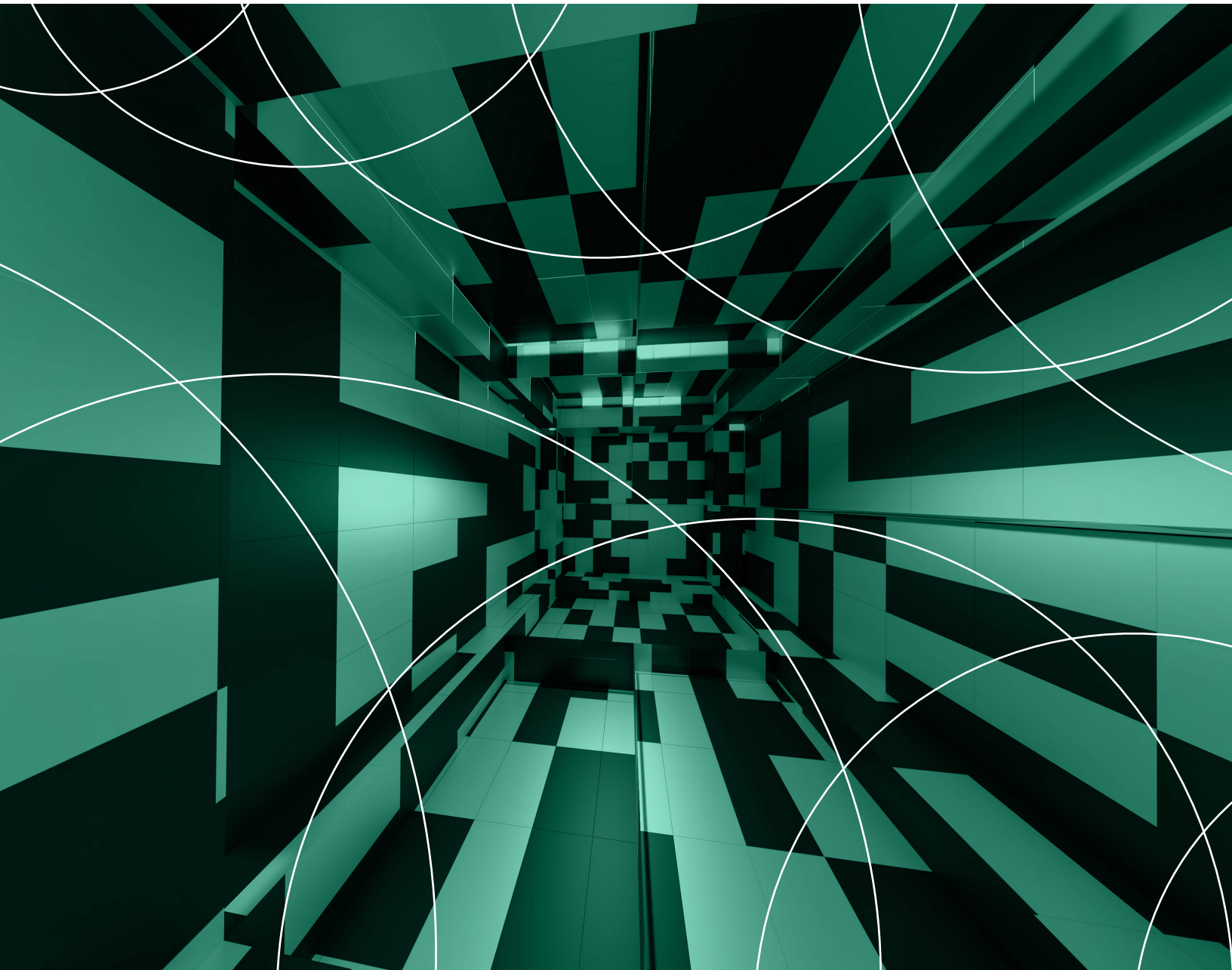# Cracking The Smart Buildings Code: A Spotlight On Data Centers

Results From The November 2023 Thought Leadership Paper, "Cracking The Code: Unleash Your Smart Buildings Strategy With The Power Of Facility Data"

Executive Summary

Because they are responsible for 1% to 1.5% of global final electricity demand, data centers face increasing regulatory pressure to offset their energy use.[1] In 2024, Forrester predicts at least half of new data centers will leverage tactics like heat reuse to meet regulatory requirements, reduce costs, and meet their own carbon commitments.[2] Reducing or offsetting energy use effectively will require more connected, automated, and intelligent building systems.

In August 2023, Johnson Controls commissioned Forrester Consulting to evaluate the state of smart buildings. Forrester conducted an online survey with 3,445 smart buildings leaders to explore this topic. All leaders were asked high-level smart buildings strategy questions and then more granular questions depending on their level of responsibility for sustainability, security, and/or building environmental systems. Leaders represented organizations in 18 industries and 25 countries. For this spotlight, Forrester focused on a subset of 305 smart building decision-makers at data centers.

We found that data center leaders are focused on enabling smart buildings to optimize energy consumption, reduce carbon emissions, and improve the safety and security of their buildings to benefit their people and facilities. Yet these leaders' organizations lack data integration and the right partners, which is preventing cross-functional stakeholders from achieving these goals. Smart buildings by nature are complex, and the right technical and strategic partners are needed to help data center leaders advance their initiatives.

Key Findings

Only 7% of data center leaders say their building systems and equipment are fully integrated, and it's costing them time, people, and money. While many leaders use building insights, their decisions are rife with risk due to limited data painting an incomplete picture. This lack of data and insights is causing decreased operating efficiencies (65%), decreased customer loyalty (64%), and increased regulatory penalties (60%).

Buildings insights are vital to compliance, sustainability, health, and safety goals. Data center leaders are focused on reducing energy usage, improving security operations, maintaining business continuity, and reducing carbon emissions. Many stakeholders rely on building insights to achieve these goals.

Data center leaders seek smart buildings partners offering deep integration abilities, the most advanced technology, easy-to-use platforms, and a local footprint alongside global expertise. Smart buildings solutions unite data from all systems and equipment, automatically alerting and adjusting environments for safety and efficiency. These solutions also make it easier for leaders to leverage captured insights to guide decisions and recommendations. Selecting a third-party partner with appropriate integration, technology, and platform expertise is often needed for seamless enablement. Global delivery experience coupled with local resources is also important to data centers.
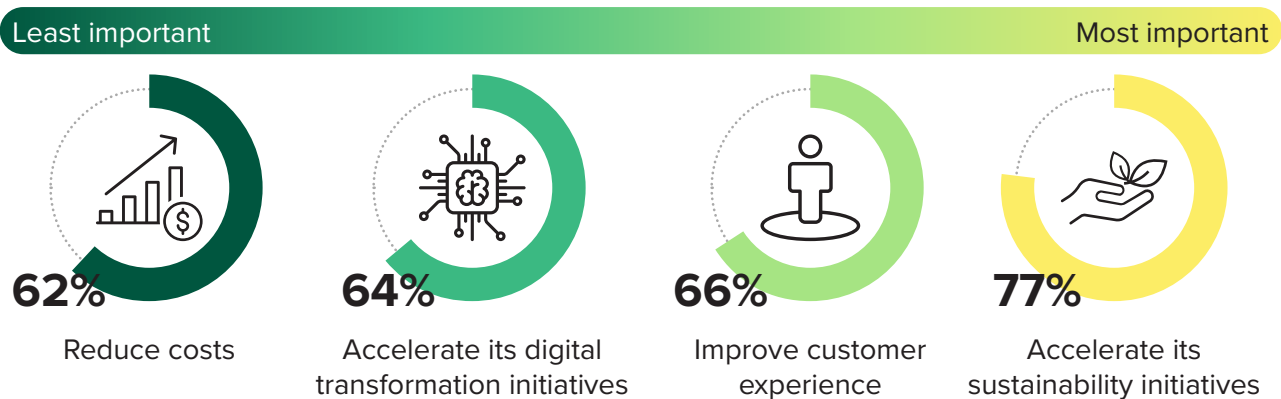
Smart buildings provide data center leaders with a clearer picture of what's going on inside their facilities, helping them better monitor and manage energy usage, and keep their people and facilities safe and secure. For the purposes of this study, we defined smart buildings as those that converge information from various connected systems in a facility (e.g., HVAC, lighting, security, etc.) to provide data-driven insights and measurable information that can be shared across multiple operational technology (OT) and information technology (IT) systems. In surveying 305 smart buildings strategy leaders at data centers, we found that:

- **Smart buildings help accelerate customer experience (CX), digital transformation, and sustainability initiatives in data centers.** Data center leaders' top three goals are to improve CX and accelerate their organizations' digital transformation and sustainability initiatives. More than three-fourths of data center leaders say smart buildings are important to achieving the goal of accelerating digital transformation efforts. In addition, roughly two-thirds of respondents indicate smart buildings are important for accelerating their sustainability initiatives and improving CX (see Figure 1).

FIGURE 1

Importance Of Smart Buildings Initiatives To Meet Top Business Priorities

(Showing "Important" and "Critical")

Least important   Most important

62%
Reduce costs

64%
Accelerate its digital transformation initiatives

66%
Improve customer experience

77%
Accelerate its sustainability initiatives

Base: 150 to 233 smart buildings decision-makers at the director level or higher at data centers
Note: Showing top 4 business priorities
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

- **Only 7% of data center leaders say their building systems and equipment are fully integrated.** A smart building is only as smart as the infrastructure that supports it. Comprehensive smart buildings connect all relevant systems and data. However, due to the diverse array of connected building systems, managing many partners and achieving necessary technology integration is challenging. On a scale of 1 (not at all integrated) to 7 (fully integrated), only 7% of data center leaders report their systems and equipment are fully integrated today (see Figure 2). This puts them slightly behind other industries; 18 industries were surveyed and on average 10% of respondents say their systems and equipment are fully integrated today.

FULL BUILDING SYSTEM INTEGRATION
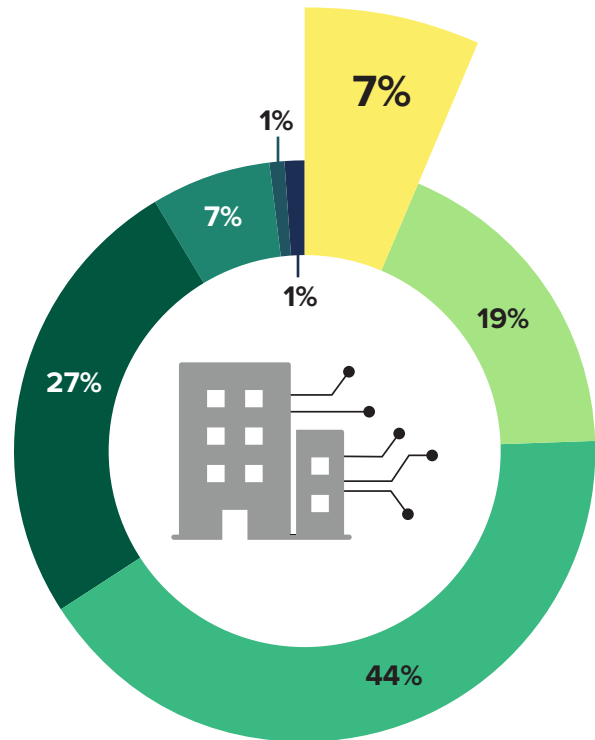
7%
Average for data centers

10%
Average across all 18 industries surveyed

FIGURE 2

"How well integrated are the digital systems, solutions, services, and connected equipment in your organization's buildings?"

- ● 1 - Not at all integrated
- ● 2
- ● 3
- ● 4
- ● 5
- ● 6
- ● 7 - Fully integrated

1%
7%
1%
7%
19%
27%
44%

Base: 305 smart buildings decision-makers at the director level or higher at data centers
Note: Percentages may not total 100 due to rounding.
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

- **Lack of data integration is costing organizations time, people, and money.** Gaps in captured building data and integrated building systems have negative impacts on data center operations, profitability, and customer retention. For example, many leaders say their organizations face decreased operating efficiencies (65%), decreased customer loyalty (64%), and increased regulatory penalties (60%). Companies that overcome this integration hurdle will win out — Forrester's research finds that executives at future fit organizations report 1.6 times faster average year-over-year revenue growth than those that are not future fit.[3]

- **Security, space optimization, and sustainability are top smart buildings investment drivers.** Data center leaders identified multiple drivers propelling investments to make their buildings smarter. Top drivers include improving security operations (50%), improving physical security (49%), reducing carbon emissions (46%), optimizing space management (42%), and maintaining business continuity in the face severe weather and other events due to climate change (40%).

- **Managing the many partners involved with data center facilities is complicated.** Sixty-three percent of surveyed leaders work with multiple partners — each specializing in specific types of building systems — to get required insight into their facilities. Many leaders also face misalignment between their partners (58%) or struggle to get accurate and useful information from them (64%). In addition to working with a diverse array of partners, most (72%) of data center leaders also struggle with using captured insights to optimize their building systems and achieve their top goals.

- **Data center leaders need smart buildings partners with breadth and depth of expertise.** Deploying a smart building often requires engaging with partners having a breadth and depth of expertise to advance smart building initiatives. Leaders in this study seek partners who demonstrate many characteristics including those that use the latest technology, have experience in the data center industry, enable smart buildings platforms used by cross-departmental stakeholders, offer one digital platform across all sites and use cases, and enable seamless integration into all

building systems. Forrester's research finds that future fit organizations excel by strategically leveraging partners to deliver new value and drive change across their organizations. As data center leaders strive to make their facilities smarter to achieve cross-departmental goals, they must engage partners with expertise across their many building systems and platforms to accommodate their many stakeholders. Global expertise coupled with a local footprint is also important to data center leaders (see Figure 3).

FIGURE 3

Importance Of Smart Buildings Partner Attributes

(Showing "Valuable" and "Extremely valuable")

Uses latest technology	74%
One digital platform across all sites and use cases	71%
Seamless integration with existing systems	67%
Experience in my organization's industry	65%
Ease of use for cross-departmental stakeholders	65%
Speed of responsiveness	64%

Base: 305 smart buildings decision-makers at the director level or higher at data centers
Note: Showing six responses
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

Data centers face increasing regulatory pressure and pressure from customers to reduce their carbon emissions. Smart buildings can help data centers run more efficiently through smart automation and redirect and reuse excess energy generated. We found that:

- **Urgency to address sustainability in data centers continues to accelerate.** Comparing 2023 data center survey respondent results to results from the 2021 study commissioned by Johnson Controls show that sustainability remains a top business priority in this sector (see Figure 4).[4] Even in a more volatile economic and political climate, there continues to be an urgency to accelerate sustainability efforts. This momentum is driven by regulatory pressures and efficiencies realized from prior sustainability efforts. Achieving 2030 carbon reduction goals is also driving sustainability momentum among data centers. The
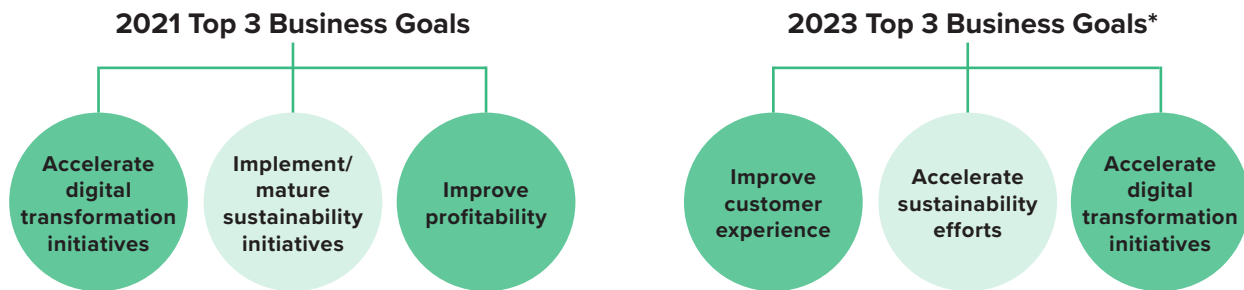
2030 CARBON REDUCTION GOAL OF 75%+

61%
Average for data centers

64%
Average across all 18 industries surveyed

FIGURE 4

Top Business Goals In 2021 Vs. 2023 For Data Centers

2021 Top 3 Business Goals

- Accelerate digital transformation initiatives
- Implement/mature sustainability initiatives
- Improve profitability

2023 Top 3 Business Goals*

- Improve customer experience
- Accelerate sustainability efforts
- Accelerate digital transformation initiatives

Base: 102 sustainability decision-makers at data centers prioritizing corporate sustainability
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, September 2021
*Base: 305 smart buildings decision-makers at the director level or higher at data centers
*Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

2023 study shows 61% of leaders from data centers set their carbon reduction goal above 75% across their portfolio of buildings by 2030. This result is slightly lower than the overall average of 64% across all 18 industries surveyed.

- **Siloed data and a lack of operational integration threatens to derail progress toward sustainability goals.** Roughly three-fourths of data center leaders say their organizations are on track to meet their organization's aggressive 2030 carbon reduction goals, but notably another 23% worry their organization is underperforming on the path towards meeting these goals (see Figure 5). While we don't have a large enough sample to analyze at the industry level, in the broader study we found there are also discrepancies between stakeholders participating in these sustainability initiatives. While 49% of respondents with a sustainability title say their organization has a carbon reduction goal of 75% or more across their portfolio of buildings, 80% of IT leaders and 67% of CEOs report the same. These significant differences indicate there is a lack of a single source of truth for many organizations when it comes to visibility of this high-level sustainability goal, let alone more granular metrics.

FIGURE 5

Performance Toward Meeting 2030 Carbon Emissions Reduction Goal

- Significantly overperforming
- Overperforming
- On track to meet its goals
- Underperforming
- Significantly underperforming
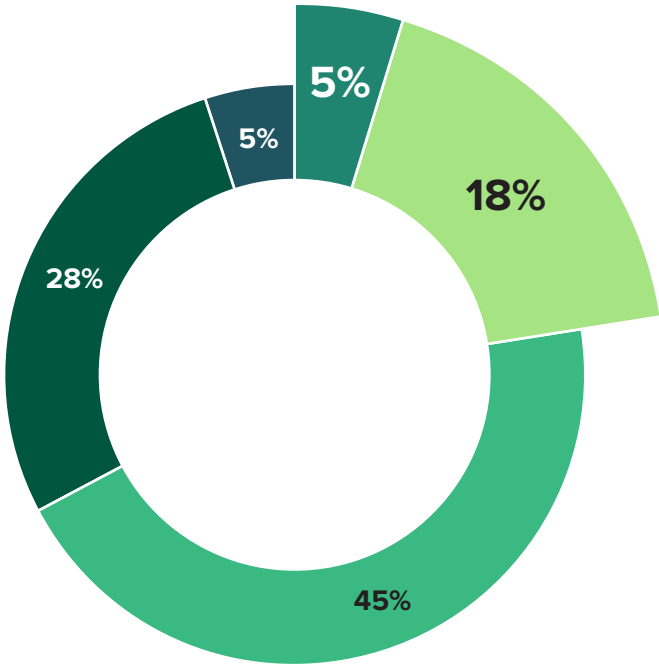
Base: 119 smart buildings decision-makers involved with environmental sustainability at the director level at data centers
Note: Not showing "Don't know"
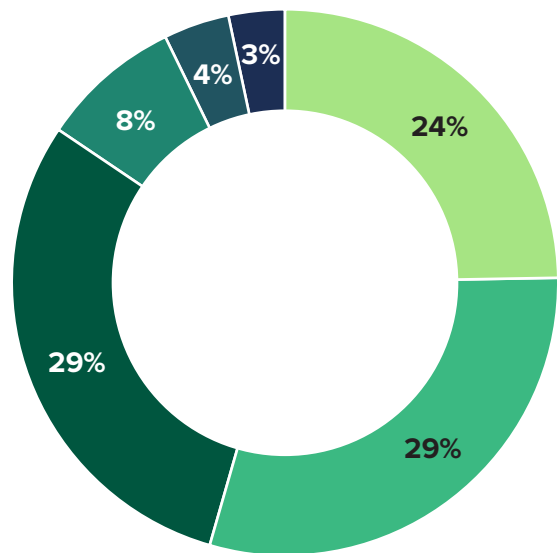Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

- **Data center customers and regulators demand progress and transparency in reporting.** In addition to increasing regulatory requirements, data center customers demand better reporting. Study results show customer-required and public reporting are the most common reporting types in data centers, followed by country regulation-required environmental, social, and governance (ESG) reporting. However, most organizations can only measure and report on carbon emissions once a year or quarter, which limits reporting of incremental progress (see Figure 6). Measuring carbon emissions in near real time is key to identifying accurate recommendations to optimize building systems or to adjust processes to reduce carbon emissions.

> Data centers are ahead of other industries in their use of AI to optimize energy consumption and reduce waste.

FIGURE 6

Carbon Emissions Reporting/Measurement Cadence

- ● Real time
- ● Daily basis
- ● Weekly basis
- ● Monthly basis
- ● Quarterly basis
- ● Yearly basis

Base: 119 smart buildings decision-makers involved with environmental sustainability at the director level at data centers
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

- **Environmental impact reporting is fragmented and lacks a commonly used standard.** Data centers use many different types of reporting. The Global Reporting Initiative (GRI) standard is used most often and provides data centers with more reporting flexibility compared to other frameworks. Among data centers with climate transition plans in place, only one respondent said their organization can report on all

four Task Force on Climate-Related Financial Disclosures (TCFD) areas of governance: strategy; risk management; and metrics and targets (see Figure 7). This result shows reporting is far from standardized and remains fragmented.

FIGURE 7

"Which of the following does your company report on/plan to report on relating to its climate transition plan?"

Strategy

59%

Impacts of climate-related risks and opportunities on business, strategy, and financial planning, including supply chain management

Risk management

41%

The process for identifying, assessing, and managing climate-related risks

Metrics and targets

36%

Metrics and targets used to assess and manage climate-related risks and opportunities

Governance

27%

Management of climate risk and opportunities at board and leadership level
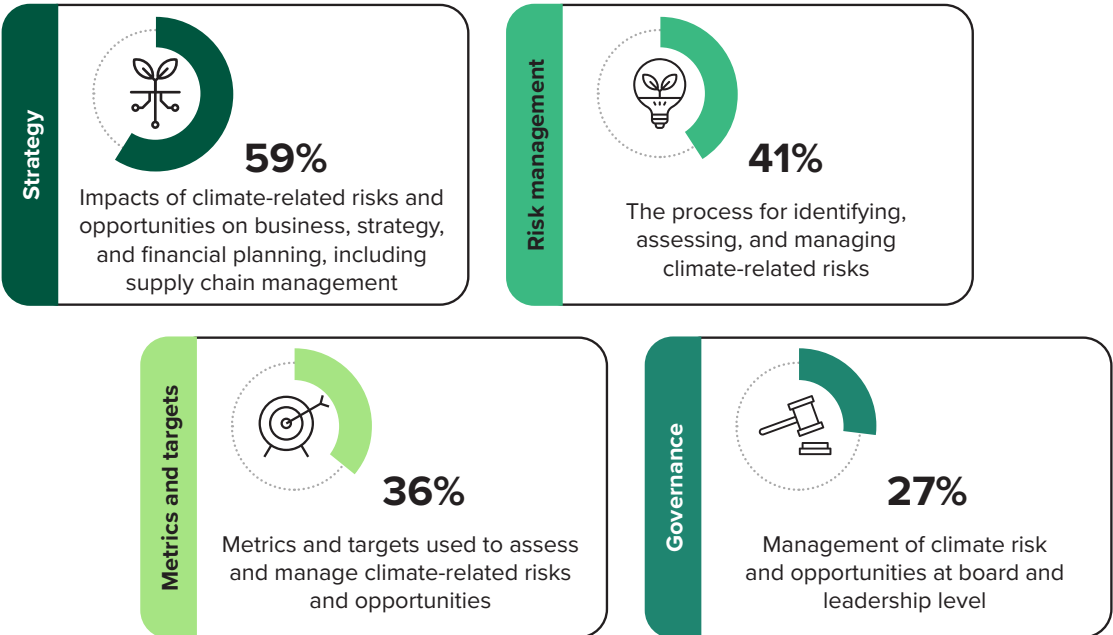
⚠ **Just 1% say their company reports on all 4 categories.**

Base: 102 smart buildings decision-makers involved with environmental sustainability at the director level or higher at data centers that have a climate transition plan in place or are developing one
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023
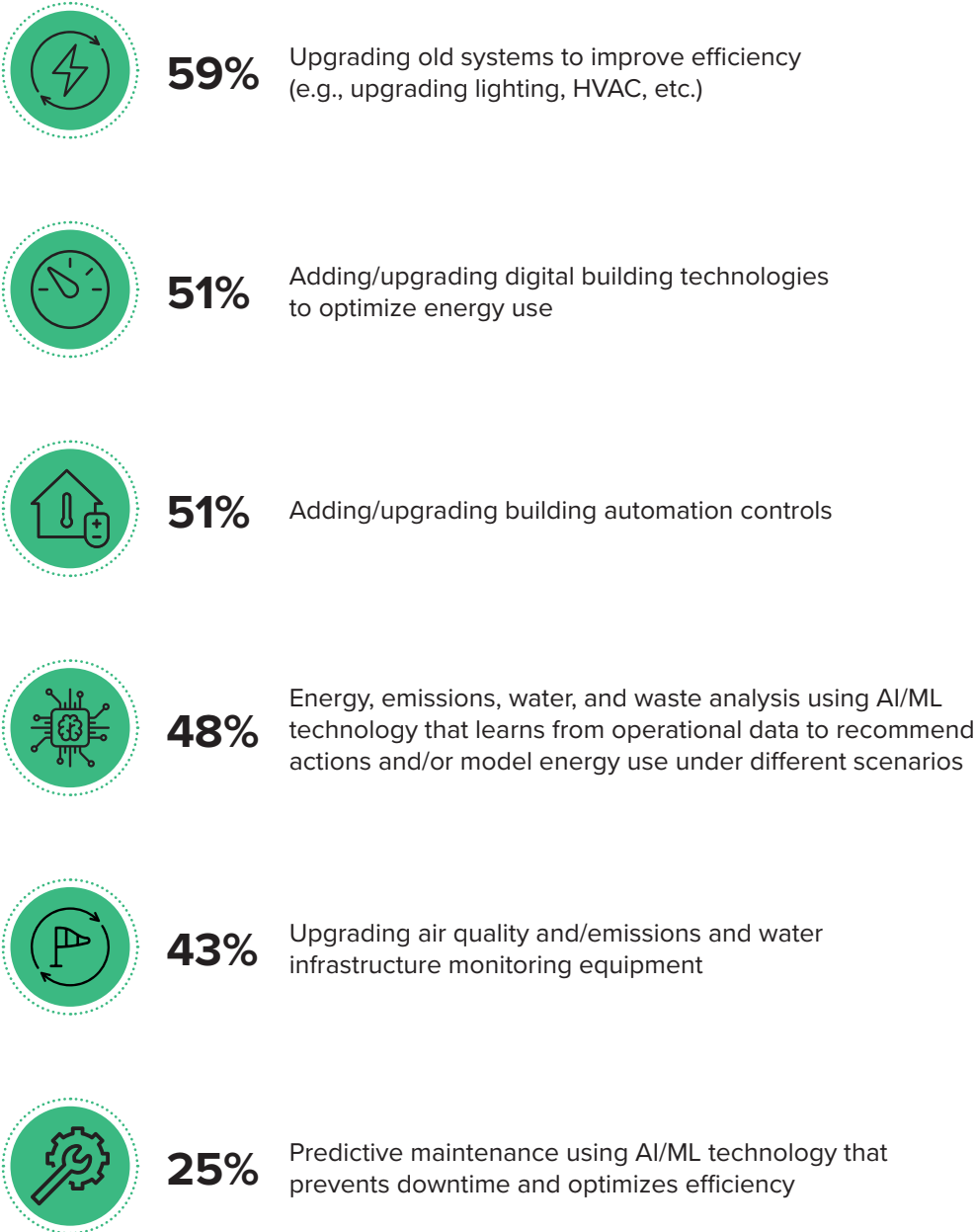
- **Technical and strategic partners are often needed to help fill expertise gaps.** Seventy-two percent of data center sustainability leaders say their organizations lack the technical expertise to optimize building systems using insights collected; and 34% lack internal skills to measure their organization's environmental impact. Other top challenges include

not understanding what the next most impactful steps are to meet sustainability goals (55%); struggling with competing organizational priorities (51%); and the high costs of executing on sustainability priorities (45%). To digitally transform buildings successfully and achieve sustainability goals, data centers need partners to fill internal expertise gaps and strengthen their foundation and roadmaps to reduce carbon emissions.

- **High-impact data center sustainability initiatives often start with upgrading, digitizing, and automating systems to improve efficiency.** Sixty-four percent of data center leaders say smart buildings are important to accelerating their firm's sustainability initiatives. Leaders indicate replacing old equipment to improve efficiency and cost savings and adding/upgrading building automation controls and digital technologies have significant impact on their organizations' ability to improve sustainability of owned or leased spaces. Comparing these results to the 2021 study commissioned by Johnson Controls, we see that many organizations started their smart buildings sustainability journeys by upgrading old equipment to improve efficiency and enabling air-quality and emissions monitoring.[5] With the foundation in place, artificial intelligence (AI) insights can be used to drive further efficiency and give leaders access to more actionable sustainability insights.

- **Data centers are ahead in their use of AI to optimize energy consumption and reduce waste.** Data centers are the second highest adopters among industries surveyed in their use of AI that learns from energy, emissions, water, and waste analysis to recommend actions or model energy use under different scenarios. In fact, 48% of respondents say their organization is investing in AI and that this investment has already or will be impactful (see Figure 8).

FIGURE 8

Upgrading, Digitizing, And Automating Systems Set The Foundation For Smart, Sustainable Buildings

59% Upgrading old systems to improve efficiency (e.g., upgrading lighting, HVAC, etc.)

51% Adding/upgrading digital building technologies to optimize energy use

51% Adding/upgrading building automation controls

48% Energy, emissions, water, and waste analysis using AI/ML technology that learns from operational data to recommend actions and/or model energy use under different scenarios

43% Upgrading air quality and/emissions and water infrastructure monitoring equipment

25% Predictive maintenance using AI/ML technology that prevents downtime and optimizes efficiency

Base: 119 smart buildings decision-makers involved with environmental sustainability at the director level at data centers
Note: Showing smart building investment initiatives with most significant impact on improving building sustainability
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

Optimizing The Health And Safety Of People And Equipment Requires Smart Buildings Partners
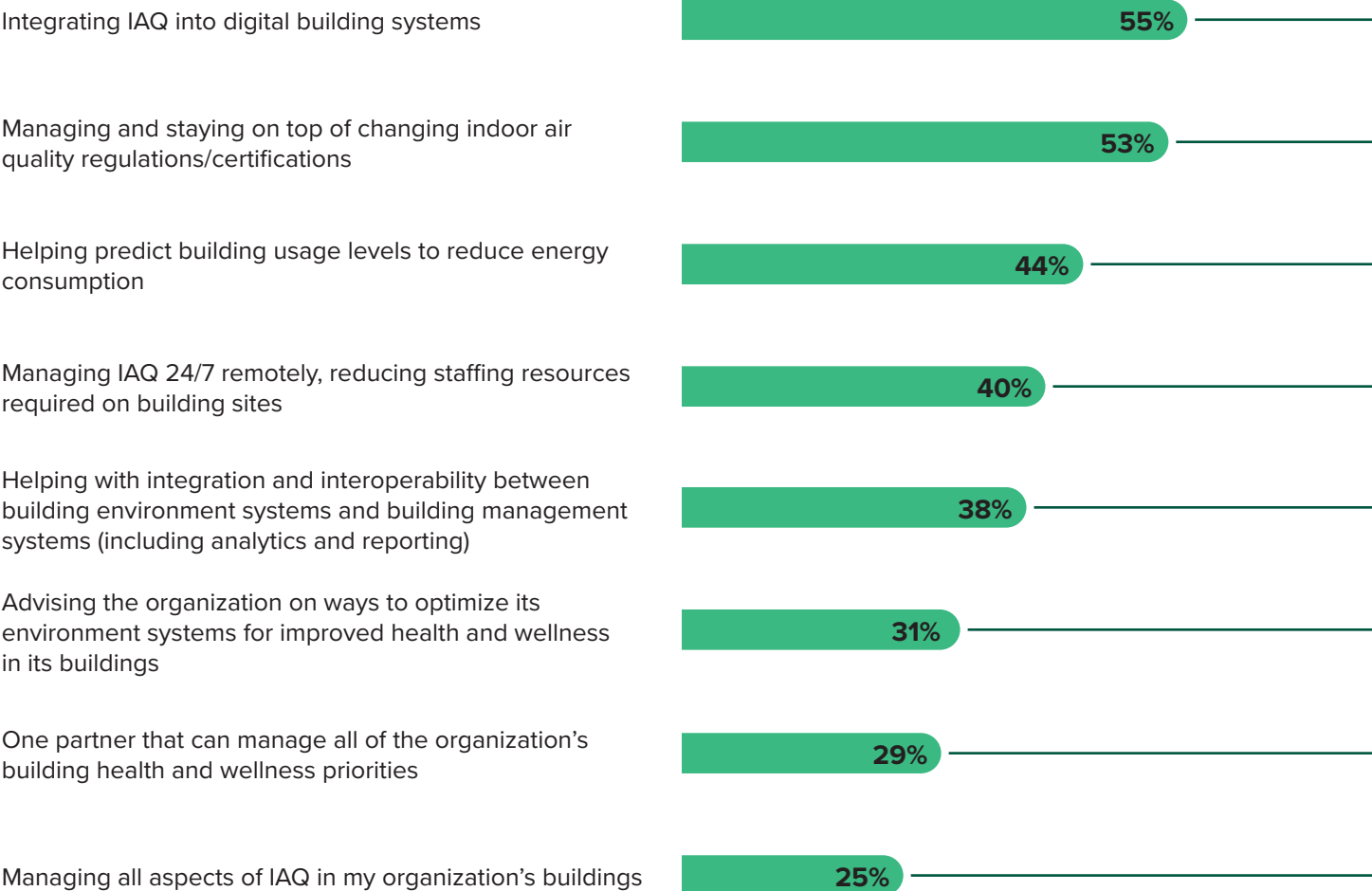
In addition to addressing pressures to reduce and offset energy consumption for efficiency and compliance reasons, data center leaders are focused on keeping their resource-intensive and environmentally sensitive equipment — and the people operating it — healthy and safe. In this study, we found that:

- **Health and wellness, safety, and efficiency are top building environment goals.** Data center leaders say their organizations are focused on improving occupant safety (62%), the ability to attain health and wellness certifications (54%), and operational efficiency (49%). To achieve these goals, they are focused on optimizing energy consumption (61%), designing flexible building operating models (55%), improving physical security (47%), and monitoring/improving indoor air quality (IAQ) (46%). While there aren't many people working in data centers, improving IAQ is important to protecting valuable equipment and driving efficiencies.

- **To achieve their building environment goals, data center leaders need partners with intelligent solutions and deep expertise.** They plan to rely on external partners to integrate IAQ into digital building systems (55%), stay on top of IAQ regulations and certifications (53%), help them predict energy usage levels to improve energy efficiency (44%), and manage IAQ 24/7 remotely, reducing staffing resources required on building sites (40%) (see Figure 9).

- **Ownership of building environment system priorities is spread across departments, requiring tailored analytics and standardized reporting on shared metrics.** Different parts of the organization own different building systems initiatives at data centers. For example, environmental health and safety tends to own occupant safety and health and wellness certification initiatives; employee experience/HR tend to own regulatory compliance initiatives; and IT or operations tend to own operational performance initiatives. To ensure buildings insights are

relevant and useful, data centers should tailor analytics and reporting to accommodate department needs and standardize the reporting on shared metrics and goals.

FIGURE 9

Capabilities Organizations Rely On External Partners For

Integrating IAQ into digital building systems — **55%**

Managing and staying on top of changing indoor air quality regulations/certifications — **53%**

Helping predict building usage levels to reduce energy consumption — **44%**

Managing IAQ 24/7 remotely, reducing staffing resources required on building sites — **40%**

Helping with integration and interoperability between building environment systems and building management systems (including analytics and reporting) — **38%**

Advising the organization on ways to optimize its environment systems for improved health and wellness in its buildings — **31%**

One partner that can manage all of the organization's building health and wellness priorities — **29%**

Managing all aspects of IAQ in my organization's buildings — **25%**

Base: 121 smart buildings decision-makers involved with building environment systems at the director level at data centers
Note: Showing top 8 responses
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

Data centers are prime targets for attacks due to the large amount of data they contain and the importance of business continuity in operations. Smart buildings technology and partners who can supplement limited cyber resources can help organizations bolster access control, surveillance, and incident response capabilities. In this study, we found:

- **Integrated security operations centers (SOCs) and systems are needed to better detect and respond to threats against data centers.** Cyberattacks are multidimensional, yet most security teams lack visibility into all those dimensions. Physical and cyber teams often report to different parts of the data center. In fact, most data center leaders say their security teams (58%) lack 24/7 visibility into all security systems. This leads to many issues with getting information from all necessary systems, often preventing appropriate understanding and response to facilities threats (see Figure 10). Both physical and cyber security insight is needed because attacks may target both systems. For example, disabling cameras before breaking into a building, or stealing or copying an employee's badge, using it to enter a healthcare facility, and planting malware on a machine or using a USB drive to steal data off a system.

- **Advanced organizations rely on partners to scale and sustainably improve their operations.** Nearly half (48%) of data center security leaders say they must find a partner who can manage global security operations center (GSOC) operations remotely 24/7, reducing staffing resources and costs. While we don't have enough data to analyze this at the data center-industry level, in the broader smart building study we looked at respondents whose organizations currently have 24/7 visibility into all their security systems and found these leaders' organizations are more likely to have GSOCs in place, and they have a strong appetite to engage external partners to manage their operations.[6] Given the importance of scaling their security operations in a sustainable way, there is significant value in using external partners with strong security and sustainability expertise.

FIGURE 10

Most Organizations Lack 24/7 Visibility Into All Security Systems

- ● The team does not have access to alerts/ monitoring from building systems
- ● The team has access during business hours to alerting/monitoring from most building systems, but not all
- ● The team has access during business hours to alerting/monitoring from all building systems
- ● The team has 24/7 access to alerting/ monitoring from most building systems, but not all
- ● The team has 24/7 access to alerting/ monitoring from all building systems

4%
7%
11%
34%
42%
56%
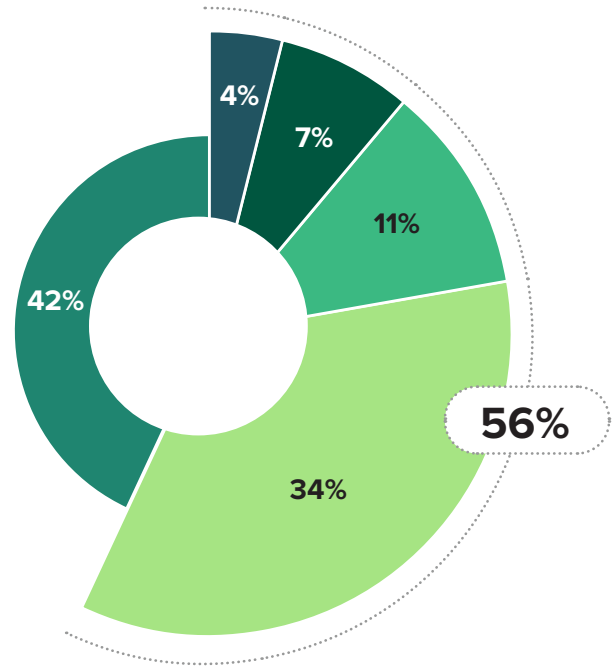
62%
My organization often struggles with getting information from all necessary systems for full context of security threats.

57%
My organization's security teams struggle to understand the full context of threats/risks to facilities.

Base: 117 smart buildings decision-makers at the director level or higher for secure buildings at data centers
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

- **Smart buildings can help security teams improve data center operations in a sustainable manner.** A significant gap exists between security and sustainability. Sustainability is a top organizational goal; however, only 22% of security leaders collaborate with sustainability teams today (see Figure 11). To address this gap, 52% of security leaders say they must collaborate more with sustainability stakeholders, and 59% say they must find ways to improve security operations while also being

sustainable. Smart buildings can help these stakeholders achieve these goals. Smart lighting and motion sensors can drive energy efficiencies, while improving threat deterrence and detection. More broadly, physical security systems can provide occupancy data insights; if organizations know where people are spending time in a building, they can manage the use of energy, power, and lighting in a sustainable manner. Participating in enterprisewide smart buildings and sustainability objectives can help security leaders get the funding and resources necessary to protect their facility systems and occupants.

FIGURE 11

"Which department(s) does your security organization work with today? Which should your organization work with more?"

● Work with today
● Should work with more

Department	Work with today	Should work with more
IT	63%	56%
Operations	49%	56%
Sustainability	22%	52%
Customer experience	64%	49%
Human resources	31%	38%
Marketing	37%	37%
Finance/accounting	53%	33%
Governance, legal, risk, and compliance	25%	31%
Facilities	35%	31%
Employee experience	39%	26%

Base: 117 smart buildings decision-makers at the director level or higher for secure buildings at data centers
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, August 2023

Key Recommendations

Data centers are hotbeds of technology innovation that account for a significant amount of energy use across the globe. The International Energy Agency estimated that global data center electricity consumption in 2022 accounted for around 1% to 1.5% of global final electricity demand.[7] Regulators are also mounting pressure by establishing targets and specific sustainability requirements related to use of energy, water, and other natural resources at the regional and global level. Data center leaders can leverage smart building solutions to enhance energy efficiency, address sustainability issues, and achieve operational efficiencies.

Forrester's in-depth survey of 305 smart buildings leaders at data centers about their building initiatives and priorities, including sustainability, security, and building environmental initiatives, yielded several important recommendations:

Treat data centers as an important use case for smart buildings solutions.

Smart buildings solutions provide intelligent insight and efficiencies in data centers. Data center leaders can leverage smart buildings solutions in various ways including monitoring the thermal environment to ensure compliance with service-level agreements (SLAs) or integrating building automation, IT network, and security systems to optimize and secure the data center environment. Achieving these benefits depends on the progress your firm has made to integrate building management, IT, and security systems.

Ensure stakeholders from many roles identify opportunities to capture and leverage data center and smart buildings insight.

Stakeholders representing many departments and operational processes can benefit from data center facility and building system insights. Proactively engage with leaders spanning key processes including data center management, network infrastructure, security, building operations,

sustainability, and facility management to identify opportunities to enhance processes, inform strategic decisions, enhance operations, and address sustainability goals.

Establish a roadmap of near-term to long-term strategic initiatives to address data center impacts.

Compliance with regional and global greenhouse gas (GHG) emission reduction regulations and related standards are often key drivers for near-term data center initiatives. Data center cooling and power usage effectiveness (PUE) reduction techniques are often initial options to address sustainability. Some proactive firms are also extending into heat reuse solutions. Proactive firms can integrate smart building solutions to modulate the HVAC system to dynamically maintain ideal server conditions, regardless of weather conditions or other types of ongoing activities in the data center.

Seek partners to assist with capturing relevant building system and data center insight.

Integrating smart buildings and data center environment data to create actionable insight is complex. Seek partners with demonstrated expertise integrating data from building, data center, and security solutions to create actionable insight. Other important partner capabilities include offering and a single digital platform spanning all sites, easy-to-access insights for stakeholders, and seamless integration into all building systems.

Appendix A: Methodology

In this study, Forrester conducted an online survey of 3,445 decision-makers at organizations in 18 industries across 25 countries, including 305 data center respondents, to evaluate the current state of building system integration, data connectivity, and the ability to share and leverage data collected across the organization for building system optimization. Survey participants must have indicated decision-making authority in smart buildings in addition to building environmental sustainability, building security, and/or building environment systems. Questions provided to the participants asked high-level smart buildings questions and then asked more granular questions depending on the leader's level of responsibility for building sustainability, building security, and/or building environment systems. Respondents were offered a small incentive as a thank-you for time spent on the survey. The study was conducted in a double-blind fashion. The study began in July 2023 and was completed in August 2023.

To read the full results of the 2023 study, please refer to the Thought Leadership Paper commissioned by and developed in collaboration with Johnson Controls titled, "Cracking The Code: Unleash Your Smart Buildings Strategy With The Power Of Facility Data."

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Forrester's Technology Architecture & Delivery and Security & Risk research groups

Appendix B: Demographics

REGIONS	
North America	**20%**
United Kingdom and Ireland	**10%**
Central Europe	**8%**
Hong Kong	**7%**
Japan	**7%**
China	**7%**
South Korea	**7%**
Latin America	**6%**
Middle East and Africa	**6%**
India	**6%**
Southeast Asia	**6%**
Australia and New Zealand	**6%**
Singapore	**6%**

INDUSTRY	
Data center	**100%**

ORGANIZATION SIZE	
2 to 499 employees	**3%**
500 to 999 employees	**25%**
1,000 to 4,999 employees	**50%**
5,000 to 19,999 employees	**15%**
20,000 or more employees	**8%**

TITLE	
C-level executive	**11%**
Vice president	**45%**
Director	**44%**

DEPARTMENT	
IT	**46%**
Sustainability	**8%**
Operations	**6%**
Facility management	**6%**
Governance, risk, and compliance	**5%**
Procurement	**5%**
Commercial real estate	**4%**
CEO/office of the president	**4%**
Environmental health and safety	**3%**
Energy management	**3%**
Human resources/employee experience	**3%**
Customer experience	**3%**
Employee/workspace experience	**2%**
Finance/accounting	**2%**

BUILDING RESPONSIBILITY AREA	
Building environment systems and strategy	**48%**
Building environmental sustainability strategy	**43%**
Building security systems and strategy	**37%**

Note: Percentages may not total 100 due to rounding.

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

Abhijit Sunil and Alexander Soley, "Heat Reuse In Data Centers May Be Required And Regulated," Forrester Blog.

"The State Of IT Environmental Sustainability, 2023," Forrester Research, Inc., March 29, 2023.

"Predictions 2024: Technology Infrastructure," Forrester Research, Inc., October 30, 2023.

Appendix D: Endnotes

[1] Source: Vida Rozite, "Data Centres and Data Transmission Networks," IEA, July 11, 2023.

[2] Source: "Predictions 2024: Technology Infrastructure," Forrester Research, Inc., October 30, 2023.

[3] Source: "The State Of Future Fit Organizations, 2023," Forrester Research, Inc., September 8, 2023.

[4] Source: "The Race To Decarbonization," a commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, November 2021.

[5] Ibid.

[6] Ibid.

[7] Source: "The State Of Future Fit Organizations, 2023," Forrester Research, Inc., September 8, 2023.

ABOUT FORRESTER CONSULTING

Forrester provides independent and objective research-based consulting to help leaders deliver key outcomes. Fueled by our customer-obsessed research, Forrester's seasoned consultants partner with leaders to execute their specific priorities using a unique engagement model that ensures lasting impact. For more information, visit forrester.com/consulting.