The Age of Spatial Data

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contents

00
Introduction

As the world becomes increasingly reliant on data, the workplace is not immune to this trend. In recent years, data-driven decision making has become a central aspect of how businesses operate, transforming their operations and driving innovation. **In a data-driven workplace, employees and managers use data to gain insights into their work processes, monitor performance, and identify areas for improvement.**

The roots of this approach lie in earlier analog data-driven methods, such as collecting customer feedback, sales data, and productivity metrics, which gave rise to the Activity-Based Working (ABW) model. **This model emphasizes the provision of various workspaces designed for different activities, such as collaboration, concentration, and relaxation.** Companies deploying ABW methodologies have discovered benefits beyond employee satisfaction such as **cost reductions and increased ROI.**

Recently, pioneers of ABW have started to harness the power of digital data to build automations that enhance the model's capabilities. **By capturing spatial, environmental, and utility data,** companies gain greater control over their system design, and have more flexibility to iterate and adjust in real-time as the workforce becomes more agile.

>70%
of businesses worldwide provide some form of ABW environment today.

Future Forum Pulse, Wave 9, conducted Nov 16–Dec 22, 2022. Number of completed responses = 10,243.

So, buckle up!

We will explore the future of the data-driven workplace, with a particular emphasis on the significance of spatial data in advancing beyond activity-based working models. We will:

Examine how spatial data can be collected, analyzed, and utilized to optimize workspaces for employee productivity, creativity, and wellbeing.

Explore how businesses can leverage spatial data to drive innovation and create a competitive advantage in today's rapidly evolving digital landscape.

Develop a comprehensive understanding of how spatial data can lead to insights that help create a more productive and engaging work environment.

Before we begin—

What is spatial data?

Spatial data refers to information that has a geographic or spatial component attached to it. It represents data that is associated with **specific locations or areas** on the Earth's surface. Spatial data can include various types of information, such as coordinates, boundaries, distances, addresses, or attributes that are tied to specific geographic locations.

In the context of Workplace Optimization and ABW, we are focusing on one specific type of Spatial Data:

Occupancy Data

Occupancy data refers to **information about the utilization or occupancy of specific locations or areas.** It typically includes data on the presence or absence of individuals or the level of activity within a particular space.

Occupancy data can have a spatial component attached to it, as it relates to specific locations or areas where occupancy is being observed or measured. For example, occupancy data in a building could be associated with different rooms, floors, or sections of the building. Each location or area within the building can be geographically referenced using coordinates or a spatial reference system.

By linking occupancy data to specific locations, it becomes spatial data, enabling spatial analysis and visualization. **This allows for the exploration of patterns, trends, and relationships between occupancy and other spatial factors such as location, proximity to amenities, or spatial distribution of activities.**

Spatially enabled occupancy data can be used in various applications, such as facility management, urban planning, transportation planning, crowd management, and resource allocation. It provides valuable insights into the utilization and efficiency of spaces, helping to **optimize operations, improve resource allocation, and support decision-making processes.**

01

What is the Activity Based Workplace model?

Activity-Based Work (ABW) is a modern approach to workspace design that seeks to improve employee productivity, collaboration, and well-being by providing them with a variety of workspaces tailored to their specific tasks, preferences, and needs.

Unlike traditional office layouts that allocate one workspace to each employee - be it an entire room or just a piece of furniture - the ABW model emphasizes flexibility, mobility, and choice by providing a mix of open, semi-private, and private workspaces that employees can use based on the nature of their work.

Various studies suggest that the adoption of ABW is increasing globally. For example, a study by Leesman found that the number of organizations that have implemented ABW has doubled since 2013, **with over 70% of organizations globally offering some form of flexible working or ABW. [1]** Another study by Gartner found that 40% of organizations globally have implemented or are planning to implement ABW in the near future.[2]

Furthermore, a survey by International Workplace Group (IWG) found that 83% of participants stated that their organizations have adopted flexible workspace policies, which can include ABW. [3] Carlos Martinez, a principal in Gensler's New York office and creative director of the architectural firm's Northeast region, says that today nearly every corporate project he is working on incorporates **hoteling and a mix of workspaces.** [4]

Overall, while there is no exact percentage, it is clear that the adoption of ABW is increasing and that it is becoming a more popular way of working for many organizations.

In Numbers
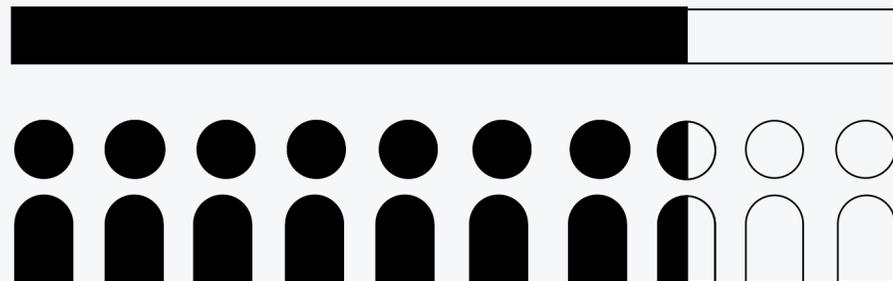
83%

of businesses have adopted flexible workplace policies, which can include ABW.

Source: IWG. "Flexible Working is Now a Deal Breaker in the War for Talent." IWG plc, 2021, https://work.iwgplc.com/MediaCentre/PressRelease/flexible-working-is-now-a-deal-breaker-in-the-war-for-talent.

1. Leesman. (2019). Leesman Global Workplace Report: The Next 250k. Retrieved from https://www.leesmanindex.com/media/250k_Report.pdf
2. Gartner. "Future of Work: Trends, Data and Insights for 2021 and Beyond." Gartner, 2021, https://www.gartner.com/en/insights/future-of-work.
3. IWG. "Flexible Working is Now a Deal Breaker in the War for Talent." IWG plc, 2021, https://work.iwgplc.com/MediaCentre/PressRelease/flexible-working-is-now-a-deal-breaker-in-the-war-for-talent.

4. Mitchell, Heidi. "Why Employees Hate Hot-Desking." The Wall Street Journal, 13 May 2023, https://www.wsj.com/articles/hot-desking-pros-cons-8ee52377?st=hpzn6awjuoh8shh&reflink=desktopwebshare_permalink

#1

The employees also cite **flexible work** policies as **the number one factor** that has improved their company culture over the past two years.

And why should you care?

✓ Reduce Internal Operating Costs
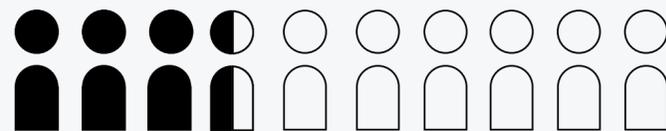
✓ Optimize Employee Performance

✓ Retain the Best Talent

✓ Build a Case for Environmental Sustainability

In Numbers

34%

choose flexible portfolios

In a survey conducted by the Harvard Business Review, 34% of respondents said a lack of workday flexibility makes it harder to be productive.

Source:CBRE: https://www.cbre.us/global/thewayforward/the-complete-guide-to-activity-based-working?article={94196d84-d5bf-411c-bd97-ac945ae39984}

ABW is important for today's workspace because it aligns with the changing nature of work, which is becoming more dynamic, collaborative, and technology-enabled. With the rise of remote work, freelancing, and the gig economy, **many workers are seeking greater flexibility and autonomy in how they work and where they work from**. ABW supports this trend by providing employees with a variety of workspaces that can be tailored to their needs, whether they prefer a quiet space for focused work or a more social space for collaboration and networking.

ABW also promotes a more efficient use of office space, which **can reduce real estate costs and environmental impact.** By eliminating the need for dedicated workspaces and encouraging employees to use shared resources, ABW can optimize the use of office space and reduce the amount of unused or underutilized space. This can result in significant cost savings for organizations, as well as a reduced carbon footprint.

In addition, **ABW can improve employee well-being and job satisfaction** by providing a more comfortable and stimulating work environment. By allowing employees to choose their workspace based on their mood, energy level, or task at hand, ABW can reduce the monotony and stress associated with traditional office layouts. It can also foster a sense of community and belonging by encouraging employees to interact and collaborate in different workspaces, which can enhance their social and professional networks.

02 A Quick History-Check on ABW

Activity-Based Work (ABW) is a relatively new concept that emerged in the 1990s as a response to changing workplace trends and the need for more flexible work arrangements. It was originally coined by the Dutch architect and consultant Erik Veldhoen in his 1994 book The Demise of the Office [1]. It is based on the idea that different work activities require **different types of spaces and that employees should have the freedom to choose where and how they work based on their specific needs.**

One of the earliest examples was the office of the Dutch Insurance company Interpolis, which was redesigned in the late 1990s by the architectural firm Veldhoen + Company which Erik Veldhoen co-founded. The firm was commissioned to design the new headquarters that would embody the principles of ABW and create a more flexible and collaborative work environment.
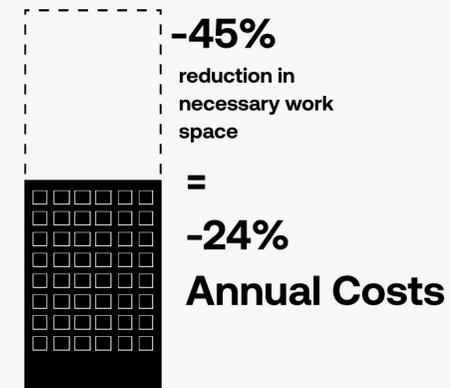
The resulting building, known as the Interpolis Office, opened in 1998 and quickly became a landmark example of ABW in action. The office featured a variety of work settings, including

open-plan workstations, private offices, meeting rooms, and communal spaces, as well as amenities such as cafes, fitness facilities, and a rooftop garden.

One of the key features of the Interpolis Office was its use of so-called "home zones," which were designed to replicate the comfort and familiarity of a home environment within the workplace. Home zones included features such as soft lighting, comfortable furniture, and natural materials, and were intended to create a sense of calm and relaxation in the workplace.[2]

The Interpolis Office was a resounding success, with employees reporting higher levels of satisfaction, creativity, and collaboration, and the building winning numerous awards for its innovative design. The success of the Interpolis Office helped to popularize the concept of ABW and inspire other organizations to embrace more flexible and collaborative work environments. Today, ABW is widely practiced in workplaces around the world, and the Interpolis Office remains a landmark example of its potential benefits. [3]

Interested in learning more?

Watch:
The Secret Life of Buildings (2011)

or head over to Robin's blog to read more about Veldhoen's Projects & work!

Robin

In Numbers

-45% reduction in necessary work space

=

-24% Annual Costs

The results? After careful calculations, Veldhoen determined the first building could house up to 1500 employees - meaning the second building was not necessary at all.

Image Source: Veldhoen + Company Website

1. CBRE. "The Complete Guide to Activity-Based Working," CBRE, 7 Jan. 2019, https://www.cbre.us/global/thewayforward/the-complete-guide-to-activity-based-working?article={94196d84-d5bf-411c-bd97-ac945ae39984}.
2. "Activity-Based Working: Principles, Pros, and Cons." Robin Blog, Robin Powered, 19 Mar. 2020, https://robinpowered.com/blog/activity-based-working-principles/.
3. Veldhoen + Company. "Case Studies: Interpolis." Veldhoen + Company, 2021, https://www.veldhoencompany.com/case-studies-interpolis.

03

The Benefits of ABW

✓ Productivity

Minimize Distractions: Firstly, ABW tackles distractions and interruptions. Traditional office layouts often force employees to work in open-plan environments, which can be noisy and distracting. ABW provides employees with a choice of different workspaces, including private workstations and quiet areas, which can help them to concentrate on their work without interruptions.

Boost Collaboration: ABW can improve collaboration and communication among employees. By providing shared workspaces that encourage interaction and cooperation, ABW can facilitate teamwork and idea sharing. For example, communal areas like break rooms or cafes can help employees to connect and collaborate with colleagues from different departments or teams, leading to a more creative and productive workplace.

Increase Autonomy: ABW can promote flexibility and autonomy, which can boost employee morale and motivation. By providing employees with a choice of workspaces, ABW can allow them to work in environments that suit their preferences and needs. This can help employees to feel more comfortable, relaxed, and engaged, leading to higher levels of productivity.

Free up Resources: Finally, ABW can **optimize the use of office space**, which can improve productivity and reduce costs. By eliminating the need for dedicated workstations and offices, ABW can help organizations to make more efficient use of their space. This can free up resources for other business needs and reduce real estate costs, which can be a significant financial benefit for many organizations.
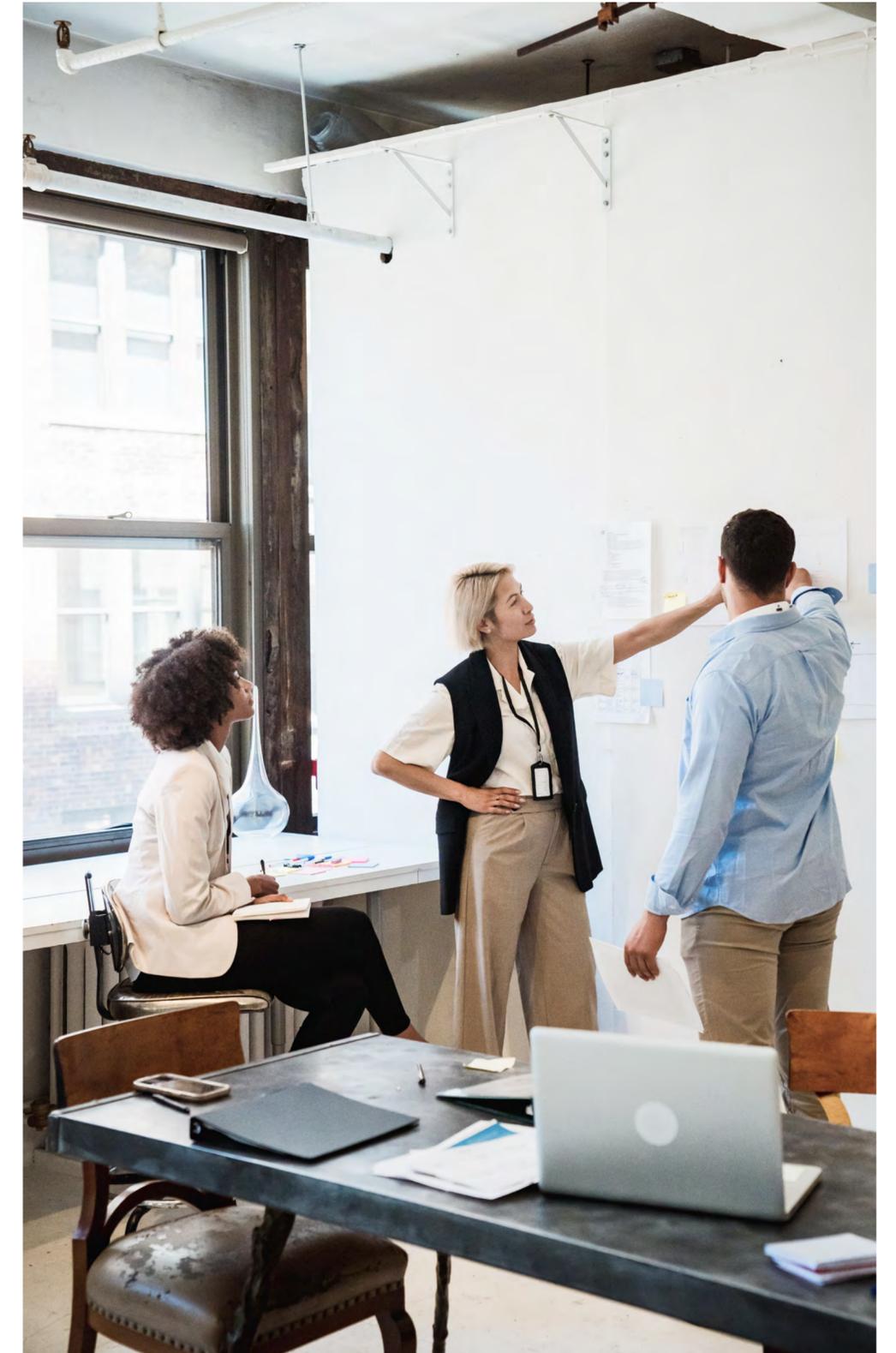
Employee Satisfaction

01

Freedom of Choice: Activity-Based Work (ABW) has the potential to boost employee satisfaction in several ways. Firstly, it allows employees to have more control over their workspace, giving them the freedom to choose the environment that best suits their mood, energy level, or the task at hand. This level of autonomy can increase employee satisfaction by making them feel more empowered and in control of their work environment.

02

Community Bonding: ABW can foster a sense of community and social connection among employees. By encouraging employees to use shared spaces and interact with colleagues in different workspaces, ABW can enhance their social and professional networks, creating a more collaborative and supportive work environment. This can lead to a greater sense of belonging and job satisfaction.

03

Life-Work Balance: ABW can promote a healthier work-life balance by allowing employees to work from a variety of locations, including their home, coworking spaces, or other remote locations. This can reduce the stress and fatigue associated with commuting and help employees better manage their personal and professional responsibilities.

04

Morale Boost: ABW can also improve employee well-being by providing a more comfortable and stimulating work environment. By allowing employees to work in spaces that are tailored to their specific needs, ABW can reduce the monotony and stress associated with traditional office layouts [1]. It can also provide employees with access to natural light, fresh air, and green spaces, which have been shown to have a positive impact on mood, productivity, and well-being.

1. Thackeray, R. I. (1981). The stress of boredom and monotony. Psychosomatic Medicine, Vol. 43, No. 2 (April 1981). Accessed here: https://static1.squarespace.com/static/53a79084e4b01786c921de45/t/53a86523e4b0222e1cd809d6/1403544867136/The+Stress+of+Boredom+and+Monotony+-+A+consideration+of+the+Evidence+(Thackray).pdf

Cost Savings

01

Strategic Real-Estate Investments: ABW allows companies to reduce their real estate costs by using office space more efficiently. By adopting flexible work arrangements, organizations can reduce the number of permanent workstations required, thus reducing the need for large office spaces. This can result in significant cost savings in rent, utilities, and maintenance.

02

Mindful Amenities Expenses: ABW can lead to reductions in furniture and equipment expenses. With employees no longer needing dedicated workstations, companies can save on office furniture and equipment, such as desks, chairs, and the expensive tech equipment that comes with it.

03

Productivity ROI: Lastly, ABW can result in cost savings through reduced absenteeism, increased employee engagement and retention, and improved productivity. As we saw previously, by providing employees with a more comfortable and stimulating work environment that meets their needs, ABW can enhance employee satisfaction and well-being, which can translate into improved employee performance and productivity.

What challenges can come
with Improper Implementation?

Implementing activity-based working (ABW) can
bring about numerous benefits to both employees
and businesses. However, it also presents various
challenges that should be considered before
implementing the system.

Resistance to Change

One of the most significant challenges of ABW is the
resistance to change. Employees may have difficulty
adjusting to the new way of working, which can lead to
decreased productivity and morale. Additionally,
implementing ABW requires significant planning and
investment in technology and infrastructure, which can be
a barrier for some organizations. Moreover, ensuring
equitable access to resources and workspaces can also
be a challenge in ABW.

Take for example the recent case of Google: Back in
February 2023, the company asked some employees to
share desks amid office downsizing in favor of a hybrid
model of remote and in-person work. In order to
accommodate the reduced office space, some
employees were asked to share desks with other
workers. Even though the effort was reportedly part of
Google's broader efforts to reduce its carbon footprint
and become more environmentally sustainable, the
change was met with internal criticism and doubt.

Socializing vs Working

Another challenge of ABW is the potential for
distractions in a more open and collaborative work
environment. Employees may struggle with finding
the right balance between socializing and working,
leading to a decrease in productivity. Similarly, ABW
can lead to difficulty in managing employees who
may be working remotely, leading to a lack of
oversight and accountability.

04

The Next Generation of ABW

In Numbers [2]

What's the preferred technology for space monitoring?

46%
of businesses use Occupancy Sensors at multiple locations.

33%
opt for camera-based occupancy sensors

16%
prefer people-counting sensors.

We are on the verge of a breakthrough in **predictive maintenance and analytics**, as this year marks the arrival of advanced business intelligence from digital twins, AI and asset data. The sharing of data across different workplace, asset, and inventory systems is expected to become more seamless, surpassing the limited scope of micro-integrations. This will involve the integration of operationally rich, continuous data feeds with artificial intelligence and machine learning built in.

"There's no doubt that in the future all buildings will be connected, both internally and to other buildings. The multi-billion-dollar question is who is going to do it. Whoever is successful is going to be one of the most successful companies in the world." [1]

Erik Ubels,
CIO at Deloitte

1. Bloomberg. "The World's Greenest Building." Bloomberg.com, Bloomberg, 7 Oct. 2015, www.bloomberg.com/features/2015-the-edge-the-worlds-greenest-building/.
2. Verdantix. "Global Corporate Survey 2022: Smart Building Technology Budgets, Priorities & Preferences" Verdantix, November 2022.
3. Eptura. "2023 Workplace Predictions." Eptura, 2022, eptura.com/wp-content/uploads/2022/12/Eptura-workplace-trends-2023.pdf.
4. Future Forum Pulse Report, Winter 2022-2023. Future Forum, 2023, https://futureforum.com/wp-content/uploads/2023/02/Future-Forum-Pulse-Report-Winter-2022-2023.pdf.

By facilitating the connection of spatial, asset and facilities data, organizations can eliminate blind spots in planning and operations, and allow users to easily access, explore, interact with, and **report on space and asset data that was previously difficult to obtain. [3]** Such integrations can offer several benefits to companies, such as:

✓ Run "what-if" scenarios and conditions in the short, medium, and long term

✓ Extend asset lifespan

✓ Reduce energy consumption.

✓ Creating and automate trend, threshold, and rule-based actions

✓ Recognize inventory and behavioral patterns more efficiently

✓ Make data-informed decisions faster

In Numbers

People who work at companies they describe as technology innovators continue to show **higher employee experience scores** on all dimensions (compared with those who describe their employers as technology laggards), including [4]:

+1.6x

Productivity

+2x

Ability to Focus

+2.8x

Overall Satisfaction

3. Eptura. "2023 Workplace Predictions." Eptura, 2022, eptura.com/wp-content/uploads/2022/12/Eptura-workplace-trends-2023.pdf.

4. Future Forum Pulse Report, Winter 2022-2023. Future Forum, 2023, https://futureforum.com/wp-content/uploads/2023/02/Future-Forum-Pulse-Report-Winter-2022-2023.pdf.

Spatial Data informs ABW

With Spatial Data such as Occupancy and Utilization analytics you can:

✓ Understand how amenities are being used.

✓ Reveal incoming traffic patterns.

✓ Accurately log desk utilization.

✓ Create preference-based interior layouts.

✓ Detect underutilized rooms.

✓ Create self-adjusting building operations.

Spatial data is crucial for the Activity-Based Working Model in workspaces because it **provides objective information on the physical layout of the office and how different areas are being used.** By collecting spatial data, organizations can gain insights into which areas of the office are underutilized or overcrowded, and adjust the layout to meet the needs of employees. This can help create a more efficient and productive workspace, and reduce real estate costs by eliminating the need for unnecessary space.

For instance, spatial data can be used to **identify underutilized conference rooms or individual workstations that are left empty for extended periods.** By analyzing the usage patterns of such spaces, office managers can make informed decisions about when to schedule meetings or allocate desks to employees, thus optimizing resource utilization and minimizing wastage.

Additionally, spatial data can be used to accurately **illustrate employee movements and detect patterns**, which can inform decisions about desk allocation, scheduling of meetings, and other aspects of office management.

For example, workplace managers use spatial data to track how often employees switch between different workspaces or whether they prefer to work alone or in collaboration with others. By analyzing such data, organizations can tailor their workspace designs to better align with employee preferences and needs, thus improving employee satisfaction and productivity.

The Power of Real-Time Feedback

It is important for a building to **self-adjust its systems based on the activities that are actually taking place in real time** because it can lead to **significant energy and cost savings** while also **improving occupant comfort and productivity.** Real-time monitoring of occupancy and environmental conditions allows building systems to respond quickly and efficiently to changes in usage patterns, weather conditions, and other factors that can affect energy consumption and indoor comfort levels. For example, if a building's occupancy sensors detect that a particular area is unoccupied, the lighting and HVAC systems in that area can be automatically adjusted or turned off to save energy. Conversely, if the sensors detect that an area is becoming overcrowded or overheated, the systems can be adjusted to maintain comfortable conditions.

In addition, self-adjusting building systems can provide real-time feedback to facility managers and occupants, enabling them to make more informed decisions about energy usage and environmental conditions. For example, occupancy data can be used to optimize cleaning schedules or to inform space planning decisions. By providing occupants with real-time information about their environment, building systems can also improve comfort and productivity, which can have positive effects on employee morale and retention.

Metrics that Matter

Occupancy

The number of spaces which are in use relative to the total number of spaces.example: 4 out of 8 workstations are in use = 50% occupancy

Fullness

The number of people occupying a space relative to its capacity.Example: 4 people using a meeting room which has a capacity of 8 people = 50% fullness

Utilization

The total amount of time a space was occupied relative to the available working hours.example: A meeting room was used for 4 hours in an 8 hour operable working day = 50% utilization

Dwell Time

The amount of time a space was occupied during each individual use.A person occupies a desk for 30 mins then gets up and leaves = 30 mins dwell

05 - SUCCESS STORIES

THE AGE OF SPATIAL DATA : THE FUTURE OF THE ACTIVITY-BASED WORKPLACE
THE SCIENCE OF HIGH-PERFORMANCE WORKPLACES : CREATING VIBRANT OFFICES FOR EMPLOYEES TO THRIVE

05

Success Stories

"Nobody would consider building a manufacturing facility that they intended to use just one-third of the time. And yet that's what we routinely do with work space. We realized that assigning resources based on utilization would significantly reduce Cisco real estate costs."
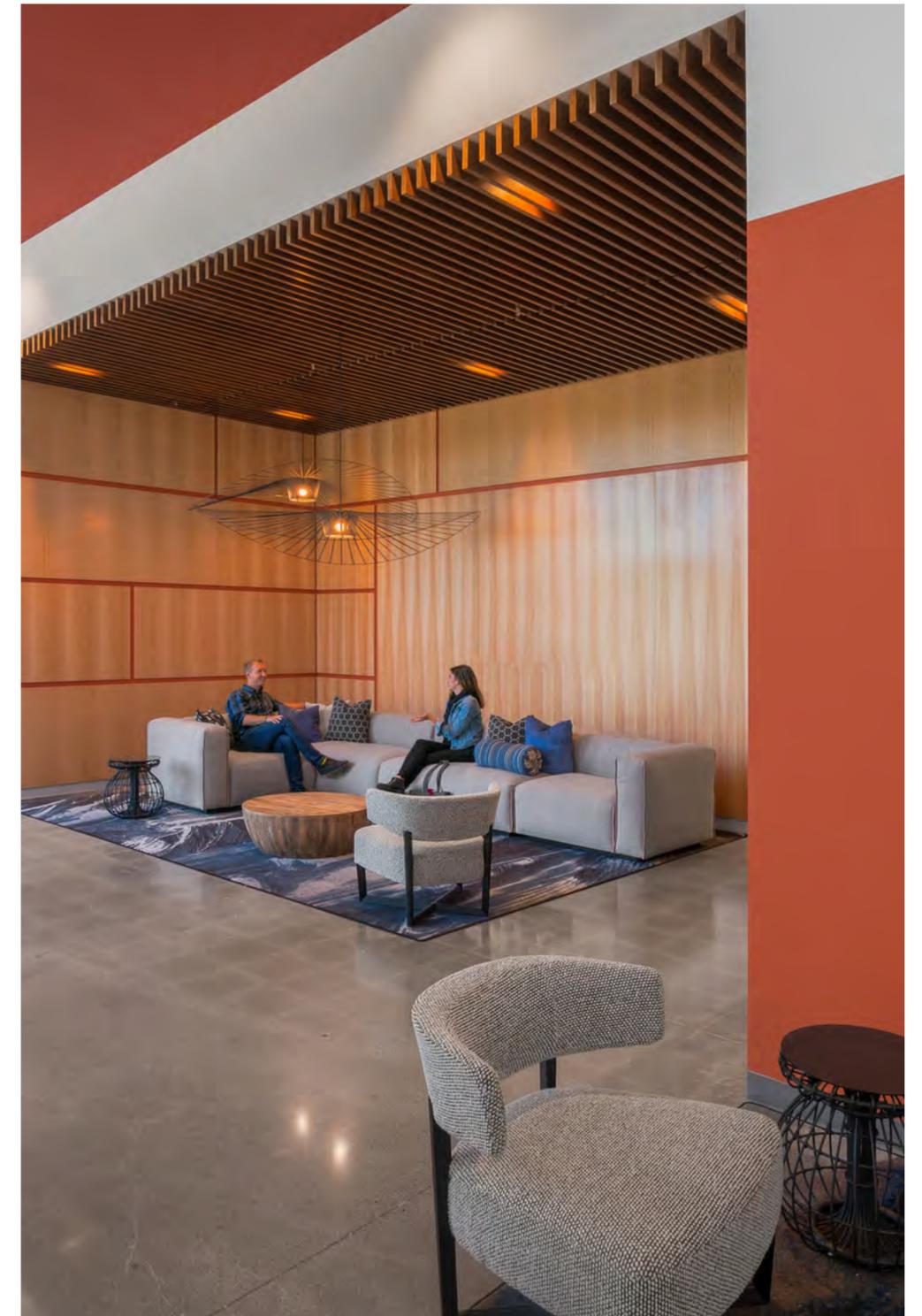
Mark Golan

Vice President, Worldwide Real Estate and Workplace Resources at Cisco Systems Currently VP, Real Estate and Development Google Google

How Cisco Cut Down its Workspace Expenses by 50%

One example of a company that has successfully implemented ABW with the help of technology is Cisco Systems. The company's San Jose headquarters features a wide range of workspaces, including private offices, shared workstations, and informal collaboration areas. To support this flexible approach to work, Cisco has invested heavily in technology solutions such as video conferencing, wireless networking, and digital displays. This allows employees to work from anywhere in the building or remotely, while staying connected to their colleagues and the company's resources.

- Cisco Systems employees required a flexible work environment due to a global workforce and customer base, complex business and technology issues, and frequent mobility.

- The traditional office design assumed that employees would work in their cubicles during regular work hours, resulting in a short supply of meeting rooms and vacant offices and cubicles.

- Cisco WPR aimed to reduce real estate costs by building a work environment based on the needs of individuals, giving all employees a broad choice of workspaces and technology tools to do their jobs.

- The goal was to achieve measurable business benefits such as reducing real estate costs, increased productivity, and employee satisfaction by creating a "connected workplace".

CATEGORY	TOTAL COST REDUCTION
Real Estate Rent Accommodating more people in the same amount of space.	37%
Construction Building a smaller space than typically required for 140 employees.	42%
Workplace Services Reducing utilities and maintenance costs, and nearly eliminating the costs of moves, adds, and changes for workspaces through the use of flexible furniture settings.	37%
Furniture Purchasing less (and slightly less expensive) furniture than typically used in cubicles.	50%
IT Capital Spend Spending less on switches and switch ports	40%
Cabling Reducing the number of wired IP cables required per workspace	60%
Equipment Room Space Racking fewer switches because of wireless infrastructure	50%

Cisco. "Connected Workplace POC: How Cisco Designed the Collaborative Connected Workplace Environment." Cisco, 2017, https://www.cisco.com/c/dam/en_us/about/ciscoitatwork/downloads/ciscoitatwork/pdf/Cisco_IT_Case_Study_Connected_Workplace_POC.pdf.

The Edge
How Deloitte mastered the "Technology meets ABW meets Sustainability" model

Deloitte's The Edge is a high-tech, eco-friendly office building located in Amsterdam, Netherlands. It was built in 2014 and is often cited as the smartest office space ever constructed. The building is designed to be energy-efficient and sustainable, and it has been awarded the highest sustainability rating possible.

All of that, made possible by a carefully designed system at scale that consists of both sophisticated hardware and software solutions. Large amounts of data are being collected by Deloitte on the interactions between its employees and The Edge. Comprehensive dashboards monitor various aspects, ranging from energy consumption to the status of coffee machines. If there are fewer employees present on a given day, Deloitte might opt to close down an entire section to save expenses on lighting, heating, cooling, and cleaning.

The Edge features a smartphone app developed in collaboration with Deloitte, the building's main tenant. The app checks your schedule, and the building recognizes your car when you arrive and directs you to a parking spot.

Then the app finds you a workspace based on your schedule: sitting desk, standing desk, work booth, meeting room, balcony seat, or "concentration room." Workspaces are not assigned to specific employees, but rather based on the schedule of the employee at the time. **In fact, a quarter of the building is not allocated desk space, it's a place to meet.**

The building is equipped with over 28,000 sensors that help to monitor and optimize energy usage, lighting, temperature, and other environmental factors. The sensors are connected to a central data hub, which uses algorithms and machine learning to analyze data and adjust the building's environment in real-time. For example, if there is too much light in a particular area, the sensors will detect it and automatically dim the lights.

According to Deloitte, the app will soon receive an update that will enhance its efficiency by recommending desk locations to employees based on their temperature preferences and meeting schedules throughout the day.

1. Deloitte. "2015 Global Report." Deloitte, 2015, https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-gr15-main-final.pdf.

2. Bloomberg. "The World's Greenest Building." Bloomberg.com, Bloomberg, 7 Oct. 2015, www.bloomberg.com/features/2015-the-edge-the-worlds-greenest-building/.

3. Higashi, Yusuke. "A pioneering smart building that cultivates 'experiences'." Worksight, 5 Jul. 2021, https://www.worksight.jp/en/issues/538.html.

4. Peake, Eleanor. "The world's most sustainable building is also the smartest." Wired, 11 Jan. 2017, https://www.wired.co.uk/article/this-is-the-worlds-smartest-building.

Microsoft Netherlands
A Story of
Corporate Transformation

Microsoft Netherlands moved to an ABW environment in 2008, and since then, it has reported increased productivity and reduced absenteeism. They adopted a flexible workspace approach, allowing employees to work from anywhere, anytime.

The strategy was simple - tackle three interrelated areas:

✓ **People**

✓ **Place**

✓ **Technology**

The "Anytime/Anywhere" Workplace

The new ways of working at Microsoft NL began in 2007, after the planning started in June 2006 under the codename "to be People Ready" inspired by Bill Gates' whitepaper "Digital Work Style: The New World of Work." A transformation program was then designed, and in April 2008, the company's new building, called the Outlook, was ready for occupation.

The relocation to a state-of-the-art head office building exemplifying the next generation workplace was the most significant change for Microsoft Netherlands. Employees had the flexibility to choose functional areas of the building based on their work activities, whether it be meeting customers in equipped meeting rooms or the café, preparing presentations in cubicles, or brainstorming with colleagues in the open-air terrace garden.

No employee, including the general manager, has a dedicated office. The head office mainly serves for collaboration and client meetings, while working from home is preferred for tasks requiring critical thinking, such as analyzing and processing information into documents.[1]

1. Heck, Eric & van der Meulen, Nick & Baalen, Peter J. & Oosterhout, Marcel. (2012). Achieving High Performance in a Mobile and Green Workplace: Lessons from Microsoft Netherlands. MIS Quarterly Executive. 11. 175-188.

Why?

The Rise of Knowledge Workers
Microsoft recognized from early on that the nature of knowledge work has changed significantly over the years. Rather than traditional office work, it now involves generating new ideas, combining different perspectives, and producing new knowledge. For this reason, knowledge workers require flexibility and inspiration to engage in critical thinking that results in innovative and sustainable outcomes.

Adapting Business Models for Success
Second, Microsoft NL recognized that its operating model was changing from a traditional software vendor to a customer service provider. This change required new forms of collaboration, teamwork and customer relationship management.

Empowering Employees for Business Growth
Third, the company recognized that business growth is directly related to the personal growth of employees by empowering them with the technologies that drive business.9 As a consequence, it was important to consider workplace requirements that fit a variety of work styles of existing and future employees.[2]

How?

Cross-function Effort
A steering committee was established to underscore the significance of the transformation, with the general manager of Microsoft NL leading the charge. Comprised of representatives from various departments, including HR, IT, facilities, finance, communication, and training, the committee demonstrated the company's commitment to the process. The general manager's leadership of the committee also served as a powerful message to the rest of the organization, contributing to the success of the initiative.

Organic Change
Rather than being meticulously planned, the initiative was managed organically. It was co-created by a team that included the management team, middle management, and front-line knowledge workers from across the organization, rather than being dictated as a top-down process.

Lead by Example
The general manager of Microsoft NL played a crucial role in the implementation of the new ways of working by communicating the vision and his personal opinion about 2bPR via various channels, including a personal blog, interview sessions, and a video clip, to employees, partners, and clients. He also openly shared his personal difficulties in adjusting to the new work style, which helped to create a culture of openness and transparency within the organization. The general manager led by example by making observable behavioral changes, such as giving up his office and calling into certain meetings, which showed the employees that the new ways of working were not just a concept but a reality.

1. Heck, Eric & van der Meulen, Nick & Baalen, Peter J. & Oosterhout, Marcel. (2012). Achieving High Performance in a Mobile and Green Workplace: Lessons from Microsoft Netherlands. MIS Quarterly Executive. 11. 175-188.

2. Meerbeek, Mark, et al. "A New Way of Working: Microsoft Netherlands." Microsoft Netherlands, 2009.

The Results

TYPE OF COST

RESULTS

176 sqf

30% Cost Reduction = $640,000 Savings

95 sqf

Before moving to the new building, the leased floor area per person was 16.4 square meters (176 square feet)

The new building provides 8.82 square meters (95 square feet) per person, resulting in annual savings of $640,000, a 30% reduction in real estate costs.

Productivity
The introduction of the new ways of working between 2007 and 2008 resulted in a 1.6% improvement in perceived productivity, and a further 0.9% improvement between 2008 and 2010.

+ 2.5% Productivity
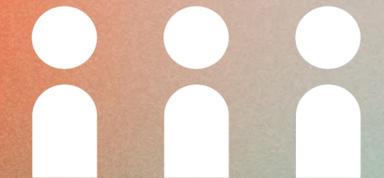
Employee Count
From 2007 to 2012, Microsoft NL increased its employee count from 700 to 1,000, resulting in a 40% growth rate.

+40% Growth Rate

Employee Satisfaction
In 2010, the company was recognized as the number one company in the Netherlands for its working environment. One of the contributing factors was the ability for employees to achieve work-life balance.

4 Awards + 3.4% Employee Score

One example of a company that has successfully implemented ABW with the help of technology is Cisco Systems. The company's San Jose headquarters features a wide range of workspaces, including private

1. Heck, Eric & van der Meulen, Nick & Baalen, Peter J. & Oosterhout, Marcel. (2012). Achieving High Performance in a Mobile and Green Workplace: Lessons from Microsoft Netherlands. MIS Quarterly Executive. 11. 175-188.

2. Meerbeek, Mark, et al. "A New Way of Working: Microsoft Netherlands." Microsoft Netherlands, 2009.

It's not just about the Tech World

There have been numerous successful ABW implementations across various industries, proving that this approach can be effective in improving productivity, collaboration, and employee satisfaction.

Banking | Commonwealth Bank of Australia

In a highly competitive local market influenced by global financial trends, Commonwealth Bank of Australia (CBA) recognized the importance of establishing a new workplace that would:

1. Foster collaboration among its various business lines.
2. Enable flexible organizational arrangements to adapt to market demands.
3. Ensure the sustainability of workplace investments amidst these changes.

Implementing an Activity Based Workstyle for a large and diverse population posed significant challenges. However, with guidance, coaching, and inspiration from Veldhoen + Company, the program team and senior leaders successfully ensured that the program received the necessary support and guidance. Consequently, CBA achieved the following outcomes:

1. Improved productivity, work-life balance, collaboration, and employee pride at CBA for the majority of its workforce.
2. Reduced absenteeism.
3. Decreased printing dependency by 40%.
4. Accommodated 20% more employees within the same space.

These results demonstrated increased employee satisfaction and engagement, along with a noteworthy 10% improvement in customer satisfaction scores.[1]

Pharmaceuticals | AstraZeneca

AstraZeneca's new 100,000-sf facility in South San Francisco used an activity-based working approach to integrate open offices and labs, which helped to increase mobility and interaction among researchers. The facility, designed around AstraZeneca's iWork philosophy, included open collaborative lab and office environments, team rooms, conference rooms, and a variety of activity-based workstations. Adjustable desks, ergonomic chairs, pantries with organic food options, an on-campus gym, basketball court, bowling alley, restaurant and bar, and 10 miles of campus-accessible trails were some of the amenities offered at the facility.

AstraZeneca prepared well in advance and implemented a knowledgeable move management process. A virtual reality 3D model of the facility was also presented to each of the existing facilities to **ensure that staff from the different units understood and supported the transition to the new facility.** The site was designed to provide shared resources and a flexible, open design across all areas of the facility that all employees could access. The layout also provided a two- to four-person team room for every 10 people. The facility was designed with slider doors to avoid cross-contamination, and hand-wave sensors were used to eliminate the touching of doorknobs. [2]

"Every niche was set up with different environments for people to work in, and all of them get used."

Martin Sharpless,
Project Director
AstraZeneca

1. Veldhoen + Company. "Commonwealth Bank of Australia." Veldhoen + Company, 2021, https://www.veldhoencompany.com/case-studies-commonwealth-bank-australia/.

2. Tradeline, Inc. "AstraZeneca's Approach to Open Office Lab Environments: Activity-Based Workplaces." Tradeline, 13 Dec. 2019, https://www.tradelineinc.com/reports/2019-12/astrazenecas-approach-open-office-lab-environments-activity-based-workplaces.

06

Starting with ABW
and Spatial Data

Step 01
Assess The Current State of Your Workplace

Conduct a Needs Analysis

It is important to understand the needs of your organization and employees. Conduct **surveys** and **assessments** to identify how work is currently done and what changes can improve productivity, collaboration, and efficiency. You can start by collaborating with companies such as Gallup or, if you are running on a tight budget, conduct your own survey.

Define Your Objectives

Identify your objectives for implementing ABW, such as cost savings, increased collaboration, or improved employee satisfaction. Having a clear understanding of what you want to achieve will help guide your decisions throughout the implementation process.

Develop a Plan

Create a detailed plan that outlines the steps required to implement ABW in your organization. This should include timelines, budgets, and key stakeholders. Make sure the plan is communicated well enough from the get go and that actionized items are clear and concise.

Step 02
Deploy the Necessary Technology

Check out Relogix Utilization Studies Packages, starting from 3 Months data collection.

◯RELOGIX

To establish a foundation for your key performance indicators (KPIs), begin by collecting spatial data on your existing workplace. **Conduct research for three to nine months** to comprehend how people are currently utilizing their space, identify pain points, traffic patterns, and utilization trends.

If you plan to implement activity-based working (ABW) as a shift from a low-performing office, it is critical to first assess and quantify areas that impede productivity before embarking on this exciting ABW journey. Some ways Spatial Data can help you with:

Identify Underused Amenities

1. Identify the rooms that are tied to specific functions (e.g. Photocopy Room, Prototyping Lab)
2. Check the Utilization of your Amenities' Rooms through time
3. Identify patterns

Identify Misused Rooms

1. Assign "Ideal Capacity" to rooms (e.g. MeetingRoom = 4 People)
2. Check Fullness rates (e.g. A meeting room that is always occupied by 1 person as a focus area)

Are my communal spaces generating vibrancy?

1. Check fullness and utilization rates of your communal spaces (e.g. Kitchenette, Lounge, Cafeteria etc)

Spot unused spaces assigned to teams

1. Low utilization rates in team-assigned Zones
2. Low desk occupancy rates across the office

Reveal Bad Spatial Combinations

1. Identify adjacent rooms with opposite functions (e.g. Desk Area next to Collaboration Space)
2. Cross-check their comparative occupancy rates: does the one affect the other?

Are people working in isolation?

1. Check rooms with low Fullness scores.

Determine whether overall absence is influenced by other factors.

1. Check patterns of your overall traffic (e.g. People only show up on Tuesdays and Wednesdays)
2. Examine the long-term traffic performance to determine if it is consistently stable or experiencing a downward trend.

Identify any underlying purposes behind office attendance

1. Check occupancy rates across all types of spaces (e.g. high usage of meeting rooms may suggest a scarcity of quiet areas for concentrated work.)

06 - STARTING WITH ABW AND SPATIAL DATA

THE AGE OF SPATIAL DATA : THE FUTURE OF THE ACTIVITY-BASED WORKPLACE
THE SCIENCE OF HIGH-PERFORMANCE WORKPLACES : CREATING VIBRANT OFFICES FOR EMPLOYEES TO THRIVE

Step 03
Time to set your KPIs

What is it exactly you are trying to accomplish and what does success look like in numbers down the line?

Once you have gathered sufficient information about how people are actually using their space, it's time to design the KPIs of your ABW model. Spatial data provides the flexibility to be as precise or general as necessary, enabling the design of a tailored pace of change and a more methodical approach to scheduling and organizing action plans.

A general guideline would see three major categories which you can further define.

I.

Employee Satisfaction

Surveys and feedback sessions can be used to gather input from employees on their experience with ABW. Other metrics include:

1. Net Promoter Score (NPS)
2. Overall office traffic (entrances)
3. Evenly distributed occupancy across rooms

II.

Team Productivity

This can be measured through metrics such as output, revenue, and time management.

1. **Output-based measures**
   i. Number of units produced
   ii. Number of customers served
   iii. Amount of revenue

2. **Time-based measures**
   a. Dwell time in key areas such as hot-desking
   b. Fullness in key collaboration rooms
   c. the time taken to complete a project.

3. **Efficiency-based measures:**
   a. Ratio of inputs (e.g., materials, labor) to outputs
   b. Amount of waste generated
   c. Comparative dwell time and fullness in working areas vs breakout rooms

4. **Quality-based measures:**
   a. Customer satisfaction ratings
   b. Defect rates
   c. Number of errors or rework required.

III.

Cost Savings

Cost savings is another important KPI for ABW. This can be measured through a variety of factors, including:

1. Reduced real estate costs
2. Energy savings
3. Increased space utilization
4. Consistent Occupancy Level with Operational Costs

Step 04
Check Your Management Style

No space for micro-managing

The shift to ABW requires a change in management style to allow for more autonomy and trust in employees. In traditional office settings, managers are used to supervising and micromanaging employees, which can hinder productivity and creativity. ABW, on the other hand, requires **a more hands-off approach that focuses on outcomes rather than processes.**

Activity-Based Work (ABW) requires a shift in management style from a traditional top-down approach to **a more decentralized, flexible approach.** Under ABW, managers must relinquish control over where and how work is done and instead focus on setting clear goals and expectations for their teams. They need to trust their employees to make the right decisions about where and how to work, based on their individual preferences and the nature of their tasks.

Responsiveness is key

In an ABW environment, managers must also be more responsive to the changing needs of their teams. They need to be aware of how employees are using the available spaces and resources and be willing to make adjustments as necessary to ensure that everyone has access to the spaces and tools they need to do their jobs effectively.

This is why **it is essential to recognize spatial data as a tool not only for facility and workplace managers but for all individuals involved in the office environment—especially team leads.** The more open you are about the data you capture, and the more you share with the managers and heads of your internal teams, the more equipped everybody down the line will be to make informed decisions about the policies and protocols they introduce at a micro-scale. This may require a more collaborative approach to decision-making and a willingness to experiment with different arrangements until the optimal solution is found.
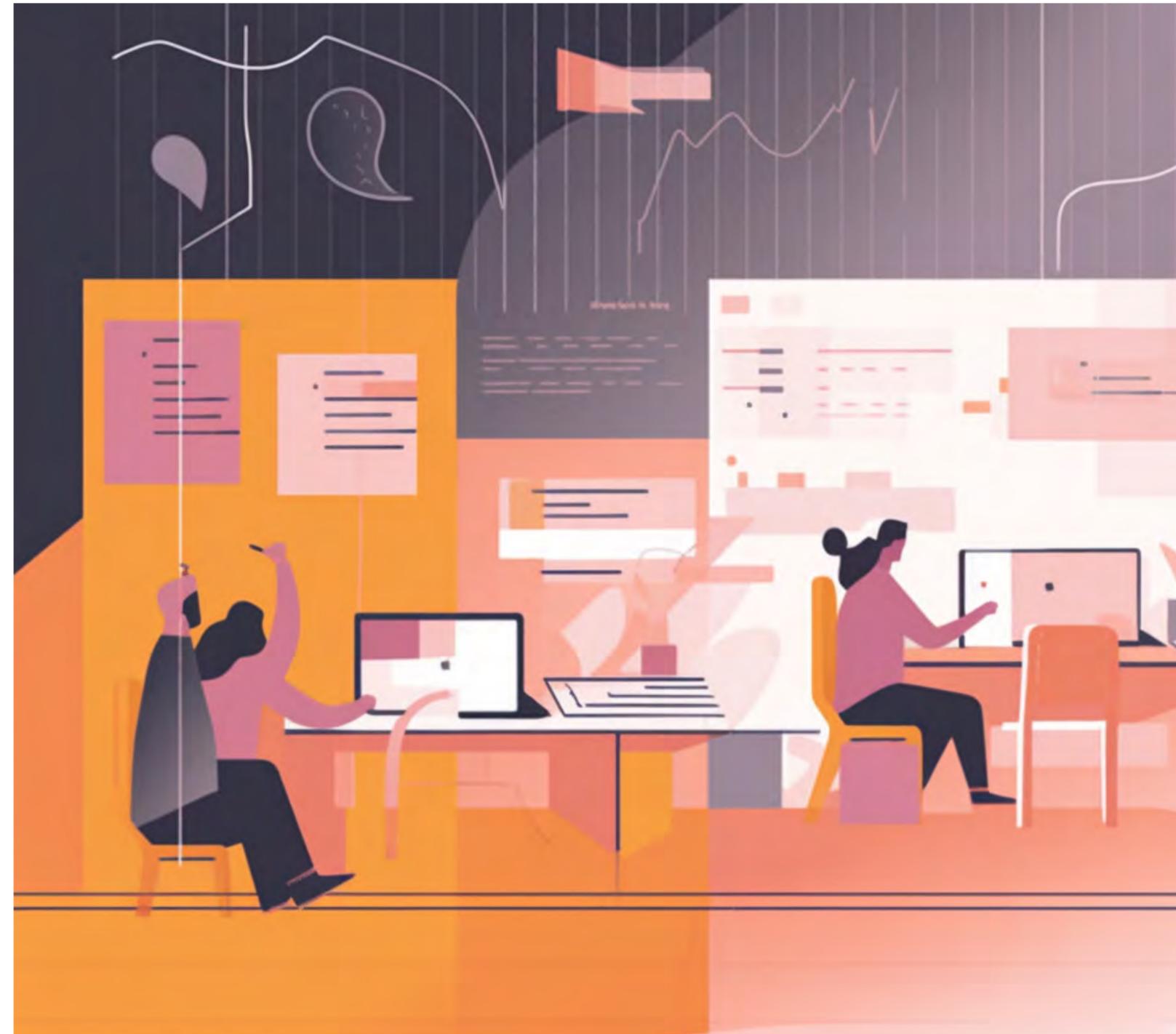
Pilot & Measure

Implement ABW in a small pilot group first to test the new policies and procedures. This will help identify any challenges and provide an opportunity to make adjustments before rolling it out to the entire organization.

As we saw in a previous chapter, Cisco's success story highlights the importance of piloting new changes in the work environment before implementing them company-wide, especially for large-scale organizations. This was demonstrated when they piloted the program at Cisco's San Jose Building 14 before rolling it out across the entire organization.[2]

During your pilot phase and especially after that, it is important to continually evaluate and adapt the ABW approach based on feedback from employees and the organization's goals. This can involve making adjustments to the physical workspace, technology, or management style to ensure that ABW is meeting the needs of employees and the organization as a whole.

Training

Additionally, managers must be willing to provide the necessary support and training to help their teams adapt to the new way of working. This may include training on how to use new technologies or work processes, as well as coaching on how to collaborate effectively in a more fluid work environment.[1]

1. Bergsten EL, Wijk K, Hallman DM. Implementation of Activity-Based Workplaces (ABW)-The Importance of Participation in Process Activities. Int J Environ Res Public Health. 2022 Nov 2;19(21):14338. doi: 10.3390/ijerph192114338. PMID: 36361224; PMCID: PMC9659033.

2. Cisco. "Connected Workplace POC: How Cisco Designed the Collaborative Connected Workplace Environment." Cisco, 2017, https://www.cisco.com/c/dam/en_us/about/ciscoitatwork/downloads/ciscoitatwork/pdf/Cisco_IT_Case_Study_Connected_Workplace_POC.pdf.

Take it
from Telstra

Telstra, an Australian telecommunications company, adopted ABW to allow employees to work from anywhere at any time, increasing flexibility and productivity. The company saw a significant increase in employee satisfaction and a reduction in absenteeism. Specifically, in a deep dive they did in 2014 right after implementing ABW, Telstra reported:

1. [1]Telstra. "FUTURE WAYS OF WORKING." Brochure, Telstra, 2020, https://www.telstra.com.au/content/dam/tcom/business-enterprise/campaigns/fwow/fwow-brochure.pdf.

Wellbeing
Accommodating more people in the same amount of space.

+11%

Collaboration
Building a smaller space than typically required for 140 employees.

+22%

Unscheduled Colleague Interactivity
Reducing utilities and maintenance costs, and nearly eliminating the costs of moves, adds, and changes for workspaces through the use of flexible furniture settings.

+81%

More likely to recommend Telstra
Purchasing less (and slightly less expensive) furniture than typically used in cubicles.

+12%

In favor of the new system
Spending less on switches and switch ports

+81%

Overall Reductions

- Reduction in lease, heating, cooling costs
- Reduction in workplace fitout costs per employee
- Reduction in travel costs
- Reduction in printing costs

50%

07
Conclusion

With Occupancy Data you can achieve:

Space Optimization

Occupancy data can help identify underutilized areas in the office, allowing for a more efficient use of space. This can lead to cost savings and a more comfortable work environment.

Resource Allocation

By analyzing occupancy data, companies can determine the number of desks and meeting rooms needed, as well as how to allocate other resources like printers, projectors, and other office equipment.

Employee Satisfaction

With occupancy data, companies can gather insights on how employees are using the space and what they prefer. This information can be used to improve the workplace and create a more satisfying environment for employees.

Cleaning and Maintenance

By monitoring occupancy data, companies can optimize cleaning and maintenance schedules to avoid disrupting employees during peak occupancy hours.

Real-time Decision Making

Occupancy data can be monitored in real-time, allowing managers to make informed decisions on-the-spot. For example, if a certain area of the office is becoming crowded, a manager can quickly re-assign a meeting room or adjust the HVAC system.

With Occupancy Data you can achieve:

In conclusion, Activity-Based Working (ABW) has become a popular alternative to traditional office layouts due to its many benefits. It can improve employee productivity, collaboration, satisfaction, and flexibility while reducing real estate costs and environmental impact. By allowing employees to choose their workspace based on the task they need to complete, ABW can help them feel more empowered, engaged, and motivated. However, implementing ABW also requires careful planning, communication, and support from management.

If you are considering implementing ABW in your organization, it is important to start by understanding your employees' needs, work habits, and preferences. You should also assess your existing workplace design, technology, and policies to identify any barriers or opportunities for improvement. Creating a pilot program or a proof of concept can help you test different solutions and gather feedback from your employees.

To ensure the success of your ABW implementation, you should also invest in training, communication, and change management. Providing your employees with the skills and tools they need to work effectively in an ABW environment can help them adapt more quickly and avoid frustration or confusion. Communicating the benefits and objectives of ABW clearly and consistently can also help build support and trust among your employees.

In conclusion, ABW can provide many benefits for your organization and your employees if implemented correctly. By promoting a more flexible, agile, and collaborative work environment, ABW can help you stay competitive, attract and retain top talent, and achieve your business goals. If you would like to learn more about ABW, there are many resources available online, including case studies, best practices, and industry research.

How can
Butlr help?

Wasted resources, underutilized space and shrinking budgets are some of our customers' biggest concerns. Navigating in the always-in-flux Corporate Real Estate territory can be overwhelming—especially during times when most of what is at stake is directly dependent on how people choose to use space every single day. Even worse, people use space in an arbitrary way, making it difficult to discern patterns with traditional means and media such as simply observing, relying on budge data or running surveys.

When optimizing costs, more important than knowing "how many" is simply asking "how": "how are people using my space and is there room for improvement, smart shrinking and sqf-to-value increase?" This is where Butlr's anonymous people sensing and occupancy detection platform helps enterprises across the globe: to improve their workplace planning and operations. Using just body heat and advanced AI technologies, Butlr infers contextualized human activity and delivers rich spatial insights instantly. One of the most robust and cost effective solutions in the market, Butlr helps clients create enhanced workplaces, improve employee experience, design effective asset strategies and optimize building operations.

butlr.com/demo

butlr