

10 Predictions For Smart Building Technology In 2021 And Beyond

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This report explores the key trends that will impact the smart building space in 2021 and beyond. It builds on the research conducted by Verdantix over the last year. The report addresses the major trends that are expected to influence the smart building technology market in the next 12 months and beyond, enveloping many of the influencing factors in this space, including the effects of the COVID-19 pandemic. What will be the key objectives of building managers? Which technology areas will see strong levels of investment? How will integrated platform solutions fare?

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ORGANIZATIONS MENTIONED

Accu-Tech, Bentley Systems, EdgePresence, Enchanted Rock, Frasers Property, Granite Properties, H-E-B, IBM, Microsoft, SAP, Schneider Electric, Siemens, Sodexo, SoFi Stadium, The Commercial Park Group, Willow.

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Every year, Verdantix analysts aim to challenge executives' assumptions by presenting predictions for the next 12 months. To understand the key trends that will impact different segments across the smart building market in 2021, Verdantix assessed competitive dynamics, innovation trends and corporate strategies. Verdantix forecasts that:

1) 2021 will see a shakeout of COVID-19 solutions, as buyers look beyond the pandemic.

In 2020 smart building technology providers launched a huge range of products aimed at COVID-19 management, such as air filtration systems and visitor management modules for contact tracing. With many expecting the widescale distribution of a vaccine in 2021, corporate facility executives are already adopting a cautious stance towards investing in solutions focused on pandemic management. We predict that corporate facility managers will continue to invest in COVID-19 management technologies that offer value beyond the pandemic, such as space utilization sensors and remote management products. However, buyer interest will quickly fade for solutions highly focused on pandemic management, such as thermal imaging cameras or wearables to track social distancing.

2) Building electrification will gain momentum, through corporate energy management strategies.

The electrification of buildings – the shift away from gas to heat and power buildings – has been gathering pace for years. The trend is being driven by country-level carbon reduction targets, the rise of solar and EVs, and regulation in US cities such as Brookline, in Massachusetts, and Berkeley, banning gas hook-ups in new construction. In 2021 the trend will gain new momentum, as firms accelerate programmes to decarbonize their heating systems and look to benefit from the strong business case for using heat pumps to heat their buildings. Energy services firms have revealed to Verdantix that clients are launching new programmes to 'de-gasify estates', changing their gas-fired CHP into backup generation and installing heat pumps that require low levels of ongoing maintenance.

3) IWMS providers will relaunch acquisition strategies.

Just when it looked like a wave of M&A was coming to an end in the IWMS sector, 2021 will see suppliers embark on a new slew of acquisitions, to grow their customer bases and extend their software capabilities. IWMS providers will seek to take advantage of new acquisition opportunities arising from the 2020 recession – driving deal premiums down and making new acquisitions targets available. Unlike the previous flurry of activity that focused on room and space booking specialists, IWMS providers will buy up a broader set of software suppliers, including those providing capital planning and maintenance management software, to bring them customers in new industries.

4) FM and HR executives will finally come together to launch return-to-work programmes.

Traditionally, facilities management (FM) and human resources (HR) departments have worked in an independent manner, with little collaboration on policy or technology decisions. The pandemic is driving a sea change in the way firms operate, with goals amongst FM and HR aligning around crisis management and a successful return to work. In 2020, COVID-19 taskforces brought these teams together temporarily, as in SAP's Global Pandemic Task Force, made up of executives from HR, FM, travel and security. In 2021 the emphasis on the employee experience will see these groups continue to work together, making more informed multilateral decisions on policies and investment – including considering employee feedback – to support a successful return to the office and new working models in the future.

- 5) **Employee engagement apps will be the hottest battleground for smart office software providers.** Even though many facility managers have put strategic programmes on hold amidst budget cuts, 40% of firms are planning to increase spending on workplace software in 2021 (see [Verdantix Global Corporate Survey 2020: Smart Building Technology Budgets, Priorities & Preferences](#)). Firms will invest in workplace apps that aid the easier pre-booking of workstations, as they slowly bring employees back to the workplace. With a rush of deals and an increasingly competitive supplier landscape, we predict that employee engagement apps will be the hottest battleground between smart office software providers in 2021. Successful providers will be able to integrate their apps into legacy workplace systems and enable buyers to build out their own modules.
- 6) **Edge computing investment will be the new focus of building IoT programmes.** Edge computing provides data processing closer to the data source, with improved response times, reduced bandwidth load, lower energy consumption and increased data security. It is well-suited to query-based tasks, whilst deeper analytics can be performed on the cloud. IoT platform providers have begun to bolster their offerings around edge computing and will continue to do so. In May 2020, IBM announced its Cloud Satellite service, which can run the IBM Cloud from any edge location. Schneider Electric has teamed up with Accu-Tech and EdgePresence to deploy edge data centres to support IoT applications for US firms. The growth of 5G, particularly private 5G networks, will also boost edge computing, with these networks improving connectivity and providing greater reliability for IoT solutions.
- 7) **Operational digital twins for buildings will gain foothold in complex and high-end facilities.** Investment in building digital twins for operational management will continue to grow in 2021, but primarily across high-end and complex buildings. In our survey with 250 corporate facility executives, almost 80% ranked digital twins as a significant or very significant digital innovation for the next two years (see [Verdantix Global Corporate Survey 2020: Smart Building Technology Budgets, Priorities & Preferences](#)). Building digital twins will gain traction in high-end, large property locations, such as campuses, hospitals and stadiums. In October 2020, for example, Willow announced a partnership with Hollywood Park to implement digital twin technology at the SoFi Stadium. In March 2020, Bentley Systems and Schneider Electric collaborated to roll out a digital twin of Microsoft's Frasers Tower in Singapore, drawing on data from 179 Bluetooth beacons in meeting rooms and 900 sensors.
- 8) **Competition will soar in the workplace systems integration landscape, with new entrants.** Workplace systems integrators implement IT-based systems such as space scheduling software and hardware, including digital kiosks and meeting room panels. In 2021 the market will become increasingly competitive, as audiovisual (AV) integrators, real estate consultants, global IT services firms and the 'Big Four' accounting firms all expand their offerings. Facilities services firms will also stake out an offering; Sodexo has already launched its Wx division, which offers consulting and technology services to support the transition to a smart and flexible workplace. Success will depend on firms building on their existing customer relationships to win these projects and competing at the right price point.
- 9) **Employee experience agendas will drive portfolio-wide spending.** Occupant health and wellbeing has been a hot theme in facilities management for several years but has historically not been a driver of spend beyond flagship buildings. Catapulted by COVID-19, firms will roll out wellbeing programmes across multiple sites, including new working models, workplace engagement apps and air quality solutions. Real estate investment firm Granite Properties launched a \$10 million investment in its Inspire Wellness programme in August, whilst The Commercial Park Group announced a \$200 million investment to start developing two million square feet of new offices in the south of the UK, with a focus on promoting health and wellbeing. Ultimately, this emphasis on the employee experience in the office will encourage a return to work and support the attraction and retention of talent.

10) Energy-as-a-service propositions will roar back to life, supported by the building resiliency agenda.

In 2021 we predict a growing uptake of energy-as-a-service (EaaS) propositions by firms in disaster-prone areas, because of broadening interest in energy resiliency. Whilst critical facilities such as hospitals, military bases and prisons have invested in energy resiliency for many decades, new hotspots of activity will emerge in regions that have experienced regular power outages from storms and wildfires. For instance, after being hit by many hurricanes, the supermarket chain H-E-B rolled out natural gas generators at 50 stores across Houston, from energy services firm Enchanted Rock. In 2020 Schneider Electric launched GreenStruxure, and Siemens launched Calibrant Energy, targeting opportunities to provide EaaS propositions for on-site generation.



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Verdantix is an independent research and consulting firm with a focus on innovative technologies that optimize business operations. We have expertise in environment, health, safety, quality, operational risk, as well as smart building technologies.

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