

# jpm<sup>®</sup>

## Journal of Property Management

**IREM<sup>®</sup>**  
INSTITUTE OF REAL ESTATE MANAGEMENT

September/October 2021 Vol. 86, No. 5

# Digital twins

*How this evolving technology  
offers boundless potential for  
property management*



- › Implementing PropTech in an older building
- › IREM's 2021 30 Under 30
- › The growth of data centers





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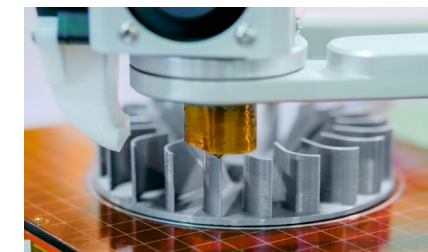
By Stacy Holden

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## President’s letter



Chip Watts IV, CPM, CCIM, C2EX, AHWD®

With the turning of our calendars to the autumn months, I’m thrilled to bring you this latest edition of JPM! As real estate managers, our goal of providing exceptional service to owners and tenants hasn’t changed. However, the tools that we can use to deliver that value are rapidly evolving, making it all the more critical that we keep ourselves up to date with breakthrough developments. The theme of this issue is technology, and there are few topics more relevant to the changing environment in which we operate.

When it comes to applying new technological developments to day-to-day real estate management, property technology (PropTech) is where the rubber meets the road. And while new buildings have the advantage of starting from scratch, owners of older buildings often encounter significant challenges when integrating cutting-edge PropTech into their properties. One example of a property that has faced these unique challenges is the District Center in Washington D.C. On **P12**, you can get an in-depth look at how a team of property managers from JLL helped one owner transform this aging office building into an award-winning, fully modernized smart building.

Speaking of modern, PropTech doesn’t get much more advanced than tying all these exciting smart-building technologies together into one centralized, intelligent platform—the digital twin. From gathering up-to-the-minute data to enabling scenario forecasting and predictive capabilities, creating a virtual representation of all the processes and data points at play in our properties can open up a whole new level of value creation. Read more about this technology’s potential on **P6**.

From local operations to multinational corporations, virtually all real estate management companies rely on data centers in one way or another. Whether accessing cloud-based applications, processing financial transactions, storing data, or simply using email, a data center is likely out there somewhere in the world making it all possible. It’s no wonder then that this has become one of the fastest-growing property types, both in number and importance. On **P36**, Robert Fuller, CPM, offers a comprehensive

overview of the history of the data center and the opportunities that this asset class presents for aspiring real estate managers.

Growing up as native users of the never-ending stream of new technology, the youngest real estate managers can bring their skills and expertise into the world of real estate. IREM places great importance on advancing the professional development of this next generation of real estate leaders. On **P18**, we’re proud to present the 2021 IREM 30 Under 30. This year’s list recognizes 30 talented professionals from across the U.S., China, and South Africa who have shown exceptional leadership, talent, and community involvement and have demonstrated the ability to overcome formidable professional challenges.

This past year has tested us in many ways, but it’s the unceasing readiness to answer challenges that sets our members apart. Diversity, equity, and inclusion (DE&I) has long been a central component of IREM’s organizational culture, and the Institute is more committed than ever to living up to the value we place on these principles. So, here’s an important question for us all to consider: How can we identify unconscious bias if it’s not actually conscious? For a great starting point on understanding unconscious bias and integrating anti-bias training into our organizations, read the DE&I column on **P30**.

With such a great deal of confidence placed in us as real estate managers, we have an even greater responsibility to overcome the limiting effects of our unconscious biases. And whether it’s addressing these implicit obstacles within ourselves or seeking out specific technical solutions to explicit challenges like long-term sustainability, we’re called to face them when they arise and to remain proactive in our approach to overcoming them.

While I’ve enjoyed the summer as much as the rest of y’all, the arrival of fall means the 2021 Global Summit is just around the corner. So, if you haven’t already, be sure to register now, and I look forward to seeing everyone there!

W.A. “Chip” Watts IV, CPM, CCIM, C2EX, AHWD®  
IREM President



# Construction of the future

Germany's first 3D-printed residential building in Bavaria—the largest European residential building built with this burgeoning technology—is under construction. When completed, the structure will feature five flats over three floors with around 380 square meters of living space.

Source: PERI AG

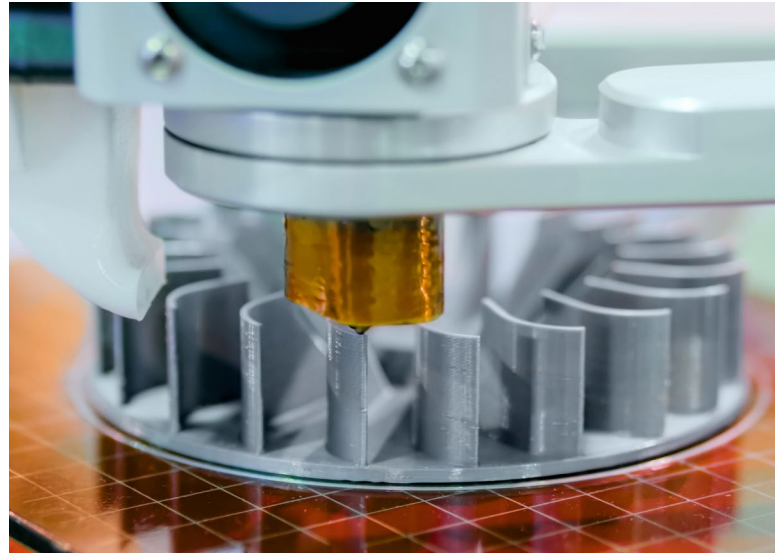


Image: iStock.com/Zyabich

376 million square feet: the amount of warehouse space currently under construction—a record amount, according to CBRE.

Source: CNBC, Commercial real estate warehouse demand offsets vacant office space



## Healthy office amenities

Tenants of some Chicago office properties (and the 7,500 Chicago employees they represent) now have access to dedicated on-site health care, including primary care, mental health, physical therapy, insurance navigation, and 24/7 virtual care services. These services are offered through a partnership between Chicago real estate development firm Sterling Bay and national medical practice Eden Health. According to Eden Health, commercial office buildings that offer on-site medical locations

- Improve tenant health and wellness
- Lower insurance claim costs
- Drastically reduce absenteeism and traveling to off-site medical offices, helping employees save time and increase productivity

Source: Eden Health

Image: iStock.com/Halfpoint



Image: iStock.com/bombuscreative

## Getting social

Real estate professionals shared advice for using social media to attract clients and show off available properties. Below is a summary of their expert tips.

- 1. Make it easy.** Take advantage of apps that help you manage posts and create engaging graphics. A few to check out are Hootsuite, Canva, Plann, and Keeping Current Matters.
- 2. Make it consistent.** Get in the habit of posting regularly. One post a day is a good place to start.
- 3. Make it authentic.** Readers and viewers want to see genuine, real people. Show yourself at work or giving tours of properties. Since most people spend a large chunk of time at work, there's nothing inauthentic about that.
- 4. Make it engaging.** Create posts that encourage comments, and then engage in the conversation. Not only is it good for developing relationships, but it's also beneficial for algorithms, ensuring your posts will be seen by more people.

Source: *The Residential Specialist*, "A Recipe for Success"

20% of all National Association of REALTORS® members get 1%–5% of their business from social media, while 10% get 6%–10%.

**What are all these cables doing here?** Join Kasara Smith, CPM, director of asset services at Cushman & Wakefield, in the latest episode of the IREM podcast series as she discusses the benefits and key issues to consider when working with telecommunications riser management vendors.

Listen to the full interview at [irem.org/learning/from-the-front-lines](https://irem.org/learning/from-the-front-lines).



# Digital twins

## Service has always

been at the forefront of the property manager's goals. Everything she or he does, no matter how oriented to nuts and bolts, is done in service to the tenant, the resident, and the landlord. In short, service is the property manager's stock in trade.

The ability to serve those various (and sometimes conflicting) stakeholders has been greatly enabled by new technological advancements, from building automation systems to app-packed cell phones, and even wearable tech. But this is only the start; as cool as all of the above are, they come to full fruition in the digital twin.

This emerging technology's boundless potential for real estate management

By John Salustri



"A digital twin is a virtual representation of a process, product, or even a service," says Kasara Smith, CPM, RPA, who is also a LEED Green Associate and director of property management for Cushman & Wakefield in Washington D.C., and chairs IREM's Technology Advisory Board. "For property managers, digital twins would be really beneficial to bringing all of the building's data points into a centralized platform, from occupancy sensors and access control to automation systems."

And data collection is only the start of the benefits that will ultimately accrue to building management. According to a report from Deloitte, "Getting real-time data on how tenants are using the building gives you the capability to prove really useful and value-adding services for the tenants. With the

data on maintenance sourced from smart sensors located throughout the building, downtime is reduced, as are costs. In addition, the tenant experience is enhanced."

"The potential for this technology in property management is boundless," says IREM Innovator-in-Residence James Scott, who believes that the digital twin is the most important technology to be deployed in the real estate industry in recent times. However, he adds that it will still take some time before we see its widespread adoption. "It's probably at least three to five years from being a standard technology across all of our buildings," says Scott, who is a card-carrying fan of digital twin technology.

The extended horizon to full integration is due to a number of factors, including the retrofitting of older buildings

The final stage will be a fully functional digital-twin platform encompassing all of the up-to-the-minute data and smart-building technologies with scenario forecasting and predictive capabilities.



Image: iStock.com/Danila Shantsov



“A digital twin will not only let us know what’s taking place in a building at that precise moment, but it will also tell us what’s most likely to happen in that building in the future.

—James Scott, IREM

with numerous Internet of Things (IoT) sensors, the cost factor (more on that shortly), and the widespread rollout of 5G connectivity. "And while we are all seeing 5G being advertised on TV, its full implementation as a standard will take a number of years," Scott says.

Most likely, the realization of such complete integration will come in stages. "We've seen the evolution of what we now call the smart building, which was the first stage," he says. "The next stage is the integration of 5G, IoT, big data, cloud computing, and AI technology with advanced data analytic capabilities to create a platform for AI-enabled building management systems."

The final stage, he says, will be a "fully functional digital-twin platform encompassing all of the up-to-the-minute data and smart-building technologies with scenario forecasting and predictive capabilities. This will not only let us know what's taking place in a building at that precise moment, but it will also tell us what's most likely to happen in that building in the future."

The irony is that, while we're now measuring the coming availability of this capability in terms of years, the concept itself has been around for decades.

Giving birth to twins

The original idea for digital twins was born at NASA, back in the Apollo moon-landing era. "NASA mission controllers needed to rapidly adapt and modify their simulations to match the same conditions on the spacecraft in orbit so that they could experiment and verify the different strategies required to bring the astronauts home," Scott explains. It's been utilized in the intervening years by the aircraft industry to test components, and it's even found applications in health care. Interestingly, some of the newer players to enter the marketplace are video game companies, which makes sense, with their need to enhance their capabilities to create virtual parallel universes.

In a sense, the foundational aspects of digital twins are here and now. Those IoT sensors are already making their way into new construction as well as some existing buildings, providing the data points that Smith referenced.

"Our teams use forms of digital twins every day," says Thanos Lambrinos, senior vice president of digital buildings, experiences & innovation at QuadReal Property Group in Toronto. "Your building automation system, for

Proving their worth

The expectation for tying all of the smart-building technologies into one remote and interactive platform holds great promise. In the real world, there are actual cases of what it can do. Nanyang Technological University (NTU) in Singapore is on the cutting edge and serves as a great example of the direction we'll be traveling.

The publication *Nature* refers to NTU as one of the world's "top research institutes, and in recent years, it has emerged as a global leader in driving the 'fourth industrial revolution,' a period defined by disruptive technologies such as the Internet of Things, robotics, virtual reality, and artificial intelligence."

And digital twins. According to James Scott, the new campus, pacing out to 250 hectares, has reduced energy usage in phase one by 10% with the expectation that that figure will jump to 31% by phase two. According to the website of IES, the university's data integrator, that will translate into savings of \$3.7 million and carbon reductions of 9.6 kilotons.



Beneficial to property managers, digital twins unite all of a building's data points into a centralized platform.



Image: Autodesk

example, is a digital representation of your air-handling units, chillers, pumps, and various other equipment packages." Ditto for your lighting controls, in place to "provide the ability to understand location, status, and to dim lights or turn them on and off."

He adds the stacking plan as a representation of your leasing. "Digital twins take all of those disparate digital systems and integrate them to better correlate data sets and overlay analytics to get even further enhanced insights into your business. In that respect, the real estate industry is still extremely early in the journey."

#### The ubiquitous cost factor

Once fully realized in the industry, the technology will be applicable to virtually all the major food groups, from office and multifamily to retail and medical. But not all of the boats will rise simultaneously. As is typically the case with new technology entering the

market, pricing for these new capabilities will be steep at first, but the concept is still so new that putting a price tag on it is difficult, Lambrinos says.

A recent Bisnow article pinned the growth of digital twins at just over \$48 billion globally by 2026, but little of that will be reflected in existing building retrofits, at least not until those costs start to come down. Scott definitely believes that to be true.

"The cost of the technology is extremely high at the moment, with only very high-end Class A office buildings seeing implementation," he says. "But as more players enter the market, it will inevitably mean that prices will drop, and we'll see the technology filter into more everyday types of properties."

"Many PropTech company cost models are prohibitive," Lambrinos says. But time will apply downward pressure on that, as the technology slowly becomes more commonplace. "There are vendors who are now starting to adjust their practices to be more conducive to scale and customers of every size, and I think we'll see this trend progress."

So, the bigger players will get first dibs on the technology, given their Class A assets, their larger bankrolls, and their ability to spread the expenses over more years and properties. "I don't see digital twins being adopted in property management overnight," says Smith, who oversees an office portfolio of one million square feet. "The infrastructure for sensors and building systems needs to be in place before a twin can be fully realized." Shorter-term adoption will come from the investor/developer community on the "cutting edge of tech."



**“***Having all building operational information on a single platform could create incredible efficiencies and insights.*

—Thano Lambrinos, QuadReal Property Group



**“***If my chief engineer gets a call about an HVAC issue on a Saturday night, he could access the digital twin on his computer and troubleshoot the issue from a distance.*

—Kasara Smith, CPM, RPA, Cushman & Wakefield

Smith adds that the industry's focus the past year on batten down the hatches in the face of COVID-19 has pushed interest in twins to the back burner. Scott agrees, at least on the property management side. However, software developers have been making huge strides with their products and their capabilities, he says.

Now that we as an industry are once again forward-facing, particular adaptations will also become a function of the type of company doing the adoption. "Third-party management firms would have to sell the concept to their clients," Smith says. But an owner-operator can choose the number of buildings, the region, or the entire portfolio over which to spread the cost.

#### Now for the payoff

As Deloitte indicated, when the technology is ultimately in the hands of all, or at least some, in the ownership/management community, there's little doubt that the payoff will justify the wait.

"There are significant opportunities with this technology for real estate as a broad industry, as well as property managers specifically," says Lambrinos. "Having all building operational information on a single platform could create incredible efficiencies and insights."

"Overlay advanced analytics, and a property manager could have the building HVAC system adjust in real time to maximize comfort and energy efficiency, depending on how many people are in a room and based on air-quality metrics," he continues. "The opportunities are significant, and seemingly endless across asset classes and building sizes."

"5G will be a major factor in powering the infrastructure of sensors and data points in the digital twin," Scott says. "5G is 100 times the speed of the current standard with 100 times the connectivity." Add to that wearable technology—the watches and bracelets—"and you can achieve the 'Holy Grail' of productivity, curated down to

the individual level." The building, he explains, will actually adjust to the occupant, tweaking lighting and HVAC to individual zones, all under the watchful eye of the twin-enhanced property manager.

And of course, as Smith adds, the operations team can troubleshoot remotely. "If my chief engineer gets a call about an HVAC issue on a Saturday night, he could access the digital twin on his computer and troubleshoot the issue from a distance."

This is why we can dispel a fear common with all new technologies: "Digital twins won't remove the property manager's job," Scott explains. "They'll facilitate it."

Of course, we've seen the progression through technological advancement and adaptability before. One need only think of the strides in mobile communications we've made since cell phones were as big as shoeboxes.

"Now they can take videos and provide internet access," Scott says, and some of us can essentially run our office from our phones. Pushing the timeline out to the day of universal acceptance, he projects that, "Five years from now, digital twins will be used across the board. They'll be the building standard." ▀

**John Salustri** is a contributing writer for JPM.





# PropTech at work

By Michelle Rieve,  
Russell Beckelhimer, and  
Jessica Emmanuel

**Innovations in property** technology (PropTech) are changing how real estate assets are positioned and viewed in the market. New applications of technological breakthroughs can be a game-changer for tenants looking to transform their workplace—particularly in the post-COVID-19 world. Companies are increasingly demanding a smart, connected office space that can drive greater workplace productivity, ensure maximum health and safety for occupants, and attract younger workers.

Smart building technologies are more than just a single application. They are a collection of integrated systems that are flexible, scalable, and resilient, which allows them to adapt over time and change along with the evolving needs of owners and tenants.

Transforming an  
aging property  
into a modern  
smart building

The District  
Center building in  
Washington D.C.

Photo: Nicholas Waring



While new buildings have the luxury of starting from scratch, owners of older properties are challenged with integrating new PropTech and making their existing assets stand out. District Center, a 1990s-era office building in Washington D.C., is a shining example of how to provide a cutting-edge, connected office environment in an aging property that can successfully compete with the newest smart buildings in today's market.

Background

Originally built in two phases, District Center is an 820,114-square-foot commercial office building at 555 12th Street Northwest in Washington D.C.'s East End, less than a mile from the White House. When the new owners purchased the asset in 2014, there was a long list of needed capital improvements—everything from HVAC and lighting controls to modern energy-metering methods and a new security system. Instead of approaching the upgrades traditionally, with like-for-like systems, the owners opted to proceed with a focus on the future. The owners wanted to use technology to make their property stand out in a competitive market.

They understood that an office building is more than just a place where people come to work; it's a tool to improve employee productivity, engagement, innovation, and business performance. They wanted

to differentiate District Center by utilizing technology and enabling a new suite of digital amenities for their tenants.

Challenges

The main challenge was implementing the smart building technology infrastructure needed to reduce energy consumption and carbon emissions in compliance with Washington D.C.'s Department of Energy and Environment Regulations. They also needed to leverage PropTech to create a superior tenant experience, increase engagement and retention, and improve the property's marketability.

As expected, incorporating a high-tech amenities package into a 20-plus-year-old building presented unique challenges. A smart building must have systems that can communicate with one another, and they need to speak a common language so that they can share information and enable new sequences and new intelligence—a much simpler goal to achieve within new construction than in upgrading an older building.

A strategic approach

- For this project to be successful, it was imperative to
- Partner with a technology consultant to develop use-case scenarios and upgrades to infrastructure and capabilities
  - Educate building tenants on the use of the applications to encourage buy-in and increase daily technology use
  - Promote smart building capabilities to prospective tenants

For a large-scale smart building implementation to work properly, a robust, converged communications network infrastructure must be in place for the Internet of Things (IoT) devices to communicate responsively with each other. At District Center, a fiber-optic backbone with network ports on every floor was installed to allow these devices to easily connect to the system, providing tenants the opportunity to take advantage of the base building converged network and fully employ all building services.

Implementing an IoT platform further allows frictionless automation by bringing all systems into a single platform and providing a centralized data repository. Such systems include, but are not limited to, reservation systems, visitor management systems, security systems, parking systems, building management systems, and building security.

Through the addition of the distributed antenna system and wireless infrastructure, District Center can also provide the necessary means for tenants and the building's IoT devices to communicate without any additional infrastructure.



Tenant experience

Consistently looking to improve the workplace with new tools, District Center's smart building technology is available to everyone. The smart building infrastructure gives tenants the option to control lighting and temperature in their spaces, reserve rooms, prepare for presentations, raise and lower blinds, order food, track transportation options, and much more, all through something as easy to use as an app on their smartphone or wall-mounted screens throughout the building.

The digital signage displayed upon entering the property provides information including weather, train schedules, and ride-share availability, and similar signage outside individual office suites shows which conference rooms are available or booked, both now and in the future.

Lighting and HVAC

The lighting and HVAC systems have Bluetooth and beacon sensors that detect the presence of humans. Built into the lighting system are more than 1,000 multisensors powered by the IoT. True to their name, these multisensors perform multiple functions, tracking occupancy levels for code compliance, checking natural and artificial light levels, and measuring temperature and air quality. Each multisensor has a Bluetooth beacon for location-based assistance through a

smartphone app, helping users find key services and amenities at the building, much like the apps used in many major retail stores to help customers find a product on the shelves.

A secure IP facility network then connects all building systems and provides advanced features only available when HVAC, lighting, access control, and video surveillance systems are all integrated and sharing data.

Adaptability

The smart building platform at District Center is adaptable and scalable, allowing new technologies and systems to be added as needs evolve. In fact, the level of systems integration employed at District Center represents some of the highest attained in a multi-tenant property. As the asset's demand for PropTech grows, the operational intelligence gained from the integrated systems can eventually be leveraged to create

The owners wanted to differentiate District Center by utilizing technology and enabling a new suite of digital amenities for their tenants.



Since its completion, the PropTech overhaul has improved efficiency systems at District Center, facilitated easy reporting of sustainability and energy metrics, and enhanced tenant experience, convenience, and productivity.

processes that can in turn enable the full functionality of a smart building.

District Center's multisensors gather vast amounts of data, but not all of it is relevant to all the different groups that use the building. For example, tenants need information that helps with their work, while operators and owners need analytics about building operations and maintenance.

#### COVID-19 response

Due to the COVID-19 pandemic, the building owner added more health and safety precautions, such as a touchless check-in system using QR readers at the front desk, fitness center, and sky lounge; elevator cab air purifiers; and escalator handrail sanitizers.

#### Results

District Center has proven to be a beacon of how technology can offer next-generation digital amenities to benefit office environments.

Since its completion, the PropTech overhaul has improved efficiency systems at District Center, facilitated easy reporting of sustainability and energy metrics, and enhanced tenant experience, convenience, and productivity.

Some notable sustainability benefits include a 42.1% reduction in electricity consumption between 2017 and 2019, and total energy savings of 71.6% since 2017, earning District Center LEED Gold recertification in 2021, with a current ENERGY STAR® score of 95. Those improvements have kept the property in full compliance with the new Department of Energy and Environment Regulations, currently sitting in the top 2.4% in energy consumption among all such compliant buildings within the capital.

But the ability to utilize new applications of property technology to monitor occupancy and space conditions and adjust connected smart infrastructure to improve energy consumption isn't the end goal in and of itself. How have these efficiency improvements translated to the tenant experience? In the three years following the project's

completion, District Center saw a 19% increase in tenant retention and a 16% increase in new leases.

In addition, the building was recognized in January of 2020 by the Better Buildings Challenge as a showcase project, and, in 2019, District Center won the Unified Project of the Year award from Distech, a company focused on energy management solutions in the built environment. Presented every two years, the award singles out the commercial building project that most effectively leverages both connected lighting technology and intelligent building solutions.

Today, District Center stands as a great example of how smart building technology can offer digital amenities to provide a healthier and more productive office environment for tenants and property management teams, all while maximizing energy efficiency and long-term sustainability. It demonstrates the amazing capabilities of a connected building and the many possibilities for increasing value. ▀



**Michelle Rieve** is vice president, group manager with the Markets Group of JLL in Washington D.C. She is responsible for client development, financial management and performance, operational oversight, and capital projects for District Center.



**Russell Beckelhimer** is a senior chief engineer in JLL's Mid-Atlantic Property Management Team with nearly 25 years of experience. As part of the company's Engineering Leadership Team, he supports the region's on-site teams in delivering the JLL Engineering Platform.



**Jessica Emmanuel** is a senior general manager within JLL's Mid-Atlantic Property Management team and is in charge of managing the daily operations of District Center.



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# 30 Under 30

IREM is proud to recognize 30 exceptional next-generation leaders committed to advancing the real estate management profession.

**Our 30 Under 30** recognition program celebrates young property managers who show exceptional leadership talent and community involvement and have demonstrated the ability to overcome professional challenges. They go above and beyond for their employers, clients, and communities.

This year's list includes talented professionals from across the U.S., China, and South Africa. Collectively, they manage the full range of property types, working with building owners to maximize property values, maintain operating efficiencies, and consult with real estate investors.

To learn even more about these dynamic young leaders, visit [IREM 30 Under 30](https://irem.org/jpm).





**Noah Alexander,**  
**Associate member**  
Resident Experience  
Manager  
Cortland, AMO  
Atlanta, Georgia

"While the last three years have been incredibly difficult, property management has been my silver lining. It has provided me with access to affordable housing, health insurance, mentors, and good pay. Property management has allowed me to continue my education and has given me a head start in cultivating skills that cannot be taught in a classroom."



**Jillian Anderson Mairura,**  
**CPM, ACoM**  
Associate Facility  
Manager  
Newmark  
Houston, Texas

"I've come across many real estate management professionals whom I admire for their intelligence, persistence, and leadership in the field. I plan to use this 30 Under 30 recognition to inspire and encourage other young professionals and minorities to consider pursuing a career in real estate management."



**Jonathan Bauer,**  
**Associate member**  
Sustainability  
Manager  
The Tower Companies  
Rockville, Maryland

"It is an honor to represent sustainability real estate professionals. Sustainability only succeeds when it is fully integrated across a real estate business, so I am hopeful that sharing this message, my work, and my impact will inspire careers, attract talent, and motivate change across the industry."



**Blythe Bland,**  
**Associate member**  
Training Manager, Property  
Management  
RangeWater Real Estate, AMO  
Atlanta, Georgia

"IREM represents the highest leadership levels and innovative thinking, and most importantly, it recognizes that there is power in its members. I am so thankful for the opportunity to give back even a fraction of the guidance, encouragement, and support that IREM has given me on my journey."



**Joshua Campa,**  
**CPM Candidate, ARM**  
Owner, Team Leader  
Berkshire Hathaway Home  
Services—NV Properties, McGarey  
Campa Group  
Las Vegas, Nevada

"Since I started working in property management at 16 years old, I have continuously found myself to be the youngest person in the room when it came to working with others in my industry. It has been intimidating in the past, however, I allow myself to remain open-minded and absorb the knowledge from my peers and utilize it to advance my own skills."



**Katie Jo Collins, CPM**  
Senior Regional Property Manager  
Greystar, AMO  
Los Angeles, California

"Having always been the youngest in the roles I have held, this recognition provides an additional accolade to utilize as a motivator for others to pursue their goals without concern for the perception of their age, but rather what they can bring to the table as a professional. I feel humbled, honored, and appreciative."



**Jesse R. Debord,**  
**Student member**  
Operations Manager  
HiLine Investment Co.  
Portland, Oregon

"It means a lot to me to have this opportunity and represent my family, school, and company. I received my undergraduate degree from Portland State University and am currently in their Master of Real Estate Development program. I have always strived to do good and put in the effort to set myself apart from others, and this award shows that hard work truly pays off."



**Anita DiPietro, CPM**  
Manager/Owner  
AED Management DC, LLC  
Washington, D.C.

"When I was in middle school, I worked with my parents on nights and weekends in addition to volunteering with local businesses, all because I knew that I wanted to start my own business one day. I looked up to the women in my community who owned businesses, and I knew that one day I'd be one of them."



**Leah Fantin, CPM Candidate**  
Assistant Property Manager  
Cornerstone Companies  
Indianapolis, Indiana

"Since the economic drivers of the industry rely heavily on connections and networking, I strongly believe in mentorships being a key factor of an individual's professional advancement in commercial real estate. With this recognition, I can connect with undecided university students, while also acting as a mentor for those interested in understanding the fundamentals of real estate."

"I plan to use this 30 Under 30 recognition to inspire and encourage other young professionals and minorities to consider pursuing a career in real estate management." —Jillian Anderson Mairura, CPM, ACoM





**Yelizaveta (Lisa) Gorkovskaya,**  
**Associate member**  
Community Manager  
Greystar, AMO  
Orlando, Florida

"As the daughter of an immigrant, I feel that this means the world not only to me, but to my family as well.

I strive to succeed personally and professionally to make my mom proud. Starting my career as a part-time leasing professional in college and growing to become a successful property manager and working for an exceptionally reputable company means the world to her and me."



**Ariel Guzman,**  
**Associate member**  
Community Manager  
Greystar, AMO  
Norwood, New Jersey

"Being part of the IREM 30 Under 30 means the world to me. It is an institute that I stand behind, and

I agree with all of its values. Their advocacy for good management and learning is vital to the success of everyone in the industry. I am a firm believer that knowledge is power."



**Nils Hostage,**  
**Associate member**  
Financial Analyst  
Blanton Turner, AMO  
Seattle, Washington

"Technology is transforming the real estate sector as a whole, and the real estate management industry should

be at the forefront of that progress. I believe I am part of this transformation, and my story is proof that our industry evolves and flourishes when young people are empowered to bring forward a fresh perspective and act on it."



**Olivia Ivie, CPM Candidate**  
Manager of Real Estate  
VIA Metropolitan Transit  
San Antonio, Texas

"As an international institute, IREM holds a tremendous amount of talent, and being selected by IREM is an incredible honor. I am grateful

for IREM's continued leadership within the industry as they continue to connect real estate professionals, advance educational opportunities, and champion innovation and growth."



**Brad Johnson, CPM**  
General Manager  
Sweyer Property Management  
Wilmington, North Carolina

"I am grateful for the opportunities that have helped me advance and grow in my career, and I think that this award is a great opportunity to

demonstrate to my community that my achievements have not gone unnoticed."



**Brianna Anderson, CPM Candidate**  
Property Manager  
Makai West, Inc., AMO  
San Diego, California

"Professionally, I strive every day to be a leader and a role model. I hope to use this award to enhance

my career and share with others how IREM has created opportunities and assisted me in achieving my personal and professional goals."



"Being part of the IREM 30 Under 30 means the world to me."

—Ariel Guzman, Associate member

"I hope to inspire other young professionals to strip themselves of any negative stigmas that may be attached to youth or age."  
—Julianna Kim, Associate member



**Ruger Kerstiens,**  
**CPM Candidate**  
Partner  
Premier Property Management  
Kerstiens Realty  
Jasper, Indiana

"Being a part of IREM's 30 Under 30 is an indicator that my lifelong efforts

are contributing to the greater good and improving the lives of others through real estate. This award showcases the efforts my team has dedicated to the success of projects and will rightfully boost their morale in the workplace."



**Julianna Kim,**  
**Associate member**  
Community Manager  
Mill Creek Residential  
Fairfax, Virginia

"Being honored as one of IREM's 30 Under 30 further proves to myself and others that age is truly nothing

but a number. I hope to inspire other young professionals to strip themselves of any negative stigmas that may be attached to youth or age, and instead, push themselves to continue moving forward, despite any societal stereotypes."



**Ronald (Koa) Kuaana-Edwards,**  
**ARM**  
Property Manager  
Blanton Turner, AMO  
Portland, Oregon

"Having the right attitude and a willingness to lead with your heart allows others to see opportunities

and realize good things are possible; then they can and will come. It means so much to be able to share this recognition with people I've worked with and who have supported me through my career, stemming all the way back to those who took a chance on a young kid from Hawaii with little experience."



**Addie Kubitz, ACoM**  
Assistant Property Manager  
Clarity Commercial, AMO  
St. Louis Park, Minnesota

"I have no doubt in my mind that I have found the career that was made for me. Property management is not just a career, it is a lifestyle. To

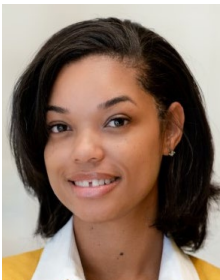
be chosen as one of IREM's 30 Under 30 is an incredible honor in my career. IREM provides an excellent platform to network with industry professionals, creating unique learning opportunities that extend beyond the classroom and workplace."



**Nicole Lemas, ARM**  
Resident Manager  
AOAO MONTE VISTA  
Honolulu, Hawaii

"Knowing that my work is recognized on a national level brings well-deserved attention to Hawaii's professionals in the real estate

management industry. I also know that I stand on the shoulders of the giants before me, so I dedicate a lot of time to mentoring others in management."



**Raven Livingston,**  
**Associate member**  
Real Estate Service Administrator  
CBRE, AMO  
Houston, Texas

"The 'P' in property management means "passion" for me. I carry this honor with so much pride and will continue to make my fellow IREM

members proud. I do not take this opportunity lightly and will use this as a stepping stone to showcase my hard work and dedication, quest for gaining knowledge, and goals of furthering my career."





**Kandace Massenburg, CPM Candidate**  
Assistant Property Manager  
Transwestern  
Alexandria, Virginia

"Being chosen as a part of IREM's 30 Under 30 is an honor and a dream fulfilled for me that will showcase the hard work I have put into this industry and into IREM. In my time as an IREM member, I have gained so much and wish to mentor someone in the future and keep pushing, thriving, learning, and growing both personally and professionally."



**Katherine McCoy, ARM**  
Property Manager  
Oakwood Management  
Company, AMO  
Pataskala, Ohio

"To be chosen as part of IREM's 30 Under 30 is a tremendous honor and offers me support and motivation to continue on my path towards accomplishing my goals. I have worked hard to make a difference in the lives of all of the people I come into contact with daily. I strive to meet my owner's goals, increase revenue, and set a good example for my co-workers."



**Rebaone Molete, CPM**  
Real Estate Manager  
Mr Price Real Estate  
Johannesburg, Gauteng, South Africa

"I love learning and believe that life itself is the best teacher. I have worked in many aspects of property management, from retail leasing of premises to administration, as well as property and asset management. I am always willing to start from scratch, remembering that the person who has 10 years of experience also had their first day on the job when they too had to learn."

"I have worked hard to make a difference in the lives of all of the people I come into contact with daily. I strive to meet my owner's goals, increase revenue, and set a good example for my co-workers."  
—Katherine McCoy, ARM



**Parker Page, CPM Candidate**  
Director of Property Management  
PRG Commercial Property Advisors  
Louisville, Kentucky

"As someone who has made the transition from brokerage to management and has firsthand experience with how rewarding the transition can be, it is something I can speak to sincerely and with genuine enthusiasm. I want to be an ambassador for this industry as a whole and make other professionals aware of the rewards that come with being an overseer of assets."



**Phillip Quinones, CPM**  
Real Estate Manager  
Digital Realty  
Ashburn, Virginia

"I take the real estate industry seriously and continue to commit myself fully to it; by being recognized as part of the IREM 30 Under 30, I will be able to proudly display how my commitment has been recognized by the leading real estate community."



**China Reynolds, ARM**  
Assistant Manager  
Watermark Residential  
Zionsville, Indiana

"I believe hard work and honesty are rewarded, and this award validates that belief. The opportunity to engage with others in the industry will be a very exciting benefit of this program. The ability to learn from industry colleagues across companies, regions, and background experiences fits my approach to growth in my current position."



**Makayla Virden, Associate member**  
Brand Designer  
Blanton Turner, AMO  
Seattle, Washington

"To be awarded as a creative in the industry gives me and other professionals working in the creative space pride and recognition for the work we do. This recognition also shows that property management is an inclusive industry that recognizes and values all the dynamic functions that make it work."



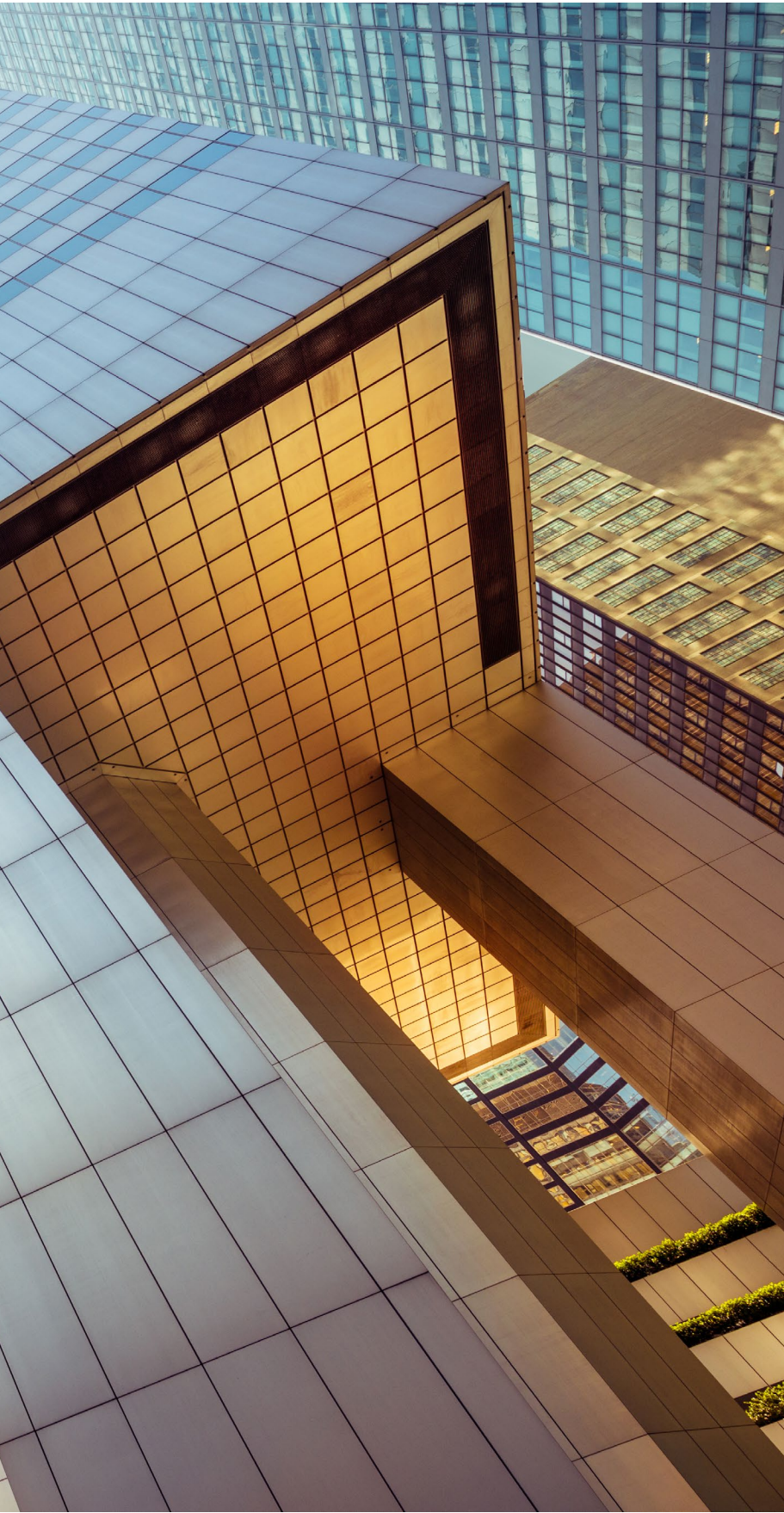
**Mary Witter, ARM**  
Property Manager  
Greystar, AMO  
Saint Louis, Missouri

"I feel that my unique history in real estate management has prepared me to be successful in our industry. Since I started my career at the ripe age of 21, I am completely flattered to now be recognized among all the other excellent professionals in our industry through IREM's 30 Under 30."



**Mengqi "Christine" Wu, CPM**  
Vice President of Asset Management  
Hehui Capital Management (HCM)  
Shanghai, China

"To be chosen as part of IREM's 30 Under 30 is much more than a great honor and recognition of my achievements. It urges me to aim high and try my best to improve the development of our industry. In the future, I will keep learning, thinking, sharing, and always trying my best to create more value for our investors." ▀





# Future of leasing



Image: iStock.com/hiketerson

## Tips to thrive in an ever-changing environment

By Stacy Holden



**“***You need to introduce yourself before introducing the apartment—you need a face at the beginning of the experience.*

—Lisa Trosien, founder, Apartment All Stars

**As a property management professional,** you know from experience that business operations have changed considerably over the past year. Companies had to quickly pivot in order to accommodate work-from-home and social-distancing directives. Technology helped bridge the gaps that emerged in a very big way, especially for those working in leasing operations.

But as workers begin trickling back into offices and society slowly returns to business as usual, many leasing professionals are wondering if the changes implemented during the COVID-19 pandemic were temporary or are here to stay. And if these ultimately become lasting changes, what can we expect the future of leasing to look like?

To answer this, our team at AppFolio sat down with 25-year industry veteran Lisa Trosien, founder of **ApartmentExpert.com** and Apartment All Stars. Here's what Trosien had to say.

### Throw out the rulebook

Trosien understands that very few things in life are set in stone. That's why she

advises leasing professionals to start over and say, “You know what, we don't have to do it that way. We're going to do it virtually. Let's make it different, let's make it better.” With that said, there are some best practices you can implement to ensure your virtual tours are as impactful as possible.

### Make the apartment the star

“One of the biggest problems is when companies end up using their virtual tours as a creativity contest,” Trosien says. “You're taking the emphasis away from the apartment itself, which is what the customer actually wants to buy. If the customer is distracted by a bunch of different things, you're going to lose that focus on the product.”

While flashy editing can go a long way in certain instances, it's not necessarily the right priority when it comes to virtual showings. In fact, it can ultimately detract from the experience, as the virtual tour should replicate an in-person tour as much as possible. One long take, stabilized with a gimbal, is a simple way to provide the most true-to-life experience.

When it comes to adding music, make sure you're not violating any copyright laws, and you can clearly hear the leasing agent's voice against the music. This brings us to Lisa's next tip.

### Use a tour guide

“I think it's really important that a person introduces a virtual tour,” Trosien says. “You need to introduce yourself before introducing the apartment—you need a face at the beginning of the experience.”

People like to put a face with the product. It's human nature. But people also need to know what they are looking at. It's this combination of being personable while providing important information that ultimately closes deals.

Trosien explains, “We see virtual showings that range from overly creative virtual tours to videos that are completely silent except for the sounds of the shoes of the leasing professional as they clip-clop through the apartment and the jingle of jewelry or keys. There's no talk of, ‘This is our two-bedroom, two-bath Bradford apartment. It's available on floors one through five. Let's take a quick look!’ or ‘Here's the full-size washer and dryer. It's a Maytag; you're going to love it. Let's go into the master bedroom. It's 15 by 12.’ You don't necessarily have to fill the video with a ton of

Self-guided tours have proven to be an important and effective way for renters to remotely view apartments.

voiceover, but just some comments so that potential tenants know what they're looking at.”

### Flexibility is here to stay

In addition to an increasing emphasis on virtual channels, the future of leasing lies in flexibility. Self-guided tours have proven to be an important and effective way for renters to remotely view apartments. So, in lieu of a leasing assistant standing next to interested tenants answering any questions, it's vital to make sure that enough information is given from the get-go.

“Self-guided tours are great, but sometimes renters will enter the apartments for a viewing and they don't know how high the countertops are, they don't know what the dimensions in the room are, they don't know anything,” Trosien says. “There is often no signage whatsoever to explain to renters what they're seeing. Does this apartment face east, west, north, or south? We need to equip our customers with all the same necessary information.”

Whether using paper signage, digital signage, or augmented reality to provide details, Lisa makes it clear that, “You can never give them too much information.”

### Stacy Holden

has more than 20 years of experience in the real estate industry and is the senior director and industry principal with AppFolio Property Manager.





# Engaging the next generation

*The Student & Academic Advisory Board brings awareness to careers in real estate management*



Image: iStock.com/fizkes

**A**s IREM continues to build opportunities to engage the next generation and impact their success in the real estate management profession, who better to be ambassadors than our current members.

The Student & Academic Advisory Board provides guidance for strategies designed to grow relationships with academic institutions and their administration and students. The board comprises members who are passionate, skilled, and experienced, providing an array of knowledge to help maintain momentum in growing our student and academic member segments.

*Since 2017, student membership in IREM has increased by 200%.*

The board works in line with IREM's strategic plan to help increase awareness of the many career options that exist in the field of real estate management. Often, members share their stories of how they fell into the profession by chance, and we are working hard to make this a profession by choice. There are many career paths and opportunities available in real estate management, and through continued outreach to academic partners and students alike, we can make students aware of the opportunities available to them.

Student membership in IREM provides a bridge to the real estate management profession, showcasing IREM benefits in addition to connecting students with future involvement, career opportunities, and a robust global community of real estate management professionals.

Since 2017, student membership has increased by 200%. Relationships with academic institutions through grassroots outreach has been a major contributor to that growth.

To further showcase IREM's commitment to workforce development, student membership became free in 2021,

making it even more accessible and clearing the way for a great introduction to a future career.

Programs and services that enhance member benefits are key drivers of member retention. The Student & Academic Advisory Board provides strategic insights into the academic world to ensure that IREM programming remains relevant and valuable to this key audience.

This year, the board has helped identify both the 2021 Student of the Year as well as the 2021 Student Scholars. These programs are made possible thanks to a generous grant from the IREM Foundation. These students will attend the 2021 Global Summit in Las Vegas, where they will be recognized in person.

We also strive to support and engage with all students who attend the Global Summit each year by providing them with an on-site mentor at the conference. Every year, members of the board serve as these mentors and provide insights to students while conducting informational interviews to help them prepare for their future careers. We continue to receive fantastic feedback from students who attend the Global Summit, and we hope to create more opportunities for students to experience the annual conference in the future.

The positive impact of having a mentor guide students as they step into the workforce and learn how to best navigate the ins and outs of the professional world is unmatched. We recognize the importance of mentorship and the role it plays in supporting our next generation of real estate professionals, so we are exploring how IREM can create an environment where mentorship thrives. Students are the future of the real estate management profession, and it is up to us to help them see the vast opportunities and career paths available to them. As the board continues to discuss the goals of a mentorship program, we are developing the framework and the benefits, such as skill development and network expansion. We operate in a profession that thrives on relationships, so mentorships and networking play an influential role.

Since COVID-19 first put the "new" in front of normal, the virtual world has impacted students from not only a learning perspective, but also in how they formulate career insights, conduct job searches, and approach networking. In 2020, IREM developed and delivered three free webinars

We operate in a profession that thrives on relationships, so mentorships and networking play an influential role.

for students that featured high-profile panelists in the industry who shared their experiences, gave advice, and directly answered questions from webinar attendees. With the high number of attendees and positive feedback from students and our academic partners, we will deliver these same programs again in 2021—this time from our members who are in different areas of the real estate management profession.

These types of events are actionable items that IREM can commit to offering that will benefit students from various academic institutions. Every year, we plan to host a webinar entitled "Careers in Real Estate Management: What Students Need to Know," and we will also cover additional topics for other webinar offerings. We view these webinars as great opportunities for our members to see for themselves the direct impact of student engagement.

IREM remains committed to supporting and engaging the next generation of real estate management professionals, and we are grateful to our members who continue to work on behalf of IREM in bringing awareness to the career. The Student & Academic Advisory Board remains a valuable student resource and provides guidance through outreach to both students and academic partners, and it is developing tactics for the future that will further engage the next generation. ▀



# Conscious progress

*Anti-bias training is essential to diversity, equity, and inclusion*



& Inclusion Succession Initiative (DISI) leader. "We've all had very different experiences that have formed different biases. But once we see that we all have them, we can keep each other in check."

## Deleterious effects

Pamela Martin, ARM, a property manager for the Residences at Market Square East in Washington D.C., also provides training for unconscious bias and DE&I initiatives with her firm, Transparent Management Company. She says whenever she is asked if this training is really necessary, she points to the 2018 incident at Starbucks when two Black men were arrested for occupying a table while waiting for a friend. Backlash followed, and Starbucks was quick to close all of its company-owned stores for a day to begin unconscious bias training for its employees.

"It's a slippery slope—how you or your employees treat someone can lead to bad press or a legal situation," says Martin, an IREM Diversity Advisory Board member. "I can't imagine that any property management company can afford that type of exposure."

Adeayomi Adeyemi, CPM, community manager at Hazelview Properties in Winnipeg, Manitoba, says the risks and pitfalls are even greater than can be imagined. "There are ripple effects just by one action of unconscious bias," he says, noting some of the undesirable effects such as hindered growth, lack of diversity, and opportunity loss.

No diversity, equity, and inclusion (DE&I) initiative can be successful without thoroughly addressing unconscious—or implicit—bias. These are stereotypes or judgments that occur outside a person's conscious awareness about a group of people. They could be based on myriad characteristics, such as age, perceived gender, gender identity, religion, sexual orientation, weight, physical abilities, or disabilities, among others. Ultimately, any perception of a person or their in-group can shape the development of unconscious bias.

Examples include having a negative impression of a job candidate because you personally don't like the last company they worked for, or being resistant to renting to the next 24-year-old applicant after having a bad experience with a previous young resident.

Because these biases are unconscious and based on personal experiences, everyone has them, says Samantha Thornton, CPM, ARM, a community manager with Cortland in Austin, Texas. "The biggest thing about unconscious bias is that we all have it," says Thornton, a 2021 IREM Diversity



**“***You are essentially taking the thought process that someone may have had for most of their life, and you are completely retraining them.*

—Pamela Martin, ARM, Residences at Market Square East

Thornton adds that this level of reputation damage and bad reviews can be devastating. "It's a small world," she says, adding that unconscious bias during the hiring process can lead to passing on great talent. "You're missing out on great minds and new ways to make more money."

## Nip it in the bud

Anti-bias training is integral, but it is by no means a quick fix. Truly addressing unconscious bias means approaching it when it arises and being proactive with regular education. "You can't train enough in this area," Martin says. "You are essentially taking the thought process that someone may have had for most of their life, and you are completely retraining them."

To continue to reinforce anti-bias measures, she suggests quarterly trainings, which can include sensitivity training, group discussions, PowerPoint presentations, and examples that can help illustrate different unconscious bias scenarios.



**“***A lot of trust is placed in us, and executing in fairness starts from the culture in our respective real estate management companies.*

—Adeayomi Adeyemi, CPM, Hazelview Properties

"I would then have participants sign an agreement that they understood and that they are responsible," she says.

When an issue of unconscious bias pops up, it's important to address it immediately and with open dialogue. "You have to nip it in the bud, and call it what it is," Thornton says. "The more that you dance around it, the easier it is to be misunderstood. Ask, 'How could we have changed this? How could we do better?' You need to make them understand that it's not personal."

Committees and initiatives can also be a productive way to address unconscious bias. "I adore that my company has a DE&I initiative," Thornton says. "We can say, 'This policy seems a little weird. Can we rewrite it?' And then we do." Martin says more checks and balances within the hiring and employee review processes could also help eradicate cases of bias.

For companies that don't feel confident conducting their own trainings, there are a multitude of resources, experts, and training companies that can come in and educate employees. These trainings can give employees the tools needed to take a daily inventory of their own behaviors and biases.

"When a negative thought comes up, ask, 'Why do I think that?'" she says. "Why did I clutch my purse when that person got in the elevator? Why did I hope to get that restaurant server instead of the other?" It's all about mental training," Thornton agrees. "We have to have those questions in the back of our heads until the point that it's annoying," she says.

## A brighter future

Because such a great deal of confidence is placed in property managers as they oversee homes and businesses, Adeyemi says



**“***We've all had very different experiences that have formed different biases. But once we see that we all have them, we can keep each other in check.*

—Samantha Thornton, CPM, ARM, Cortland

these professionals have an even greater responsibility to overcome unconscious bias.

"It all starts with us: property managers," he says. "A lot of trust is placed in us, and executing in fairness starts from the culture in our respective real estate management companies. Unconscious bias is everywhere, but as property managers, we have to be conscious in all of our dealings because of the trust placed in us by the virtue of our noble profession. We, therefore, cannot see anyone as different or, more specifically, 'preferred' in our dealings."

With the many DE&I committees, initiatives, and training opportunities that have been created throughout the past few years, Martin is hopeful that these important conversations will continue. "It's 2021," she says. "Everyone has greatness within, and it's time for us to embrace that and move forward. There is no room for stereotypes and biases." ▀



# Reaching new heights

The importance of ESG for real estate managers



Image: iStock.com/Suebsiri

Experts see a connection between the growing importance of ESG and the rise in automation, especially as it relates to indoor air quality, HVAC, and water.

**J**PM spoke to Akshai Rao at Yardi about the rising importance of environmental, social, and governance (ESG) principles among commercial real estate owners and investors and the impacts of this movement on real estate managers. ESG has been on the rise for several years, but it gained remarkable positive momentum from both the disruptions to normal operations triggered by COVID-19 as well as a renewed urgency in the fight against climate change. Akshai weighs in on these issues.

**Why do you think ESG has become so important for some real estate owners and investors, and where do you see this focus on ESG taking the industry?**

**Akshai Rao:** I think there are three different factors driving a renewed interest and focus on ESG. The first is that investors themselves are placing more emphasis on ESG initiatives, ranging from environmental sustainability to social equity. With GRESB\* becoming the de facto benchmarking standard, there is now more uniformity in how to report on the current state of affairs, as well as initiatives to enable future advancements.

Secondly, there is now more tenant engagement around their own corporate footprints, which is driving more interest and expectation in the sustainability profile of the buildings in which they hold leases.

And finally, there seems to be a broader regulatory push being driven both by local governments upward and the federal government downward. If this push continues, it will be critical for owners/investors and tenants to collaborate on tracking both demand and consumption, as well as on taking actions to reduce consumption.

\*Formerly the Global Real Estate Sustainability Benchmark. GRESB assesses ESG performance for real estate investment portfolios.

**How can property managers carry out ESG principles at their properties? What tools are available to turn ESG into concrete actions?**

**AR:** When we speak with property managers and operations teams, we hear the desire to have transparent policies in place that outline specific goals and initiatives. Property managers are doing some really interesting things on their properties around sustainability and inclusiveness. What is now needed across portfolios is sharing these best practices and coupling them with insights gleaned from data. Depending on the objectives, this data can be extracted from the rich information available on utility invoices as well as through metering and technologies that integrate with the Internet of Things (IoT).

**What do you see as the connection between the rise in automation and the growing importance of ESG?**

**AR:** We are definitely seeing this connection, especially as it relates to HVAC, water, and indoor air quality (IAQ). From our perspective, the adoption of IoT and automation, especially in commercial properties, needs to result in something actionable, such as proactive work orders. With HVAC, water, and IAQ, there are valuable use cases enabled by IoT and automation



**“**  
*We continue to extend our core competencies around utility invoice processing, ENERGY STAR benchmarking, and in-building technology.*

— Akshai Rao, Yardi

## Sustainable support

Yardi graciously supports IREM with the Yardi Energy Efficiency Grant.

The grant has enabled IREM to develop and offer the IREM Certified Sustainable Property (CSP) program, which takes the mystery out of sustainability and ESG and provides practical, actionable steps to greener operations.

that will support both ESG and risk mitigation measures.

**What has this growing focus on ESG meant for Yardi as a company and for its various products and customers?**

**AR:** It has been very instructive speaking with our clients on their specific ESG plans, which in turn is helping us evolve the Yardi Pulse Suite. We continue to extend our core competencies around utility invoice processing, ENERGY STAR benchmarking, and in-building technology.

Our aim with the Pulse platform is to enable portfolio-level insights and reporting as well as tactical property-level actions. The Pulse Suite is already being used in thousands of properties across real estate markets. As our clients continue to progress their ESG initiatives, we intend to support them through our development roadmap. ▀





# The big shop

*Professional management is critical to the success of shopping centers*

By Sergey Khomenko, CPM

Around the world, 2020 was a difficult year for the retail real estate sector. While the COVID-19 pandemic revealed weaknesses in the retail category, it also highlighted promising trends and the need for qualified personnel, crisis management, and high-quality analytical research.

## Indications of change

2020 created a paradox for Ukrainian retail real estate. Due to restrictions during the pandemic, foot traffic at shopping centers in Ukraine decreased by 30%–40%. Despite this, retail turnover increased by 10.7% at the national level and by 12% in Kyiv. This positive dynamic for retail can be explained by changes in sales structure, the lack of opportunity to travel abroad, growing consumer interest in online shopping (which increased by around 25%), and the attraction of new consumer age groups.

The decline in foot traffic and the subsequent increase in vacancy, as well as a decrease in rental rates, most significantly affected older, obsolete shopping centers, which had serious conceptual flaws. The average vacancy rate in Kyiv rose to 13.4%. At the same time, shopping centers that had clearer concepts were able to maintain both vacancy rate and operating income at close to pre-crisis levels.

This confirms that the pandemic, like almost any external crisis, was not the main reason for the decrease in foot traffic and increase in vacancies—it only exacerbated an already difficult situation for shopping centers. More than 90% of such issues are not the result of external factors but of management errors. The main problems were, as always, inefficiency of personnel, incorrect priorities, and insufficient knowledge and experience. A decrease in the key performance indicators of a shopping center should be a clear signal for owners to seek the help of property management specialists.



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## The state of retail property in Ukraine

In a way, the COVID-19 pandemic has highlighted the current state of the retail real estate market in Ukraine. It is quite young compared to Western Europe and the United States. There are not many old shopping centers in Ukraine yet, and every year, developers build more shopping centers. The main task for retail real estate, then, is to ensure that these new shopping centers are properly organized to strengthen and distinguish their concepts, so they don't become obsolete.

With 20 years, 40 shopping centers, and nearly 10 million square feet worth of experience, the Ukrainian Trade Guild (UTG) has assisted shopping centers with the complete cycle of creation—from the initial formulation of a concept to the full management of a functioning shopping center. In our experience, we have found that the most difficult period for the development of any shopping center is the first year after opening.

For example, some stores end up not appealing to customers, while others quickly discover that they don't have appropriate resources and are forced to close. Often, the result is a significant adjustment of the tenant mix during the first year.

In parallel, in the first months of the new shopping center's operation, specialists from the maintenance team, security personnel, and other departments work together to eliminate flaws and customize the management features of a particular shopping center. Property management specialists can coordinate and manage the relationships among the shopping center's various staff departments and its retail tenants to form and implement an advertising campaign. Thus, we are able to fine-tune how the shopping center operates and increase its attractiveness for customers.

## Benefits of crisis management

Another popular property management service in Ukraine is stabilization management services; in other words, crisis management for shopping centers that have been in operation for a long time. This is a service for shopping center owners experiencing rapidly declining traffic, growing vacancy, and decreasing profits. In most cases, the existing management of the shopping center cannot solve such systemic problems on its own. In such a situation, they need a competent, critical outside perspective to provide new solutions to escape the crisis.

What are the advantages of involving experts in crisis management? The underlying reason for all business problems—shopping centers included—is lack of staff competence. In a growing market, almost any management actions will lead to positive results, but a crisis requires a quick response, flexibility, and nonstandard solutions. Diagnosing underlying issues of a shopping center's operation is a difficult task. To provide the kinds of crisis management services that we do at UTG, a company must be able to create a portrait of its shopping center. This means analyzing consumer activity, examining changes in the shopping center's needs, and identifying any management errors affecting the relationship between the property and its tenants. We perform these tasks daily.

Such a comprehensive analysis is possible only if specialists have significant volumes of statistical information based on a full understanding of industry developments, global trends, and the latest best practices. This is all in addition to regular communication with interested potential tenants or other new opportunities. It makes the most sense to outsource services like these to specialists.

Once we undertake this analysis, we use it to justify a change in strategic direction. External experts work with the shopping center's team to set up a new management system that will be more effective, and then conduct a technical audit to optimize costs and plan revenue growth.

This often results in changes to the number of staff members on the property management team as well as adjustments of their job functions.

## Post-pandemic retail

The end of pandemic-related quarantine restrictions provides excellent reassurance for retail tenants. Once we have done a detailed analysis and identified which retail segments have suffered the most, we can move forward with the replacement of tenants, including anchor tenants, if necessary.

This is especially true of the entertainment segment, where there was a significant loss of customers and participants in the market due to quarantine restrictions. Once again, specialists outside of the management company are going to be better positioned to locate new tenants and transform an unattractive section of a shopping center into one that all visitors want to see.

Property managers will also need to update marketing decisions in accordance with new trends. For example, before the pandemic, advertising inside public transportation was one of the leading formats; now, that method is less effective. People are now less likely to use public transportation, and the mood there is usually far from positive, so we need to find more effective tools for attracting visitors to the shopping center.

## Looking ahead

The outlook for shopping malls isn't entirely negative. Shopping centers have the ability to provide consumers with positive experiences that online services cannot match, and people still want to go to the mall despite the growing popularity of e-commerce.

Developers and management companies must provide visitors with a space where they can spend their time safely and in a meaningful way, experiencing positive emotions from shopping and high-quality services. Property management specialists are in a position to understand how to implement such a system and make a shopping center truly unique. ▀

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# No longer just a niche

## The growth of data centers

By Robert Fuller, CPM, CCIM, CDCMP, FMCI



Image: Stock.com/buzbuzer

**T**he increase in the number of data centers being developed, bought, and sold has exploded throughout the world, making this category of real estate one of the fastest growing relative to the existing stock of data centers. Indeed, data centers have come out of the shadows and stepped into the spotlight as a prominent asset type.

We learn in mathematics that a common denominator is a value that

is a multiple of all of the denominators of a set of multiple fractions (or traits, characteristics, or beliefs) and is common to or shared by all constituents of the group. By no means is it my intention to offer readers a lesson in mathematics. However, I would argue that "data centers" is the one category of all real estate classes that functions as the common denominator to all other property types.

From sole proprietorships to Fortune 1000 companies, virtually all sizes of real estate property management companies are dependent on data centers to some degree. Whether they are accessing applications, processing financial transactions, storing reams of data, sending digital messages, or simply making use of search engines, a data center is likely supporting their needs. This discussion will begin with a history of data centers and how this special type of building snuck up on the real estate industry. Or did it?

*Because of the similarities across asset types, a property manager experienced in other property types can successfully transition to managing data centers.*

### History of data centers

The placing of large mainframe computers in buildings spacious enough to accommodate them began in the 1940s. The information technology and associated IT equipment contained in these rooms required a significant amount of power and cooling. This only increased with the advent of the UNIX multitasking, multiuser operating systems in the 1970s. The development of the microcomputer industry in the 1980s was marked by minimal oversight and lacked organization, so careful attention was not paid to operating requirements.

Linux, which is an open-source operating system, supported the use of the burgeoning personal computer revolution and its particular operating systems. This gained even more popularity in the 1990s, then we all became familiar with servers, the term commonly used to describe the type of equipment housed in today's data centers. As networking equipment gradually became less expensive and standards for network-structured cabling were developed, it enabled a significant number of servers to be placed into a dedicated room of a building coined the "data center." The real explosion of data centers occurred during the dot-com bubble of 1997–2000, when companies across the board required faster internet connectivity and were racing against one another to establish their presence on the internet.

The now-ubiquitous data center, recognized as a distinct real estate asset, has been further characterized under various subcategories, some of which include cloud, edge, managed, enterprise, hyperscale, and co-location data centers. The determination as to which type of data center an organization will choose is based on the organization's size, capacity requirements, and projected future growth. In addition, security and access to information are essential to an organization when choosing a data center category. Like other classes of real estate, there are standard requirements of electricity, heating, ventilation & cooling (HVAC), security, janitorial services, and location. The importance of electricity and cooling is further emphasized by the tier rating system of data centers as defined by the Uptime Institute. They are rated by tiers numbered 1 through 4 based on the amount of electrical and HVAC redundancy, with Tier 4 having the most redundancy.

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### Managing the data center

Property management responsibilities for data centers include financial budgeting and asset management, electrical and HVAC maintenance, utilities or energy usage, environmental and regulatory requirements, life safety and security, and cleaning and janitorial. Unique to managing data centers is the importance of monitoring and reporting their utility usage and the amount of energy consumed on a timely basis to remain compliant with the demanding environmental and regulatory requirements placed on these properties. It is incumbent upon the property manager to pay close attention to these areas, as failure to do so will result in an inefficient and costly operation.

Because of the similarities across asset types, a property manager experienced in other property types can successfully transition to managing data centers. There are no credentialing or degree requirements to become a property or facility manager of data centers. However, there are certain designations specific to managing data centers, and having the foundation of a financial and mechanical background is extremely helpful.





worldwide last year. That same figure measures nearly 40% more than the electricity consumed by the entire United Kingdom in the same period.

This amount of energy consumption is anticipated to double every four years, making the effective utilization of renewable energy sources that much more important for data centers. The most well-known sources of renewables include wind energy and solar power. Wind energy has become a prominent source of renewable energy, and its use will increase as the technology advances. Scientists have long understood that the sun is the ultimate source of all energy on Earth, so it was only a matter of time before a viable way to capture this source of energy would be developed.

*Wind energy has become a prominent source of renewable energy, and its use will increase as the technology advances.*

#### Data center energy usage

There has been enormous growth in the adoption of devices using the internet, including mainframe servers, mobile phones, laptops, and desktop computers. Consequently, we have also seen an exponential rise in worldwide energy usage. Numerous research reports have cited that data centers in the U.S. alone use more than 90 billion kilowatt-hours of electricity a year, requiring roughly 34 giant (500 megawatt) coal-powered plants to produce this amount of electricity. Globally, data centers in 2020 used roughly 416 terawatts, which equates to about 3% of the total electricity consumed

These advancements in renewables have not resulted in the disappearance of coal as an energy source—it is still very much in use. According to the U.S. Environmental Protection Agency, in 2007, the information, communication, and technology (ICT) sector was estimated to be responsible for 2% of global carbon emissions, with data centers accounting for 14% of that ICT footprint. The property manager of a data center is in a position to reduce energy usage and drive up efficiency, thereby reducing energy costs and subsequently the data center's carbon footprint.

#### Deciding where to locate the data center

Data centers at their core are still a real estate asset, so the traditional considerations of land availability, cost, accessibility, and so on all remain key factors in deciding where to locate a data center. Other considerations include the cost of electrical utilities, the availability of a skilled workforce, and reliable large-capacity switches.

Like other property types, such as retail and industrial properties, data centers tend to be clustered together in the same geographical areas. Some of the major U.S. data center markets include Northern Virginia, Dallas/Fort Worth, Phoenix, Northern California, and New York/New Jersey, and their numbers will continue to grow exponentially.

#### The future of data centers

Virtually all companies make use of new technology in one form or another, resulting in data centers becoming one of the operational backbones of all industries, not to mention the increased use of smart phones, social media, and numerous other devices. Data centers are supported and maintained by a workforce that includes IT infrastructure professionals, software developers, IT security engineers, and server and cabling technicians. However, they are also supported by a traditional workforce, which includes accountants, marketing professionals, brokers and leasing agents, engineers, and, of course, on-site facility managers.

This bodes well for the future of data centers and the next generation of real estate professionals. This class of real estate asset is challenged by an existing aging workforce, so to ensure the long-term viability of data centers, it will become incumbent upon the industry to attract a younger generation of professionals to the role of data center property manager.

The future and appeal of the data center to a younger generation will occur by the industry continuing

efforts to support and encourage youth participation in STEM programs and International Data Center Day, as well as continuing to promote data centers as a distinct property and asset class. ▀

**Robert Fuller, CPM, CCIM, CDCMP, FMCI**, is a senior integrated facilities manager with CBRE, currently managing data centers in Philadelphia and New York City. He is an active member of IREM as a CPM and holds the additional designations of Certified Commercial Investment Member (CCIM), Certified Data Center Management Professional (CDCMP), and most recently the Foundations in Mission Critical Infrastructure (FMCI).



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Grove City

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Windsor at South Lamar, Austin



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From sole proprietorships to Fortune 1000 companies, virtually all sizes of real estate property management companies are dependent on data centers to some degree. P36



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“There are ripple effects just by one action of unconscious bias. P30

In a growing market, almost any management actions will lead to positive results, but a crisis requires a quick response, flexibility, and nonstandard solutions. P35

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I believe I am part of this transformation, and my story is proof that our industry evolves and flourishes when young people are empowered to bring a fresh perspective and act on it. P22



Image: iStock.com/PeterEtchells

The original idea for digital twins was born at NASA, back in the Apollo moon-landing era.

P9

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