



Corporate real estate in the 4th dimension

Virtual space is real

BY DAVID BOURKE, GUY MESSICK AND NEIL SCHNEIDER | MAY 2021

No year has affected the workplace as much as 2020. When the COVID-19 pandemic hit, many companies around the world scrambled to keep their operations running by deploying new and existing technologies – at a scale never previously achieved or tested – to enable fully remote working. As we advance into 2021 and look beyond to 2022, work is not expected to return to how it was before the pandemic (which is not necessarily a bad thing) but rather will evolve, requiring organizations to embrace leading-edge technologies and work philosophies that are more fluid, innovative, and effective. The implications for the corporate real estate (CRE) ecosystem are enormous, with the digital transformation taking hold and creating a new paradigm that unifies time and space in all its forms. In this article, we explore three potential scenarios to better understand the

possibilities of positioning extended reality's place within CRE's offering by augmenting physical space with virtual space, realizing the role and possibilities this 4th dimension can play.



Extended reality is here to stay

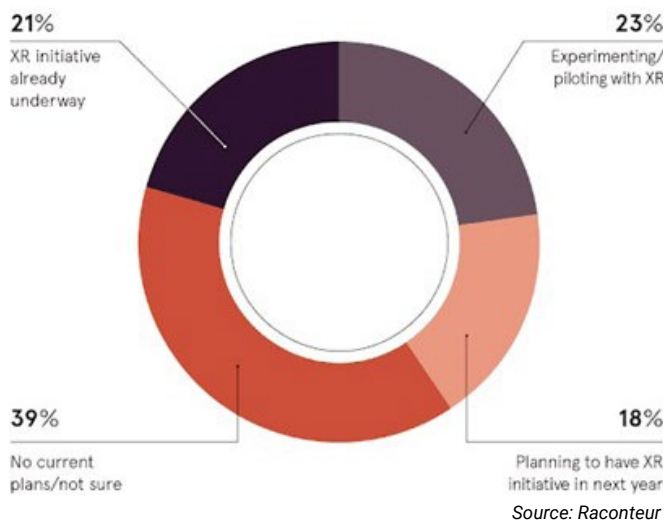
Extended reality, or XR, is the umbrella term for *all* immersive technologies, including augmented reality (AR), virtual reality (VR), and mixed reality (MR), plus those that have yet to be created. XR technologies quite literally extend the reality we experience by either merging the virtual

and physical worlds or by mixing the technologies (in a manner that best suits the users and goals) to create a fully immersive experience.

XR enables human connection in another dimension and is rapidly becoming a valuable tool to support business from a user perspective. We predict that it will impact how companies approach their space needs and portfolios in the future: CRE departments will not only be leasing and acquiring physical space but also managing, designing, and acquiring digital space, too.

The term “virtual reality” conjures many reactions: *it’s interesting but I’ll never wear those headsets; it’s next-gen stuff; it’s cool; it’s only for gamers; etc.* No matter your opinion, the market for XR technology is projected to surpass \$18 billion by 2023 and over a trillion dollars by 2035 – in the U.S. alone.

Current state of XR adoption



Why now

Today, the most common use of XR is for employee training. According to the 2018 World Economic Forum’s [Future of Jobs report](#), 54 percent of employees at large organizations need significant re- and up-skilling to manage transformational changes like machine learning. Virtual and augmented reality technologies that enable sophisticated and widely distributable training scenarios are the most efficient and effective way to do so. That’s why more than half of medium and large businesses in advanced

economies will adopt AR/VR technology by 2025, as [CCS Insights predicts](#).

Many already have. For example, Facebook introduced the new Oculus for Business platform. Companies including Johnson & Johnson and Nestle Purina are [using VR in the workplace](#) for essential tasks like training surgeons and improving retail planning. Government workforce agencies, such as AIDT in Alabama, [are turning to VR](#) to help provide skill training and propel high-potential unemployed people into viable new careers.

A [PwC study found](#) that workers trained via a VR platform learned four times faster than those who received more traditional training, were 275 percent more confident in applying their new skills, were 3.75 times more emotionally connected to each other, and were four times more focused. The study also found that as learners scale, VR training becomes more cost-effective than traditional methods. And it is quickly gaining sophistication. Another reason companies are adopting XR is to enhance the consumer experience and engage new audiences in meaningful ways. We see this with retail brands who are now offering AR shopping tools such as augmented reality ads on social media and other platforms

Similarly, XR training and experiences are becoming prevalent in the workplace. Given how the interaction between digital and physical worlds is constantly evolving, it will not be long before these technologies become pervasive in our personal lives as well and people will interact with the virtual and real worlds in a seamless, frictionless, continuous, and intuitive way, bringing user engagement and expectation to an entirely new level and dimension.

From a CRE perspective, XR is not yet being treated as the valuable workspace asset that it is. According to Nareit, the market size of the U.S. commercial real estate industry, measured by revenue, was \$2.5 trillion in 2018. Every company spends a tremendous amount of time planning, designing, and constructing their physical space to support its culture and brand and to give their employees a great experience. People want choice and flexibility; teams are distributed and supporting a company’s culture is more important than ever. So, who should be responsible for

providing and creating virtual spaces to keep people empowered, connected, and productive across the enterprise if not CRE? And if XR space is the responsibility of CRE, then how will it be accounted for, tracked, and managed, and what impact will the adoption of digital space have on leasing decisions moving forward? An XR department/position would ideally need to be created to support this portfolio, to work with the organization and consultants, and to ensure the experience within a space – in all its forms and dimensions – is seamless.

The potential benefits of adapting XR to the workplace could include higher productivity; better inclusion of key talent; increased training and connection; improved support of sustainability, inclusivity, and wellness goals; reduce travel; and enhancement of the overall human experience.

To better understand how CRE could use XR to achieve the aforementioned goals, and to illustrate how XR is currently being utilized to augment the physical workspace, we outlined three scenarios that are based on recent experience – both internally and with our clients:

Scenario 1: digital twin

In this model, the designer creates a digital replica of the client's physical space. This allows employees in the office, at home, on the road, and in various places around the country and the world to come together (not limited by location) to meet in a shared "familiar virtual space" to interact, learn, and brainstorm, as if they were in the same physical room together.

Envision an employee entering the "same" office visited in person many times before being greeted at reception. The employee joins colleagues in a meeting room to present the team's progress on a new product prototype to their client, whose reaction, feedback, and approval is critical to moving to the next phase. During a 10 a.m. break in the three-hour meeting, the employee has a scheduled sidebar conversation with an engineer about another matter.

The amazing thing is that this is not a hypothetical scenario, but an actual solution implemented for one of our clients. Those participating in the meeting were in multiple locations; the "place" they were meeting was virtual. Augmented reality was deployed to present the prototype

“From the design standpoint, the great advantage of XR is to experience the space in person: feeling the volumes, observing the focal points, digesting the voids, testing clearances, and ‘living’ the space like it is real. Great design gives you an emotional experience, a natural instinctive state of mind deriving from one’s surroundings and relationships with others.”

***– Pietro Silva, design director,
IA Interior Architects***

to the client, and all the feedback was documented and captured digitally in a secured environment. During the break, the employee left the virtual space by removing a headset and connected with the engineer in a physical office to discuss another matter before returning to the "virtual meeting space" to re-join the client and colleagues.

Scenario 2: workforce inclusivity model

A confidential organization headquartered in a major metropolitan area operates in 50 countries. Its CRE department has been challenged to reduce travel, create and implement new workplace standards that include providing for a virtual experience, and ensure that its

65,000-person workforce feels supported and connected to their colleagues and the ideals of the brand.

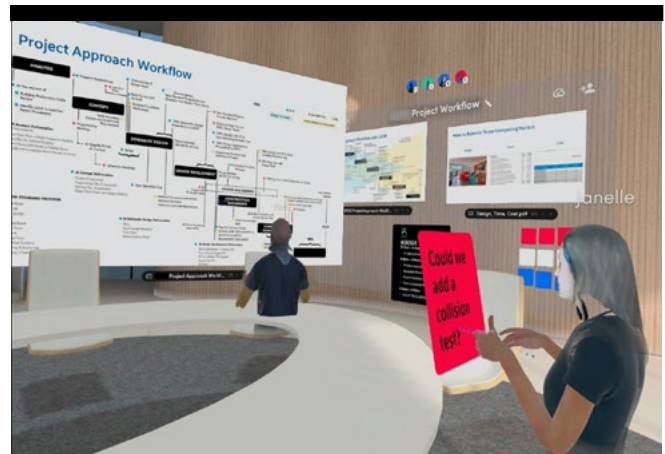
A significant number of employees have been working from home during the pandemic and are, in some cases, feeling disengaged from the company and the culture it has deliberately fostered. The company sought to provide the workforce a richer experience, create inclusive environments, connect people, and support organizational goals to recruit and retain the best talent. While demanding that everyone return to the office would not likely create this desired outcome, providing fourth-dimension options, instead, by deploying XR along with physical space could satisfy many needs. That is the route the company chose.

The CRE team documented the entire portfolio of existing spaces and determined that when a lease was coming due and a new space was being designed it would be created in both a physical and digital format. While the digital “twin” does not need to adhere to the rules around physics, jurisdictions, or codes, it did need to reflect the physical location’s branding and cultural cues. The company would provide all staffers access to the virtual space as a way to introduce the new workplace being deployed regionally. It would also develop digital environments to host townhall meetings in as well as campus environments for hanging out and spending time with colleagues or just enjoying some downtime.

Throughout the process, the CRE team, which was globally dispersed, walked the talk by engaging with all parties in XR, reducing the need for travel and solving problems efficiently and accurately on multiple assignments simultaneously. User access and setup needed to be easy for all, so providing a range of options to access this virtual space was important. Team members could participate using headsets, desktops, tablets, or smartphones.

Deploying this strategy required an extensive change-management process to introduce everyone to the new possibilities. In addition to a laptop and smartphone, each employee was given a headset and was trained how to select an avatar, enter the office, join meetings, and operate inside.

The results were spectacular. By embracing XR, the real estate team achieved its goal of connecting and engaging



people in ways that support the brand, culture, and productivity of its people. The company also expanded its global portfolio, which now covers 5 million square feet (464,516 sq. m.) of physical space and 20 virtual spaces.

A relevant and comprehensive study three years ago by Microsoft, in partnership [with Harvard Business Review Analytic Services](#), highlights some interesting findings. In reporting on the study’s findings, Lorraine Bardeen, general manager of Mixed Reality Workplace at Microsoft, said the study revealed that 87 percent of respondents were “currently exploring, piloting, or deploying MR in their company workflows.” Similarly, she wrote, “68 percent of respondents believe that mixed reality will play an important role in helping to achieve their companies’ strategic goals over the next 18 months.” A majority of those surveyed were convinced that the new technology would help them “improve training, productivity, and customer satisfaction, particularly in the areas of remote assistance, data visualization, sales, collaboration, inspection, and repairs in diverse business verticals.” The study concluded that companies “can yield significant savings (i.e., profits) by augmenting their workforce.”

Scenario 3: the fantastical

What if we really want to stretch and take people to a place that is totally unique and full of fantastical elements, providing an experience that supports brand, culture, and innovation – and that tells the story your company is trying to convey? This is the antithesis of the digital-twin scenario; here, XR is bringing people into a place that cannot exist in the physical world. This is a significantly different



experience than you would have at the typical workplace; in this scenario, the spaces need to allow the presentations and personal interactions expected from such events and go far beyond to create an unforgettable experience for all. To realize this hypothetical scenario, we are adopting a meeting-floor layout to an open, inviting plan and placing it in a fantasy forest with birds flying and campfires crackling, and with event-specific graphics and features. This scenario demonstrates how the creation of new, high-value branded real estate is both feasible and required to best serve clients. Teams could even set up XR booths within such an environment to allow guests an immersive XR experience to demonstrate how new products or retail design could work for a company.

“I have long struggled to find the best way to brainstorm and develop new ideas with my team when we are all working remotely,” said Jan Amtrup, senior director of data science at Capital One. “Interactivity is key and being in the same room with your co-workers makes all the difference. Traditional methods of remote collaboration ease some of the pain, but extended reality steps up the experience several levels. The combination of VR technology and the

modeling of realistic spaces creates a setting that boosts creativity and productivity by feeling almost actual, allowing genuine interaction – extending physics in a thoughtful way can be very helpful. All of a sudden, you are in the same room with your colleagues again. It was surprising and comforting to see spaces that IA has designed for us in the physical world appear in virtual reality, to experience how the wisdom of architecture and cutting-edge technology can combine to help teams work better.”

Closing

While organizations are focused on a post-pandemic world, a new paradigm is likely to emerge that will be nothing like it is today. How people work and interact with one another might change and, as such, how CRE teams respond, plan, and manage workspaces will likely be different, too. XR does not take the place of the physical environment but, as mentioned in the scenarios, XR can be incredibly useful and the adoption by CRE presents opportunities and new challenges.

XR technology has similarities to the built environment in that it requires work to be cross-disciplinary. The gaming

industry has been most active in this space but creating environments that are functionally sound lends itself to real estate professionals, architects and designers, and AV, lighting, and sound engineers to create environments that are well thought-out from a brand, culture, and experiential perspective. IT is a critical partner providing the right infrastructure and security policies to manage XR platforms.

As we bridge the physical and digital experience, the possibility of having a purpose-driven way to connect, support, train, and educate employees and clients alike will increase exponentially. Immersive technologies are providing new opportunities. Given CRE's role with experiencing space in all its forms, exploring the 4th dimension should be considered.



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