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Creating strong asset value through innovation



When it comes to creating asset value, innovation and technology are opening a plethora of opportunities. Attracting new tenants, accelerating sustainability goals and enhancing long-term returns are just some of the rewards on offer for asset managers that are committed to investing in their existing portfolio throughout the economic cycle.

Demand from tenants for high-quality offices is holding steady while, with USD 384 billion of dry powder in the market, market liquidity is not an issue¹. So, as asset owners, particularly office owners looking to future-proof portfolios in the wake of the pandemic, what should future-proofing existing buildings look like?

One word: **smarter.**

¹ JLL, *Global Real Estate Perspective*, 2022

Executive Summary

Smart buildings have moved front and center in terms of the evolution of the real estate sector and its focus on ESG. Enhanced levels of innovation, greater use of technology and a tenant-centric market approach are defining best practice and long-term value creation at a key stage in the sector's growth. This focus is driven by three things: an organizational commitment to ambitious sustainability goals; more stringent legislation; and companies – our tenants – needing smart buildings to reach their own ESG goals and retain talent.

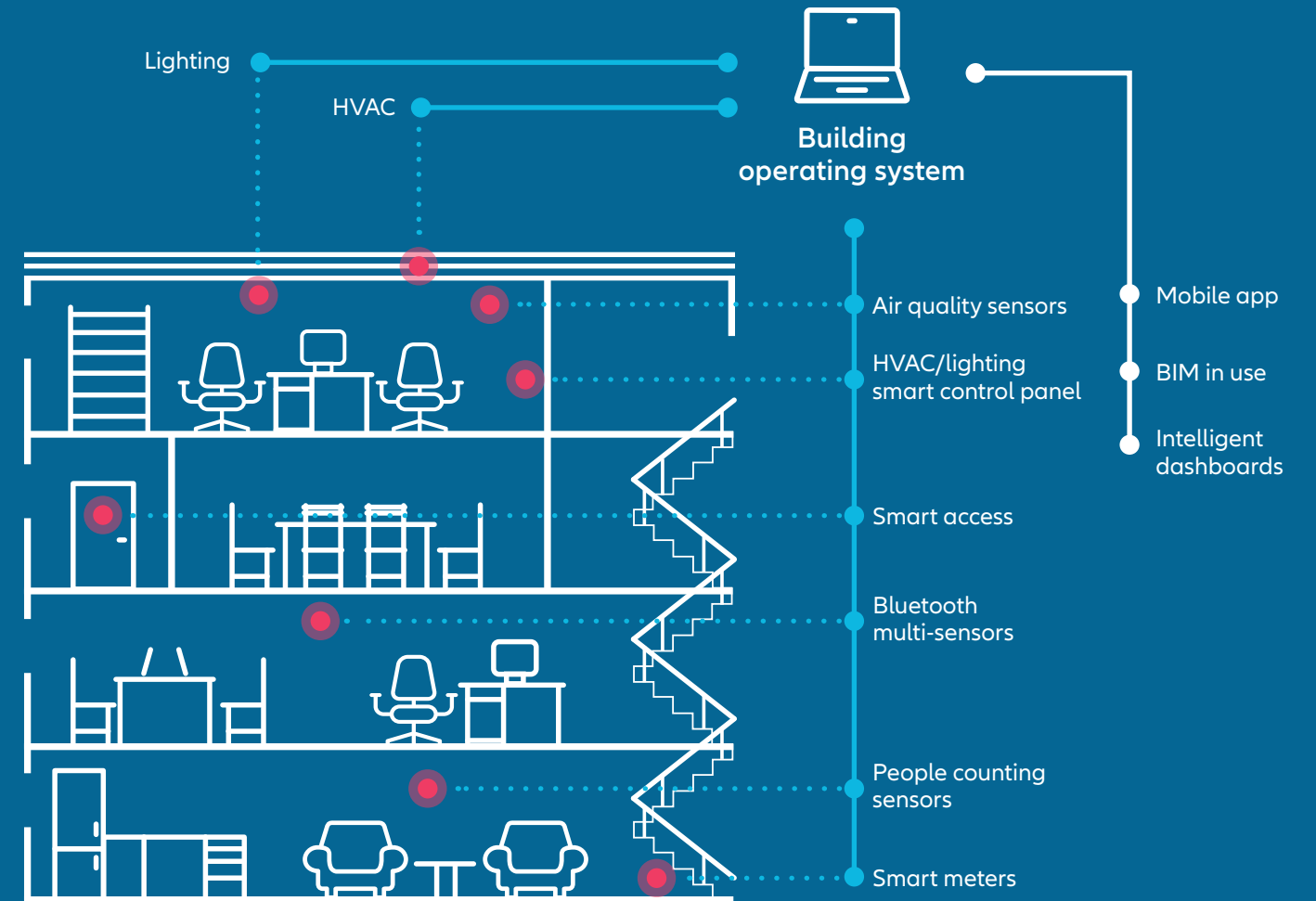
This paper examines in detail what we mean by smart buildings and how companies such as Allianz Real Estate are looking to create long-term asset value and enhanced performance through the use of dedicated technologies and innovation. Allianz Real Estate itself has developed a comprehensive value-creation package – the Building Signature Program – which aims to ensure buildings meet the very highest standards in terms of innovation, digitalization and connectivity, as well as making a positive social and environmental impact.

This paper also highlights what is perhaps the most important aspect of the development of smart buildings as well as the delivery of excellent tenant services and meeting ESG criteria: data. We see the wealth of data generated by digital solutions monitoring and regulating building operations, and the ability of devices and systems to 'speak' to each other, as a technological revolution comparable to the invention of the elevator. It is the firms that collect, analyze and translate this data correctly that will succeed.

-  Health & well-being
-  User experience & new services
-  Productivity & space usage
-  Security
-  Sustainability
-  Optimized operations

The makeup of a smart building

Highest standards of innovation, digitalization and connectivity



Technology transforms

As we reported previously, technology is one of the three major secular trends alongside the green transformation and social that will have a transformative impact on the global economy and markets over the next years². This is particularly true for office assets, where stronger links between technology and ESG are forming.

The decarbonization of assets, for example, can only begin with compiling and tracking energy performance and operational data – a task which can be fully automated through technology.

Accelerated technology adoption and engagement resides in taking advantage of the increased maturity in Internet of Things (IoT) connectivity and Artificial intelligence (AI), both of which offer paths towards optimization and efficiency.

In addition, end-to-end solutions can be integrated into existing infrastructures - or replace existing systems. This is driving far greater levels of automation and giving the industry the means to evolve and scale more quickly than ever before. Importantly, the organizations adopting such technologies can expect to benefit from premium positioning and portfolio resiliency in the long term.

A change in attitude

Many real estate firms were already reviewing aspects of building design



and technology implementation long before COVID-19 impacted the world, and particularly in relation to ESG performance.

What the pandemic did was accelerate these attitudinal and business-case trends and focus minds on how best to attract tenants and improve asset performance. Issues such as tenant well-being, energy efficiency, decarbonisation, and cybersecurity have risen up the corporate and investment agenda and now strongly dominate the real estate investment narrative.

The role of COVID-19 should not be underestimated. The pandemic forced companies to shift from old business models and embrace the challenges of market structural shifts. This includes directly connecting key business drivers - ensuring liveable, sustainable, resilient and valuable buildings - with smart building technology.

In the pandemic's wake, greater collaboration, trust and transparency between all stakeholders, from technology firms to property companies, have become important for integrating new business models and generating opportunities from these major structural changes.

Commitment to ESG

ESG has become one of the key benchmarks in the real estate sector. This is driven by both an organizational commitment to ambitious sustainability goals and as a consequence of more stringent legislation, particularly in Europe. According to a report by the International Energy Agency, real estate accounts for ca. 40% of global CO₂ emissions³ while a study by the European Union measured real estate's contribution to CO₂ emissions within the EU at 36%⁴. These findings led the EU to adopt legislature to address this.

Furthermore, there has been an increasing pressure from investors

for sustainability practices. Research conducted by JLL (Figure 1) indicated that highly sustainable ('Excellent' and 'Outstanding' BREEAM levels) buildings in central London have rental premiums 6-11% higher than regular buildings as well as lower vacancy within 24 months after completion⁵.

What is clear is that decarbonization requires constant monitoring and optimizing of a building's operational performance. As this information is often split across multiple teams and systems, digitizing these processes through connected technology will significantly improve the quality and reliability of the data. Assets will then have a clearer energy and carbon profile and a more pragmatic path for decarbonization.

New Grade A leasing transactions by BREEAM rating as a % of all new Grade A lettings

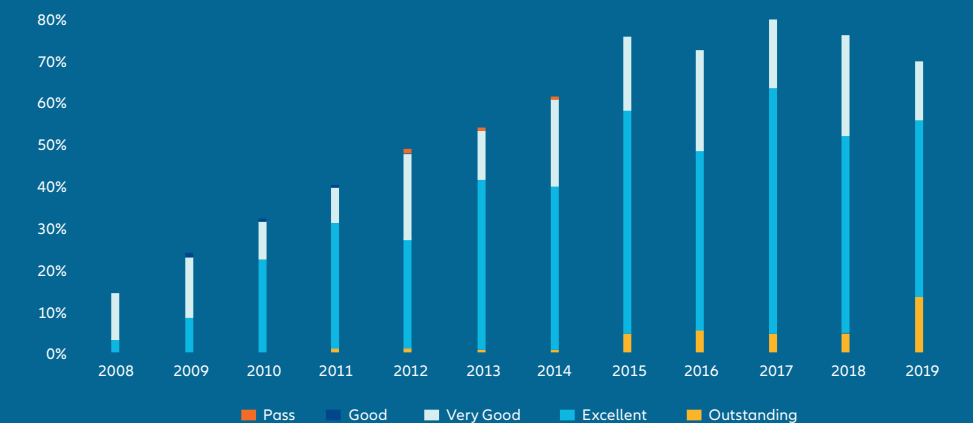


Figure 1. Leasing Transaction Rates BREEAM

Includes new build and major refurbishments

² Allianz Real Estate, *Real estate investing in an uncertain environment*, March 2022.

³ IEA, *Global Status Report for Buildings and Construction 2019*, December 2019.

⁴ European Parliament, *Boosting Building Renovation: What potential and value for Europe?*, 2016.

⁵ JLL, *The impact of sustainability on value: Central London*, May 2020.



The user experience: attract and retain tenants

The physical, mental and social well-being of a building's occupants – in the context of the 'war for talent' – has become an important lever in asset management and creating value, particularly with ca. 60% of office-based employers looking to follow a

hybrid work model⁶. With the office no longer compulsory for many workers, getting them into a corporate building to collaborate on projects, adopt the corporate culture and ultimately grow as one has become a fundamental challenge.

And while the integration of technology as part of today's workplace experience – such as workplace

apps, 3D office visualizations, food & beverage services – provides a competitive edge for a company's portfolio, the future could be very different. The digital workplace experience will very likely become the norm, crucial in maintaining asset performance and meeting users' expectations. Being able to continuously build, adapt and integrate new services and solutions will continue to drive competition and define market leaders.

The proptech community has innovated new technologies and disruptive business models (e.g. co-working). As these new business models mature, the next stage of proptech will address the long-term structural challenges such as the decarbonization of buildings and dealing with the upsurge of data, e.g. cybersecurity, transparency and privacy.

On one side, the proptech industry is held back by its fragmentation. The lack of agreed standards and the multiplicity of proposed technologies create challenges for organizations. These obstacles are further exacerbated by the gaps in understanding and lack of clear dialogue between the real estate community and the service providers as well as the lack of clarity

on business drivers and metrics to measure return on investment. On the other side, the business models that are being introduced to the real estate market by digital-native companies are blurring the lines for the traditional real estate players. These include providing new services to users such as tenant apps in office buildings and also by creating new revenue streams that traditional players are unable to capture.

Cybersecurity: secure site operation and data confidentiality

The need for improved cybersecurity has become clearer with recent attacks on networks and surveillance systems. Allianz⁷ itself lists cyber incidents as the most important global risk and business interrupter. The massive increase in data collection within real estate will require significantly enhanced cybersecurity, data protection, privacy and transparency capabilities.

At the asset level, the siloed and often uncoordinated evolution of real estate technology has increased buildings' vulnerability. A smart building should be seen as a connected ecosystem of best-of-breed-technologies. The further digitalization of real estate must, therefore, be in step with stringent cybersecurity measures, from network management of secured, compatible devices to robust encryption methods and system monitoring in order to protect all stakeholders.

⁶ Leesman, *Hybrid: Where are the risks hidden in the hype?*, April 2022.

⁷ Allianz, *Allianz Risk Barometer 2022*, January 2022.

Allianz Real Estate's Building Signature Program

As an investment manager overseeing one of the world's largest real estate portfolios, transforming our global office portfolio to smart buildings is vital for long-term success. This transformation program plays a vital role in our ambition to reach net zero by 2050 and provides companies with smart office space that is flexible and attractive to their employees - key components to fulfilling our clients' expectations.

Drawing upon our hands-on experience in asset transformation, Allianz Real Estate's Building Signature Program (BSP) is a framework to accelerate the digital transformation of our assets and our portfolio. It has been developed in partnership with major technology firms.

It integrates the most relevant and scalable technologies to meet the demands of asset decarbonization, data asset management, user experience, and cybersecurity while ensuring or increasing asset value. Once deployed, the program qualifies the building for the highest 'Smart Score' ratings, the most widely recognized smart certification.

The BSP has already made an impact in transforming multiple assets across the Allianz Real Estate portfolio. As of May 2022, 130 assets are earmarked for the program in this first stage, transforming a total of approximately EUR 20 billion NAV globally.

Asset ESG performance Smart features allow us to monitor, manage and automatically report the environmental performance of buildings

Allianz Real Estate has set itself the goal to be carbon neutral by 2050. Decarbonization of assets begins with compiling and tracking energy performance and operational data. Artificial intelligence (AI) can hugely increase the efficiency of this task. Within the BSP, AI-based energy management solutions use public and asset data to autonomously operate the asset via a building management system.

This technology has already realized tangible energy consumption savings, on average 20%, in the BSP buildings – when optimizing, for example, temperature and air quality – without disrupting user comfort.

User experience Offering buildings that attract and retain talent is key to long-term tenant satisfaction

Integrating technology into the workspace experience underpins our BSP. Data generated by the suite of sensors and smart devices deployed within the program facilitates a large number of employee-focused

benefits, from the monitorization and optimization of air quality, temperature and light, to the concentration of CO₂.

The data supports dynamic heating/cooling based on space occupation; predictive maintenance; and space management based on use patterns. This is all geared towards providing the best possible experience for users.

Cybersecurity The importance of data security must not be underestimated

Being part of the Allianz Group, one of the world's largest insurance groups and risk managers, we understand the significance of data, data security and cyber threats.

Allianz places the highest priority on cybersecurity and this reflects Allianz Real Estate's own approach. Through our BSP, we are deploying a holistic monitoring, systems back-up and management service to the building's entire operational ecosystem and across its digital layers. We continuously carry out cyber assessments and onsite risk assessments and monitoring, identifying vulnerabilities and assigning priorities so that the asset managers can take immediate action and ensure continued peace of mind for our tenants and clients.

Data asset management Enhancing investment and asset management capabilities is key to serving our clients

The objective is to collect and analyze qualitative data to identify new business models within the asset, make informed decisions and obtain insights to support business aims.

The suite of data-gathering sensors and advanced analytics capabilities deployed as part of Allianz Real Estate's BSP allow for granular and automated management of building operations, increasing efficiency.

When it's scattered and unstructured, data remains unusable. With end-to-end integration, proper architecture and automatic data collection and analytics, processes shift towards real-time asset assessment and enhanced decision-making models.

This means, for example, we are better able to manage employees' return-to-office post-pandemic. Space occupation data means we can build prediction models enabling us to manage the space usage more effectively thereby improving user comfort in our buildings. We are also able to tailor the services offered to users within our buildings, e.g. adjusting the food & beverage offering, sport activities and events.



What we have learnt

Like many businesses, we have learnt a great deal over the past few years about the power of technology, the flexibility and quality of services that businesses and their employees crave, and the profound role that ESG and sustainability will continue to play economically and from a market leadership perspective. The criteria for what equates to 'prime' in the context

of real estate and asset management has evolved rapidly, and will carry on doing so as new benchmarks and new technologies – and new challenges – come into play.

Overall, it is through the best use of technology that the best – smartest – buildings will be developed and the best value created. Business models

being introduced by digital native companies are blurring the lines for traditional real estate players. While some cutting-edge technologies and capabilities may seem too detached from the real estate sector, that should not stop the sector from facilitating and embracing change.



Credit: Mateya Lux

In practice

The Building Signature Program (BSP) has already made an impact in transforming multiple assets across the Allianz Real Estate portfolio. The program is being implemented as a comprehensive package comprising carefully selected and stress-tested physical and digital solutions. These solutions are being integrated within a controlled timeframe and budget, with no major disruption to asset operations.

Case 1: Porta Nuova, Milan

Porta Nuova, centrally located in Milan, is being retrofitted into a high-quality, 17,600 sqm core office complex across two buildings. It forms part of a large-scale asset management and redevelopment program by Allianz Real Estate in Italy and across Europe, aimed at creating best-in-class buildings that offer an ideal work-live-play balance and incorporate leading ESG profiles. On completion, the Porta Nuova asset is expected to obtain LEED Platinum and WELL Gold certifications. It will be EU taxonomy compliant and qualify as a Nearly Zero-Energy Building as defined by the European Commission. The asset will also meet Carbon Risk Real Estate Monitor (CRREM) sustainability standards and support Allianz Real Estate's own target to reduce carbon emissions across its portfolio by 25% by 2025 and be carbon net-zero by 2050. The BSP is a core element of this repositioning, particularly concerning the user experience, digital connectivity, and space management and flexibility. The asset stands as a fantastic example of value creation through a smarter approach to sustainability and transformation.



Porta Nuova in Milan

Case 2: Castellana 200, Madrid

In March 2022, Castellana 200, a mixed-use asset in Madrid, became our first asset globally to successfully integrate our innovative BSP package. Data generated by the suite of sensors and smart devices deployed within the program has enabled the monitorization and optimization of air quality, temperature and light, and the concentration of CO₂, as well as the analysis of space usage and occupancy rates. The implementation of smart access controls to facilitate contactless entry, room bookings and elevator traffic optimization all contribute towards a user-focused workplace. As a result of this smart enhancement, Castellana 200, which was initially acquired by Allianz Real Estate in 2019, has been awarded the Smart Score certification as a best-in-class smart building from Wired Score, as well as the prestigious LEED v4.1 Operations + Maintenance (O+M) Platinum certification, the latest version of the LEED rating system. This is the maximum possible rating and raises the bar on energy efficiency, water conservation, site selection, material selection and waste reduction.



Castellana 200 in Madrid

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