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Occupancy planning trend report

Utilization

Utilization data is becoming increasingly important in understanding how well space is used—or not used. This report includes findings from our survey of prominent real estate teams around the world that you can apply to your workplace planning.

Unlocking the power of utilization data

Depending on your organization's needs and goals, you may choose from a variety of utilization tracking methods, from physical walkthroughs to badge swipe data—and everything in between. But these advancements also bring important new considerations for privacy and security. In particular, the passing of the General Data Protection Regulation (GDPR) in 2016 (implemented in 2018) by the European Union reshaped how data is gathered and used across multiple industries, and can have significant implications for how an organization tracks data. You'll also find more detail on this, including a timeline of notable legislation, in the following pages.

The benefits of tracking utilization

In recent years, we've seen a shift from reactive to proactive planning. Tracking utilization fuels more informed decision-making, enabling CRE teams to proactively:

- Improve occupier experience with more intelligent use of existing facilities.

- Eliminate the risk of overcrowding and/or underutilized space, both which can lead to cost drains as well as a subpar human experience.

- Provide a return on investment in the workplace by determining a true utilization ratio that justifies the space investment.

- Assess whether a change management practice is effective by analyzing the alignment between the space and the team's behavior.

Definitions

- **Visual observation** – Physical walkthrough of the workspace to track in/out/away and other cultural observations.

- **Facility-based sensors (HVAC, light)** – Sensors provided as part of an HVAC or lighting control system to measure occupancy or vacancy.

- **Presence-based sensors (desk, seat, image-based)** – Desk- or seat-level sensors detecting active presence at a seat. Image-based sensors include people-counting video-based sensors, and are typically mounted on a ceiling or wall.

- **Conference room video analytics** – Video analytics used for counting people in a meeting or collaboration room, leveraging installed videoconferencing cameras and technologies to sense and count people.

- **Closed circuit security video** – Video analytics provided by closed circuit television (CCTV) or security cameras leveraging advanced visual behavioral analytics (VBA) to sense and count people in a space.

- **Badge swipe data** – Collecting security access control badge swipes to identify the number of people entering and/or leaving a controlled space.

- **Network (location within space, Wi-Fi, Bluetooth, RFID)** – Leveraging network connectivity and activity (Wi-Fi) via mobile devices in a space to count active users within a space. May also include mobile applications leveraging Bluetooth, Bluetooth Low Energy (BLE) or related technologies to track user mobile devices.
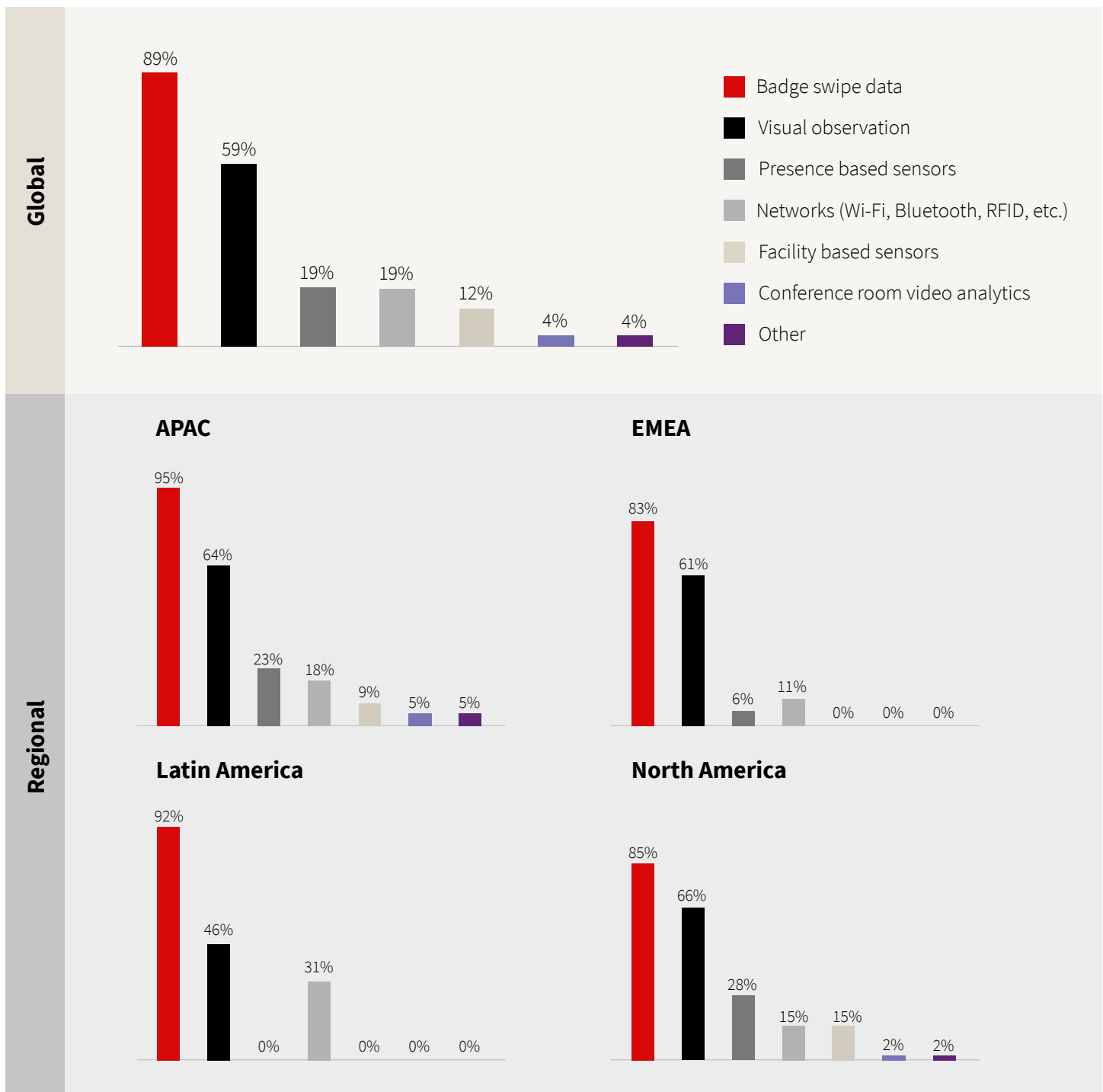
Research methodology

We asked prominent real estate teams from around the world to answer roughly 100 detailed questions about how they use their space. Ninety-one organizations participated in the survey, providing a response for each region in which they operate. In total, we received 162 responses.

Methods of tracking utilization data

Badging is now the most commonly used method of tracking utilization across regions, followed by visual observations. In 2018, visual observations accounted for 65% of responses, while badge data accounted for 56%. Now, nearly 90% report using badge swipe data, while visual observations have dropped to 59%.

This shift can be explained in large part to the increasingly cost-effective nature of badging solutions. Most organizations already have security badging data and it can be reasonably low-cost to implement. That said, there's more than sheer cost to consider when it comes to adopting and utilizing any given method, particularly around data privacy and risk of non-compliance with new laws.

Legend:
- Badge swipe data
- Visual observation
- Presence based sensors
- Networks (Wi-Fi, Bluetooth, RFID, etc.)
- Facility based sensors
- Conference room video analytics
- Other

Global
- Badge swipe data: 89%
- Visual observation: 59%
- Presence based sensors: 19%
- Networks: 19%
- Facility based sensors: 12%
- Conference room video analytics: 4%
- Other: 4%

APAC
- Badge swipe data: 95%
- Visual observation: 64%
- Presence based sensors: 23%
- Networks: 18%
- Facility based sensors: 9%
- Conference room video analytics: 5%
- Other: 5%

EMEA
- Badge swipe data: 83%
- Visual observation: 61%
- Presence based sensors: 6%
- Networks: 11%
- Facility based sensors: 0%
- Conference room video analytics: 0%
- Other: 0%

Latin America
- Badge swipe data: 92%
- Visual observation: 46%
- Presence based sensors: 0%
- Networks: 31%
- Facility based sensors: 0%
- Conference room video analytics: 0%
- Other: 0%

North America
- Badge swipe data: 85%
- Visual observation: 66%
- Presence based sensors: 28%
- Networks: 15%
- Facility based sensors: 15%
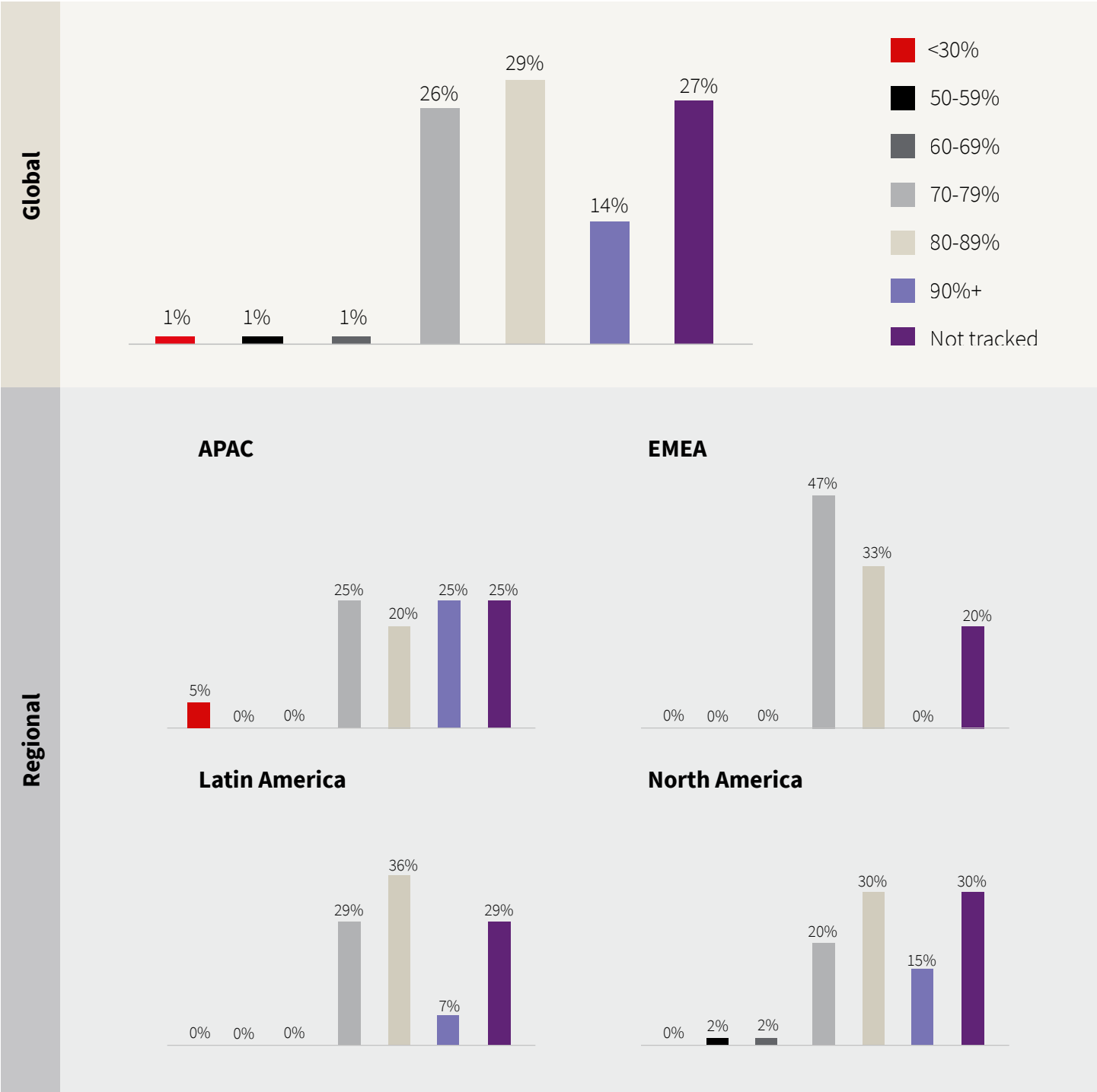- Conference room video analytics: 2%
- Other: 2%

Target utilization rate in office/admin space

Many organizations establish target utilization rates to set expectations for used space and benchmarks for planning purposes. The top two target utilization rates cited in this year's survey are 80%-89% (29% of respondents) and 70%-79% (26% of respondents). A much smaller proportion of respondents (14%) aim for utilization of 90% or higher, suggesting that most organizations either realize there are limits to how efficient their workplace can be, or that there is value in leaving some space underutilized to allow for flexibility.

Percentages may not add up to 100 due to rounding.

Actual utilization rate in office/admin space

The actual average utilization rate across industries is approximately 60%, which is significantly lower than the target utilization rates cited by respondents in the prior section. A quarter of respondents have an actual utilization rate of 60-69%. From an industry perspective, manufacturing has the highest rate at 68%, followed closely by financial services at 67%, perhaps reflecting th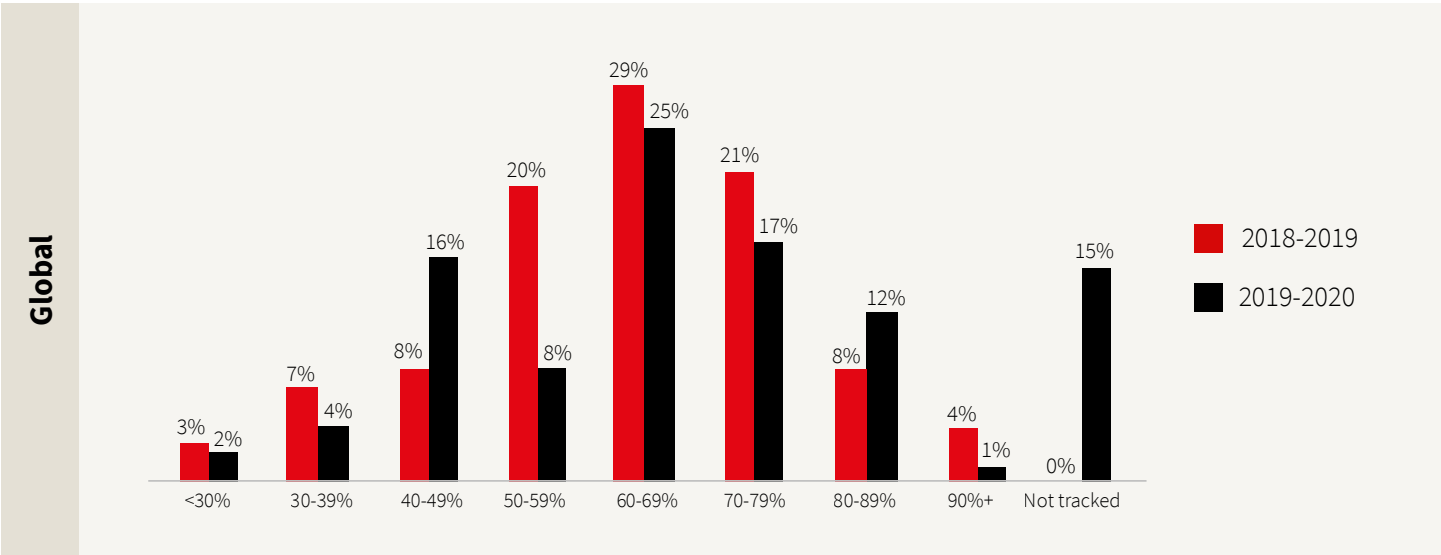e efforts these firms have taken to right-size their space. Meanwhile, the actual utilization rate for professional services is 49%, the lowest of all industries. That makes sense given these workers are often traveling to and spending time on-site with clients, but it also represents a substantial decline from a 65% utilization rate for the sector in 2018.
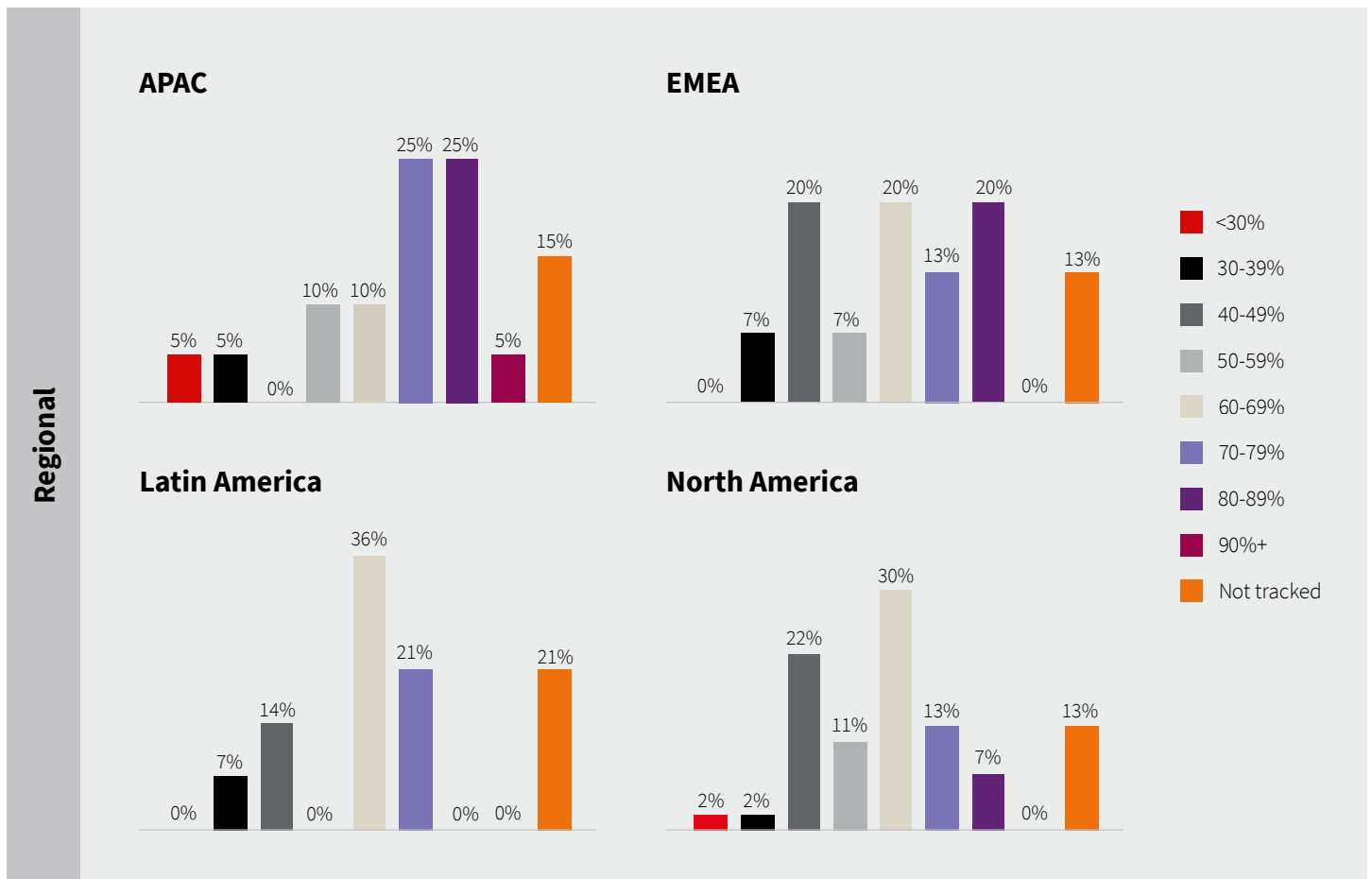
What is your actual utilization rate (%) in office/admin space?

A quarter of respondents have an actual utilization rate of 60-69%, which is down from 29% recorded last year. The largest increase was in the 40-49% utilization range. Last year, only 8% of respondents had an actual utilization rate in this range. That figure doubled this year, reaching 16%.

Percentages may not add up to 100 due to rounding.

Regional

APAC

Category	Value
<30%	5%
30-39%	5%
40-49%	0%
50-59%	10%
60-69%	10%
70-79%	25%
80-89%	25%
90%+	5%
Not tracked	15%

EMEA

Category	Value
<30%	0%
30-39%	7%
40-49%	20%
50-59%	7%
60-69%	20%
70-79%	13%
80-89%	20%
90%+	0%
Not tracked	13%

Latin America

Category	Value
<30%	0%
30-39%	7%
40-49%	14%
50-59%	0%
60-69%	36%
70-79%	21%
80-89%	0%
90%+	0%
Not tracked	21%

North America

Category	Value
<30%	2%
30-39%	2%
40-49%	22%
50-59%	11%
60-69%	30%
70-79%	13%
80-89%	7%
90%+	0%
Not tracked	13%

Legend: <30%, 30-39%, 40-49%, 50-59%, 60-69%, 70-79%, 80-89%, 90%+, Not tracked

Percentages may not add up to 100 due to rounding.

Actual utilization rate by industry

68% Manufacturing

67% Financial services

63% Telecommunications

63% Healthcare

60% Technology

60% Life sciences/ pharmaceutical

56% Consumer products

49% Professional services

20% Public institutions/ government

58% Other
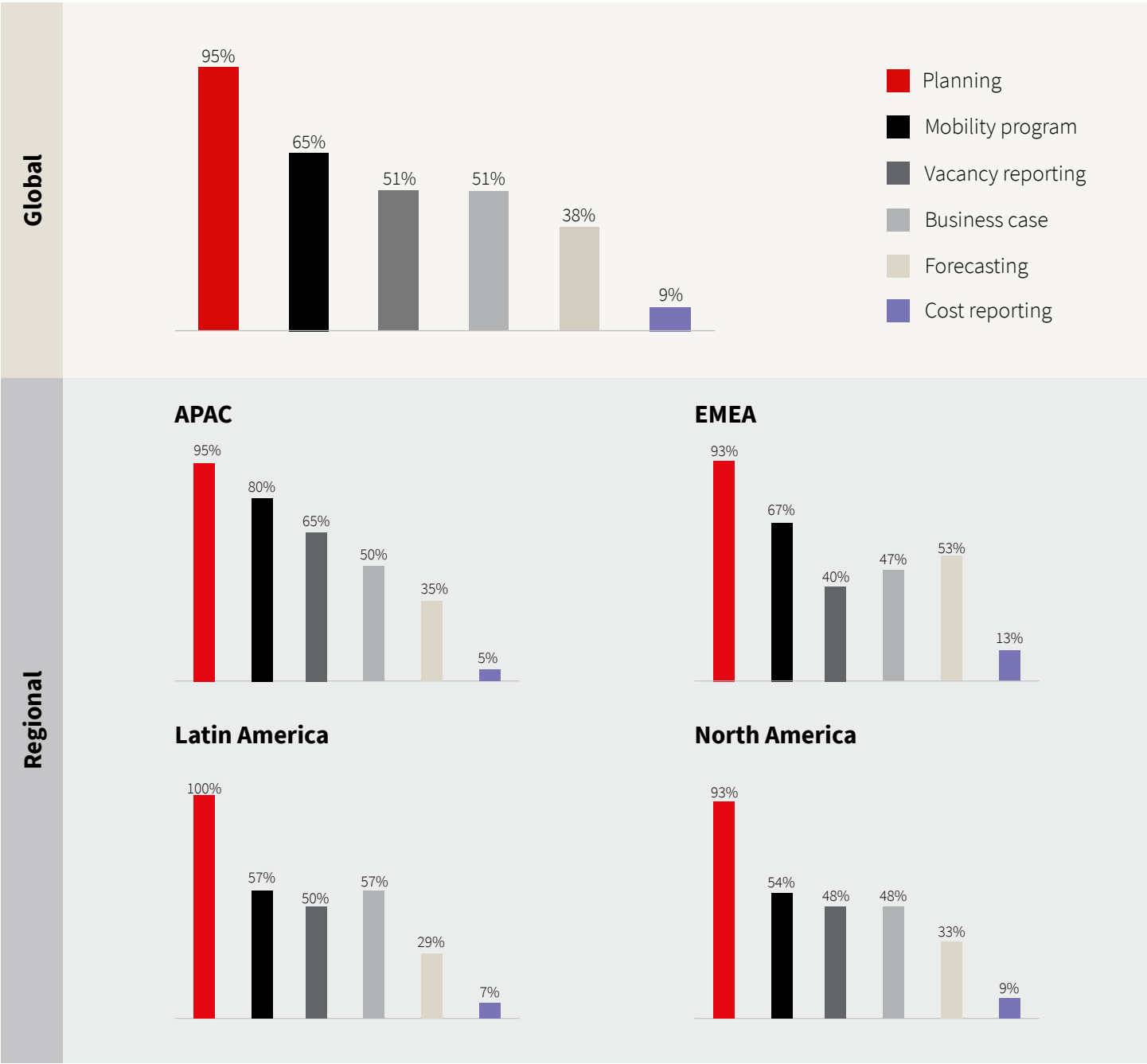
Purposes of utilization data

For most respondents, planning and mobility programs are the primary uses of utilization data. Planning continues to be the top reason for tracking utilization data, continuing a trend we have observed since 2016. Meanwhile, helping plan for mobility programs rose to the second spot in 2019, an increase from 2018, when it tied with business case as the third most-cited reason.
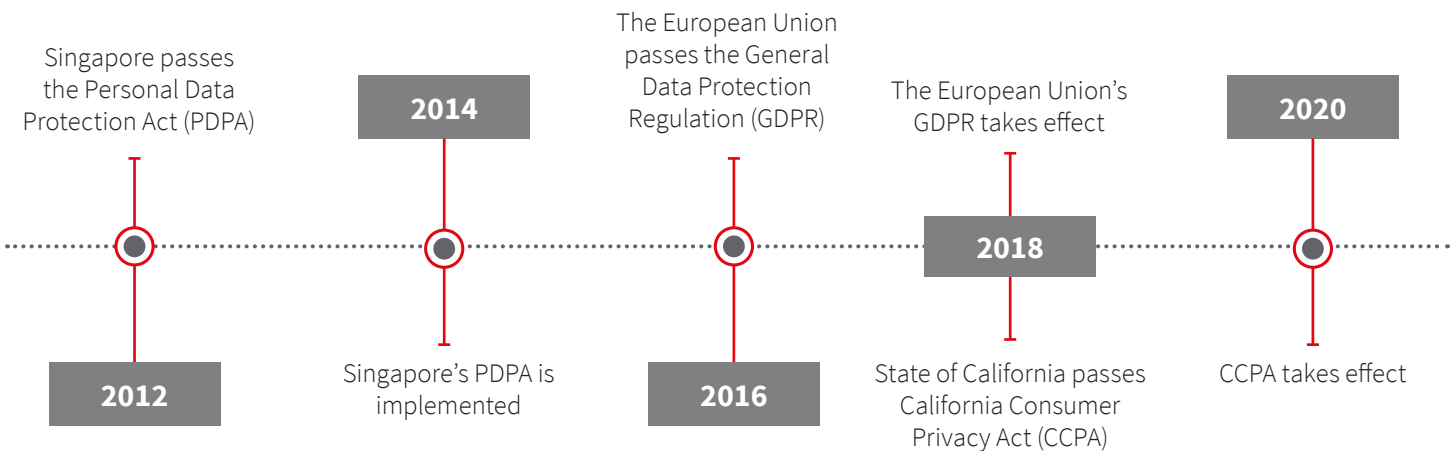
Understanding how often various space is used by employees helps occupiers plan and provide spaces to meet ongoing needs. Plus, companies often overestimate utilization, so having actual utilization data is important in assessing the impact of mobility programs and flexible workplaces. While traditional metrics such as density and cost per square foot can be useful in some ways, they don't offer any insight into how many people are actually using the space, which is a critical data point to monitor in the move towards a more agile work environment.

Global

95% Planning
65% Mobility program
51% Vacancy reporting
51% Business case
38% Forecasting
9% Cost reporting

Regional

APAC
95%, 80%, 65%, 50%, 35%, 5%

EMEA
93%, 67%, 40%, 47%, 53%, 13%

Latin America
100%, 57%, 50%, 57%, 29%, 7%

North America
93%, 54%, 48%, 48%, 33%, 9%

Percentages may not add up to 100 due to rounding.

Data privacy legislation across the world

The following table lists key data protection acts recently passed by governments across the world:

2014

Singapore passes the Personal Data Protection Act (PDPA)

The European Union passes the General Data Protection Regulation (GDPR)

The European Union's GDPR takes effect

2020

2018

2012

Singapore's PDPA is implemented

2016

State of California passes California Consumer Privacy Act (CCPA)

CCPA takes effect

Legislation	Governing Body	Description
General Data Protection Regulation (GDPR)	European Union	Passed in 2016 and implemented in 2018, the GDPR imposes a comprehensive regulatory framework for sensitive personal data. It is an evolution of the current Data Protection Directive and a step change that brings greater accountability, transparency and consumer control.
Personal Data Protection Act (PDPA)	Singapore	The PDPA passed in 2012 and was implemented in 2014. However, the Personal Data Protection Commission has introduced potential updates. One concerns data breaches and mandatory notification for all persons involved if the breach affects 500 or more people. Secondly, the commission may issue rules on data portability, which allows a person to request a copy of their own data and transfer it elsewhere.[1]
California Consumer Privacy Act (CCPA)	California, United States	The CCPA passed in 2018 and will take effect in 2020. The law gives more power to consumers by allowing them to know what personal data is collected and what it is used for, to opt out of the sale of their own data to a third party, and more. In addition, businesses must let the consumer know that they intend to collect their data.

[1] Sidley Austion LLP

Data privacy compliance risks for utilization methods

From visual observation to sensors, how organizations measure data can be as important as what they do with it after the fact, in terms of compliance and risk issues. Following are common utilization methods and the privacy risks they could pose.

Visual observations

Desks are observed, not people. All space numbers are randomized so they cannot be tracked back to an individual. Heat maps are generated using averages on banks of desks and not a single data point.

As a result, visual observations pose very low risk of violating data privacy laws like the GDPR, as people aren't individually identified and therefore no personal data is stored.

Facility-based sensors

Most equipment-borne sensors are completely anonymous, and are only triggered by activity in an area of space, not a desk. When sensors connected to the HVAC or lighting system compile data, there is no link back to individual employees. As a result, there is no risk of violating data privacy laws, since no personal data is stored.

Presence-based sensors

Like visual observations, desks are observed, not people. Presence-based sensors based on desks, seats or images should be randomized, so that they cannot be tracked back to an individual. Heat maps are generated using averages on banks of desks and not a single data point.

There is no risk of violation if video is anonymized, like non-recording or tracking the shape of people and not faces, as personal data is not stored. If the video does record these details, then a higher risk exists and would need to be assessed on a case-by-case basis.

Conference room video analytics

Video-based systems do not record or store the footage. Footage is used for counting and then wiped.

Like image-based sensors, there is no risk of violation if video is anonymized—for example, non-recording or tracking the shape of people and not faces—as personal data is not stored. If the video does record this, however, then there is a higher risk that would need to be scrutinized carefully.

Closed circuit security video

Video analytics provided by closed circuit television (CCTV) or security cameras leverage advanced visual behavioral analytics (VBA) to sense and count people in a space.

Like image-based sensors, there is no risk of violation if video is anonymized—for example, non-recording functions or tracking the shape of people and not faces—as personal data is not stored. That said, if the video does record this, then a higher risk would be present and need to be evaluated.

Badge swipe data

Although data varies across organizations, the "gold standard" data would include anonymized unique swipes into a controlled space, grouped by team, and teams with fewer than five people merged into a larger team. This method can track which floor or neighborhood each swipe was connected to, yet does not single out the individual.

Risk depends on what information is shared. Ideally the data is de-identified or fully anonymized before workplace analysts can access it. If this is not the case, the risk becomes slightly higher, although the data can still be de-identified or fully anonymized before they begin to analyze it.

Network

There is potentially high risk for network tracking, which can include location within space, Wi-Fi, Bluetooth, RFID and more. If an organization is tracking people moving around in a building, then leaders must acknowledge that:
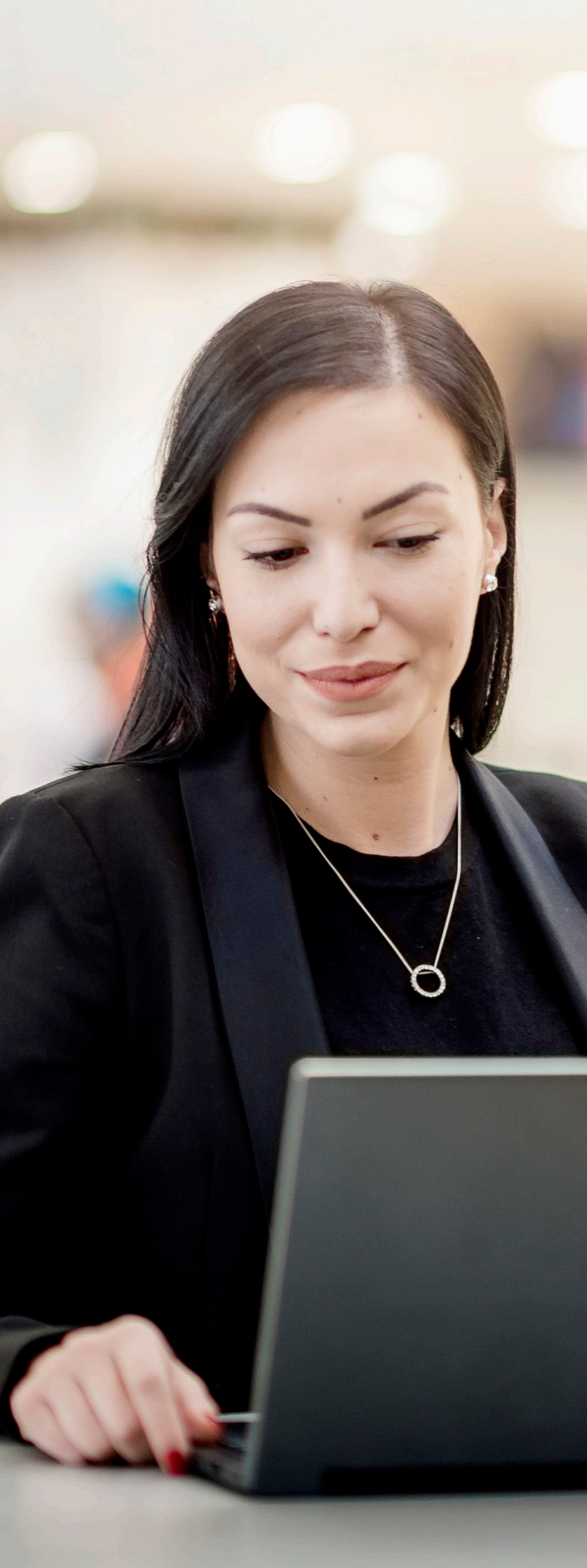
- User permission is required.
- There is medium to high risk of violating data privacy regulations.
- Valid purpose is needed.
- Areas such as toilets need to be ring-fenced and not tracked.

The selling point of this approach, when managed responsibly, is that monitoring utilization via networking can potentially add other value to the user, whether it provides easier wayfinding or desk booking, for instance.

Key takeaways

- As utilization tracking technology becomes more available and cost-effective, more organizations are realizing the benefits that come with ongoing monitoring of space. Utilization data has become a key metric in answering questions that space planners face on a daily basis: Do we have the right number of workstations? Which types of seating arrangements do employees prefer? Do we need more collaboration areas?

- The rising number of tracking tools can make it difficult to sort through the options and pick the best solutions. Organizations should always start with a comprehensive strategy built around the questions they hope to answer with utilization monitoring, and work from there to pick the best solution.

- New technologies are also raising important new privacy concerns—and governing bodies around the world are taking note. From the European Union and Singapore to the United States, many leaders are addressing the data privacy concerns that can come with such new innovations, shaping how data is responsibly collected and used.

- Most utilization methods have a low risk in violating data privacy, given that they maintain employee anonymity. Most technology anonymizes video and either avoids recording it, or, when it is recorded, wipes it afterward. However, risk increases when presence-based sensors or cameras record video; badge-swipe data is not deidentified or fully anonymized; or networks track users without permission or valid purpose.

- When utilizing these methods, planners must take extra steps to ensure compliance with all applicable privacy regulations.

Learn more

The changing world of work requires global leaders to seek out and act on novel ways to stay ahead. Understanding how other organizations are adapting their space strategies can help.

JLL publishes additional research findings and insights on trends driving workplace transformation, including:

- **Key occupancy benchmarking metrics**
- **Space eligibility and standards**
- **Space allocations and chargebacks**
- **Demand forecast planning**
- **Coworking**
- **Mobility programs**

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