

**SIEMENS**



# Transform Commercial Real Estate Through Digitalization

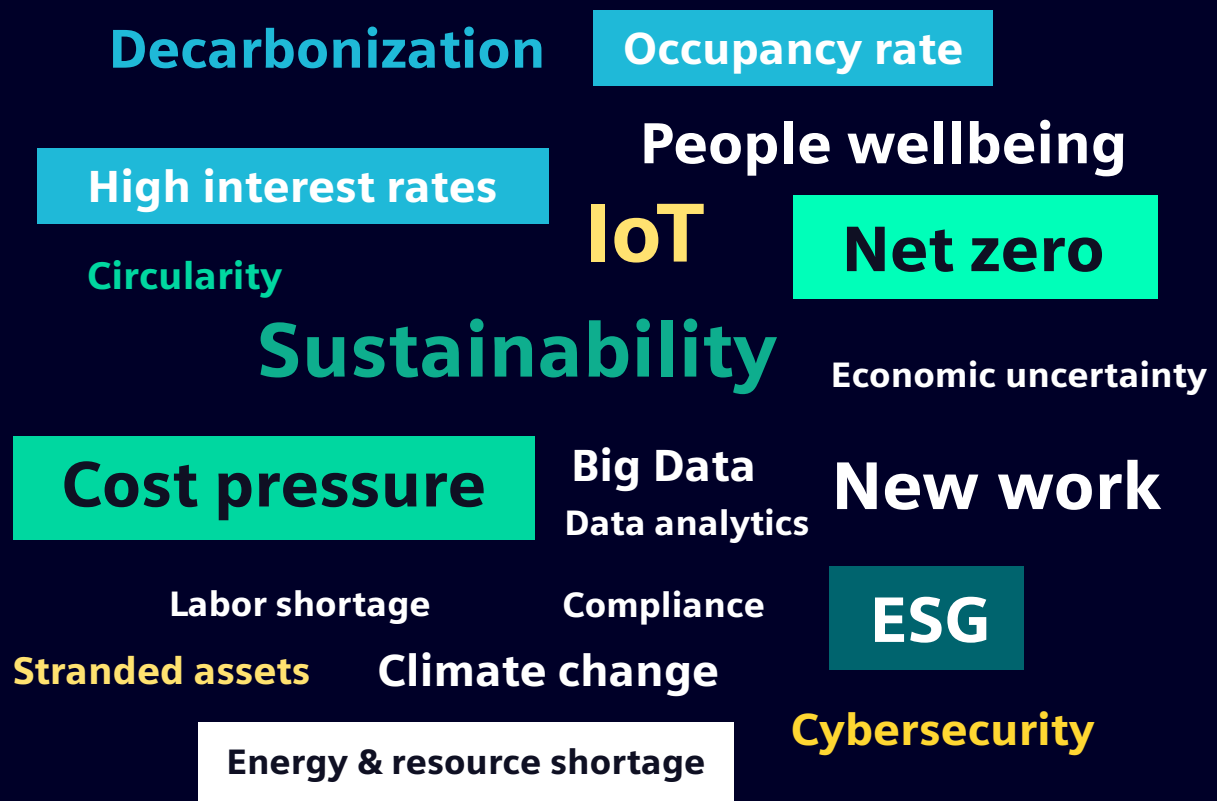
Siemens Xcelerator can unlock sustainability, efficiency, attractiveness, and profit for building portfolios to overcome today's challenges and future-proof for tomorrow.

[siemens.com/commercial-buildings](https://www.siemens.com/commercial-buildings)



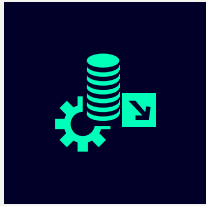
# Index

<b>The commercial real estate (CRE) landscape</b>	3	<b>Accelerating Digital Transformation – Easier, Faster, and at Scale</b>	24
<b>Reduce Operational Costs</b>	5	<b>Get Started on Your Digital Transformation Journey</b>	25
<b>Decarbonize Toward Net Zero</b>	8	<b>Get Started on Your Digital Transformation Journey</b>	25
<b>Mitigate Risks to Ensure Business Continuity</b>	11		
<b>Increase Revenue</b>	14		
<b>Prioritize Occupant Well-being</b>	16		
<b>Enhance Sustainability and ESG Performance</b>	18		
<b>Foster Tenant Retention and Attract New Tenants</b>	20		
<b>Maximizing Success Takes an Integrated, Holistic Approach</b>	22		
<b>A partner for the life of a building</b>	23		

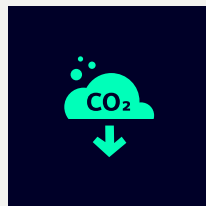


The commercial real estate (CRE) landscape is evolving. Unprecedented events, climate change, and a turbulent market landscape are reshaping what investors, owners, tenants, and public authorities expect from buildings, creating challenges across all areas — from the C-suite to facility operators.

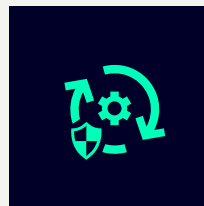
The following strategic objectives are imperative for CRE companies to ensure that their building portfolios maintain value, ensure financial success, and align with the dynamic global landscape:



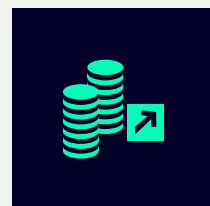
**Reduce operational costs**



**Decarbonize towards net zero**



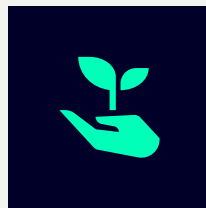
**Mitigate risks to ensure business continuity**



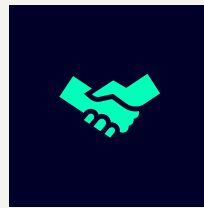
**Increase revenue**



**Prioritize occupant well-being**



**Enhance sustainability and ESG performance**



**Foster tenant retention and attract new tenants**

Digitalization is the key to achieving these strategic objectives. It brings together the physical and digital aspects of a building through smart, connected devices, systems, and platforms that collect and analyze information in real time.

This information allows for making proactive, data-driven decisions that transform buildings' performance and response to sustainability initiatives, occupant behavior, and business priorities. CRE companies that embrace and undertake digitalization can deliver flexible, sustainable, and valuable building portfolios that attract investors and premier tenants, ultimately outpacing the competition.

Those that fail to transform are at risk of economic devaluation or obsolescence of portfolios. Still, a digital transformation project is a complex journey that can only meet expectations and deliver a positive return on investment (ROI) with the right approach.

In the following sections, you will learn why strategic objectives are imperative in the current CRE landscape and how digitalization can help achieve them. Through engaging use cases, you will also get a glimpse into the experiences of companies that have successfully achieved strategic objectives through digitalization. You will also discover how to maximize the success of digital transformation projects.



# Reduce Operational Costs

Economic inflation and global events are creating more severe cost pressures and tighter budgets than ever before. Energy prices are highly volatile in today's world due to supply and demand unpredictability, extreme weather events, and a growing perception of energy risk, driving demand for energy resilience.<sup>1</sup>

Commercial property insurance premiums increased by more than 20% in the first quarter of 2023 for the first time in more than two decades.<sup>2</sup> Current labor shortages also challenge building operations to meet facility demands with fewer resources.

With approximately 80% of total building life cycle costs attributed to operations and maintenance — including energy, which accounts for 30% — there is significant potential to reduce operating costs by enhancing efficiency and reducing energy consumption.<sup>3</sup>

Digitalization is the key. Through smart IoT solutions and platforms that monitor, collect, and analyze building data, digitalization centralizes information and creates transparency about the amount, origin, and cost of consumed resources.

Understanding these elements allows building operations to make better operational and budgeting decisions. While investing in smart infrastructure to reduce costs may seem counterintuitive at first, it can provide a quick return on investment via the following outcomes:

### Efficient and predictable maintenance:

Digital solutions enable actionable insights into asset performance and remote monitoring capabilities, empowering building operations to swiftly address issues from any location. It also facilitates predictive maintenance that helps avert system failures and effectively prepare for asset end-of-life scenarios.

The result is substantially lower maintenance costs, sidestepping additional fees for urgent responses, and facilitating planned, continuous modernization.

### Optimized technical asset performance:

Poorly maintained building system equipment uses 30% to 60% more energy as performance degrades.<sup>4</sup> Degradation of building system equipment can also lead to unplanned, costly downtime. Digital solutions that monitor building system assets help improve maintenance and maximize the performance, energy efficiency, and reliability of assets while preventing unexpected downtime.

### Reduced energy consumption:

Integrating IoT sensors, analytics, and automated building systems can save an estimated 29% of energy consumption, with IoT-enabled smart lighting alone reducing lighting-related energy costs by up to 80%.<sup>5,6</sup>

For example, building operations can optimize lighting and HVAC systems by monitoring real-time information about occupancy, the amount of daylight, and other internal and external factors. This information can also enable shades to automatically open or close and lighting and temperature to adjust accordingly.

Smart solutions for monitoring energy loads can identify high-usage areas for building operations to implement countermeasures. External data such as weather forecasts, peak demand, and time-of-day utility prices can also be leveraged to optimize energy load distribution and shed non-essential loads for additional energy savings.



### Space optimization:

Digital solutions provide detailed insights for optimizing space usage throughout a commercial property — from offices and conference rooms to parking garages, cafeterias, and storage spaces. Building operations can leverage information such as occupancy levels, reservations, traffic patterns, and costs per area or occupant to allocate space more efficiently, repurpose underutilized spaces, and optimize resources.

New revenue can be obtained by identifying unused spaces (e.g., office, storage, and parking) to lease to external parties. CRE companies can leverage space utilization, trends, and occupant preferences to guide future portfolio decisions, right-size spaces, and effectively manage carbon footprints.

### Operational efficiency:

Through digital applications, building operations can automate tasks and workflows, control all building systems from one central platform, and streamline communication and service requests, eliminating traditional, time-consuming manual processes to improve staff productivity.

Digital solutions such as real-time location services help track and manage people and assets, while solutions like mobile access control simplify user provisioning and can eliminate the time-consuming task of managing traditional ID cards. Building operations can also leverage digital information to improve resource allocation and budgeting.

### Strategic planning:

Real-time building data from a wide array of digital sensors combined with 3D models that represent the physical construct of a building enable innovative digital twin technology. Digital twin platforms leverage data from sensors, devices, and other sources to provide a virtual representation of a physical building or multiple interconnected buildings and all associated systems, devices, and sensors.

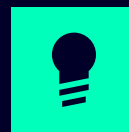
Digital twins behave like actual assets, responding to operational, environmental, and occupancy conditions to allow CRE companies and building operators to monitor and analyze building performance in real time. Digital twins can also simulate a wide range of “what if” scenarios for making predictions and identifying the impact of various digital and physical assets, usage scenarios, and other variables

Stakeholders can leverage these modeling capabilities to make strategic decisions and investments that optimize efficiency, reduce costs, and improve overall asset value, ultimately revolutionizing the design and operations of the built environment. For example, digital twins can simulate airflow through an area to identify the impact of stationary and dynamic objects like walls, furniture, and people on air exchange rates and temperature.

## Case in point: Melbourne Cricket Ground (MCG)

Australia's iconic home for football, cricket, and other major sporting events, contracted a seven-year energy performance initiative that will save more than \$3.2 million USD in energy costs and reduce greenhouse gas emissions by more than 50,000 tonnes - equivalent to taking around 10,000 cars off the road.

The savings were achieved via technology and digital services from Siemens Xcelerator portfolio, which included a new chilled water system using a patented Demand Flow optimization strategy, monitoring and optimization of heating and ventilation systems, and digital technologies such as low-energy lighting, a new building management system, modernized room control systems, and management of peak electricity usage.



# 120%

MCG's investment in digital technology ultimately saved enough electricity to power the light towers for nearly six years, achieving a 120% return of guaranteed financial value.

[Visit website for more details](#)





# Decarbonize Toward Net Zero

With the built environment accounting for nearly 40% of annual global carbon emissions, including operational emissions alone accounting for 28%, CRE has become a critical target for tackling climate change.<sup>7</sup> Stricter legislation emerging across the globe requires commercial buildings to reduce carbon emissions and energy consumption.

For example, New York City's Local Law 97, introduced in 2019, establishes strict emission limits for commercial buildings over 25,000 square feet, requiring a 40% reduction in emissions by 2030 and an 80% reduction by 2050, with buildings that exceed the requirements becoming subject to annual fines or carbon-based tax.<sup>8</sup> Meanwhile, the EU Energy Performance of Buildings Directive (EPBD) requires a minimum energy performance rating for commercial buildings by 2030 and climate neutrality by 2050.<sup>9</sup> CRE companies must decarbonize their buildings toward net zero to comply with new regulations and initiatives. Ensuring compliance also requires quantifying, tracking, and reporting on carbon footprint.

Decarbonization is no longer just a marketing differentiator. It has become a core aspect of CRE business practices for de-risking assets and portfolios and increasing business performance. Unsustainable buildings are becoming increasingly difficult to finance, and failing to decarbonize can bring additional financial implications, including emissions penalties, climate-related write-downs, and asset devaluation. In contrast, sustainable buildings yield between a 10% and 21% increase in market value.<sup>10</sup>

While initial green building initiatives focused on sustainable building materials and construction, digitalization offers bigger and quicker financial returns by delivering the following outcomes throughout the whole building portfolio life cycle:

## Strategy and decarbonization roadmap:

Through a holistic, birds-eye view of building emissions, comprehensive analysis, and expert advice on market best practices, building operations can identify implementation strategies and develop a structured, well-planned approach to achieving decarbonization targets. CRE companies can create positive net present value (NPV) pathways using portfolio-level analytics to optimize technology and infrastructure investment in renewable energy, new services, and other decarbonization efforts.

## Reduced energy consumption:

Optimized and widely deployed digital solutions provide insights for achieving operational efficiencies and reducing energy consumption that can reduce CO<sub>2</sub> emissions by 15% to 20%.<sup>11</sup> Digital solutions also provide the data needed for CRE companies to track and report on the energy consumption of their assets and portfolios, enabling benchmarking by comparing progress over time and against similar assets.





### Green energy opportunities:

CRE assets can achieve up to a 40% reduction of CO<sub>2</sub> emissions with integrated on-site, renewable microgrids.<sup>12</sup> Integrated microgrids with battery energy storage systems and digital platforms that control operations based on demand and generation enable grid independence and improve resiliency. These systems can store energy during non-peak hours and ensure ongoing operations during outage events while reducing direct and indirect emissions (i.e., Scope 1 and 2 emissions). Integrated microgrids can also distribute excess energy back into the grid for financial incentives and improved grid efficiency.

### Fleet and electric mobility:

Electric mobility is on the rise. While petrol and diesel vehicles accounted for two-thirds of fleets in 2022, fleet managers expect electric and hybrid vehicles to account for 56% of fleets by 2024, with more than 75% of fleet managers expecting to have fully electric fleets by 2030.<sup>13</sup> Transitioning to sustainable fleets using electric vehicles can reduce carbon emissions by more than 15 tonnes per vehicle per year.<sup>14</sup> Commercial buildings need to be prepared with on-site EV charging infrastructure to enable this transition. Supported by grid edge technology, digital solutions can help promote reliable electromobility growth by leveraging the extensive capabilities of automation and monitoring systems. For example, digital self-servicing portals can supervise charging and facilitate reporting, billing, and driver authentication for building occupants and visitors.

### Energy procurement:

Digitalization enables smart grid technology and net metering to accommodate demand-side energy management, allowing building operations to actively control, analyze, and manage loads for reduced energy consumption and carbon emissions. These technologies also provide the data needed to predict energy usage and enable informed energy-buying strategies that can help further reduce energy consumption in line with Scope 2 emission reduction targets.



## Case in point: FUNKE

One of Germany's largest publishing companies positions itself to be energy-efficient and future-proof. FUNKE decided to reflect this standing at its new 37,000-square-meter headquarters, home to over 1,000 employees.

FUNKE initially deployed advanced building control technology on a broad scale with thousands of data sources, but a lack of appropriate digital tools created a high level of complexity and a flood of unused data. They partnered with Siemens to put the data into context and enable real-time monitoring of energy consumption to detect and resolve areas of high consumption. This also helped FUNKE make strategic decisions to achieve the goal of making its properties climate-neutral by 2035.



**12,000**

"This is such a large building - we have about 12,000 data points. Siemens helps us understand the data and put it into context so that we can draw conclusions for building operation. This allows us to operate the building in a way that is appropriate for its use as well as efficient and energy-saving."

Heiko Hansler, Head of Real Estate, FUNKE

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# Mitigate Risks

As buildings deploy more connected devices, they become increasingly vulnerable to cyberattacks and ransomware that can halt operations, require significant remediation costs, and even impact life safety.<sup>15</sup> Cybersecurity attacks increased by 38% in 2022 compared to 2021<sup>16</sup>, and the first two months of 2023 saw a 41% increase in attacks targeting IoT devices compared to 2022.<sup>17</sup>

Economic trends such as unemployment, rising inflation and interest rates, and reduced demand for commercial space also pose risks such as delayed rent collections, higher vacancy rates, higher mortgage payments and refinancing costs, and expanding construction costs and timelines. Property-level risks are also rising in conjunction with economic unrest. Global companies lost a combined \$1 trillion in revenue in 2022 due to internal and external physical security incidents.<sup>18</sup>

These threats can include theft, vandalism, unauthorized access, and even terrorist attacks. Depending on geographic location, climate change also poses risks due to increasingly extreme weather patterns that can damage property, disrupt businesses, and increase insurance costs.<sup>19</sup> It can be extremely difficult for a business to recover from a severe incident.

To preserve reputation and prevent potential loss of asset value and liability, CRE companies must manage economic risks through wider business strategies and due diligence, such as identifying lower-risk geographic locations, markets, tenants, and lease agreements. At the same time, building operations is responsible for addressing property-level risks by protecting assets, occupants, and surrounding areas.

Digitalization reduces risk and enables business continuity by delivering the following outcomes:

## Power resilience:

Ongoing, controlled monitoring of power distribution assets and the entire energy supply chain — from generation and transmission to distribution — can automatically detect faults and ensure reliable power supply across buildings to protect core services. Solutions such as demand-side energy management and net metering can help improve the reliability and resiliency of the grid to reduce power outages. On-site renewable microgrids generate and store electricity to significantly improve power resilience.

This enables grid independence and continuous operation when utility power is down due to weather, equipment failures, high energy demand, and other events.

## Business continuity:

Digital solutions can help avoid business interruptions, increase uptime, and protect core services. For example, data analytics help identify patterns and potential direct and indirect threats, allowing building operations to proactively implement strategies that minimize or eliminate threats. Digital services also support incident management to ensure that the right measures are deployed and prioritized based on the likelihood, frequency, and severity of threats.

## Physical safety and security:

Smart security and life safety solutions provide reliable, preventive safety measures to protect people and assets from incidents. For example, digitally monitoring specific areas via smart access control, video analytics, and sensors can identify unauthorized occupants and detect intrusions, theft, accidents, and other hazards without user input. Digitalization enables real-time, remote monitoring for immediate incident response and improved operational efficiency. It also supports the integration of security systems with other building management systems and networks to significantly improve safety and security. For example, HVAC systems can automatically shut down in response to smoke detection, or a gunshot detection can automatically trigger emergency response, lockdowns, and mobile alerts to occupants.

'Global companies lost a combined **\$1 trillion** in revenue in 2022 due to internal and external physical security incidents'



### Financial security:

Digital solutions help future-proof buildings to avoid physical, functional, and economic devaluation or obsolescence that can cause monetary loss.

For example, by continuously modernizing buildings, assets, and systems to the newest technologies and services to maintain high ratings, building operations can stay ahead of increasing costs and staff shortages, and CRE companies can avoid stranded assets.

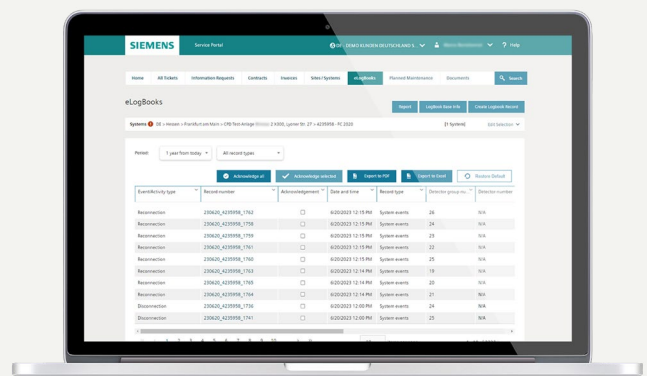
Digital security solutions also lower costs by helping to reduce liability claims and prevent damage, theft, and other costly acts. Digital security systems may also qualify for reduced insurance premiums.

### Proof of compliance:

Digitalization can automatically collect and combine in-depth safety and security data from multiple building sites into one transparent data lake via digital platforms and dashboards to optimize safety and security activities and ensure effective regulatory compliance and audit management.

For example, Siemens Fire eLogbook service portal automatically captures and aggregates real-time information about all system events and other activities of fire safety panels, which can be accessed remotely by authorized users and shared with authorities and other stakeholders. These digital portals provide proof that systems are adequately maintained in an emergency and securely store accurate time-stamped event information in compliance with local regulations, reducing risk and helping building operations prepare for safety audits and inspections.

"The Siemens Fire eLogbook service portal automatically captures and aggregates **real-time information** about all system events and other activities of fire safety panels"



## Case in point: Art Deco Hotel Montana

The historic four-star hotel offers an incredible panoramic view of Switzerland's Lake Lucerne and receives around 25,000 guests annually. As an important cultural center in Lucerne, Hotel Montana is committed to protecting its guests.

The hotel operates around the clock and encompasses a staff house, a hotel management school, and a renowned restaurant with an open kitchen that demands special fire protection. The hotel required a modern fire protection solution to avoid false alarms that could disrupt its continuous business operations.

In a staged installation that avoided disturbing business operations and unnecessary costs, Hotel Montana deployed 250 state-of-the-art fire detectors from Siemens that use advanced technology to deliver highly reliable detection while preventing false alarms caused by deceptive phenomena such as steam. The hotel also has 250 older-generation fire detectors. Thanks to Siemens' backward compatibility, all detectors are controllable via the hotel's staffed fire control panel, and older-generation detectors can be replaced as needed for cost-saving modernizations.

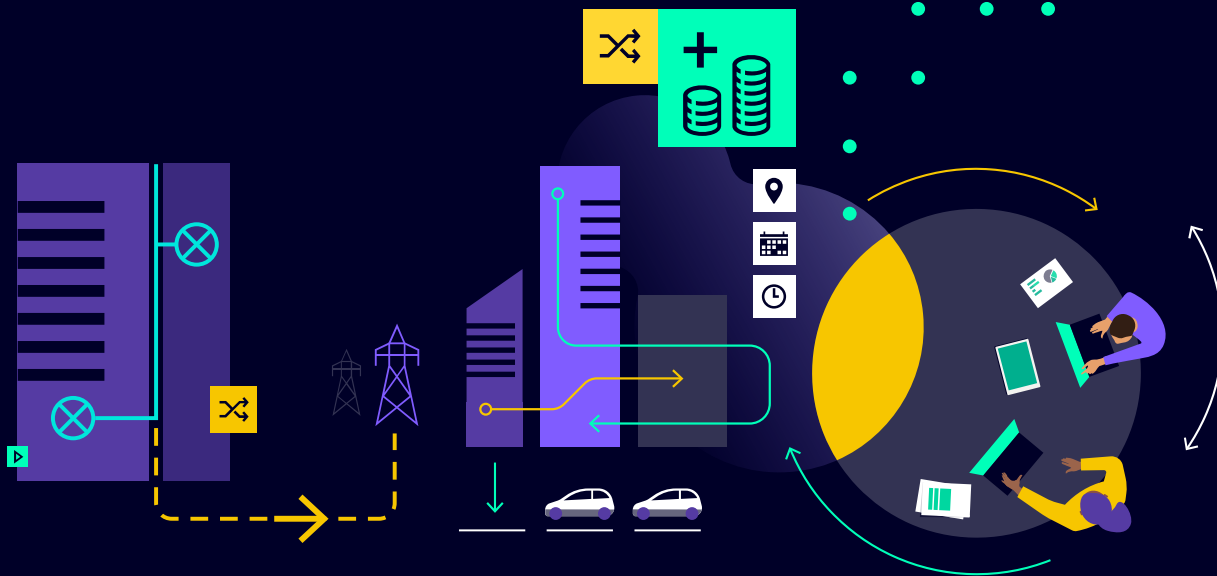


"The safer we are, the more open we can be."

Johan Breedijk, Head Chef, Hotel Montana

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# Increase Revenue

Economic inflation with higher interest rates and debt levels are causing property values to fall, while corporate downsizing and the rise of hybrid working models and e-commerce are decreasing demand for tenant space and driving competition in the marketplace. In the first quarter of 2023, global commercial real estate investment volume fell by 55% year-over-year<sup>20</sup>, and vacancy rates remain high, with U.S. vacancy rates climbing to more than 18%.<sup>21</sup>

Digitalization improves cash flow and net operating income (NOI) for CRE portfolios to stay competitive and endure the current economic downturn by providing the following outcomes:

## Increased property value and marketability:

Digitalization enables smart, connected buildings with modern infrastructure that are attractive to premium tenants who are willing to pay more for advanced services and better occupant experiences, sign longer leases, and are less likely to leave. According to the European Commission report on Macroeconomic and Other Benefits of Energy Efficiency, a smart, higher-performing building can add as much as 11.8% in lease value and yield 5% to 35% higher sale value.<sup>22</sup>

## Maximized existing revenue:

Transparent data provides targeted measures for increasing topline income from existing portfolios, assets, services, and tenants. With data-driven space optimization, building operations can use spaces as efficiently as possible and identify unused spaces that can be repurposed and leased to external parties.

## New revenue streams:

The right future-proofed digital infrastructure has the flexibility to support innovative digital services and amenities that can increase rent and generate new revenue - everything from high-speed internet and electric vehicle charging stations to digital advertising. Digital solutions like power metering and on-site microgrids can generate income by allowing CRE companies to sell utilities to tenants based on their use. These solutions also allow building operations to manage peaks in energy consumption and feed surplus energy back into the grid to reduce energy costs.

A smart, higher-performing building can add as much as **11.8%** in lease value and yield **5% to 35%** higher sale value.

## Case in point: Sello Shopping Center

One of Finland's most sustainable shopping city centers welcomes around 21 million visitors annually and includes 160 shops, a concert hall, a library, a hotel, entertainment attractions, and a residential block. As a global pioneer in property intelligence and digitalization, Sello emphasizes new operation models, sustainability, and energy efficiency to create shareholder value, monetary benefits, and a better customer experience.

Sello deployed cutting-edge digital solutions that enabled the implementation of a virtual power plant that optimizes energy consumption within the shopping center while reducing the load on Finland's main power grid in case of instabilities. The virtual power plant consists of a microgrid based on a 750-kilowatt peak solar panel system and about two megawatts in electricity storage capacity.

In cooperation with Finland's transmission operator, Fingrid, Sello decreases its energy consumption or feeds energy into the grid to help manage peaks in consumption. To save additional energy and create an excellent shopping experience, Sello also deployed smart LED lighting, HVAC, and indoor air quality sensors.

An intelligent control system automatically manages these operations using thousands of data points. The services are delivered on-site by a dedicated Siemens energy manager and remotely through Siemens digital platforms. Since the deployment, the mall has reduced energy consumption by 40% and 4,157 tonnes of CO<sub>2</sub> emissions, equating to about €550,000 in savings and a gain of €350,000.

Today, it is one of Europe's most sustainable and smartest centers, resulting in steadily increasing property and shareholder value and lower operating costs. Combined with the sustainable brand image and healthy working environment when leasing at Sello, the mall boasts an exceptional occupancy rate of more than 99%.



**€350,000**

Thanks to its virtual power plant, the mall benefits from €350,000 annual gains from the flexibility market. It has also reduced energy consumption by 40% and registers around €549,500 in annual savings from the total solution.

[Visit website for more details](#)





# Prioritize Occupant Well-being

Building occupant expectations differ greatly from just a decade ago. Following work-from-home becoming the norm during the COVID-19 pandemic, hybrid working models are now a long-term trend. While fully remote working is on the decline, the adoption of hybrid working models is expected to rise from 42% in 2021 to 81% by 2024.<sup>23</sup>

Demographic shifts have also changed expectations, with today's younger workers increasingly concerned with ESG factors and demanding healthy environments, building amenities, and collaborative and engaging spaces.<sup>24</sup> Sick building syndrome (SBS) has also received more attention in recent years, with expert research linking health- or comfort-related issues caused by SBS to poor indoor air quality.<sup>25</sup> Studies also show poor indoor air quality significantly impacts an individual's creative potential.<sup>26</sup>

Today's building occupants expect readily available, personalized technology at their fingertips and transparent environmental information about their surroundings. E-commerce has changed consumer expectations of in-store retail experiences, and digital technology is now presumed requisite by tenants, occupants, and visitors across all commercial buildings.<sup>27</sup> It's no longer enough to offer four walls.

To meet shifting expectations and new lifestyles and working models, buildings must prioritize occupant well-being by providing safe, healthy, comfortable, and easy-to-use spaces that offer engaging experiences and promote creativity, collaboration, productivity, and an overall sense of community. Digitalization makes this possible by delivering the following outcomes:

## People health and well-being:

Digitalization actively contributes to the physical health and mental well-being of building occupants by leveraging IoT devices to monitor and automatically adjust indoor air quality, lighting, temperature, and other environmental factors to create safe, comfortable, and healthy indoor conditions.

## Occupant experience:

Technologies like smart lighting, parking, access control, desk booking, wayfinding, and automatic lights and blinds create seamless, personalized user experiences and touchless hybrid workplaces that minimize the spread of contagions and improve comfort and convenience. Through digital applications, building occupants can use their mobile devices to access information about amenities and automate their environment to improve comfort and convenience. Digital solutions that monitor and collect environmental data also connect occupants to the building by providing them with transparent environmental information about their surroundings.

## People productivity:

By leveraging space usage and environmental data, building operations can optimize functional spaces and indoor air quality to drive personal productivity through improved cognition, reduced absenteeism, enhanced collaboration, and better morale. Studies have shown cognitive test scores to be 60% to 100% higher with the introduction of indoor environmental quality controls.<sup>28</sup> Occupants also exhibit higher sleep quality scores and 30% fewer medical symptoms in green buildings.<sup>29</sup>



## Case in point: Arvato Financial Solutions

This European fintech company aimed to create a more productive and efficient working environment. They partnered with Siemens to roll out a workplace intelligence platform at 32 locations across 15 countries.

The platform and its app allow employees to plan their working day at the office according to their specific needs and support Arvato's flexible working model by creating a digital workplace environment. The app lets employees view office schedules, find disinfection stations, or request cleaning and maintenance.

It also provides transparency into available spatial capacities, allowing employees to find and select the appropriate workspace for their tasks. There is even an opt-in feature for employees to share their location and status so colleagues can find each other in the office and see their availability.

The platform also provides insight for Arvato to make data-driven decisions regarding space and capacity utilization. With digital solutions, Arvato is shaping the flexible future of work and revolutionizing office working life for its 5,000 employees across 63,000 square meters of office space.



'With the Comfy platform from Siemens, we will drive the digital transformation of our workplace environment and enable our employees to plan their workday based on their own preferences.'

Jan Altersten, CEO of Arvato Financial Solutions

[Visit website for more details](#)





# Enhance Sustainability and ESG Performance

Sustainability and ESG performance have become critical benchmarks in the CRE market. They are now a common framework for assessing portfolios and defining corporate status, with tenants increasingly selecting building leases based on ESG criteria. More than two-thirds of investment management firms have adopted ESG standards in their investment criteria, emphasizing environmental factors and redirecting financial flows to promote sustainable development.<sup>30</sup>

As a critical part of ESG initiatives and new regulations governing environmental claims, such as the European Commission's proposed Green Claims Directive, businesses worldwide must ensure transparency by committing to science-based targets via various reputable global reporting standards that independently verify clearly defined, standardized, and comparable key performance indicators (KPIs).<sup>31</sup> The Science Based Target initiative (SBTi), which verifies KPIs in alignment with the Paris Agreement to limit global temperature increases to below 1.5°C, reported an 87% increase in companies setting science-based targets in 2022, representing over a third of the global economy.<sup>32</sup>

For example, Siemens has committed to owning or leasing only net-zero buildings and sourcing 100% renewable power by 2030. To meet KPIs, identify areas of improvement and risks, enable data-driven decisions, comply with regulations, and build trust among key stakeholders, CRE companies and building operations are tasked with tracking and reporting on ESG performance. This can be a complex task that requires compiling diversity, equity, and inclusion (DEI) factors and environmental, governance, and financial data, such as energy usage, emissions, board composition, corporate policies, and financial stability.<sup>33</sup>

Digital solutions that collect and aggregate transparent, high-quality, and insightful data deliver the following outcomes:

## Assessments and roadmaps:

Digitalization provides key data points needed to assess sustainability and ESG performance and define roadmaps for CRE companies to identify and deploy technologies and optimize infrastructure and data flow to improve ratings.

## Proof of performance:

Through digitalization, cloud-based platforms put aggregated data on energy, emissions, DEI factors, and other KPIs into context via dashboards and tailored reports. Data can be collected across entire asset portfolios, supply chains, and customers to prove corporate claims on ESG achievements and comply with global reporting frameworks and other regulations, making it easy for stakeholders to assess portfolios. Proof of sustainability and ESG performance improves corporate reputation, builds trust with tenants and other stakeholders, increases tenant retention, and improves risk management.

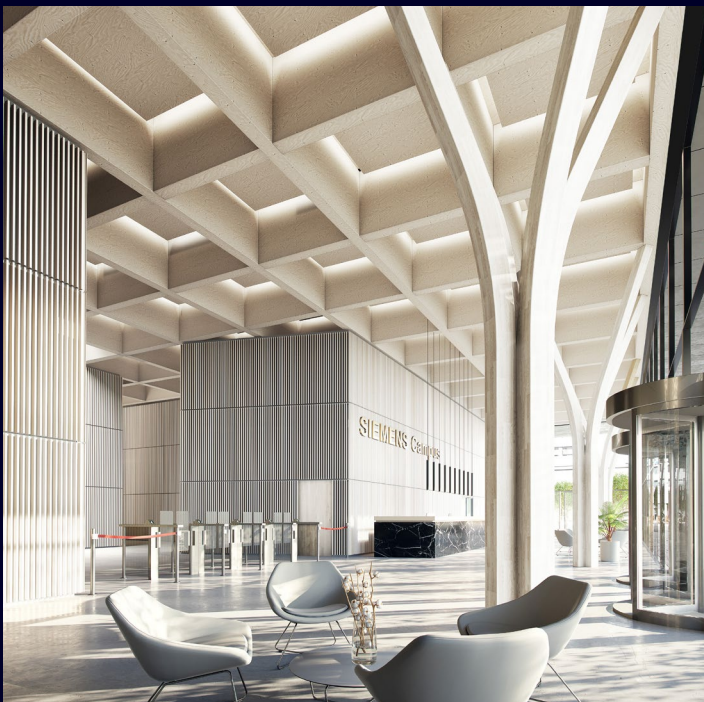
## Progress improvement:

Digitalization allows building operations to monitor and visualize ongoing energy usage, safety and security factors, occupant comfort, and other KPIs. This information can be used to analyze trends and patterns, track progress, and make data-driven decisions for continuous improvement and moving targets. It can also help CRE companies achieve positive ESG ratings, providing better access to capital with better financial terms and conditions.

## Case in point: Siemens Campus Erlangen

Under the direction of Siemens Real Estate, the campus opened in December 2022 as an example of prioritizing ESG. The project used a holistic digitization approach to create a modern, sustainable, and vibrant campus with state-of-the-art infrastructure, extensive green spaces, collaborative work environments, and numerous services.

It is a highly inclusive campus with barrier-free access, a tactile guidance system, handrail signs, acoustic fire detectors, sanitary facilities, parking spaces, and electric vehicle charging options for people with disabilities. A digital platform and app allow employees to access essential campus services, book meeting rooms, and ensure comfortable workspaces to suit their needs. The Siemens Erlangen campus will be one of Siemens' CO<sub>2</sub>-neutral locations focusing on sustainable buildings, including on-site solar that generates more than 400,000 kilowatt hours of electricity annually, advanced building and energy systems, and actions to promote and maintain biodiversity.



**400,000**

The Siemens Erlangen campus generates more than 400,000 kilowatt hours of electricity annually, advanced building and energy systems, and actions to promote and maintain biodiversity.

[Visit website for more details](#)





# Foster Tenant Retention and Attract New Tenants

Higher vacancy rates due to economic inflation, higher interest rates, corporate downsizing, and a shift in tenant and buyer preferences have created a highly competitive market. To attract and retain talent and satisfy their customers, tenants demand spaces that align with changing workplace dynamics and the evolving expectation for digital services among today's workforce and consumers.

In a recent survey, 92% of international building owners with at least one million square feet of commercial space recognize that employees want more from their buildings, and another 80% of those surveyed recognize the role that a digital experience plays in attracting tenants.<sup>34</sup> CRE companies must also foster tenant retention in today's competitive market. Tenant turnover can result in significant expenses, including lost rent, the cost to market to new tenants, brokerage and legal fees, the cost of preparing spaces for new tenants, and other administrative costs.<sup>35</sup>

Digital solutions that improve sustainability and ESG performance and provide safe, healthy, comfortable, and engaging experiences for building occupants and visitors deliver the following outcomes:

## Increase tenant satisfaction:

Digitalization provides the foundation for implementing amenities, services, and flexible spaces that satisfy today's building occupants and visitors, enabling consistently lower vacancy rates and greater tenant retention. By providing resilient, secure digital infrastructure, CRE companies can support seamless business operations for their tenants while building confidence in their services.

## Attract tenants with digitalization solutions:

Providing digital experiences and amenities attracts high-value tenants, giving CRE companies a competitive edge in today's turbulent market landscape. Research shows that by 2025, properties that incorporate a diverse roster of amenities will experience 12% higher demand from tenants versus their commodity counterparts.<sup>36</sup>

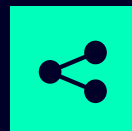
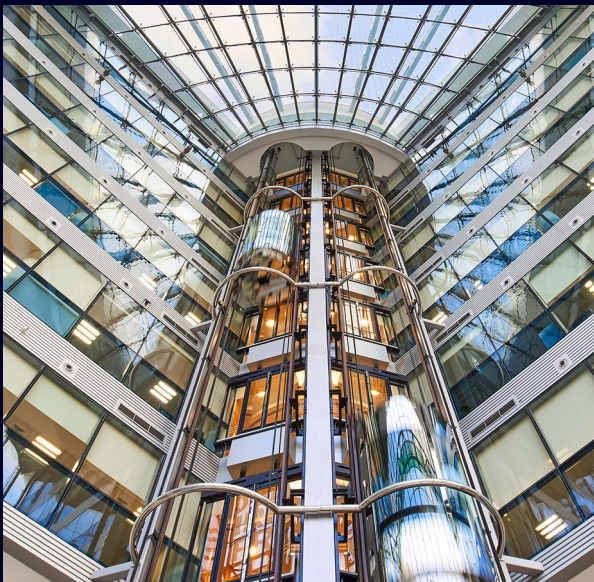
## Sustainable buildings:

Digitalization supports decarbonized buildings with improved sustainability and ESG performance in line with tenant demands and corporate ESG objectives. One industry report found that 63% of leading investors strongly agree that green strategies can drive higher occupancy, rents, tenant retention, and overall value.<sup>37</sup>

## Case in point: The Dubai Airport Freezone

This complex is home to thousands of tenants, including Fortune 500 firms. It provides customizable office space, warehouses, and light industrial units — and embodies the philosophy of Dubai’s success: happiness. Siemens’ digital solutions are vital in achieving that philosophy, using 42,000 data points to create a perfect business environment for client satisfaction.

Occupants can individually control office temperature and lighting with a mobile app. The public dashboard at the food court displays real-time energy data to encourage occupants and visitors to help reduce consumption. With 61 energy monitoring units integrated into a digital cloud-based energy and sustainability platform, Dubai Airport Freezone has implemented several energy-saving initiatives to help Dubai reach its energy goals. The building management system also creates a comfortable environment that increases tenant satisfaction and happiness. The digital solutions have strengthened Dubai Airport Freezone’s reputation as an attractive business hub that meets ambitious environmental targets.



**42,000**

Siemens’ digital solutions are vital in achieving that philosophy, using 42,000 data points to create a perfect business environment for client satisfaction.

[Visit website for more details](#)





# Maximizing Success Takes an Integrated, Holistic Approach

While the previous sections demonstrate how digitalization can help achieve today's strategic CRE objectives, digital transformation projects can fail to meet expectations and deliver ROI without the right approach — and the right partner.

All digital transformation projects require technology, analytical and operational capabilities, and digital expertise. But projects applied in silos with disconnected approaches to technology investments and a focus on upfront costs can be highly complex and ineffective.

As a result of ineffective approaches, 42% of digital transformation projects don't meet expectations and 21% fail.<sup>38</sup>

To help CRE companies worldwide maximize the success and ROI of their digital transformation projects, Siemens takes an integrated, holistic approach that brings together physical and digital building aspects through optimized infrastructure, connected IoT technologies, integrated systems, and digital platforms based on short- and long-term business objectives, potential future needs, the entire building life cycle, and the whole asset portfolio.

This approach is a game-changer for CRE companies to overcome today's challenges and ultimately put their portfolios on the journey to long-term net-operating income and success. Siemens doesn't just take this approach with CRE customers — it's the same approach taken with Siemens' own global real estate portfolio.

**Leading by example:** Learn about Siemens' own corporate real estate management



# A partner for the life of a building

Siemens' integrated, holistic approach involves working closely with key stakeholders — from concept, design, and financing through implementation, operations, monitoring, and maintenance.

In the early planning phase of a digital transformation project, we help CRE companies assess their current state, determine their most important short- and long-term strategic business objectives, and break down those objectives by identifying potential outcomes and possible use cases. Only then can digitalization actively contribute to business success, with true impact where needed.

Once objectives are determined, Siemens collaborates with key stakeholders to determine evaluation criteria and identify data points needed to report on and meet targets.

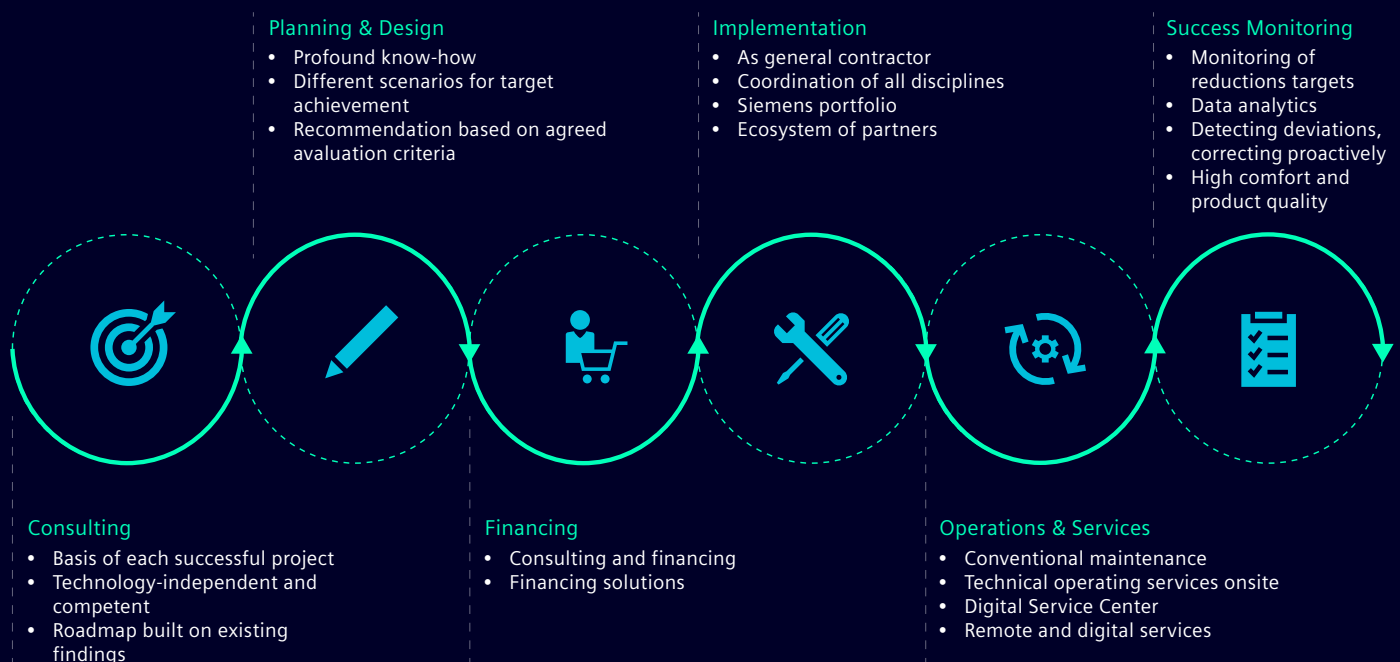
From there, we can identify current and future digital technologies across OT, IT, and IoT infrastructure and operations and ensure the right architectural design, leveraging innovative building information modeling (BIM) technology to tailor implementation to specific objectives and the physical spaces of the building. Siemens then coordinates disciplines and partners for seamless implementation throughout the entire construction phase.

Through consulting and financing solutions, Siemens can also help deliver smart digitalization at scale that allows CRE companies to easily adapt to new business models, digital services, and technologies.

And it doesn't stop there: Siemens' technical and digital services and data analytics optimize ongoing operations, maintenance, monitoring, and reporting for CRE companies to maintain the sustainability, efficiency, and overall value of their building portfolios for years to come.

## Real estate solutions and services

A holistic solution provider to design, implement and finance digital innovation / Net Zero

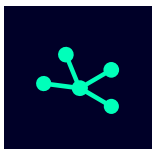




# Accelerating Digital Transformation – Easier, Faster, and at Scale

Through digitalization, every building system, component, occupant, and external factor — from weather to grid conditions — can generate vital data points that provide actionable insights into building usage, operations, and performance. The challenge is to unlock value faster and reduce complexity by implementing solutions that work together seamlessly to process and analyze data points in a meaningful way while supporting future capabilities for CRE companies to scale as they grow. That’s where Siemens Xcelerator comes in.

[Siemens Xcelerator](#) is our approach to support every aspect of digitalization by bringing together Siemens’ entire portfolio with curated, modular digital offerings from an ever-growing ecosystem of best-in-class solution vendors and technology partners that collaborate and innovate to create value based on the following common set of design principles:



## **Interoperable:**

Diverse solutions that work together seamlessly, enabling fast, easy integration to accelerate digital transformation and realize ROI quickly while providing a clear roadmap to support future capabilities.



## **Flexible:**

Modular, customizable offerings tailored for CRE companies to achieve immediate business outcomes and scale as they grow.



## **Open:**

Standardized application programming interfaces (API) that eliminate vendor lock-in and create common data environments for robust analytics and real-time insights across all platforms.



## **As-a-service:**

Secure, cloud-based XaaS subscription models lower upfront investment and reduce operational complexity, while providing easy access to the latest innovations for at-scale digital transformation.





# Get Started on Your Digital Transformation Journey

Siemens has the experience, knowledge, global presence, partner ecosystem, and product portfolio that, when combined with Siemens Xcelerator and our integrated, holistic approach, simplifies and accelerates successful digital transformation projects to unlock value faster and maximize ROI. But we also understand that transforming commercial real estate is a journey that, once embarked on, doesn't end.

Wherever you are in your business journey and whatever your objectives or size, Siemens develops a digitalization roadmap that can start small from where you are with a single asset tailored to meet a specific KPI and scale quickly to deliver sustainable, efficient, attractive, and profitable building portfolios that overcome today's challenges and are future-proofed for tomorrow.

## Let's talk!

Join the conversation with our experts and discover how Siemens can support you on your way to sustainable business success.



## Visit our website

Browse our Solution Finder to discover ways how to align your strategic business goals with desired outcomes and technical use cases.



## Read more about decarbonization

Download this White Paper to learn more about the role of real estate in attaining net zero and how digitalization enables emission reduction.



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Smart Smart Infrastructure combines the real and digital worlds across energy systems, buildings and industries, enhancing the way people live and work and significantly improving efficiency and sustainability.

We work together with customers and partners to create an ecosystem that both intuitively responds to the needs of people and helps customers achieve their business goals.

We help our customers to thrive, communities to progress and sustainable development to advance our planet for the next generation.

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