



Maintaining the Value of Your Real Estate in the Post-Pandemic World

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Executive Summary

The world of commercial real estate is changing, driven by expectations for greater energy efficiency, a healthier working environment, and a better occupant experience that helps attract and retain tenants. The recent pandemic has revealed new challenges and demands for optimizing building performance during extended periods of low occupancy, and then safely restarting while accommodating new workplace rules.

This paper discusses how smart, connected technologies and advisory services help owners and operators meet the challenges of the 'new normal' of today and tomorrow by helping ensure occupant well-being, simplifying space management, and offering a more engaging experience, while facility teams remotely manage building systems for greater efficiency and reliability.

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The adoption of technology in commercial buildings has at times raised questions about whether it makes financial sense and also about data activation. Market solutions were seen as only 'nice to have', was possibly the general feeling. With what we have experienced, **the new paradigm is: if technology can help in any way create more sustainability as well as convenience and wellbeing in a commercial building, then it's a must-have.** Technology is also important in the decision-making process for companies looking to rent space, as well as for employees choosing which company to work for. All in all, it's great news for an accelerated adoption of the right technologies.”

Nicolas Kozubek
Director, Propel by MIPIM

Introduction

The global commercial real estate market is facing greater challenges than it has ever seen before. Developers, investors, and owners will increasingly need to use a combination of strategies to differentiate their property assets, strengthening characteristics that business owners and employees find the most attractive. This goes beyond common amenities – like gyms and childcare – to include buildings that are greener, healthier, and provide occupant services and conveniences.

Adding to this challenge, the recent global pandemic has impacted the operations, revenues, and lives of building owners, tenants, and workers. Global consulting firm WSP estimates that “inevitably there will be a reduction in occupier demand, though it will vary from sector to sector.”¹

But the pandemic has also revealed some weaknesses in building infrastructures and management:

- The difficulty of remotely managing building operations and optimizing performance during a period of forced low occupancy
- The new challenge of reopening buildings safely for occupants while optimizing efficiency and costs

At this convergence of events, connected building technologies and services offer commercial building stakeholders a unique opportunity. Whether part of new designs or retrofit, these solutions will differentiate properties, simplify the return-to-work transition, and help owners and tenants meet their business goals well into the future.

A greener path forward

As reported by the UN Environment Programme (UNEP), “Buildings use about 40% of global energy ... and they emit approximately 1/3 of GHG emissions.”² If we look at commercial buildings specifically, they consumed approximately “18% of all energy in the U.S. in 2018.”³ Greater than 30% of that energy was wasted.

Clearly there is a massive opportunity for building owners and operators to reduce energy-related operating costs and emissions. This not only supports greater sustainability, it helps boost profits. It also helps in establishing a ‘greener’ image. According to a survey of 1000 U.S. workers, “Almost three-quarters of employees said they would be more likely to work for a company with a green footprint” while “70% said [sustainability] would impact their decision to stay with a company for the long haul.”⁴

“Energy consumption in buildings can be reduced by 30 to 80% using proven and commercially available technologies.”

UN Environment Programme

¹ ‘How Will Covid-19 Change Demand For Office Space?’, WSP, 2020

² ‘Energy Efficiency for Buildings’, UNEP

³ Commercial Buildings Factsheet 2019, University of Michigan

⁴ ‘Green companies make the greenest pastures, report says’, HR Dive, 2019



Fortunately, optimizing energy performance is achievable with the right tools. UNEP recognizes that, “energy consumption in buildings can be reduced by 30 to 80% using proven and commercially available technologies.”

A healthier workplace

The conversation around ‘healthy buildings’ has been developing in recent years. Meike Borchers, Wellness Specialist at WSP explains, “The top-down driver is that for building owners, wellness has become a way of attracting big tenants. And for the tenants, occupying a building designed for wellness has become a way of attracting and retaining the best staff.”⁵

The healthy building concept is influencing green building standards like LEED, which now incorporates guidelines for indoor environmental quality, health impacts of materials, ventilation, etc. Dedicated building health standards and certifications – such as WELL and Fitwel – are also growing in popularity. With the pandemic making occupant health a top-of-mind concern, we can expect these standards to be adopted at a greater rate.

This trend will not only help make companies more attractive to top talent, it will also boost asset value. As quoted in FacilitiesNet, Paul Scialla, founder of the International WELL Building Institute said, “**The pandemic is really bringing the importance of health and wellness front and center ... There is clear evidence that buildings that make health and wellness a centerpiece are simply worth more.**”⁶

Smart building technologies and advisory services can help facility teams more efficiently and effectively manage the new requirements for indoor environments to optimize occupant well-being.

⁵ ‘The Pursuit Of Wellness: Designing Healthy Buildings’, The Possible

⁶ ‘Health and Wellness Will Be the New Normal of Office Buildings’, FacilitiesNet, 2020

A better experience

A study by Deloitte concluded that “In a digital world with increasing transparency and the growing influence of Millennials, employees expect a productive, engaging, enjoyable work experience.”⁷ The study notes emerging digital and mobile tools that can help enhance that experience, including productivity and collaboration apps, as well as self-service platforms. Michael George of Appirio says, “If you want folks to stick around you’d better at least match the kind of tools and technology on the job that they have access to at home,” and that “employee engagement is a critical piece of Workplace 2020, as the workforce becomes more and more globally distributed and isolated from both the ‘corporate office’ and each other.”⁸

In the short term, as building owners and tenants prepare for the safe reopening of their buildings, it is crucial that employees and customers be kept well informed. Digital tools will be an important part of this equation. These same tools can help make the workplace experience more engaging going forward.

Future-ready for efficiency, people, and productivity

As part of the Schneider Electric™ vision for ‘buildings of the future’, we believe that every building will need to be sustainable, hyper-efficient, thoughtfully designed for people – with a focus on health, comfort and productivity – and more resilient. One of the foundations of achieving these goals is all-digital, connected system infrastructures.

Taking advantage of this connectivity, smart technologies and expert services give visibility to operation and maintenance teams, helping them eliminate waste and tap into all the opportunities to improve building efficiency, reliability, and sustainability. They also deliver the insights needed for facility managers to ensure a healthy building, and the engagement platform needed to provide the digital conveniences, community, and personalized solutions that improve occupant experience and satisfaction. The good news is that all of these smart building capabilities are available today and can be affordably retrofit to existing commercial buildings.

“Practically overnight, physical distancing and the lockdown of physical spaces have magnified the importance of digitization, particularly by measures such as tenant and customer experience.”⁹

McKinsey & Company

⁷ ‘The employee experience: Culture, engagement, and beyond’, Deloitte, 2017

⁸ ‘Workplace 2020: Sourcing Talent for the Workplace of the Future’, Wired, 2020

⁹ ‘Commercial real estate must do more than merely adapt to coronavirus’, McKinsey, 2020

Preparing for the return to the office, and beyond

In summary, optimizing building performance, health, and experience will benefit commercial real estate owners and tenants today, while future-proofing their buildings.

In that context, stakeholders can make the best decisions in using connected technologies and services to prepare their buildings for reopening. Deloitte proposes that **“companies can start recovering by learning from the current pandemic and taking targeted measures to emerge stronger in the medium-term. Having an effective and structured plan to transition back ... could be a differentiator. [CRE companies should] accelerate technology usage to make more informed decisions, drive efficiency, and improve tenant experience.”**¹⁰

To support the transition from low to full or partial occupancy, four key areas of action need to be addressed:



Occupant well-being



Occupant engagement



Space management



Operational efficiency

The remainder of this paper offers detailed guidance on each of these requirements and the tools that can help.

¹⁰ “COVID-19 implications for commercial real estate – Preparing for the “next normal””, Deloitte, 2020

Occupant well-being

The concept of *sick building syndrome* has been a concern for building owners, operators, and occupants for many decades, with problems often attributed to inadequate HVAC performance or building maintenance. Today, strategies to ensure *healthy buildings* encompass a broader range of characteristics affecting the indoor environment. Building owners and operators can enhance the well-being of their building occupants and increase their productivity. The health of the indoor environment can be improved through better and more autonomous control of the environment.

Improve occupant comfort and safety

In summary, optimizing building performance, health, and experience will benefit commercial real estate owners and tenants today, while future-proofing their buildings. The newest connected building systems and advisory services will continuously collect sensor data to help monitor health and comfort-related conditions across every zone of the building, including airflow, fresh air, temperature, and humidity. This will help ensure the building is operating to the designed specifications, as well as complying with optimal levels recommended by organizations such as ASHRAE, EPA, or CIBSE.

Adequate air circulation across the building can be confirmed, while indoor air quality – e.g. CO₂, volatile organic compound (VOC) and odor levels – can be monitored, especially where employees gather. If poor air circulation or changes in parameters like humidity are detected, the building management system can respond and make immediate adjustments as necessary.

Other factors affecting occupant well-being, such as noise pollution and light levels, can also be tracked so that the comfort and productivity of the working environment can be further optimized.

The U.S. Environmental Protection Agency reports that “concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors. VOCs are emitted by a wide array of products numbering in the thousands.”¹¹ This can include cleaners and disinfectants used in an office environment. Due to the pandemic, more frequent surface cleaning using disinfectants is being recommended by national and local health authorities. This may increase levels of VOCs in the workplace.

Drive use-based cleaning

Tracking occupancy and under-desk sensor data can help determine how often a space is occupied. Cleaning resources can then be directed to focus only on areas that have been used, and to clean amenities only after usage crosses set thresholds.

Ensuring cleaning crews clean the right places at the right time improves efficiency by avoiding areas that do not need it.

¹¹ 'Volatile Organic Compounds' Impact on Indoor Air Quality', U.S. EPA

Space management

Businesses need to comply with new safe distancing rules. At the same time, it's important to adapt space so that people can work efficiently. Space management software and workplace advisory services help ensure safe distancing, the ability to monitor occupancy levels, and to quickly modify the office layout when changes are needed.

Monitor occupancy levels

Today, owners and operators will have to predetermine and apply capacity thresholds to accommodate the new office requirements. Occupancy sensors and space management tools can measure people-counts in different areas throughout the building in real-time. You can set capacity thresholds, so the system sends an alarm when occupancy for a room, floor or building is exceeding limits.

Ensure safe distancing

Ensuring safe distancing may seem like an impossible task in a busy office environment. Occupancy monitoring can help by continuously monitoring occupancy levels in real-time in each area to ensure occupants are following distancing guidelines. Occupancy thresholds can also be used to control access to floors, rooms, or common areas like a cafeteria. This can help avoid overcrowding and keep occupants distanced.

Adapt office layout

With social distancing and occupancy limits in place, there will also be a need to analyze how individual and meeting spaces are being used. Software can help identify new occupancy patterns and how occupants are using individual and collaborative spaces. This will help determine when a change in layout, workplace mix, or interim policy change is needed for specific usage areas.

Underutilized desks, offices, meeting rooms, or amenities can be quickly identified and reallocated as necessary. Data on usage and evolving headcount can drive changes to the layout of flexible versus fixed desks, while employees can be given app-based access to see available spaces in real-time to support office hoteling.

Occupant engagement

Prior to the pandemic, the need to effectively engage with occupants was becoming increasingly more important as the expectations for workplace conveniences and services rose. Post pandemic, high-levels of engagement with employees is a necessity.

With tenants and their employees returning, it's important that the building owner or facility management team have an immediate and effective way to communicate site information, policies, and how space can be used. The newest engagement apps can give owners and operators a direct line of communication to an occupant's mobile device.

Communicate critical updates

Occupant engagement tools will help building stakeholders communicate effectively, right to a person's phone. The entire workforce can be kept informed on latest company updates while employees can be selectively notified based on roles or teams in the organization.

Deliver digital services and key site information

Enable access to critical digital services in a unified app for teams returning to the office and those working from home. Employers can set up selective notifications based on roles or teams. Mobile apps can help keep everyone informed about company updates and information about workspace usage or changes.

Navigate the new office post COVID-19 policy

Provide a view of occupancy levels and available 'safe' spaces across each floor and determine where to sit. This will help ease navigation under new policies and get people to where they need to go faster. These tools can also help avoid areas that may currently be over-occupied, such as lineups in elevator lobbies.

Make occupant engagement a differentiator

With the rise of smart and green buildings, end-users now have more choice. They expect ubiquitous connectivity with highly customizable, app-based environments where they can control their workplace experience. To stay competitive, building stakeholders need to begin delivering engaging, personalized environments for their occupants.

The newest engagement platforms give occupants access to digital tools that let them control their own thermostats, lighting, access control, and parking preferences. They can also reserve a meeting room or stay connected to community events.

Operational efficiency

While people safety is a top priority, it's also important to maintain building and operational efficiency. After personnel, building maintenance and operations is the second biggest expense in a commercial building. Many organizations may also be challenged by limited resources or loss of facility expertise due to retirement. With a digital infrastructure that integrates building and power management, along with the support of building advisory services, building owners and operators can use data to make better decisions, improve equipment performance, and help personnel do more with less.

Data from smart devices is analyzed at the facility level and in the cloud, enabling more autonomous and proactive approaches to operations and maintenance. Integration with a building information model (BIM) enables the entire building to be mapped and structured in a way that enables informed decision-making and rapid issue resolution. This helps lower operating costs while enhancing the resiliency of a building.

Optimize HVAC & energy

Smart tools use vast amounts of building performance data to enable opportunity and risk analysis. Power and building systems are then managed in flexible ways to continually rebalance and optimize the way the building operates in response to conditions.

An additional benefit of measuring how space is used and monitoring occupancy levels is how the information can be used to optimize building management. The right HVAC and energy levels can be pre-determined for maximum or low occupancy to save the most energy while ensuring occupant comfort. By analyzing target versus actual occupancy levels, setpoints for HVAC can be adjusted where needed to reduce energy consumption. Equipment analytics can compare HVAC performance against design specifications to verify proper operation, while airflow, pressure, temperature, and humidity are monitored to maintain a healthy work environment.



Reduce the number of physical site inspections

During a crisis, access to a facility may be severely restricted. The majority of a building's operations should be able to be performed remotely, allowing for preparedness regardless of on-site presence. This kind of control is enabled by the integration of power, building and IT infrastructures, delivering the right information, at the right time, to the people that need it. During and after COVID-19, the efficiency of facility personnel can be improved by reducing the number of site visits.

This can be accomplished in two ways. First, remote monitoring and automated fault detection can reduce the need for planned preventative maintenance (PPM) checks, without compromising site reliability.

Second, monitoring and comparing the real-world performance of HVAC equipment against a 'digital twin' will identify when and where intervention is required. Using remote root cause analysis and problem correction can fix about 80% of problems.

Reduce time spent on site identifying issues

Automated deep equipment diagnostics takes the guess work out of troubleshooting by isolating root causes and potential consequences of malfunctioning equipment.

This analysis can be done well ahead of any service visit. It will reduce potential harm, as well as greatly reducing the on-site time and cost. The technician will already know what equipment requires attention, its cause of failure, and the actions to take to quickly resolve the issue.

Improve resilience over the building lifecycle

A business is most efficient when it is fully operational, without any downtime. This is true for building owners and tenants. A building that is resilient against risks will operate reliably without interruption. Resilience includes meeting critical safety standards. Connected building technologies and services help protect building occupants from electrical fire risks while safeguarding facility teams during operation and maintenance.

Resilience also includes supporting the highest levels of building systems reliability. A digitized infrastructure will help facility teams and expert advisors identify equipment issues before they become problems, minimizing potential disruptions. The newest analytics also enable better predictability of when a system or piece of equipment will fail or require maintenance. This predictive maintenance approach can be more effective and help save significant time and costs over traditional preventative service scheduling.

Conclusion

Commercial building developers, investors, and owners need to face a future with greater competition. This is further complicated by the challenge of getting ready and operating a building in a COVID-19 world.

The newest connected building technologies and advisory services offer all building stakeholders a unique opportunity to meet the challenges of today and tomorrow. These solutions will help meet all new requirements for ensuring occupant well-being and dynamically managing the use of building space. They also help create a more engaging, personalized experience for the returning workforce. These new capabilities will be married with greater operational efficiency.

The sum of these new strengths will offer commercial buildings a powerful differentiator in the real estate market. As recognized in a recent report by professional services firm JLL, “Over the short term, the adoption of new technologies will both facilitate remote working and also ensure workers’ well-being and efficiency on their return to office buildings. Over the longer term, occupier demand is expected to gravitate toward technology heavy smart office buildings, reflecting their ability to support companies’ environmental, sustainability, health and wellness initiatives.”¹²

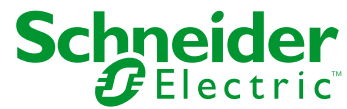
Ultimately, augmenting property portfolios now with connectivity, smart technologies, and expert services will make buildings future-ready, on a direct path to being hyper-efficient, healthy, engaging, productive, and resilient – ultimately contributing to building value.



Produced in collaboration with Propel by MIPIM

¹² 'The future of global office demand', JLL, 2020

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