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Global Real Estate Technology Survey 2023

Is your real estate technology a value driver?

Leading companies are pulling ahead of the competition with three key differentiators

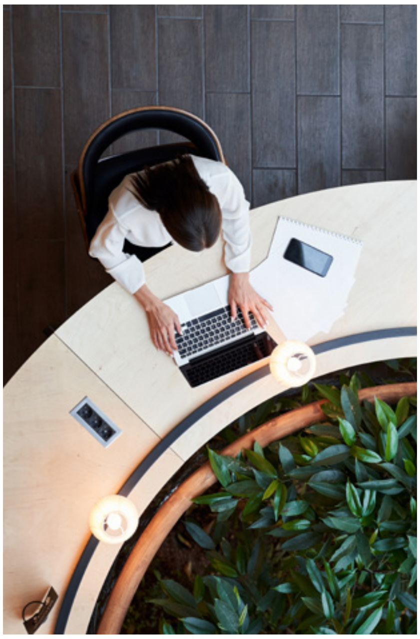
JLL SEE A BRIGHTER WAY

Contents

Foreword 3

Driving value with real estate technology 6

Three imperatives for successful technology transformations



Shape an actionable technology strategy 12

Build a resilient operating model 22

Drive new ways of working 28

About this study 35

Foreword

The real estate industry is undergoing a wide-reaching digital transformation as technology reshapes how we live and work. Companies around the world are under growing pressure to navigate an array of disruptive challenges, and the ability to drive continuous competitive advantage through technology will be crucial to their future success.

Our first global real estate technology survey shows that companies recognise the strategic value of real estate in meeting these challenges, as an enabler of new business models, better decision-making and higher productivity. But while 80% of organisations are increasing their investment in real estate technology, embedding lasting change is complex and most are struggling to achieve their goals.

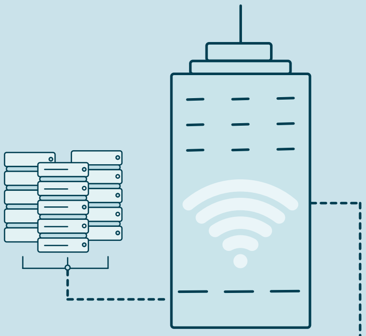
At a time when the impact of technologies like AI and clean tech are only beginning to be felt, the opportunity for those who are able to achieve successful transformation is significant. Through our work with hundreds of companies we have created a holistic framework for success, and the examples of leading companies in our survey highlight the value that can be generated when real estate technology is harnessed to improve outcomes for the whole business.

We trust that this report provides a useful guide to the rapidly evolving adoption of technology solutions across the real estate industry, and actionable insights to help companies achieve their technology ambitions.

Sharad Rastogi
Chief Executive Officer
Work Dynamics Technology Group
JLLT

JLL global technology survey results in numbers

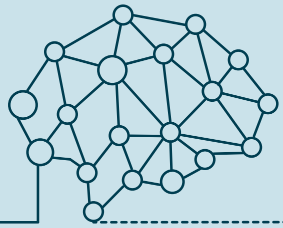
Real estate technology is seen as a key competitive advantage, driving productivity and helping to improve operational efficiency, achieve significant cost savings and reduce environmental impact.



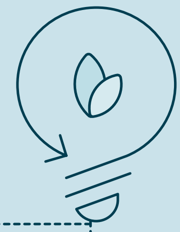
91%
of occupiers are willing to pay a premium for tech-enabled space.

Over **80%** of companies are planning to increase their technology budgets despite a challenging operating environment.

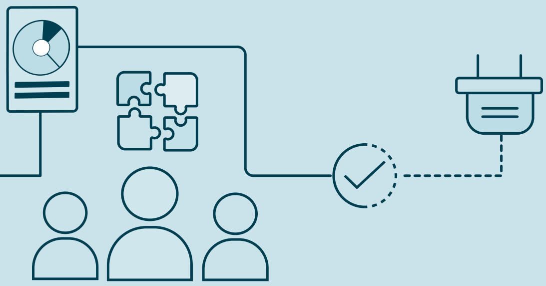
AI is seen as **one of the biggest game changers** for the real estate industry over the next three years.



#1
Sustainability tech will account for the largest share of planned increases in technology spend. Energy and emissions management, smart energy infrastructure and sustainability reporting tools are being prioritized for adoption.



While many organizations claim to have a tech vision, very few have successful real estate tech programs that match boardroom ambition.



78% do not have an actionable strategy in place and fewer than **40%** say their technology programs have been very successful.

Real estate investors and corporate occupiers are using a variety of strategies to accelerate tech adoption.

89% plan to combine upskilling existing workforce, hiring new talent, outsourcing and M&A to enhance their technology capacity, while **78%** will turn to external partners to help improve technology outcomes.

Three imperatives to drive value with technology

As technology reshapes how we live and work, the real estate industry must drive a wide-reaching digital transformation – and quickly. How can it do this in a way that benefits all those who build, own, and use real estate?

JLL's first global technology survey of over 1,000 real estate decision-makers globally reveals three imperatives that companies must focus on to drive value with technology.

1 Shape an actionable technology strategy

Defining a unique technology vision – and set of objectives – that is tailored to your organization's specific operating model, goals and capabilities is essential to enabling real estate to drive value for the wider business. Priorities for technology adoption are shifting in order to support flexibility, enhance decision-making, promote sustainability and increase revenues; but 80% of organisations don't currently have an actionable strategy in place. The technology strategy should identify how real estate supports your business objectives, outline your future state ambitions, and lay out a clear, achievable roadmap to reaching your vision.

2 Build a resilient operating model

Companies should align their people, experience, technology and business design to ensure that together they can deliver on their vision and roadmap. This should include activating and engaging a cross-functional leadership coalition that will monitor progress, secure funding, empower delivery teams, remove impediments, commit resources and bridge any gaps. Successful companies are three times more likely than others to have executive leaders actively engaged and supporting delivery teams, while over 60% are increasing their use of external partners to improve capacity.

3 Drive new ways of working

Success will depend on embedding a new and more flexible way of working that takes an iterative approach integrating change management and feedback loops, uses data and clear measures of success to drive the implementation process, and actively engages external stakeholders. The biggest difference in execution lies in establishing a continuous process of improvement, with successful companies four times more likely to have taken this approach.

Driving value with real estate technology

Despite accelerating investment, companies are struggling to extract full value from their technology

Companies around the world are facing an array of challenges, from short-term economic uncertainty and financing pressures to the need to meet sustainability regulations and commitments. In parallel, technology is reshaping how we live and work.

A digital transformation of the real estate industry – for those who build and own real estate, as well as those who use it – will be necessary to measure up to these challenges and will have profound implications for business models, requiring fundamental changes to organizations' strategy, structure and ways of working.

In JLL's global real estate technology survey, we asked over 1,000 real estate decision-makers around the world how their organizations are planning for and implementing technology to enable and sustain this transformation. Combining this data with our experience of working with clients across sectors, we have been able to illustrate the current state of technology adoption within the real estate industry, decode why many companies are struggling to make technology a true value driver, and show what actions they need to take to achieve their ambitions for technology investments.

Occupiers and investors recognize the value of real estate technology

Organizations recognize that real estate technology is vital to their future success. Despite the current challenging operating environment, over 85% of occupier and investor respondents plan to increase their investments in technology over the next three years. This increased investment is set to outpace changes to operating budgets, overall corporate real estate (CRE) spending, and growth in headcount and real estate footprint.

85%
of our respondents plan to increase their investment in technology.

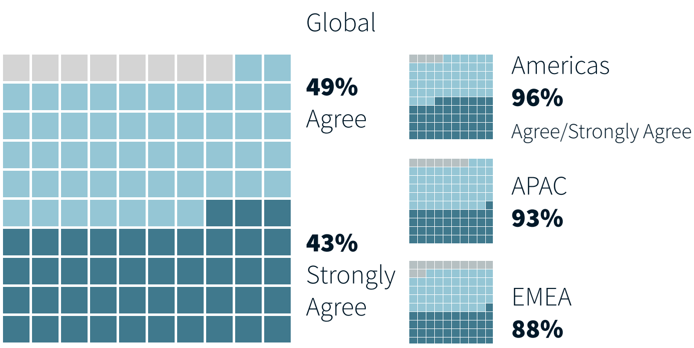
Source: JLL Global Real Estate Technology Survey, 2023

Companies also understand that real estate technology is not just a cost center but also a key differentiator, critical to meeting their wider objectives. This recognition is translating into a willingness to pay for the advantages offered. An overwhelming majority of occupiers are ready to pay a premium for tech-enabled space, expecting it to support their business models, drive new revenue, optimize productivity and encourage collaboration while also supporting employees' health and wellbeing. Companies in the United States demonstrated the highest readiness to pay for greater levels of technology provision.

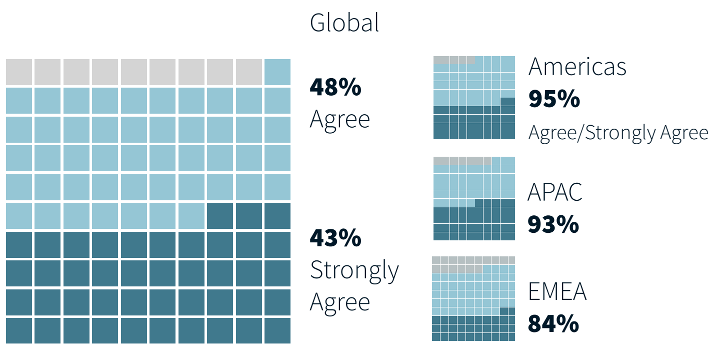
Figure 1

Companies recognize that technology is a critical enabler

92% **of occupiers believe technology will drive competitive advantage**



91% **of occupiers are willing to pay a premium for tech-enabled space**



Source: JLL Global Real Estate Technology Survey, 2023

Companies are struggling to achieve their CRE technology objectives

There is a sizable gap between ambition and current adoption levels, with many companies lagging far behind their objectives. JLL has identified 21 technologies across 6 categories which comprise the core tech stack for occupiers and 23 technologies in 6 categories for investors (Figure 2). Current adoption rates for these core technologies are moderate, with none exceeding a 50% uptake. Occupiers in the U.S. and India and investors from the UK and Canada are relatively more advanced.

For occupiers, the most commonly implemented technologies primarily support remote working. Meanwhile, for investors, the current tech stack is geared towards meeting fundamental business needs such as design, fundraising and asset valuation. On average, companies have fully implemented only seven of the core technologies identified.

Fewer than **40%**
consider their existing technology programs to be very successful

On top of that, most companies are struggling to realize the benefits of the technologies they've already adopted; fewer than 40% consider their existing tech programs to be very successful in meeting their initial objectives, and 80% aren't extracting enough value from the technology they're already using. This sentiment is consistent among all respondents, regardless of occupier industries and investor types – even those traditionally considered more tech-savvy.

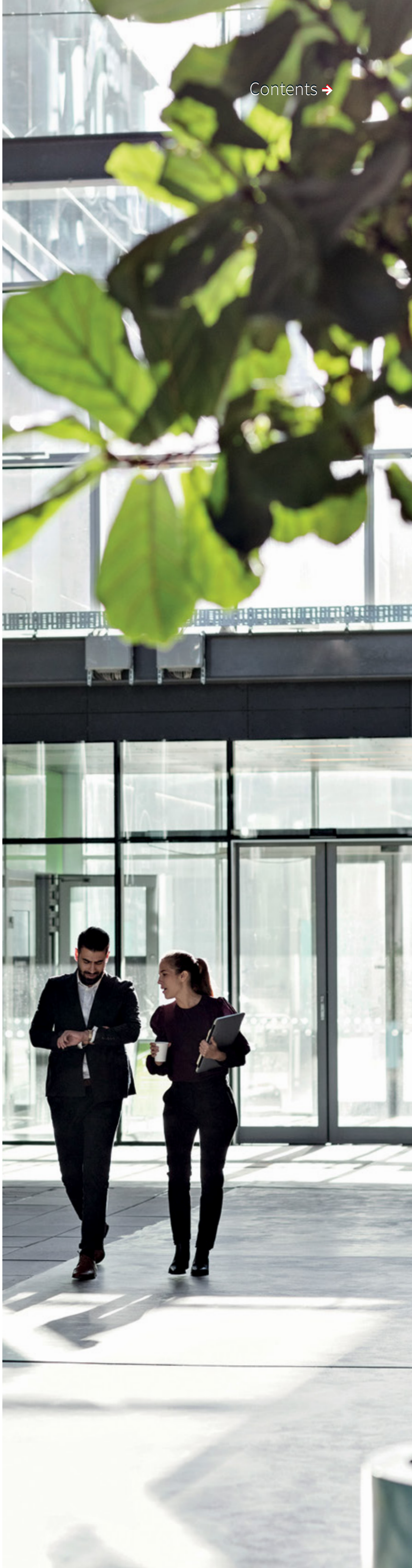


Figure 2

Core technologies for Occupiers

Collaboration Tech

In-office collaboration technology	50%
Remote working technology	47%
Immersive workplace, VR & AR	29%

Sustainability Tech

Energy/emissions tracking & reporting	39%
Smart energy infrastructure	34%
Energy/emissions management	34%

Technology adoption rate: % of companies that have adopted the technology.

Employee Experience

Health & wellbeing solutions	48%
Workplace experience apps	44%

Intelligent Buildings

Inventory & supply chain tracking	42%
Occupancy & workplace sensors	35%
Personalized space management	35%
Predictive maintenance	33%
Digital twin & BIM platforms	29%
Industrial robots	21%

CRE Operations

Design & fit-out planning	35%
Smart contracts	34%
Lease management	32%

Data & Analytics

Data science & modelling	45%
Advanced cybersecurity	41%
Data warehouse for CRE data	40%
Consolidated insights dashboards	32%

Core technologies for Investors

Design & Construction

Architecture, design & planning	49%
Construction techniques	35%
Construction project management	34%
Converged building networks	31%

Sustainability Tech

Energy infrastructure	35%
Automated energy management	33%
Sustainability monitoring & reporting	29%

Technology adoption rate: % of companies that have adopted the technology.

Fundraising & Lending

Fundraising & lending	45%
Investor relations	34%

Asset & Portfolio

Building operations	38%
Property management	38%
Building management	34%
Tenant experience & engagement	32%
Building IoT / sensors	29%
Flex space management	28%
VR & AR viewings	26%

Investment Transaction

Asset valuations	41%
Portfolio benchmarking & reporting	41%
Deal management & workflow	39%

Data & Analytics

Data aggregation & storage	41%
Advanced cybersecurity	40%
Data science & modelling	39%
Consolidated insights dashboards	36%

Source: JLL Global Real Estate Technology Survey, 2023

Barriers to success highlighted by our survey are wide-ranging and highly nuanced

> "We have some strategies in place to cover some short-term technological advancements, but not as strong a strategy for the long term.

> "We are experiencing significant friction in implementing CRE systems with legacy products.

> "Lack of support from upper management has stalled these projects several times now. Covid was an excuse at one point, but that problem has moved on post-Covid.

> "There is still a lot of collaboration and engagement needed to get employees involved with the change.

Contents →

Highly successful companies display three key attributes

The breadth of issues and level of nuance highlights that there are no quick fixes. The real estate industry must systematically re-evaluate and refine its approach to technology, both to address existing struggles and to prepare for future adoption – including the emerging use cases for AI.
Based on extensive work guiding real estate technology programs, JLL has established a holistic framework for success. **From the survey, we have identified a leading group of companies that are more advanced in their technology journey and illustrate a set of proven practices across each of the three imperatives to drive value from technology:**

1 **Shape an actionable technology strategy**

2 **Build a resilient operating model**

3 **Drive new ways of working**

The rest of this report delves into these three aspects of best practices, providing actionable insights for improvement and guidance on where to begin.

1

Shape an actionable technology strategy

Translate your vision and objectives into an achievable plan

Highly successful organizations have a compelling vision and a clear set of objectives that help them remain focused on their priorities, particularly when resource-constrained. Nearly all companies have a technology strategy in place, but many are missing key steps to take these from boardroom vision to workable implementation planning. The cornerstone of success lies in effectively translating your objectives into an actionable strategy, one that's achievable and realistic for your organization and which guides you from your current state to your desired future.

The fundamental questions to ask include:

- What drives our technology adoption?
- How does technology enable our organization to achieve its goals?
- What actions do we need to take to construct a strategy for implementation?

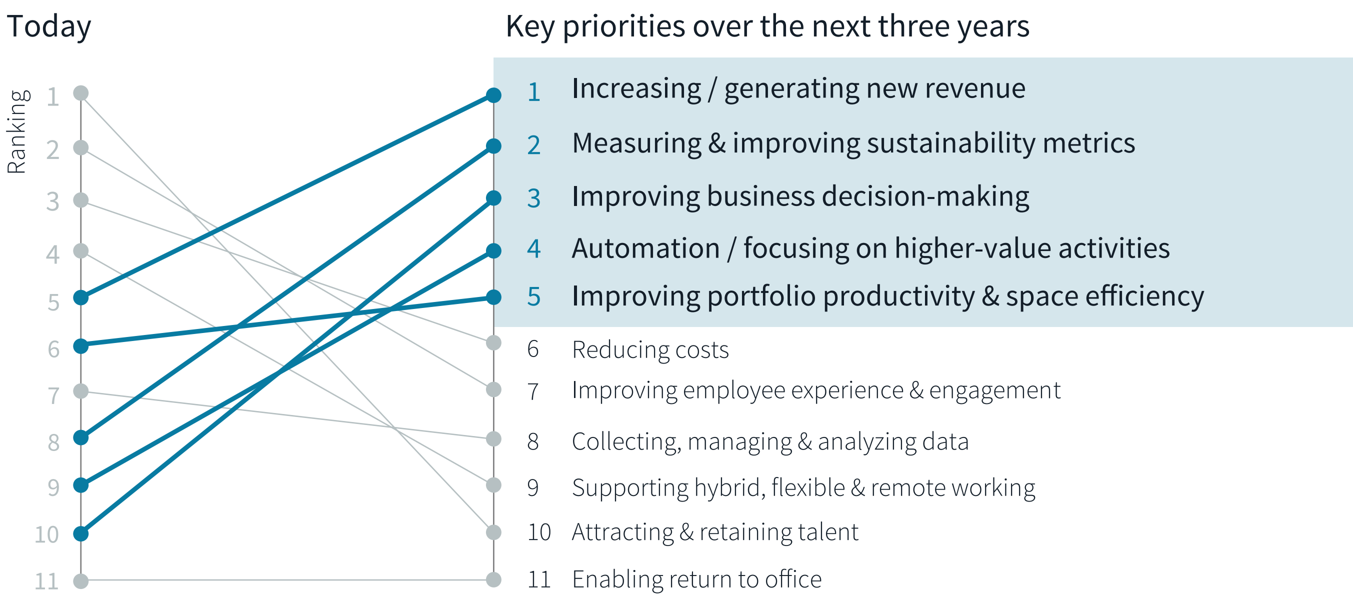
Our survey highlights that leading companies have gained a competitive edge from the beginning by seeing value creation as the strongest driver for technology adoption and taking more decisive actions in formulating their strategies.

Occupiers:
Shift technology priorities to enable agility

There is a radical shift taking place in the mindset of many corporate occupiers. Decision-makers are pivoting away from pandemic recovery and towards strategically enabling business adaptability and flexibility, prioritizing areas that will deliver greater value. To maintain a competitive edge, companies will have to rethink their technology objectives to align with this emerging set of priorities.

Figure 3

Top drivers of real estate technology adoption – Occupiers



Q: Which are your three biggest drivers for adopting/deploying CRE technology today vs. in three years?

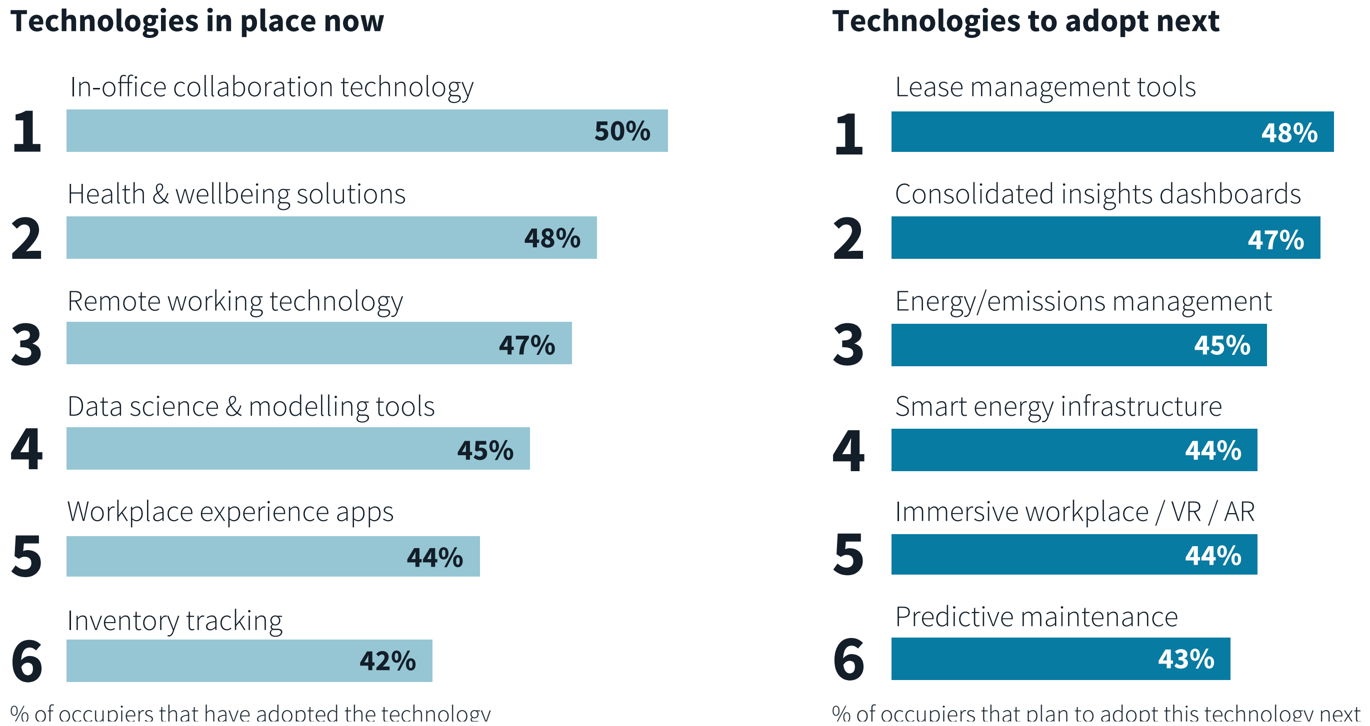
Source: JLL Global Real Estate Technology Survey, 2023

Although the immediate focus remains on issues such as supporting hybrid and remote working and attracting and retaining talent, that focus is shifting, and over the next three years occupiers will prioritize areas which enable real estate functions to meet a wider set of business objectives (Figure 3).

Addressing these factors collectively will allow companies to adapt to new requirements, operate faster and proactively get ahead of the market. Return to office, while being a prominent theme post-pandemic, is now perceived more as a basic expectation rather than a long-term driver of technology use.

Figure 4

Technologies being adopted reflect a shift in priorities



Source: JLL Global Real Estate Technology Survey, 2023

These priorities are reflected in the types of technology organizations are implementing (Figure 4). They are now focusing on tools that will enable them to switch from reactive to predictive decision-making (e.g., lease management tools and insights dashboards) and to support strategic goals (e.g., emissions management).

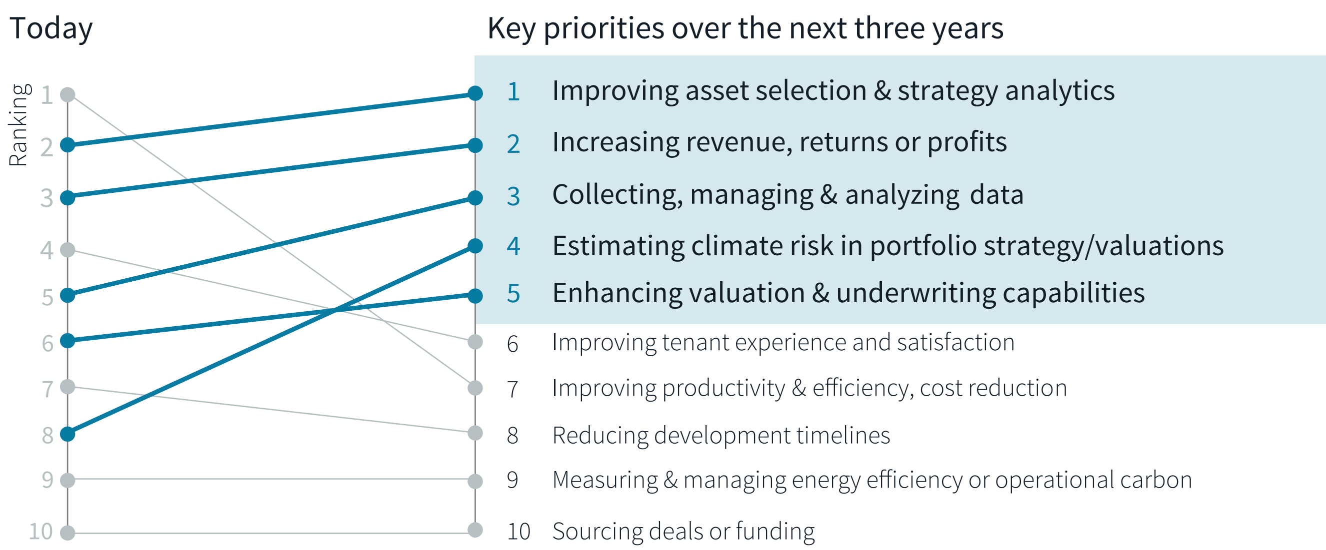
Leading companies are already making progress on strategic decision-making. One global information services company realized, after integrating its workplace tracking systems, that a recently opened 4,000-seat facility in California only had 400 regular attendees and was able to use the consolidated information to rationalize its locations. Similarly, a global healthcare services company has been able to proactively plan around upcoming lease events across its 500 sites, bundling negotiations and tenant incentives with a much more efficient technology-driven process.

Investors:
Target value creation and risk management

Compared to corporate occupiers, the top drivers of technology for investors and developers are relatively more stable. Similar to occupiers, the focus is pivoting from cost reduction to value creation (Figure 5) as investors look to improve asset selection and management to boost operating income, reduce vacancies and identify new sources of revenue.

Figure 5

Top drivers of real estate technology adoption – Investors



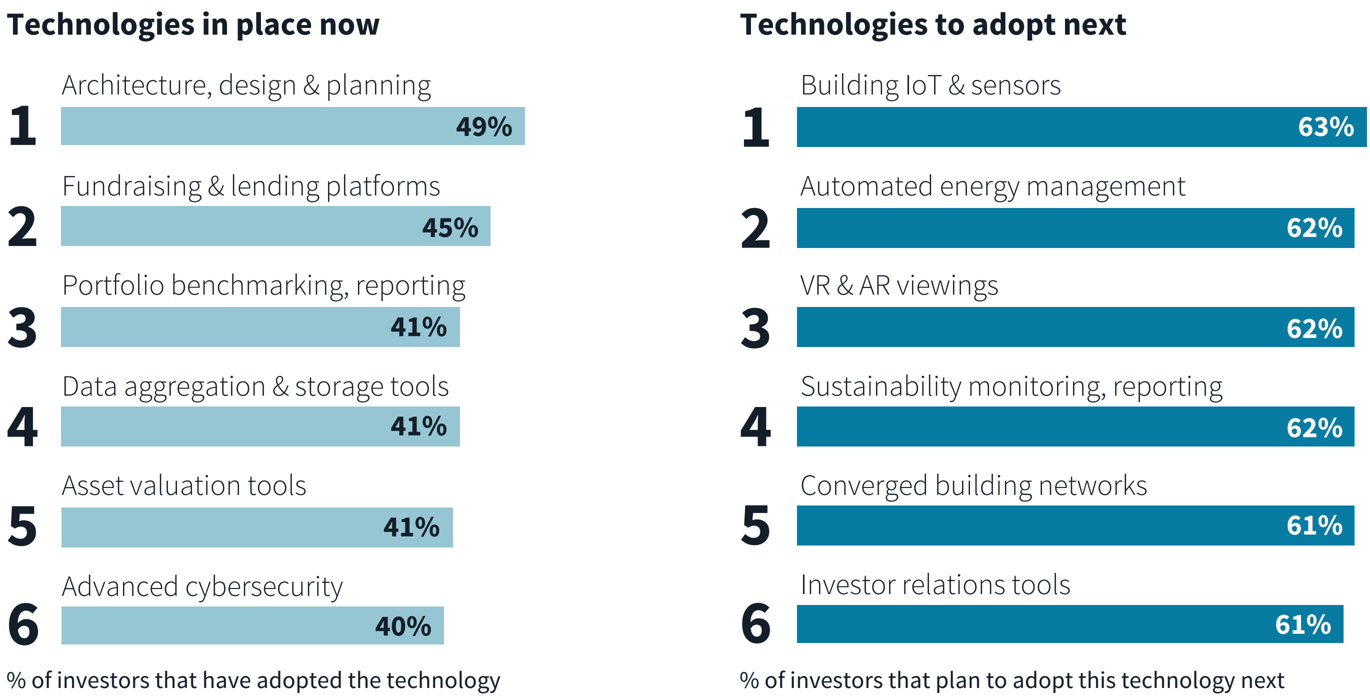
Q: Which are the three primary reasons your company invests in or adopts technology today vs. in three years?

Source: JLL Global Real Estate Technology Survey, 2023

This shift in focus is reflected in the different technologies that will be adopted in future, from supporting core activities such as design, fundraising and asset valuation to improving strategy analytics, increasing revenues and enhancing underwriting (Figure 6). Incorporating climate risk as a key strategic risk has also risen significantly up the list of priorities.

Figure 6

Investor priorities reflect a more operationally intensive asset class



Source: JLL Global Real Estate Technology Survey, 2023

As real estate becomes a more operational asset class, this emphasis on value creation requires a more detailed understanding of tenants' – and their customers' – needs. It is imperative to have in-depth building management that fulfills these needs, ensures efficient operations and reduces environmental impacts. This demand is reflected in the next stage of technology adoption, which focuses on digital infrastructure (sensors and IoT systems, converged building networks) and building automation (energy management, sustainability reporting).

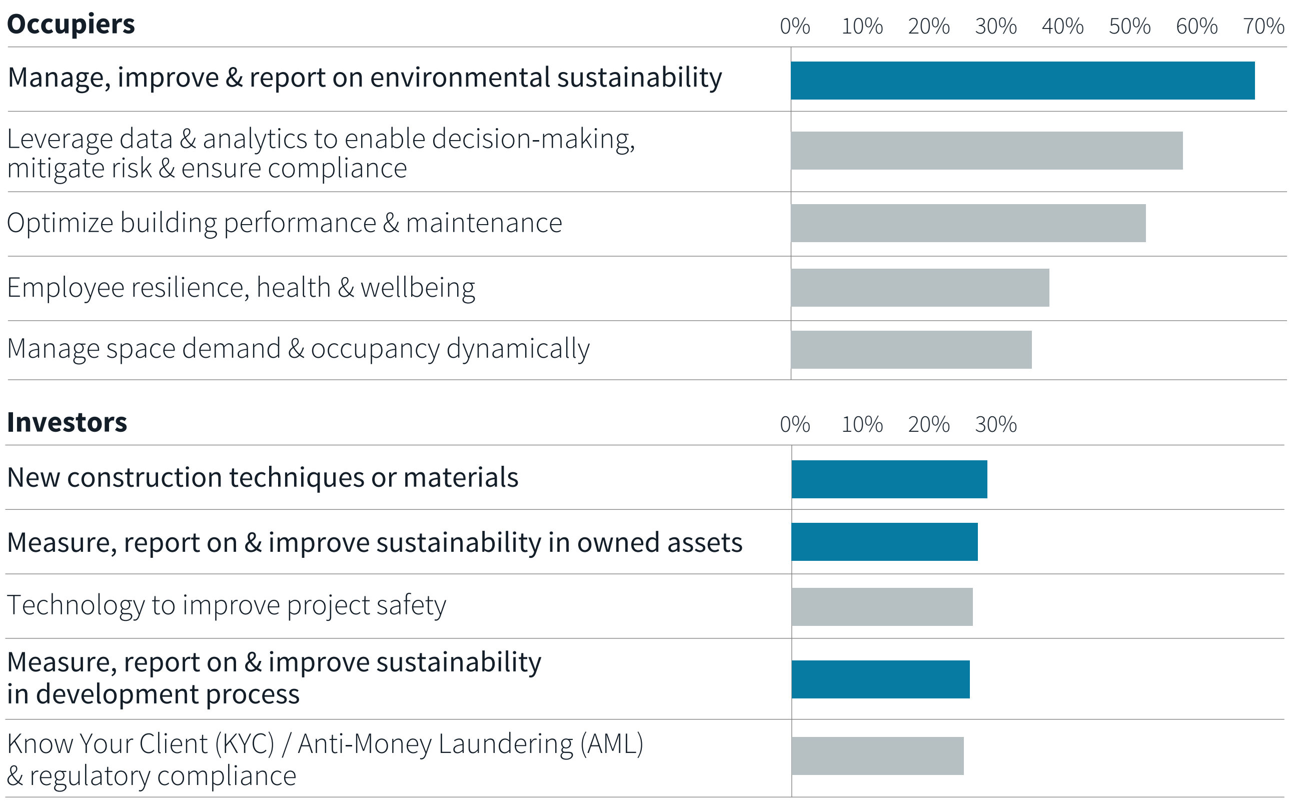
Commit to sustainability

A clear theme that emerges from our survey is the importance of technology in meeting organizations' sustainability targets. This trend is most pronounced in Europe, but still ranks among the top three priorities for those based in the Americas and Asia Pacific.

For many companies, achieving their emissions reduction targets won't be possible with their existing footprint and operations. The necessity to change is driving an acceleration in investment. Data - and the technologies needed to collect and analyze it - are foundational components to any successful decarbonization strategy, helping to make informed decisions, identify attainable targets and assess progress. Both occupier and investor respondents expect technologies that manage, reduce and report on carbon emissions and energy efficiency to account for the largest increase in their technology budgets over the next three years.

Figure 7

Sustainability tech will account for the largest share of increased investment for both investors and occupiers



Q: Which three of the following areas will represent the biggest increases in your CRE technology budget over the next three years?

Source: JLL Global Real Estate Technology Survey, 2023

The increasing number of proven business cases is also boosting the willingness to invest. A leading UK investment management firm has achieved a record ROI of 708% and cut energy use by 59%, reducing carbon emissions by up to 500 metric tons per year in their 11,600 square meter office building after implementing JLL's AI-powered Hank technologies.

In addition, the focus on sustainability is having a direct impact on the attributes companies are looking for in their technology suppliers – investors place market-leading technology to support ESG tracking, compliance and capital planning as the single most important factor when selecting a new technology vendor.

Be prepared for the impact of Artificial Intelligence

Artificial Intelligence (AI) and generative AI (GenAI) are ranked by our respondents among the top three technologies that will have the greatest impact on real estate over the next three years. There is a growing consensus that AI is going to boost productivity and accelerate shifts in the labor market, affecting the amount and types of real estate companies need.

The real estate sector is also leveraging AI to enable the shift in priorities revealed by our survey. Analyzing over 500 companies globally that provide AI-powered technology services to real estate, it is clear that in the next few years AI-enabled product options will be available for most technologies which occupiers and investors plan to adopt.

The rapid growth of AI capabilities presents significant potential, but also a steep learning curve; our survey shows that compared to other emerging technologies, respondents have the least understanding of AI and GenAI. Maximizing the value of AI also requires robust and timely data, an area where most companies are still far behind their goals. Understanding how AI will impact your business, what steps you need to take to prepare, and creating a test and implementation strategy are key to creating a future-proofed technology roadmap.

Figure 8

AI and GenAI are expected to have a significant impact, but understanding remains low

Technology Rank by **Expected Impact**
1. Clean energy solutions
2. Machine Learning & AI analytics
3. Generative AI
4. Low-carbon materials & construction
5. Cloud & edge computing
6. 5/6G
7. AR/VR
8. Robotics
9. Mobility solutions
10. Blockchain/smart contracts

Q: What emerging technology do you expect to have the greatest impact on real estate over the next three years?

Rank by **Level of Knowledge**
1. Cloud & edge computing
2. Mobility solutions
3. AR/VR
4. 5/6G
5. Blockchain/smart contracts
6. Clean energy solutions
7. Low-carbon materials & construction
8. Robotics
9. Machine Learning & AI analytics
10. Generative AI

Q: What is your current level of understanding of these technologies?

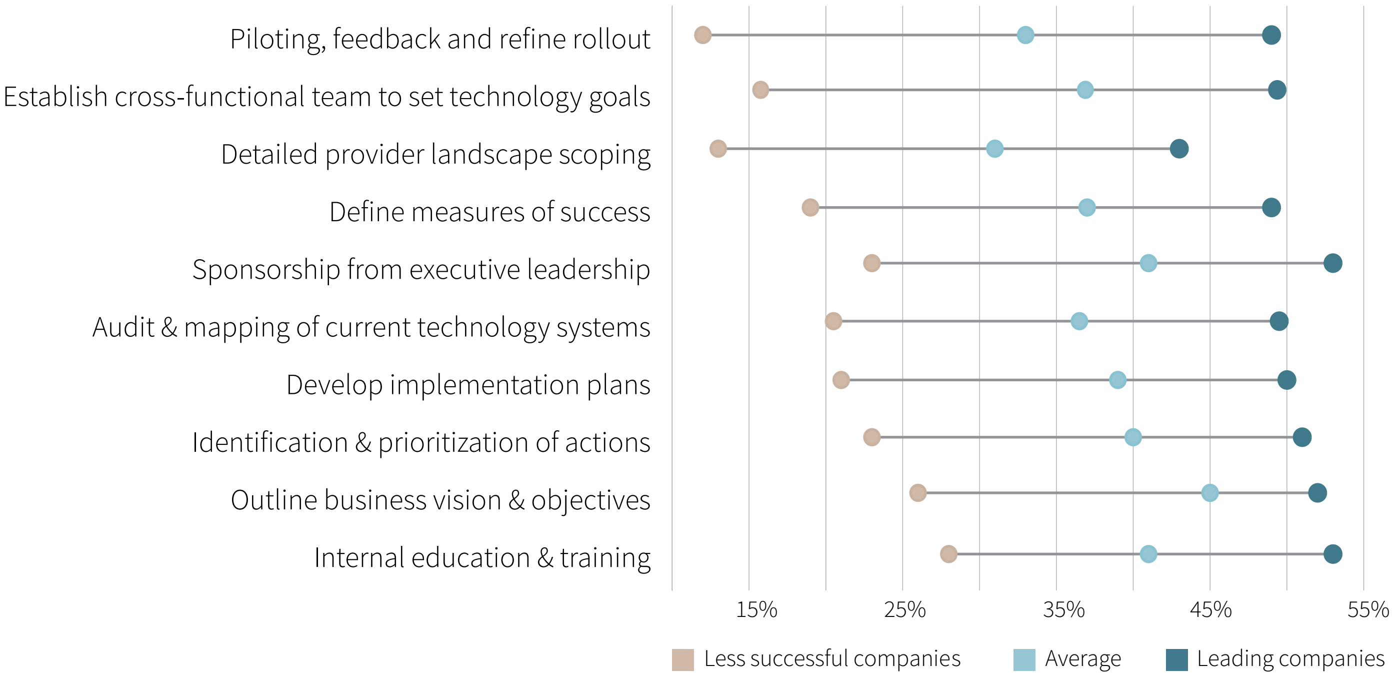
Source: JLL Global Real Estate Technology Survey, 2023

Ensure your technology strategy is realistic to deliver success

In order to achieve their desired outcomes, companies need to define and implement an actionable technology strategy that reflects where they are now, where they want to be in the future, what actions they must take and how to carry them out. Although 90% of respondents claim they have at least partially specified a business-wide vision for their technology, the majority don't have a comprehensive long-term strategy.

Figure 9

Leading companies have done considerably more to construct their technology strategy



Q: Which of the following actions have you taken in relation to your technology strategy? - % fully implemented.
Note: Leading companies defined as those which have been highly successful in meeting their technology objectives and embedding long-term change within their organization.

Source: JLL Global Real Estate Technology Survey, 2023

78%

of organizations have implemented 5 or fewer of 10 key actions for a viable technology strategy.

Out of 10 actions pinpointed by JLL as key to shaping a viable technology strategy, most organizations have implemented 5 or fewer. More companies have made progress on business vision and executive sponsorship – but are struggling to translate this from the boardroom into a detailed, workable implementation plan that enables technology to deliver the expected value for the business. **Our survey highlights three primary missing steps.**

1. To set feasible targets, companies should undertake a thorough mapping of their current situation and future goals. This includes what technology systems are currently in place, where the gaps between current and future states are, what solutions are available on the market to bridge these gaps, and how potential new technologies interact with existing systems. Leading companies are three times more likely to have completed these actions compared to less successful ones. The absence of this step could cause serious interoperability issues later on; as the head of facilities at a utility firm stated: “Legacy systems are the biggest drag on system architecture and integration.”

2. Develop an implementation plan that details phases, timelines and responsibilities based on your organization’s current capabilities and resource commitment. From the survey we see attempting to do too little or too much at the outset is a frequent cause of program failure. It is unwise and unrealistic to aim for fully automated building management when you don’t have basic sensors and data storage. Companies should identify short- and long-term milestones and prioritize deployments in a way that builds momentum, secures stakeholder buy-in and aligns with the timing of business goals.

3. Set up the pilot-feedback-refine mechanism as part of the standard implementation plan, making sure you have the opportunity to correct course and to adjust to growing and changing business priorities. This feedback loop also requires companies to define clear measures of success and have good data capabilities.

JLL worked with a global technology company to improve their CRE program using this methodology. The audit of their current systems revealed that they had over 150 real estate technology applications in use around the world. After going back to the drawing board and identifying the most critical use cases, they were able to prioritize the most important products, instigating a successful change management process to phase in delivery.

2

Build a resilient operating model

Make sure you have the right resources, people and organizational structure in place

The most common setbacks in the implementation of real estate technologies often aren't technical – they're organizational. Establishing a strong operating model for planning, funding and governance right from the outset will equip companies with the ability to execute plans effectively, ensure enterprise-wide buy-in and provide the resilience needed to adapt to changes and risks.

The key questions to ask include:

- Does our organization have long-term committed resources for technology?
- Is our leadership and governance model robust enough for quality execution?
- Do we have the right people and partners to deploy and manage the technology?

Leading companies are more effective at delivering and maintaining appropriate resourcing and are more proactive in organizational innovation. They are three times more likely to restructure their tech-related teams and processes than their less successful counterparts who view technology as a one-off purchase that is bolted onto existing workflows.

Invest to succeed: Demonstrate value to unlock long-term resourcing

While over 80% of companies show a heightened willingness to investment in technology, budget constraints are still cited as the top challenge by companies facing disappointing results from their technology program. For many companies, project delays or complications have sapped enthusiasm from leadership to continue providing funding or other resources, while others have failed to plan for additional requirements as projects scaled or solutions needed ongoing support. Leading companies, on the other hand, rarely face the same issue.

Companies should ensure that their implementation roadmap can strategically guide budgeting over time, but is flexible enough to incorporate adjustments based on continuous review cycles and agile delivery models. Without a clear value proposition and ability to measure success over the budget cycle, many companies find it difficult to unlock additional funding – as the head of real estate at a manufacturing firm pointed out: “It is always easier to waste opex rather than invest capex.” Integrating agreed milestones and success metrics at each stage can help to demonstrate value and maintain strategic commitment, support from leadership and funding over the long term.

Secure and maintain stakeholder engagement in driving change

Successful digital transformation calls for enterprise-wide buy-in for the value that real estate technology can provide to an organization's wider goals and operating model, strong leadership and coordinated change management. Establishing and maintaining collaborative structures and executive sponsorship is where leading companies most notably set themselves apart.

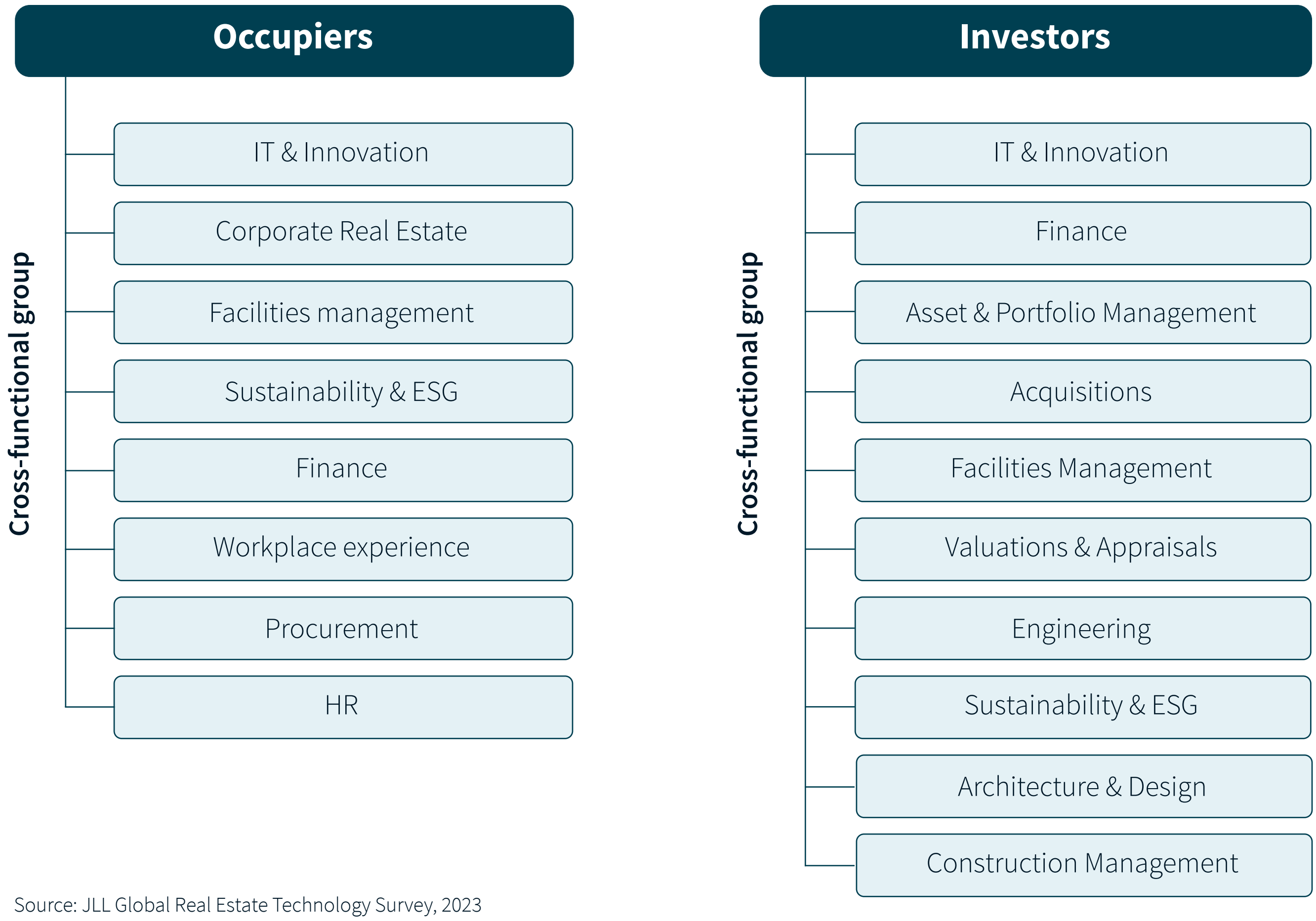
One of the most frequent causes of stalled or ineffective real estate technology programs is a lack of strategic direction, aligned approach and close engagement from company leadership.

Successful companies are twice as likely to have C-level representation for tech initiatives, which is one of the most effective methods to catalyze change, remove impediments and secure appropriate resources in the face of competing enterprise priorities.

During the execution phase, leading companies are three times more likely to have executive leaders actively engaged in tracking project progress and empowering delivery teams. This active engagement prevents a disconnect between the boardroom and the team room, lays the foundation for coordinated change management and lowers the risk of compromised project outcomes.

Figure 10

Stakeholder collaboration is key to driving change



Source: JLL Global Real Estate Technology Survey, 2023

Equally critical is the lateral collaboration across various functions. Currently, only 43% of occupiers and 44% of investors use cross-functional groups to drive technology-related decisions, but our survey indicates that such collaboration is one of the biggest differentiators for leaders.

These cross-functional groups play their fullest role in setting technology goals, making procurement decisions and driving enterprise-wide buy-in during deployment and end-user utilization. Companies should use the group to bridge the gaps across different departments, geographic locations and hierarchical levels within the organization.

Develop an ecosystem approach to deliver technology

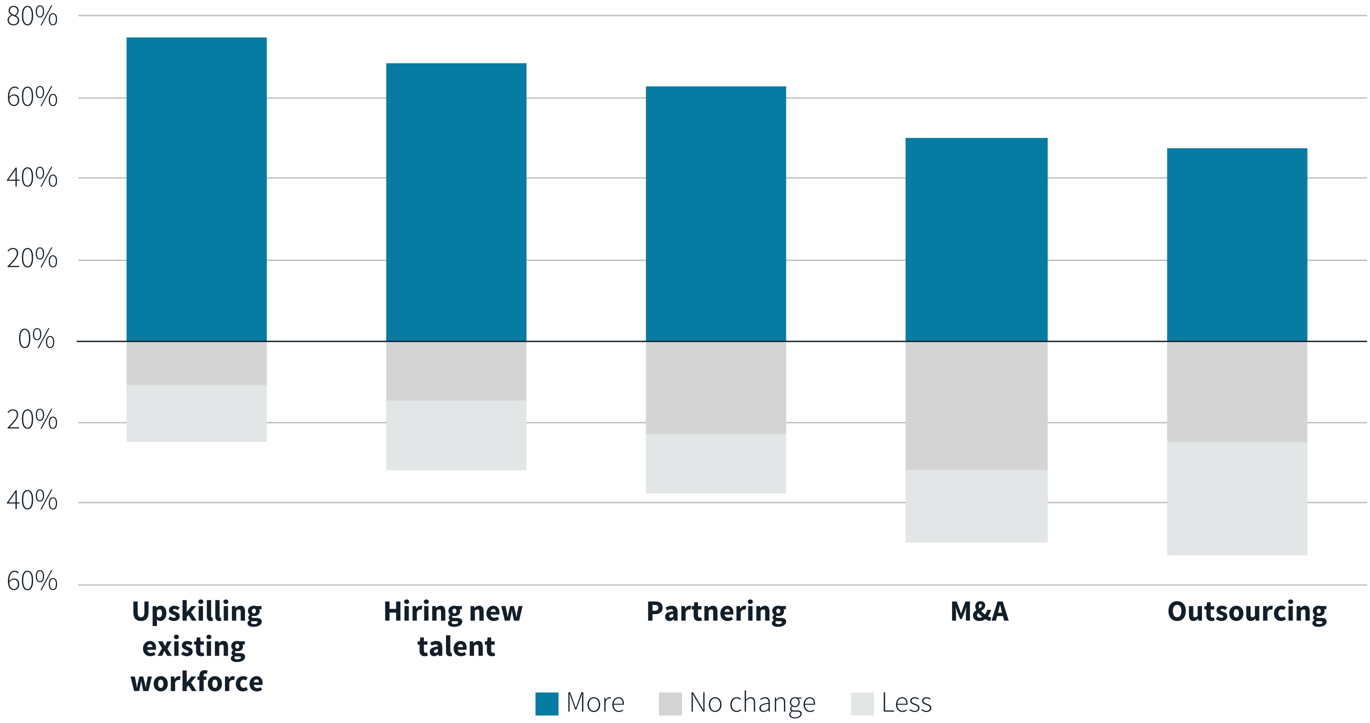
As enterprises advance in their technology adoption, managing an expanding tech stack becomes increasingly challenging. This demands a strong capability within the organization that can implement, operate, integrate and optimize various tech products and processes.

To manage this complexity, companies need to actively enhance their technology capabilities. Notably, about 30% of occupiers and investors identify a lack of digital skills or capacities as their most significant challenge. In contrast, leading companies are already making progress through an ecosystem approach, leveraging an average of four different methods to fill the talent gap.

Our survey shows that upskilling the existing workforce and hiring new talent are being prioritized. Directing efforts towards the most impactful cases for end-users, democratizing data and technology access as well as skills, and giving employees the tools and motivation to participate are the foundations for lasting and stable tech capacity.

Figure 11

Leading companies rely on multiple strategies to improve tech capabilities



Q: How do you plan to develop your technology capacity over the next three years?

Source: JLL Global Real Estate Technology Survey, 2023

While developing internal capacities, companies are also increasingly turning to external experts to advise their real estate technology programs, with over 60% planning to increase their partnerships. They are also considering acquiring tech start-ups and outsourcing tasks. Leveraging external partners is one of the most effective ways to form a project team with deep experience and expertise, especially concerning emerging technologies such as AI.

The ecosystem approach is also applicable for procuring technology. Instead of only relying on off-the-shelf products, 63% of occupiers and 72% of investors have chosen to combine different suppliers. Depending on the specific technology use case, companies are deciding whether to purchase off-the-shelf, obtain outsourcing services, acquire tech companies or conduct in-house R&D. Developing an appropriate ecosystem to source and manage products is a key component of an actionable technology strategy.

3

Drive new ways of working

Enable continuous improvement across your organization

Successful transformation programs require organizations to develop and embed new ways of working among their teams, constantly monitor progress and adapt as projects move forward. This is also one of the most difficult changes to put into practices and one of the most common causes of program failure, with even leading companies identifying change management among their top challenges.

Establishing new, more agile ways of working asks companies to consider:

- Does our organization regularly revisit and adjust strategies and roll-out plans?
- Do we drive implementation with data and clear success measures?
- Have we integrated external stakeholders into our implementation programs?

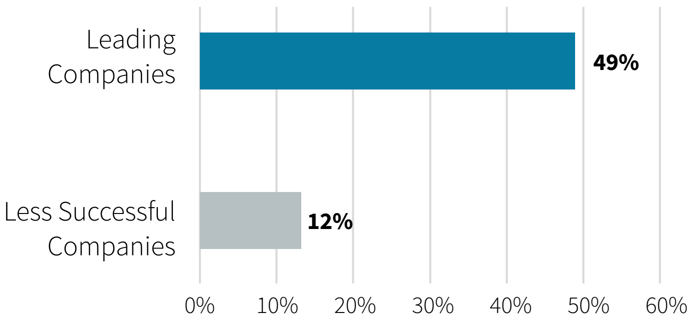
Successful companies are able to evolve their operating model to integrate change management and feedback loops early on, utilize clear measures of success, make data-driven decisions and collaborate effectively with external partners to put in place a continuous culture of improvement.

Take an iterative approach

For both occupiers and investors, the biggest difference in execution lies in establishing a continuous process of piloting, feedback and refining. Successful companies are four times more likely to have taken this iterative approach, regularly revisiting and adjusting their strategies and roll-out plans based on pilot outcomes and feedback, as opposed to following a linear practice.

Figure 12

Successful companies are four times more likely to have taken an iterative approach



Q: Have you implemented an iterative process of piloting-feedback-refine? - % fully implemented.

Source: JLL Global Real Estate Technology Survey, 2023

Pilot and proof of concept (PoC) programs need to ensure cross-functional teams are involved from the start to enable holistic planning and avoid integration challenges as solutions are scaled beyond the controlled pilot environment. One information services company, for example, has set up PoC trials in a number of facilities to test different configurations and solutions across multiple sites and teams, before rolling out successful trials more widely globally. Beyond piloting, throughout the incremental scaling of the technology, companies should continue to gather feedback and insights to facilitate improvements.

Consistent user engagement is necessary to ensure that real-world experience shapes the delivery of the project, increasing the likelihood of success and user adoption. In today's volatile market landscape a lack of flexibility can be especially detrimental, and only 33% of companies are currently prepared with an iterative implementation approach. Companies should identify the capacities required to support their organization's objectives over the short and long term first, then prioritize deployments in that order. Successful companies also allocate resources and budget effectively based on systematic phasing strategies.

Develop clear measures of success

To enable this iterative process, leading companies utilize a comprehensive set of six to eight success metrics covering monetary gains, energy efficiency, data quality, stakeholder engagement and end-user satisfaction. While 45% of companies have outlined their business visions and objectives, a concerning 63% lack clearly defined success metrics, and lagging companies typically rely on just one or two metrics, narrowly focusing on one or two specific impact categories. This damages their ability to detect early signs of failure and take necessary actions to correct the course.

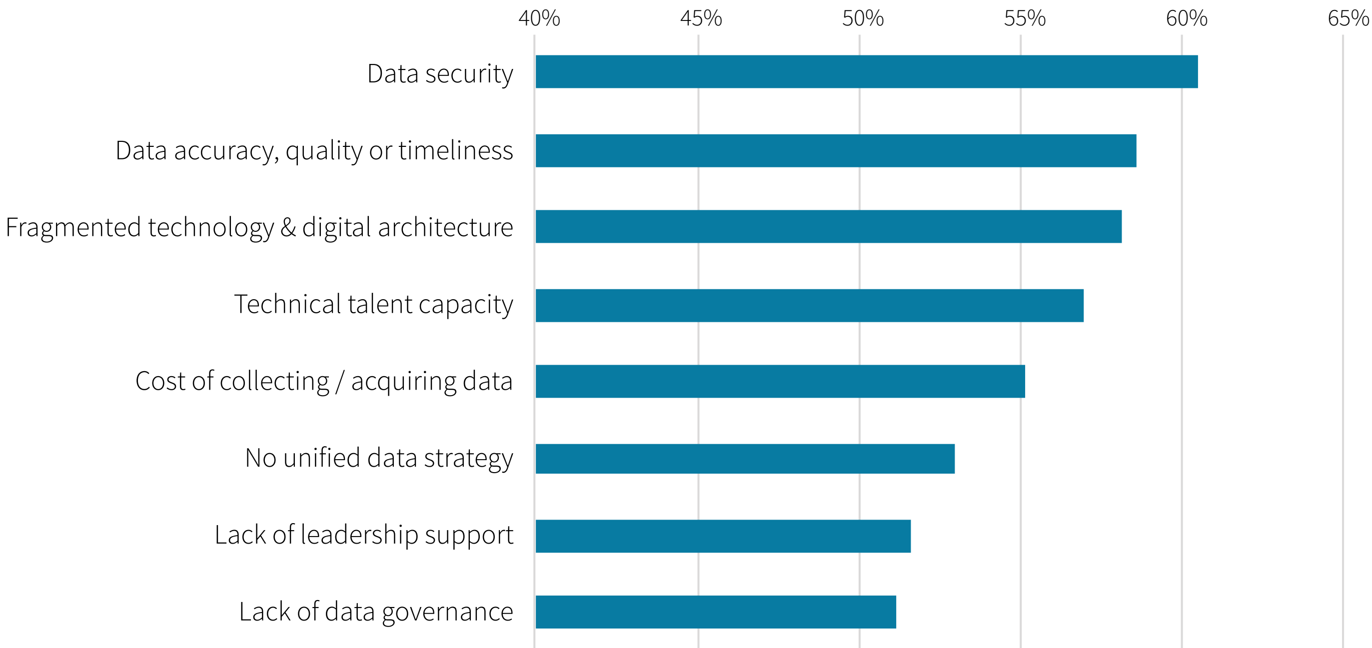
Effective technology programs link outcomes to success metrics, using these thoughtfully to sequence short-term improvements in individual outcomes and longer-term value creation. Establishing clearly defined measures of success with regular reviews enables organizations to track progress and spot signs of impending danger or compromised results. Maintaining hypervigilance of success metrics and project KPIs allows leading companies to remain nimble while also building confidence and buy-in from key stakeholders, thus helping to maintain project momentum and ensure continued resourcing.

Ground decision-making in data

Taking an iterative approach to program development and utilizing a comprehensive set of KPIs to track progress both depend on accurate and timely data. 88% of companies struggle with highly fragmented technical systems and infrastructure for data collection and validation, with 85% having difficulty generating accurate, high-quality and real-time information. Many still rely on manual data collection and entry beyond a limited number of IoT systems. This makes it challenging for most to establish a baseline for their operations from which to plan, measure success or quantify the opportunity cost of not taking action.

Figure 13

Challenges in collecting and managing data



Q: How challenging are the following factors when collecting and managing CRE data? - % challenging/highly challenging

Source: JLL Global Real Estate Technology Survey, 2023

A growing number of organizations have multiple systems for data collection across different use-cases, and this has made it difficult for many to form a consolidated view of their space and transaction-level information. Lease management tools and consolidated insights platforms are among the highest-priority tools occupiers are targeting to adopt next, and a significant share of companies is currently operating with different platforms across functions including occupancy and space planning, site selection, workplace management and budgeting. This can make running pilots and tracking success metrics time-consuming and expensive, requiring extensive configuration to integrate ongoing projects with live environments and workflows.

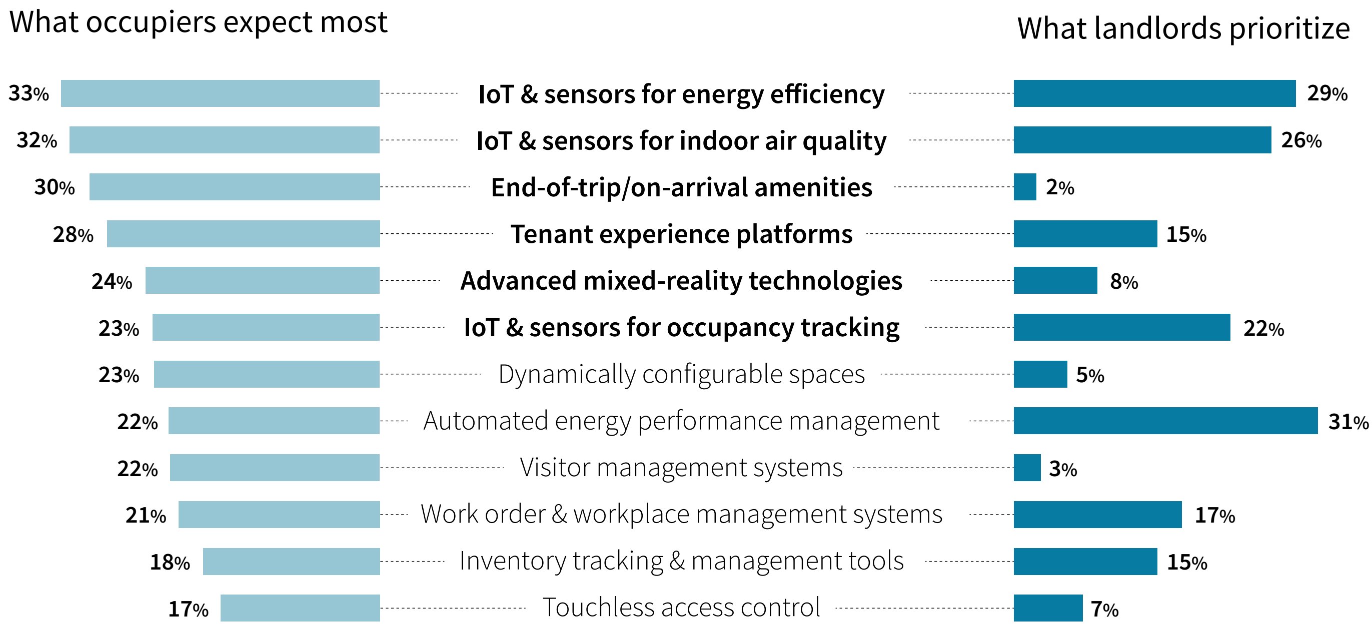
Creating scalable, secure technical architecture that integrates real-time data with enterprise platforms and consolidated insights dashboards is a key step in allowing easier integration and reuse of core data and faster workflows. Enabling a data-centric process can be supported by taking a globally consistent approach to information management and governance, prioritizing metrics which fit into the phased implementation approach and identifying data champions that can support buy-in from operational teams.

Collaborate effectively with external stakeholders

In a landscape of rapidly changing tech priorities and fragmented technical standards, our survey highlights how a lack of alignment can result in wasted investment and a lack of support for core objectives, with a disconnect between landlords and occupiers emerging. This relates in particular to the types of technologies that need to be provided in a building and whose responsibility they should be. While landlords are currently emphasizing connectivity and hardware, they often overlook 'experience management' features – such as on-arrival amenities (e.g., smart lockers), mixed-reality, configurable spaces and visitor management systems – that tenants prioritize.

Figure 14

Misalignment in expectations and priorities between landlords and occupiers



Occupiers Q: Which of the following technologies will be most important for landlords to provide the next time you move to a new space?

Investors Q: Which of the following technologies are you prioritizing to incorporate into your future developments or asset leasing projects?

Source: JLL Global Real Estate Technology Survey, 2023

For occupiers, determining and specifying the core technologies that will be required to enable your transformation efforts before starting a search for space, and communicating these early with potential landlords to work out the details of integration and areas of responsibility, is key. Many investors are already working closely with tenants on their tech goals, but instigating formal client consultations and ongoing feedback programs can ensure spaces meet the needs of potential tenants, avoid wasted capital investments and confer an edge in a competitive leasing environment.

Achieving the full benefits from tech transformation programs is only possible when all parts of the real estate ecosystem – developers, landlords, occupiers and service providers – work together to optimize how buildings function and support their end-users' needs. In a similar way to the joint effort required by landlords and tenants to reduce operational energy intensity, creating a shared understanding of how your technology goals and systems align with your external partners and ensuring they work together is fundamental to driving progress and maximizing results.

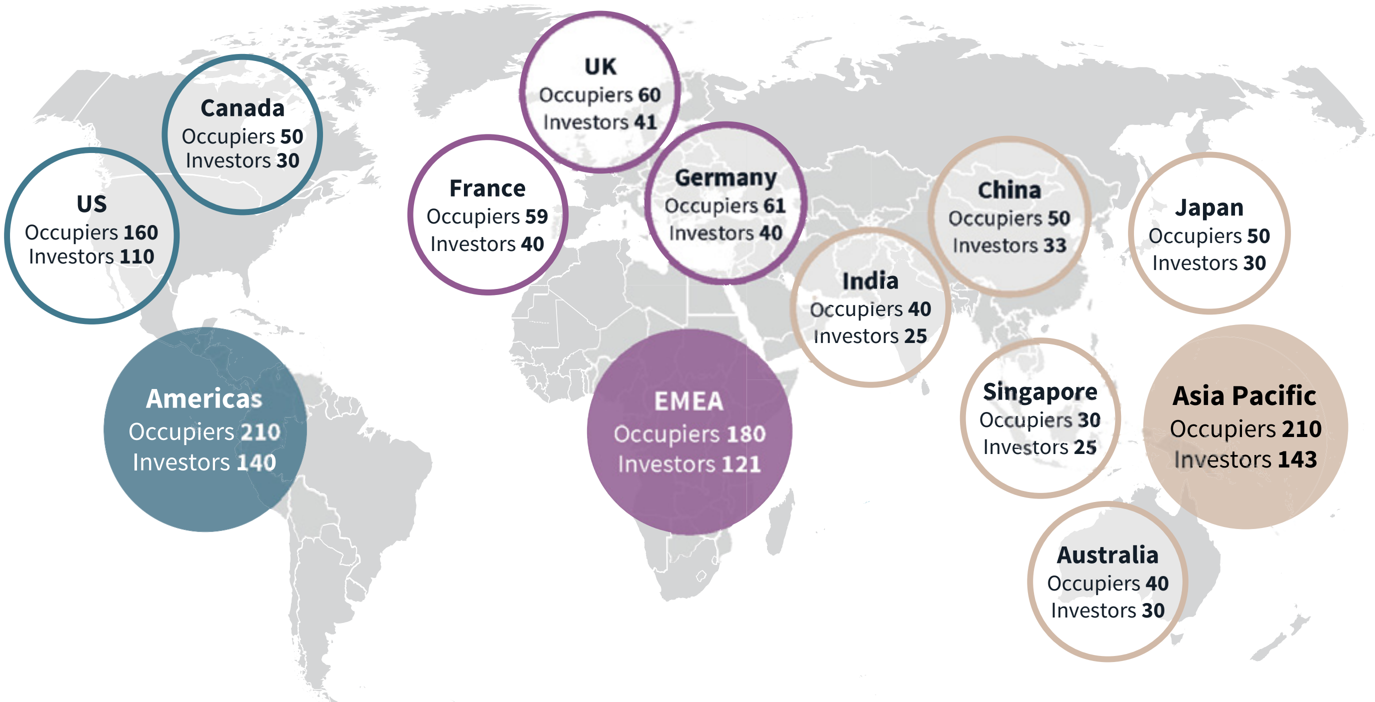
About this study

JLL conducted research among 1,006 senior real estate decision-makers during May and June 2023. This included over 600 CRE (corporate real estate) leaders at major occupiers and over 400 leaders at real estate investors, landlords and developers. All respondents have responsibility for making or influencing decisions regarding real estate within their organization and hold senior leadership roles including department heads, executive management and C-level positions. Research respondents are situated in 10 markets globally: Australia, Canada, China, France, Germany, India, Japan, Singapore, the UK and the U.S.

Among occupiers, 50% of companies employ more than 5,000 people globally. The respondents represent a range of industry sectors including technology, manufacturing, finance, professional services, retail, hospitality and government. Investor respondents are from a variety of operating models including investment managers and private equity, banks, REITs, real estate operating companies and developers. Over 60% of organizations represented hold real estate assets under management in excess of US$10 billion.

Figure 15

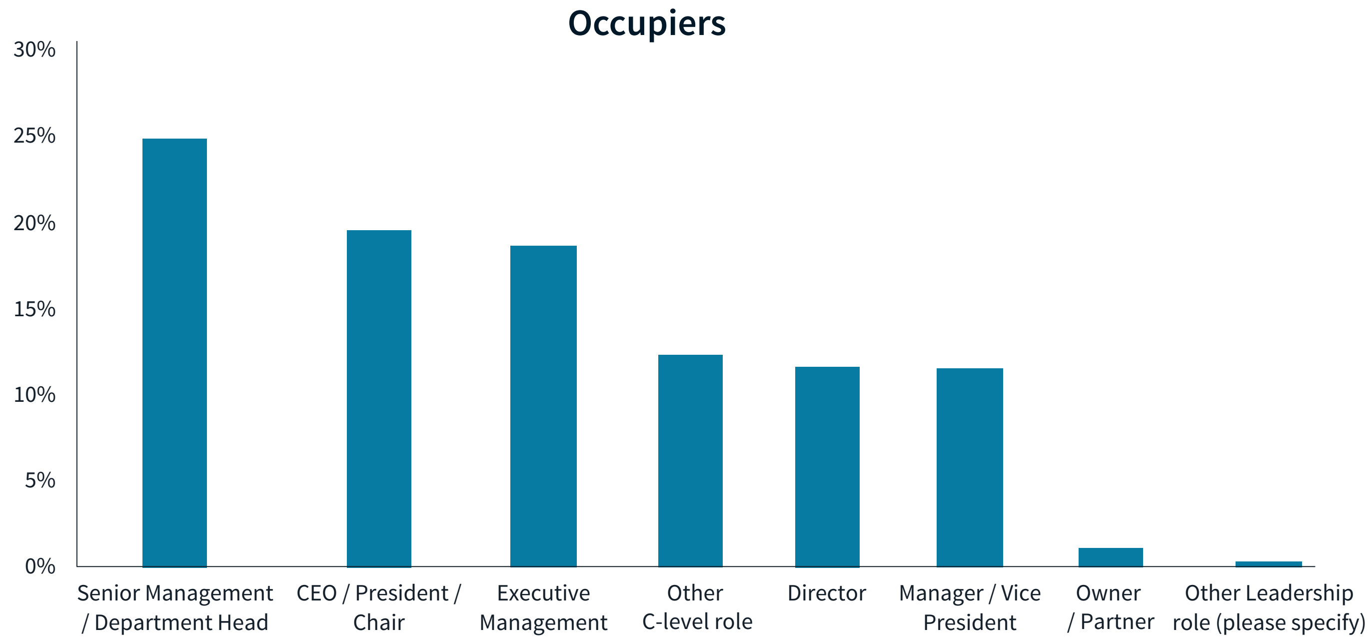
Location of respondents

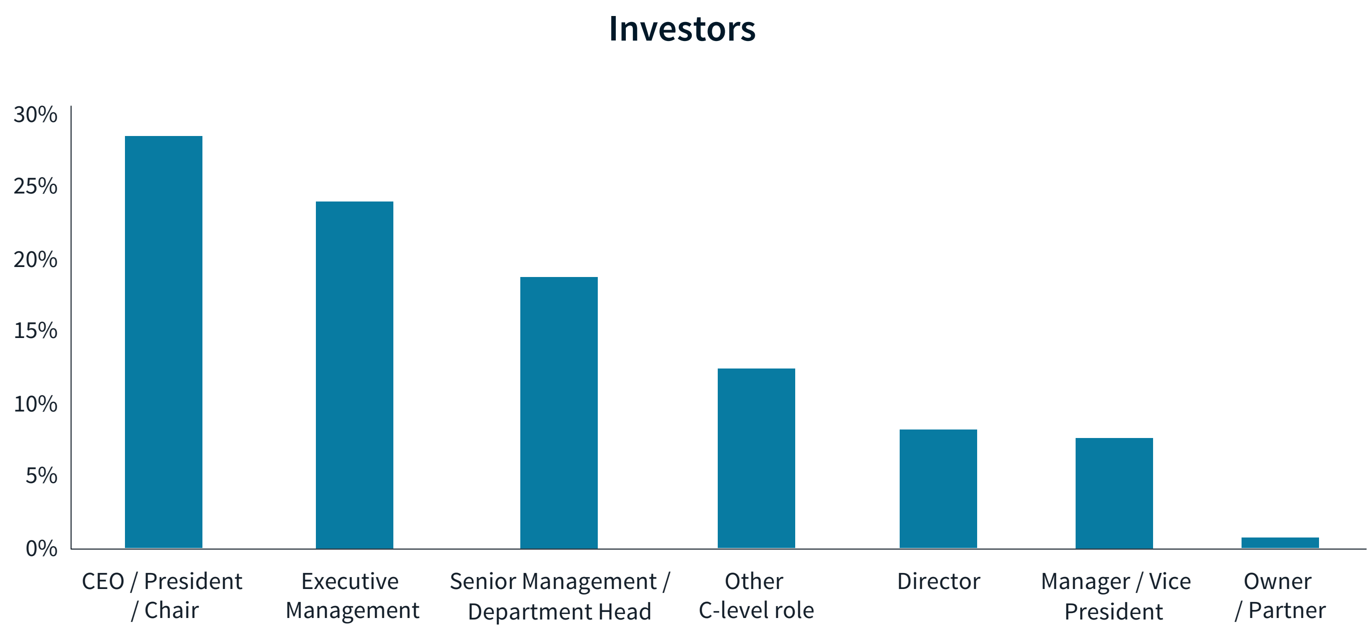


Source: JLL Global Real Estate Technology Survey, 2023

Figure 16

Which best describes your role and responsibilities?





Source: JLL Global Real Estate Technology Survey, 2023

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Research at JLL

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