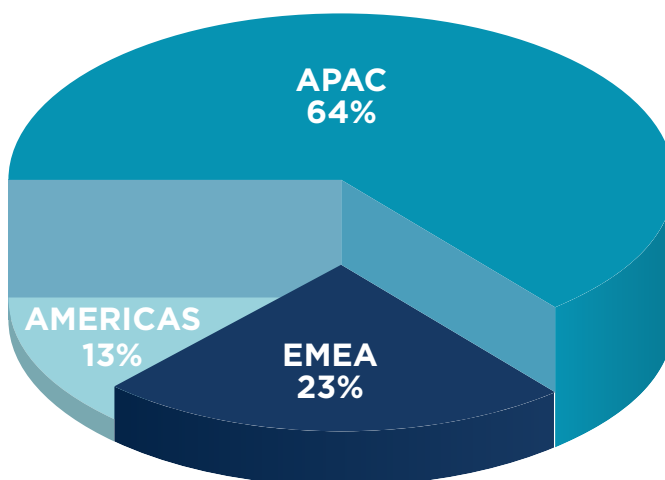


Burgeoning Middle Class

Favorable demographics are a major driver of this economic growth. The Asia Pacific region, comprised of 4.4 billion people, currently accounts for 56 percent of the world's population. Two of its countries, Greater China and India, totaling 2.8 billion, account for more than one-third of the world's entire population.

It is not size alone, but the composition of the population that is important. By 2030, the working-age population of Asia Pacific will have grown by 165 million people, while in contrast North America will only add three million and Europe will retreat to the tune of 24 million. As millions of people enter the workforce, the region's middle class will experience prodigious growth. Currently, 54 percent of the world's middle class—or 2.1 billion people—live in Asia Pacific. This will increase by 1.5 billion people—to 65% (the increase is 73 percent to account for 65 percent of the global total) percent—by 2030. In comparison, the growth of the middle class for the rest of the world combined will only total 176 million.

Proportion of Global Middle Class 2020



Growth between 2020 - 2030



It is not size alone, but the composition of the population that is important.

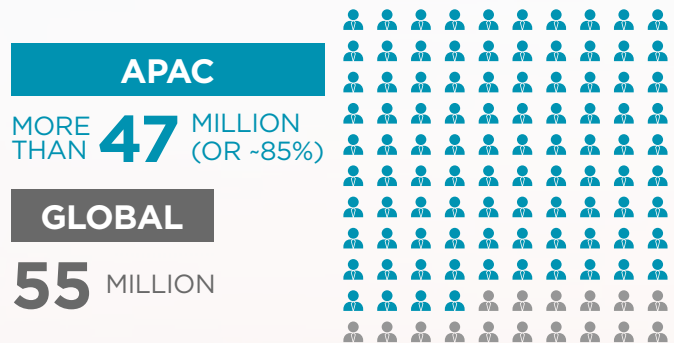




Job Creation

Employment growth in Asia Pacific will vastly exceed that of other regions considering the surge in younger age groups. However, this is only part of the story. An important element is that office-demanding occupations are forecast to grow at an even more rapid rate. Out of a global total of almost 55 million office-using jobs forecast to be created in 2020-2030 across the world's major office markets, more than 47 million will be in Asia Pacific.

Office-using job creations 2020-2030

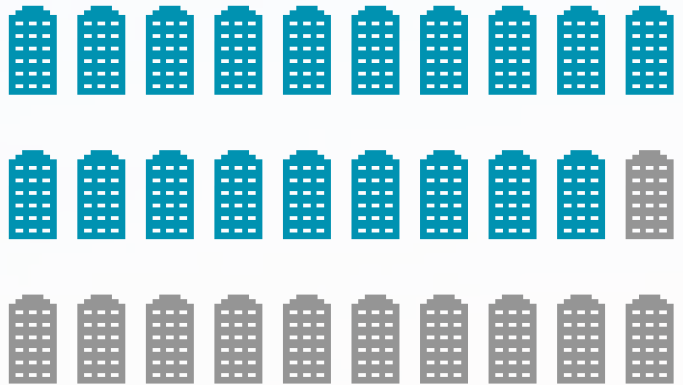


Booming Office Demand

Strong job growth will drive office demand over the next decade. Asia Pacific already has an impressive record in global office demand. In the 2010-19 period, Asia Pacific absorbed more than 800 million square feet of office space, 42 percent of the global total. However, over the next decade, global office demand is forecast at 2.1 billion square feet, of which 1.35 billion square feet (65 percent) is forecast to be required in Asia Pacific—enough to fill the whole of Manhattan three times over.

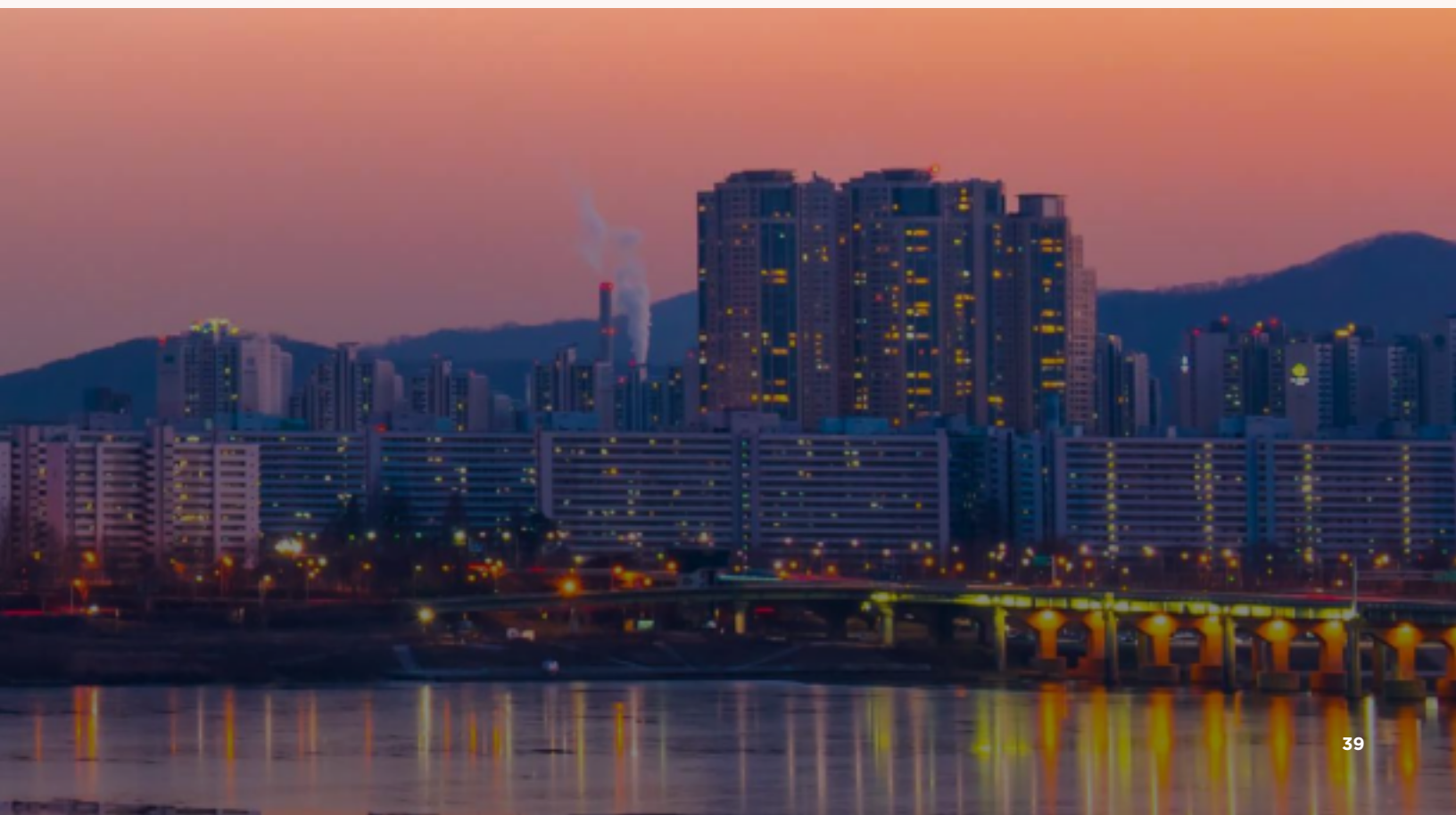
The region will see an ongoing construction boom as cities continue to expand to accommodate future demand for space. Over the next five years, an average of 120 million square feet of space will be brought to markets across Asia Pacific each year, approximately 55 percent of global supply. To put this in context, it is the equivalent of creating a new Shenzhen and Guangzhou combined, or four Singapore CBDs, every single year for the next five years.

Office Demand Forecast 2020 – 2030



APAC
1.35 BILLION SF
(OR ~65%)

GLOBAL
2.1 BILLION SF



Increasing CRE Investment

All factors that lead to strong office demand will drive greater investment into commercial real estate creating a considerable opportunity for growth. In addition, Asia Pacific has further tailwinds to those already described. The region is forecast to return to pre-COVID GDP levels by the end of 2020, which is up to 18 months ahead of other regions. In a world searching for growth, this alone will accelerate investment into the region. Furthermore, as the region continues to grow and mature, even greater investment volume is likely to follow.

It's All Coming Together

The robust growth forecast is not dependent upon any single factor but is reflective of the wide range of positive economic, demographic, employment and investment drivers, all acting together to propel the region forward. It is this weight of momentum that underpins Asia Pacific's ongoing rise as the world's major growth story for the next decade.



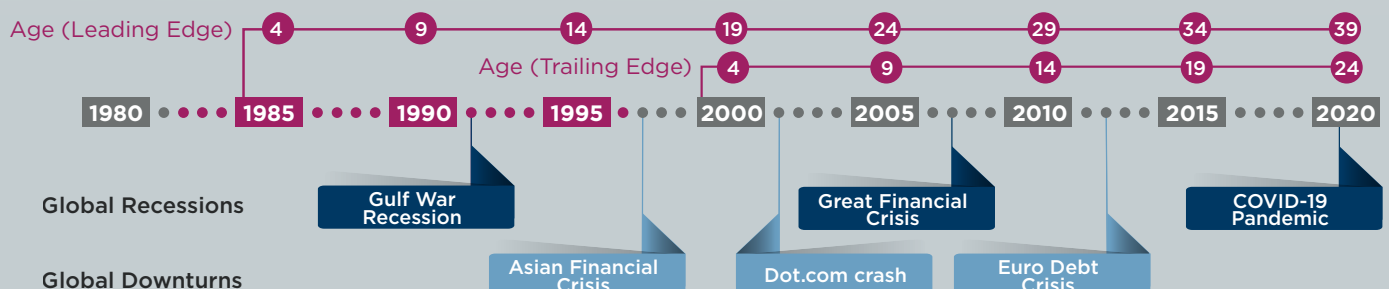
Millennials and COVID-19: The unlucky generation



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Millennials, those born from 1981 to 1996, have been given many monikers in their comparatively short lives, one of them being “the unlucky generation.” Having attended school during the Dot.com crash, they came of age during the Great Financial Crisis (GFC), and now find themselves enduring the worst recession in a century at a time when they are trying to build their careers, as well as focus on their personal lives (Figure 1).

Figure 1
MILLENNIAL TIMELINE





A NOTE ON THE DATA

Analysis of Millennials' experiences in working from home has been drawn from Cushman & Wakefield's bespoke workplace strategy tool Experience per Square Foot™ (XSF). The survey was conducted from April to June 2020 and contains more than 2.4 million data points from more than 52,000 respondents from all over the world. Within this, Millennials comprised 21,000 respondents, or 40 percent of the sample. More information on the survey is available [here](#).

WAGE SCARS TO CUT DEEPER

Looking back to the GFC, the leading edge of the Millennial cohort was just graduating and ready to embark on their careers. It's tough enough securing a first job during a recession, something that Generation Z (born 1997-2012) are currently finding out, but the effects go well beyond the ability to secure a job. Extensive historical analysis has shown that the impacts are more enduring than a rise in unemployment and persist well after economic recovery through a process known as "wage scarring." More recent analysis in this genre shows that Millennials experienced the largest earnings loss, of up to 13 percent, and took the longest to recover¹. The lower rate of pay has a greater bearing at the start of your career due to compounding, requiring above-average wage growth in order to overcome the negative effects.

Fast forward to 2020 and the trailing edge of the Millennial cohort, at 24 years of age, are similarly facing economic difficulties at the start of their career. Studies have shown that Millennials are more likely to have been laid-off, furloughed or taken a pay cut². Combine this with student debts³, other personal loans and potentially a mortgage, and it means Millennials are far more likely to come out of the pandemic in a more precarious financial position than older generations. Expect their spending potential to be reined in for years to come.

ACUTE CHALLENGES WORKING REMOTELY

Not only has the pandemic wrought economic consequences, but it has also dramatically and likely enduringly, altered how and where people work. As workplaces have temporarily shuttered across the world, many have equated the period of enforced working from home (WFH) as a move to greater flexibility, but this is not the case. Rather, one dominant work location (the office) has been replaced with another (the home). It is not so much "working **from** home" but "working **at** home." This has presented challenges to all, but most acutely to Millennials.

At the headline level, the Millennial experience is very similar to that of other generations. The ability to collaborate and focus is high, but has come at the expense of personal connection to colleagues, connection to company culture and the ability to learn.⁴ Scratching beneath the surface, though, we see that Millennials are feeling these challenges disproportionately.

1 K Rinz (2019) "Did Timing Matter? Life Cycle Differences in Effects of Exposure to the Great Recession"

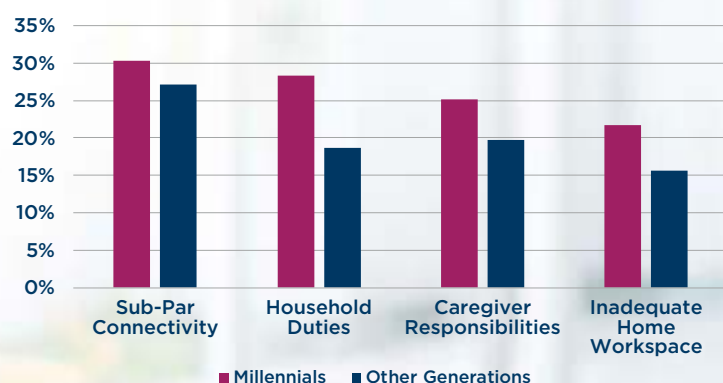
2 [Why the Covid-19 economy is particularly devastating to millennials](#)

3 <https://www.pewsocialtrends.org/2014/03/07/millennials-in-adulthood/#fn-18663-9>

4 Cushman & Wakefield (2020) "[The Future of Workplace](#)"

Figure 2

PERCENT OF RESPONDENTS REPORTING A CHALLENGE



Source: Cushman & Wakefield

THE ABILITY TO FOCUS IS A CHALLENGE

While 71 percent of Millennials said they could focus when they need to be productive, this was lower than other generations, which averaged 77 percent. Unpacking this across other variables, we see the founding reasons why this is so.

Millennials, along with their younger counterparts Generation Z, were much more likely than older generations to experience difficulties in the WFH environment with nearly 70 percent reporting a challenge. While sub-par connectivity was problematic for all, Millennials have had to cope with the additional triple-whammy of household duties (28 percent), caregiver responsibilities (25 percent) and inadequate home workspace (22 percent)—ranking in the top two generations to report each challenge (Figure 2).

Millennials were much more likely to report a lack of space for focused work and the ability to minimize distractions—both of which were 11 percentage points below the average of other generations. This no doubt reflects their stage in the lifecycle. Older Millennials are having to simultaneously juggle work and parental duties—the average age at birth of first child across the Organization for Economic Cooperation and Development (OECD) countries is almost 30 years of age.⁵ Combining this with their dwelling types, which are more likely to be smaller units/apartments, it is not surprising that their ability to focus is comparatively lower. And it's not much better for the other end of the Millennial cohort who are predominantly still living with their parents.

Interestingly, the divide between generations is most acute in the Americas and least in Asia Pacific. The nature of higher-density living across major Asian cities means that these challenges are felt across all generations and not just Millennials.

⁵ https://www.oecd.org/els/soc/SF_2_3_Age_mothers_childbirth.pdf

CONNECTIONS HAVE BEEN LOST

It is widely appreciated that enforced WFH has eroded everybody's connection to their colleagues and to their company culture. However, again, these issues are felt more acutely by Millennials.

Millennials are at an age when the workplace is the crucible of where they can establish connections within their company and industry to create solid foundations for their career. In contrast, Generation X (born 1965-1980) and Baby Boomers (born 1946-64) are much more likely to have already forged their industry connections and are not as dependent on their company to provide social interaction. This is not to say that they don't make meaningful connections at work, but that those connections are comparatively more important to Millennials.

It has been shown across numerous studies that while these connections can be maintained in a virtual environment, albeit with some erosion of their strength, they are much harder to be established remotely. It for these reasons that bond scores (connection to colleagues) are up to three percentage points lower for Millennials compared to Generation X and Baby Boomers respectively. More recent data suggests this gap is widening.

Connection to company culture is more directly correlated to the length of tenure at a company rather than someone's age, though one can be a broad proxy for the other. Again, we see a lower connection to culture for Millennials than older generations. The implication though is that this cultural capital is likely to be eroded more quickly for Millennials than older generations, which then could lead to lower engagement and lower retention rates.

LOW WELL-BEING HURTS FULFILLMENT

These factors are significant detractors for Millennials, which then have further ramifications. Lower ability to focus results in the need to spend more hours on a task, which has a cascading effect:

1. A little more than half (53 percent) of Millennials report they have sufficient time away from work compared to two-thirds (66 percent) of Baby Boomers (Figure 3).
2. As a result, Millennials have much poorer work-life balance – 65 percent report sufficient work-life balance compared to 70 percent across other generations.
3. More hours at work and less time away erodes energy and wellbeing – just 48 percent report having energy throughout the day and only 52 percent report having a sense of wellbeing compared to 58 percent and 63 percent respectively for Baby Boomers.

Together these issues manifest in a lack of ability to do their best work and in lower overall fulfillment. It is clear from these results that remote work is not the same as flexible, or agile work, and Millennials are struggling the most as victims of their stage in the life course. Once again, the unlucky generation has been overly burdened by events outside of their control.

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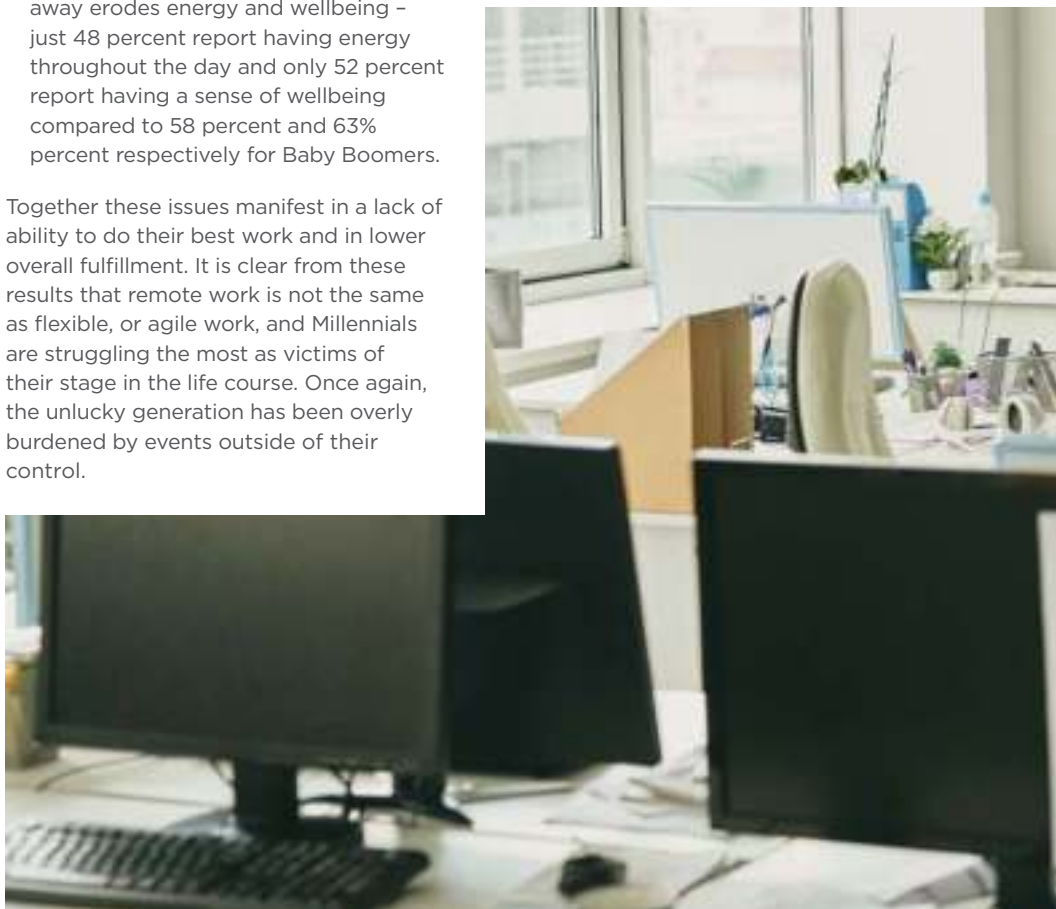
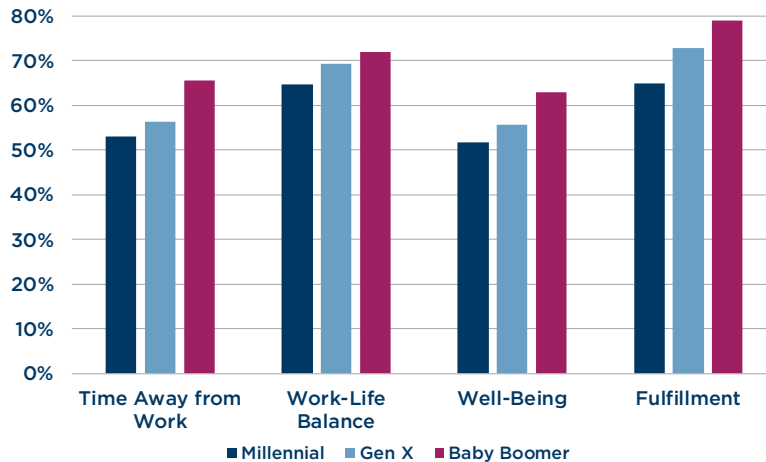


Figure 3

WELLBEING DIFFERENCES ACROSS GENERATIONS



Source: Cushman & Wakefield

A FUTURE BASED ON FLEXIBILITY, LOYALTY AND INCLUSION

While the above paints a comparatively bleak picture of the Millennial experience so far during COVID-19, there are reasons for optimism and lessons for current and future employers. The crux is that despite the unprecedented nature of the current economic environment, Millennials remain more committed than ever to their core beliefs.

The fact that they have been so deeply affected by the pandemic has served to reinforce their views on diversity, inclusion and equity⁶. The downturn has forced them to focus much more on their longer-term financial future, as well as being more sympathetic to the needs of others.

They also remain deeply committed to their desire for greater flexibility at work. While enforced working from home hasn't given them the flexibility they have desired so far, it has proven that they can be trusted to work remotely and that the job still gets done.

Finally, the pace of change in society has shown Millennials what can be done when governments and private enterprise come together to achieve a common goal. As such the pandemic, rather than dampen their views, has reinforced that rapid change is achievable and now not only do they want to play their part from the front, but also expect everyone to keep up.

Millennials have been more adversely affected by the pandemic than other generations and because of this they will become an even more powerful change agent. The key now is for employers to harness that drive and help Millennials propel themselves out of this recession. Doing so will reap benefits well beyond the near term.

⁶ Deloitte (2020) "Global Millennial Survey 2020: Resilient generations hold the key to creating a better normal"





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About Cushman & Wakefield

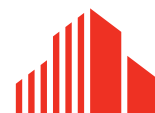
Cushman & Wakefield (NYSE: CWK) is a leading global real estate services firm that delivers exceptional value for real estate occupiers and owners. Cushman & Wakefield is among the largest real estate services firms with approximately 53,000 employees in 400 offices and 60 countries. In 2019, the firm had revenue of \$8.8 billion across core services of property, facilities and project management, leasing, capital markets, valuation and other services. To learn more, visit www.cushmanwakefield.com or follow @CushWake on Twitter.

An overhead view of a person with reddish hair, seen from behind, sitting at a round wooden table in a cafe. They are working on a dark laptop. A coffee cup is on the table. The background shows other tables, chairs, and plants, with shadows cast across the floor.

NEW PERSPECTIVE: FROM PANDEMIC TO PERFORMANCE

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