ACTIVITY-BASED WORKING

The Purenet Practice Guide

Juriaan van Meel

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SUMMARY
ACTIVITY-BASED WORKING (ABW)

WHAT IS IT?

Activity-based working (ABW) is a way of working in which employees make shared use of a diversity of work settings that have been designed to support different kinds of activities (hence the name activity-based).

There are three crucial elements to this definition:

Diversity

The office provides a diversity of work settings to support different kinds of activities and work styles.

Sharing

All work settings are available to everyone. By sharing workspaces, it is possible to provide a greater diversity of settings while at the same time saving square metres.

A way of working

ABW is a way of working and not just a design concept. The core idea is that employees work in a mobile and flexible fashion, making their own decisions as to where and when to work.

WHY DO IT?

There is an obvious financial incentive for adopting ABW, as the concept allows organizations to make better use of their office space. Just as important, however, is the concept's aim to empower employees by giving them more control over where and when they work.

Benefits for the organization:

- Reduced occupancy costs
- Smaller environmental footprint
- Increased flexibility
- Better interaction across teams
- Potential improvement in staff performance
- Support for cultural change

Benefits for employees:

- More autonomy in choosing where to work
- More choice and variety in work settings
- Advanced technologies that facilitate mobile working
- More contact with colleagues
- Fewer hierarchical differences
- A less sedentary, healthier workstyle
- Fewer but better workplaces

WHAT DOES RESEARCH TELL US ABOUT ABW?

There is a lot of scientific research available on ABW, but it does not provide any simple or definitive answers about whether ABW is 'good' or 'bad'. The overall picture, however, is that ABW can work very well, provided it is implemented and executed properly.

Research observations

- Users tend to be quite happy with ABW, especially with respect to the increased interaction and freedom of choice;
- Younger workers tend to be more positive about ABW than older ones, but the differences are small;
- ABW can have a positive impact on staff interaction, especially across teams;
- People's main complaints about ABW concern distractions and a lack of privacy;
- People's 'switching behaviour' is often limited, in which case people do not exploit ABW's full potential;
- ABW's impact on productivity is difficult to prove, but people's self-rated productivity can rise;
- The ABW concept seems to have a positive impact on people's health perception;
- ABW favours jobs that are characterized by a high level of autonomy, interaction and mobility;
- Success is not a given. Making ABW work requires careful implementation, excellent execution, and strong management commitment.

HOW TO DEVELOP A CONCEPT?
Before deciding to adopt ABW, it is important to make a systematic analysis of the organization's needs and aspirations. The purpose of such an analysis is to assess the organization's readiness for ABW and to gather data and insights for the development of the concept.

Analysis activities

Understanding the existing situation
• Document analysis
• Walk-through
• Workplace survey
• Spatial analysis
• Occupancy measurements
• Stakeholder interviews
• Social network analysis

Exploring new possibilities
• Leadership workshops
• Visits to reference projects
• Staff workshops
• Scenario studies

Validating new ideas
• Focus groups
• Persona method
• Design prototyping
• Pilot projects

HOW TO IMPLEMENT IT?
The implementation process starts with the formulation of a broad vision, which is then translated, step-by-step, into concrete solutions. The process should be a combination of project management and change management activities. The change management activities are essential for creating acceptance and ownership among employees.

Process stages
• **Stage 1 Envision** – Analyse the organization and develop an inspiring vision for the work environment;
• **Stage 2 Define** – Translate the vision into specific workplace requirements;
• **Stage 3 Design** – Create design solutions for the spatial and technical environment;
• **Stage 4 Build** – Construct the new environment and prepare the organization for the move;
• **Stage 5 Settle in** –Support people in their new way of working and solve any teething problems;
• **Stage 6 Manage** – Make the work concept 'stick'; adjust and improve where necessary.

HOW TO MAKE IT A SUCCESS?
Implementing an ABW concept can be challenging. Like any major organizational change, it is likely to meet with a healthy dose of resistance. So when implementing ABW, make sure to do it properly. The most important factors for success are as follows:

Analysis
• Gather data on work processes and space usage in order to be able to make informed decisions;
• Look at numerical data, but also at the stories behind the numbers;
• Be aware of the latest insights from workplace research;
• Link the ABW concept to strategic organizational objectives;
• Visit other projects to gather inspiration and to benefit from the lessons learnt;
• Look at ABW as part of a bigger narrative about employee empowerment and flexibilization;
• Involve employees in the analysis process to create awareness and engagement.

Process
• Allow enough time for preparing the organization for ABW and for getting used to it after move-in;
• Bring in dedicated expertise on change management;
• Take a multidisciplinary approach; involve FM, HR and IT in the process;
• Make sure that the organization's leadership demonstrates ownership and leads by example;
• Involve employees, but be specific about the matters on which employee input is sought;
• Take employees' input seriously, otherwise their involvement will backfire;
• Communicate clearly and repeatedly what ABW is and why it is being implemented;
• Don't try to please everybody but take people's concerns seriously;
• Provide extra training and support for middle management as they are the ones who have to make ABW work in everyday office life.

Design
• Provide employees with real choice from a diversity of settings;
• Don't compromise on quality, thereby removing the need to compete for the best workplaces;
• Facilitate focus work by creating excellent acoustics and provide plenty of quiet spaces;
• Create a human scale; avoid large, open-plan work areas;
• Create a welcoming office where people feel they belong, despite not having a personal desk;
• Make sure the IT infrastructure and technologies are 'top notch' as they are crucial enablers of mobility in the office;
• Use design features to signal that the new office is different from a traditional office but avoid arbitrary design gimmicks.

INTRODUCTION

What is the perfect workplace? There is no single answer to that question. Sometimes all you want are four walls and a door. At other times, an open space with colleagues. Or a project room with writable walls. A comfy sofa in a coffee lounge. Which setting works best, is likely to differ from time to time, depending on your activities and your mood. So wouldn't it be great to be able to choose any of these, at any given moment?

Essentially, that is the promise of activity-based working (ABW). Instead of providing employees with just one, fixed workstation, ABW aims to offer a diversity of work settings that are designed to facilitate different kinds of activities (hence the name activity-based). To make sure that everybody has the same choice, all settings are shared, which comes with the additional benefit of requiring less space. This concept is often considered as new—by some as shockingly new—but it isn't. The origins of activity-based working lie in the 1970s and since then it has become increasingly popular. This is not to suggest, however, that activity-based working has yet become the 'new normal'. In many projects the concept still gives rise to a lot of debate, if not resistance. And while many projects are successful— achieving both costs savings and increased staff satisfaction—there are also projects that fail due to design errors, cultural barriers and flawed implementation processes.

Against this background, PuRE-net has decided to create this practice guide. The guide's aim is to steer organizations through the complexities of activity-based working. It explains what the concept is, what its aims are, how it works and how it can be implemented. The recommendations are based on the first-hand experience of experts within the PuRE-net network and on a review of the available scientific literature on ABW.

The book's main message is: when implementing ABW, make sure to get it right. Activity-based working is not some kind of formula that can simply be applied to any given situation. It is a way of working that touches upon deeply held assumptions about how we use space, how we interact with colleagues and how we organize our work lives. The implementation of ABW should therefore be seen as a change process rather than a fit-out project. As this guide will explain, its success requires excellent workplace design, a multidisciplinary approach, careful change management and, last but not least, commitment from the organization's leadership.

PART 1: CONCEPT

Activity-based working (ABW) is a much-discussed concept and there is no shortage of opinions about it. It is not always clear, however, what people have in mind when they talk about ABW. For example, it is often confused with the concept of an open-plan office, whereas ABW is actually a reaction to the lack of choice in open-plan offices. So this first part of the book aims to clarify what ABW is—and what it is not. It also explains the concept's background, the underlying objectives and the main issues that may arise.

- What is ABW?
- A short history
- Related concepts
- Objectives
- What research says about ABW
- Issues and how to deal with them

WHAT IS ABW?

If you do an Internet search on the term 'activity-based working' (ABW), you will get lots of results and lots of different interpretations. You are also likely to find lots of alternative terms (lean office, agile working, smart working, etc.), which all refer, more or less, to the same ideas. For the sake of clarity, this guide will stick to 'activity-based working'. Not the catchiest term, but it is widely used, and it relates directly to the following definition.

Activity-based working (ABW): a way of working in which employees make shared use of a diversity of work settings that have been designed to support different kinds of activities.

Diversity

The essence of an ABW office is that it provides users with choice. Instead of the traditional binary model, in which people are stuck in either an open-plan or an enclosed office, the ABW concept provides employees with a diversity of settings in terms of openness, furniture, size, technology and atmosphere. For example, a mix of regular workstations, phone booths, quiet areas, break areas, lounges and project spaces. At any time, people can choose the setting that is right for them, depending on their task, mood and personal preferences.

Sharing

In an ABW office, everything is available to all, regardless of their hierarchical or functional status in the organization. The logic behind this 'free seating' approach is well known: traditional workstations tend to be underutilized as people spend a large part of their working hours away from their desk—

WHAT IS *NOT* ABW?
There are a lot of misconceptions about ABW. So here is an overview of what it is *not*:

It is not hot desking
Hot-desking is only about the shared use of desks and not about empowering employees by giving them more choice about when and where to work.

It is not an open plan office
As the name implies, open-plan offices are just open. ABW is different in the sense that it provides a mix of both open and enclosed workspaces, available to all.

It is not interior design concept
There is a strong design component to ABW, as it usually requires new furniture and spatial changes, but the concept is primarily about organizational change.

It is not a cost cutting operation
The ABW concept will typically save money, but a one-sided focus on costs will not lead to success. The key objective should be to improve productivity by facilitating a diversity of office activities.

It is not a formula
ABW projects tend have a lot in common, but ABW should not be seen as an off-the-peg solution. It is a concept that must be tailored to an organization's specific culture and activities.

in meetings, chatting at the water cooler, on the road, working from home. By sharing workspaces, it becomes possible to provide a greater diversity of settings while simultaneously saving square metres, which has both financial and environmental benefits.

A way of working

The last defining characteristic of ABW is that it is a way of working, and not just a design concept. Compared to a traditional office setting, an ABW office requires employees to work much more independently, making their own choices about where and with whom they work. Managers for their part are expected to evaluate their staff by looking at their performance rather than just their presence in the office. These behavioural and managerial practices cannot be seen as separate from the physical work environment—they are at the core of the concept.

Three dimensions

Activity-based working touches upon the social, physical and technological dimensions of the work environment (often referred to as 'people, place and technology' or 'bricks, bytes and behaviour'). Below is an overview of the key principles for each dimension.

SPATIAL DIMENSION	DIGITAL DIMENSION	SOCIAL DIMENSION
The building and the spaces it provides.	**The technologies that people need to be able to work mobily.**	**The way staff and management work, manage and interact.**
Diversity – different settings for different activities, balancing open and enclosed spaces.	Mobile devices – light, powerful tools with long battery lives that can be quickly fired up from any location.	Autonomy – greater freedom (and responsibility) for employees to decide when and where to work.
Free seating – all spaces can be used by everyone.	Collaboration apps – applications that allow employees to stay in touch in an easy and intuitive way.	Results-oriented management – judging employees on their performance rather than their presence in the office.
Availability – workspace numbers should provide staff with real choice.	Workplace apps – apps that enable employees to find empty workspaces and to locate their colleagues.	Mutual trust – as employees are not necessarily in the direct sight of their managers, mutual trust is essential.
Ergonomics – all settings should be usable by everybody.		
Zoning – different areas for quiet and lively activities.	Cloud solutions – Internet-based applications and filing systems that allow employees to work from anywhere.	Courtesy and respect – sharing workspaces requires that people are more considerate of one another's workplace needs.
Limited storage – as few filing cabinets as possible, although there should be room for personal items and some team storage.	Top-notch infrastructure – all the practicalities: docking stations, power sockets, a robust Wi-Fi network and high-quality screens.	Being mobile – moving to different spaces or locations when the task requires it.

A SHORT HISTORY

Activity-based working is often trumpeted as a new phenomenon, but it isn't. The concept has been around for decades, albeit under different names and guises. This short history will explain how ABW has moved from being a novelty to becoming a mainstream solution, driven by changes in technology, culture and work processes.

Way back in 1970, a group of about twenty IBM product engineers moved, somewhat reluctantly, into what was called a 'non-territorial office'. This was probably the first ABW office ever, even though it was not called that at the time.[1] In their new office, the IBM employees no longer had personal workstations, but a variety of shared workspaces: ordinary desks, but also work benches, a quiet area and even a 'total quiet area' (formerly the department head's office). A thorough evaluation of the project showed that the new concept had improved communications and satisfaction levels. The research report did, however, warn that the concept was liable to provoke "a good deal of fear or even panic" among users who were new to the concept.[2] Sound familiar?

The IBM experiment was an isolated blip in 1970s office design. It did not receive much publicity nor any emulation—not so strange since at that time office work was still very much paper-based. This changed however in the 1980s when laptops, Internet and email started to enter the world of work. On the back of these technological advances, the idea of the 'non-territorial office' resurfaced. In his 1982 book *The Successful Office,* Franklin Becker explained the logic behind the concept, stating that no single workspace could satisfy the myriad of functions people perform.[4] He anticipated that new technologies ("portable computers the size of a briefcase") would allow people to use a network of different workspaces, each

In 1989, the Digital Equipment Corporation (DEC) created its 'Office of the future' in Finland. One of the novelties of this 'non-territorial office' was that staff were equipped with cordless phones.[3]
(photo: Digital Equipment Corporation)

designed for a distinct function and psychological or social need. The same idea was discussed by the architects Stone and Luchetti in their seminal 1985 article 'Your office is where you are', which quickly became a popular slogan among office innovators.[5]

It was not until the 1990s that activity-based working really took off. Triggered by economic expansion, the ICT revolution and the dot-com boom, there was a huge eagerness to create exciting, innovative spaces.[7] Much of the idea development came from the British firm DEGW, headed by Frank Duffy and John Worthington. In their writings, their projects and their talks, they promoted the idea of a 'distributed workplace' for 'footloose' nomadic office workers who could work anywhere they wanted. Early adopters were IT companies and consultancy firms. The public sector showed a lot of interest as well. In countries like the Netherlands, Denmark and the UK, government organizations launched pilot projects and experiments based on these new ways of working.

In the decade that followed, the concept's popularity continued to rise. It was then that the term 'activity-based working' was coined by the Dutch workplace strategist Erik Veldhoen.[8] The increased adoption rate was accompanied by more critical notes as well. For example, in its study The State of the Office, the British Industrial Society wrote that "It [the flexible office] might be all the rage, but not with employees" and that "private offices for senior staff remain the norm, even while non-territorial forms of flexible working are introduced for everyone else".[9] And so it was. There were both success stories and projects that failed. Many organizations were simply not yet ready for such radical change. For many managers, the status of a private office was still too important. Mobile technologies were still too slow or too expensive. And there was still too much paper around.

Today, twenty years later, the world of work is more receptive to the ABW concept. Many of the technological and practical challenges faced by the early ABW projects have simply disappeared. Wireless networks, smart devices, long battery life and cloud computing are no longer novelties but mainstream solutions, and they have made mobile work easier than ever. Even the paperless office is, at last, coming
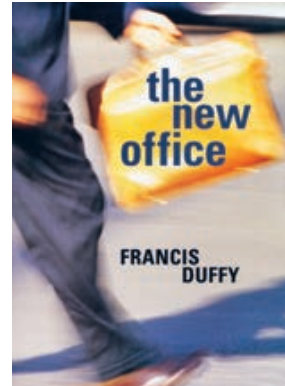
In 1997, Francis Duffy published his classic *The New Office*, in which he discussed the concept of the 'club office', described as an office where "individuals and teams occupy space on an as-needed basis, moving around it to take advantage of a wide range of facilities".[6]
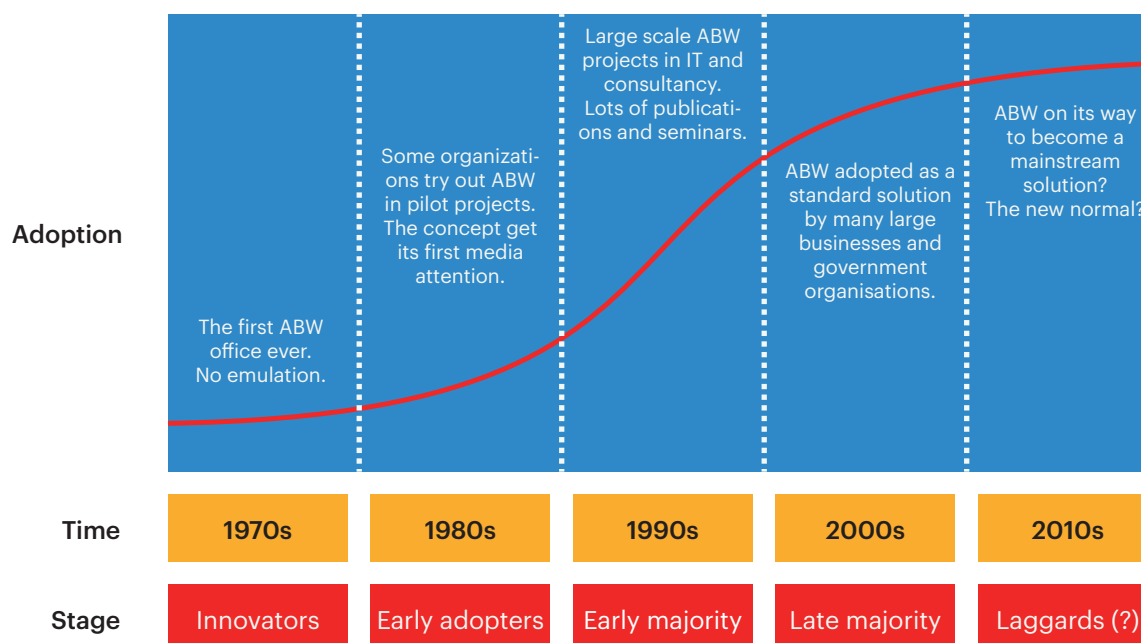

Employee retrieving her 'flex-suitcase' with personal items at the office of the Dutch insurance company Interpolis (1998). In the Netherlands, this project created a wave of media attention for the flexible workplace concept. Workplace consultant Erik Veldhoen, who was responsible for the project, would later coin the term activity-based working. (photo: Hollandse Hoogte)

of age. And, just as important, many managers and employees seem to have become used to the concept. ABW is no longer shockingly new—many employees have 'been there and done that'. Related concepts such as mobile working, working from home and co-working have also become more widespread, which is likely to reduce the desire for a personal workstation at the office.

The adoption of ABW over time
The evolution of activity-based working seems to follow the classic 'innovation diffusion pattern'.[10] The concept started out at as an isolated experiment; it was then embraced by an enthusiastic group of early adopters; after that, the 'late majority' became interested as the necessary technologies became more mature. And today, the ABW concept seems, at last, to be on the verge of becoming a mainstream solution.

Adoption

The first ABW office ever. No emulation.

Some organizations try out ABW in pilot projects. The concept get its first media attention.

Large scale ABW projects in IT and consultancy. Lots of publications and seminars.

ABW adopted as a standard solution by many large businesses and government organisations.

ABW on its way to become a mainstream solution? The new normal?

Time	1970s	1980s	1990s	2000s	2010s
Stage	Innovators	Early adopters	Early majority	Late majority	Laggards (?)

Q&A
John Worthington
Founder DEGW, Collaborative Urbanist

When did DEGW start to work with the idea of sharing work settings?
The seeds were sown in the early 1970s when Frank returned from Princeton and established a listening post for JFN Associates, a leading practice of New York space planners. In our projects, we questioned the status quo in office design and looked for more egalitarian and flexible ways of allocating space.

What triggered the idea?
As with most insightful and lasting ideas there was not one eureka moment. Frank's 1974 doctoral dissertation Office Interiors and Organisations acted as the catalyst. Over the next two decades, working with innovative corporations and developers, and supported by a global research programme, a robust conceptual platform was established for championing distributed ways of working and shared activity-based settings.

How did ABW evolve into a mainstream solution?
Change is incremental, until a seismic occurrence triggers a change in perceptions. The recession of 1989–93 was the catalyst to appraise the impact of ICT on the office. The focus was shifting from costs (efficiency) to maximizing people's performance (effectiveness) and how the organization presented itself (expression). From then on, the interest in New Ways of Working only grew and grew.

Will we witness the demise of the office any time soon?
The need to congregate, build trust and exchange knowledge and ideas will continue to exist. It may not be located in a place we now call an office. It could be in a castle or a canteen. The use class called office is outdated. Long live the coffee house and bourse.
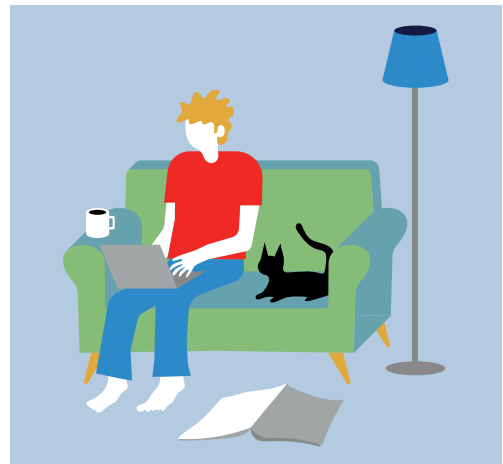
RELATED CONCEPTS

In practice, the activity-based concept is often combined with other workplace concepts and design ideas. Below we discuss the most important ones. They are all concepts that can help to strengthen the ABW concept, but they are not by definition part of it.
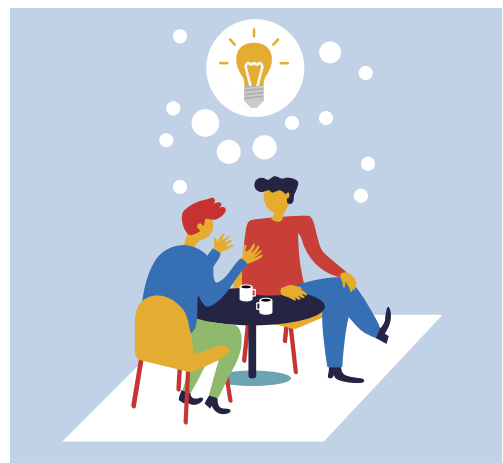
Remote working

Remote working is about working from places other than the office, such as home, co-workspaces or public spaces like cafes. The concept is an obvious companion to ABW because it builds upon the same idea of giving people more freedom to choose when and where to work. In addition, remote working is likely to have a positive impact on staff acceptance of ABW, as sharing office space makes more sense if you are not always there. Even so, many organizations are hesitant about turning remote working into formal policy, leaving it up to individual managers to reach agreements on this with their staff. This reluctance usually has to do with trust (or rather, a lack of it) and the fear that remote working will have a negative impact on social cohesion and collaboration within the organization.

Remote working is an obvious companion to ABW as it builds upon the same idea of giving people more control over where and when they work.

Collaborative space

Much of today's office design is geared towards the promotion of collaboration in organizations. Offices are designed as 'serendipity machines' with attractive meeting spaces and strategically located circulation routes that increase the likelihood of people crossing paths. The idea is that 'chance encounters' and 'creative collisions' foster the exchange of knowledge and ideas in the organization. For the same reason, work areas are often designed as open spaces, allowing for teamwork and a greater awareness of what colleagues are doing. These ideas and ambitions overlap to a large extent with the concept of activity-

The idea behind the creation of collaborative spaces is that they facilitate the exchange of knowledge and ideas in organizations.

based working. It is important to stress, however, that the design of ABW offices is not just about promoting collaboration. It is just as much about facilitating solo work and concentration.

Co-working

Co-working is a membership-based office concept in which members—typically freelancers and small businesses—get access to workspaces, office facilities and services in return for a monthly fee. As in the ABW concept, the range of spaces tends to be diverse and members can choose to work where they want. The main difference is that co-working is an 'out-of-house' concept in which people from different companies make use of the same spaces and facilities, while ABW is an 'in-house' concept. The lines are blurring, however. Some organizations are creating their own co-workspaces, aiming for synergies with external parties such as start-ups. Other organizations provide their employees with corporate co-work memberships so they can work in co-workspaces and be part of a more diverse environment.

Co-work offices are like a hybrid of a cafe, a serviced office and a community space. The facilities provided are just as important as the sense of community on offer.

Smart offices and 'proptech'

To an increasing extent, office buildings are equipped with various kinds of sensors that measure how the building is being used. Such buildings are referred to as 'smart offices' and the technologies used are called 'proptech' (property technology). The sensors can automatically detect who is in the building and which work and meeting spaces are being used. Employees can use their phones to locate colleagues, find available workstations, book meeting rooms, adjust the lighting levels in a space, rate the quality of spaces, and create service tickets if something is wrong with a space. For users, this can make office life easier, especially in an activity-based office where everybody is mobile. A point of concern is whether the use of sensors infringes on people's privacy rights.

Sensors can be used to monitor where people are and where there are available workspaces. Both kinds of information can help staff to navigate an ABW office.

Healthy offices

Health and well-being are currently big themes in workplace design (although not exactly new for anyone who remembers the 'sick building syndrome' of the 1990s). The central idea is that buildings should be designed in such a way that they have a positive impact on people's mental and physical well-being. Much of this relates to indoor climate: acoustics, daylight access, air quality and thermal comfort. Fairly new concepts are 'biophilia' (bringing natural elements like plants into the office and using natural materials like wood) and 'active design' (design solutions that promote movement, for example by creating attractive stairs). The idea of encouraging movement fits neatly into the ABW philosophy as the sharing of workspaces requires a higher level of staff mobility in the office.

Biophilic elements, like plants, are likely to have positive impact on people's well-being in the office, making it a more natural and less artificial environment.

Agile working

Agile working is highly popular, but a somewhat confusing concept as the term has different meanings in different industries. Workplace professionals often use the term 'agile' to refer to the flexibility of spaces. But in the world of software development (and increasingly beyond), agile refers to the flexibility of work processes. This can be explained as a highly interactive and iterative way of working, in which teams work in small 'sprints' with lots of feedback loops. In terms of space, the most important requirement of this way of working is that team members can sit together and can have daily meetings ('stand-ups') to discuss their activities. The workstyle is not incompatible with activity-based working, but it is not the same. The emphasis is on keeping teams together rather than promoting the mobility of individual employees.

Agile working requires that team members can sit together and have daily meetings ('stand-ups') to discuss their activities.

Casual aesthetics

Traditionally, office aesthetics have been dominated by what architectural historians call 'corporate modernism': copious glass and metal, grey suspended ceilings, beige carpets, and large numbers of identical workstations, neatly arranged on orthogonal floor grids. In recent decades, this manifestation of efficiency and order has been challenged by more casual and home-like aesthetics. Many of today's offices feature lots of colour, graphics, plants, and domestic elements like rugs, sofas and armchairs. Some offices even incorporate playful features such as basketball hoops or foosball tables. This is also what you see in many activity-based offices where design is used to create different kinds of informal settings, expressing the idea that office work is not just desk work.

Domestic elements like armchairs and sofas are used to make the office less office-like.

Q&A
Jeremy Myerson
Director WORKTECH Academy

There is more interest in the design of the work environment than ever. How come?
Workplace design used to be a specialist subject with its own rules. Now the work environment has been consumerized and many offices look like hotel lobbies or retail showrooms. Workplace design has joined the mainstream design discourse.

What are your top three workplace trends?
(1) Mental Health and Well-being – a growing awareness of behavioural psychology and neuroscience to avoid stress and burnout and increase productivity.
(2) Augmented Intelligence – there is a lot of interest in AI and automation, but the real gains will be in augmented work where humans and machines collaborate and coexist.
(3) New Generational Leadership – leadership redefined not as a property of charismatic individuals but as a property of a particular environment or culture. Workplace design and leadership strategy will work more closely together.

Are those the things that users want?
Users in office buildings definitely want better mental health and more preparedness for the challenges of 24/7 digital working. Most would willingly swap command-and-control leadership for something more empathic and responsive. But whether bringing robots and machine learning into the workplace might be a route to either is a moot point.

Is the desk going to survive?
The desk featured in Antonello da Messina's 1475 painting Saint Jerome in His Study and it features today in Apple Park's campus. The desk will survive as long as evolutionary traits remain. It will, however, become more intelligent, monitoring our health and our work, correcting our mistakes and connecting us to others.
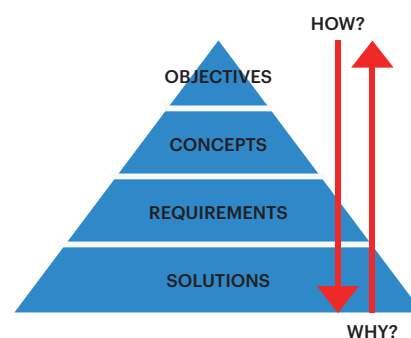
OBJECTIVES

To make ABW a success, it needs to have a purpose. Having clear objectives will help to give direction to the design of both the concept and the implementation process. Furthermore, it will help foster acceptance as employees are more likely to accept change when they understand the reasons behind it. Below, we discuss the most common objectives of ABW—some of which are easier to achieve than others.

Reducing costs

It is often argued that cost reduction should not be the prime objective of activity-based working, which is true. A one-sided cost focus sends the wrong message to employees and it is likely to result in an office that is too cramped and too crowded to be productive. Yet it would be naïve to suggest that costs are irrelevant. As mentioned earlier, traditional workplaces are not very efficient in terms of occupancy. Applying ABW means better space utilization and thereby a reduction in occupancy costs, typically by 20 to 40%, depending on how radical the concept is. Part of these savings can be reinvested to create better workspaces, part can be seen as real savings.

Reducing the environmental footprint

By increasing workspace utilization, ABW helps to reduce the environmental footprint; organizations will require less space to serve the same number of employees. This means lower amounts of energy needed to light, heat and cool the office space, and thus fewer carbon emissions. Moreover, it reduces the environmental impact of construction activities in terms of the use of raw materials, the production of construction waste, and the use of energy for manufacturing and transporting building materials and elements.

FROM OBJECTIVES TO SOLUTIONS
The formulation of clear objectives can be seen as the start of a process in which strategic intentions are translated step-by-step into concrete design solutions. This process can be represented as a pyramid consisting of four levels:[11]

1 **Objectives:** strategic benefits that must be delivered (e.g. enhancing staff performance)
2 **Concepts:** general ideas about how that can be done (e.g. good acoustics)
3 **Requirements:** specific, verifiable requirements (e.g. a reverb time of 0.6 sec)
4 **Solutions:** design solutions that meet those requirements (e.g. specific ceiling panels)

Increasing productivity

Increasing productivity is a crucial objective of ABW, albeit a challenging one because it is not so easy to prove or measure ABW's impact on productivity (see page 25). There is a general belief, however, that ABW can help to improve people's performance as it allows people to choose those spaces that best suit their activities, which should make it easier to perform those activities. Moreover, productivity should benefit from the accompanying change in management thinking, which focuses on people's performance rather than their presence in the office.

Improving employee experience

When done right, ABW can contribute positively to people's satisfaction and their experience of the work environment. The concept's most important quality is the freedom of choice it offers, which can give people a sense of empowerment. The extra attention to design that usually comes with ABW is a positive factor as well. It is important to keep in mind, however, that people's satisfaction and workplace experience will, in part, depend on what they are used to. Staff coming from a crowded open-plan office will be easier to please than those coming from spacious private offices.

Supporting cultural change

Activity-based working can be used as tool to support particular cultural changes. For example, it can play a role in creating a more egalitarian culture, as both management and employees make use of the same set of spaces. It may also help to foster a collaborative culture because there are no longer clear boundaries between departments. It is important to note, however, that cultural change is notoriously difficult to achieve. Changes in the workplace will only work if they go hand in hand with changes in management style and employee behaviour.

Increasing flexibility

ABW offices have the great advantage of being extremely flexible. Employees and teams can be moved without having to clear out filing cabinets or having to pack and unpack moving boxes. Fluctuations in team sizes can easily be accommodated as there is no 1:1 link between head count and workstations (although there is obviously


THE BENEFITS OF ABW
ABW's benefits for the organization as a whole are different from its benefits for individual employees. It is an important distinction because individual users will want to know 'What's in it for me?'.

What's in it for the organization?

- Reduced occupancy costs
- Smaller environmental footprint
- Potential improvement in staff performance
- Increased flexibility
- Better interaction across teams
- Support for cultural change

What's in it for the staff?

- More autonomy in choosing where to work
- More choice and variety in work settings
- Advanced technologies that allow mobile working
- More contact with colleagues
- Fewer hierarchical differences
- A less sedentary, healthier workstyle
- Fewer workplaces, but better ones
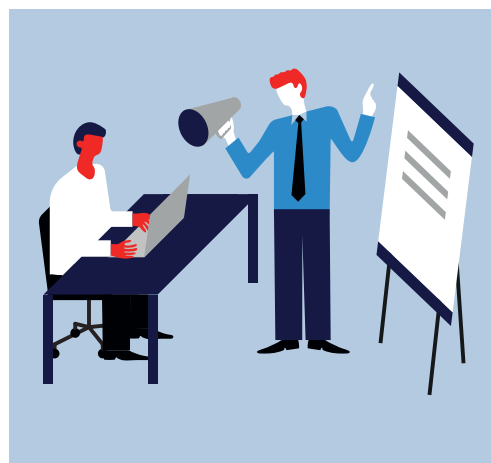
Do not expect cultural change to happen by itself. Moving into a new work environment can help and stimulate cultural change, but it is rarely, if ever, enough. Organizational leaders and other 'influencers' have to lead by example in the envisioned new way of working and they have to be consistent, persistent and insistent in their message.

a limit to how much growth can be absorbed within a given area). The overall effect is that the 'rate of churn' (the percentage of employees moved during a year) and the related costs are relatively low.

Enhancing interaction

Face-to-face interactions are critical for the exchange of ideas and information within organizations. ABW can help to promote such interactions by providing inviting meeting areas and effective collaboration spaces. Furthermore, the concept of 'free seating' increases the likelihood that employees will rub shoulders with people other than those from their own team. It should be noted, however, that internal team interactions may suffer in ABW concepts as teams no longer necessarily sit together—although the creation of team zones can help with this (see page 58).

Attracting new generations of staff

The attraction and retention of new generations of staff (referred to as Millennials, Generation Y, or Gen Z) is often given as an objective of ABW. The reasoning is that a dynamic and vibrant ABW office will be more appealing to this group than a 'dull' traditional office with outdated furniture and a hierarchical set-up. That is probably true, but this objective requires some nuance. It is not so much the sharing of workspace that younger generations are interested in (research suggest the opposite[12, 13]), but more the general notion of flexibility in terms of hours and work-at-home options.[14, 15]

Improving health and well-being

Activity-based working can be linked to health and well-being in the sense that it gently encourages people to move around the office. More movement and changes in posture can help to reduce the risk of cardiovascular diseases, chronic back problems and other 'office diseases'. In addition, an ABW concept may positively affect people's sense of well-being by giving them more control over their work environment—although it must be said that a causal link with well-being is hard to prove (see page 25).

It is often argued that sitting is the new smoking—which isn't true because smoking is far worse—but prolonged sitting does hurt people's health. Activity-based working can contribute to a healthier workstyle as the concept promotes movement and typically offers ergonomic workplace solutions like sit-stand desks.

Making objectives more specific
The objectives as described here are still very broad. In an actual project, they would need to be more specific to be effective. The objectives should ideally be linked to concrete metrics to make them actionable and measurable.

OBJECTIVES	INDICATORS
Reducing costs	Lease / occupancy costs
Reducing environmental footprint	CO2 emissions per employee
	Use of energy, water and materials per employee
Increasing productivity	Productivity as perceived by staff (survey)
	Output/input data (e.g. hours worked for particular tasks)
Improving employee experience	Employee satisfaction levels (survey data)
Supporting cultural change	Staff perception of culture (survey data)
Increasing flexibility	Rate of churn (# of people moved/year)
	Cost of internal moves
Enhancing interaction	Staff perception of interaction/social cohesion (survey data)
	Actual interaction data (e.g. from a social network analysis)
Attracting and retaining employees	Staff retention rate
Improving health and wellbeing	Staff perception of their own health and wellbeing (survey data)
	Annual number of sick days

Q&A
Harald V. Nikolaisen
Director General of Statsbygg

What is the strategic relevance of ABW for public organizations like yours?
ABW allows flexibility for the organization when it comes to space utilization, while simultaneously reducing real estate costs. Flexible working environments reduce the property footprint and support sustainability. They accommodate more informal meetings and thereby create a culture of collaboration. The physical solutions are part of organizational development, management and technology, not isolated projects.

Is there a difference between public and private organizations when it comes to ABW?
Many private companies are better at meeting the expectations of younger employees looking for new ways of working. These companies are keenly aware of operating costs and alert to the benefits of concepts that can accommodate more people and adapt to changing business conditions. Perhaps this makes it easier to achieve ABW in the private sector. In the public sector, we struggle to overcome employee anxiety and resistance to change.

Is the concept part of the plans for the future government quarter in Oslo?
Yes. For the first time Statsbygg has been given a mandate to test ABW as a workplace concept. The emphasis is on variation and freedom of choice, rather than a personal desk for everyone. But from the start this has been the subject of a debate that is still ongoing, so we do not yet know the final outcome.

Are you planning to give up your own office?
What office? I gave up my office ages ago! I work in an open plan workspace and enjoy being close to my colleagues.

WHAT RESEARCH SAYS ABOUT ABW

There is a lot of research dedicated to figuring out how ABW affects people's behaviour and wellbeing. This section summarizes the findings. Before doing so, it is important to note two caveats. First, almost all research concerns user surveys that measure people's perceptions rather than their actual behaviour. The second caveat is that the evidence base is still rather limited, with a lot of individual case studies and only a few large data sets. This means that the conclusions below should be regarded as indications rather than absolute truths.

Quite happy

Are employees happy in an ABW office? Research suggests so, but the evidence is mixed. Multiple studies show that people's satisfaction is positively impacted by ABW. Employees tend to appreciate the available spaces for breaks and collaboration, the aesthetics, and the improved interaction with colleagues.[16, 17] But there are also reports of dissatisfaction, especially in relation to misuse of the concept (e.g. territorial behaviour), design mistakes (e.g. bad acoustics) and flawed implementation processes (e.g. a lack of user involvement).[18, 19] In general, however, the pros seem to outweigh the cons. An extensive Swedish study showed that ABW offices, together with cellular offices, generated the highest satisfaction scores, while open-plan offices scored worst.[20]

Small generational differences

It is often argued that activity-based working is more suitable for younger workers than for older ones. There is some data that seems to support this. Research from the Dutch Center for People and Buildings shows that young employees (< 31 years) are generally more positive about ABW than older ones.[21]

MIXED FEELINGS
There are things that employees like about activity-based working, and there are things that they don't like. According to benchmark data from the Center for People and Buildings, the picture is as follows: [22]

Best liked
(>50% respondents satisfied/very satisfied)
- Possibilities for communication
- Atmosphere/expression of the interior
- Quality of support services
- Functionality/comfort of workplaces
- ICT facilities
- Spatial layout
- Openness of spaces

Least liked
(> 50% respondents dissatisfied/very dissatisfied)
- Lack of privacy
- Possibilities for concentration

Likewise, data from Leesman, a commercial research company, shows that young employees consider ABW more effective than their older colleagues.[23] The question is why. Are young workers more flexible, and older ones more change-averse? Perhaps, but in both data sets the differences are too small to justify such generational stereotyping. Other factors, such as where people are in their career, are more likely to play a role.[24]

Better interaction
Many organizations hope that ABW will help to improve employee interaction ('breaking down the silos', as managers like to say) and this notion is supported by research.[25] In surveys conducted by the Center for People and Buildings, users generally rate the 'possibility for knowledge sharing' as one of the concept's most positive aspects.[26] In similar fashion, the surveys conducted by Leesman show consistently high scores for the facilitation of 'informal social interaction' and 'unplanned meetings'.[27] One point to note, however, is that it is mostly interaction across teams that benefits from ABW.[28] Interactions within teams may actually deteriorate as team members are no longer necessarily located in the same area.[29]

Distractions and a lack of privacy
The almost inevitable downside of improved interaction is a decline in the ability to concentrate. Distractions, noise and a lack of privacy are often mentioned as ABW's main weaknesses (although matters are worse in open-plan offices).[31, 32, 33, 34] This is somewhat surprising as the ABW concept explicitly aims to facilitate both collaborative and individual work. It is probable that many first-generation ABW offices were too open. The complaints also seem to relate to people's limited 'switching behaviour' (see below) which means that people stay put at a workstation even when they consider that area too noisy. The challenge is therefore not only to provide quiet spaces, but also to get people to use them.

Less mobile than expected
Several studies show that employees are less mobile in ABW offices than expected, making use of only a limited set of workplaces rather than the full range of available options.[35, 36, 37] The reasons for this are diverse. A practical barrier concerns the inefficiency of

The modern workplace is filled with what researchers call 'externally generated involuntary distractions' or 'EGIDS':[30] noisy colleagues, phone calls and people walking past. Such distractions can be acceptable while performing well-learnt, routine tasks, but they can hamper people's performance when it comes to new or complex tasks. The ABW office aims to deal with this issue by providing spaces for both communication and concentration.

moving around (plugging out/in, packing/unpacking, adjusting furniture). A psychological reason may be people's tendency to develop routines, such as using the same desk, as means to manage their busy work lives.[38] A social reason is that people want to remain seated close to their colleagues.[39] All three are valid reasons, but it is important to encourage and support mobility in the office as research shows that the more mobile people are, the happier they are with the ABW concept.[40, 41, 42]

Productivity remains elusive

The impact on productivity is the holy grail of workplace research: much sought after, but notoriously hard to find. The problem is that there are many factors involved and that the productivity of office workers is usually hard to measure. To deal with this, most studies limit themselves to 'perceived' or 'self-rated' productivity. But even then, it is difficult to reach conclusions. Some studies have found positive impacts, others negative ones, and some have found zero effects.[44, 45] Positive impacts are associated with improved communications and an increased sense of empowerment.[46] Negative impacts relate to an increase in distractions and the extra time needed to find a workplace.[47]

Probably healthier

As with productivity, the available research on health is based on self-reported ratings rather than actual measurements of people's well-being. In general, however, ABW's impact seems to be positive. A Swedish study found that ABW offices (and cell offices) score high on health, whereas open-plan office types generally score low.[48] One explanation for this may lie in the increased sense of personal control over the work environment. Another possible reason may lie in a change in people's 'sitting behaviour'. There is an Australian study in which employees reported reduced sitting time (by 14%) and increased time spent standing (11%) and walking (3%), although these figures could not be supported by actual measurements.[49]

More suitable for some job types than for others

ABW seems to favour high-end office jobs: job types that come with a high level of autonomy, task diversity, mobility and interaction. Think project managers and

MOBILE WORKERS FEEL MOST PRODUCTIVE
The data from Leesman shows that the mobile employees in an ABW office feel more productive than their sedentary colleagues. In their data, Leesman distinguish between four mobility profiles. The percentage of people who agree with the statement that their office helps them to be more productive is different for each profile.[43]

Profile	Increased productivity agreement
The camper / squatter Works in a single work setting, rarely using other settings in the office	42%
The timid traveller Uses a single work setting, occasionally tries other locations within the office	55%
The intrepid explorer Uses a single work setting, but often uses other locations within the office	60%
The true transient Moves around. Rarely bases him/herself in a single location within the office	67%

Mobile workers are happier with ABW than their sedentary colleagues.

policy makers rather than administrative workers or help desk employees. Data from Leesman shows that people who have a complex activity profile (lots of different tasks) regard ABW as more effective than people with a simpler activity profile (little diversity in tasks).[50] Dutch research points in a similar direction, showing that satisfaction ratings are highest among employees whose work is characterized by high levels of interaction and autonomy.[51] This makes sense because such traits are in line with ABW's philosophy of self-managing employees who make their own decisions about when and where to work.

Reality can be messy

The ABW concept is based on particular assumptions about user behaviour. Perhaps unsurprisingly, research shows that those assumptions do not always obtain in everyday office life. For example, one of ABW's central ideas is that of a 'status-free' work environment. In several studies, however, it was observed how (some) managers recreate private offices by systematically commandeering small meeting rooms.[52, 53] ABW's assumption about sharing spaces is also often challenged, as was shown in a Dutch case study where a team 'territorialized' a section of the office by leaving papers on cabinets and decorating the walls with posters.[54] Such observations show that one should be not naïve about the importance and difficulty of organizational change.

Success depends on execution and implementation

As mentioned earlier, ABW research comes up with many different, often contrasting findings, with examples of both very successful and unsuccessful cases. Much seems to depend on how the concept is executed and implemented. This is nicely illustrated by a study carried out by the Center for People and Buildings in which four ABW projects of the same organization were compared, two with very high satisfaction ratings, and two with very low ratings. These differences were due to differences in the design (the worst-rated projects were more open plan), the implementation process (the best-rated projects had a lot of user involvement) and the role of management (the successful projects enjoyed strong management commitment).[55]

Q&A
Wim Pullen, Director of the Center for People and Buildings

Why is workplace research relevant to practice?
First because research looks for patterns, for example in people's behaviour, which is relevant input for the design process. We try to discover the 'laws of nature' of the work environment. Second because research can provide a rich understanding of reality. Research is about numbers, but also about the stories behind those numbers. There is a lot that can be learnt from a good case description.

In your database there are both successful and unsuccessful ABW projects. What makes the difference?
Success is very much about providing the right mix of settings that match people's activities and their psychological needs, facilitating both communication and concentration. Other success factors are strong management commitment, a balance between top-down and bottom-up decision-making, and clear guidelines.

Why is it so difficult to prove ABW's impact on productivity growth?
Productivity is a complex metric. It requires the measurement of all the organization's inputs and outputs, both before and after the introduction of ABW. And even then, it is difficult isolate the workplace from other variables. It is possible, however, to use 'perceived productivity' as a proxy.

What is on CfPB's research agenda for the coming years?
We want to discover more about what we call 'Total Benefits of Usership' (as opposed to 'Total Cost of Ownership'). We already know that there are many variables at play, but we want to know more about causal relations and, thereby, about effective interventions. The word 'total' describes our ideal of knowing it all.

Change management is key

There isn't much research available on change management in relation to activity-based working, but many research publications do stress its importance.[56, 57, 58, 59] User involvement and communication in particular are seen as critical change management activities. A Swedish study that compared four ABW cases noted that the two most successful cases were characterized by long design and implementation processes, extensive employee involvement and clear communication about the concept.[60] The study showed that employee involvement facilitated the employees' mental preparation for the new work environment and the creation, acceptance and implementation of new workstyles.

Conclusion

The available evidence based on ABW does not provide any simple or definitive answers about whether ABW is good or bad. The overall conclusion, however, is that ABW can work very well provided it is implemented and executed properly. The concept's strength is that it can have a positive impact on interaction, satisfaction and people's sense of productivity, especially when work processes are characterized by a high level of autonomy, mobility and interaction. The concept's weakness is that people may find it difficult to concentrate. Research also shows that people are by nature more sedentary than expected and so fail to realize the concept's full potential. These issues must be addressed explicitly in the design and implementation process. Providing plentiful spaces for focus work, and encouraging people to actually use those spaces, is likely to help.

RECOMMENDATIONS FOR FURTHER RESEARCH
The comment 'further research is needed' is a scientific cliché, but nonetheless true for ABW. Despite a rapidly growing evidence base, many questions remain unanswered. Here are some recommendations for further research.

Promote research
Urge organizations to evaluate their ABW effort systematically and to share the findings.

Make sure that research is relevant to practice
Try to develop practical recommendations on matters like sharing ratios and workplace densities.

Make research more accessible to practice
Do not publish in scientific journals only, but also in blogs and trade journals that are accessible to practitioners.

Use a mix of methods
Combine quantitative surveys with qualitative methods such as interviews and observational studies to understand the 'why' of the research outcomes.

Link satisfaction data to design characteristics
Do not regard ABW as a general concept. Take a closer look and try to isolate the impact of design variables such as floor sizes, sharing ratios and workplace densities.

Use data from new technologies
Make use of sensors, cameras or wearable devices to get an in-depth insight into user behaviour (but beware of privacy issues).

Investigate the impact of process design
Do not study the concept in isolation, but also the process behind it, looking at the duration of processes, the degree of user involvement and the role of management.

ISSUES AND HOW TO DEAL WITH THEM

Activity-based working is a powerful concept, but it is not without its challenges. Understandably, employees worry about things like noise and the availability of sufficient numbers of workspaces. To make ABW a success, and to convince sceptical employees, such issues should not be glossed over, but explicitly addressed. Below is a list of the ten biggest issues with recommendations for how to deal with them.

Noise and distractions

As explained in the research section, one of the biggest issues of the ABW office is that people experience distractions and a lack of privacy, which impairs their ability to concentrate. This need not be the case. The central idea of ABW is to provide options for both communication and concentration.

The use of acoustic panels will help to soundproof the office. Acoustic panels are made of sound-deadening materials that allow people to have a conversation in an open work area without immediately disturbing their co-workers. (photo: Anna Autio)

- Provide plentiful focus rooms and/or quiet areas so that people can escape the buzz;
- Provide lots of meeting areas so that conversations do not have to take place in open work areas;
- Divide the office floor into zones with different levels of liveliness (e.g. a 'hot' zone for lively activities and 'cold' zone for quiet ones, see page 58);
- Make sure that spaces have excellent acoustics (plenty of sound absorption; sound blocking where needed);
- Formulate rules for how spaces should be used (e.g. no video meetings or loud ringtones in open work areas);
- Limit 'visual noise' (i.e. blocking distractions in people's peripheral vision by placing screens between workstations, applying privacy film to glass partitions and locating workstations away from busy circulation areas).

Feeling lost or disconnected

Without a personal workstation, some people may feel uprooted, lost or disconnected from their teams. A mix of spatial, technical and organizational strategies can be used to mitigate those feelings and to strengthen the social ties within teams.

- Create 'identity spaces' where teams and individuals can place and display their trophies and other kinds of memorabilia (e.g. snapshots of all team members, branding materials, etc.);
- Ask team members to share their schedules and calendars, so that everyone knows where and when their colleagues are working;
- Create rules concerning people's availability/ accessibility (e.g. availability via chat during work hours);
- Provide easy-to-use tools for sharing files and communication (video, chat, voice) and make sure that those tools are used;
- Have set meetings and social rituals (e.g. eating lunch together when at the office);
- Pay added attention to newcomers who do not yet know their colleagues and may have trouble— literately and figuratively—in finding their way around the office.

Territorial behaviour

In ABW offices some users may try to claim certain workplaces in the office as their own—for example, by leaving personal items, such as a jacket or papers, at a workstation to signal that it is 'theirs' while not using it. This is a natural tendency, but it restricts other employees' choice.

- Make sure that all the standard workstations are of equal quality—there is no need for competition for desks or 'desk envy' when everything is of the same (good) quality;
- Formulate guidelines for how spaces should be used (e.g. stating that people must clear a workstation when they expect to be away for more than 2 hours);
- Make sure that managers lead by example (and not treat focus rooms or meeting rooms as their private office);

THE TERRITORY ISSUE
The social psychologist Irwin Altman theorized in the 1970s that people's sense of territoriality is dependent on two factors: (1) how central a place is in a person's life, and (2) how much time a person spends there.[61] He distinguished three types of territories.

Primary territory	Private places where the owner has exclusive rights to use the space (e.g. a place in the home).
Secondary territory	Semi-public places where a person interacts with acquaintances or peers on a regular basis (e.g. a local pub).
Tertiary territory	Public spaces where almost anyone is allowed temporary access, providing they observe the relevant regulations (e.g. a public park).

The first type of territory will raise the strongest resistance when it has to be shared, the third one the weakest. Work areas can be seen as 'secondary territories': places where it is nice or convenient to have a regular seat, but not a must.

- Make sure that switching between spaces is easy by providing easily adjustable furniture and wireless technologies;
- Emphasize that clearing one's desk is not just a matter of following rules, but more especially of being considerate of your colleagues;
- Ask the cleaners to clear all desks at the end of the day.

Availability of spaces

Closely related to the issue above, is anxiety about the availability of workspaces, which may result in people going to the office earlier so as to be able to get a good work spot. It happens, but there should be no need for such behaviour. A well-designed ABW office should offer plenty of good seating possibilities, even during peak hours.

- Make sure that the sharing ratio isn't too tight. Avoid regular occupancy levels over 70% (see also page 54);
- Create 'overflow areas' to deal with peak occupancies (e.g. informal work settings in the restaurant and other break areas);
- Make a clear distinction between bookable spaces and non-bookable spaces;
- Correct people who show 'claiming behaviour';
- Establish (and enforce) a 'clear desk' policy;
- Create visual overview in the office so people can easily see which workspaces and focus rooms are available;
- Provide employees with a 'place finder' app for their phone to help them to locate available workstations.

Paper and stuff

An often-heard concern is 'Where am I going to leave all my stuff?' It is obvious that ABW is not going to work if people have a lot of things to carry around. But people still have things, such as a laptop, a mug, books and printouts or marketing materials. There should be places where people can store those items.

- Digitalize work processes, in so far as that hasn't been done already;
- Organize a 'clean up' of filing cabinets, pedestals and storage spaces before moving into the ABW office;
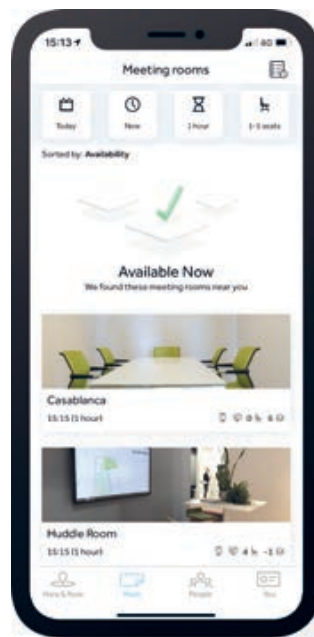
Linking workplace sensors to a smart phone app gives employees access to live data about which workstations are in use and which are not, so they spend less time looking for available workstations. (photo: Mapiq)

Provide employees with a basket or company bag that they can use to carry their things while on the move in the office. The size should be such that it that can easily fit into a locker. (photo: Anna Autio)

- Provide employees with lockers where they can store personal items;
- Provide a cloakroom for storing clothing such as bicycle helmets and coats;
- Provide team storage where needed.

Hygiene

Employees may worry about hygiene as workstations are used by multiple persons over the course of the day. There is no research showing that this is harmful, but some people dislike the idea of germs and microbes harboured by shared desk surfaces and peripherals such as keyboards and mice.

- Increase cleaning frequency (e.g. extra cleaning round during office hours to wipe down desks and keyboards);
- Place a canister of disinfectant wipes and/or a bottle of hand sanitizer on desks (NB without harmful chemicals, preferably biodegradable);
- Draw up a protocol that asks employees to keep workspaces clear, clean and tidy;
- Provide people with their own headsets, keyboards and mice (although this means that they have more stuff to carry around).

The hassle of moving

One practical issue concerns the practicalities of switching workspaces over the course of a day. Each move entails finding a spot, adjusting the furniture, clicking the laptop into the docking station, and placing one's stuff on the desk. These 'micro-inefficiencies' cannot be avoided entirely, but there are ways to make switching places easier.

- Provide all employees with the same laptop (type/brand) and equip all workstations with the same docking station (or at least provide the right set of cables and dongles for every type of equipment);
- Limit the number of wires/cables required (e.g. wireless chargers for phones);
- Choose furniture that can easily be adjusted to individual preferences (without having to read a manual first);
- Provide all employees with a bag or basket in which to carry a few personal things (notebooks, favourite pens, mug);
- Position focus rooms and phone booths close to

In most ABW offices employees get their own personal locker so that everyone has a place to store personal items (e.g. one's laptop at the end of the day). In practice, however, not everyone uses them, in which case a shared locker system might be considered.
(photo: Anna Autio)

open work areas so people don't have to walk far if they want to switch places to make a phone call or when they need some time to focus.

Ergonomics

People come in different sizes and with different preferences, and they will need to adjust their chairs and desks accordingly. Compared with ordinary office projects, the ergonomic standards in ABW offices need to be higher. If work settings meet the needs of the 'outliers', the needs of everyone else should be covered as well.

Use furniture solutions that people can easily adjust to their preferences. (photo: Ahrend)

- Invest in highly adjustable, high-quality furniture (adjustable chairs, sit-stand desks);
- Make sure that the height of monitors can be easily adjusted;
- Train all employees in workspace ergonomics (giving advice about posture, but also about the importance of movement and variation);
- Make exceptions for people with special needs (e.g. persons with allergies, light sensitivity, hearing problems, wheelchair users, etc.);
- Consider investing in 'smart furniture', such as desks that automatically self-adjust to a person's digitally stored preferences.

Loss of status

For managers, ABW can create 'status anxiety'. The proverbial corner office is no longer there. In addition, they must get used to managing mobile employees (managing with their brains, instead of their eyeballs, so to speak). Practice shows that this is not always easy. It is essential, however, that they are 'on board' and lead by example.

- Provide training in change management and information about ABW that is specifically targeted at managers;
- Make managers part of, and responsible for, the change process;
- Make sure that top management is involved and actively pushing the ideas to all management levels;
- Provide sufficient bookable meeting rooms with visual privacy, where managers can have confidential meetings (e.g. employee assessments).

Resistance to change

When introducing ABW, be prepared for a healthy dose of staff resistance. When they first hear about it, many employees will be anxious, or even angry, about the prospect of losing 'their' workstation. But if properly informed and involved, people can move from resisting the change to accepting or even embracing it (see also page 74).

- Communicate extensively about the 'why', 'what' and 'how' of the concept;
- Listen seriously to and address all concerns and practical questions employees may have;
- Involve employees actively in the development of the concept (see page 40);
- Where necessary, provide training (e.g. in use of new technologies);
- Make sure that management leads by example.

Why is losing one's desk such a daunting perspective, even when you know that you will get more options in return? One likely culprit is the psychological phenomenon of 'loss aversion', which is encapsulated in the expression "losses loom larger than gains."[62] To deal with this phenomenon, it is important to look carefully at the 'framing' of the ABW concept. The new work environment has to be presented and designed as a gain (i.e. in terms of choice and quality) rather than as a loss. This will not solve the issue entirely, but one can take comfort from the idea that once people have become used to ABW, they won't want to lose it, for the very same reason.
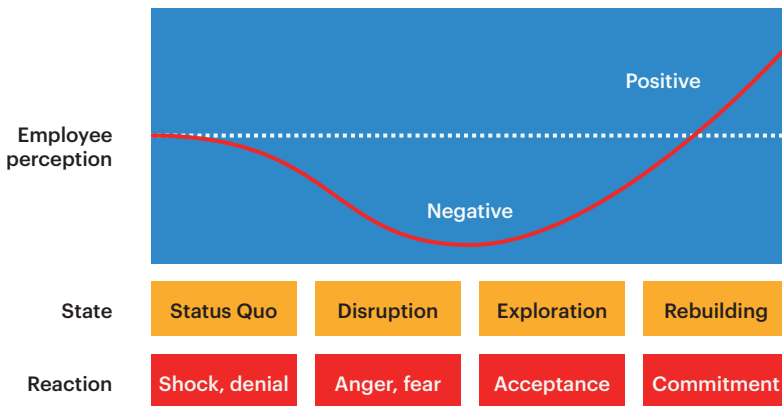
Stages of acceptance

The process of accepting change is often likened to the process of grieving, which is said to move from denial, to anger, to bargaining and ultimately to acceptance.[63, 64] The analogy may seem a bit over the top (grieving over the loss of a desk?), but it provides insight into people's responses to an ABW project. People's initial reaction is often resistance, while actually working in the new office tends to lead to acceptance.

State	Reaction
Status Quo	Shock, denial
Disruption	Anger, fear
Exploration	Acceptance
Rebuilding	Commitment

PART 2: ANALYSIS

Before deciding whether to adopt ABW, and in what form, it is important to undertake a systematic analysis of the organization's needs and aspirations. The purpose of such an analysis is to assess the organization's readiness for activity-based working and to gather data and insights to inform the detailed development of the concept.

An additional purpose of the analysis process is to prepare the organization for change. Analysing existing and new ways of working helps to create an awareness of how and where the work environment can be improved. Involving users in this process is an excellent way of creating engagement. Participative activities such as workshops and interviews can be particularly powerful change management tools.

The overall analysis process can be split into three parts:

1 Analysing the existing situation
2 Exploring new possibilities
3 Validating new ideas

Each part comes with its own methods, which will be discussed in the following.[65] Please note that it will not always be necessary to use the full set of methods, but any project will benefit from gathering solid data that enables informed decisions to be made.

ANALYSING THE EXISTING SITUATION

The aim of analysing the existing situation is to gain an understanding of the organization, its work processes and its current ways of using space. How does the organization work? What kind of culture does it have? What kind of work settings are available and how are they used? And where is there a need for improvement? These questions can be answered by analysing various kinds of organizational data as well as by simply 'looking and listening'.

Document analysis

A good place to start the overall analysis is to go through already available documentation: documents on matters like the organization's mission, structure, strategy, and brand or identity. Such documents can provide an insight into what is important to the organization and where it is heading. Also relevant is documentation relating to headcount, although headcount data are notoriously inaccurate (outdated or excluding external contractors), so additional data gathering may be necessary.

Outcomes
- An initial understanding of the organization's processes, strategy and mission
- Basic data on the organization's structure and headcount

Recommendations
- Beware of possible discrepancies between how things are presented in documents and how they are in everyday practice.
- Conduct follow-up interviews to clarify and validate data.

Walk-through

As the name suggests, a 'walk-through' is basically a walk around a building. It is a tour of the existing work environment together with a group of users who explain how they use it. The aim is to get an initial impression of the organization and its work environment. What is the atmosphere like? Are workspaces crowded or empty, noisy or quiet, messy or organized? How do users perceive these spaces? What do they like and dislike? What would they like to have changed, and why? Conducting such a tour is a very effective way of getting to know a lot in a short period of time.

Outcomes
- First impressions of both the organization and the existing work environment

Recommendations
- Prepare the walk-through. Make sure that the routing and stopping points cover all relevant spaces. Prepare a list of discussion topics for each stop.
- Consider turning the tour into a 'photo safari' during which users are asked to make photos as visual documentation of the positive and negative aspects of their office.
- Conduct tours with different kinds of users (e.g. employees, managers, facility manager) to get different perspectives on the existing situation.

Workplace survey

A survey is an excellent way of gathering input from large numbers of people. It can be used to measure people's satisfaction with their existing work environment, which will help to identify areas for improvement. Surveys can also be used to gain an insight into people's work processes by asking them which activities (e.g. solo work, group work, etc.) are critical to them. It is important to note, however, that a survey basically measures people's opinions. To be able to interpret the outcomes, survey data should be 'triangulated' with data from interviews, workshops and occupancy measurements.

Outcomes
- Quantitative data on staff satisfaction
- Quantitative insights into people's work processes

Recommendations
- Check out existing survey methods, for example from the Center for People and Buildings (www.cfpb.nl), WPA (hwww.wpa.works) and Leesman (www.leesmanindex.com).
- Make sure the survey's timing isn't too close that of other surveys (e.g. regular staff satisfaction surveys).
- Critically review all survey questions beforehand (surveys tend to be too long).
- Combine the survey with interviews, occupancy measurements and an analysis of the building's design in order to be able to interpret the outcomes accurately.

Spatial analysis

Analysing the existing spatial layout will provide insight into what people are currently used to and baseline data for the new concept. The analysis should look at the general use of space (e.g. square metres per employee/workspace) and at the kinds of work settings that are provided in the current situation. Ideally, you should learn three things about each space type: (1) the design characteristics of the space, (2) people's satisfaction with it, and (3) the degree to which the space is used.

Outcomes
- Baseline data on the existing use of space
- An understanding of what employees are currently used to

Recommendations
- When analysing the use of square metres (i.e. per person and per workstation), make sure that it is clear what the square metre measurement refers to (gross floor area, net floor area, lettable area, etc.)
- Try to get accurate digital files of the existing office floor layouts as that makes it easier to analyse the use of space.
- Connect the spatial information (quantity, size, features) to satisfaction data (e.g. from a survey) and use data (e.g. from occupancy measurements).

Occupancy measurements

Occupancy measurements provide insight into the extent to which employees use the available work settings. Occupancy data can be gathered by using either human observers or digital sensors. The outcomes are key to determining the 'sharing ratio' for the concept, which is the ratio between people and workstations. The lower the occupancy levels, the higher the potential for sharing. When analysing the data it is important to look at both 'average occupancy' (occupancy levels averaged over a period of time), 'peak occupancy' (the highest level measured), and the frequency with which they occur (more on this on page 54)

Outcomes
- Quantitative data on space occupancy

Recommendations
- Measure the occupancy levels of workspaces, meeting spaces and support spaces.
- Communicate clearly when and why the occupancy measurements will take place and that they are not being used to collect data on individuals.
- Make sure that the measurement period is representative (i.e. avoid holiday periods).
- Be aware that occupancy measurements reflect current usage, based on existing behaviours. Future use patterns may be different.
- Combine occupancy measurements with interviews in order to be able to interpret the outcomes (i.e. why are certain spaces intensively used or underutilized?)

Stakeholder interviews

Interviews are a good way to get 'up close and personal' with all the stakeholders. At the start of the process, it is a good idea to talk to the decision makers in the various departments involved (i.e. HR, IT, FM, CRE). What do they see as the opportunities and challenges? How can they contribute to concept's success? In addition, it will be useful to interview employee representatives (e.g. from unions or workers councils) or a cross section of employees (e.g. a manager, a policy maker, etc.) to get their perspective on the concept. These insights can be used as input for both the shaping of the concept and the related change management strategy.

Outcomes
- Insight into expectations, needs and attitudes of stakeholders

Recommendations
- Keep the interviews focused on organizational needs rather than people's personal opinions.
- Consider further involvement of the interviewees in the later stages the project (e.g. in focus groups or work groups).
- Evaluate whether the interview outcomes converge or diverge (e.g. differences between management and employees?).
- Consider making brief video interviews for communication purposes.

Social network analysis

Social network analysis is a method for mapping and analysing the social interactions in an organization. The data is usually gleaned from email traffic, surveys or (wearable) sensors. The outcomes are visualized in web-like diagrams with 'nodes' and 'ties' that show who is in touch with whom. Such data will be relevant for organizations keen to improve staff interaction or looking for particular gaps that need to be filled or 'silos' that need to be broken down. These kinds of insights can then be used for decisions on team adjacencies, circulation routings or for the location of classic meeting spots such as coffee machines.

Outcomes
- Quantitative data on interactions between people and between teams

Recommendations
- Make sure that the data (e.g. from email/social media/GPS trackers) are anonymized before they are analysed. Always ask users for their consent.
- Do not get bogged down in the (typically) immense quantity of data. Focus on general patterns and the interaction between groups rather than individuals.
- Define beforehand what the purpose of the analysis is and how it relates to the objectives of the ABW concept.

Q&A
Siri Blakstad
Business Development Director at SINTEF

How important is it to conduct an analysis before implementing ABW?
If your aim is to change the organization's work processes, analysis is of vital importance. You will need 'neutral facts' for decision-making and for setting clear objectives. Furthermore, the analysis process is important because it helps to create an awareness of how and where things can be improved. In that sense, the process itself is almost as important as the outcomes.

Which analysis activities do you regard as crucial?
Occupancy studies are very useful for getting an understanding of how people currently use space. Interviews and workshops are essential for discussing present and future work practices.

To what extent should users be part of the analysis process?

Extensively. When carrying out an analysis, you rely on the users' knowledge. Involvement can also help to foster user engagement—but only if it is well planned and if it is clear to people how the outcomes will be used.

What's the secret to successful user involvement?
First, the process needs to be owned by the organization's leadership—and not just the project team or the real estate department. Second, as I mentioned earlier, you need to be clear about the purpose of their involvement. The project will suffer if you involve people and later choose to ignore their contribution. People are smart and appreciate honesty. So, if there is no room for any kind of co-creation, just say so, and put the emphasis on training and learning rather than concept development.

EXPLORING NEW POSSIBILITIES

The analysis methods discussed in the earlier section are all very much focused on describing and understanding the 'as is' situation. It is just as important, however, to discuss and investigate the possible 'to be' situation by exploring new ideas and future trends. This part of the analysis is not so much about 'hard' numerical data, but more about 'soft' qualitative data such as ideas, inspiration and ambitions, which are just as important as numbers because they determine the nature of the concept.

Leadership workshops

To make the ABW concept relevant to an organization and its employees, it must be embedded in a wider narrative about organizational change. It is therefore important to know in which direction the organization is heading and to know what the top decision makers' aspirations are. Workshops with leadership can be used to explain what ABW is and to discuss its relevance for the organization. Important points for discussion are: strategic aims (what do they want to achieve with ABW?); the concept's relation to other change projects (e.g. in IT and HR); and the role of management itself (are they willing to lead by example?).

Outcomes
- Definition of strategic objectives for the ABW concept
- Awareness among leadership about what ABW is (and what is expected from them)
- Management buy-in

Recommendations
- Make sure that the workshop is inspiring, but also honest about possible challenges.
- Give managers a clear understanding of their own role in the process (not just as decision makers, but also as advocates).
- Beware of producing outcomes that are too vague or too consensus-driven to be useful.

Reference projects

Visiting the ABW projects of other organizations is recommended when looking for new ideas and inspiration. Other projects provide an excellent opportunity to 'look and learn'. What are the latest design solutions and technological tools that are available? What works and what not? What would these organizations have done differently in hindsight? For employees, the additional advantage of project visits is that they give them a very tangible impression of how ABW offices can look and work in practice, making the concept less abstract and less daunting.

Outcomes
- Inspiration, ideas and experiences from other projects

Recommendations
- Gather factual information about reference projects (i.e. floor plans, evaluations, cost figures).
- Make sure to have access to the right people: not just the designers or consultants (who are likely to be biased in favour of their own work), but also the building's facility manager and users.
- Document the visit so as to be able to communicate the lessons learnt to the rest of the organization.

Staff workshops

Engaging staff in the analysis process by means of workshops is a good way of creating acceptance, ownership and enthusiasm for the concept. Workshops can be used for two purposes. The first is to create an informal setting where it is possible to discuss the general idea of activity-based working with staff. The second purpose is to explore the staff's ideas, wishes and needs concerning their work environment. It will, for example, be useful to brainstorm about the types of work settings the new office should provide and the ways in which staff should or will use these settings in practice.

Outcomes
- Staff awareness of what ABW is
- A qualitative understanding of staff needs
- Ideas that can serve as input for the project brief and design development

Recommendations
- Be clear about the matters on which staff's input is sought and how their input will be used.
- Organize dedicated workshops for different departments/teams as needs are likely to differ.
- Keep discussions focused on functional needs rather than personal 'wants'.
- Hold workshops early in the process so that outcomes can be incorporated into the project brief and/or design proposals.

Scenario studies

When thinking about a new work environment, it is important to explore how ways of working may change in the near future. This can be done by examining different future scenarios that are based on changes in both society at large (e.g. the rise of AI and robotics) and the organization itself (e.g. changes in staff demographics). The different scenarios can then explore how such changes may affect workplace needs. It should be noted that future scenarios are inherently uncertain—they may never come true—but discussing them is still productive as it helps people to think beyond the status quo.

Outcomes
- An understanding of possible changes that will affect workspace needs

Recommendations
- Scenarios should be plausible, but not too bland. Adding provocative or extreme scenarios can help to sharpen people's thinking and their awareness of future change.
- Look at existing scenario studies before developing one's own. There are plenty of scenario studies available on the Internet.
- When creating a scenario, differentiate between fairly certain developments (e.g. demographics) and uncertain developments (e.g. social change)

VALIDATING NEW IDEAS

New ideas and concepts should be tested and validated before they are implemented. This can be done in various ways. Focus groups can be used to discuss the validity of a concept with employees. The persona method can be used in the same way, with an emphasis on different user types. The spatial consequences of the ABW concept can be tested by means of design prototyping. Real-life testing can be done through pilot projects.

Focus groups

A focus group is a small group of specially selected employees who are asked to review and discuss the ABW concept during the development and implementation process. It is a test panel that can be used to validate the usability of ideas and particular design solutions from a user perspective. Members of a focus group are usually selected from a cross section of the organization. An alternative approach is to select 'lead users': users who are a step ahead of the others. In both cases it will be important to 'prep' the focus group about the nature of ABW before they are asked to respond to it.

Development of personas

The persona method is a technique in which ideas can be tested and developed by looking at the needs of typical, fictional personas. Examples of such personas might be a manager, an administrative worker, or an employee in a wheelchair. For each persona it is possible to develop a 'user journey' through the new work environment. What is the first thing they do when they enter the office? Which spaces do they use and what do they do there? What technologies and equipment do they use? By drawing up a detailed description of such a user journey it is possible to validate the concept from the perspective of different user types with different needs.

Outcomes
- Validation of the usability and relevance of specific ideas and solutions

Recommendations
- A group size of 10 to 15 persons will usually suffice: large enough to incorporate diverse voices and small enough for the informal exchange of ideas.
- Include not only enthusiasts, but also sceptics—although all participants should have a constructive attitude.
- Ensure proper facilitation and training of the focus group.
- Make sure that the group is not dominated by a few loud voices. Every participant should be able to put forward his or her ideas.

Outcomes
- Qualitative insights into the needs of different user types
- Validation of the concept's usability

Recommendations
- Avoid making personas too stereotypical and simplistic.
- Make sure that personas are grounded in reality by using data (from interviews, workshops, desk research) as input.

Design prototyping

When discussing activity-based working it is easy to get lost in abstract statistics about square metres and sharing ratios. To add meaning to such figures, and to test their feasibility, it is a good idea to test different design options early in the process. Not by means of detailed design proposals, but with diagrammatic plans and reference images that visualize how the envisioned work environment might look in terms of zoning, room types and densities. This will help to validate assumptions about the need for square metres and it will aid communication with employees and decision makers.

Outcomes
• Insight into the feasibility of ratios and sizes of the envisioned work settings

Recommendations
• Generate feedback about design prototypes through focus groups and workshops.
• Keep design prototypes deliberately diagrammatic, focused on functional properties ('works like …') and not on the actual design ('looks like …').
• If the design team is already on board, make them responsible for developing the prototypes.

Pilot projects

Conducting a pilot or 'pathfinder' project is probably the best way for an organization to test out the ABW concept. Pilot projects will deliver practical lessons about both the design and the implementation of the concept, especially when an organization is new to ABW. Moreover, a pilot project can be used as a means of communication. It can be a place that can be visited by employees from other departments to see what ABW is and how it can work. For pilot projects to be useful, they should be well researched and documented. Furthermore, they need to be well managed and they require resources if they are to work.

Outcomes
• Practical insights for the organization-wide roll-out of the ABW concept

Recommendations
• Be aware that the outcomes of a pilot project are not always 'scalable'.
• Set up a proper before and after evaluation of the pilot project.
• Treat the pilot project as a real project, with a sufficiently large budget to realize a realistic and attractive solution.
• Use the pilot project as an 'ABW showroom' that can be visited by the rest of the organization.

PART 3: PROCESS

Once an organization has decided to adopt activity-based working, it will be necessary to set up a process for implementation. Such a process usually starts with the formulation of a broad vision, which is then translated, step-by-step, into concrete solutions, ultimately resulting in the new work environment. Here, this process is divided into six stages:

Stage 1   Envision: developing a general vision;
Stage 2   Define: formulating specific requirements;
Stage 3   Design: designing the spatial and technical environment;
Stage 4   Build: building the new environment and getting it ready for use;
Stage 5   Settle in: moving in and solving teething problems;
Stage 6   Manage: making the concept work in practice.

These stages are not intended as a procedural straight jacket. It is crucial that the process should be a combination of project management and change management activities. This is important because implementing an ABW project is not just about managing time and costs, but equally about preparing the organization for the upcoming changes. For employees, ABW means a break with the routine, and convenience, of having a fixed desk. Managers, for their part, must get used to not having a private office and learn how to manage on the basis of trust. Such changes are not automatic. They require that people be informed, prepared and involved at each stage of the process.

In the following we give a brief overview of the different activities in each stage.

STAGE 1: ENVISION
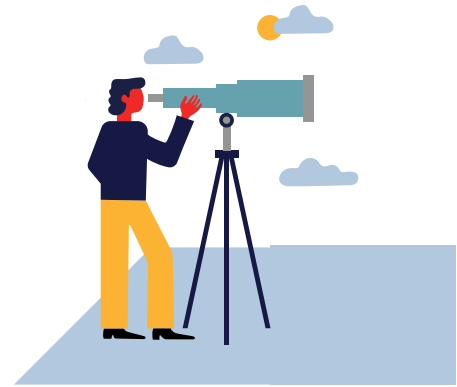
When initiating an ABW project, the first step is to explore what ABW is and what it could mean for the organization. This can be done by reading up on the concept, visiting projects and talking to experts. In parallel with this, it will be useful to conduct an organizational analysis, looking at the organization's existing use of space and its work processes (see page 37)

At the same time it will be a good idea to put out feelers among major stakeholders such as top management and decision makers in the HR, IT and FM departments. What do they think of the concept? What is on their change agenda and how does ABW fit into that? Furthermore, it will be useful to involve a number of 'lead users' (forward-looking, influential staff members) to find out their ideas concerning ABW.

The concrete result of this stage should be an inspiring vision for the new work environment. This vision can be formulated in broad terms, but it should be of sufficient detail to be able to serve as input for the next stages. What kind of spaces will be on offer? What kind of 'sharing ratio' should be applied? What kind 'vibe' should there be? What are the associated workstyles? And what benefits should it bring? The vision should be accompanied by a business case, with a preliminary indication of costs and benefits, and a change management plan outlining how to implement the concept.

Before moving on to the next stage, the vision will need approval—and backing—from top management.

Project activities
- Appoint a project team and a steering committee;
- Analyse the existing accommodation situation (see page 37);
- Analyse the organization's headcount figures (see page 36);
- Gather inspiration (talk to experts, visit other projects, read up on the concept);
- Identify and involve internal and external experts;
- Develop an overall vision;
- Make a business case (e.g. based on benchmark data from other projects);
- Draw up a budget and an overall plan.

Change management activities
- Select a change manager or change management team, link to the project team;
- Organize a leadership workshop about ABW (see page 39);
- Assess the organization's cultural and technical readiness for the concept;
- Find allies among major stakeholders (FM, CRE, IT and HR and top management);
- Involve (selected) users in idea development (e.g. via interviews, workshops and focus groups, see pages 38-41);
- Communicate with staff about the formulated vision. Avoid a 'rumour mill' ('We'll be crammed into a big open-plan office!').
- Develop a change management plan (activities, planning).

Deliverables
- An inspiring vision for the new work environment;
- A change management plan;
- A business case with a preliminary indication of costs and benefits;
- Budget and planning.

STAGE 2: DEFINE

Once the developed vision has been approved, it must be translated into functional requirements concerning matters like workspace quantities, types and sizes, indoor climate, furniture and IT equipment. To determine these requirements, it will be necessary to delve deeper into the organization, looking at the type of tasks employees perform, their mobility profiles and the relations between teams.

Ideally, employees should be actively involved in this process via interviews and workshops. It will not be possible to involve everybody, but the process should include a cross section of people from the entire organizational spectrum (management, administration, HR, etc.). When done right, such involvement will result in a greater sense of ownership and acceptance of the concept. It is important, however, to be clear about which aspects are non-negotiable (e.g. the sharing of workplaces) and which aspects are open for discussion (e.g. the type of settings that will be provided).

At this stage it will also important to start communicating about the concept with the organization as whole. The communications should cover both the general concept (i.e. why are we doing this?) and the practical concerns that staff may have (e.g. What do I do with all my paper? Will there be enough workstations?). This can be done via townhall sessions, a project website, newsletters, a FAQ, and/or posts on relevant social media.

Project activities
- Make a detailed needs analysis (looking at tasks, team/employee profiles, IT needs);
- Refine the sharing ratio (see page 54) and workplace quantities (see page 63);
- Define requirements for all necessary space types (size, look & feel, furniture, etc.);
- Formulate requirements for necessary changes in IT infrastructure and equipment;
- Identify any special needs (e.g. specific equipment or security);
- Investigate the need for interim accommodation (in the case of renovation projects);
- Refine and validate budget and planning.

Change management activities
- Actively engage with diversity of teams and employees via workshops (see page 40), interviews (see page 38) and/or a survey (see pages 37);
- Communicate the concept to the entire organization (website, presentations, social media);
- Approach 'influencers' who are passionate about the concept and willing to take part in this;
- Develop a FAQ that answers any questions and concerns that employees may have;
- Initiate a discussion with middle management about their role in the new concept;
- Make sure that top management is vocal about the importance of the concept (e.g. via a video message, taking the lead in townhall sessions).

Deliverables
- Functional brief for the required spatial changes;
- Technical brief for the IT infrastructure/equipment;
- Communication material about the concept (presentation, FAQ, etc.);
- Detailed budget and planning.

STAGE 3: DESIGN
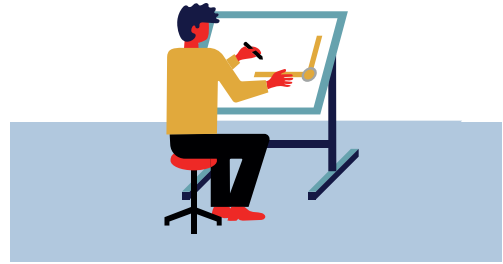
In this stage, the ideas of the previous stages must be consolidated in a design proposal in terms of spaces, materials, furnishings, equipment and practical essentials such as power sockets and data connections.

Much of this can be left to the architect and engineers and internal experts from the FM and IT departments, but employees can play an active role at this stage as well—not so much as designers, but as experts on functional quality. They can be involved in design workshops and design reviews to provide input, to validate design ideas and to assess the usability of the developed plans. Organizing and facilitating such sessions takes time, but they are a good way of generating enthusiasm, creating a sense of ownership and making sure that the design will meet user needs. In addition, it can be useful to have a more formal verification process in which design proposals are tested against the requirements that have been formulated in the earlier stages. Do design proposals indeed meet all the set requirements? It is a good idea, for example, to ask the design team for 'proof' (e.g. by means of a simulation study) that their design will deliver the desired acoustic comfort, as that tends to be a major problem in modern offices.

The output of this phase can include plans, models, 3D renders, short films or VR representations of the future work environment. All are excellent ways of communicating with employees about what it is to come.

Project activities
- Select a design and engineering team;
- Produce a concept design (outline proposal, design principles for the interior);
- Produce a developed design (detailed floor plans, conceptual technical solutions);
- Produce a technical design (detailed specification for all building elements/ systems);
- Verify design proposals against the previously formulated requirements and ambitions;
- Initiate the selection processes for purchasing new technologies and furniture;
- Refine and validate budget and planning.

Change management activities
- Engage employees in design sessions to validate the functionality of the developed design solutions;
- Pay special attention to middle management; train them in change management and provide then with an 'ABW kit' they can use to inform their teams about the concept;
- Communicate the design (and the ideas behind it) via a blog, interview sessions, presentations and video clips on social media;
- Update the 'ABW FAQ', adding more detail.

Deliverables
- Functional and technical designs for the work environment;
- Information material about the design;
- Definitive budget and planning.

STAGE 4: BUILD

During this stage, the new work environment will actually take shape. Contractors will be putting up partitions and installing fixtures. Suppliers will deliver new furniture and equipment. The architect may be making last minute changes.

The facility management or real estate department will have to prepare extensively at this stage to make sure that the project has a 'soft landing'. They will need to learn how to operate any new systems and they must develop procedures for handling possible problems.

Employees will need to prepare for the move as well, both practically and mentally. This can be accomplished by appointing dedicated 'workplace coordinators' or 'move mentors' for each team. They can inform employees about the concept and help them plan practical activities such as clearing out filing cabinets, the digitalization of paper files and the packing up of remaining office items. They can also initiate a discussion about 'office etiquette' in the new situation, such as the need for rules or guidelines concerning issues like noise and clearing desks before vacating.

To give employees a taste of what is coming, it will be helpful to organize tours of the construction site and to create mock-ups—life-sized models of a specific section of the work environment (e.g. a standard workstation or a quiet room).

Project activities
- Select/tender for contractors to build, supply and install everything that is needed;
- Arrange temporary accommodation for the organization if necessary;
- Manage the implementation/construction process;
- Conduct acceptance tests for all major all systems (e.g. HVAC, booking systems, lighting, Wi-Fi, etc.);
- Make sure that the FM and/or CRE department is well informed and capable of operating these systems;
- Plan the moving-in day and organize the move itself (packing, unpacking, etc.).

Change management activities
- Appoint dedicated 'change managers' or 'move mentors' for each team;
- Prepare all levels of the organization for the move and the new way of working in a practical sense (where to go on day one, how to book a meeting room, where to ask for help, etc.);
- Organize a clearing out of filing cabinets to minimize paper and 'stuff'. If necessary, provide extra resources for digitalization;
- Organize site visits so that people see the physical changes taking place;
- Create mock-ups, for example of different kinds of workstations;
- Develop rules or protocols for the new building, preferably at team level;
- Develop a short manual (an 'ABW quick guide') for the new office;
- Plan a festive opening of the project.

Deliverables
- A 'turnkey' work environment, ready for occupancy;
- A script/plan for the move-in and first day of occupancy;
- A manual on how to use the new work environment.

STAGE 5: SETTLE IN

This stage starts when the new environment has been completed and the organization has moved in. It is now that the concept must really come to life. This will not happen automatically. Both managers and employees are likely to need time and support to familiarize themselves with their new surroundings and to develop new routines. It will be important to have an ongoing conversation about the operation of the concept in the first weeks after moving in. It is preferable that managers play a leading role in this, setting a good example themselves and prepared to correct people's behaviour if it is not in line with the concept.

It is important to be aware that this stage is likely to be accompanied by all sorts of practical problems. The HVAC system may need fine-tuning, printers may not yet work properly; there may be a delay in furniture deliveries. Such practical problems can reflect badly on the overall concept. To counteract this, there needs to be a central point where employees can report any problems and these need to be dealt with expeditiously.

This stage should end with a thorough evaluation of the project, but not before people have been given some time to get used it. Six months after move-in is usually a good point in time. The evaluation can consist of a survey and/or staff interviews. The idea is to find out where there is a need for improving or fine-tuning the concept.

Project activities
- Create a central point (mailbox/help desk/ ideas box) for complaints and suggestions;
- Rapidly resolve reported practical problems (e.g. fine-tuning HVAC system);
- Project team hands the project over to the FM/CRE department;
- Plan and organize a formal evaluation of the project (no earlier than six months after move-in).

Change management activities
- Visit all departments and teams to see how people are dealing with their new way of working, providing extra guidance and help where needed;
- Where necessary, address incorrect use of the environment (e.g. people claiming focus rooms as their own).

Deliverables
- Project dossier with all relevant documentation (warranties, specifications, manuals);
- Protocol for reporting, resolving and providing feedback on any practical problems that arise;
- Evaluation of the concept.

STAGE 6: MANAGE

Once the organization has settled in, the ABW concept will ideally have become the 'new normal'. Yet there may still be a need to reinforce the concept at given times, making sure that people do not relapse into old behaviours. This reinforcement should preferably take place at a team level, with managers reminding their team members of the concept's principles and encouraging adoption of the 'right' way of working.

At regular intervals it will useful to conduct follow-up evaluations. Are people still happy with their work environment? Is there pressure on particular space settings? Are functional needs changing? Regular occupancy measurements and staff satisfaction surveys can provide useful input on these matters. It is also important to monitor fluctuations in headcount, which may require some fine-tuning of the sharing ratio or the type of workplaces provided.

The responsibility for this usually lies with the facility management department, although it might make sense to set up a dedicated workplace unit tasked with managing the total workplace experience by covering and connecting all departments involved (FM, HR, IT, general management).

Project activities
- Monitor space utilization levels;
- Monitor service requests from users;
- Monitor staff satisfaction levels;
- Manage workplace services (cleaning, catering, security, etc.);
- Expand/adjust/maintain the office environment.

Change management activities
- Monitor staff behaviour and use patterns;
- Guide new staff;
- Provide 'refresher courses' where needed;
- Update protocols/'office etiquette' where needed.

Deliverables
- Regular reports on occupancy levels and staff satisfaction.

PART 4: DESIGN

As already noted, activity-based working is a way of working rather than a design concept. Even so, good design is absolutely critical. All too often the success of the ABW concept is hampered by design errors that could easily have been avoided, such as too tight sharing ratios, a lack of places for making phone calls, meeting areas furnished with stylish yet uncomfortable seating, or workspaces located next to noisy pantries. There is no room here to discuss all ABW design aspects, but the following pages will explain some of the essentials, in particular:

- Sharing ratio
- Zoning
- Space types

SHARING RATIO

One of the most basic questions when designing an ABW office is how many workspaces there should be. If there are too few, people will have difficulty finding a workspace to their liking, and quickly become frustrated. If there are too many, people are likely to settle at fixed positions. The key figure here is the 'sharing ratio', which expresses the degree of sharing.

Sharing ratio = the available number of workspaces / the number of employees

For example: a ratio of 0.8 means 8 workplaces for every 10 employees. It is also possible to turn the ratio upside down. In that case 0.8 becomes 1.25 (12.5 employees for every 10 workplaces), which obviously amounts to same thing. It is a simple enough metric, but only if the terms 'workspace' and 'employee' have been clearly defined.

The number of workspaces

When counting workspaces, the question is whether to count desks only or to count any place where people can open their laptop and work? The ABW philosophy argues for the latter, but for the sake of clarity, the recommendation is to focus on the first and to count 'proper' workstations only (those with an ergonomic chair, a height-adjustable work surface, a monitor and daylight access). Those are the kind of workspaces that employees are most interested in and that still have the largest impact on the space requirement. The many other, informal workspaces (e.g. booths, soft seating) are relevant, but they are 'seats' rather than workstations. The number of seats is typically much larger than the number of workstations (double or even more).

The number of employees
When it comes to the number of employees, the question is whether the figure includes external workers such as freelancers and contractors. These groups seldom feature in organizational charts, but they may still need a workspace. So the recommendation is to include them, although it can be difficult to get accurate numbers for these categories.

Another question is whether employees are counted in terms of 'heads' or as 'fulltime equivalents' (FTEs). When a headcount is used, each employee is counted as one. With FTEs, people are counted according to their working hours (e.g. a person working half time is counted as 0.5). The advantage of using 'heads' is that this figure is easier to understand ('you are sharing a desk with such and such number of colleagues')

What is a good ratio?
The question of what constitutes a good ratio remains. The easy answer is that a ratio of around 0.7 tends to work fine for most organizations. It is probably the most widely used ratio in practice. The logic behind it is that it seldom happens that more than 70% of the staff are in need of a desk at the same time. It is thus a safe ratio that still offers space savings with only a small risk of desk shortages. Risk-averse organizations may go for a ratio of 0.8, while the more daring ones may opt for 0.6. Some organizations even go for a ratio of 0.5 or 0.4 workspaces per employee. Such tight ratios can work, but only if the organization fully embraces activity-based working, has many mobile employees or a liberal work from home policy.
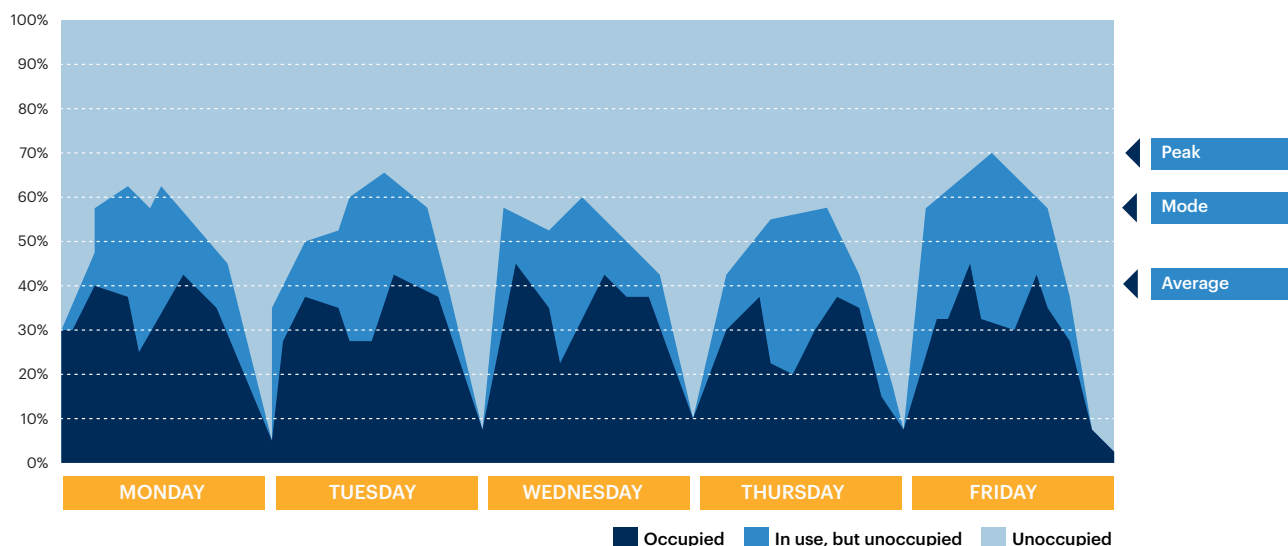
Using occupancy data
To be able to make an informed decision about the sharing ratio, it is best to get a detailed insight into workspace occupancy levels in the existing office (see page 37). The lower the occupancy levels, the higher the potential for sharing. One should be careful, however, when interpreting occupancy data. When average occupancy is around 40% (which it often is), there is a temptation to slash 60% of the desks. But this will result in a serious shortage of workstations at peak moments. So it is best to look at average, peak and modal occupancies (the occupancy levels that occur most frequently).
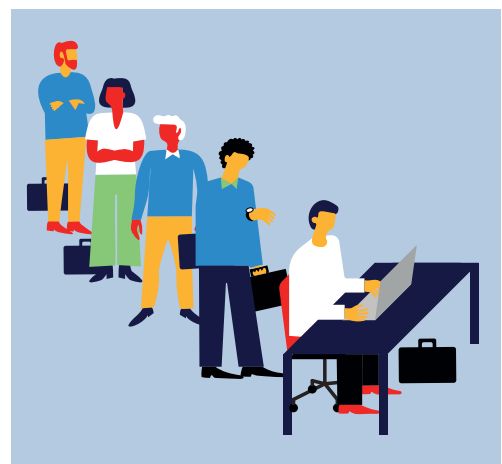
You don't want people to be worried about the availability of good workstations. It is therefore crucial to design for the most frequently occurring occupancy level rather than the average level.

Legend: **Occupied** · **In use, but unoccupied** · **Unoccupied**

Days: MONDAY · TUESDAY · WEDNESDAY · THURSDAY · FRIDAY

Labels: Peak · Mode · Average

Using employee profiles

An alternative way of determining sharing ratios is to look people's workstyles. Many organizations make a distinction between workers who are 'fixed' or 'residential' (performing mostly desk work in the office), 'flexible' (a mix of activities in the office, including many meetings) and 'mobile' (spending a lot of time outside the office, e.g. working from home or on the road). Each workstyle can be linked to a different sharing ratio, which can then be used to calculate an overall ratio. The advantage of this approach is that it focuses on people's way of working rather just occupancy levels. The disadvantage is that it is not always easy to get good data on workstyles and mobility patterns.

Occupancy level diagram
Diagram showing workplace occupancy levels over the course of a week. The diagram distinguishes between workstations that are occupied (someone working there), unoccupied (totally empty) and 'in use but unoccupied' (no one there, but there is still a laptop or a coat hanging over a chair).

Example: Employee profiles
The sharing factor is in this case calculated by identifying different employee profiles and by linking these to different sharing factors.

Profile	Description	Percentage of total workforce	Workstation/employee
Fixed workers	Mainly individual desk work in the office.	35%	1
Flexible workers	Diverse activity profile, often in meetings, occasionally works at home	40%	0,5
Mobile workers	Frequently work at other locations and visit clients in the field.	10%	0,2
Home-based workers	Work two or more days a week from home	5%	0,2
		Overall sharing factor	**0,6**

Differentiating between teams
An essential question in any ABW project is whether
the sharing ratio should be differentiated within the
organization. A finance department, for example, is
likely to have relatively high occupancy levels as many
people do desk work, while a project management
department may have low occupancy levels as
people spend a lot of time on project sites. Should
such differences translate into a different ratio? The
answer depends on how stark the difference is and
how big these teams are. If, for example, one team
has an occupancy level of 70% and the other of 30%,
and they occupy different floors, it will make sense to
apply different ratios. But if differences are small and if
departments can make use of each other's spaces, it
is best to keep things simple and apply one averaged
ratio.

ZONING

Zoning concerns the spatial clustering and positioning of people and functions in buildings. There are several zoning principles that must be considered when designing an ABW office.

ORGANIZATIONAL ZONING
Organizational zoning is about whether the organization's teams or units should have a fixed position in the building or not. There are three different models.

Free-range
In this model there are no assigned areas whatsoever. It is the ultimate ABW model, based on the idea that employees and teams can best decide for themselves where to sit. People pick up their things from centralized lockers and then find themselves a place somewhere in the building. Workplace expert Neil Usher calls it the 'free-range' model.[66] Its advantage is that it is extremely flexible and that it encourages mingling across team boundaries. The disadvantage is that team members may be scattered over the entire building, which may hinder collaboration.
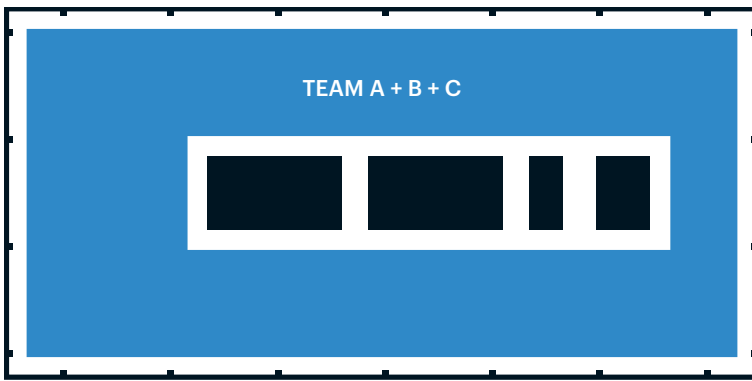
Team zones
In this model, teams are assigned to a particular floor or part of it. It is not mandatory for team members to work there, nor is it a team's exclusive territory, but it is like a 'home base' where people can expect to find team colleagues. This model's advantage is that it keeps teams together, which can be of particular importance for organizations that have adopted 'agile working', which is all about teamwork (see also page 17). The model's disadvantage is that is less flexible than the free-range model as the 'borders' between zones have to be redrawn when team structures or team sizes change.
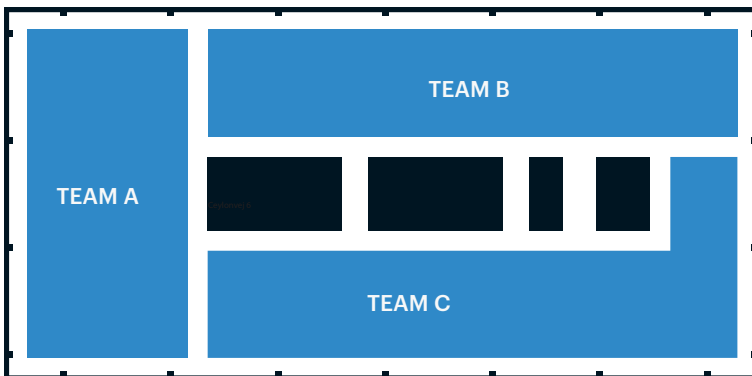
Team anchors

The team anchor model is midway between the two previous models. In this model, teams do not have a dedicated work area, but a small 'anchor point' where they can find their lockers, shared storage, team memorabilia, and perhaps a 'community table'. Team members will gravitate around these points for both practical and social reasons. So the model helps to keep teams together, but there are no clear borders. It is thus more fluid and flexible than the team zone model.
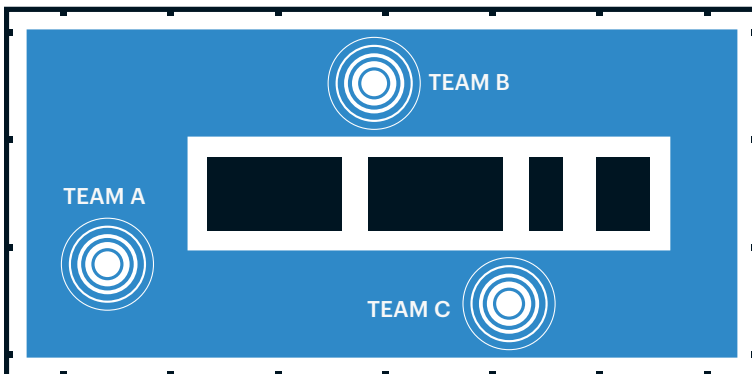
Team zoning variants

Free range
No team has a fixed position.

TEAM A + B + C

Team zones
Teams have a dedicated 'team home'.

TEAM A

TEAM B

TEAM C

Team anchors
Teams have an 'anchor point' with lockers and shared storage.

TEAM A

TEAM B

TEAM C

SOCIAL ZONE	INTERACTIVE ZONE	QUIET ZONE
Formal meetings Informal meetings Coffee breaks Chatting Hanging out Picking up mail/ packages Celebrations	Mainstream office tasks Routine tasks Collaborative work Phone calls Video calls Chatting Impromptu meetings Stand-ups	Individual work Thinking Reflecting Writing Coding Developing

ACCESS ▶

Activity level / noise level →

Activity zoning
The interactive zone acts as a buffer between the quiet zone and the social zone. The quiet zone is typically located furthest away from the access point of the office floor. So, the deeper you venture into the office space, the quieter it gets.

ACTIVITY ZONING
Activity zoning is about the clustering of activities with similar characteristics so as to avoid friction due to incompatible activities. Many ABW projects differentiate between three zones: a focus zone, a social zone and an interactive zone. The interactive zone is often placed in between the other two zones to act as a buffer.

Social zone
This is the area where social and lively activities can take place. Examples might include having a cup of coffee with colleagues, celebrating birthdays or team achievements, or just hanging out and taking a break. It is the area where 'people magnets' like larger meeting rooms, print/copy rooms and lockers can be located. This area will typically be used by multiple teams, so it is a good place to promote chance encounters across teams.

Interactive zone
The interactive zone (sometimes also referred to as a transitional zone) is where all mainstream office activities and collaborative activities can take place. It should not be a noisy area, but there will be a certain 'buzz' as people may be chatting, working together or making phone calls. Workspaces tend to be largely open. Small meeting rooms and phone booths in between the workspaces help to reduce noise levels.

Quiet zone
The quiet zone is the area where people should be able to work in peace and quiet. Its purpose is to facilitate individual, concentrated work. It may offer enclosed focus rooms and/or open and semi-open workstations. Users are expected to keep their voices

down and to take their phone calls outside the quiet zone, a bit like in the reading room of a library. To keep the area quiet, there should be no functions that generate traffic (e.g. no large meeting rooms) and it should be located away from or shielded from main circulation routes

SPATIAL ZONING

Closely related to the other two zoning principles is the matter of the spatial subdivision of work areas. There are essentially two models: segmented and unsegmented.

Segmented work areas

In this model, open workspaces are subdivided into smaller 'pockets' of typically 4 to 16 workstations. These pockets are created by placing enclosed spaces such as focus rooms and meeting rooms in between. The prime purpose of this model is to avoid the atmosphere of an open-plan office. The pockets provide a sense of privacy and they can easily be used as team zones. The disadvantage of this model is that it provides less visual overview, making it more difficult to see where one's colleagues are or to locate an empty workspace.
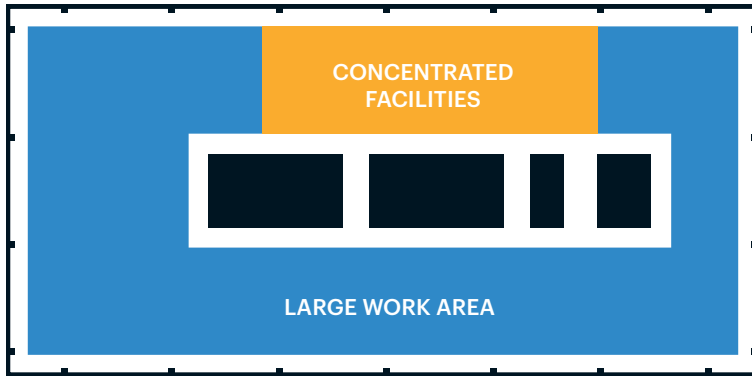

Segmented
Work areas as small 'pockets', dispersed facilities.

Unsegmented work areas

In this model work areas are largely open, featuring as many as 20 to 50 workstations, with quiet rooms and meeting rooms located at the sides. It is a model that provides a lot of visual overview making it easy to find colleagues and empty workstations. The disadvantage is that the work areas have the feel of an open-plan office. It can also be argued that large unsegmented work areas will be noisier than smaller, segmented ones, but they do have the advantage

of creating a steady level of background noise that masks individual conversations (the 'cocktail party effect').


Unsegmented
Large undivided work areas, concentrated facilities.

SECURITY ZONING

The idea that employees should be able to use the entire office as their workplace may need to be restricted for security reasons. There may, for example, be teams who are working on confidential projects that should not be accessible or visible to others. In such cases it will be necessary to apply some degree of security zoning in the office, making a distinction between areas that are only accessible to specific teams or persons, areas that are accessible to all employees, and semi-public areas where visitors are also allowed. Ideally the different zones should be 'embedded' in one another, thereby increasing the level of security with each new zone.
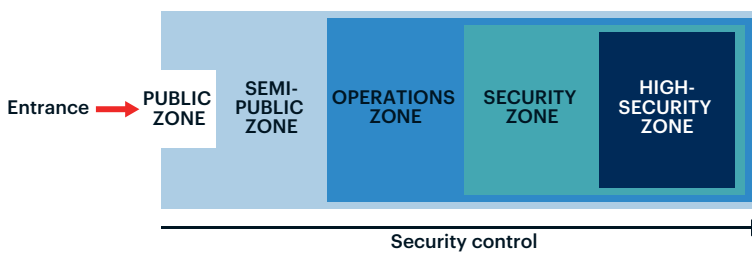
Typically, office buildings feature five different security zones.
(1) Public zone: accessible to the general public (e.g. entrance and lobby)
(2) Semi-public zone: accessible to visitors with temporary access cards (e.g. conference area)
(3) Operation zone: accessible to all employees (e.g. general work areas)
(4) Security zone: accessible to specific employees (e.g. teams working on confidential projects)
(5) High-security zone: same as above, but with stricter identity verification (e.g. crisis room).

SPACE TYPES

As the adjective 'activity based' points out, an ABW office should provide work settings that match the match the kind of activities people perform—project rooms for project work, quiet rooms for quiet work, phone booths for phone calls and so on. The following pages present an overview of possible space types, making a distinction between:

• **Workspaces:** spaces for desk-bound/computer-related activities;
• **Collaboration spaces:** spaces for meetings and other types of interaction;
• **Support spaces:** spaces for practical activities like printing and getting coffee.

Please note that the sizes[67] and ratios mentioned are only very general guidelines. The exact need for space will differ from organisation to organisation, or even from department to department. For example, a R&D department will need a different mix of spaces than an IT department. So, to determine what is needed, it is important to analyse what people do at the office. What are the characteristics and nature of their tasks? How many people are involved? Do activities involve the use of particular equipment? How are activities interrelated? These kinds of questions can be answered by conducting surveys, doing observation studies and by simply talking to people (see page 36-43 for an overview of possible techniques).

GETTING THE MIX RIGHT	
To determine what kind of spaces are needed, and in what quantities, it necessary to make an analysis of people's activities at the office. Relevant dimensions are:	
Task complexity	The extent to which activities are cognitively demanding (relates to the need for visual and auditory privacy)
Interaction	The extent to which tasks involve face-to-face interaction and collaboration (relates to the need for collaboration spaces)
Task autonomy	The degree to which tasks can be performed independently (relates to the need for access to/ proximity of one's team or supervisor)
Task variation	The degree to which people's tasks differ over the course of a day (relates to the variation of work settings that must be provided)
Mobility	The degree to which employees are mobile, inside and outside the office (relates to the need for 'touch down' spaces)
Equipment/ artefacts	The kind of 'stuff' people use in their work, such as video screens or white boards (relates to the provision of these items)
Atmosphere	The degree to which activities are formal or informal (relates to the kind of 'look and feel' that is needed in a space)

WORKSPACES

Workspaces are defined here as those spaces that are specifically designed for desk-related activities such as reading, researching, writing, phoning. The main differentiator between the different kinds of workspaces is the degree of enclosure.

Open workstation

Workstation placed in an open area, typically in groups of 4, 6 or 8 units. Suitable for collaborative work and general office tasks that require a medium level of concentration. This type will usually make up the majority of work settings. Make sure that they are all of equal (good) quality so there is no inclination to compete for a particular workstation.

| Size:	4 to 6 sqm
Ratio:	4 to 6 per 10 employees
Position:	Away from busy circulation areas and social functions

Semi-open workstation

Workstation with semi-high enclosure (a modern version of the classic cubicle), providing a sense of visual and acoustic privacy in the absence of floor-to-ceiling partitions. Suitable for activities which demand medium concentration and medium interaction.

Size:	4 to 6 sqm
Ratio:	1 to 2 per 20 employees
Position:	Close to open workstations

Focus room

Fully enclosed, sound-insulated room that allows people to escape the buzz of the open work area. Suitable for activities that require concentration and/or privacy. Ideally, the room should be designed in such a way that it can also be used for small meetings and phone/video calls.

Size:	4 to 8 sqm
Ratio:	1 to 2 per 20 employees
Position:	Close to open workstations
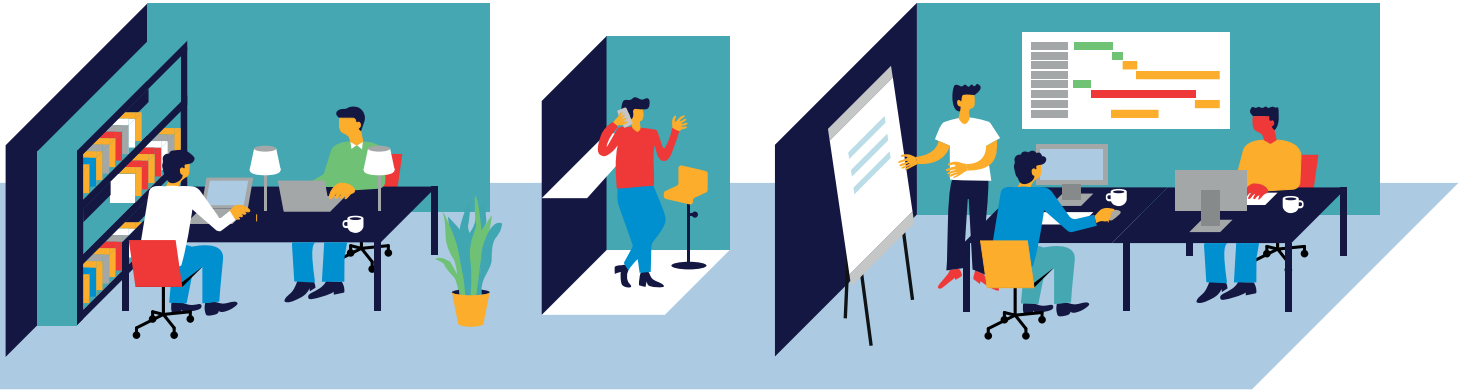
Study

Enclosed room with multiple workstations, intended for 'heads-down' work in a group setting. A getaway from the chat and interruptions of open work areas. Similar to a library reading room (phone-free, muted conversations only).

Phone booth

Enclosed or semi-enclosed area where people can go when they have to make or take a phone call or video call that requires a degree of focus and privacy. Can be used as a way of removing noisy activities from open work areas.

Project room

Enclosed room with several workstations, combined with collaborative features such as meeting tables and whiteboards. Suitable for project work or teamwork that is confidential and/ or demands frequent consultation.

Size:	Dependent on # of workstations
Ratio:	1 per 50 or 100 employees
Position:	Close to open workstations or centralized

Size:	2 to 4 sqm
Ratio:	1 per 20 to 30 employees
Position:	Close to open workstations

Size:	Dependent on # of workstations
Ratio:	Dependent on degree of project work
Position:	Close to open workstations or deliberately away from them

COLLABORATION SPACES
As the name implies, collaboration spaces are spaces that are explicitly designed for collaboration, such as formal meetings, informal chats, brainstorming sessions, one-on-one conversations, 'stand-ups' and other kinds of interactions.

Booth
Semi-enclosed space for small meetings, collaboration and individual work. Typically has high-backed seating, as in a classic diner booth, that provides a sense of visual privacy while still being part of the open space around it. In some cases, booths are ceilinged.

Huddle
An open meeting space with an informal, comfortable feel. It can function as a congregating point for teams or departments. Suitable for informal discussions, relaxation or work, should people so wish.

Stand-up space
Open or semi-enclosed space for 'stand-ups' (a specific kind of meeting associated with scrum/agile working). Suitable for informal discussions and meetings that do not require seating. Typically features a large video screen and/or a writeable 'scrum board'.

Booth	
Size:	5 to 8 sqm
Ratio:	1 to 2 per 50 workstations
Position:	Close to work and meeting areas. Can be part of kitchenette/restaurant.

Huddle	
Size:	20 to 32 sqm
Ratio:	1 per 100 workstations, or 1 per floor
Position:	Close to kitchenette or other shared facilities that attract people.

Stand-up space	
Size:	Dependent on team size
Ratio:	Dependent on number of scrum/agile teams
Position:	Close to/inside the work areas of the people making use of this space

Small meeting room

An enclosed meeting room for two to four persons. Suitable for small meetings and confidential discussions. Typically available on a first-come-first-served basis. Can overlap/be combined with focus rooms to create flexibility in use.

Medium meeting room

Conference room for planned group meetings with larger groups (8-12 persons). Should provide wall space for writing, brainstorming or presentations. It can be a good idea to create meeting rooms with different ambiences for different kinds of meetings.

Large meeting room

Conference room for planned group meetings with larger groups (≥ 14 persons), typically providing some formality and privacy. Should provide wall space for writing, brainstorming or presentations.

Size:	6 to 10 sqm
Ratio:	1 per 10-20 workstations
Position:	Close to open workstations

Size:	24-30 sqm
Ratio:	1 or 2 per 50 workstations, or 1 per floor/security zone
Position:	Close to office floor entrance and main circulation areas

Size:	48 sqm or more
Ratio:	Dependent on frequency of large meetings
Position:	Centralized, usually grouped with other facilities in a conference zone

SUPPORT SPACES

Support spaces concern the practical facilities that provide employees with water, food, storage, stationery and other essentials. Because of their practical purpose, support spaces tend to attract people, so they can be used to influence social interaction within an organization.

Kitchenette

Facility that gives employees easy access to water, coffee and tea. Sometimes it is a full kitchen with refrigerator and microwave. Ideally designed as a place that encourages socialization as it is a destination where people run in to each other.

Locker space

Area with lockers for the storage of personal items. It is often decided to give everyone their own personal locker, even though shared lockers are more efficient.

Storage (group/individual)

Space for the storage of documents or other 'stuff'. Can be either individual or group storage. The need for storage is very much dependent on the nature of people's work processes and the degree of digitalization.

Size:	6 to 15 sqm, depending on the available facilities
Ratio:	1 per 50 employees, or 1 per floor/security zone
Position:	Close to work areas, but beware of noise issues (people chatting, coffee grinding)

Size:	0.5 sqm per locker
Ratio:	1 locker per person or shared lockers (e.g. for 60% of employees)
Position:	Close to entrance of office floor/building, or close to team zones/anchors

Size:	1 sqm per person (preferably less)
Ratio:	1 storage point per team/group
Position:	Close to workstations
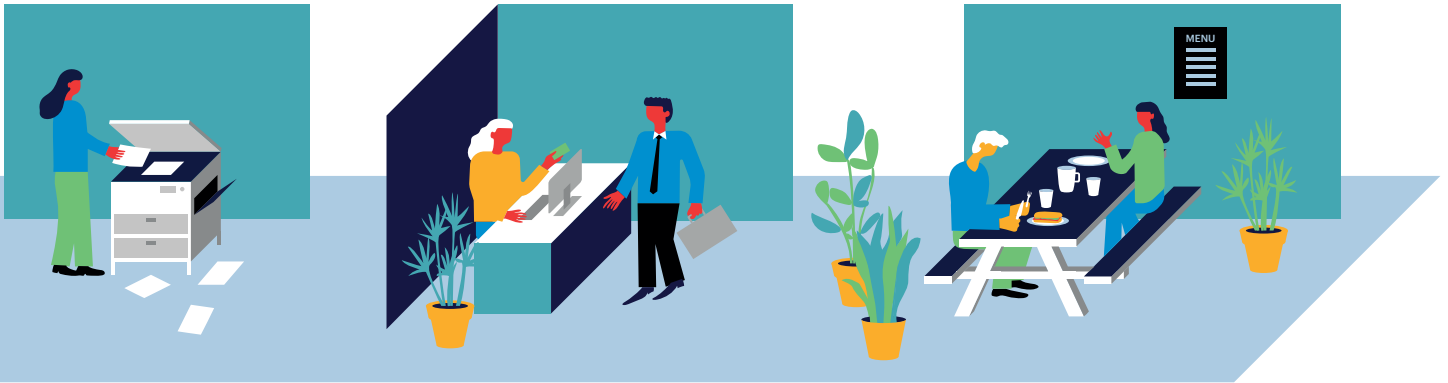
Print/copy space
Enclosed space containing a multifunctional machine for copying, scanning and printing. May also accommodate a shredder and office supplies.

Lobby
Entrance area with seating for visitors and reception desk and/or reception screen. Provides visitors with their first impression of the organization. Large lobbies can double as informal meeting areas when combined with a coffee facility.

Restaurant
Facility where employees can go for lunch and in some cases breakfast and dinner as well. Can be designed and serviced in such a way that the areas can be used as informal meeting or workspace outside mealtimes.

Size:	5 sqm
Ratio:	1 per floor/security zone
Position:	Close to main circulation, away from open work areas

Size:	site dependent
Ratio:	1 per building/office unit
Position:	Close to elevators, stairs and meeting rooms

Size	2.5 sqm per seat
Ratio:	1 per building/office unit
Position:	central, close to entrance

PART 5: SUCCESS FACTORS

Throughout this guide there have been recommendations and tips for how to do things. In this chapter, the key factors for success are summarized. Many of these are obvious, almost clichés, but that does not diminish their importance. The challenge lies in actually applying these success factors—and not just paying lip service.

- Analysis
- Process
- Design

ANALYSIS

Prior to implementing an ABW solution, it is crucial to get an in-depth understanding of what the concept entails and of what the organisation's needs are. In general, the following is recommended:

Do your research

No organization should adopt activity-based working on a whim. Decision-making should be based on a careful study of the concept's pros and cons and an analysis of the organization's needs. Data on occupancy levels, satisfaction levels and work patterns will aid informed decision-making.

Look at both quantitative and qualitative data

As indicated above, it will be useful to gather quantitative workplace data, but do not forget the 'softer' qualitative data: people's ideas, stories, opinions and feelings about their work environment. Understanding these subjective matters is essential to creating a meaningful concept.

Find out what the science says

When considering implementing ABW, expect to be challenged. There will be no shortage of strong opinions about the concept, both positive and negative. To keep discussions fact-based and constructive, it will be useful to be know what the latest scientific research has to say about the concept.

Find strategic meaning

As part of the analysis process, look at the organization's mission, strategy and policies for 'hooks' that support the relevance of the ABW concept—for example on matters such as sustainability or employees' work-life balance. A strategic orientation will help to gain management commitment.

Learn from others

Many organizations have already implemented the ABW concept and thus have a lot of practical knowledge about how the concept should be designed and implemented. Visit such organizations, talk to the people working there, and take advantage of their experience.

Take a wide perspective

When carrying out an analysis of the organization, take a wide perspective. Look at the physical work environment, but also at working hours, work-from-home policies, employee autonomy and management practices. Making ABW part of a bigger story about flexibility and employee empowerment will increase the chances of success.

Make the analysis part of change management

Actively involving employees in the analysis activities is an excellent way of starting the change management process. It is an opportunity for employees to look at their own work environment from a fresh and critical perspective and to create an awareness of both its strengths and weaknesses.

Q&A
Nicola Gillen
EMEA Workplace Market Sector Lead, AECOM

Is ABW for everyone?
The world of work is changing for everyone. The drivers that impact mobility, a key principle of ABW, are impacting work everywhere. Having the choice over where and how to work is for everyone. Having a variety of spaces from which to work, inside and outside the office is also for everyone. Very few roles remain tied to specific tech solutions and these will continue to diminish.

Where do you start when any client is interested in ABW?
I ask them why? Any sustainable workplace solution needs to be based in genuine business need. There needs to be a clear vision as to why this is happening and how it will benefit their business. ABW driven from purely from financial metrics will be difficult to sustain, people and technology enablement are key.

What kind data do you need as input for the design/development of the concept?
A balance of data points is key; opinion based to engage people in the process, observation based, to challenge preconceived perceptions of space use and behaviour based to appropriately reflect culture.

What do you consider as the most important success factors for an ABW project?
- Led from the top;
- Clear vision—understand why we are doing this;
- Routed in holistic business need—not just cost ;
- Data driven;
- Built upon change management—your people will always matter most.

PROCESS

The implementation of ABW can be a challenge. One may have to deal with conflicting stakeholder interests, anxieties about change and office politics. There is a risk that projects get stranded due to insufficient support from management or a hastily considered process. See below for general recommendations for how to avoid this.

Expect resistance
No matter how bad the status quo, there will always be resistance to changing it. This is because change costs energy and because people fear the unknown. Resistance cannot be 'massaged' away entirely, but it can be mitigated by informing people, listening to them and by winning them over and reassuring them.

Take your time
Decision makers have a tendency to underestimate the time it takes for an organization to change its way of working. Change takes time, especially when there is a big gap between the 'as is' and 'to be' situations. As a rule of thumb, the formal change process should start a year before the planned move into the new environment and continue for a year after it.

Set up a change management team
Change management is different from project management. Make it a dedicated function or team and select the right people for it: people with skills in communication rather than engineering. In addition, provide them with sufficient resources in terms people, time, money and external support.

Take a multidisciplinary approach
Because of the multifaceted nature of workplace change, the project should integrate the expertise from the organization's HR, IT, FM, CRE and communication departments. All these disciplines should be represented in both the project's steering committee and the project team.

Involve leadership at all stages
As with any organizational change, leadership is essential. Top management should not just take the main decisions concerning ABW, but also be willing to play their part. This means advocating the concept, demonstrating ownership and leading by example.

Involve employees, within clear boundaries
Involving employees will help to create better solutions and generate a sense of ownership. The potential risk, however, is that employees will use the process as a means to prevent change or that they will expostulate beyond their own area of expertise. It is therefore crucial to be clear about the topics on which employees' input is sought.

Really listen to users
Involving employees (as mentioned above) only makes sense when their input is taken seriously. If people are asked for input but not listened to, the whole idea of user involvement can be counterproductive. So, listen to employees, discuss their ideas, provide them with feedback and address their concerns.

Communicate, communicate, communicate
The entire organization should know what ABW is, how it works, and why it is being implemented. Be aware that employees will be primarily interested in how ABW affects their daily work life. Do not be tempted to sugar-coat the potential downsides. Being open and emphatic will go a long way in creating acceptance.

Allow scope for criticism
Not everybody will be enthusiastic about the concept. People will have concerns, or they may question the motivations behind the concept ('it's all about cost-cutting'). Take such feelings seriously and address them by means of dialogue and by providing detailed information about the concept.

Q&A
Størdal Kjersti Bjørkeng
Market area manager at
Gottlieb Paludan Architects

ABW tends to trigger a fair amount of employee resistance. Is that resistance justified?
To some degree. People who haven't worked in an ABW office before, often fear that it won't work. It is a bit like being pregnant and hearing all those horror stories about what can go wrong, while most births actually work out fine. Similarly, most ABW offices are great places for work. No need for horror stories.

Is there a magic solution for dealing with resistance?
First, make management the frontrunners in using the new solutions. Second, make sure that you have the technology and the organizational incentives needed to support the work process that you are trying to foster. And third, if possible, try out the concept in a pilot project so you can get user feedback.

How can organizations sustain changed behaviour?
By talking. Even after move-in, people must continue to talk about how they want their office to work for them. With their manager, their colleagues, their facility manager. About how everyday practice can be enhanced? It is about continuous improvement. So, keep on talking.

You are working in an ABW yourself. What is your favourite work spot?
Surprisingly, it is the 'silent room'. It is my favourite not because I use it often, but because the option is always there. For me and my colleagues, this enables vibrancy in the rest of the office set-up, as we know that anyone who wants silence and individual focus has an attractive place to go to.

Pay extra attention to middle management

Middle managers have a tough job when implementing of ABW. They must adjust their own way of working, while at the same time helping their teams through the change process. So they merit extra attention. Help them to grow into their change management role by organizing a training programme early in the process and providing them with toolkits (e.g. a quick guide to ABW).

Institute a 'freeze period' after move-in

After moving into the new environment, it can be useful to have a 'hundred-day freeze' period. The idea is that there should be no major changes to the concept immediately after moving in. Practical issues obviously have to be resolved, but otherwise people should take time to get used to the new way of working.

Be brave

To a certain extent, changes must be pushed ahead. Giving in to everybody's wishes and trying to please all stakeholders, will result in watered-down compromise solutions that do not work. It is important to know that when a (well-designed) office concept is finally realized and people are working in it, resistance tends to be replaced by acceptance.

DESIGN

Workplace design does not have a deterministic influence on the way people work or feel, but it can promote and facilitate new ways of working and it can have a big impact on people's feelings and attitude towards the ABW concept.

Provide choice
The essence of ABW is that it provides choice. An ABW office should thus not be open plan with a couple of focus rooms that are always occupied. The office should offer a real diversity of spaces—in terms of privacy, size and ambience—that matches the diversity of preferences and activities of its users.

Don't compromise on quality
Providing fewer workplaces should be offset by providing better workplaces. Better means better design in terms of ergonomics, indoor climate, aesthetics and functionality. The ABW concept is already efficient in terms of space usage, so there should be no need to go for the cheapest design solutions.

Focus on focus work
The main complaint in modern offices is that people cannot focus due to interruptions and distractions. It is therefore important to create ample work areas where people can work in peace and quiet: small focus rooms, library-like study areas and 'hideouts' scattered throughout the building where people can have a quiet moment.

Q&A
Primo Orpilla
Principal, Studio O+A

Mies van Rohe said 'God is in the details'. Does that also apply to workplace design?
Design intent is more effective when done well. So yes, it is in the detail. Have a good concept, execute it well, and people's experience will be more compelling. You don't want this experience to be influenced negatively by arbitrary design features or poor detailing.

ABW offices feature a lot of social spaces. How do you design a successful social space?
Social spaces should be carefully considered in their placement in relation to the flow of people. The number of these spaces is important as well, as you want to maintain a degree of specialness. And then there are practicalities such as devices for charging and whiteboards to make sure that spaces are useful.

Noise and a lack of privacy are frequently heard complaints. How do you deal with that?
This issue seems to vary between companies and generations. Younger workers have a different sense of what is appropriate than older workers, also in terms of 'visual noise' (movement in one's peripheral vision). Workplace design can help here, providing different places for individuals with different work habits, so that everybody can find a suitable workspace.

Do desks still matter in contemporary office design?
Yes, but we should probably redefine the desk. Work can be done in many postures or places in the office. So the desk can take many different forms.. It can be a place for sitting or for standing; a classic workstation, but also a coffee table or a tablet arm on a lounge chair.

Create excellent acoustics

Related to the above, is the recommendation to create excellent acoustics in the office. Acoustics are easily overlooked in the design process because it is something that cannot be seen. The recommendation is to formulate explicit acoustic requirements (i.e. for speech privacy, reverb times, sound insulation) and to test whether design proposals actually meet these requirements.

Create a human scale

Give large office floors a human scale by breaking them down into smaller parts. Some degree of openness and overview is needed to be able to spot colleagues and available seating, but the office should not present as a sea of desks. Consider creating clusters of 10 to 16 workstations, with focus rooms and meeting areas acting as buffers between different clusters.

Make people feel at home

ABW offices sometimes feel like furniture showrooms with clean desks and designer furniture. To make ABW offices less sterile and more welcoming, consider the use of soft fabrics and rugs, a diversity of furniture solutions, plants, and cabinets or wall space where teams can place photos and other paraphernalia.

Provide IT perfection

The whole ABW concept is built on the idea that technology makes people 'footloose'. So make sure that it does. Invest in lightweight but powerful laptops, plentiful power sockets, seamless networks, workstations with double screens, standardized docking stations, intuitive collaboration tools and an excellent helpdesk.

Avoid design gimmicks

ABW office interiors often incorporate playful design features intended to convey the notion that the new office is more casual and 'cooler' than the old one. There is a certain relevance in that, but don't overdo it. Design gimmicks such as slides and beanbags quickly lose their gloss and become unused obstructions.

PART 6: EXAMPLES

To demonstrate how ABW can work in practice, this part of the publication describes several real-life projects. Each project description is based on interviews with people who have been responsible for the implementation process and, in most cases, with some of the users.

In line with the target group of this publication, all examples concern public organizations. The cases differ, however, in terms of size, location and type of organization—ranging from a ministerial building in the historical centre of Oslo to new council offices in a small town in Scotland. Given their diversity, it is notable how similar their experiences with ABW have been. In all cases, change management was critical for ABW success, as was the need to engage with users and to address their practical concerns.

- Ministry of Finance British Colombia (Vancouver, Canada)
- West Dunbartonshire Council (Dumbarton, Scotland)
- Ministry of Economic Affairs and Employment (Helsinki, Finland)
- State Treasury and Patent office (Helsinki, Finland)
- Public Services and Procurement Canada (Montreal, Canada)
- Danish Building and Property Agency (Copenhagen, Denmark)
- Government office De Knoop (Utrecht, the Netherlands)
- Ofgem (London, United Kingdom)

The office's break area is big and flexible enough to accommodate all the staff for the monthly staff meetings. (photo: James Alfred)

MINISTRY OF FINANCE, TAX AUDITING DEPARTMENT
(VANCOUVER, CANADA)

For the Government of British Columbia, the Ministry of Finance Tax Auditing Department was an obvious candidate for the implementation of a flexible workplace concept. In their existing office, all the department's employees had a personal workstation even though many of them spent the better part of their working hours outside of the office—conducting tax audits, attending meetings and, in some cases, working from home. So when the department had to move to a new building, a decision was made to lease fewer square metres in favour of better space utilization and an improved workplace.

The new office was designed according the government's 'Leading Workplace Strategies' initiative (LWS), which aims to replace the traditional 'one worker, one desk' approach with more flexible solutions. The strategy is the brainchild of the government's Workplace Strategies and Planning team, which is headed by Robert Macdonald. Robert explains the rationale behind the strategy: "We wanted to respond to the changes around us. Changes in demographics, changes in citizens' needs and the rapid advancement in technology. There is a greater demand for flexibility, mobility and choice for employees, and the office environment should reflect that."

At 900 Howe Street, the LWS principles translated into a 1000 sqm office floor—significantly smaller than the 1300 sqm at their previous location. All the open workstations are located along the building's facade, allowing everyone to have access to natural light and outside views. In the inner areas of the floor,

USER	MINISTRY OF FINANCE, TAX AUDITING DEPARTMENT
Property agency	Government of BC, Real Property Division
Design	Government of BC, Real Property Division
Completion	2016
Total floor area	1013 sqm (usable area)
Total # of employees	128
Total # of workstations	83
Sharing ratio	0,65 workstation/ employee
Area/employee	7,9 sqm (usable area)
Area/workstation	12.2 sqm (usable area)

A work lounge with soft seating and a bar table. The latter has proved particularly popular. (photo: James Alfred)

there are meeting rooms, quiet rooms, privacy rooms and enclosed offices. There is also a spacious break area that serves as the floor's social meeting point and gives access to adjacent meeting rooms.

In total, the floor provides 83 workstations for 128 employees. However, not all workstations are shared. Of the total workstations, 31 are 'resident workplaces' that are assigned to employees who spend the majority of their time at the office or, in some cases, employees who require special equipment or have special needs. This makes this project an interesting contrast to other the projects in this guide, which do not provide any assigned seating.

The provision of resident workstations is a deliberate choice, says Robert. "Arguably, we may be less radical, or more cautious, than other organizations. But when we started the LWS initiative, it was decided that we would take an incremental approach. We persuade our clients by sharing the many benefits, but do not force the concept upon them." A more top-down approach would probably have resulted in a higher uptake of the concept, but Robert notes that there are advantages to this approach. "We go for evolution rather than revolution. It increases the chances of employee buy-in and success. If there is a lot of resistance, or a lack of management commitment, projects can fail and then the whole initiative gets a bad name."

The incremental approach has nevertheless kept Robert and his team busy. The LWS concept has been implemented in 30 projects, and another 30 projects are currently under way. "Our ideas are gaining momentum," says Robert. "The more people that work this way, the easier it becomes to convince others." When asked about their main challenges, Robert explains: "You have probably heard this before, but some managers believe that they are entitled to an enclosed office and so it becomes difficult for us when we start reducing the number of dedicated offices to create an alternative of shared enclosed spaces."

The 900 Howe Street project features four enclosed offices, but they are small and located close to the building's core. Russell Treloar and Andrew Lisson,
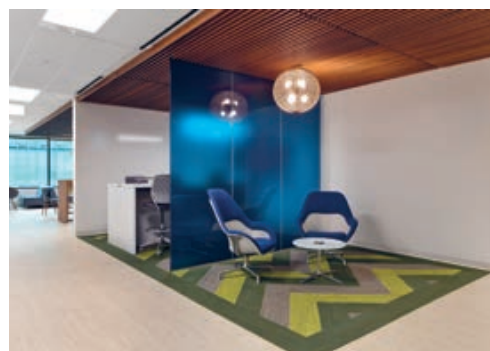
Lounge area near the floor's entrance and close to the lockers. (photo: James Alfred)

Q&A
Various employees

What do you like best about this new way of working?
We love the open collaboration hubs as it has introduced a new form of support for collaboration, meetings and stand-ups. We are also pleased that we now have a space where we can host our monthly full staff meeting.

What aspect could be improved?
Nothing really. But, if given the choice, some of us still have a desire to have more private offices and more larger boardrooms. The leadership manages the space in the spirit it was designed for, but if new management were to come in there is a fear this could alter the current, flexible culture.

How often do you change places in the office?
On a daily basis. Some of us enjoy going to the same spots, but not a rigid way—moving elsewhere if those spots are taken. Overall, however, we like having various options for space to work in and utilize the different collaboration, quiet rooms and privacy rooms frequently throughout a day.

What is your favourite workspace within the office?
The network bars! The bar height tables are some of the most sought-after spaces. There is also a special appreciation for quiet rooms and privacy rooms where heads-down work and meetings can occur more frequently. The most loved space, however, is the open area soft seating space that has views to broader Vancouver—it feels like a private lounge.

colleagues of Robert Macdonald, explain that in the earlier office, around 20% per cent of workstations were enclosed offices and the rest were cubicles. "It was a typical government office. A set-up that no longer matches people's activities. People do not need only large meeting rooms and cubicles, but places where they can take Skype calls, have informal chats, collaborate in small groups or do solo work when needed."

The Leading Workplace Strategies programme aims to offer all of these elements, and Robert is confident that more and more projects will look like this one. "By providing a diversity of spaces, we are nudging people into more mobile workstyles. Furthermore, we see that remote working and flexible work hours are not only becoming more common but sought after. The necessary tools, such as smart phones and laptops, are mainstream these days. All this makes flexible working an obvious choice."

The floor's largest meeting room, which can be opened up towards the break area via two large sliding doors. (photo: James Alfred)
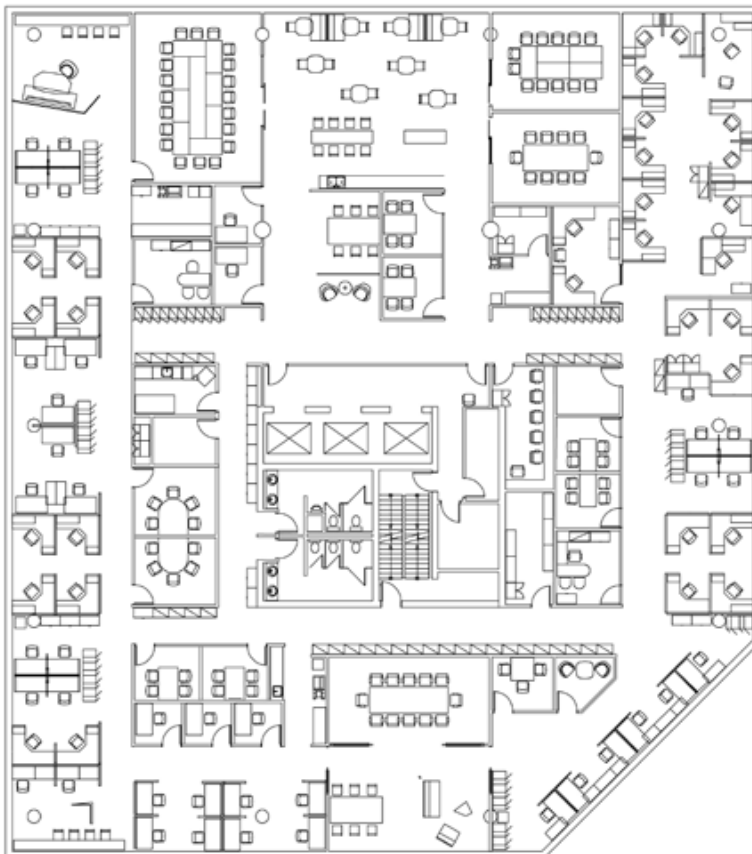
A classic office floor plan with a central core. All the open workstations are located around the floor's perimeter while support spaces, such as small meeting rooms, enclosed offices and storage are located towards the building's core.

The building's three floors are wrapped around an atrium which forms the heart of the building. The atrium provides breakout space, gathering space, touchdown stations and informal workspaces. (photo: Jim Stephenson)

WEST DUNBARTONSHIRE COUNCIL
(DUMBARTON, SCOTLAND)

The new West Dunbartonshire council office stands in the heart of the Scottish town of Dumbarton, on Church Street. Approaching the building, the first thing you see is a beautifully restored Gothic facade, which suggests that the council has moved into a historical building. However, only the facade is historical. Behind it lies a completely new building with three storeys of office space that meet all the latest standards and feature a highly contemporary workplace concept.

The council decided to build this new office because its old building—a typical 1960s concrete office block, located on the outskirts of the town—was dated, shabby and too large for their requirements. Another major driver for the project was the possibility of moving to the town's centre. Like many other towns, Dumbarton is suffering from a decline in high street retail. Relocating the council's Dumbarton office to the town centre was seen as a way of both supporting economic development and maximizing the benefits of the initiative. The relocation brings over 700 employees, plus visitors, to the town centre, which means a lot of new life and activity. In line with this idea, the new council office deliberately lacks a canteen. The aim was to motivate employees to go out to buy their lunch from local shops and cafes, thereby supporting the local economy, and this seems to be working. Dumbarton now features three new cafes and a new supermarket has applied for planning permission for an adjacent site.

USER	WEST DUNBARTONSHIRE COUNCIL
Adviser	Scottish Futures Trust
Design	Keppie
Completion	2018
Total floor area	4216 sqm (net internal area)
Total # of employees	755 (or 630 as FTE or Full time Equivalent)
Total # of workstations	366
Sharing ratio	0.48 workstations per employee or 0.58 workstations per FTE
Area/employee	5.58sqm per employee/6.69sqm per FTE
Area/workstation	11,5 sqm (net internal area)
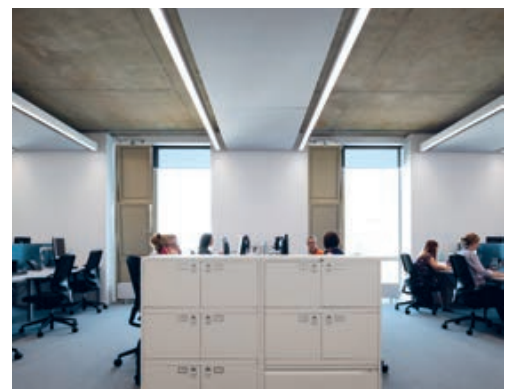
The council's protocol states that "vacant desks and spaces can be used by anyone and are not exclusive to the assigned team. Visiting staff and colleagues should always be made to feel welcome." (photo: Jim Stephenson)

The business case for the project was helped by the fact that the council decided to implement an activity-based workplace concept. This reduced the need for space by more than half as the concept provides only 5 to 6 workstations for every 10 employees. This sharing ratio is based on the council's previous experiences with ABW and the fact that many of the council's employees are mobile—'out and about', engaging with the local community, or attending meetings at the council's other offices. This makes the sharing of workstations easier. Working from home is another factor, but it was not an explicit motivation for the project. The council prefers to emphasize the notion of working in a workspace that suits the task at hand, which could be anywhere: their own activity-based workspace, at home, in another council office, at the library, in a cafe or some other place that suits their needs.

A formal evaluation of the project is not yet available, but anecdotal evidence suggests that the new workplace concept is a success. This is not surprising as the West Dunbartonshire Council has been developing its smarter working concept (known as 'Workplace of the Future') for some time. Back in 2012 the council undertook a pathfinder project on the top floor of their previous building in Dumbarton to explore the potential of activity-based working. Since then, the council has refined the concept and its delivery via six other projects. So many employees

EMPLOYEE PROFILES
To calculate the required number of workstations per team, a distinction was made between three employee profiles.

Profile	Description
Fixed Worker	Primarily works at a single base or location 80-100% of the time.
Flexible worker	Able to work at different/ multiple locations and out of the office approx. 50%. Occasionally works at home 1-2 days per week or directly home to external appointments.
Mobile worker	Able to work at home or travel directly from home to other locations and client visits out in the field. Out of the office 60-80% of the time.
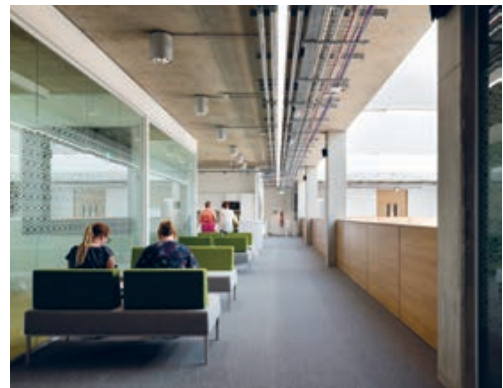
The building provides employees with a range of work settings, including breakout acoustic sofas, touchdown stations and access to quiet rooms. (photo: Jim Stephenson)

Q&A
Louise Hastings
Human Resource Business Partner

What do you like best about this new way of working?
I like that it's open and encourages people to talk—we can see each other and go over and chat rather than sending an email and this is helping us build better relationships. I like the openness and natural light of the building. We have a place to go for lunch now and we eat together as a team which has really helped with team dynamics.

What aspect could be improved?
There isn't much that could be improved. The quiet booths can be busy so a few more would be useful, particularly for my role, but I find ways to work around it.

How often do you change places in the office?
We have team zones, so I tend to change desk a couple of times a week. We have daily 10-minute meetings at 10am every day so the breakout spaces work well for that and I also use the atrium and quiet rooms regularly.

What is your favourite workspace within the office?
The desks mostly have screens but there are some banks of desks that are more like tables with display screens, but no barriers. They are my favourite as they provide a big open space, it's easy to talk to colleagues and different people tend to sit here.

had already experienced this new way of working before moving to the new Dumbarton office. Another positive factor was the council's extensive change management programme (called Focus, Engage and Deliver), which informed employees about the proposed changes via events, workshops, FAQs, issue logs, newsletters, and information boards and gave employees plenty of opportunities to provide input and influence their workplace design.

The role of the council's chief executive, Joyce White, was crucial for the success of the change process as well. She was very supportive of the concept and works within the open-plan workspace, just like the rest of the organization. In one of the case study videos for the project, she states, "I don't need to sit behind a big desk in a room with the door closed," clearly implying that others don't need that either.

Meeting rooms with large monitors and audio equipment for presentations and video conferencing. The acoustic tiles on the wall help to create pleasant acoustics.
(photo: Jim Stephenson)

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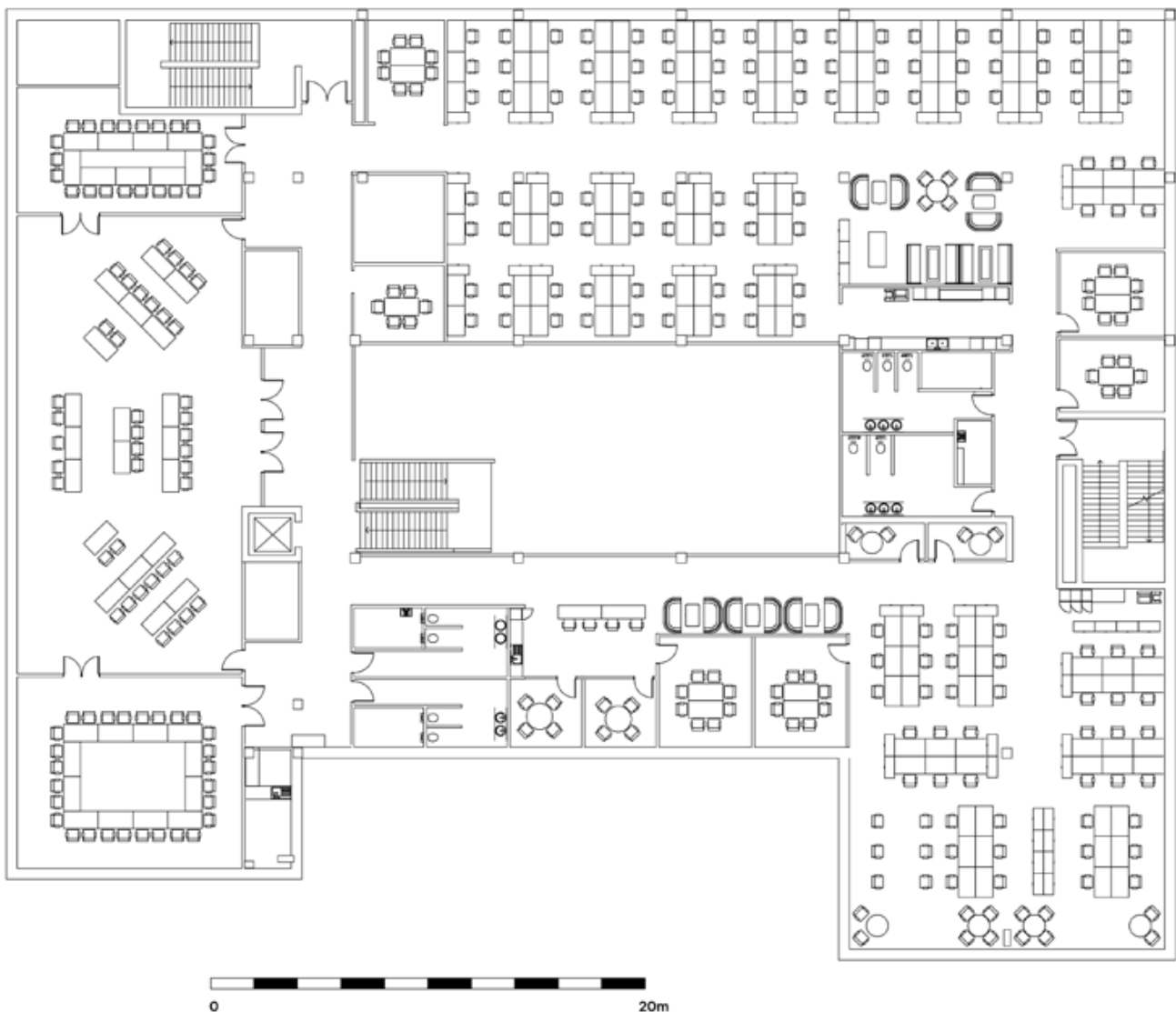
The building features a simple floor plan with large areas for workstations. Meeting rooms and informal seating are clustered in the narrow part of the floor. The civic space, where the council meetings are held, is located at the front of the building.

Each part of the building features a small kitchenette which is designed for breaks and informal meetings. The space is located right next to the lockers where employees pick up their personal items when they enter the office. (photo: Jaakko Lukumaa)

MINISTRY OF ECONOMIC AFFAIRS AND EMPLOYMENT
(HELSINKI, FINLAND)

The Finnish Ministry of Economic Affairs and Employment has gone from occupying four buildings in 2008, to two buildings in 2015, to just one building today. Kari Klemm, the ministry's head of general administration, explains how this happened: "In 2008, we were spread over multiple buildings because we had merged with other government departments. Over the years, however, our headcount was reduced, so we needed less space. And then activity-based working came along, which further reduced the need for space." Ultimately the entire ministry was able to fit into one building. Kari: "For which we are grateful as it makes collaboration easier and allows for synergies."

The ministry is housed in a neoclassical Empire-style building in Helsinki's inner city, close to all the other ministries and only a few steps away from the Government Palace. Before the ministry could move in, the building had to undergo a major renovation under the watchful eye of the Finnish Heritage Agency. Major investments were made in the building's technical services to create a comfortable indoor climate. Security was another aspect that required a major upgrade. For the rest, the historical building lent itself surprisingly well to activity-based working. The building's structure, with narrow floors and a lot of load-bearing walls, did not allow for large open spaces, but that was fine with the ministry because that was exactly what they wanted to avoid. The building's large rooms could be turned into work areas with 4 to 16 workstations. Smaller rooms could be used as quiet rooms, meeting spaces and support spaces such as copy rooms. The building's finest rooms, with painted ceilings and stucco ornaments,

USER	MINISTRY OF ECONOMIC AFFAIRS AND EMPLOYMENT
Property Agency	Senate Properties
Design	Laatio Architects
Completion	2018
Total floor area	5396 sqm (lettable area)
Total # of employees	391
Total # of workstations	329
Sharing ratio	0.84 workstation/ employee
Area/employee	13.8 sqm (lettable area)
Area/workstation	16.4 sqm (lettable area)

Open work area. The filing cabinets have been kept low to maintain sightlines. The number of cabinets was drastically reduced before move-in. (photo: Jaakko Lukumaa)

were fitted out as conference rooms and a cafeteria so they could be enjoyed by all.

Unlike many other ABW projects, the building does not feature specific team zones or team neighbourhoods. Kari: "Everyone can sit everywhere, which makes sense because our idea was to increase collaboration and to break down the barriers between different teams. In practice, however, teams tend to flock together in the same part of the building, usually close to where their lockers are. But we haven't formalized that in the floor plan."

Adapting to the ABW concept went fairly smoothly as many employees had already experienced activity-based working in their previous office building. Even so, Kari notes: "The implementation process required a lot of talking. We have many lawyers working in the ministry—I am one myself—and we like peace and quiet. So there were concerns about that. The good thing was that there were lots of opportunities to discuss those concerns." Part of this dialogue was conducted by special 'move mentors' from the ministry's HR unit who were attached to each department. These mentors helped to prepare the departments for the move, and they talked with employees about how the concept would work in practice.

What surprised Kari was that people's concerns related to practicalities rather than the overall concept. "We spent a lot of time talking about mundane things such as the number of toilets, the quality of the coffee machines and the possibilities for storing winter clothing." Smiling, he adds, "Sometimes, I really had to remind people that the bigger goal was collaboration and that we needed to talk about that as well."

The other ministries of the Finnish state are likely to take a keen interest in the project, as they will also have to adopt the concept at some point. The responsibility for this lies with Senate Properties, the government's real estate organization, and their internal client, the Prime Minister's office. Pertti Siekkinen from Senate Properties says: "The trigger for activity-based working comes from the Ministry of Finance's 2015 decision to reduce the government's real estate expenses by around 20%." He stresses, however, that

Just outside the formal meeting rooms there is soft seating where employees can have their pre- and post-meeting chats.
(photo: Jaakko Lukumaa)

The building's finest historical rooms have been transformed into meeting rooms that are available to all. (photo: Jaakko Lukumaa)

Q&A
Vivi Markkanen
Assistant at the Ministry's Human Resources and Administration Unit.

What do you like best about this new way of working?
It is easy, practical, and modern. I have all I need.

What aspect could be improved?
I wouldn't change anything because personally I am satisfied.

How often do you change places in the office?
About twice a week, I try to stay near my colleagues.

What is your favourite workspace within the office?
The cafeteria. It is a very beautiful place with chandeliers.

the concept is not just about costs, but also about modernizing government. Heikki Hovi, Ministerial Adviser and Head of Unit at the Prime Minister's office, has the same message. "It is about improving collaboration between different parts of government, about the digitalization of work processes, and about creating attractive workplaces for today's and tomorrow's civil servants."

Heikki acknowledges that it will be a challenging process. "Some people have been working in the same way, on the same spot, with the same view, in the same chair for twenty years. Hesitancy is thus understandable. So we must talk to people, listen to their concerns, and deal with those concerns". He warns, however, that all that talking and listening should not result in compromise solutions. "Employees can provide meaningful input on many things, but the overall concept should remain intact." His advice to other organizations wanting to implement activity-based working: "Choose the boldest option. Be brave!"

Informal seating and moveable whiteboards in the work areas are intended to facilitate collaboration. (photo: Jaakko Lukumaa)

The staff cafeteria is housed in the building's most magnificent room. (photo: Jaakko Lukumaa)
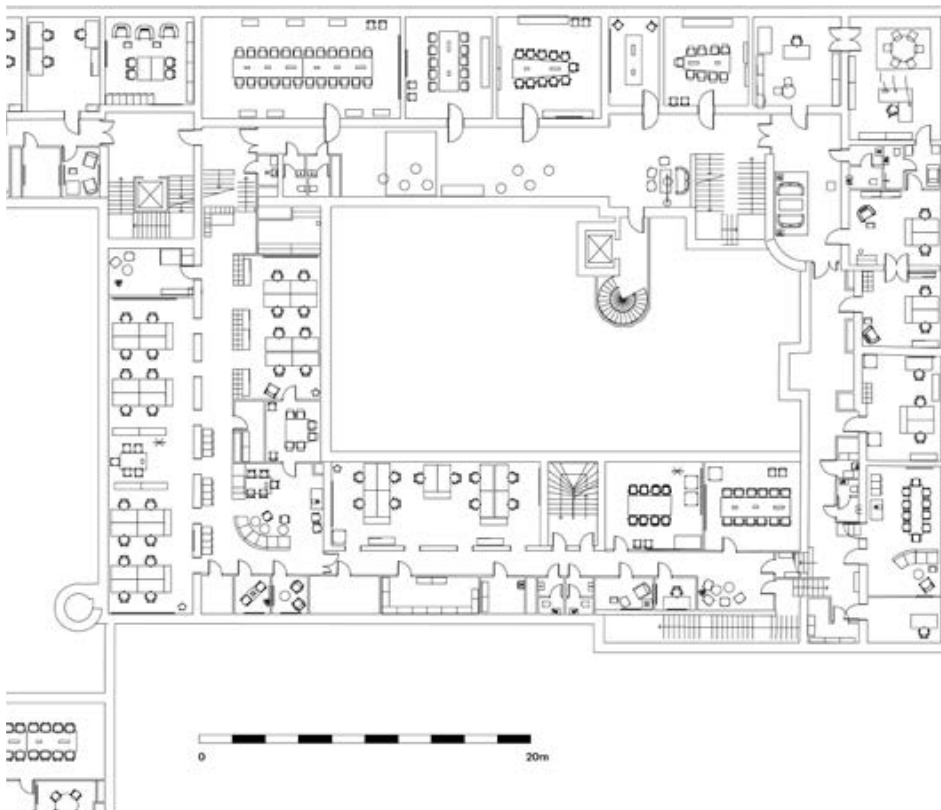
The old building's structure, with its thick walls and narrow floors, lent itself surprisingly well to the ABW concept, allowing the creation of small work areas with 4 to 16 workstations.

Workstations are designed to provide comfort for everybody. This means adjustable chairs, sit-stand desks, two computer monitors and felt screens that provide a degree of visual and acoustic privacy. (photo: Anna Autio)

STATE TREASURY AND THE PATENT AND REGISTRATION OFFICE
(HELSINKI, FINLAND)

Ideas about workplace design change over time and Mikko Kangaspunta has witnessed several of these changes. Mikko is financial director at the State Treasury and he and his organization are accommodated in a 1980s office block on the edge of Helsinki's city centre. "When I started working here, in the 1990s, it was a typical government office in which most people had private offices. After a couple of years, however, it was decided to remove all walls and to create open offices. The aim was to improve communications, but employees were not too happy with it. People complained about noise and a lack of privacy. And now, we have activity-based working. There are different kinds of workplaces and we are free to choose where we work."

According to Mikko this latest change is for the better. "Coming from an open office, it is surely an improvement. We still have open spaces, but they are combined with rooms where we can take phone calls and work in concentration." Asked about the most positive aspect of the new concept, Mikko points to the improved interaction with colleagues. "It is refreshing. You can sit next to different people every day, instead of always the same ones."

The decision to adopt activity-based working coincided with a reduction in headcount, which meant that the State Treasury needed only two of the building's five office floors. Another state tenant was sought, which turned out to be the Finnish Patent and Registration Office. This organization had previously been located in the inner city, but their lease was expiring, and they were looking for a new location because the government's real estate

USER	STATE TREASURY AND PATENT OFFICE
Property agency	Senate Properties
Design	KVA Architects
Completion	2018
Total floor area	10,813 sqm (lettable area)
Total # of employees	725
Total # of workstations	508
Sharing ratio	0.7 workstation/ employee
Area/employee	14.9 sqm (lettable area)
Area/workstation	21.3 sqm (lettable area)

The building's canteen is shared by the two tenants as are the conference centre and the rooftop sauna. (photo: Anna Autio)

strategy stipulates that only ministries can be located in Helsinki's central 'government campus'.

The two cohabiting state organizations share a reception, a floor with conference rooms and a staff restaurant. Typically Finnish, there is also a shared rooftop sauna, although it is hardly ever used these days. There are plans for more sharing, says Mikko. "We are currently discussing whether we can co-locate our IT units. Putting them together creates possibilities for knowledge sharing. It makes sense because we are using the same infrastructure. But we have different systems so there are a lot of things that need to be sorted out."

Like the State Treasury, the Patent and Registration Office has adopted activity-based working. They did so with some misgivings, however. In their old office, all the staff had either a private room or a shared room. They weren't looking forward to saying goodbye to that, fearing a noisy environment where they would not be able to do their job well. But there wasn't really much choice as activity-based working is standard policy within the Finnish government. The concept must be applied to any new office project, whether people like it or not. It turned out, however, that the concept wasn't as bad as people feared. After a brief period of familiarization, the Patent and Registration Office's employees proved to be quite happy with their new office. The areas with 'no talking' rules work well and there has been a lot of praise for the acoustics. Another favourable factor was the Patent Office's decision to update its remote working guidelines, which now allow staff to work remotely for up to three days a week.


Places to 'chill out', designed for taking a break or chatting with colleagues (photo: Anna Autio).

All this is reflected in the satisfaction scores of the regular staff surveys conducted within the government. Scores have improved for both organizations. Mikko says, "Our scores [at the State Treasury] were already good, but since the renovation they have even gotten a bit better." He reflects that activity-based working has become the 'new normal' for people. "People adjust. The concept isn't as shocking as people think beforehand." He warns, however, that it is important to keep an eye on how the concept works in everyday practice. "You have to avoid the behaviour of a few individuals having negative consequences for the whole group. We had, for example, some colleagues who were rather loud. In such cases, you have to be straightforward and explain to your colleagues that they have to behave differently." He adds: "People usually understand. We all want to work in a pleasant environment."
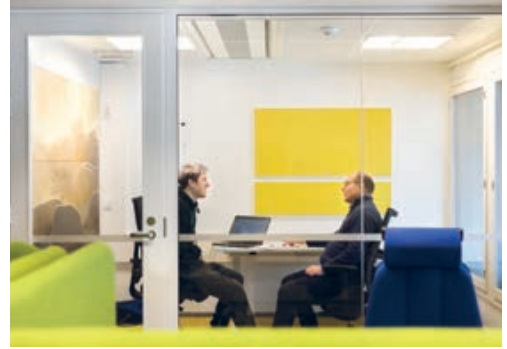
The space allowance per employee dropped to well below the government's 18 m^2 limit. Yet it was still possible to create plenty of additional facilities, such as informal meeting areas. (photo: Anna Autio).
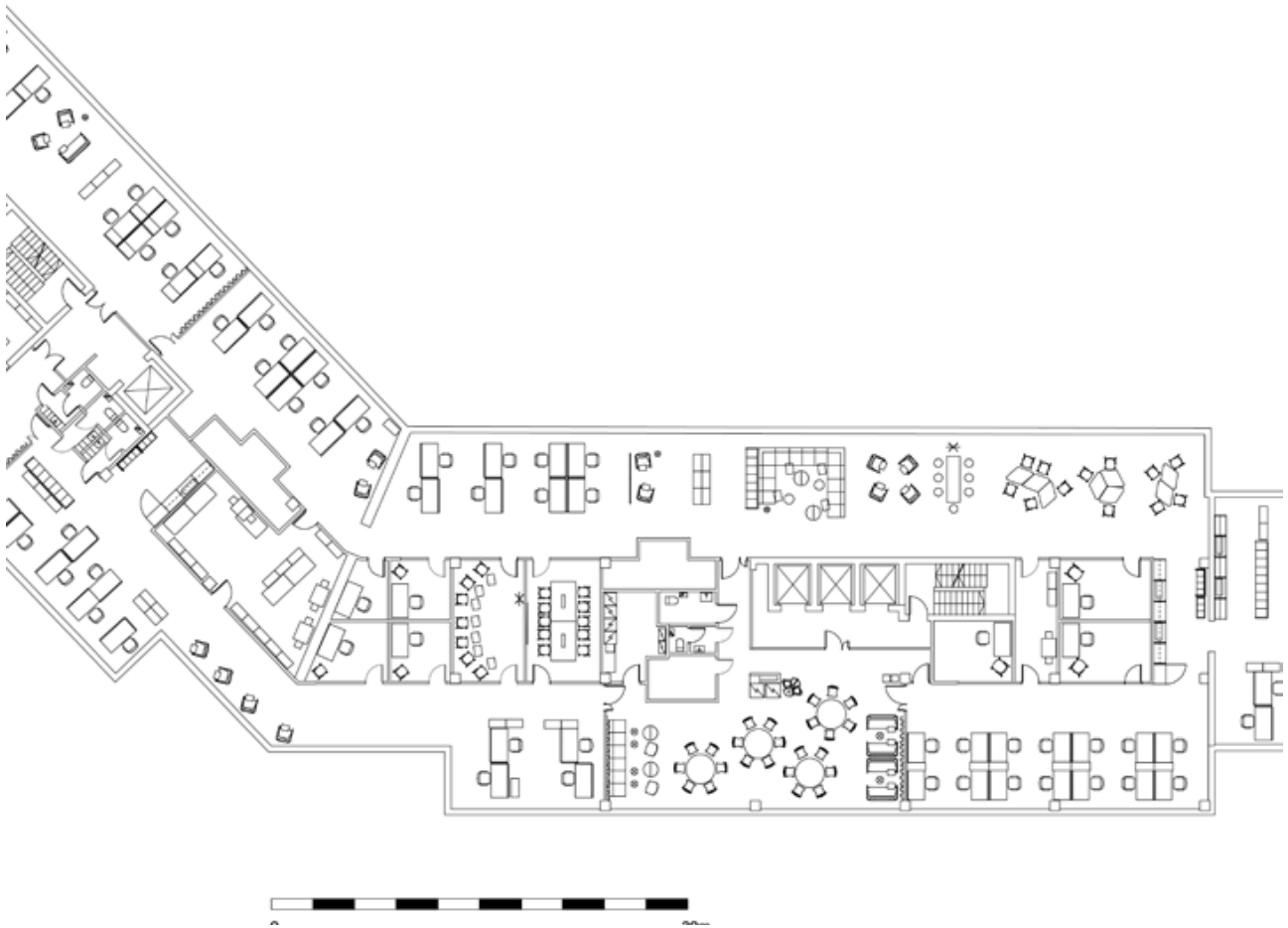
Like many continental European offices, the building has a narrow floor plan that admits copious daylight. Desk clusters are limited to two to four desks, interspersed with various more informal work settings.

In the open work areas there are small pods for phone calls and video conferencing. The pods are ventilated and echo-free. Sound insulation ensures that colleagues nearby are not disturbed. (photo: Stéphane Dubé)

PUBLIC SERVICES AND PROCUREMENT CANADA
(MONTREAL, CANADA)

The Montreal office of PSPC (Public Services and Procurement Canada) is on the same floor as before, but its work environment and working practices have changed radically. Before renovation, many of the staff worked in dreary, beige-coloured cubicles. Executives had enclosed private offices. Daylight and outside views were for the lucky few. It was an office that looked crowded, with lots of partitions and filing cabinets, even though many of the desks were unoccupied during the day

Now the office is largely open and filled with light. Along the facade there are workstations, benches, phone booths and 'cocoons'. Closer to the building's core are the semi-enclosed and closed spaces: reflection rooms and collaboration spaces. All these settings are available to all employees regardless of their departmental or hierarchical position. The overall impression is one of variety and spaciousness, which is remarkable since the total floor area has shrunk by over forty per cent.

France Vigneault, the project's cultural change leader, explains how these changes came about: "The idea for a concept came in 2015, when we got a new director general. One of his first tasks concerned the renewal of our office lease, and he decided that we should go for 'hoteling', as he called it at that time, which rapidly evolved to activity-based working." France adds: "This idea was met with scepticism within the organization. Even so, the decision was taken." It was not a blunt top-down process, however. There were small townhall meetings of fifty employees at a time, where management explained

USER	PUBLIC SERVICES AND PROCUREMENT CANADA (PSPC)
Property agency	Public Services and Procurement Canada (PSPC)
Design	PSPC & Aedifica
Completion	2018
Total floor area	4845 sqm (usable floor area)
Total # of employees	400
Total # of workstations	322
Sharing ratio	0,8 workstation/ employee
Area/employee	12 sqm/employee (usable floor area)
Area/workstation	15 sqm/workstation (usable floor area)

Small meeting rooms with fully glazed partitions are available on a 'first come, first served' basis. Larger meeting rooms have to be booked. (photo: Stéphane Dubé)

the idea and staff could pose questions and air their concerns. Furthermore, around sixty employees participated in twelve working sessions to analyse work processes and the use of paper and equipment. Their findings were translated into a project brief which served as the basis for the design process.

During the project, staff and management were informed via presentations about the proposed design solutions. In these sessions, staff could put forward their own ideas, many of which were integrated into the concept. According to France, the active involvement of staff and managers was a critical success factor: "Loss of personal space can be very confusing for employees. To help them regain a sense of control, you have to turn people from spectators into players. That may sound like a change management cliché, but the trick is to put people in the action."

One of the interesting decisions that came out of those sessions was that there would be no 'house rules' concerning to use of the work environment. France: "We are all adults, right? So instead of making a long list of rules, we emphasized the importance of basic values such as courtesy, communication, respect and awareness of one's own and each other's needs."

Evaluations of the project confirm its success. The first survey was conducted three months after move-in and it showed that over eighty per cent of the staff preferred the new office over the old one. A second survey, six months later, showed even better results, with high satisfaction scores on all the aspects that were covered in the survey (noise level, air quality, availability of quiet rooms, etc.). Only one aspect, that of workplace personalization, was unsurprisingly, rated lower than before.

The PSPC Montreal project is now a leading example in the wider roll-out of the workplace concept (now called 'GCworkplace') within the Canadian government. Michael DeKelver, workplace strategist at PSPC, explains: "The GCworkplace concept will become the program vision and guideline, so it must be applied in any major office project". But this is not always easy, Michael notes. "Change is happening,

Informal meeting area located away from the work floor to avoid disturbing colleagues.
(photo: Stéphane Dubé)

Q&A
Liette Brisebois
Administrative Assistant

What do you like best about this new way of working?
The flexibility of adapting where you want to work according to what you need to accomplish. It reminds me of a university library; there are quiet areas, noisier ones, and collaborative spaces for both informal and formal meetings. There is a space for whatever your need may be.

What aspect could be improved?
Not much, as it is really well designed. In terms of adapting to the space however, I think it would be helpful for new employees to have a go-to colleague who can familiarize them with the technology and the different spaces. The technology and open space can make you feel vulnerable at first, so having a 'buddy' would relieve some of the stress that comes with a new job.

How often do you change places in the office?
Every day! I typically make sure I sit in the general area where my team is; however, I choose spots according to my mood or the tasks I need to get done. For example, if I have a lot of deadlines and I need to crunch down, I will take one of the individual meeting rooms or booths.

What is your favourite workspace within the office?
I love this one little cosy, collaborative space, where there are only two chairs and a light dimmer. Since there is no door, you don't feel isolated, yet you have the privacy of an independent room. I go there for a lot of my phone calls and one-on-one video meetings.

but we still meet managers who desperately want to hold on to their private office. And there is always a minority that simply does not want to change, no matter what the change is." A practical obstacle is that the technology isn't always ready, with some parts of government still working with bulky PCs and landline phones. Michael stresses therefore the importance of a multidisciplinary approach. "Activity-based working is not just about property. To make the concept work, we need IT, IM, HR and Security on board as well. They need to invest in new tools and work practices. It is a shared business case."

Workstations feature two computer screens, allowing employees to view or work with multiple applications or documents simultaneously. (photo: Stéphane Dubé)

The building has a deep floor plan, which makes it difficult to provide daylight and outside views in all work settings. To deal with this, all open workstations are located along the facade, while facilities for temporary use (i.e. meeting rooms, kitchenette, informal areas) are located towards the centre of the floor.

The office floors offer a row of small meeting spaces, each with its own kind of furnishing: a conference table, lounge seating or a high table with bar stools. (photo: Niels Nygaard)

DANISH BUILDING AND PROPERTY AGENCY
(COPENHAGEN, DENMARK)

The Danish Building and Property agency has just moved into its new activity-based office in the Nexus building in Copenhagen. The project is so new that it is still in its 'hundred-day freeze' period. Michelle Schlippe-Steffensen from the Building and Property Agency explains: "In the first hundred days after move-in we don't want to make any major changes. Activity-based working is new for us. People have to get used to it. We want to give it some time." In the meantime, employees can send in suggestions for improvement by email or drop them in the ideas box. Michelle: "All suggestions will be considered. Practical concerns, like complaints about cleaning or missing toilet paper, are solved straight away."

Michelle was project leader for the implementation of the ABW concept and is eager to make it a success. "Being a property organization, we should be leading in the efficient use of space. We should eat our own medicine, so to say." The other two reasons for ABW were a wish to reduce costs and to improve collaboration. "We are now occupying two floors instead of three. This saved us a lot of money. Moreover, it means that we are closer together, which makes it easier to see and meet colleagues."

The project's interior is very Scandinavian in its expression. It is open and filled with daylight. The finishes are in white or timber. Michelle notes that some of her colleagues would have liked more colour. "The interior is viewed as a bit sterile, but the possibilities for making changes were limited by the fact that we wanted to re-use the furniture from our previous office." In line with the ABW philosophy,

| USER	DANISH BUILDING AND PROPERTY AGENCY
Property agency	Danish Building and Property Agency
Design	Arkitema/Danish Building and Property Agency
Completion	2019
Total floor area	3000 sqm (lettable area)
Total # of employees	230
Total # of workstations	168
Sharing ratio	0,7 workstation/ employee
Area/employee	13 sqm (lettable area)
Area/workstation	17,8 sqm (lettable area)

The building's ground floor houses a canteen, cafe and conference centre that are shared by the building's five tenants. (photo: Niels Nygaard)

the office provides employees with different kinds of work settings: social areas, open workstations, small meeting rooms and quiet areas. Michelle: "Interestingly enough, the quiet areas are not very much in demand. We have created them because our staff said they would need them. But practice shows that people rarely seek total quietness for longer periods of time." The informal meeting area on the lower floor is not much used either. Michelle: "The soft seating is right next to the workstations, so people probably feel too exposed there. We are going to add bookshelves as a way of shielding." Otherwise, all spaces are well used. The standard workstations and the small meeting rooms in particular are popular. Michelle: "It can be a bit hectic around eight in the morning, when everyone comes in and seeks a workstation. But once people are in, many have to attend meetings, and things get quieter."

The project has not been formally evaluated yet, but Michelle observed that there are differences between functions. "For our administrative workers, who mostly do desk work, the change seems to be the hardest. In contrast, our project managers quickly took to the concept, as they were already used to mobile working." For Michelle, the project's most important lesson is to pay attention to change management. "Ideally, the chiefs are the ones who promote the concept and lead by example. But some of them find that difficult. I would have liked to have more time to prepare them for this role, but it is was a very rushed project with a timeline of only six months."
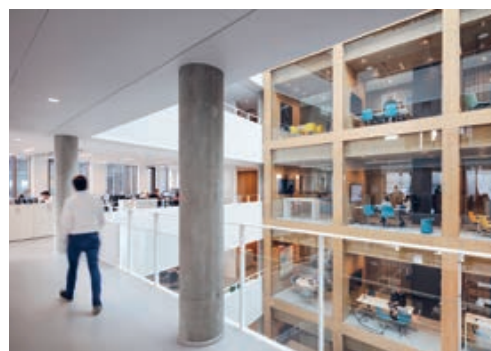
The office floors are open towards the atrium. Thanks to high levels of sound absorption, this produces a light background 'buzz'. (photo: Niels Nygaard)
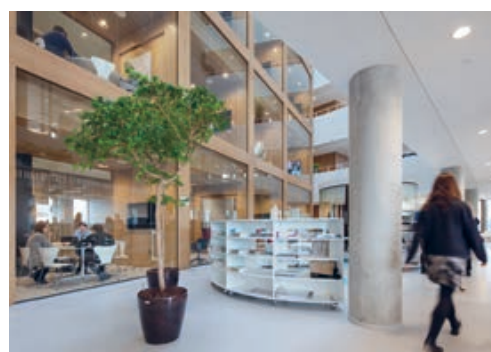
One of the floors has a small library that can also be used as an informal meeting spot. (photo: Niels Nygaard)

Q&A
Name: Tania Lorich
Function: FM innovation, communication and UX manager, Center for Facility Management

What do you like best about this new way of working?
More interaction with colleagues outside of my team. And the possibility to choose from different kind of work spaces, with sofas, phone booths and flex rooms.

What aspect could be improved?
More scope for conversational activities. My team used to have work-related discussions at their office desks, which now disturbs the other colleagues.

How often do you change places in the office?
I change desk daily, but usually sit in the same two areas. When I arrive at the office, I just sit at whatever desk is still free.

**What is your favourite workspace within the office?**
A specific so-called focus area, with two screens, close to a window and with a mix of colleagues.

Soon, the 'hundred-day freeze' period will be over. That will be the moment to evaluate the concept and see where it can be improved, in terms of both design and implementation. Ultimately, the ambition is to inspire all ministries and government agencies with this office. Michelle: "Many departments view the concept as radical, but we have already inspired organizations around Denmark to consider ABW." She adds, "In this building, we are the only ones who went for full ABW. The other four tenants thought it was safer to go for open-plan offices." It is a decision that puzzles Michelle. "I think that choice is to be preferred over a personal desk, especially when that desk is placed in a noisy open-plan office."

As might be expected from a Danish office, it features classic Arne Jacobsen furniture.
(photo: Niels Nygaard)
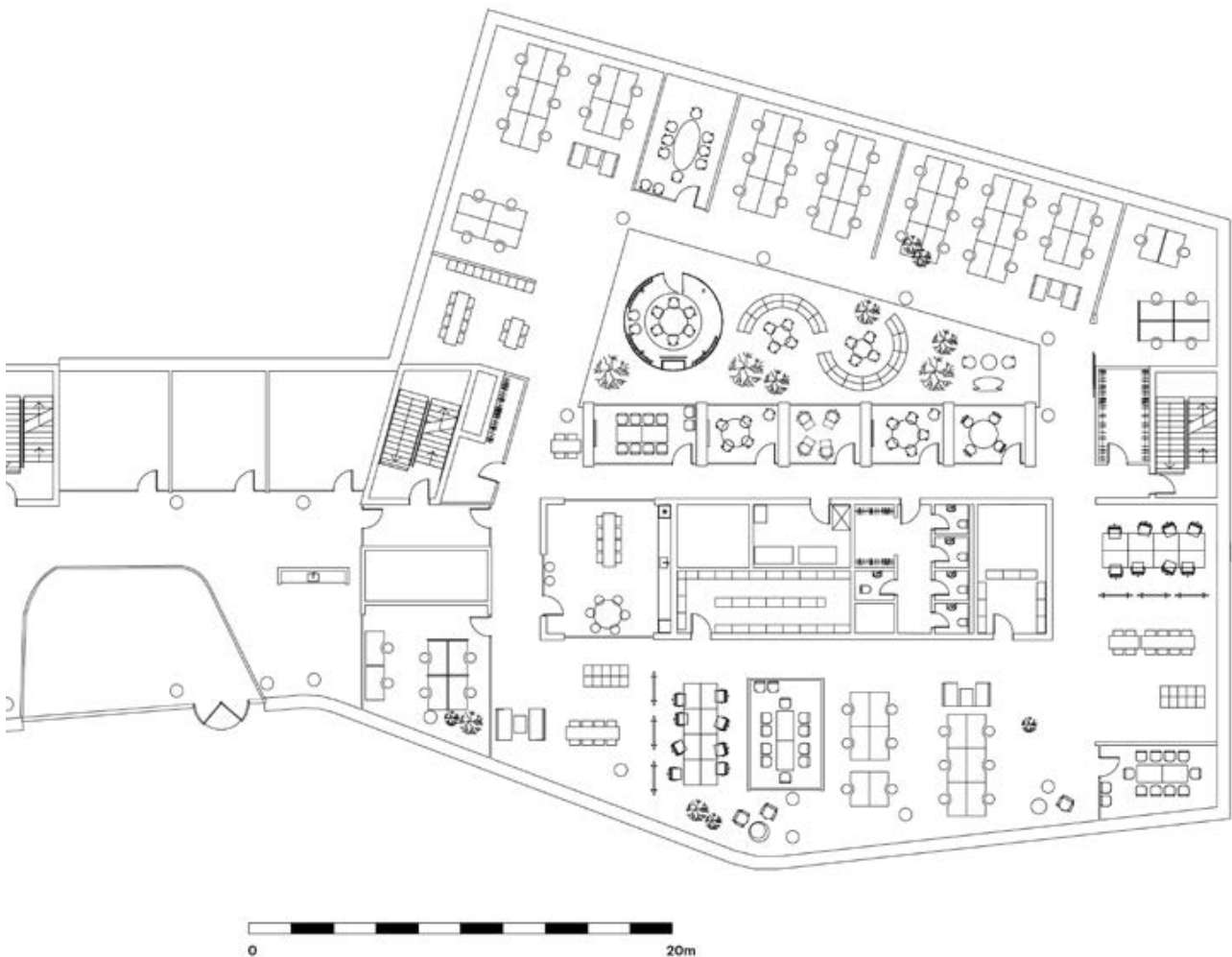
The building has compact office floors (approx. 80 workstations per floor unit). Workspaces are located around a central core which houses a kitchenette, toilets and storage. A central atrium ensures that all spaces have access to daylight.

OVERNMENT OFFICE 'DE KNOOP'
(UTRECHT, NETHERLANDS)

In its earlier life, the government building 'De Knoop' served as the headquarters of the Royal Netherlands Army. As one might expect from such a facility, it was no-nonsense building. It featured a heavy concrete construction, dark corridors, low ceilings and immovable brick partitions. Not very fancy, but robust. These days, however, the building is spacious, open and filled with light. It is no longer populated by uniformed army staff, but by civil servants in casual business attire, who can be found engaging in brainstorming sessions in the building's conference centre, sipping cappuccinos in the ground floor Grand Cafe, or tapping away on their laptops at one or other of the building's many flexible workstations.

The transformation of the building was carried out via a public-private partnership (PPP), in which the Dutch government acted as the commissioning client, while a selected consortium of market parties (called 'R creators') was responsible for the design, financing and construction of the project. The same consortium is responsible for the building's maintenance and operation for a period of 20 years.

The government's original ambition was to turn the building into a generic government hub, available to any department of the Dutch central government but with the Dutch Tax Office as privileged user. In reality, the Dutch Tax office is the building's main occupant. Bram van Wijk is the Tax Office' contract manager for the project and he has been involved in the project from its inception. He explains: "The building is designed according to government standards. This means that, in principle, any civil servant can work

USER	DUTCH TAX OFFICE
Property agency	Dutch Central Government Real Estate Agency
Design	Cepezed and Fokkema & Partners
Completion	2018
Total floor area	30,078 sqm (net internal area, incl. conference centre)
Total # of employees	1700 (excl. conference centre visitors)
Total # of workstations	1063
Sharing ratio	0.6 workstation/employee
Area/employee	17.7 sqm (net internal area, incl. conference centre)
Area/workstation	28.3 sqm (net internal area, incl. conference centre)

The building's interior includes several 'biophilic' elements such as green walls. Other health-related features are the building's natural ventilation system and the use of CO_2 detection in meeting rooms. (photo: Lucas van der Wee).

here. But we are the key tenant and we are using almost the entire building, including the general areas. This is because of the building's central location and because a number of headquarter staff are located here. It is an extremely popular venue for meetings and many of the attendees then stay on to work here. So there isn't much room for anyone else."

The building's office floors are fitted out according to the principles of activity-based working (ABW). For the Tax Office, this is by no means a new concept. Bram: "We have been working with the ABW concept for over a decade and we have a lot expertise with how it works." Even so, this project presented some challenges. "We discovered that the ABW concept works fine for most, but not for all," Bram remarks, referring to the Dutch anti-fraud agency that occupies four of the building's twelve floors. "The anti-fraud agency is different from other departments because their work is highly confidential. Some of their investigators have literally piles of paper evidence on their desks. Furthermore, some of investigators need locks on their rooms because the material they work with is so sensitive. These are issues that do not sit well with the ABW concept."

This perception was reflected in project's evaluation, which was conducted nine months after move-in.[68] The evaluation data showed that anti-fraud agency employees are less happy with the concept than the building's other users. For example: only 13% of the anti-fraud agency respondents rated the comfort of workstations as satisfactory, while in other departments over 70% of the staff were satisfied or even very satisfied with this aspect. Bram: "The results show that you have to keep a close eye on specialized needs. In retrospect, I think that project would have benefited from more user involvement. Working with a standardized concept is fine, but you still need to engage with users to get a good understanding of their needs, and to give them a sense of ownership."

In response to the evaluation, Bram and his colleagues are planning to make several improvements to the work environment. But because it is a PPP-project this will require agreement from the consortium that is maintaining and operating the building. Bram: "That sounds cumbersome, but I am actually quite glad of it.

The building's interior has been completely transformed, but its concrete structure, complete with its characteristic octagonal columns, is still there and visible.
(photo: Lucas van der Wee)

Around 20% of the building's workspaces are explicitly designed to facilitate communication. They include collaboration rooms, lounge-like settings and booths like those pictured in this photo.
(photo: Lucas van der Wee)

The consortium looks closely at both the financial and functional impact of any change we want to make. They do this because the PPP contract contains strict performance criteria on workplace quality. Changes to the building's layout are therefore closely scrutinized for their impact on things like acoustics and air quality. That takes a bit more time, but it ensures that we get a good solution rather than just a quick fix."


There are plenty of attractive meeting rooms available in the building. In the project evaluation, however, users stated that they would like to have more screens, smart boards and/or whiteboards in these spaces.
(photo: Lucas van der Wee)
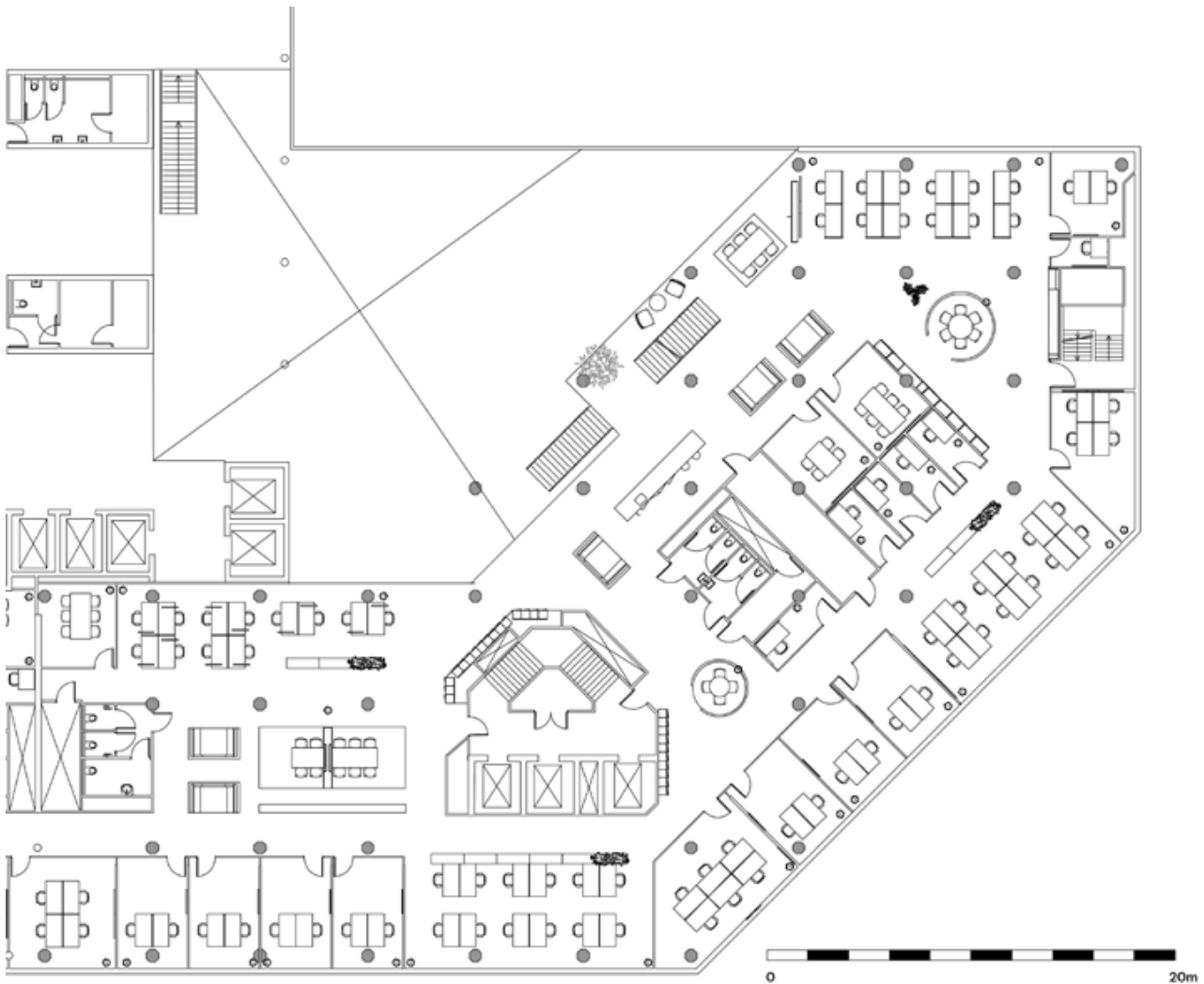
The office floors feature a mix of open and enclosed workplaces. The numbers of the various space types were based on the government's generic workplace standards.

On the Ofgem floor there is a café called 'The Deck'. It is a formal part of the Ofgem office, but it is available to all the building's users. (photo: Hufton+Crow)
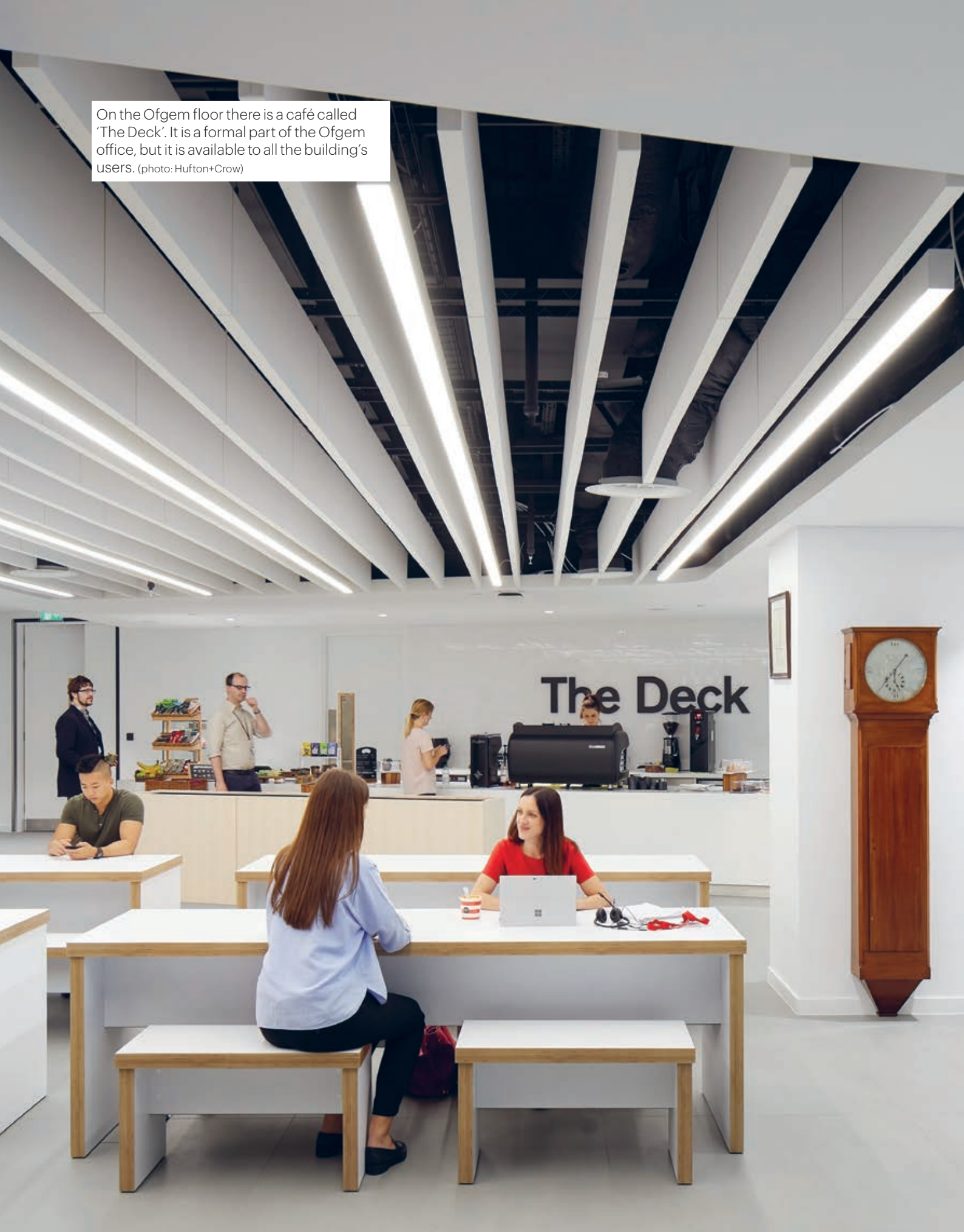
OFGEM
(LONDON, UNITED KINGDOM)

London's Canary Wharf is best known as a financial district, populated by bankers and other business people. However, now that the British government has opened a large hub in the area, the district's population mix is becoming more diverse. This project is part of a bigger shake-up of the UK's civil service, which will reduce the number of government buildings from 800 to around 200 by 2030, with the aim of reducing costs and increasing synergies between departments. In this instance, this meant moving around 6000 civil servants from their old, often cramped, offices in Whitehall—London's traditional government district—to a newly fitted-out, modern office building in Canary Wharf.

One of the relocated departments is Ofgem, the British government's energy watchdog. Ofgem is an interesting case because it is one of the front runners in the government's drive towards 'smart working'—an umbrella term for a wide range of flexible working practices, including remote working and activity-based working in the office. Kim Pivett, Ofgem's manager for building services, says: "We are one of the first to have fully implemented the government's smart working policy, but ultimately the entire government will have to work this way. That means that there is a lot of interest in how we are doing this. We have already shown around more than 50 departments."

What visitors get to see is a brand-new, light, modern work environment where there is an almost palpable sense of energy. When walking around, you see people chatting, laughing, having phone

| USER	OFGEM
Property agency	Government Property Agency
Design	AECOM
Completion	2018
Total floor area	4899 sqm (net internal area, excl. central facilities)
Total # of employees	750 (target is 800)
Total # of workstations	495
Sharing ratio	0.66 workstation/ employee (target is 0.6)
Area/employee	6.5 sqm (net internal area; target is 6.0)
Area/workstation	9.9 sqm (net internal area)

The building's restaurant, doubling as a space for meetings, working, town hall sessions and presentations. (photo: Hufton+Crow)

conversations, and working on their computers at large work benches. In between the work areas, there are semi-open collaboration spaces where groups of people can be seen drawing on whiteboards and holding video meetings via large screens. In other words, a lot of buzz and activity, but there are also small quiet rooms for those who do not want to be disturbed by the sight and sounds of their colleagues.

Kim explains that the floor features a total of 495 workstations for about 750 employees. That sounds crowded, but according to Kim that isn't the case: "The government's standard is 6 workstations for every 10 employees. We are still a bit above that. I am actually looking for a team to join us." Kim's colleague Warren Bentley, the site and business continuity manager, adds: "We know that we can add an extra 100 or so users because we are closely tracking the office's occupancy levels. All workstations and meeting rooms are equipped with sensors that give us live data about how busy or quiet the office is." The same technology allows staff to get an overview of where they can find a spot to work. Near the floor's entrance there is a large digital screen showing which workstations are available. Warren explains: "Workstations get a green dot, signalling that they are available, when they haven't been occupied for more than 90 minutes. So, when working at a desk, you can go somewhere else without immediately 'losing' it. But, if you plan to be away for more than 90 minutes, you have to clear your desk."

There has not been a formal evaluation of the project, but it seems to function well. Kim says that the new technology in particular—everyone works on a Microsoft Surface Pro—is highly appreciated by the staff. "With the move, we also changed all the technology: laptops and smart phones for everyone, fewer printers and advanced video screens in all the collaboration spaces." Nicola Gray, business partner for HR at Ofgem, adds: "Our staff is fairly young. They like, and expect, advanced technologies and the flexibility that comes with it."
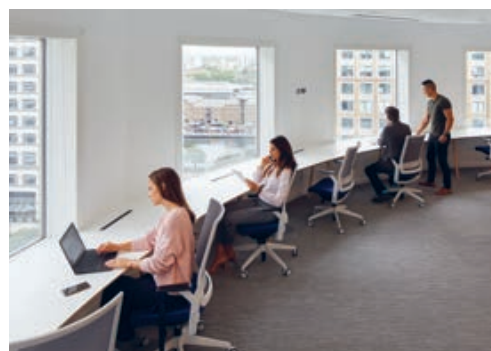
Informal, non-bookable, touch-down space with Dock views, located in the shared part of the building (photo: Hufton+Crow)

Q&A
S. Corbett
Project Co-ordinator

What do you like best about this new way of working?
I could not say there is a single thing. I like the fact it is one large area and not split up into several floors. I frequently run across colleagues that I have worked with on other projects and we always smile at each other when we pass by. I also benefit from the agile spaces and that I can sit in other areas—handy when I need to finish off something without interruptions. WFH [working from home, ed.] is also great as I still feel connected to the office via Skype and recently solved a problem without having to come in.

What aspect could be improved?
Speakers' Corner [one of the floor's collaboration spaces, ed.] would benefit from soundproofing. I understand this is being looked at.

How often do you change places in the office?
Two or three times a week depending on the work I am doing.

What is your favourite work space within the office?
I like the Deck [the coffee area, right at the floor's entrance, ed.]. It is a reasonably quiet area and gives me the opportunity to meet with friends and have discussions.

As in any project, there have also been some grumbles. Nicola explains that the change of location raised a lot of concern. "Some of the staff were very much against the move to Canary Wharf. They even threatened to quit their job." But that didn't happen. Nicola: "The move went hand-in-hand with the implementation of the smart working concept. Some of the people that were very much against the move, are now very happy because the smart working concept helps them to manage their busy work and family lives." She concludes: "So, the move is quite a success. Even for those that were against it."

A Meet & Greet bench that is part of the shared conference area, suitable for informal gatherings before and after meetings (photo: Hufton+Crow)

The floor's open work areas feature large workbenches, often with room for eight persons. In the middle of the floor, there are enclosed rooms for quiet work and small meetings. The circular space in the top left corner is completely flexible and can be used for workshops, presentations and town hall sessions.

PART 7: APPENDICES

More information

Interviewees

References

MORE INFORMATION

This publication is an introduction to activity-based working. There is obviously much more to learn about the topic. Below, you will find an overview of the most important books, websites, conferences and journals where you can find more inspiration and information.

WEBSITES:

Workplace insight - *https://workplaceinsight.net/*
All things workplace. Excellent overview of news, opinions and research.

Workdesign Magazine - *https://workdesign.com/*
Tips and trends in workplace design

Office snapshots - *https://officesnapshots.com/*
Large collection of photos of workplace projects, sorted by type.

Research Design Connections - *https://researchdesignconnections.com/*
Summaries of scientific studies on the topic of design and behaviour.

JOURNALS/MAGAZINES:

Work&Place - *https://workandplace.com/*
Magazine about workplace management. Attractive mix of opinion and research.

Journal of Corporate Real Estate - *https://www.emeraldinsight.com/journal/jcre*
Academic journal about the user-side of real estate. Often features workplace research.

Journal of Facilities Management - *https://www.emeraldinsight.com/loi/jfm*
Similar to above.

Facilities - *https://www.emeraldinsight.com/loi/f*
Also similar to above.

OnOffice - *https://www.onofficemagazine.com*
Commercial magazine on workplace design targeted at architecture and design community.

Office et Culture - *http://www.office-et-culture.fr/*
Excellent magazine on workplace design (only available in French).

CONFERENCES / EVENTS

The transdisciplinary workplace research (TWR)
network - *http://www.twrnetwork.org/*
Academic conference aimed at both scientists and
practitioners.

Workplace Trends - *https://workplacetrends.com/*
Conference on workplace trends. Presentations often
research-based. Takes place in London and Copenhagen.

Worktech - http://www.unwired.eu.com/
Conference on workspace design and workplace
technologies. Takes place worldwide.

World Workplace - *https://worldworkplace.ifma.org/*
Big commercial event on workplaces and facility
management, organized by IFMA. Takes place in the US
and Europe.

Neocon - *https://www.neocon.com*
Yearly office furniture event in Chicago where
manufacturers showcase their new products and their
take on the latest trends.

Orgatec - *https://www.orgatec.com*
The European equivalent of Neocon. Biennial office
furniture event for the workplace industry in Cologne,
Germany

BOOKS:

WORKPLACE HISTORY/ CONTEXT

Saval, N. (2014). *Cubed: A secret history of the workplace.
Anchor Books.*
A well written, well researched, often funny, history of the
office and office work.

Haigh, G. (2012). *The office: a hardworking history.*
Melbourne University Publishing.
A comprehensive history of the office filled with
references to popular culture.

Van Meel, J. (2015). *Workplaces today. Centre for Facilities
Management.*
A kaleidoscopic, highly visual survey of the contemporary
work environment

WORKPLACE DESIGN

Becker, F. D., & Steele, F. (1995). *Workplace by design:
Mapping the high-performance workscape.* Jossey-Bass.
A classic, still relevant. One of the first to explain the
concept of activity-based working.

Clements-Croome, D. (ed.). (2006). *Creating the
productive workplace.* Taylor & Francis.
458 pages of research writing on how workplace design
affects people's performance.

Gillen, N. (2019). *Future Office: Next-generation workplace
design.* RIBA Publishing.
A comprehensive review of what the future of the office
may look like.

Myerson, J., & Bichard, J. A. (2016). *New demographics
new workspace: Office design for the changing workforce.*
Routledge.
Addresses the impact of changing demographics on
workplace design

Usher, N. (2018). *The Elemental Workplace.* LID Publishing.
Explains the essential qualities that each workplace
should have. Well written, free of buzzwords

Van Meel, J., Martens, Y., & van Ree, H. J. (2010). *Planning
office spaces.* Laurence King.
Practical overview of different workspace types and their
requirements.

CHANGE MANAGEMENT

Kotter, J. P. (2012). *Leading change*. Harvard business press. Probably the most cited book on change management.

Harvard Business Review (2011). *HBR's 10 Must Reads on Change Management*. Harvard Business Press
An easy introduction to change management literature.

Hiatt, J. (2006). *ADKAR: a model for change in business, government, and our community*. Prosci.
Popular change management book. Much used in North America.

FACILITY / REAL ESTATE MANAGEMENT

Jensen, P. A., & van der Voordt, T. (Eds.) (2016). *Facilities Management and Corporate Real Estate Management as Value Drivers*. Routledge.
Comprehensive academic work that investigates the added value of FM and CRE.

BRIEFING / PROGRAMMING

Van Meel, J. and K.B. Stordal (2018), *Briefing for Buildings*. ICOP Books.
Practical guide on how to develop and formulate requirements for projects.

RESEARCH METHODS

Oseland, N., & Hayden, S. (2007). *How well does your office work?* BCO Guide to Post-Occupancy Evaluation. British Council for Offices.
This publication explains how you can evaluate your workplace concept in a systematic way.

Augustin, S., & Coleman, C. (2012). *The designer's guide to doing research: Applying knowledge to inform design*. John Wiley & Sons.
A comprehensive handbook about research methods for practitioners.

INTERVIEWEES

The following people have been interviewed for this publication.

- **Andrew Lisson** (Workplace Planner at British Colombia Public Service Agency)
- **Bram van Wijk** (Contract manager at the Dutch Tax Office)
- **France Vigneault** (Change Manager at Public Services and Procurement Canada)
- **Heikki Hovi** (Ministerial Adviser and Head of Unit at the Finnish Prime Minister's office)
- **Jeremy Myerson** (Director WORKTECH Academy)
- **John Worthington** (Co-founder DEGW, Collaborative urbanist)
- **Kari Klemm** (Head of general administration at the Finnish Ministry of Economic Affairs and Employment)
- **Kate Guthrie** (Smarter Working Programme Director at the Government Property Agency, UK)
- **Kim Pivett** (Head of Building Services, Ofgem)
- **Kjersti Størdal Bjørkeng** (Chief consultant at Gottlieb Paludan Architects)
- **Liette Brisebois** (Administrative Assistant at Public Services and Procurement Canada)
- **Michael DeKelver** (Workplace Strategist at Public Services and Procurement Canada)
- **Michelle Schlippe-Steffensen** (Executive Assistant at the Danish Building and Property Agency)
- **Mikko Kangaspunt**a (Financial director at the Finnish State Treasury)
- **Nicola Gillen** (EMEA Workplace Market Sector Lead at AECOM)
- **Nicola Gray** (Business partner for HR at Ofgem)
- **Pertti Siekkinen** (Change Management Specialist at Senate Properties Finland)
- **Primo Orpilla** (Principal Studio O+A)
- **Reeta Cagnani** (Workplace Design Specialist at Senate Properties Finland)
- **Robert Macdonald** (Director of Workplace Strategies and Planning at British Colombia Public Service Agency)
- **Russell Treloar** (Team Leader Workplace Strategies and Planning at British Colombia Public Service Agency)
- **S. Corbett** (Project Co-ordinator at Ofgem)
- **Shona Adam** (Workplace Change Adviser at the Scottish Futures Trust)
- **Siri Blakstad** (Business Development Director at SINTEF)
- **Stephen Aird** (Senior Associate Director at the Scottish Futures Trust)
- **Tania Lorich** (Manager at the Danish Building and Property Agency)
- **Vivi Markkanen** (Assistant at the Finnish Ministry of Economic Affairs and Employment)
- **Warren Bentley** (Site and Business Continuity Manager at Ofgem)
- **Wim Pullen** (Director of the Center for People and Buildings)

REFERENCES

1   Meel, J. van (2015). *Workplaces Today.* ICOP Books.

2   Allen, T. J., & Gerstberger, P. G. (1973). *'A field experiment to improve communications in a product engineering department: The nonterritorial office'.* Human Factors, 15(5), 487-498.

3   Meel, J, van (2015). *Workplaces Today.* ICOP Books.

4   Becker, F. D. (1982). *The successful office: How to create a workspace that's right for you.* Addison-Wesley.

5   Stone, P. J., & Luchetti, R. (1985). *'Your office is where you are'.* Harvard Business Review, 63(2), 102-117.

6   Duffy, F., & Powell, K. (1997). *The new office.* Conran Octopus.

7   Nathan, M., & Doyle, J. (2002). *The State of the Office: The politics and geography of working space.* Industrial Society.

8   Veldhoen, E. (2004). *The art of working.* Sdu Uitgevers.

9   Nathan, M., & Doyle, J. (2002). *The State of the Office: The politics and geography of working space.* Industrial Society.

10 Rogers, E. M. (2010). *Diffusion of innovations.* Simon and Schuster.

11 NKB (1978). *Structure for Building Regulations,* The Nordic Committee on Building Regulations (NKB), Report No. 34, Stockholm

12 http://workplace-management.essec.edu/mon-bureau-de-demain/mon-bureau-de-demain-iii

13 EMPLOYEE EXPERIENCE, THE NEXT STAGE OF EVOLUTION, https://cloudbooking.com/wp-content/uploads/Cloudbooking-White-Paper-Employee-Experience-%E2%80%93-The-Next-Stage-of-the-Evolution.pdf

14 http://www.gallup.com/reports/199961/state-american-workplace-report-2017.aspx

15 THE IWG GLOBAL WORKSPACE SURVEY Welcome to Generation Flex – the employee power shift, http://assets.regus.com/pdfs/iwg-workplace-survey/iwg-workplace-survey-2019.pdf#_ga=2.61657388.10962284.1552583289-1294895994.1552583289

16 Rolfö, L., Eklund, J., & Jahncke, H. (2018). 'Perceptions of performance and satisfaction after relocation to an activity-based office'. Ergonomics, 61(5), 644-657.

17 Candido, C., Zhang, J., Kim, J., deDear, R., Thomas, L. E., Strapasson, P., & Joko, C. (2016, January). *'Impact of workspace layout on occupant satisfaction, perceived health and productivity'.* In: Proceedings of 9th Windsor Conference: Making Comfort Relevant. Network for Comfort and Energy Use in Buildings.

18 Appel-Meulenbroek, R., Groenen, P., & Janssen, I. (2011). *'An end-user's perspective on activity-based office concepts'.* Journal of Corporate Real Estate, 13(2), 122-135.

19 De Been, I., & Beijer, M. (2014). *'The influence of office type on satisfaction and perceived productivity support'.* Journal of Facilities Management, 12(2), 142-157.

20 Danielsson, C. B., & Bodin, L. (2008). *'Office type in relation to health, well-being, and job satisfaction among employees'.* Environment and Behavior, 40(5), 636-668.

21 Pullen, W. (2014). *'Age, office type, job satisfaction and performance'.* Work&Place, 3(2), 2014.

22 Benchmark data from 2019 from the Center for People and Buildings. Please note: benchmark measurements that are not directly related to the workplace concept (e.g. the accessibility of the building or its architectural expression) have not been included in this table. Source: https://www.cfpb.nl/media/uploads/file/20190328%20-%20Websitetekst%20CfPB%20Benchmark%202019%20herzien.pdf (Dutch)

23 Leesman. (2017). *The rise and rise of activity-based working: Reshaping the physical, virtual and behavioural workspace.* London: Leesman. Retrieved from http://www.leesmanindex.com/The_Rise_and_Rise_of_Activity_Based_Working_Research_book.pdf

24 Ibid

25 Engelen, L., Chau, J., Young, S., Mackey, M., Jeyapalan, D., & Bauman, A. (2018). *Is activity-based working impacting health, work performance and perceptions? A systematic review.* Building Research & Information, 1-12.

26 De Been, I., Beijer, M., & Den Hollander, D. (2015, June). *'How to cope with dilemmas in activity-based work environments-results from user-centred research'.* In Conference paper 14th EuroFM Research Symposium. EuroFM research papers (1-10).

27 Leesman. (2017). *The rise and rise of activity-based working: Reshaping the physical, virtual and behavioural workspace.* London: Leesman. Retrieved from http://www.leesmanindex.com/The_Rise_and_Rise_of_Activity_Based_Working_Research_book.pdf

28 Montanari, A., Mascolo, C., Sailer, K., & Nawaz, S. (2017). *'Detecting emerging activity-based working traits through wearable technology'.* Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 1(3), 86.

29 Kim, J., Candido, C., Thomas, L., & de Dear, R. (2016). *'Desk ownership in the workplace: The effect of non-territorial working on employee workplace satisfaction, perceived productivity and health'.* Building and Environment, 103, 203-214.

30 van der Meulen, N. (2016). 'The Distance Dilemma: the effect of flexible working practices on performance in the digital workplace' (No. EPS-2016-403-LIS).

31 Seddigh, A., Berntson, E., Danielson, C. B., & Westerlund, H. (2014). *'Concentration requirements modify the effect of office type on indicators of health and performance'.* Journal of environmental psychology, 38, 167-174.

32 Haapakangas, A., Hallman, D. M., Mathiassen, S. E., & Jahncke, H. (2018). *'Self-rated productivity and employee well-being in activity-based offices: the role of environmental perceptions and workspace use'.* Building and Environment, 145, 115-124.

33 Ten Brummelhuis, L. L., Bakker, A. B., Hetland, J., & Keulemans, L. (2012). *Do new ways of working foster work engagement?* Psicothema, 24(1), 113–120.

34 Rolfö, L. V. (2018). *'Relocation to an activity-based flexible office: Design processes and outcomes'.* Applied Ergonomics, 73, 141-150.

35 Hoendervanger, J. G., De Been, I., Van Yperen, N. W., Mobach, M. P., & Albers, C. J. (2016). *'Flexibility in use: Switching behaviour and satisfaction in activity-based work environments'.* Journal of Corporate Real Estate, 18(1), 48-62.

36 Fauconneau-Dufresne, S., Jemine, G., Pichault, F., & Rondeaux, G. (2018). *'Beyond flexibility: confronting normative and lived spaces of New Ways of Working'.* Proceedings of the 8th Organizations, Artifacts & Practices Conference. June 2018, Amsterdam

37 Montanari, A., Mascolo, C., Sailer, K., & Nawaz, S. (2017). *'Detecting emerging activity-based working traits through wearable technology'.* Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 1(3), 86.

38 Wessels, C. (2017). *'Flexible Working Practices: How Employees Can Reap the Benefits for Engagement and Performance'* (No. EPS-2017-418-LIS).

39 Hoendervanger, J. G., De Been, I., Van Yperen, N. W., Mobach, M. P., & Albers, C. J. (2016). *'Flexibility in use: Switching behaviour and satisfaction in activity-based work environments'.* Journal of Corporate Real Estate, 18(1), 48-62.

40 Leesman. (2017). *The rise and rise of activity-based working: Reshaping the physical, virtual and behavioural workspace.* London: Leesman. Retrieved from http://www.leesmanindex.com/The_Rise_and_Rise_of_Activity_Based_Working_Research_book.pdf

41 Van Heck, E., van Baalen, P., van der Meulen, N., & van Oosterhout, M. (2012). *'Achieving High Performance in a Mobile and Green Workplace: Lessons from Microsoft Netherlands'.* MIS Quarterly Executive, 11(4).

42 Skogland, M. A. C. (2017). *'The mindset of activity-based working'.* Journal of Facilities Management, 15(1), 62-75.

43 Leesman. (2017). *The rise and rise of activity-based working: Reshaping the physical, virtual and behavioural workspace.* London: Leesman. Retrieved from http://www.leesmanindex.com/The_Rise_and_Rise_of_Activity_Based_Working_Research_book.pdf

44 Engelen, L., Chau, J., Young, S., Mackey, M., Jeyapalan, D., & Bauman, A. (2018). *'Is activity-based working impacting health, work performance and perceptions? A systematic review'.* Building Research & Information, 1-12.

45 Wessels, C. (2017). *''Flexible Working Practices: How Employees Can Reap the Benefits for Engagement and Performance'* (No. EPS-2017-418-LIS).

46 Rolfö, L. V. (2018). *'Relocation to an activity-based flexible office: Design processes and outcomes'.* Applied Ergonomics, 73, 141-150.

47 Rolfö, L., Eklund, J., & Jahncke, H. (2018). *'Perceptions of performance and satisfaction after relocation to an activity-based office'.* Ergonomics, 61(5), 644-657.

48 Danielsson, C. B., & Bodin, L. (2008). *'Office type in relation to health, well-being, and job satisfaction among employees'.* Environment and Behavior, 40(5), 636-668.

49 Foley, B., Engelen, L., Gale, J., Bauman, A., & Mackey, M. (2016). *'Sedentary behaviour and musculoskeletal discomfort are reduced when office workers trial an activity-based work environment'.* Journal of Occupational and Environmental Medicine, 58(9), 924-931.

50 Leesman. (2017). *The rise and rise of activity-based working: Reshaping the physical, virtual and behavioural workspace.* London: Leesman. Retrieved from http://www.leesmanindex.com/The_Rise_and_Rise_of_Activity_Based_Working_Research_book.pdf

51 Hoendervanger, J. G., Ernst, A. F., Albers, C. J., Mobach, M. P., & Van Yperen, N. W. (2018). *'Individual differences in satisfaction with activity-based work environments'.* PloS one, 13(3), e0193878.

52 Fauconneau-Dufresne, S., Jemine, G., Pichault, F., & Rondeaux, G. (2018). *'Beyond flexibility: confronting normative and lived spaces of New Ways of Working'.* Proceedings of the 8th Organizations, Artifacts & Practices (OAP) Conference, June 20-22, 2018, Amsterdam

53 Brunia, S., De Been, I., & van der Voordt, T. J. (2016). *'Accommodating new ways of working: lessons from best practices and worst cases'.* Journal of Corporate Real Estate, 18(1), 30-47.

54 Kingma, S. (2018). New ways of working (NWW): workspace and cultural change in virtualizing organizations. Culture and Organization, 1-24.

55 Brunia, S., De Been, I., & van der Voordt, T. J. (2016). *'Accommodating new ways of working: lessons from best practices and worst cases'.* Journal of Corporate Real Estate, 18(1), 30-47.

56 Skogland, M. A. C. (2017). 'The mindset of activity-based working'. Journal of Facilities Management, 15(1), 62-75.

57 Appel-Meulenbroek, R., Groenen, P., & Janssen, I. (2011). *'An end-user's perspective on activity-based office concepts'.* Journal of Corporate Real Estate, 13(2), 122-135.

58 Rolfö, L. V. (2018). *'Relocation to an activity-based flexible office: Design processes and outcomes'.* Applied Ergonomics, 73, 141-150.

59 Laframboise, D., Nelson, R. L., & Schmaltz, J. (2002). *'Managing resistance to change in workplace accommodation projects'.* Journal of Facilities Management, 1(4), 306-321.

60 Rolfö, L. (2018). *'Activity-based Flexible Office work environments: Design and implementation processes and outcomes'* (Doctoral dissertation, KTH Royal Institute of Technology).

61 Altman, I. (1975). The Environment and Social Behavior: Privacy, Personal Space, Territory, and Crowding. Brooks/Cole Publishers

62 Kahneman, D., & Tversky, A. (1979). *'Prospect theory: An analysis of decision under risk'.* Econometrica, 47, 263-291.

63 Laframboise, D., Nelson, R. L., & Schmaltz, J. (2002). 'Managing resistance to change in workplace accommodation projects'. Journal of Facilities Management, 1(4), 306-321.

64 Kubler-Ross, E. (1969). On Death and Dying: What the Dying Have to Teach Doctors, Nurses, Clergy, and Their Own Families. Macmillan

65 This description of the different methods is based on: Van Meel, J. and K.B. Stordal (2018), Briefing for Buildings. ICOP Books.

66 Usher, N. (2018). All the workstyles we ever loved. http://workessence.com/alltheworkstyleswehaveeverloved/

67 All sizes refer to usable floor area, i.e. the area that is directly needed for the space's intended function, excluding circulation and any space occupied by partitions or other construction elements.

68 Center for People and Buildings (2019), *Evaluation government office 'De Knoop'.* Measuring experience and occupancy. Internal report.

ABOUT PURENET

PuRE-net (The Public Real Estate Network) is a European organization for national real estate agencies and ministries responsible for public real estate across Europe. The network offers executives and specialists the chance to network and exchange knowledge and experience in relation to the management of public real estate and construction. The purpose of the association is to provide a frame of reference for its members and to promote and develop the good and responsible administration and use of public real estate. PuRE-net aims to provide the European public real estate community with effective and continuous leadership in matters of common interest. PuRE-net encourages discussions regarding issues impacting public real estate management both within and outside the network.

More information:
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What is the perfect workplace? Sometimes all you want are four walls and a door. At other times, a collaborative space, or a comfy sofa in a coffee lounge. The concept of activity-based working (ABW) aims to deliver all of this and more. Instead of providing employees with just one, fixed workstation, ABW offers a diversity of work settings for different kinds of activities. The concept can deliver both cost savings and improvements in organizational performance and staff well-being—but only when implemented and executed properly. This guide explains how. In clear language, it describes what ABW is, how it works, how it can be implemented, and what the main success factors are. Packed with recommendations and examples, the publication is a must-read for all those who are interested in activity-based working.

This guide is an initiative of PuRE-net (The Public Real Estate Network), a European organization for national real estate agencies and ministries responsible for public real estate across Europe. http://www.pure-net.org