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Redesigning the Workspace after Covid-19
A multidisciplinary approach

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List of Acronyms

ABW	Activity Based Working
NWW	New Ways of Working
SW	Smart Working
ICT	Information and Communication Technologies

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Abstract

When the Covid-19 pandemic invaded our cities and our lives, we had to get used to a new reality. The impact that Covid-19 had on the world of work has been overwhelming: millions of people around the world forced to work from home, many closed activities and entire sectors experiencing a significant loss. Despite the negative consequences to our economy, the virus has become a catalyst of a change towards agile working modes that were already underway, accelerating digitisation processes and making people and organisations realise that working remotely is feasible and has many advantages. The changes that our society is undergoing have led to a fundamental re-examination of the approach to work: if it is possible to work effectively remotely, "*Do we still need an office?*" and if so, "*What kind of office do we need?*". These are the two fundamental questions that we will try to answer to in the research.

Considering the change drivers toward a flexible way of working, the future is delineating as a Hybrid approach of Smart Working, the mix between work at a distance and work in the presence synthesising the best of the two experiences. A successful implementation is achieved only by maintaining a systemic multidisciplinary approach that includes people, technology and the workplace. In particular, the element of the physical environment has a fundamental role for people and organisations: it can positively influence employees' performance and wellbeing, enhancing engagement and a sense of community at the company level. In this sense, the value of the office is to accommodate what people cannot do efficiently outside of the office, supporting their activities and facilitating collaboration and informal socialisation. To implement a functional office space, we based on the Activity Based Working model, and we outline a possible method for redesigning offices tailored to companies' needs and features and accompany them in the workplace change management.

Introduction

During history, the evolution of the office environments was always shaped by the socio-economic situation and technological advancement. In particular, at the turn of the 21st century, the globalisation of markets, international competition, and advanced information and communication technologies (ICT) changed the traditional way to carry working activities. These transformational forces brought virtuality to work, allowing people to work anywhere at any time. The fact that employees can easily work remotely raised a reflection on the role of the physical workspace. This research work is even more critical after the sudden spread of remote work due to the Covid-19 pandemic. It is commonly accepted that the Covid-19 disrupted the traditional way of working: it made governments, organisations and people realise that the established work organisation no longer made sense. Together with the required technological adjustments and the necessary cultural shift to implement flexible ways of working, the office space must be redesigned from scratch. The big corporate buildings, the skyscrapers of the cities all around the world, were emptied overnight. Remote working was imposed in most countries as a strategy to contain the contagion, giving start to the biggest remote work experiment of history. This experience made it clear that the work could be done efficiently out of the office. Now, companies are reflecting on why they should pay such high rents to maintain an office, and people are thinking about why they should commute every day to reach the office.

The interest in investigating the value that the office must impersonate in the future to adapt to our changing era comes from my work experience in Workitect. Workitect was born in 2017 from an idea conceived by two different sensibilities. Simone Casella, architect and designer specialised in office design, and Luca Brusamolino, HR consultant and expert in the relationship between people and workspaces, gave life to a new discipline, the "*workitecture*". Today Workitect is a heterogeneous team of architects, designers, engineers, HR and psychologists. The multidisciplinarity of the group mirrors the company mission: to create comfortable and functional workspaces, meeting the needs of the office inhabitants and supporting their activities both in the presence and remotely, accompanying companies in the change process towards agile work. In doing so, Workitect always maintains a systemic approach toward organisations, listening to people and observing their behaviours, considering their technological advancement and designing workspaces based on employees' activities and companies' strategic objectives.

This work aims to analyse the role of the workplace during the time and its effects at the individual and organisational level to understand which is the office's role today. We want to answer the question "*Do we still need an office?*" and if so, "*Why do we have to come to the office?*". Moreover, this thesis seeks to define a possible method for designing a practical and functional workplace and delineate the characteristics of the future office. We will try to answer "*How the office can adapt to current changes?*" and "*How can we design it?*". My experience in the field and the literature research allowed me to structure my work as follows.

In the first chapter, we will analyse how office space evolved over the 20th century, responding to social-economic factors. In particular, at the beginning of our century, change drivers gradually led to developing a new and flexible approach to work: the new global and knowledge economy, the improvement in the technological field and the development of new socio-demographics paths. In this context, the Covid-19 represented a catalysator of this already-started revolution toward flexible ways of work organisation.

In the second chapter, we will examine the new approach to work, defining both the concepts of New Ways of Working (NWW) and Smart Working (SW). In particular, we will dwell on the ground principles of Smart Working to reflect on the main areas to intervene on for implementing this model. We will highlight that implementing Smart Working requires a systemic view and a multidisciplinary approach that includes people, technologies, and workspace. In particular, we will reflect on the role and value of the office space in the era of Smart Working and of the so-called Hybrid Model of work.

In the third chapter, we will reflect on why it is crucial to consider the workspace in our contemporary era. The first reason is that the physical work environment significantly impacts employees' well-being and performance and plays a decisive role in shaping a diverse range of psychological and behavioural work outcomes. The second reason is that contemporary forces brought "virtuality" inside the office, allowing people to work anywhere and anytime. This epochal shift led to the enlargement of the workspace ecosystem: nowadays, there are many different places where knowledge workers can carry out their activities. Therefore, it is fundamental to understand their different features and impact on work to reflect on the value of the office.

The fourth chapter will focus on the Activity Based Working (ABW) model, which best response to the office's urgency to re-think itself and adapt to the new flexible way of working. ABW moves from a desk-based working to a desk sharing with support areas to provide flexibility and spaces for the different activities that

people carry out. After defining the model principles, we will deepen its individual and organisational level effects and the possible downside of desk sharing. The ABW represents the theoretical framework for the method presented in the following chapter.

In the fifth chapter, we will present the Smart Working Journey, a possible method for implementing effective workplace change management. We will analyse the process in each of its phases, the onboarding, the assessment, the listening, the decision-making and the implementation phase, with a particular interest in the quantitative analysis of employees' activities through the ABW model.

In the sixth chapter, we will analyse the Smart Working Journey through a case study to understand the model's implementation capacity. After defining the organisational context, we will ground each phase of the model on the real case. Finally, we will discuss the limits and areas of improvements of the Smart Working Journey model of workplace change management.

In the final part of the thesis, we will draw conclusions about the office's role and the trends that will characterise the future workplace. To adapt to current changes, the physical workspace will become a place for meeting, informality and socialisation. In addition, it will try to act as a magnet for its employees, offering them a secure, innovative, flexible, versatile, human-centric and hyperconnected space that supports their work activities.

Chapter 1. After the changes of our time, do we still need an office?

The work environment always reflected and accommodated the changing economic circumstances and the nature of work itself as a mirror of social transformations (Davis et al., 2011). In fact, the evolution of the office environments was shaped to some extent by the social, economic and political situation (Myerson, 2013). The higher sociological relation comprehended in the office space is between the individual workers and the collective group of colleagues. This association implies a spectrum of conflict between the two extremes of territoriality and the need for communication. To respond to organisational characteristics, the office design must consider this relationship (Gatter, 1982). So, the evolution of the office in time is deeply influenced by this conflict and the developments in the social sphere. The discussion about office evolution during the 20th century allows us to approach the reflection on the role of the office today with a critical perspective.

At the beginning of the 21st century, the world of work was in a state of significant alteration and high uncertainty. The globalisation of markets, international competition, and advanced technology changed the traditional way to carry working activities (Myerson, 2000). In particular, technology allowed people to work in other places remote from their colleagues, giving a solid push to flexible working practices. Organisations always went through transformations of one sort or another. However, the difference today is the speed and the contemporaneity of significant variations in work, including economic and labour market alterations, continuous technological improvements and socio-demographical developments. In this dynamic context, individual and organisations reactions to shifting conditions is essential to survive.

Covid-19 disrupted the traditional way of working, characterised by commuting, strict hours, punch the clock and working at the desk. There is a remarkable consensus from data and researchers that there will be no going back (Sica, 2021). The pandemic emergency gave rise to the most extensive remote working experiment ever (Kniffing et al., 2020). Remote and flexible work emerged as an opportunity for rethinking mentalities and organisational practices, opening companies and workers to new possibilities to harmonise the needs of flexibility and autonomy, productivity and sustainability (Oliva et al., 2020). Admittedly, the Covid-19 still represents an enormous unknown, but it could positively transform the traditional work organisation if they will embrace the opportunity to change.

In this chapter, we will first analyse how the office spcace changed over the 20th century, shaped by socio-economic factors. Then, we will focus on the factors that gradually led to the development of a new and flexible approach to work: the changes in the economy and labour market, the improvement in the technological field and the development of new socio-demographics paths. Then, we will focus on the role of Covid-19 as a catalysator of this already-started revolution toward flexible ways of work organisation.

1.1 How the office changed over time: office evolution in the 20th century

Analysing the historical development of the workplace during the last century and the rationale behind the significant evolution that office design has undergone will help us understand future trends. To know how the office today has become a meeting place for "nomadic" employees (Van Meel, 2000), it is helpful to look at office origin, conceiving a research framework. We start our journey in office evolution from 1900, with the appearance of the Taylor office, which imposes fragmented and standardised work and places a strong emphasis on cost efficiency and hierarchical control. In the 1950s, under the influence of the school of human relations and social democracy, a new office model developed: in the Bürolandshaft, the hierarchy loses importance in favour of the human dimension, and the layout encourages collaborative work. In 1968, Herman Miller launched an office furniture line called Action Office, the first modular system with low dividers, to facilitate communication and flexibility and ensure an adequate level of privacy and the possibility to personalise the space at the same time. The Action Office II was recognised as being a precursor to the Cubicle model. In the 1970s, the focus is back on efficiency and cost optimisation and, therefore, the cubicle concept was extremised, reducing at the minimum the space per person. In the 1990s, the technological development and the introduction of new digital communication redefined the interactions between people that become "mobile", leading to the spread of a model of non-territorial office and the so-called Virtual office.

i. 1900-1950: Taylor Office

In the early 20th century, after the second Industrial Revolution, massive growth in workers and substantial progress in telecommunications generated a real revolution

in the labour market (Van Meel, 2000). It was defined as an "administrative revolution": mass production made large corporations require more coordination and administrative operations, which boosted office work. Nevertheless, if in the period before a certain prestige was attached to the office work, now it becomes widespread and routinary, producing a "proletarianisation of office work" that become similar to the factory one (Van Meel, 2000). In this sense, Mies van der Rohe defined the office as "a machine for working", and this becomes the motto for the movement that made functional design the expression of management efficiency (Myerson, 2013).

The principles of Taylorism revolutionise, in addition to work organisation, the physical workplace. The growth and changing nature of work made the worker himself become part of the machine's process (Gatter, 1982), having a substantial impact on interior design. The main idea of Taylorism was that science could be used to find or develop the most efficient way of working (Myerson, 2013). In this sense, each work operation was broken down into its most minor components and rearranged into the most efficient combination (Gatter, 1982). Scientific management imposes fragmented and standardised work and highlights cost-efficiency and hierarchical control. The planning of office space was seen as the solution to a logical equation (Gatter, 1982) that should guarantee maximum production by eliminating distractions and enforcing constant supervision. Consequently, the office looks like an open space, without walls or other divisions, where workers sit neatly in rows and grids. This space organisation allows continuous workflow, limits economic costs by reducing personal space, fitting more desks, and therefore more workers, into a room and facilitates control by managerial roles that, unlike employees, worked in private offices (Anton, 2015). One of the earliest examples of Taylor's office was the Larking Administrative Building in Buffalo, New York, designed by Frank Lloyd Wright. The office contained 1,800 workers, processing 5,000 orders per day[1].The influence of scientific management is evident both in the organisation of work and in the workspace design. The main objective was to process high volumes of paper most efficiently by applying Taylor's management theory and creating a new office layout.

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[1] Morgan Lovell. The evolution of office design. https://www.morganlovell.co.uk/the-evolution-of-office-design

Figure 1 – Taylor Office: Larkin Administrative Building

Source: Wiki Arquitectura

The building was one large open plan. To bring daylight and air into the open plan, the office was equipped with a primitive fort of air-conditioning and skylights (Van Meel, 2000). Rationalised work processes, stringent protocols, precise line for supervisory sight with overlooking balconies and elimination of distractions with window not at eye level were defined to made workers submit to the business machine (Myerson, 2013). The only objective was to set a clear command-and-control path without considering employees' wellbeing and comfort at work. Taylor's model continued to be successful in the following decades because of manufacturing and administrative jobs' nature: repetitive tasks that require minimal communication between workers. However, after the Great Depression and World War II, Taylor's office's rigid, depersonalised and hierarchical character was rejected in favour of a new design concept that considered human contact and communication needs.

ii. 1950-1970: Bürolandshaft

In the post-war period, the society becomes more open and receptive to progressive ideas (Bedford, 1997), and the social-democratic nature of many northern European counties promoted a more egalitarian management approach. Under the influence of social democracy and the school of human relations, the hierarchy loses importance favouring the social dimension (Van Meel, 2000). The first authentic expression of this new wave of office design came from a German consultancy group, the Quickborner team. In the mid-1950s, they create the Bürolandshaft, literally

"office landscape". It was a radically new office concept: a more socially democratic layout that encouraged human interaction. The office landscape was born from the disappointment the designers felt in the mismatch between the needs of modern society and the actual office layout (Gatter, 1982). According to them, the conventional arrangement no longer met the needs of contemporary office work. The traditional work setting did not allow flexibility, that now companies need to adapt to rapid organisational changes. Moreover, the Taylor-based workplace limited communication, which becomes fundamental in office work. The information exchange is not just top-down, from the boss to the workers, but also between different units in the organisation (Van Meel, 2000). Starting from this idea, the office layout was based on a detailed analysis of the communication patterns among individuals and business units through focus groups and one-to-one interviews. Listening to workers in the early phases of design would create a place that responds to the workforce's needs (Anton, 2015). The new office concept was characterised by an open plan, where communication should be able to flow freely, with no private offices. Regardless of their rank, employees had to work in the same area to create a non-hierarchical and democratic work environment. Desks were grouped in separate zones of multiple size according to the flow of information: the layout of desks followed the flow of paperwork, and plants created organic boundaries between work island, giving workers some privacy (Van Meel, 2000). The first installation of the Bürolandshaft was in 1960 for the Bertelsmann Publishing Company, 2,000 employees publishing house in West Germany. The building's design was based on a detailed study of the communication flow through interviews and study groups.

Figure 2 – Bürolandshaft: Bertelsmann Publishing Company

Source: Archive Quickborner Team

The main aim of the office landscape was to create a more democratic office that highlights the importance of human relations and facilitate the circulation of information. Concerning the first point, the workplace should have been less hierarchical because managers and collaborators work together in an open plan. However, this still allowed the management to scrutinise workers closely (Myerson, 2013). Regarding the second point, the office landscape was the natural and automatic response to specific organisational needs. Efficiency increases as a result of improvements in communication between departments and between staff and management (Anton, 2015). However, it was appropriate for some intensive communication companies, but not for all. In this sense, Bürolandshaft took away from the worker the possibility to personalised their space, neglecting their need for territoriality, for a level of communication that may not be needed (Gatter, 1982). In the 1970s, the popularity of the office landscape faded as results of disparate factors. Economic, historical and social were important reasons why, but most were employees' complaints about the lack of privacy, absence of environmental control and deprivation of personal identity in the space (Worthington, 2006).

iii. 1970-1980: Action Office

During the 1970s, the Bürolandshaft lost its popularity all over Europe for different contextual reasons. For the first time, employees' satisfaction and wellbeing were considered essential in the office design process. This shift was the result of a new management style and a change in office work. With the development of the knowledge economy, the tasks were not routinary but required thinking, collaboration and responsibility. The nature of employees' new role reflected in the workplace design (Van Meel, 2000). Moreover, after World War II, the entrance of women in the offices led to essential design changes. In 1968, The Observer ran a piece entitled "Would you let your daughter work in an open-plan office?" asking for more privacy at the workstations for women. Consequently, designers added a plywood section to cover the front of the desk to their legs[2]. Furthermore, in 1973, the oil crisis and the consequent hike in the costs of space heating and lighting made the utilities of the previous decade too expensive for corporations. The situation contributed to questioning the optimism of the last period, and architects started experimenting with new types of office design, but for different reasons and in different directions based

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[2] K2 Space. (2017). The history of office design.
https://k2space.co.uk/knowledge/history-of-office-design/

on the geographical area (Van Meel, 2000). In Continental Europe, the overcoming of the office landscape came directly for workers that, from 1975, gain the right to be represented at the supervisory board of their companies. Using their new influence in decision making, employees rejected the previous workspace model for the limitations we already listed. They wanted back their privacy, the power of space personalisation and control over the environment. Users' requirements resulted in a new office model that tries to combine the need for privacy and space control with the flexibility and efficiency needed by companies (Anton, 2015).

In the Anglo world, the Bürolandshaft had never been successful. British employees did not have the legal right to be involved in corporate decisions, the office culture was still strongly hierarchical, and managers never accepted to lose the status attached to their private offices (Van Meel, 2000). In 1968, Herman Miller launched an office furniture line called Action Office, the first modular system aimed to provide users with some kind of acoustic isolation and privacy without hindering the free flow of communication (Lin, 2017). Herman Miller was able to reduce the issue with privacy and noise in the open space in a very flexible way (Van Meel, 2000). The workstations had low dividers, to facilitate communication, but also to ensure acoustic and visual privacy. This system allows workers to regain control over their space, customising it according to their needs, all while keeping the view on other locations. The first example of this new architectural stream was the Centraal Beheer designed by Herzberg in 1974. The insurance company was one of the first to understand that to obtain higher productivity could only be attained under optimal working conditions, included the workspace (Gatter, 1982). Their workers should feel at home, part of a community. It was a comfortable environment that provided enough privacy to concentrate but was still open to communication (Van Meel, 2000). The open space was composed of 9x9 aggregated units that accommodate one to four employees (Gatter, 1982).

The office's inhabitants were encouraged to personalise their workspace, bringing their own furniture or decorations. Herman Miller's project was marketed under the supervision of George Nelson and Robert Propst, two of the first designers to declare a strong link between the efficacy of mental effort and a suitable work environment. However, the Action Office's furniture was high-quality, costly, difficult to assemble, and had little flexibility to adapt to changing office needs[3].

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[3] Morgan Lovell. The evolution of office design. https://www.morganlovell.co.uk/the-evolution-of-office-design

For these reasons, Propst designed an Action Office II fitted for regular modification to accommodate employee's changing needs. Again, the purpose was to allow staff a degree of privacy and the option to personalise their work environment. Propst recognition of the positive relation between workplace personalisation and performance led to the design of a high, three-side vertical division for each employee that defines their territory and personal space, that have the freedom to personalise. This new system affords privacy to workers without completely cutting them off from the outside[4]. In the history of office evolution, the Action Office model is recognised as a precursor of the Cubicle model established during the 1980s.

Figure 3 – Action Office: Centraal Beheer Building

Source: Dezeen

iv. 1980-1990: Cubicles

The Cubicle model of office design developed starting from the Action Office. The explicit aim was to isolate office workers from the sights and noises of an open workspace to concentrate without distractions and give them the possibility of personalised their workspace (Anton, 2015). However, in this period, corporate focus went back on efficiency and cost optimisation. Therefore, space was reduced, and emphasis was placed on individualism rather than on collaboration. The cheap and effective modular walls acquired from the Action Office II were seen as the perfect

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[4] K2 Space. (2017). The history of office design.
https://k2space.co.uk/knowledge/history-of-office-design/

solution for reducing corporate space-related costs. During the decade, the cubicle concept was extremist, partitions were usually 1.5–1.8 m tall, and each person's space was reduced to the minimum[5]. According to Robert Prost, "not all companies are intelligent and progressive", and they have corrupted the intentions of his design, transforming the Action Office into a "hellhole"[6]. "Cubical farms", a term used with a negative connotation, become iconic through the 1980s. In a period where organisations were less interested in their workers' wellbeing than they were in their profitability, Cube farms become the symbol of the modern office setting (Anton, 2015). International companies had little interest in creating adequate and liveable environments for staff. Instead, they altered the idea of Action Office II to make an office that is the combination of privacy and personal space in a cheap way to put more people in a small area, at the expenses of working conditions. Partitions are a very cost-effective way of organising office space. Construction for a cubicle is standard and affordable, and, most importantly, it maximises floor space (Franz, 2008). Cube farms are usually found in high-tech companies (Anton, 2015). As computer companies grew into larger businesses in the Silicon Valley, cubicles were their natural office form (Franz, 2008).

Figure 4 – Cubicles office

Source: Franz, 2008

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[5] K2 Space. (2017). The history of office design. https://k2space.co.uk/knowledge/history-of-office-design/

[6] Morgan Lovell. The evolution of office design. https://www.morganlovell.co.uk/the-evolution-of-office-design

v. 1990-2000: Virtual Office

The technological development and the introduction of new digital communication devices, such as the personal computer, the internet, e-mail and mobile phone, redefined the interactions between people, driving to the spread of a model of non-territorial office. From the 1990s, technology became the main driving force behind the changes in office design (Lin, 2017). The advancement in the technological field led to ground-breaking effects on office working and dramatically changed how the business was conducted. The new technologies become channels of information, and the physical distance between people and business units had almost no negative impact on the efficiency of the communication flow. Moreover, the new technologies enable employees to perform their work outside the office, increasing their mobility (Myerson, 2013). After the recession of the early 1990s, the consequent collapse of the real estate market, and the growing competition in the globalised world, companies could not ignore the supposed cost-saving behind the new work mobility[7]. If employees rotate into the office, alternating presence and out-of-office work, organisations could have fewer desks and save on space costs (Lin, 2017). As mobility and "virtuality" were brought into the office, companies tried to experiment with a new kind of flexible space, characterised by sharing workstation and working areas. People do not have assigned desks. On the contrary, they are supposed to share workplaces, using internet and electronics archives (Van Meel, 2000). The non-territorial office was firstly experimented by IBM. With the implementation of desk sharing, people do not designate desks anymore. The lack of a personal desk was mitigated by more communal areas, such as collaborative and relaxation zones. By applying this model, IBM saves more than $100 million annually in its North American unit (Apgar,1998). In the UK, the adoption of the idea of flexible office was mainly for cost-saving reasons. As a consequence, the desk sharing aspect became popular. One of the first British examples of this new kind of office was Telecom[8]. At the beginning of the 1990s, the business was relocated from central London to Stockley Park, near Heathrow airport. In the area, they created a sort of "business park" building, accessible only by a small train station and characterised by an open plan, with both personal and non-territorial solutions. The distance from the city encouraged more employees to work from home, with clients or in public spaces, for up to 3 days a week. In this way, British Telecom saved a lot of space and space-

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[7] Morgan Lovell. The evolution of office design. https://www.morganlovell.co.uk/the-evolution-of-office-design

[8] K2 Space. (2017). The history of office design. https://k2space.co.uk/knowledge/history-of-office-design/

related money, using new communication technology and promoting a more flexible way of working (Van Meel, 2000). In Northern Europe, the reason to adopt the new office design concept was to match the increasing global competition and respond to the unique needs of the "new ways of working". The main idea was that employees should move around the building, using different purpose-designed workplaces for various activities (Van Meel, 2000). The first actual application of this new concept was at Interpolis, Tilburg, Netherlands. The Dutch insurance company became a case study when, in 1996, decided to consolidate its eight sites in Tilburg, applying the innovative design concept to their workplace to compete in increasingly global competition[9].

Interpolis decided to rely on the Veldohen & Co. consultancy company, known for its idea of a flexible office. After a survey about the desk occupancy of each organisational group, a trial of six months on a representative group and multiple focus groups with employees and management, they built the new virtual environment. In the new space, the desk sharing was applied with a 1.5 ratio and the staff could choose where to work. Each desk was equipped with technologies that allowed employees to access applications and files through a password. Moreover, every worker had a personal phone, and a VoIP system guarantees them full mobility.

Figure 5 – Personal Phones and mail: Interpolis

Source: Flickr

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[9] Advanced Workplace Associates. (2006) Interpolis Head Office – Tilburg, Netherlands. In Expanded Case Studies from the British Council of Office report – "ITC and Offices; practiced realities and their business benefits?". The report examined the past, present and future for work and workplace against a backdrop of developments in ITC over a period of 20 years. https://activitybasedworkspace.files.wordpress.com/2016/02/interpolis-case-study.pdf

Employees could easily change workstation because they have complete control over the environment: they could switch on or off the lights, open the window, control the temperature and raise or low the chair and the desk electronically. The workstation did not have drawers, but the staff used lockers to store personal stuff.

Figure 6 – Personal Lockers: Interpolis

Source: Advanced Workplace Associates. (2006) Interpolis Head Office – Tilburg, Netherlands.
https://activitybasedworkspace.files.wordpress.com/2016/02/interpolis-case-study.pdf

The office areas were divided by the department, and each of them had the same layout and included a variety of communal paces in addition to office area that accommodates numerous needs linked to tasks: small single-use rooms for concentration, lounge areas, conference rooms, communication zone, meeting rooms, some for formal meetings, others for informal ones and also stand-up meetings. The Interpolis' office redesign is considered a very successful case: FM satisfaction[10] went from 6 to 7.5, the paper was reduced by 60-70%, and the cost-saving in moving from 1500 people in 1100 desks to 3500 in 2700 stations was consistent.

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[10] The Facilities Management (FM) Quality Index is a survey tool, approved by the British Institute of Facilities Management (BIFM), that assess the level of satisfaction of inhabitants on their office facilities. Some metrics that are considered are: the physical condition of the building, space, air quality and thermal comfort, lighting, noise and cleaning.
Amenities: drinking water, washrooms, common areas
Transport facilities: bike racks, parking

Figure 7 – Shared Desks: Interpolis

Source: Advanced Workplace Associates. (2006) Interpolis Head Office – Tilburg, Netherlands.
https://activitybasedworkspace.files.wordpress.com/2016/02/interpolis-case-study.pdf

1.2 The drivers of the change toward the new approach to work

A new flexible approach to work is represented today as an organisational mix of flexible work practices, focusing mainly on spatial-temporal flexibility, managerial styles, organisational configurations, contributing to more democratic and transparent workplace governance (Taskin et al., 2017). The advent of New Ways of Working and Smart Working, particularly, should be contextualised within a change in the production system, characterised by a shift from a manufacturing economy to an economy based mainly on knowledge and services. Globalisation, international competition, productive decentralisation, deregulation, technological advancement and demographical variations are all factors that have driven the transformation toward greater flexibility in the way we work. These factors must inevitably be linked to a reflection on new needs and changed social risks due to changes in the workforce (Oliva et al., 2020).

Globalisation, technology, and demographic changes would influence the way businesses operates in the future.

First of all, the current economy is fundamentally changing. In the past decades, we have shifted towards a knowledge-driven economy and information society. Organisations are trying to respond more rapidly to customer needs and to the pressure to become more employee-centred. Further flexible network models gradually replace

the hierarchical structures, and we increasingly rely on knowledge rather than physical labour (Blok et al., 2011). The value of employees is becoming prominent, and information and communication technologies are developed so that digital information is available at any time at many places.

Second of all, as information and communication technologies (ICT) have advanced in their capabilities, remote working has grown as a new working style (Wang et al., 2021). Technologies have innovated to the point at which work began to uncouple from the workplace (Myerson, 2000). Employees work in remote locations from their central offices or production facilities, but they can still communicate and collaborate with co-workers using technology (Di Martino & Wirth, 1990, p. 530).

Moreover, the sociological and demographical variations have profound implications on future work, especially when considering that adapting to changes start from new mindsets. The workforce is the most diverse in age, gender and attitude than ever before (Myerson, 2000). Therefore, the key to business success is understanding human traits, attitude shifts, social trends, and the ever-changing employee generations (Wang et al., 2021).

As a result of the combination and contemporaneity of those developing factors, the way we work is drastically migrating to a new approach to work (Blok et al., 2011).

1.2.1 The new economic system: globalisation and the knowledge economy

The most significant transformations that affect the economic system, the labour market and the organisations are developing in the context of economic globalisation (Huws, 2005). Globalisation was defined as a process through which a growing proportion of economic, social and cultural transactions occur between partners in different countries (Radice, 2004). In this sense, globalisation has a pervasive role in our lives: markets, consumptions, culture, power, and labour division become global. Consequently, it has taken on an increasingly important role in recent decades, leading to necessary adaptations in the organisational sphere. Companies today have to compete nationally and globally, thus experiencing a greater interconnection between societies, cultures, and peoples located in various parts of the world. This phenomenon increases the contribution of Information and Communication Technologies (ICT), which enable access to information at a global level, increase the plug towards mobile types of work, breaking down barriers between cities and countries and gradually

eliminating physical and temporal boundaries (Wallace et al., 2011). The new global competitive scenario encourages companies to develop new skills to address the innovative needs of the market, including being able to work faster, smarter, cheaper and more efficiently.

Moreover, globalisation had a substantial impact on the so-called "value chain", used to describe each step in the process to produce a product or service and its added value (Huws, 2005). The value chain can be fragmented within the global market through outsourcing or spatial relocation: global firms have built integrated international production chains, where products are usually invented and marketed in the West and produced and assembled in lower-income countries (Brinkley, 2006).

Alongside the globalisation phenomenon, since the 1970s, researchers have noted a transition from a manufacturing-based to a service-driven economy in the most advanced industries (Powell & Snellman, 2004). This change usually goes under the label of the post-Fordist economy. In fact, Fordism was coined in the 1930s to identify work organisation based on the fragmentation of work activities and mass production. In the 1970s, this model entered a deep crisis, evolving into the post-Fordist period. The new economy moved from routinised and narrowly defined tasks to task integration and multitasking, from control to relative autonomy, from deskilling to multiskilling (Huws, 2005). The new production system is strongly influenced by globalisation and the Third Industrial Revolution, characterised by solid technological advancement (Oliva et al., 2020).

Economists have noticed that these changes in production were part of a broader shift from tangible to intangible goods (Shapiro & Varian, 1999). Cognitive resources were becoming increasingly central in the economic context to the point that the post-Fordist economy is also called the "knowledge economy" (Foray, 2006). Knowledge is the crucial productive factor within this paradigm, comparable to natural resources and physical capital, and the generation and exploitation of knowledge play a predominant role in creating wealth (OECD, 1996). So, "knowledge economy" is used to describe a new economic structure where knowledge is at the centre of the value-added: financial success increasingly relies on the effective use of intangible assets, including knowledge, skills and innovative potential (Brinkley, 2006). The broad label of "knowledge economy" covers different interpretations, but the core idea unifying all of them is the centrality of knowledge in disseminating information and producing profit (Powell & Snellman, 2004).

In the current increasingly globally competitive context, organisations have to reconsider the traditional working methods in a perspective of flexibility, thus adopting innovative working practices (Plantronics, 2013). Today's market competition is constantly changing and determines the need to resort to new flexible

and collaborative work forms. Continuous renewal and adaptation by organisations are needed to meet stakeholders' constantly changing demands, ongoing technological development, and increasing global competition (Sanchez et al., 2007).

The effects on organisational structure and labour market are prominent. On the one hand, vertically structured firms have been increasingly transformed into horizontally coordinated networks of self-directed units (Castells, 1996). In fact, the need for flexibility and innovation makes hierarchical-bureaucratic control obsolete and favours the network as an alternative structure based on decentralisation, participation and coordination. Power, control and dependency did not disappear in the knowledge economy, but reconfigured in new ways.

On the other hand, the idealised view of new work practices emphasises greater job discretion and worker autonomy does not consider the normative aspect (Powell & Snellman, 2004). The implementation of new forms of work organisation to improve competitiveness and to make enlarged use of human potentials while at the same time improving working conditions, working time arrangements, and the employment relationship is the real challenge today (Huws, 2005).

In fact, a growing body of knowledge economy literature has focused on the negative implications for workers in terms of employment, job security, and wage inequality. We will analyse two main possible adverse effects of the knowledge economy, wage differentiation and the lack of normative framework. Firstly, there is some agreement that a mismatch exists between certain workers' skills and the types of jobs that typify a knowledge economy. Technological advance has increased the demand for highly skilled labour relative to the need for low-skilled labour, contributing more to the productivity of highly educated workers than to the productivity of less-educated workers leading to a considerable wage differentiation (Powell & Snellman, 2004). Secondly, the rise in the demand for soft skills is blurring the boundaries between occupational contracts (Huws, 2005). From a normative perspective, the emergence of new ways of working, with flexible working time arrangements, have become significant concerns because of the lack of a defined contractual dimension of the employment relation. Organisations can no longer rely on the standard employment relationship as the contractual framework for implementing new ways of working. The absence of a dedicated normative may result in a "fragmentation of work'" in the sense of forms of work organisation resulting from a blurring of organisational boundaries (Marchington et al., 2005). Agency work, outsourcing, franchising, freelancers, and others create various situations in which the assumption of a single employer and a unified organisation is no longer valid. This also includes the phenomenon of the "gig economy", a new form of organisation of the digital economy, based micro-performance offers and requests

online, with the so-called "crowd work" that is the work given to the crowd (Oliva et al., 2020).

1.2.2 The digitalisation of the organisational processes

The phenomenon of digitalisation was defined in many ways focusing on different aspects of our lives. According to Bloomberg (2018), digitalisation refers to how many dimensions of our lives are restructured around digital communication and infrastructures. Focusing on business, Gartner (2019) defines digitalisation as the use of digital technologies to provide a new kind of business that should use analogical tools to digitalise workflows, activities and procedures, whether related to production and distribution, customer care, people management or administration.

We live in a global world where technology, especially information and communication technology (ICT), is shifting the means in which businesses create value, where we work, and how we interact and communicate (Cascio & Montealegre, 2016). Advanced informational technology created profound changes in the world or work, implying both great opportunities and adverse outcomes and risks. Technological improvements will generate new jobs and new possibilities for improving business processes and work flexibility, but they will also pose challenges to the labour market in technological unemployment, inequality, and new skills (Ministero del Lavoro e delle Politiche Sociali, 2019).

There are different challenges linked to the current technological transformation that affect the world of work.

There is a risk of technological unemployment, which is the threat that technology represents for many jobs, tasks and duties that are becoming obsolete because digitally replaceable. Consequently, there will be a probable decrease in demand for work due to automation and digitalization of production processes (Ministero del Lavoro e delle Politiche Sociali, 2019). Moreover, technological advancement shed light on the danger of rising levels of economic inequality: the more highly qualified workers experienced an increase in job opportunities and salaries at the expense of low-skilled employees. In this sense, inequality represents the main obstacle to the spread of inclusive and sustainable growth under technological transformation.

Furthermore, a new challenge arises from developing new jobs and new markets beyond the labour regulations that cannot guarantee security and proper recognition of work. Digitalization is an enabler of flexible work patterns, allowing distributed

and distance work, but it also created new forms of work contracts, such as freelancing, digital nomads, crowd working, self-employment and status in between employment and independent worker (Valenduc & Vendramin, 2017). In this sense, it is necessary to integrate labour and industrial policies and labour law to include these new forms of work.

Finally, the spread of new technologies into the work creates an imperative for organizations to update their digital capabilities. As the pervasiveness of digital connections increases, the need for adaptation in this field is required. Workers should develop new skills to take full advantage of the potential of new technologies (Colbert et al., 2016). The most relevant skill is the "digital fluency", which is the proficiency and comfort in achieving desired strategic outcomes using technology (Briggs & Makice, 2012). However, as technological interaction is entering our work as a new form of communication, a set of new soft skills is required for effective digital work, such as time management, self-awareness, online empathy, remote team management, virtual collaboration, virtual expression of oneself (Colbert et al., 2016).

On the other side, technologies provide relevant opportunities for companies to improve business processes in the organisation and allow a more flexible way of working. Digitalisation makes it possible to convert and store large amounts of information through automated processes. It is precisely in the management of information that the full potential of digital is embodied, with significant advantages in time, costs and resources saving. Everything can now be analysed, studied and recorded, creating new opportunities for more efficient business processes (Davis, 2006).

The industrial sector, in particular, finds its digital climax in what is called Industry 4.0, the technological transformation investing all the domains of the industrial economy, guided by the interplay of digitisation and automation. Even though digital processes were initially applied to industrial and production sectors, they are now expanding to every field of work, including knowledge work. In this sense, digitalisation allows a more efficient management control through automatise planning and motoring of workflow (Bredmar, 2017). Every business function changed the way they worked. For example, the HR function adopted a new digital and online form to attract, select, motivate and retain talented workers (Stone et al., 2015).

The digitalisation of work processes and new technologies enabled virtual, distributed and flexible work. Technologies cut the link between work and time and place, reducing the need for physical presence at the office and allowing greater mobility and distance communication (Davis, 2006). With the new online interaction

methods and digital storage of data and information, it becomes feasible for people to work out of the office without the limit of paper documents. Thanks to new collaboration technologies, project management platforms, videoconference systems, and archives on the cloud, the workforce regains some power to decide with autonomy when, where, and how to work (Malone, 2004).

1.2.3   The demographical change: a new generation at work

Labour market contingencies are primarily affected by the overall development of the economy. However, nowadays, labour market performance is increasingly defined by demographic shifts (Lisenkova et al., 2010). In the range of factors that help us understand the world of work we operate today, demographical changes are significant. In fact, there are central labour market and business challenges directly impacted by alterations in the demographic composition of the workforce (OECD, 2019). The most critical demographical trends we are going through are the ageing of the population, the feminisation of work and the generational transition in the workplace.

For "ageing population", we refer to the rise in the average or median age of a population, that is an increase in the relative share of people in the older age groups and a decrease in the relative percentage of people in the younger ones (Lisenkova et al., 2010). During the next 30 years, the ageing of population dynamic is expected to have significant implications on the workforce, particularly its composition[11]. Especially in developed countries, population ageing has already pushed the median age above 40 (OECD, 2019). In 2019, 703 million persons aged 65 years or over in the world and this number is projected to double to 1.5 billion in 2050. Globally, the share of the population aged 65 years or over increased from 6 per cent in 1990 to 9 per cent in 2019 and it is projected to rise further to 16 per cent by 2050[12]. As the population age grows, the labour force will comprise a higher share of older workers and lower younger workers (Lisenkova et al., 2010). Moreover, the European working-age population will soon stop growing in size and gradually decrease, creating a fall in the workforce if participation rates remain constant[13]. In this sense,

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[11] Employment and Social Affairs. (2005). The European Labour Market in the light of demographic change. European Commission.
[12] United Nations Department of Economic and Social affairs. (2019). World Population Ageing 2019: Highlights.
[13] Employment and Social Affairs. (2005). The European Labour Market in the light of demographic change. European Commission.

a more prominent focus to effectively attract and recruit young people and dedicated campaigns explicitly targeting the interests and attitudes of this unprecedented cohort who are fewer than the total population are needed[14].

Since the 1970s, the feminisation of the labour force has produced an increasing female employment rate (Oliva et al., 2020). This shift reflected the rapid changing social attitudes as contraception liberated women from unplanned pregnancies and led to questioning the traditional family model (Rubery, 2015). A new familiar model made its way, the "dual earner-carer model", which is substantiated by a tendency for gender equality in family care management and work (Oliva et al., 2020).

One of the consequences of both the ageing of the population and the increase in female employment and the consequent transformation of the family model is the spread of new needs for reconciling work and care for children or elderly, not self-sufficient people. Renewed attention is focused on the theme of work-life balance, also pushing companies to rethink their organisational models. In working times and methods, opportunities for redefining management and working practices are born in the progressive flexibility of working times and ways (Oliva et al., 2020).

The most relevant trend for our further analysis on the new approach to work, in general, and workspaces, particularly, is the appearance of a new generation in the labour market, Generation Z, and the coexistence of multiple generations at work. The labour market is going through the most significant generational shift in history: Generation Z is entering the labour market, and five different generations will live the same workplace at one. In fact, the emergence of the newer generation and the slower removal of older ones will lead to the concurrence of Traditionals (1925-1945), Baby Boomers (1946-1964), Generation X (1965-1980), Generation Y or Millennials (1981-1996) and Generation Z (1997-2012) in the workplace. Each of the named generations is a cohort of people who born and lived about the same time and experienced the same significant events that shaped their traits. They are characterised by very diverse working approach, values, communication style, worldview, motivating forces and relationship with technology.

The main events that forged the Gen Z cohort are technologies, such as social networks, text messages, connectivity and smartphones; historical events, including terrorism, the Great Recession, the election of Obama and the Arab Spring; and contemporary phenomena, like climate change, gun violence, gender equality and the LGBT movement[15].

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[14] Millennials at work: Reshaping the workplace. www.pwc.com
[15] Millennials at work: Reshaping the workplace. www.pwc.com

In particular, Generation Z is the first generation that does not experienced the pre-digital world: being born within the era of significant technological advancement, they are considered "digital natives". Their natural approach to the virtual world made Generation Z the one that, together with Millennials, have a better grasp of essential business tools than more senior workers (Schroth, 2019). However, while Gen Z shares many attributes with the Millennial, it also brings in new patterns of behaviour. The most notable difference includes the lack of work experience. Less than 20% of 15- to 17-year-olds in 2018 report having worked at all, compared with 30% of Millennial 15- to 17-year-olds in 2002 (Fry & Parker, 2018). This could be due to their greater economic well-being and the extension of school years. Some measures of economic well-being indicate Gen Zers are growing up in more prosperous conditions than previous generations did and enjoyed a culture of safety (Haidt & Lukianoff, 2018). Moreover, Gen Z is the most highly educated, extending the education phase into adulthood. There are also more post-compulsory education opportunities than ever for young people, such as the possibilities to travel and to work overseas.

Gen Zers are more ethnically and racially diverse than any other generation (Fry & Parker, 2018), and the access to worldwide news allows them to have a global perspective. Issues surrounding diversity, equity, and inclusion are more salient than in any other generation (Schroth, 2019). Contrasting with the previous generation, they are socially expecting, environmentally conscious, well informed and vocal in their change requests. However, Gen Z is also a lot more fragile than other generations. They experienced the economic uncertainty of the current time, and they are significantly more likely to report mental health issues compared with all other generations. They have the most remarkable rate of diagnosed depression, followed by anxiety (American Psychological Association, 2018).

The coexistence of five generations at one hide a great risk of generational collision in the workplace. It is clear the need for managers to understand the generational differences to get the most out of this generational diversity.

1.3 The Covid-19: the catalysator of an already-started revolution

The Covid-19 pandemic is one of the events that will mark the history of humanity the most. But it is not said that a negative aura necessarily connotes every footprint left by this event. Despite the social and economic drama unleashed by the virus, it must be stressed that the same virus has given a boost to the processes of

digitisation, connoting itself as a catalyst of events that has led today to re-examine from the foundations the approach to life in general, and the world of work, in particular.

In the pre-pandemic context, the spread of new ways of working, especially Smart Working, is reconnected to the mega-trends we just analysed. The debate on instruments to increase the flexibility of work organisation and, in particular, to enhance the use of agile forms of work has been consolidated before the Covid-related situation. Accordingly, a broad literature has been developed to analyse the structures, advantages, limits and socio-economic impact of Smart Working. The coronavirus crisis overlaid additional elements, which acted as an accelerator since it determined a shock and a series of "interruptions" impacting the lifestyle and working approaches. The pandemic was for organisations a test of resistance, adaptability and resilience, concerning which Smart Working has proved to be a resource. The lockdown has sped up the "easy adoption" of the Smart Working[16] between the measures put in action to limit the spread of the contagion (Copernico, 2021). In this sense, working remotely lost its character of "possibility" and have become a "necessary alternative" to the total blocking of business.

Nevertheless, the Covid-related pandemic generated an opportunity to review the traditional work modes and, alongside them, conceive and design new workspaces. The emergency caused by Covid-19 seems, in a certain sense, to have "forced" many countries to adopt large-scale labour flexibility measures broadly already accessible, proving to be an experimental platform for organisational tools and models whose advantages were partly already known. The outbreak required millions of people worldwide to be remote workers, unintentionally leading to a global experiment of remote working (Kniffin et al., 2020). In 2020, almost 8 million Italians experienced remote working, allowing people and organisations to experiment its benefits (Copernico, 2021). The positive side of these months of experimentation of less traditional work is creating a common ground to develop a culture that understands and appreciates the benefits of Smart Working at multiple levels, not just compared at work from home.

The advent of the Covid-19 placed organisations in front of an impressive array of new challenges. Today, many talks of the need to adapt to the "next normal" (Sica, 2021). The experience of Smart Working in these months shed light on the benefits of a flexible way of working, a strong saving on space-related costs, the positive

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[16] With the term "easy adoption" of Smart Working we are referring to simplified modality to implement SW in organisations applied in Italy during the Covid-related emergence. The most complex steps of the law were abolished to allow companies business continuity.

impact on the environmental pollution, the autonomy and the increased work-life balance. However, it also pointed out the need for a mindset shift, for an organisational culture based on trust, new competencies for smart workers, and new physical working environments.

The Covid-19 outbreak was, and it still is, an event that is transforming almost all aspects of our lives. The massive confinement of more than half of the world's population overnight revealed the essential role of technology to avoid the total paralysis of activities critical to the economy. Collaboration systems, management platforms and online storage were indispensable allies in guaranteeing business continuity[17]. The new digital tools and technologies enabled millions of people to continue to carry out their activities from the table of their kitchen, the sofa or their home studio[18].

The crisis unleashed by the pandemic has aggravated the problem of the poor corporate digitalisation of our country. Essentially, for companies, the pandemic was an eye-opener on their level of technological development and a push to digitalisation. Thousands of companies have found themselves in trouble overnight, impotent toward spreading the virus and government decisions to impose restrictions on activities and social life to stem the contagion[19]. In many cases, the crisis led to the digital transformation, forcing them to review, among the priorities no longer postpone, the construction of the innovation processes of their digital assets[20]. According to research by Manpower Group[21], the pandemic has led to a rapid hastening of digitisation in many organisations: 39% of the respondent are accelerating their digitalisation processes, but just 17% of them already have a structured plan[22].

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[17] Anitec-Assinform. (2021). Contro il Covid-19, il ruolo determinante della digitalizzazione. https://www.anitec-assinform.it/aziende-associate/protagonisti/contro-il-covid-19-il-ruolo-determinante-della-digitalizzazione.kl

[18] Redazione Romana. (2021). L'impatto del Covid su digitalizzazione e competenze. L'Avvenire. https://www.avvenire.it/economia/pagine/ricerca-l-impatto-del-covid-su-digitalizzazione

[19] Redazione BitMAT. (2021). Covid e crisi: cruciale la digitalizzazione aziendale. https://www.bitmat.it/blog/news/covid-e-crisi-cruciale-la-digitalizzazione-aziendale/

[20] MichaelPage. (2021). Tecnologia e digitalizzazione: per le aziende una nuova era post-Covid. https://www.michaelpage.it/advice/consigli-di-management/business-insights/tecnologia-e-digitalizzazione-le-aziende-una-nuova

[21] Redazione Romana. (2021). L'impatto del Covid su digitalizzazione e competenze. L'Avvenire. https://www.avvenire.it/economia/pagine/ricerca-l-impatto-del-covid-su-digitalizzazione

[22] The survey was conducted on a panel of over 26 thousand employers in more than 25 countries worldwide.

Therefore, it seems increasingly essential for companies to equip their workers with efficient digital tools and set a team of experts suitable for this change. In this sense, the IT function is increasingly important for creating adequate and practical digital processes, project management platforms, collaboration tools, and digital archives. Moreover, as already mentioned, digital education is critical to effective remote working. Virtual work is an entirely new way of interaction, and it needs people to acquire complex skills, the so-called "digital fluency", and develop soft skills linked to virtual communication and collaboration.

From a demographic point of view, before Covid-19, Gen Z was already aware that the current labour world was not suited for them. They are outcome-driven and what they value are flexibility and autonomy. They worked or studied for more than a year now full remotely, and they understood both the benefits and the downsides of this modality. They are already video conferencing and online collaboration experts, and the shift to distributed work is required. They want to have the opportunity and the right to choose where and when to work[23].

The Covid-19 accelerated a revolution toward a new way of working that was slowly developing. Rising unemployment, growing stress and home-centric lives will shape the emerging generation's values and expectations entering the labour market: what they want is just the opportunity to choose where to work, but they self-rate themselves as less productive at home than in the office[24]. The new generation is now entering the workforce, and they are looking for multiple needs at work, especially the social interaction and the workplace culture lost during the forced remote working of the last year[25].

Managers can rely on three levers to attract and retain young Generation Z's talents. First of all, guarantee flexibility in working hours and autonomy in organising their work, ensuring working by objectives and work-life balance. Secondly, build a strong brand identity, respond to corporate social responsibility issues, support them

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[23] Du Preez D. (2021). COVID-19, Millennials, Gen-Z and the future of work - a system change is needed. https://diginomica.com/covid-19-millennials-gen-z-and-future-work-system-change-needed

[24] Euromonitor International. (2020). The Impact of Coronavirus on Millennials and Generation Z. https://www.euromonitor.com/the-impact-of-coronavirus-on-millennials-and-generation-z/report
Seven in ten Gen Z believe working from home will become the "new normal" (70%) compared to eight in ten Gen Y (80%). Generation Z are the most likely to say that they are less productive when working from home (33%), while Generation Y are the most excited to be working from home.

[25] Mccrindle. (2020). How COVID-19 has changed work for the emerging generations. https://mccrindle.com.au/insights/blog/how-covid-19-has-changed-work-for-the-emerging-generations/

psychologically and in their career, offering them possibilities of individual advancement. Third, they should make available to them the best technologies[26].

The Covid-19 represented a symmetrical shock with asymmetrical impacts, in the sense that it impacted every aspect of our lives, but not in the same way and not only negatively (Sica, 2021). In an era already dominated by the challenging drive to transformation, which required organisations to adapt, the Covid-19 arrived with the force of a hurricane, imposing a substantial acceleration of changes on multiple levels. Adapt very quickly becomes the necessary condition for the survival of organisations. The principle that "every crisis is also an opportunity" applies also in this case (Sica, 2021): organisations can take this opportunity to really change. They will have to question the traditional organisation of work based on centralised offices and assign an even more advanced relevance to computer services without ever forgetting that the change starts from people and mindset. *But how and in what to change?*

The impetus given by the virus to remote working has led people, organisations and countries to discover flexible work practices, and many of them have appreciated the benefits above all (Sica, 2021). Aware that what was done during the lockdown is not definable "intelligent work", the pandemic has given an impressive boost to Smart Working, which is here to stay. The idea that workers can work anywhere outside the office encourages firms to rethink about both in work organisation and especially the workspaces. The remote work experience made it clear to people and organisations that the work could be done out of office and that the office space could be superfluous. Hence the question: *Do we still need an office?* If the work can be done remotely, why should companies continue to pay the rent of an office? At this point, the office must rediscover its reason why and find the value-added to work in person.

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[26] Mccrindle. (2020). The substantial impact COVID-19 has had on Gen Z. https://mccrindle.com.au/insights/blog/the-substantial-impact-covid-19-has-had-on-gen-z/#:~:text=Gen%20Z%20and%20Gen%20Y,and%2015%25%20Baby%20Boomers).

Chapter 2. The new approach to work

The concepts of flexibility and agility as attributes of working are becoming increasingly important in our continuously changing and developing context. In the literature, one of the most common terms to refer to this new working paradigm is "Agile Working", which involves bringing together people, processes, connectivity and technology, time and place to find the most appropriate and effective way to perform a particular task (Allsopp, 2010). Another usual definition, prevalent mainly in England, is that of "Flexible Work Arrangements" (FWA) or "Flexible Work", which is a spectrum of work structures that alter the time and/or place of traditional work.

In a certain way, "flexibility" is considered the keyword to restructure the future work. The definition with greater consensus refers to flexibility as the ability to meet various needs in a dynamic environment (Upton, 1995). In other words, flexibility is the capacity of an enterprise to respond to the different stimuli of the competitive and dynamic environment in which it operates and the capacity to adapt its organisational practices reacting to the non-transparent changes in the background context (Sanchez et al., 2007). It is the ability to quickly reconfigure own resources and own activities in response to environmental demands and contextual changes (Wright & Snell, 1998).

It is necessary to consider that the concept of flexibility can take on different meanings depending on the actors involved and the context in which they are located (Suárez et al., 1991). The literature, identify three main areas, namely:

- The flexibility of *work*, which includes all interventions on the place and working time, regarding the workers' freedom of choice according to personal needs (Wright & Snell, 1998);
- The flexibility of *technology*, which implies adopting the digital and technological tools most suited to the demands of specific working tasks (Suarez, Cusumano, & Fine, 1991);
- The flexibility of *workspace*, meaning the customisation in the configuration of the spaces corresponding to the various activities to be carried out (Pisano, Teece, & Shuen., 1997).

Flexibility is especially critical in its impact on culture. The organisational culture, based on flexibility, directs itself towards abandoning its hierarchical approach and reducing direct control by the managers to promote widespread collaboration and trust among employees. A culture that favours flexibility must

necessarily focus on results and merit, so it is essential to stimulate motivation, orientation to results, and overall performance improvement (Bagdadli, 2012).

In this regard, New Ways of Working (NWW) was adopted by an increasing number of companies, trying to adapt their work styles to recent societal and labour market changes, guaranteeing workers more flexibility. In particular, the Smart Working (SW) has been designed to optimise work organisation about flexibility and autonomy in the choice of working spaces and hours, with greater responsibility on the part of the worker concerning the results to reach.

In this chapter we will examine the new approach to work, defining both the concepts of New Ways of Working (NWW) and the one of Smart Working (SW). In particular, we will dwell on the ground principles of Smart Working to reflect on the main areas of intervention for implementing this model.

2.1 New Ways of Working (NWW) and their effects

All the drivers we considered in the first paragraph were fundamental in developing a new approach to work. Many companies started implementing flexible and adaptive work styles to respond to recent societal and labour market changes (Kotera & Vione, 2020). Modern technologies allow employees to work anywhere at any time (Alvin et al., 2011). The mobility of work guaranteed by digitalisation enabled organisations to respond to the workforce new needs with flexibility in time and place: this kind of work style react directly to the demands of knowledge workers (Blok et al., 2011).

A large variety of measures enabling flexible work goes under the name of "New Ways of Working" (NWW) (Blok et al., 2011). In particular, it is a new approach to the organisation of work, characterised by the integration of temporal and spatial flexibility (Baane et al., 2011). Temporal flexibility refers to employees' autonomy in deciding, within certain limits, how to distribute their working hours. On the other side, spatial flexibility means that employees have to power to choose where to perform their activities between a range of workplaces, such as the office, their home, co-workspaces, and other remote locations.

Two indispensable elements of NWW support the flexible work style in time and place: the active use of information and communication technologies (ICT) and the definition of clear targets (Kotera & Vione, 2020). On the one hand, working remotely implies an efficient use of ITC to access organisational knowledge and data and

guarantee collaboration between employees at various locations (Nijp et al., 2016). On the other hand, setting clear targets, working by objectives, and evaluating results is fundamental when there is no clear link between working hours and work performance (Kingma, 2019). Furthermore, NWW always incorporates a free access to flexible workplace that should emphasise the interplay between the physical and digital environments, equipping the office with multimedia and stimulating encounters and cooperation among colleagues (Blok et al., 2011).

There are different proven advantages in the application of NWW, both on increased productivity and positive psychological outcomes.

First of all, flexible working is linked to greater perceived autonomy, a greater degree of time and knowledge control, that influence positively both individual task-related performance and group collaboration effectiveness (Blok et al., 2011). In particular, autonomy is a crucial component of work motivation: enhanced autonomy over work organisation improves employees' motivation, leading to increased organisational performance. Moreover, effective digital technologies and the flexible use of office spaces allow increased work efficiency through information sharing (Nijp et al., 2016). Implementing a physical workplace that matches employees' tasks' and activities' needs has a higher positive impact on collaboration and job performance. Increased communication is one of the most significant benefits derived from a flexible office environment, but its positive effect is mediated by function type and the satisfaction over the workplace design (De Croon et al., 2005).

Furthermore, NWW was found to improve work engagement through increase work autonomy and flexible working hours (Peters et al., 2013). However, this relation was strongly mediated by social interaction in the workplace, fostering valuable collaboration and work attitudes (Bakker et al., 2004) and a particular leadership style, transformational leadership (Gerards, 2018). Transformational leadership was theorised to be composed of four sub-dimensions, idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration (Bass, 1985), all four associated with positive work-related outcomes (Yulk, 2012). In particular, transformational leadership was proven to positively affect core job performance and increase proactive work behaviours (Schmitt et al., 2016). Through transformational leadership, managers can direct people, aligning their goals with the organisational ones. Helping employees to fulfil their full potential, it leads to exceptional performance (Grant, 2012). Transformational leadership should be the management style adopted by companies that apply flexible ways of working. Moving from control, hierarchy and top-down decisions to trust, support, empowerment, and development is essential in working by objectives (Taskin et al., 2017).

Concerning the effects of NWW on work-related psychological outcomes, results are mixed. Having a sense of control over worktime can help employees manage their work-life balance, which is associated with good work-related mental health (Kotera & Vione, 2020). High worktime control improves the fit between employees' private and working life. However, the dilatation of working hours when out of office is blurring the boundaries between work and personal life, compromising work-life balance and work performance (Demerouti et al., 2014). Other psychological adverse outcomes are the loss of social support from colleagues when working the most time remotely (Halford, 2005) and increased stress due to high responsibility and lack of structure (Alvin et al., 2011). No significant interaction was found between NWW and work-related stress or fatigue (Nijp et al., 2016).

Even though more research is needed on the effects of NWW on work-related psychological outcomes, our particular historical period results could be biased by the enforced isolation and forced remote working during the last year and a half.

2.2 The Smart Working and its defining principles

As it has emerged from the analysis of the current trends, the need for companies to rethink their traditional organisational methods to respond to new market demands is strong, and it became even stronger after the Covid-19 outbreak. The key world that characterised the new way to organise the work should be "flexibility". This demonstrates the need to move from a logic of command and control to one based on employees' autonomy and responsibility, and trust. This new paradigm of work organisation is called "Smart Working" (Hartog et al., 2015).

There is still no unambiguous definition that summarises the complete set of prerogatives that the Smart Working model wants to bring. Nevertheless, the analysis of different definitions shows that the characteristics described are profoundly similar, the flexibility in time and space, a new management style and a cultural change, the optimisation of technological tools, and the office space's redefinition.

The word "smart" must be considered in the meaning introduced Doran (1981) that is the acronym of *Specific, Measurable, Achievable, Realistic and Time-Relate.* The term "Smart Working" was defined as embracing all new job opportunities in an integrated way consisting of spatial and temporal autonomy, a culture of trust, technological advancement and more intense intellectual connections and stimulating environment (Blackwell, 2008, p. 4). Smart Working was demarcated as a new way of working using new tools, new processes and new management approaches. It is not

about doing things the old-fashioned way with some new technologies and redesigned offices, but it implies developing a new working culture, a new set of behaviours and different expectations about how the work is done. Another definition states that the term "Smarter Working" describes a new, more enlightened working environment that breaks down the physical barriers of the office as is generally known. Workplace optimisation help employees to work at their best anywhere and anytime. The working environment reflects how people work and incentivise dynamic, creative and innovative work (Plantonics, 2011). Furthermore, Smart Working was seen as an approach to work organisation that aims to bring greater efficiency and effectiveness in achieving the results of work through a combination of flexibility, autonomy and collaboration, in parallel with the optimisation of tools and work environments for employees (CIPD, 2014).

Finally, as a systematic recapitulation, we will use the definition proposed by the Osservatorio dello Smart Working of the Politecnico di Milano (2014a):

"*Smart Working is a new managerial philosophy based on giving people of flexibility and autonomy in the choice of spaces, schedules and tools to be used, in return of greater responsibility for results*".

According to this interpretation, Smart Working is an innovative approach to work organisation that integrates and transcends traditional concepts such as teleworking or mobile work, questioning all traditional constraints starting from physical space, working hours and tools, seeking new balances based on greater freedom and empowerment of workers. In particular, thanks to digital technologies, devices available, and people's propensity to interact and virtual relationship, it is now possible to rethink the models of work organisation. However, the transition to Smart Working is much more than a project of technological innovation or office renovation; it means challenging stereotypes relating to workplaces, time and working tools, enabling people to achieve greater professional effectiveness and a better balance between work and professional life (Osservatorio Smart Working, 2014a, p. 1).

One of the fundamental contributions to defining Smart Working is that of Clapperton & Vanhoutte (2014). According to them, adopting a Smart Working model requires a change in the management culture, which translates into flexibility, new technologies and workspace reconfiguration, enabling benefits to be achieved for efficiency and effectiveness objectives. Therefore, it is clear how the strategic approach of this new mode of work is directly linked to the change of the working environment and hence the modernisation of working practices. In Italy, the phenomenon of Smart Working has a precise legal connotation within Law 81/2017,

which refers to Agile Work[27] as: "*modalità di esecuzione del rapporto di lavoro subordinato stabilita mediante accordo tra le parti, anche con forme di organizzazione per fasi, cicli e obiettivi e senza precisi vincoli di orario o di luogo di lavoro, con il possibile utilizzo di strumenti tecnologici per lo svolgimento dell'attività lavorativa.*"

i. The distinguishing elements of Smart Working

Although it is identified with different definitions, there are three distinguishing elements of Smart Working that we can spot in every of the reported definitions (Oliva et al., 2020):

1. *Flexibilisation*, since SW is a mode of work that underlies an organisational and managerial vision based on achieving goals and trust to make work more flexible. As already pointed out, flexibility is understood both in space, time, and work tools. The worker acquires greater autonomy in deciding "where", "when", and "how" to work.

2. *Technology*, since SW is a practice supported in particular by digital tools which makes the remote work more effective and efficient. Without technological advancement, SW could not exist: without eliminating cables from phones and computers, workers would still be tied to their desk at the office.

3. *Working by objectives*, because flexibility in place and time of work prefigures a work to be carried out by objectives. This means that the management of work performance should be based on a new management style, the so-called Management by Objectives (MBO). The MBO is a method of evaluating staff based on the results achieved according to the objectives set, always combined with leadership style based on trust, transparency, feedback, delegation and empowerment.

So, even though SW was defined in many ways, there is a common ground of principles that consist of working conditions' flexibility, emerging of a new organisational culture, redesigning the working methods, improving technological level, and reconfiguring spaces.

Both employees and managers are the protagonists of changes implied in the implementation of the SW. In particular, the "worker", according to this philosophy,

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[27] Within the legal framework, the term "Agile Work" is used as a synonymous of "Smart Working".

become the new foundation of the modern, flexible organisation (Hartog et al., 2015). With Smart Working, the worker can become the actual "owner" of the work he does. Consequently, in the practice of SW, it is necessary to put more trust in employees as they must start to perform the tasks in total autonomy. The smart worker has a greater degree of freedom, translating into a better balance between work and non-work activities. Scientific researches confirm these aspects. Herzberg's theory (1959) on hygienic factors states that motivating factors, such as achievement of results, intangible awards, trust, work content, responsibility or professional growth, are the main levers to employees' increase' satisfaction. Trust and freedom create a better worker who optimises his/her self-management skills, thereby also increasing his/her intrinsic motivation. Worker empowerment is deeply rooted in the manager's attitude, that should trust their collaborators, delegate with confidence, communicate clear objectives and deliver effective feedback (Vanhoutte, 2015).

ii. The principles of Smart Working

Underlie Smart Working principles are trust, empowerment and autonomy, flexibility, collaboration, and communication.

Trust represents a fundamental dimension of the leadership style within a smart organisational culture, especially in the era of widespread knowledge (Ebert, 2009). Even though the trust has the potential to bring success and prosperity to fruition in every dimension of life, it is an entirely underestimated possibility (Covey, 2006). To implement a valid Smart Working model, it is essential to apply a different approach to overcome hierarchy, power, and control concepts to stimulate a culture of work based on trust (Sperotti, 2014). Covey (2006) stresses that trust is an element on which one can work and identifies five different types of trust. In particular, three of these categories are more significant for smart work:

- Trust *in one's self*, which concerns one's security, confidence and ability to inspire belief in others and to be reliable and trustworthy;
- Trust *in relationships*, which refers to building trust, to improve relationships and achieve better results;
- Trust *in the organisation* about how leaders can build trust in any of their relationships. The most critical principles are alignment, delegation and feedback, which help leaders create structures, systems and symbols of organisational trust.

In a flexible working environment, helping people develop trust in their abilities, have a sense of self-effectiveness, and self-confidence to achieve the desired effects is one of the most important objectives to promote increased motivation and quality of performance (Bandura, 2000). In addition, training managers to create relationships with their employees based on trust, delegation, empowerment, and feedback is essential to achieve higher task-related performance (Vanhoutte, 2015).

However, affirming that there is a certain degree of trust is not enough, as employees must feel responsible for their tasks and implement them in their daily work (Hartog et al., 2015). *Accountability* and autonomy are dimensions linked to a culture of empowerment. Making people feel accountable is connected with a high level of employee involvement, and it can lead to continuous performance improvement and an increased level of efficiency, quality and profitability of the company (Blanchard, Carlos, & Randolph, 2007).

The new conception of work gradually drops the control over working hours to leave the proper autonomy in choosing where, when and how to work to employees. Consequently, companies should increase workers' involvement and accountability over targets and results. A more participative approach to organisational activities is necessary to meet the flexible form of work organisation, as it positively impacts the workers' satisfaction (Allsopp, 2010).

Autonomy means the level of freedom, independence and discretion in organising the work and defining the procedures to be used. The empowerment of staff is closely linked to the concept of autonomy, that is to the possibility of leaving to employees the freedom to make decisions on how to plan the work (Hackman & Oldham, 1980) and how to achieve the required objectives (Introduction to Management: Help and Review, 2014). In particular, a high level of empowerment within an organisation increases the degree of autonomy of people, and at the same time, greater freedom develops a strong sense of empowerment, showing a close correlation between the two dimensions (Allsopp, 2010).

In Smart Working, *collaboration and communication* are considered two dimensions of fundamental value. On the one hand, collaboration is a process that leads to innovative solutions, representing an advantage, especially in a context in which changes move at an increasing pace. On the other hand, communication is intended as a set of discussions between employees on the problems that may arise in their work activities, thus becoming an instrument of reduction of inefficiencies and

a means of achieving maximum effectiveness (Maynard, 2014). They act both vertically, from top management to employees, and horizontally, within employees. Concerning the first level, managers must communicate the objectives, explain the underlying business strategy and involve their employees (Clapperton & Vanhoutte, 2014). At this very moment, some companies are trying hard to get their employees back to the office, seen as a driving factor for collaboration and to rebuild a sense of connection and belonging to the organisation. The work from home is based on written communications and virtual collaboration, both mediated by digital tools, while the face-to-face meeting is significantly reduced. The impact of working remotely on the effectiveness of communication and collaboration can be significant. In this sense, smart workers must develop new skills and be equipped with new tools and techniques to ensure the same effectiveness in working communication and collaboration, even working in different places (Briggs & Makice, 2012).

2.3 Implementing flexible ways of working: a multidisciplinary approach

According to one of the pioneers of Smart Working, Franklin Becker (2005), companies should think in a systemic way: everything about work, the social aspect, the culture, the technology and the physical workplace, is interconnected. In this sense, when trying to implement a Smart Working model, organisations should know that changes in one of the named areas always have effects elsewhere in the system. Becker based its statement on the concept of "organisational ecology", a term coined by Fritz Steel (1995), trying to capture the interdependencies that characterised modern work.

Figure 8 – Organisational Ecology: the basis of an integrated workplace strategy
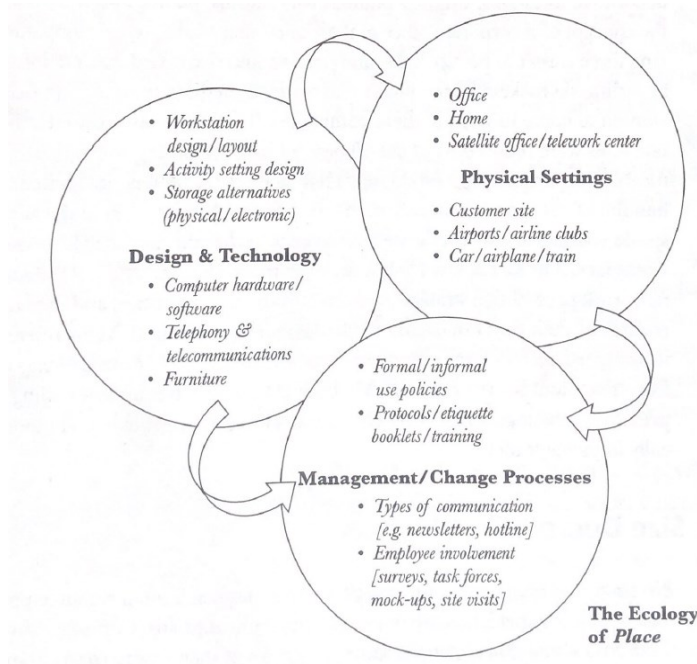
Source: Becker, F. D., & Steele, F. (1995). Workplace by design: Mapping the high-performance workscape. Jossey-Bass.

The success of Smart Working appears to be associated with the correct interaction of the different dimensions in its implementation. For instance, a good combination of the use of ICT resources, the establishment of the physical environment and management style is of great importance for the success and achievement of business objectives (Blok et al., 2011).

In particular, Clapperton & Vanhoutte, in the "Smarter Working Manifesto" (2014), proposed an integrated model, stating the three elements to be accounted for the introduction of the SW model in the company, the "3 Bs".

- **Behaviours**, concerning human resources policies related to the employees' behaviour, that must be oriented towards empowerment and establishing trust with their managers. The cultural and behavioural change is the most crucial point: if you do not win on this, no technology improvement or space

renovation will determine a suitable Smart Working model, leading, inevitably, to a situation of failure.

- **Bytes**, referring to the technologies essential for the implementation of a Smart Working model. The digital devices and the technological infrastructure allow people to work in places other than that of the company and to collaborate with colleagues, transcending the physical and temporal distance.
- **Bricks**, related to the reconfiguration of physical spaces. This aspect is linked to the physical dimension: the space ecosystem of an organisation should contemplate different workspaces other than the corporate office, including their home and other spaces such as coworking and work cafes. At the same time, the office space should go under revision to create a smart environment that supports workers' activities and tasks, fosters communication and collaboration, and allow interplay between the digital and the physical working experience.

From the previous explanations, we understood that to ensure a successful implementation of Smart Working, it is essential to consider three pillars in the project: the people towards whom a relationship of trust must exist, the technology that must be enabling and not limiting in the performance of their work, and the spaces that must be adapted to the different needs (Hartog et al., 2015).

Figure 9 – The 3 B's of the Smart Working

BRICKS
(MATTONI)

- Topologia del lavoro
- Per spazi di lavoro più smart

BYTES
(TECNOLOGIA)

- Unified communication & collaboration

BEHAVIOUR
(COMPORTAMENTO)

- Interazione delle competenze tra manager e impiegati

PERMETTERE AI COLLABORATORI DI LAVORARE DOVE E QUANDO SONO PIÙ PRODUTTIVI, AL MINOR COSTO ED ECOSOSTENIBILI
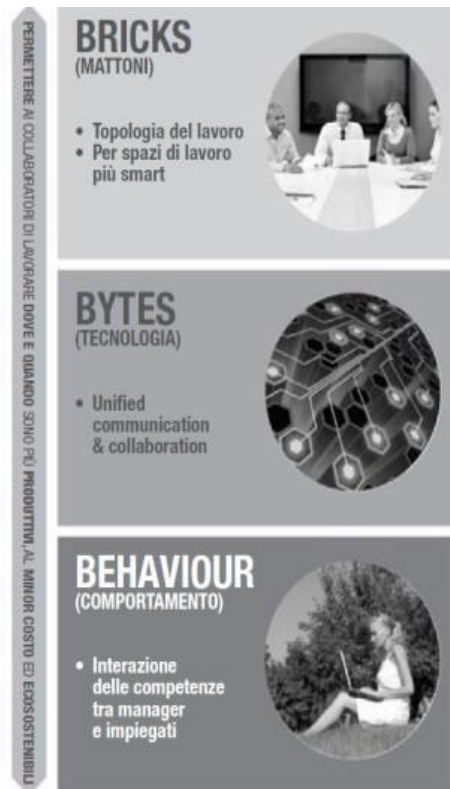
Source: Clapperton, G., & Vanhoutte, P. (2014). The Smarter Working Manifesto: When, where and how Do You Work Best?. Sunmakers.

In the following part of the research, we will focus specifically on the third of the Bs, the bricks. We will build a theoretical framework on the physical space to understand why it is essential to rethink workspaces and how. Even though our particular aim is understanding the value of the office at the current time and how we can design an office tailored to an organisation structure, features and needs, we will always keep a systematic approach. In the part dedicated to a possible method of implementation, we will consider the three pillars of Smart Working, people, technologies and spaces, in a systemic way, trying to define a general method for Smart Working implementation.

2.4 Do we still need an office? The definition of a Hybrid Model of work

According to the Osservatorio dello Smart Working of the Politecnico di Milano (2020)[28], 6,58 million people worked remotely in 2020 during the acute phase of the pandemic, practically one-third of Italian employees, that is more than ten times those surveyed in 2019. The way millions of people have worked during the forced lockdown was entirely done from home. This is far from the Smart Working model we described above. The option of choosing the most suitable and congenial place for the performance of one's work activity is lost; the hourly flexibility and the work for objectives are often sacrificed in favour of control on the remote operation (Oliva et al., 2002). In this sense, Smart Working during the Covid-19 historical phase looks more like "Home Working". As we will see in the next chapter, there is a great difference between Smart and Home Working from a normative perspective. On the one hand, Home Working, also defined as Teleworking, is the operational activity performed entirely outside corporate offices, at the worker's accommodation. On the other hand, the employee's house is just one of the contemplated spaces in the Smart Working workplace ecology. The Smart work is performed partly inside the corporate offices and partly outside without a fixed location. In this sense, if Smart Working is here to stay, so it is the office. Nevertheless, companies must reflect on the new role that the physical space of work plays today.

More than one year after the outbreak of the pandemic, with new vigour to the fight against the virus given by the vaccines, one thing is sure about the "new normal": returning to the pre-emergence status quo is practically impossible and probably also not very functional[29]. It would mean throwing all the accumulated experience and labelling it as negative, when the positive aspects arising from it are well known.

What is delineating as a trend today is a *Hybrid Model* of work, born from the mix between work at a distance and work in the presence to synthesise the best of the two experiences. According to Microsoft's Work Trend Index (July 2020), the future work will most likely be a fluid mix between physical and remote, the so-called "Hybrid Model".

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[28] Osservatorio dello Smart Working. (2020). "Dallo smart working d'emergenza al "New normal": nuove abitudini e nuovi approcci al lavoro". https://www.osservatori.net/it/ricerche/comunicati-stampa/smart-working-emergenza-covid19-new-normal

[29] Digital4HR. (2021). Hybrid work: che cos'è e perché le aziende dovrebbero seriamente prenderlo in considerazione. https://www.digital4.biz/hr/smart-working/hybrid-work-che-cosa-e-perche-aziende-devono-adottarlo/

About the continuation of remote work, 82% of the managers involved in the research globally and even 89% in Italy expect rules more favourable to agile work in the post-pandemic phase. 72% of managers and employees in Italy has just expressed the wish to continue working from home at least part-time. Whether working from home was pleasant and productive for a part of the population, there are some flaws. At level global, 60% feel less connected to their colleagues, and only 35% have inside the house a study or a dedicated space where to work; therefore, they are frequently victims of distractions. Disturbances, connection problems and the lack of ergonomic environments made working from home an absolute nightmare for part of the labour force. Consequently, companies are trying to retain the advantages of both working remotely and in the presence, creating the right balance for their employees.

Figure 10 – Workplace strategy toward Hybrid Model comparison
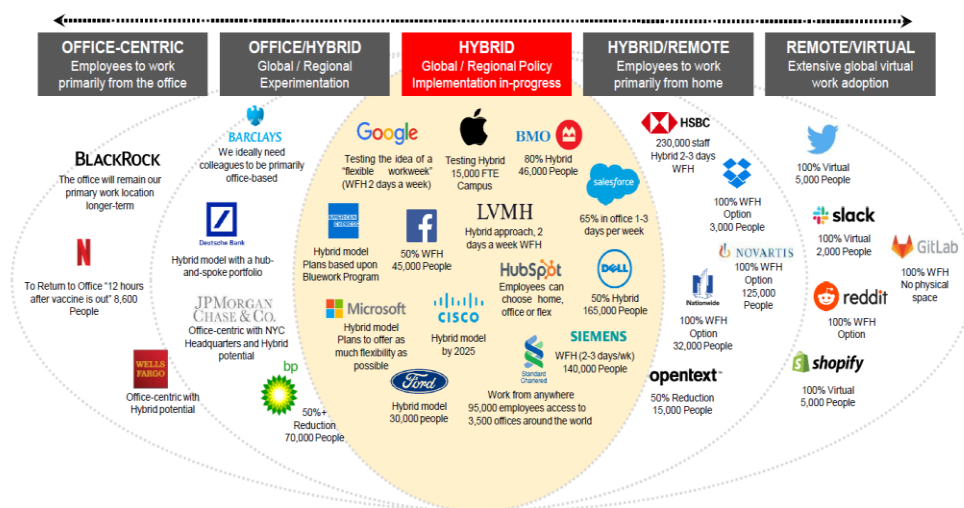
Source: 2021 Jones Lang LaSalle IP, Inc.

To date, there is no accepted definition for what the Hybrid Model is. What we can do is observe what companies are doing right now.

Some firms are changing their prospects more radically, others more cautiously (Copernico, 2021). Some of them are moving towards a "remote-first" model, as they plan to adopt remote work as predominant and an occasional office presence. Others, instead, tend to an "office-first" approach, where the office remains the principal place to carry out the activity.

According to a survey carried out by McKinsey[30], only 7% of 800 executives interviewed favoured providing three or more days of remote work. Forcing millions of people to work remotely, the shock caused by the Covid-19 cleared out the offices all over the world, demonstrating that the work could be carried remotely without problems (Sica, 2021). However, even though some have already gone so far as to predict "the end of the office", the perspective we see in the next future is that the office will not disappear and will continue to have a central role in employees' lives (Copernico, 2021). According to the Microsoft study[31], 66% of leaders say that their organisations consider redesigning work environments to meet the new needs related to hybrid work. This is what will happen to the office in the future. Companies will reduce the size of the spaces with a considerable saving of costs by organisations, but, at the same time, they will flexibly reconfigure them, creating greater collaboration and interaction inside the workplace.

In the thesis, we will try to understand why the physical working space has a fundamental role for people and organisations. In addition, we will build a theoretical basis to rethink the offices, starting from the Activity Based Working model. Then, we will outline a method for redesigning offices tailored to companies need and features. Finally, we will focus on the current trends in the redefinition of offices nowadays. We will try to answer to questions such as *Which are the most relevant characteristics of the future office?* and *Which is the value added in coming to work at the office?* though some of the most representative architecture, design, planning, and consulting firms' specialists' contributions.

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[30] McKinsey Company. (2020). What 800 executives envision for the postpandemic workforce. https://www.mckinsey.com/featured-insights/future-of-work/what-800-executives-envision-for-the-postpandemic-workforce

[31] Microsoft. (2020). The Next Great Disruption Is Hybrid Work—Are We Ready? https://www.microsoft.com/en-us/worklab/work-trend-index/hybrid-work

Chapter 3. Why it is essential to re-think the work environment?

In the first chapter, we analysed the evolution of office space over time. More than a hundred years have passed since the birth of scientific management, and, as already mentioned, the world is evolving at a very high speed, accelerating change processes. Globalisation and new technologies have revolutionised the way of working, making it mobile and allowing to workspace to expand to new environments. Along with the changes in society, the new interest in the relationship between people and physical space and the various psychological approaches to the matter have influenced the typology of workspaces. Increasingly today, we are aware that there are significant differences between workers in different office types (Danielsson & Bodin, 2008).

Studies about the physical working environment show that it has a decisive role in shaping a diverse range of psychological and behavioural outcomes, including individual well-being and performance, but, other than that, the physical workspace has also a sociological side. Contemporary forces, demographic, cultural and technological, took office interior design toward the digital economy of the 21st century and away from the industrial model of the 20th (Myerson, 2013). The most significant change that office organisation and physical workplace went through during the last century was the technological advancement in the 1990s, which brought "virtuality" inside the office and allowed people to work anywhere and anytime, using only minimal physical space (Van Meel, 2000). This epochal shift led to many different places where today's knowledge workers carry out their activities (Van Meel, 2015).

3.1 The relationship between physical workplace and employees' performance and well-being

The relationship between interior office space and employee health and performance is an upcoming research area (Colenberg et al., 2020). Nevertheless, the current management of office space is typically influenced far less by psychologists that by architects, interior designers, facility and corporate real estate managers (Knight & Haslam, 2010). In the following paragraph, after an overview of the

different theoretical psychological approaches to workspace, we will outline the main findings in the field. We will try to compare the different office types, namely open-plan, cellular, combi office, and flexible office in their influence on employees' well-being and performance.

3.1.1 The theories on the relationship workplace and individual job-related outcomes

The study of the interplay between human beings and the environment goes under "environmental psychology". In the late 1960s, environmental psychology began by merging several disciplines, anthropology, architecture, planning, psychology, sociology, and even engineering, becoming an interdisciplinary science. Environmental psychology introduced to psychology the focus on the influence of the physical environment on people, which had been largely ignored before (Bechtel, 2010). In particular, during the 1980s-90s, "workplace environmental psychology" developed, targeting the role of physical environments in workers' experience, performance, and interaction in buildings (Sundstrom, 2001). When it comes to office management, psychological factors need to be considered. In particular, there seem to be different psychological approaches to office space management.

The *Lean approach* bases itself on the Taylorism idea of office space management. According to this view, everything except the materials required to do the job at hand should be removed, and the office should reflect a standard and simple design (Kanigel, 2005). Moreover, the office space should be characterised by tight managerial control (Pruijt, 2003). According to the lean literature, open spaces is the most efficient layout for different reasons. An ample, uncluttered space can accommodate more people, leading to a substantial economic saving. Furthermore, it can respond to organic increases quickly, managing space occupancy centrally with minimum "disruptive" interference from workers. However, this approach limits individual autonomy over space, in contradiction with the demand-control model (Karasek, 1979), which argues that a combination of low-decision latitude leads to adverse health- and performance-related outcomes.

The *Social Identity approach* gives back to people the environmental control with the possibility of environment decoration. Employees should be encouraged to decorate their workstation or their office with meaningful artefacts to project their identity and give a sense of control and privacy (Haslam, 2004). This approach is often mixed with the Green approach, which sees the office's aesthetics and environmental comfort as fundamental elements to improve employees' well-being. According to

this view, living plants, images of nature, pictures have an additional benefit, thereby helping workers feel happier and healthier (Humphrey et al., 2007). This literature suggests that close "enriched office" is psychologically advantageous because workers' can personalise their space increasing well-being, namely the sense of psychological comfort, job satisfaction, motivation and engagement and physical comfort, and productivity. The main moderator in this relationship is the organisational identification that results from workspace enrichment.

The *Flexible approach* to office design is the most recent one and respond to the relatively recent changes in digital technology that have created opportunities for new ways of working. Its main idea is that employees should gain control over when, where and how to perform their work. Exponents of this approach maintain a holistic approach to work that includes people's intersection, the behavioural environment, place, the physical environment, and technology, the virtual environment (Haapakangas et al., 2018). According to this approach, having a larger span of control over individual work and the workplace increases both performance and physical and mental health (Engelen et al., 2018). The flexible approach to the workplace is mainly applied with the Activity Based Working (ABW) as the prominent exemplification of their concept, allowing employees to perform activities in an environment tailored to support and facilitate the task at hand.

When we try to explain the relationship between the physical workplace on work-related outcomes, we have to consider the prominent role of perception in interpreting the external environment. Perception is a process by which people organise and analyse sensory impressions to give meaning to their environment (Robbins & Judge, 2012). Thus, people behaviours and attitudes are based on their perception of reality, which can be substantially different from objective reality. According to the mechanism of perception, people select information from the environmental stimuli, organise and interpret them and behave consequently (Fisker & Taylor, 1991). So, the context, including location, light, heat, can influence human perception and reaction to reality (Robbins & Judge, 2012). In particular, the impact of any objective stimulus depends on the personal and subjective meaning that the individual attaches to it (Ross & Nisbett, 1991). As a result, understanding the impact of space on individual-level outcomes behaviour would always be limited by people's different perceptions of reality. Nevertheless, we will try to do a literature review on the relationship between workspace and performance and workspace and well-being.

Before analysing how different office types impact people performance and well-being, we have to define office layout. In general, an office type can be seen as the combination of architectural features, the spatial organisation, and functional

features, the work organisations (Danielsson & Bodin, 2008). The spatial organisation refers to the physical office space and arrangement of objects within the individual workspaces and the building arrangement (Colenberg et al., 2020). According to this definition there are different office arrangements, in particular open-plan, cellular, combi, and flexible office[32]. In particular, Duffy & Tanis (1993) classified offices in three broad categories: conventional open plan, cellular office and multi-space ABW office.

3.1.2 Workspace and employees' well-being

In the current context, there are various definitions of well-being, especially at work. For our purpose, we define well-being as the overall quality of an employee's experience and functioning at work (Warr, 1987). According to this definition, well-being is a comprehensive concept that includes a person's psychological, physical and social functioning at work (Nussbaum, 2001). Consequently, there are three core dimensions of well-being, physical health, psychological happiness and social relationships (Grant, 2007). The most significant finding of studies on the relationship between workspace and well-being is that there are substantial differences concerning satisfaction with office environments, health status and job satisfaction between employees in different office types; differences that can be ascribed to the architectural features (Danielsson, 2005).

Concerning overall office environment satisfaction, cell office employees are the most satisfied, followed by flex offices. However, the results for cell office are not uniform since they score low concerning the social aspects of design-related factors and, in particular, on support area. The most dissatisfaction is reported in medium and large open-plan offices, where the complaints about noise and lack of privacy significantly negatively affect satisfaction (Danielsson & Bodin, 2009).

As we already specified, the physical space can be considered as an external stimulus for human perception. According to job demands-resources theory (Demerouti et al., 2001), the interior workspace can be a demand, for instance, by causing environmental stress and a resource, for example, by facilitating relaxation and social cohesion. The primary employee well-being-related indicators are job satisfaction, health complaints and distress.

We can define job satisfaction as a positive feeling toward one's job from evaluating its features (Robbins & Judge, 2012). According to recent studies, job

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[32] For the definition of the office types refer to the paragraph 1.1 of the first chapter.

satisfaction tends to increase when employees have higher control over their work demands and experience inclusive leadership and effective cooperation within their workgroup. In this sense, more individual control over the physical workspace and access to meeting place increased job satisfaction (Danielsson & Bodin, 2008). Both these needs are best satisfied in two kinds of office layouts: the cell office, where workers can personalise their room, and the flex office, where both architectural and functional features enhance the ability to exercise personal control. In ABW offices, people can choose their workstation according to personal preference and tasks and have higher power on their work organisation, which was found to be an essential source to reduce psychological and physiological strain at the workplace. On the other hand, workers in combi offices reported the highest prevalence of job dissatisfactions, followed by workers in open plans.

Moving to physical health, cell office and flex office were associated with better self-reported health (Danielsson & Bodin, 2008). On the other hand, shared room and small and medium open-plan offices were found to be inferior for general health, and large open plan offices were low for physical problems. In particular, employees in traditional open-plan offices have a higher risk of short sick leave than those in single or flex offices. In another analysis, sickness absence was found to be highest in open-plan offices (Richardson et al., 2017). Thus, working in open spaces tends to have a negative relationship with physical health if there are no support areas to divert to for concentration or collaboration tasks as in the flex office (Colenberg et al., 2020). Flex office were best regarding efficiency calm and harmony and quality of sleep (Colenberg et al., 2020). Anyways, the actual impact of the physical space on health remains unclear for two main reasons: all studies rely on self-reporting, and people in flex office are usually under a Smart Working that hides the risk that people can work from home even if they are sick.

Concerning psychological health, it was proved that environmental stressors increase physiological arousal, cause stimulation overload and evoke coping strategies, such as social withdrawal. Meanwhile, opportunities to adjust to the environment and have higher control over it mediate the experience of environmental stress. Moreover, according to the Attention Restoration Theory (Kaplan, 1995), green spaces and other environmental features can reduce stress. In general, open-plan offices are associated with lower levels of psychological well-being and deterioration of co-worker relations (Haapakangas et al., 2018). In particular, employees in open-plan offices reported more negative interpersonal relationships and uncooperative behaviour (Morrison & Macky, 2017). On the other hand, the flex office, especially

when implementing ABW environment, experienced more positively than open-plan and cell offices (Colenberg et al., 2020).

3.1.3   Workspace and employees' performance

The physical environment is one of the most critical factors for an employee's productivity (Clemets-Croome & Baizhan, 2000). As we saw, today's workplace is diverse and constantly changing, and issues related to office design are significant (Nawaz et al., 2019). As a result, the indoor office environment is seen as one of the "killer variables" that critically influence employees' perceived productivity and performance (Leaman & Bordass, 2006).

Performance is considered a vast concept, and there is no standard and univocal definition (Tangen, 2005). For the purpose of our aim of demonstrating the relationship between the physical workplace and performance, we will define performance especially as task performance, which is the combination of effectiveness and efficiency at doing your core job task (Robbins & Judge, 2012). The ability to perform a task is considered one of the main dimensions of performance directly linked to productivity (Boxall & Purcell, 2011). Productivity means how much and how well employees produce from the resources used. In this sense, productivity is closely related to resource use and availability (Bernolak, 1997). The task performed should be done efficiently, using the minimum resource level that is theoretically required to run the desired operations, and effectively, the ability to reach the desired objective and create value (Tangen, 2005).

When asked to self-assess their productivity, individuals responded that they believed that the office environment directly influenced their productivity. Furthermore, when dissatisfaction with the environment was high, there was a low level of self-assessed productivity (Clements-Croome & Baizhan, 2000). In this sense, the overall satisfaction and the general comfort with the environment are some of the most relevant predictors of performance. Nevertheless, satisfaction with the organisation explains the most variance concerning satisfaction with the office environment and productivity support (De Been & Beijer, 2014).

The ability to perform is one of the most important human factors that influenced the productivity of workers. In this sense, the office layout that provides workers with comfortable environmental conditions that allow individuals to control and adapt to those conditions can positively impact performance. In particular, having control over office conditions, especially the ability to reconfigure furniture and adapt spaces to accommodate different tasks, significantly affects performance (Judith Heerwagen,

1998). "Overall comfort" is an umbrella that covers peoples' perceptions of heating, cooling, ventilation, lighting and noise. The more comfortable people say they are, the more productive say they are (Leaman & Bordass, 2006). Noise and privacy show the strongest association with performance and office type is a significant predictor. While in flex offices, people can choose to work at diverse workspaces, people evaluate productivity support, concentration and privacy less favourable than people working in cell offices. Concerning noise disturbance and confidentiality, a cell office guarantees the best conditions, while the open-plan the worse ones, leading to deleterious effects on employees' productivity (Richardson et al., 2017). Flexible ABW office decrease perceived privacy and expose workers to different distractions associated with lower environmental satisfaction and impair cognitive performance. On the other hand, in combi offices and flex offices, people are more satisfied with communication than cell and open-plan offices (De Been & Beijer, 2014). Office layout can affect productivity through distraction, negatively affecting productivity, or interaction, leading to a positive effect on productivity (Richardson et al., 2017). ABW office features enhance interaction with colleagues that have a significant positive impact on perceived productivity. Moreover, active use of workspaces might facilitate productivity by ensuring appropriate conditions for different work tasks, also controlling noise and privacy conditions. Regarding workspace use, a higher number of workspace switches per day and many different workspaces used were associated with higher productivity (Haapakangas et al., 2018).

As we demonstrated, a building can positively and negatively affect employees' well-being and performance. Adverse effects are associated with discomforts, distractions or health risks that interfere with people's ability to do their work. Consequently, a great deal of attention has been devoted to understanding these problems and reducing them (Heerwagen, 1998). For well-being and performance, space matters, in the next part, we will consider the main architectural characteristics of an office that can affect well-being and performance, trying to understand how to lead to positive implications. We will analyse which strategies an organisation can put in place to design a workspace that creates the adequate conditions to activate a positive virtuous circle to give rise to a stimulating and accessible, and therefore performing and healthy, work environment.

3.1.4   BOX: How to design? An architectural psychology approach

Architectural psychology deals directly with the response of people to designed environments, focusing on conditions which are, at least partly, under the control of building designers. It is a subfield of workplace environmental psychology and focuses on three levels of analysis, individual, social and organisational (Philip, 2001). In this BOX we will adopt an individual-level analysis, considering objectively measurable ambient conditions and features of workstations, or areas designed to accommodate the worker (Sundstrom, 2001). According to a report by the American architecture studio HOK (2013)[1], some of the aspects that must be taken into consideration to design a work environment that positively impacts well-being, health and performance are acoustics, crowding, colour, microclimate and thermal well-being, biophilia, sensory, spatial diversity and ergonomics.

Acoustic

Noise constitutes a problem in many work environments, especially in open spaces. Sundstrom and others (1994), in a survey of 2,391 office workers, found that about half of them reported noise as one of the first causes of work stress. Acoustic disturbance can encourage or hinder productivity depending on individual preferences and the type of activity to be carried out. For example, it is proven that interruption during simple and monotonous activities is stimulating, while continuous interruptions during complex work are harmful (Costa, 2009). In addition to damaging concentration, high noise levels can increase stress, especially when the noise is out of control and unpredictable (Millar & Steels, 1990). Allowing people to control noise by providing access to rooms with closed doors reduces its adverse effects. The influence of noise is also mediated by personality: extrovert subjects usually have a lower level of physiological activation than introverts. They need more stimulation to feel at an optimal activation level; introverts, on the other hand, are more sensitive to noise and show lower performance in loud environments (Campbell, 1992).

How to design?

- Use noise absorbing materials, such as carpet, acoustic false ceilings;
- In open spaces, ensure that the proximity of employees is functional so that people sitting nearby are performing the same activities;
- Allow the possibility to book quiet rooms or team rooms for group work;
- Design spaces for concentration away from areas dedicated to meeting and sociality, such as the break area.

Crowding

Careful space planning is crucial to make people perceived the work environment as less crowded. The actual density and the perception of it depend on gender and other individual characteristics and preferences. For example, men feel the crowding more than women. In performing complex and cognitive tasks, a crowded environment leads to a deterioration in performance. In fact, for concentration tasks, silence and solitude are indispensable for high productivity (Freedman, 1972). Finally, other studies have shown how being in crowded environments increases heart rate and blood pressure (Evans, 1979).

How to design?
- Designing bright spaces, rectangular rooms, with high ceilings, many windows, mirrors and colours that increase the perceived size;
- Arrange the workstations to mitigate the visual impact while seated and install sound-absorbing panels that also improve privacy;
- Allow where possible the view on windows, placing shared offices in open spaces on the perimeter of the building and meeting rooms at the centre;
- Use as much as possible the office's potential, allowing employees to choose the place to work according to the activity to be carried out.

Colour

The perception of colour varies according to culture and life experiences. However, colours in work environments have almost a universal impact (Mahnke, 1996). Red increases the feeling of strength, and energy is associated with vitality and ambition. However, red is rarely used for walls because it is too energizing. Blue is calming and regenerating and facilitate activities of concentration and creativity. Green offers an excellent environmental background for meditation and for moments that require great focus. Pink reduces the sensation of irritation, aggressiveness, loneliness, discouragement and overload. Yellow facilitates decision-making; it is stimulating but, if very saturated, irritating. Orange creates enthusiasm and stimulates movement, promotes good emotions and increases self-esteem. Brown is rarely used in ceilings because it conveys a sense of oppression and heaviness; conversely, in light tones, it is often used in walls and floors to recall wood. White is a neutral colour: it helps to spread light, reduce shadows and give a sense of cleanliness to the working environment, but it gives a sense of emptiness, sterility and lack of energy; in the floors, it produces a sense of inhibition as if it indicated a ban on trampling. Finally, black generates extraneousness and gives a feeling of emptiness, oppression and restlessness (Kwallek et al., 2006).

<u>How to design?</u>

- Use colours strategically to promote desirable behaviours based on psychological reactions and not on personal preferences;
- Vary the colour within the working environment, using it to identify traffic routes or to emphasize the change of a space;
- Use light colours to help light reflect through space and increase natural light.

Microclimate and thermal well-being

The thermal comfort is given by the right combination of temperature, air circulation and humidity. The balance between these elements is essential for good physical well-being in the working environment. The ideal temperature in office environments is 21.6ºC: each higher or lower degree generates a 1-2% variation in performance (Tanabe et al., 2007). Exposure to a temperature higher than 32°C for more than two hours compromises mental performance in uninhabited individuals even if the results do not show a noticeable effect (Sundstrom, 1986). The heat tends to cause apathy, drowsiness, lack of motivation, decreased alertness, feeling of fatigue. Other studies have shown a decrease in pro-social behaviour and altruism in situations of intense heat. Generally speaking, the ability to control environmental conditions, such as temperature, increases productivity (Rind, 1996).

<u>How to design?</u>

- Implement temperature control devices for different working areas and rooms;
- Provide opening windows and curtains/ shutters modulated to optimise air, light and temperature;
- Realise an air recirculation system, both mechanical and through the windows.

Lighting

People generally prefer to be surrounded by a natural environment that provides sensory emotions. Natural light and the possibility of being in contact with natural elements increase well-being by improving heart rhythm and sleep cycle, reducing stress situations. At the office, much attention must be paid to the floor lighting (Forcolini, 2004). In fact, a more intensely lit floor than the ceiling tends to be perceived lower, generating a sense of oppression. In addition, walking on a heavily lit floor provides a feeling of buoyancy and loss of balance.

How to design?

- Organise the space by maximising the penetration of natural light, placing the open spaces on the perimeter of the building where there are windows and closed rooms at the centre;
- Use glass or plexiglass walls where privacy is not required;
- Give preference to "panoramic views" for shared spaces;
- Provide a very lit ceiling and gradually decrease intensity to the floor.

Biophilia

In a 1995 study by the European Environment Agency, 95% of people surveyed believed that contact with nature significantly reduces stress (Agency, 1995). In addition, according to the theory of Attention Restoration (Kaplan, 1995), mental fatigue results essentially from the prolongation of a condition of great attention on a specific task or stimulus. The experience and observation of a natural environment lead to spread the attention over the surrounding space, which generates an experience of relaxation. Natural environments also represent aesthetically attractive stimuli that encourage the exploration process that keeps the attention spread over time without causing fatigue.

How to design?

- Create environments inspired by nature in colours and materials;
- Favour natural lighting and the view towards green areas;
- Ensure maximum attention to air quality and natural ventilation;
- Choose carefully which and how many plants to insert;
- Provide outdoor green spaces for breaks.

Sensory, spatial diversity and ergonomics

An environment that is too uniform, with the same neutral colours, same shapes and materials, does not favour productivity but can lead to boredom, apathy and passivity. The working environment should be designed to allow individuals to choose where and how to work, based on the activity they are carrying out. Finally, the office must have an adequate level of ergonomics.

How to design?

- Vary colours and materials while maintaining consistency in style;
- Use natural materials, such as wood and greenery;
- Minimise the impact of long corridors by inserting paintings or photographs;
- Provide various work environments that can support a variety of work activities according to the Activity Based Working model;
- Provide technology that allows workers to collaborate and communicate both in person and virtually;
- Provide adjustable furniture, including chairs, desks and lamps;
- Equipped all workstations of similar and intuitive technologies to allow employees to move from one workstation to another without wasting time;
- Encourage employees' mobility, for example, by using the stairs instead of the elevator, create a gym inside the office etc.

We have shown how the different office layout models that have developed over time have a different impact on well-being and the performance of inhabitants. In particular, we have analysed how the flexible office model, which moves away from desk-based working in favour of Activity Based Working, can bring considerable benefits for workers. Only when the office layout is directly linked to the office occupiers' work patterns can productivity gains be achieved (Haynes, 2008). The building should offer office environments that consist of a balance between private space and communal shared space to support the different work patterns undertaken. The balance will be very much dependent on the mix of the work patterns in the office. In the next chapter, we will deepen the concept of Activity Based Working analysing its individual and organisational advantages and its possible downsides. Moreover, in chapter 5, we will define the effective steps to understand the right balance between support and private areas in an Activity-based office.

3.2 The Workplace today

Digitalisation completely disrupted the link between activity, space and time, allowing people to work anywhere regardless of physical presence and contemporaneity. A new Smart mode of work developed, based on flexibility and

autonomy in the choice of spaces, schedules, and tools in return to greater responsibility for results. This provoked a real revolution in the definition of workspaces. Thanks to technological advancement, work is everywhere. Nevertheless, this did not lead to the demise of the physical office but to an enlargement of the workplace typology (Van Meel, 2015).

In particular, drawing from Van Meel's tentative to define a typology of the current workspaces, we will shortly analyse four types of them that differ in setting, design, space usage, formality and underlying purposes. The first two are considered "non-office" workplaces, public spaces and the home office. The second two are relatively new office types, the coworking and the flexible office. After defining the different places where agile workers can carry out their activities, we will focus the attention on the flexible office. Concerning this, there is no standard design solution, but what works depends on environment functionality and other "soft" factors, including organisational culture, values, managerial style and personal inclinations (Van Meel, 2015). The most critical development in the conceptualisation of the office design approach was understanding that spaces should primarily support people's activities. Consequently, many architectures and design consulting firms tried to cluster working activities in macro categories to create the perfect supporting flex office.

i. Public spaces

The technological advancement and the consequent work mobility allow people to work from parks, cafes, libraries, airports, hotels, train stations and other public spaces. Working in public areas is fundamentally different from working at the office because of the surrounding environment. At the office, workers are surrounded by colleagues who live in the same organisational context; while, public spaces expose people to the unpredictable (Van Meel, 2015). Working in public areas provides a level of flexibility and openness considered adequate by many knowledge and mobile workers. Exposure to other people, unexpected events, and distinctive settings may positively influence their creativity (Van Meel, 2015). Public spaces are considered a natural and healthy extension of the indoor workplace, which is also more sustainable (Parsons, 2012). However, carrying working activities in non-private environments can be unpractical and disturbing. In particular, public spaces are not designed for work and, even though most of them provide the Wi-Fi and comfortable seating, it is still very different from sitting on an ergonomic chair at the office with a double monitor. Moreover, workers in public workspaces do not have any control over their

noise that can be very distracting. A literature review on public spaces suggests that their physical and social characteristics can constrain knowledge workers' cognitive work and communication negatively (Ng, 2016). The category of public spaces includes various kinds. The information is primarily taken from Van Meel's 2015 typology of current workspaces. Many employees or independent workers choose public parks for the tranquility they provide. Many parks have local hotspots for connecting to Wi-Fi[33] and, if you do not need the Internet connection, it is the perfect place to contemplate and concentrate with no distractions.

Figure 11 – Workers at Bryant Park, NY

Source: Van Meel, J. (2015). Workplaces today. Centre for Facilities Management.

An indoor but still quiet alternative are libraries, public spaces with the advantage of actually being built for knowledge work. The most characteristic feature is silence and the study atmosphere they provide. An indoor and informal option is cafes that welcome so many workers every day to be called "coffice". Since the atmosphere is louder than libraries, workers can even take calls during the workday. Finally, there are travel-related public spaces, including train stations, airports and hotels halls. People working from those kinds of areas are usually not choosing it, but it is a way to make more productive travel hours.

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[33]At the centre of New York, Bryant Park was the first of the city parks to provide free Wi-Fi to its users. The park is always full of people carrying their daily working activities.

ii. The home office

The literal definition of "Home Office" is a room or area in someone's home used to work. The modern concept of the home office developed in the last decade of the 20th century, when information technology developments brought virtuality and mobility in our work. When organizations understood the potential advantages, they could get from employees' rotation in the office implementing flexible and agile working, they also started to push people to work from their homes. People's houses became one of the possible places to carry out activities out of office (Van Meel, 2015).

Even though the home was judt one of the contemplated workspace for mobile workers, what happened with the Covid-19 outbreak was an instant shift of workspace for almost the entire global population. The pandemic sent at home workers worldwide with their laptops, facing the issue of setting up an office space in their houses (Devis et al., 2020). Before the crisis only 5% of people typically worked from home most of the time and 71% only occasionally (Steelcase, 2020[34]). Especially for people that never experience agile work before, the home became in the common mind the only space for work to be performed out of the office. In this sense, flexible working and Smart working was exchanged for "homeworking" or "teleworking".

However, Smart working and Homeworking are not synonymous, and the difference is not just in the name but also in the respective regulation and, most notably for our aim, in the obligation of employers toward workers' home offices. According to the law[35], telework is the operational activity performed outside corporate offices, in areas within the worker's availability, particularly his/her accommodation. The technological tools necessary for the normal development of telework must be supplied, installed and maintained by the employer who is responsible for them. The employer is also responsible for the health and safety at work of the teleworker, that include the ergonomics of the chair and table. To verify the correct application of the regulatory provisions, the employer shall have access to the place where the telework is carried out at home. On the other hand, agile working

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[34] Steelcase. (2020). Your workplace of the future. What you need to know to plan your future workplace strategy. https://www.steelcase.com/research/topics/workplace/

[35] The Italian legal source that defines telework is the Inter-Federal Agreement of 9 June 2004 signed by the most relevant trade unions (the CGIL, CISL and UIL triad) and the employers' most representative associations. The Agreement is the transposition of the European framework agreement on teleworking concluded in Brussels on 16 July 2002.

is, by law[36], a way to implement the employment relationship characterised by the absence of any specific constraints on working hours or places of work. The work is performed partly inside the corporate offices and partly outside without a fixed location within the maximum daily and weekly working time limits defined by the company. In this sense, the home office is just one of the contemplated locations for agile workers to carry their activities. Also in the case of agile work, the employer must provide the technical equipment but not the Internet connection. Concerning occupational safety, the employer must supply the agile worker with just a piece of annual written information identifying the general and specific risks associated with flexible working. However, it does not have to verify the safety and the ergonomics of the home office.

Since the nature of work is changing, becoming more versatile, agile, and collaborative, employers need to offer a more comprehensive array of workplaces, both inside and outside the office, to support their workers (Gensler, 2020[37]). Especially after the Covid forced home working, the house is expected to become one of the most relevant places to carry work for many people worldwide. So, the way we design and furnish our houses will vary according to it (Ogundehin, 2020[38]) and ergonomic seating and effective work tools become fundamental to help avoid working-related injuries and strains (Steelcase, 2020[39]). For most employees, their homes will become part of the expanded ecosystem of workplaces. Consequently, it is crucial to briefly analyse the features of the home office that will help create a workspace at home that is more comfortable, increase performance through higher concentration and guarantee safety and wellbeing (Van Meel, 2015). Creating a working corner, a designated studio or a dedicated zone in another house area is fundamental. Consider background noise, visual privacy and level of distractions. Make sure you have control over lighting and temperature. To ensure ergonomics, it is best to have a chair with lumbar support, a soft seat, and adjustable armrests. Even more appropriate would be having a height-adjustable desk so you can change posture and work also standing up for some time of the day. Then, make sure to be equipped with all the work tools you need to perform your tasks; laptops, mouse, monitors,

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[36] is regulated by the Italian Law 22 maggio 2017 n. 81 art. 18

[37] Gensler. (2020). U.S. WORK FROM HOME SURVEY 2020. https://www.gensler.com/workplace-surveys/us-work-from-home-survey/2020

[38] Ogundehin M. (2020). In the future Home, from will follow the infection. Dazeen. https://www.dezeen.com/2020/06/04/future-home-form-follows-infection-coronavirus-michelle-ogundehin/

[39] Steelcase. (2020). Your workplace of the future. What you need to know to plan your future workplace strategy. https://www.steelcase.com/research/topics/workplace/

headphones, and keyboard are just some of them. Finally, take care of the lighting in the area: exploit more natural light as possible and if it is not enough, use a work lamp, placed on the opposite side of the desk to the dominant arm.

iii. Coworking

Coworking is usually defined as a contemporary open workspace that offers shared office facilities and infrastructures to people from different professional backgrounds, especially freelancers, entrepreneurs, start-ups and micro-enterprises (Bouncken et al., 2021). According to the most recent literature, coworking is more than a workspace, it is a complex social phenomenon that tries to provide a "third place" for independent workers other than the traditional corporate office and their house (Dodson et al., 2016).

Coworking is a very contemporary phenomenon closely linked to the "flexibilisation" of labour during the 21st century. In the last two decades, the radical shift toward more self-employment and freelancing created many "footloose" professionals in need of flexible spaces to work (Van Meel, 2015). In this sense, coworking reflects the broader changes in the labour market that affect how work is performed and how people collaborate, communicate and coordinate their work (Spinuzzi et al., 2019).

The origin of coworking is often traced back to the initiative of an independent computer programmer from San Francisco, Brad Neuberg (Dodson et al., 2016). In 2005, he decided to quit his job at a large technology company and work as a freelancer to seek more autonomy and flexibility. However, he experiences the loneliness of working alone from home (Neuberg, 2005). Consequently, he started the "Spiral Muse coworking community", eight desks, a couple of sofas and a kitchenette, where renting a desk cost hundreds of dollars a month. Neuberg's initiative entered history as the first coworking (Van Meel, 2015).

Certainly, coworking's social aspect is its most defining characteristic (Van Meel, 2015). Coworking's five core values are Community, Openness, Collaboration, Sustainability and Accessibility (Spinuzzi et al., 2019). The main idea of coworking is that independent professionals work better together than alone. Consequently, it promotes a collective community-based approach to work (Merkel, 2015). Community is about creating an environment characterised by knowledge sharing dynamics that foster collaboration, a culture of condivision and exchange of information (Spinuzzi et al., 2019). The co-habitancy of workers with different

backgrounds, knowledge and skills stimulate the emergence of collaboration (Dodson et al., 2016).

Starting from coworking's aim, the architecture and the design try to support collaboration, knowledge sharing, and innovation. Innovative interior design, stylised furniture, aesthetic and playful setting are typical of co-workspaces. The open-plan induce interactions and enhance proximity between coworkers. Sharing offices with people with different backgrounds foster connections and knowledge sharing. Innovative settings boost creativity, imagination and inspire people to create new ideas (Bouncken et al., 2021). According to Gensler's Experience Index[40], coworking, as a place that support community and social connection, led to higher job-related perform and yield higher job satisfaction in the workplace. Coworking tries to combine the low cost and flexibility of working from home with the social contact and professional facilities of working at the office (Van Meel, 2015). It responds to the increasing fragmentation and individualisation of work practice in the knowledge and creative economy (Gandini & Cossu, 2021). The aftermath of the 2008 financial crisis saw the collapse of the full-time long-term stable employment paradigm and the rise of precarious working conditions, which boosted the coworking spaces. Self-employed workers, small businesses or start-ups move to coworking spaces for different explanations, including the need for personal contact, access to communal infrastructure and resources at low price and networking occasions with potential clients and collaborators (Spinuzzi et al., 2019).

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[40] The Gensler Experience IndexSM is the result of a multi-year research effort to identify and quantify the factors of design that impact the human experience. The survey is composed by more than 4,000 people across the U.S. Its ultimate goal is to understand how to design spaces to deliver great experiences.
https://www.gensler.com/publications/dialogue/31/coworking-whats-right-for-your-brand

Figure 12 – Number of coworking spaces worldwide from 2005 to 2020
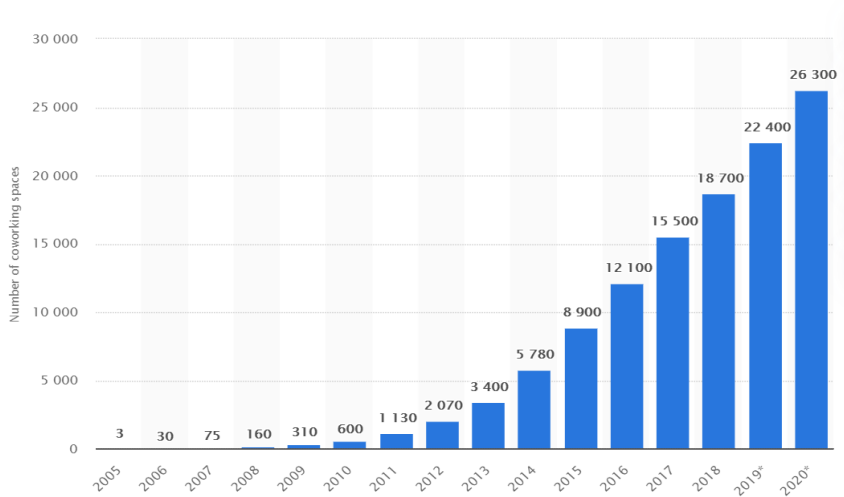
Initially considered just a "third way" between home and office, today, coworking represents the primary workplace for millions of knowledge workers worldwide (Gandini & Cossu, 2021). In 2020, the number of coworking spaces worldwide was projected to reach more than 26,000. Data show that in 2020 coworking were almost 20,000 and this number is expected to grow over 40,000 in 2024 (Coworking resources, 2020[41]).

Nowadays, there are three main trends we see concerning coworking.

First of all, large corporations are interested in creating their own coworking space to provide an entry point to talents and promising start-ups (Van Meel, 2015). In this sense, big companies from different industries, including technology, insurance, and telecommunications, invest in designing their internal coworking spaces (Gabor & Lindsay, 2018). Besides building a knowledge network, companies are also trying to attract talents of the new generation that seek attractive, collaborative spaces that guarantee mobile, flexible and autonomous work.

Second of all, companies are starting to employ co-workspaces, renting desks for their employees. Primary, this facilitates employees who live far from the office (Van Meel,

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[41] Global Coworking Growth Study 2020,
https://www.coworkingresources.org/blog/key-figures-coworking-growth

2015) to be part of a community even outside the corporate site. Guaranteeing more flexibility and saving on travel costs, companies expose their employees to outside expertise and innovation (Bouncken et al., 2021). Deskmag's global survey on coworking spaces[42] shows that one out of four people in co-work spaces membership fees are paid from their employer (Foertsch, 2019). Moreover, with the rise of demand of more flexible working, giving a percentage of a company's real estate assets to coworking can help deal with the current labour market's uncertainty. The flexibility of coworking allow companies to ease the pressure on the main office space, depending on the contingent needs, such as new projects or temporary labour demand (Condeco, 2020[43]).

Finally, coworking spaces are also developing outside their usual setting, that are the biggest and economically developed city centres (Gandini et al., 2021). Especially after the Covid-19 pandemic, co-work spaces are emerging in peripheral areas, giving people the possibility to reach a co-space without taking public transports, but enabling contacts and collaboration between people (Merkel, 2015).

iv. The Flexible office

As we already saw in the paragraph dedicated to the office evolution in the 20th century, the concept of virtual office was introduced in the 1990s with the advent of information technology. At the turn of the 21st century, besides reflecting the new work mobility, that kind of office mirrored the fundamental shift to the knowledge economy. The new economy is essentially characterised by the rejection of linear and repetitive tasks favouring knowledge application and creative thinking (Myerson, 2013). A further office adjustment is necessary to accommodate the increasing work connectivity, mobility, and flexibility (Duffy & Tanis, 1993). Moreover, after the Covid-19 outbreak, the global perception is that remote working will grow and remain part of the so-called "new-normal" working (Condeco, 2020). In this sense, one of the biggest challenges for companies is to create a new workplace that adapts to the hybrid model of work.

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[42] Deskmag is a magazine about new types of work and their places, mainly focused on coworking. Their Global Coworking Survey has given a comprehensive overview of the coworking industry for almost a decade. Its data are considered one of the most helpful resources in understanding trends and statistics about coworking.

[43] "The Modern Workplace 2020. People, places and technologies" – Condeco (2020) https://www.condecosoftware.com/modern-workplace/wp-content/uploads/sites/10/2020/04/TL-GEN-223-EN_The-Modern-Workplace-Report-2020.pdf

The flexible office, or "flexispaces", are versatile work arrangements that create dynamic environments to accommodate the different needs of workers (Van Meel, 2015). Flexible offices offer their inhabitants an efficient alternative to work from cafes or parks, from home or coworking spaces (Nickl, 2020[44]). There are three most relevant characteristics of the flexible office.

The first is linked to technology and the increasing continuity between a physical and digital working experience (Rolfö, 2018). The virtual presence coexists with the physical one in the office environment, which has to connect an increasingly mobile workforce (Myerson, 2013). Consequently, the offices are redesigned to partially dematerialise the real experience, integrating the online work dimension to the offline one. In this sense, companies create a "phygital workplace" that connects the physical and digital world, enhancing customer experience by choosing working methods (Rolfö, 2018).

The second feature of the flexible office is desk sharing: a type of "non-territorial office", which implies that workers do not have assign desks but can choose from a variety of shared workspaces (Van Meel, 2015). Since people are more mobile and can choose to work remotely, assign them a fixed desk will lead to an enormous waste of space and space-related money. This is also the most criticised feature of flexible office, as it will neglect people their natural tendency toward territorial behaviour generating negative work-related effects. We will discuss more in details the possible downsides of non-territorial offices in the next chapter. According to the pioneers of this concept, cost-saving should be just secondary to increasing workers' productivity by giving them the power to choose where, when and how to work (Becker & Steele, 1995).

The last sentence is highly correlated to the third main characteristic of flexible offices: their tentative to build an environment that support people's activities. The workspace should suit the actions and tasks, personalities and preferences of workers (Ross, 2010). Designers and architects understood that people have different needs and preferences and perform diverse activities according to their roles. In terms of space, this will translate into offering a greater diversity of areas from which workers can choose (Van Meel, 2015). Another consequence is the adaptability of the workspace: moving furniture, movable walls and versatile spaces are all contemplated

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[44] Nickl R. (2020). Flexible Offices. Office space flexibility isn't just about the space or how you use it—it's about the dynamic it introduces to your workplace. https://spaceiq.com/blog/what-is-flexible-office-space/#:~:text=It's%20a%20flexible%20space.,work%20you%20need%20to%20accomplish. &text=Flexible%20workplaces%20promote%20adaptability%2C%20which,%2C%20faster %2C%20and%20more%20efficiently.

in the flexible office. In this way, the environment enables work to flow from one context to another (Condeco, 2020).

When companies and corporate organisation understood that the ideal environment was the one that guarantees flexibility and different spaces for different tasks, they tried to develop new models of workspace. According to Myerson & Ross (2012), there are mainly four of those models that organisations have developed to respond to the needs of the turning century:

Figure 13 – Myerson & Ross models of workplace
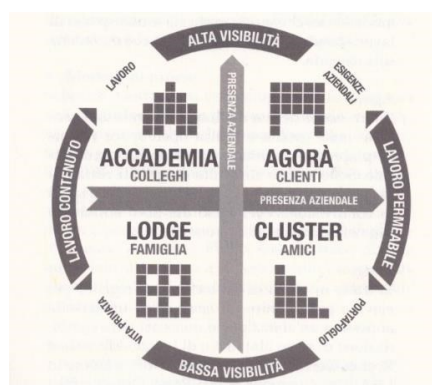
Source: "Strategie sullo spazio per I knowledge workers" – Vanhoutte & Clapperton, 2014

- **Academy**. Offices that encourage a more collegial and collaborative approach to work, leaving hierarchy aside. Academies are work environments where knowledge is more easily shared, where the possibility of the meeting is greater, and where training and mentoring are embedded in day-to-day activities. There is a high corporate presence, which allow colleagues to create a strong sense of community and communicate effectively with other divisions.
- **Cluster.** Offices used to physically group co-workers with different backgrounds and technical skills to facilitate information sharing, knowledge building and peer collaboration. Clusters are characterised by low company presence and a high degree of professional mobility. The main idea of this model is to put people with similar attitudes but different skills and ideas to share close to each other.

- **Agorà**. Offices that name derives from the Greek polis and describes a public workplace inserted within the city, bringing the company closer to its customers and market. It, therefore, indicates open space and marketplace, often made up of large buildings that can also contain shared spaces.
- **Lodge**. A new type of building combines life and work in a single environment, reconnecting living and working space spheres separated from industrialisation. We can refer to the Home Office as the primary example of Lodge, a space designed considering both work and private life's needs.

v.   *The different models to re-design the flexible office*

After the advent of the flex office, architects, designers, and consultancy companies focused on creating various workspaces that support people's activities. The starting point for constructing new design models was for many to cluster working activities in macro categories to design the perfect "flexispace". Gensler, in 2008, suggested the first model to re-design the flexible office. His scheme focused on highlighting two different dimensions of job-related performance, people and workspaces. He developed a performance measurement and analysis tool, the "Workplace Performance Index", based on identifying four categories related to the day-to-day working activities within the organisation:

- *Learn*, which allows the acquisition of knowledge on specific fields or skills through direct experience;
- *Focus*, which requires concentration and attention to carry out a particular task;
- *Collaborate*, which involves working together with other colleagues to achieve the objectives through teamwork;
- *Socialise*, which create a widespread sense of community and a shared culture through interactions between people.

Figure 14 – Gensler Model
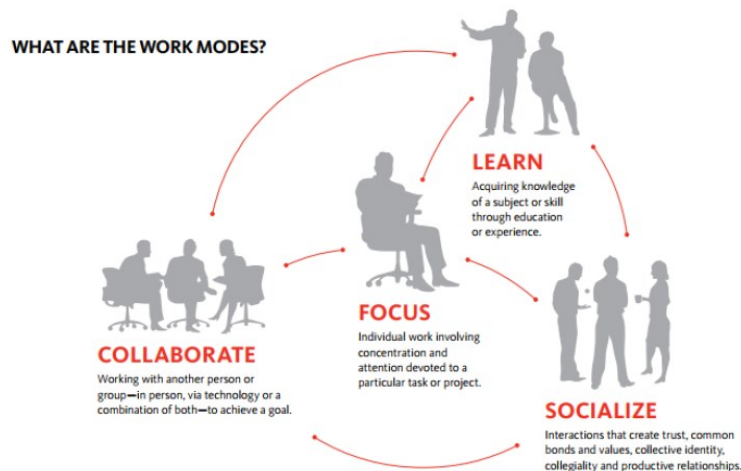
According to this model, there should be an adequate space in the office for each of the four activities. The physical working environment represents a real competitive advantage if used in the right way, that is, following the needs of people and thus facilitating them in work. The workspace offers the possibility to add knowledge, enable concentration, and communicate and share information. According to Gensler, this model can have a specific and quantifiable positive impact on business success (Gensler, 2008).

Later, in 2010, Knoll presented a model based on two essential components, the working modality and the basic organisational activities. Knoll states that there are three main ways of working in the current context:

- *Focus*, the individual work that requires focus and concentration;
- *Shares*, the exchange of ideas and knowledge between small groups of colleagues;
- *Team*, the group work aimed at achieving specific common objectives.

Figure 15 – Knoll Model

Source: "Design for Integrated Work" – Knoll, 2010

Consequently, the physical workplace should offer *ad hoc* environments that reduce distractions and interruptions and support the concentration of the individual, shared workstations to allow communication and formal and informal meeting areas for team activities.

Moreover, Knoll points out that the flow of information and the transition from one working mode to another are particularly critical for organisational effectiveness. Accordingly, it proposes two workspace integration modes that can improve business performance:

- *Horizontal workspace integration*, in which each working modality has a dedicated space within the office, and workers move around different areas depending on the activities to be carried out;
- *Vertical workspace integration*, where workers always remain in the same room, but the environment changes to accommodate their needs.

Under hybrid model conditions, the "smart office" will be smaller due to the decrease in attendance of workers, and the spaces will be distributed more efficiently. The layout of the offices will become more flexible, in line with the evolution of organisations and business models. Instead of working in a fixed place, people will choose the space that they consider most suitable according to the activity.

In this context, the Activity Based Working developed and it is considered the model that best responds to activities related-needs of workers. Activity Based Working is a holistic approach to workspaces that focuses on interactions between individual culture, business processes and practices, and technologies. Technology represents the enabling factor for mobility work and working remotely. Nevertheless, a workspace intervention is a cultural change that should rely on adapted process, practices, and policies to the new flexibility needs.

At the base of this rounded approach, the "physical space" is redesigned, considering the needs of the employees, respecting the environmental component (Veldhoen, 2015). According to the model of Myerson and colleagues (2010), the winning formula of an effective work environment depends on its ability to accommodate daily working activities, clustered in four macro-categories, namely the "4 Cs", Collaboration, Concentration, Communication and Contemplation. The workspace should be redesigned according to a logic that facilitates teamwork and the sharing of ideas, but that allows also focus and privacy for individual works. Moreover, the environment should facilitate dialogue, the transfer of information and the sharing of ideas, but also promote relaxation, creative thinking and innovation.

Starting from the analysis of the evolution of workspaces and the fundamental aspects of the design of an environment able to support flexible working, the concept that emerged more punctually is the adaptability of the workplace to workers' activities. In fact, it seems to be a relation between the ability of the environment to adapt to the various activities that characterise people's working day and their wellbeing and performance. The principal response to this environmental need is Activity Based Working, in which the main idea is having a various workspace with specific characteristics suitable for particular activities.

Activity Based Working is the theoretical framework we will adopt in the tentative to redesign the workspace according to organisational needs and culture, technological level and workers' activities. In the following section, we will analyse in detail the above model.

Chapter 4. How to re-think the work environment? The Activity Based Working

In the last decades, our society underwent significant changes, especially at a technological level, which have strongly affected the working life organisation (Wohlers & Hertel, 2017). This has generated a real revolution in the way of working and the consequent characterisation of workspaces. Digitalisation has completely broken the link between the space and the time of an activity, allowing people to work anywhere and any when, regardless of physical presence and contemporaneity. As we already mentioned, the primary representation of this new shifting paradigm is Smart Working. Working smart starts from the office, and it led organisations to rethink their physical space.

In a world where most individual activities can be performed remotely, the office has to find its reason why. In this sense, the workplace's classic model, based on the hierarchy and the assigned workstation in which all activities occur, becomes an endangered species. The office is no longer a static container of desks and chairs but an open place that stimulates meeting and collaboration.

As a result, the traditional workspace disappears to give space to an open and flexible office extended to outdoor areas. The new technologies allow mobile work, breaking the metaphorical chain that binds people to their desks. To survive, the office must become versatile and an attractive magnet towards which corporate values, sociality, and community sense are strengthened.

4.1 The Activity Based Working model

As we mention in the previous chapter, as workers' behaviours and needs change, workspaces must change and become a tool to support the business. As a consequence, many organisations are trying to implement the concept of "new ways of working", that broke the one-desk-one-person model.

In particular, the most advanced organisations have adopted the Activity Based Working (ABW) approach, that seems to support the office's urgency to adapt to new work developments better than the other models (Ross, 2010).

Erik Veldhoen coined the term Activity Based Working in the book "The Demise of the Office" in 1995. The book presents a new philosophy that can replace the traditional approach of space planning. The main idea is to create a model in which people can choose where to work among a series of different work settings. In this sense, the Activity Based Working theory (ABW) rethinks the corporate environment as a functional space for work activities and people's needs.

This results in dynamic offices, as they replace the idea of the individual workstation with a multitude of shared and diversified spaces. No one has a fixed workstation anymore, and the inhabitants of the workplace move from one space to another, working where the job takes them at that time (Clapperton and Vanhoutte, 2014). Instead of assigned desks, workers choose to work in different settings that support their activities or that helps them perform better (Groves and Maelow, 2016).

The ABW office is a space that provide people with the flexibility to carry out their activities in the most suitable environment. The imperative condition for ABW to work is mobility, ensured with wireless technology and mobile devices. All workers are equipped with office-issued laptops and phones, enabling them to work wherever they want remaining anyway connected to each other. At the end of the day, people free their desk and store their devices in their lockers.

This model's strength is to consider that the variety of activities people perform daily require an equal variety of contexts supported by the right technology and staging. Depending on the type of work, the physical environment required different tailored needs (Been et al., 2015). ABW creates a functional workplace specifically designed to meet individuals and teams' physical and virtual needs (Chen, 2020).

4.2 The 4 Cs and their new workspaces: Collaboration, Communication, Concentration and Contemplation

In the Activity-Based office space, the type of setting is determined by the type of task. According to the model, all the activities can be clustered in four macro-categories, Collaboration, Communication, Concentration and Contemplation (Myerson and Bichard, 2016). The definition of space, therefore, revolves around this division. The information about Activity Based 4 C's is taken especially from Clapperton and Vanhoutte (2014) and Myerson and Bichard (2016).

Collaboration and Communication refer to all those activities that need an interpersonal dialogue, which can occur face-to-face or remotely. In particular, Collaboration includes moments in which several people, a team, work together to achieve a common goal. Examples of collaborative activities are informal or planned meetings and urgent issues to be discussed and solved in teams. Instead, Communication includes all the moments of sharing ideas and information. Telephone conversations, videoconferencing, training sessions are good examples of such activities.

Opposite to previous activities, mostly carried out in a group, Concentration and Contemplation activities are primarily individual. In particular, Concentration activities require silence, focus and great attention. Examples of tasks included in this category are report generation, data analysis and processing, and research. Instead, the term Contemplation identifies all those moments of refreshment, socialisation and inspiration on a creative project. This is a category that is often misunderstood or underestimated, but it is precisely from regenerating breaks and creative brainstorming from which the most innovative ideas are born. Also, taking a moment to think about the work or stop thinking about it helps recharge the energy.

Figure 16 – The 4 Cs of ABW model
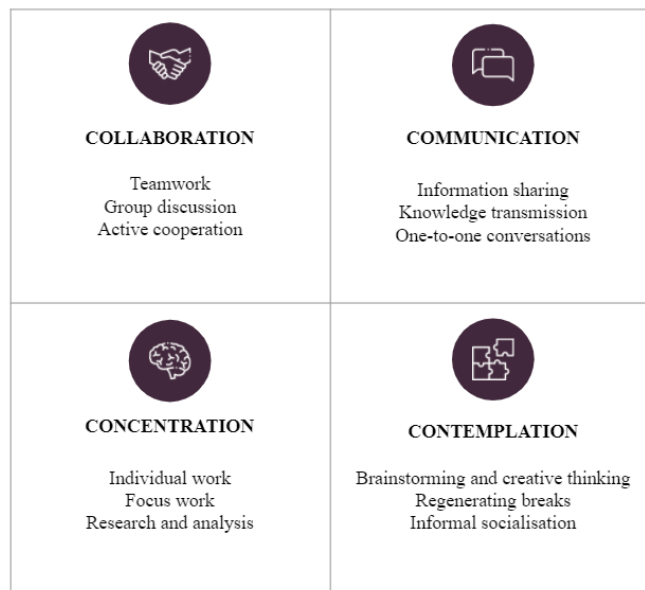
Source: Workitect

As composed of the same activities, each of the 4 Cs implies different design, lighting, and acoustics requirements. The information about Activity Based workspaces is taken from Clapperton and Vanhoutte (2014), van Meel (2019), and Workitect's experience in redesign office workspaces through Activity Based Working theory.

To meet Collaboration's need, the environment must be flexible and adaptable. Group work dedicated spaces must provide the possibility to move the elements to create a functional layout for the project. Besides, they must be equipped for paper sharing and must have large surfaces, blackboards, pens and digital image acquisition systems. It is crucial to mix formal meeting areas with more informal contexts, which facilitate spontaneous interactions. All Collaboration's areas must have dynamic and adjustable lighting systems to recreate the right atmosphere. Examples of spaces for collaboration are meeting rooms, informal meetings, project rooms and stand-up meetings.

Figure 17 – Project Room and Informal Meeting
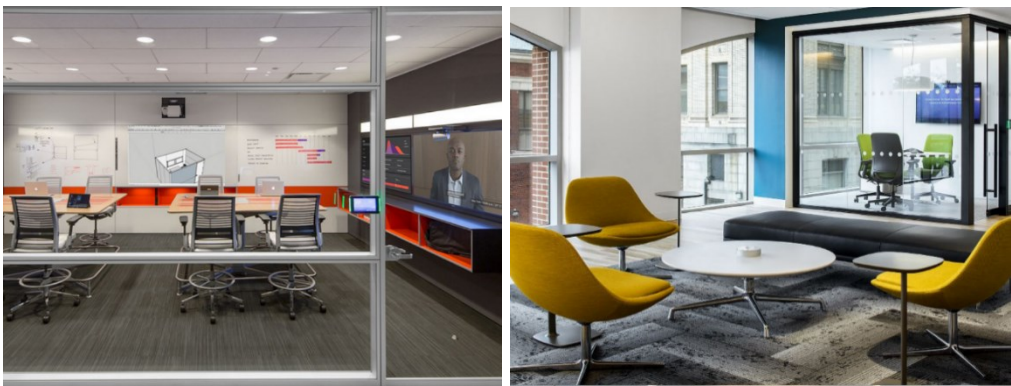
Source: Office Snapshot

The Project room, in particular, is an enclosed room with several workstations, combined with collaborative features. It is equipped with multimedia, whiteboards, and acquisition technology. It is suitable for project work or teamwork that is confidential, and it is bookable for short or more extended project group meetings.

The Informal meeting, instead, is an easy and comfortable support zone in open space dedicated to impromptu meetings and informal and casual conversations. It can function as a congregating point for teams or departments or informal discussions with clients.

The spaces dedicated to Communication activities must ensure noise insulation, privacy and confidentiality. They may include a variety of closed rooms or open space elements. Finally, they must guarantee efficiency in communication both in the presence and remotely. Examples of spaces suitable for Communication are training and conference rooms, phone booth or phone corner and face-to-face.

Figure 18 – Phone Booth and Face-to-face
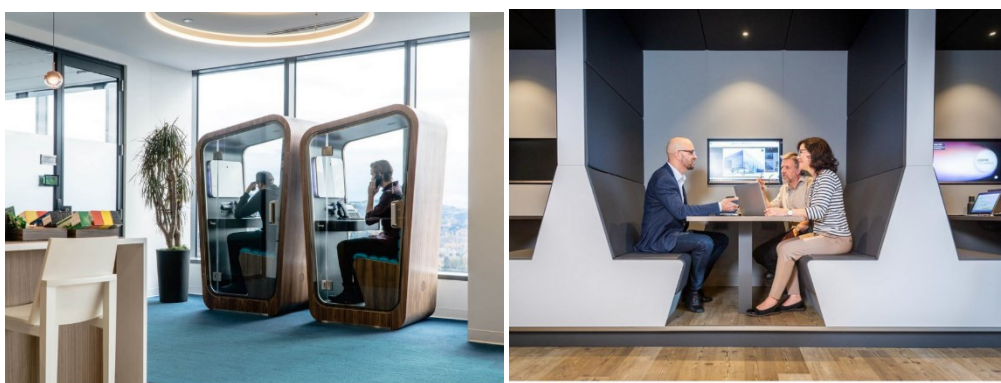
Source: Office Snapshot

The phone booth is a small 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. It is a purpose-build room for calls that allows sound isolations, and it is considered a way of removing noisy activities from open work areas.

The Face-to-face is an enclosed or semi-enclosed space dedicated to one-to-one or small meetings, usually equipped with a monitor. Typically, has highbacked seating that provides a sense of visual privacy while still being part of the open space around it.

Concentration activities require separate locations or designated areas, which can ensure absolute silence and no distractions. These should therefore be located away from noisy areas, such as the cafeteria and socialisation areas. Libraries, focus room, and private pods are part of the settings dedicated to Concentration.

Figure 19 – Library and Focus Room

Source: Office Snapshot

The Library is an enclosed room with multiple workstations, usually six or eight, dedicated to individual focus work. This space is intended for 'heads-down work in a group setting; a getaway from the chatty open space where no phones are allowed.

The Focus room is a small, fully enclosed, do-not-disturb and sound isolated room. It is a place that allows people to escape the buzz of the open work area and have complete isolation, silence and privacy.

Moments of Contemplation entail relaxing surroundings, which help recover from the office's stress and noise. These areas may recall the domestic environment or may be full of natural elements, plants and flowers. They also need to be flexible to host casual meetings with people that are not part of the same work team. Examples of spaces dedicated to Contemplation are the social or break area, brainstorming and relaxation area.

Figure 20 – Brainstorming and Relax area

Source: Office Snapshot

The Brainstorming is an enclosed or semi-enclosed room with a comfortable and innovative vibe. The environment is characterised by different kind of seats and equipped with creative material, like post-it notes, markers, surfaces to write and monitors. Great decor is an essential component for inspiring and encouraging creativity.

The Relax area is an open area dedicated to unwinding and pausing. It is characterised by a warm atmosphere with inviting furniture and natural elements to encourage employees to take a break and reflect.

4.3 The effects of the ABW model on employees and the organisation

The redesign of the physical workplace according to the ABW model provide workers with different locations that match the requirements for their different tasks. The development of this kind of design responds to emerging work imperatives, deriving by the increasing emergence of knowledge work (Wohlers & Hertel, 2016). The ABW office has proven to have advantages both for the individual and the organisation in general (Arundell et al., 2018). However, if the positive effects at the organisational level are more evident and supported by financial and empirical data, few empirical studies have examined the impact of ABW workspaces on employees' health, satisfaction, motivation and productivity (Wohlers & Hertel, 2016).

In the next paragraphs, we are going to review the literature and some of the most relevant research findings of the individual and organisational level effect of the ABW model.

4.3.1 The individual-level effects of ABW

Activity-Based workspace allows employees to perform their activities in a space tailored to their tasks (Engelen et al., 2018). In this sense, the model facilitates people's freedom to choose where to work, encouraged by management that supports employees' empowerment and flexibility (Wohlers & Hertel, 2017).

Defining features of ABW offices have a significant impact on employees' working conditions (Wohlers & Hertel, 2016). Numerous qualitative researches were done to prove the actual benefits of ABW on workers' performance and well-being. Nevertheless, there are just a few known measurable individual benefits, including increased employees' job satisfaction, improved collaboration and enhanced well-being. Still, the results are mixed, especially when talking about performance and productivity (Chen, 2020).

i. Overall workplace impact, culture and sense of community

The first important finding is about the overall impact of the workplace measured by employees' perception. The workspace's inhabitants are satisfied with the new environments in most aspects, the building architecture and design, space's functionality and flexibility (Engelen et al., 2018). Moreover, workers claim that the ABW workplace contributes to a higher sense of community, generating a more egalitarian and collaborative culture (van Meel, 2019). A robust sense of community positively contributes to well-being, promotes higher job satisfaction, and facilitates collaborative responses (Chen, 2020). A strong community feeling also contributes to organisational citizenship behaviour (OCB), the voluntary contributions made by an employee to their organisation (Podsakoff et al., 1997). Employees displaying more OCB tend to exceed performance expectations and have a much lower turnover rate than regular workers (Chen et al., 1998).

ii. Interaction, Communication and Collaboration

The perceived sense of a more synergetic culture is probably due to the positive influence of ABW on strengthening interaction, communication and collaboration among colleagues (Engelen et al., 2018). In particular, ABW-type environments are

perceived as increasing the possibility to meet and have informal and casual conversations (Gorgievski et al., 2010). Face-to-face interactions are essential for exchanging ideas and information within the organisation, and ABW can promote such interplays by providing inviting and effective meeting areas. Furthermore, the desk sharing concept helps contact between people from different work teams (van Meel, 2019). Besides, a positive association was found among the new workspaces and communication. The office is experienced as a functional environment for dialogue with colleagues and visitors (Blok et al., 2012) and knowledge sharing (De Been et al., 2015). Finally, ABW spaces are positively related to collaboration and cooperation effectiveness (Blok et al., 2012).

iii. Performance

As we just stated, the ABW style can support employees in working more collaboratively, with effective communication and increased informal meeting occasions (Blok et al., 2012). Moreover, with ABW, the worker becomes the "owner" of the workspace. The model allows each person to organise their work activities independently, moving between the office areas that are best suited to their needs. The worker gains a greater degree of freedom and autonomy, which translates into better self-management skills and increased intrinsic motivation. The perception of control over time and space positively influences workers' job satisfaction (Engelen et al., 2018). Furthermore, the ABW office allows employees to manage noise simply by moving to a quieter area and mitigating its adverse effects. The same applies to privacy: making a video call in an equipped area improves communication and allows the right degree of confidentiality with the great advantage of not disturbing others. Consequently, the principle of combining the elements of physical workspace to support the inhabitants' activities, the sense of control gained by the workers, and the findings on communication and cooperation suggest that ABW space could positively affect workers' productivity (Blok et al., 2012).

However, there is also good evidence in research that ABW environments are not adequate for concentration tasks (Engelen et al., 2018). Even though ABW enables people to choose the space that best suits their activities and creates areas dedicated to concentration, many occupants find it difficult to focus due to visual and acoustic distractions (Van Meel, 2019). The evidence about concentration is mixed, but in a particular study, more than half of the respondents reported being disturbed by others' conversations or activities and unwanted interruptions. Nevertheless, the results are better than those referring to an open-plan office (Engelen et al., 2018). Indefinite is also the data about ABW's effect on privacy. Some studies about office interventions

based on ABW found that people felt particularly satisfied with the environment's confidentiality, while others evaluated privacy negatively (Robertson et al., 2008). Explanations for issues with concentration and privacy are mainly related to the openness and transparency of the work environment (De Been, 2015).

70% of the studies investigating the impact of ABW on performance and productivity showed a positive effect, but we should treat those findings with caution for two main reasons (Haapakangas et al., 2018). The first one is that, even though performance is one of the most researched concepts in organisational sciences, objective measures of job performance for knowledge workers are often challenging to obtain. Consequently, employees' self-reported perceptions of productivity are used as a proxy of performance (Engelen et al., 2018), but even then, is difficult to reach conclusions (Chen, 2020). The second one is that, usually, research is carried on small samples, which refers to singular cases of ABW application. It is clear that the effects of ABW depend on its appropriate implementation and execution (van Meel, 2019).

The main moderator of the relationship between ABW and performance is the activity profile of workers (Wohlers & Hertel, 2017). What employees do and the variety of work activities entailed by their roles is a key predictor of their workplace experience and their performance. Employees in low complexity roles and especially individual concentration activities had lower ABW office experience, while those working in high complexity and collaborative roles were the best ones (Leesman, 2020).

iv. Well-being

Activity Based Working may be linked to general health because it encourages people to move around the office, generating higher mobility (Leesman, 2017). More movement and posture changes can reduce the risk of cardiovascular diseases and chronic back problems (van Meel, 2019). However, data on health-related outcomes are equivocal. Studies usually found a significantly small positive effect on employees analysing their sick leave (Danielsson & Bodin, 2008). Nevertheless, when asking people to rate their perception of health, workers at fixed desks were more likely to rate their condition negatively compared to people working in flexible spaces (van Meel, 2019).

The ABW model should improve people's sense of well-being by giving them more control over their work environment. Still, the link between ABW and well-being is hard to prove. There is no significant evidence regarding lower stress levels in people working in an ABW environment, as there is limited one on employees' perceptions of exhaustion, fatigue and burnout (Engelen et al., 2018). As with

performance, the available health research is based on self-reported ratings rather than quantitative measurements of people's well-being. In general, ABW's impact seems to be positive, especially when considering job satisfaction. One possible explanation is the increased sense of personal control over the work environment. Another potential reason may lie in a change in people's "sitting behaviour", thanks to the mobility that ABW entails.

4.3.2 The organisational-level effects of ABW

Researchers about the organisational-level benefits of ABW sustain there are three most relevant advantages that companies could gain through its implementation. The first concerns organisational culture and corporate identity: the ABW model emphasises that creating a culture of sharing, responsibility, and trust enables individuals, teams, and the organisation to realise their full potential (Engelen et al., 2019). The second one is the advantage to attract talents and retain them, especially when thinking about the new generation entering the labour market (Chen, 2020). Finally, one of the most overlooked benefits of ABW implementation is in terms of saving, both space-related expenditures and environmental footprints (van der Voordt, 2004). In the following paragraphs, we will discuss the three most significant advantages that ABW generates at the company level.

i. *Organisational culture and Corporate identity*

The company that rethinks its spaces based on an in-depth analysis of its employees' activities can align its environment to its corporate identity. The ABW design model offers organisations an excellent opportunity to reflect on their way of working, contributing to realising their vision and strategic objectives. Moreover, a workplace designed to express its ultimate goal and the principles that represent it reinforces the link between the company and its employees. Workers will identify with the environment, developing a relationship of trust and recognition towards the company. Once the core corporate values have been defined, the office building will mirror them to collaborators, visitors and clients (Clapperton & Vanhoutte, 2014).

A flexible and dynamic organisational culture provides competitive advantages when facing threats in the market and make it easier to adapt to changes in labour demand. Through ABW intervention, the workspace becomes a physical manifestation of the organisational culture (McElroy et al., 2010). Employees refer to the physical environment for tangible artefacts of organisational culture, and

organisational culture, in turn, shapes the physical environment. This bidirectional interaction provides the chance to generate alignment between the office design and the organisational identity. When comparing employee perception of the workplace's impact on organisational culture before and after an ABW transformation, they indicat that activity-based spaces have a more positive impact on organisational culture than other work settings (Chen, 2020).

Nevertheless, the ABW model can also be used as a tool to support a specific cultural change. For instance, it can create a more egalitarian culture, as both management and employees use the same set of spaces (van Meel,2019). As we already said, it may also help to foster a collaborative culture with fewer divisions between departments (Engelen et al., 2019). However, it is essential to remind that cultural change linked to workplace renovation will only work if they go hand in hand with management style adjustments and employee behaviour (van Meel, 2019).

ii. *Attractiveness: talents and new generations*

According to the data, highly impactful workplaces may help organisations better attract and retain talents (Chen, 2020). 68% of workers claim increasing importance of their workplaces' look, and this percentage rise for millennials. The 84% report some degree of flexibility within their workplaces as a primary element in choosing their work position (Condeco, 2018). These data prove that Activity Based environments are essential in recruiting and retaining the best talents. Sustaining this, 62% of the companies interviewed claim that their offices are relevant to their recruitment strategy[45]

Fostering modern work concepts such as ABW demonstrates a company's progressiveness that prioritises its staff's well-being and unlocks their full potential through design. Today talented young professionals attribute great value to the workplace and the flexibility it guarantees. As already mentioned in the timeline about the offices' changes over time, the Millenial generation, those born between the early 1980s and 1996, and Generation Z, those born between 1997 and the early 2000s, require more flexibility in how and where they work (Myerson et al., 2010). Flexible schedule, engaging workspace, personal freedom and control over their job are non-negotiable aspects for them (Gaidhani et al., 2019). To attract the best of this generation and remain competitive in the labour market, companies must adapt to

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[45] Based on 500 online surveys. https://www.condecosoftware.com/modern-workplace/research/modern-workplace-research-2018/

creating spaces that stimulate creative thinking and sharing ideas. Flexible, innovative, inspiring and original offices are the type of offices that millennials and gen Z and those behind them expect (McElroy & Morrow, 2010).

iii. Saving: space-related costs and environmental footprints

As mentioned earlier, traditional workplaces seem not to be very efficient in terms of occupancy (van Meel, 2019). Empty desks are the hallmarks of contemporary companies that allow flexible ways of working, but have not yet adjusted their offices. According to the data, the average desk occupancy level in companies is around 45% (NowyStyl, 2019), which means that workstations are unoccupied for over half of the working day, and every square metre of the unused space generates unnecessary costs.

Applying ABW means better space utilisation, consequently reducing occupancy costs typically by 20 to 40%, depending on how extreme the concept is (van Meel, 2019). From a literature review (van der Voordt, 2004), the main monetary benefits linked to flexible workspaces that implement the desk sharing, as Activity Based Working does, are:
- Fewer square metres of floor space;
- Less building material;
- Lower rent or lower depreciation costs;
- Lower internal removal costs because of the more flexible office design.

So, one of the main benefits of ABW is that diminishing the number of desks it reduces the worker-desk ratio, saving space that can be used to arrange different working zones based on activities (van der Voordt, 2004). This optimisation of space lowers the amount of money being wasted on unused space and facilities: part of it can be actual savings, and part can be reinvested to create better workspaces (van Meel, 2019). A study carried out on Interpolis revealed 45% reduction in the necessary workspace and a 24% reduction in yearly occupancy costs (Veldohen Company)[46].

Saving is not just related to the space needed reduction but also to lower the environmental footprint. By increasing workspace utilisation, ABW helps to reduce the energy used to light, heat and cool the office space, thus reducing carbon emissions (van Meel, 2019). Moreover, flexible work allows people to choose where to work outside the main office, diminishing travel costs (van der Voordt, 2004). Finally,

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[46] Interpolis is a leading Dutch insurance company that went ABW in 1996. They recognized that the society was undergoing fundamental changes and they implemented mobile work and flexible offices even before mobiles and e-mails.

organisations will demand less space to host the same number of employees, decreasing the environmental impact of construction activities in raw materials, construction waste, and energy for manufacturing and transporting building materials (van Meel, 2019).

4.4 The possible downside of ABW: the threat of Desk Sharing

As we have seen, the new working flexibility in Activity Based offices create a substantial win-win opportunity for companies and employees, having strong positive effects both on the individual and organisational level. In more recent years, the pursuit of office space efficiency has broken broke the chain that tied people to their desks through shared workstations (Kim et al., 2016). However, there are potential sources of resistance to this kind of workplace renovation that reject the one-desk-one-person philosophy favouring desk sharing. The most relevant issue when implementing non-territorial working is the attachment that people have with their desk and the sense of "owning" it (Chen, 2020). Based on the most recent studies, we will analyse the impact of desk sharing on employees' identity, well-being, and productivity.

The space depersonalisation is usually defined as a downside of the ABW model. Occupants tend to lose the ability to display their own identities (Elsbach, 2003), and the restricted possibility to personalise one's workspace contributes to a low level of perceived privacy, which can lead to employees' emotional exhaustion (Laurence et al., 2013).

Personalisation is a territorial behaviour that is part of a process of communicating, preserving and protecting territories toward which employees feel ownership (Brown et al., 2005). In other words, through exhibiting items that indicate their identities, employees express psychological ownership of physical space and build their workspaces as territories (Laurence et al., 2013). According to data, creating one's own space in an otherwise public space can help individuals better adjust to adverse work conditions and contribute to individuals' positive cognitive and psychological states, resulting in enhanced mental resources. In this sense, workspace personalisation was found to be a great moderator in the negative effect of low privacy on emotional exhaustion (Laurence et al., 2013). As we saw in previous paragraphs, the perceived lack of an adequate level of privacy due to low architectural, visual and acoustic isolation is one of the main negative aspects of ABW spaces reported by occupants. In lower privacy contexts, less personalisation contributes to higher levels

of emotional exhaustion: this suggests that personalisation serves as a calming influence (Kim et al., 2016).

People are used to customise their space, making it more like them and their own needs. They hang pictures and family photographs, buy plants, enrich them with personal items. According to the Social Identity theory (Laing et al., 1998), employees should retain control over their workplace. They should be encouraged to decorate their space to project their identity to boost performance and increase health condition (Vischer, 2005).

In particular, an interesting experiment by Knight and Haslam (2010) helps us better understand the impact of space depersonalisation on well-being and productivity. In the experimental setting, four different types of office space were set up, and they made the participants complete simple tasks in them. The first situation is a Lean Office that follows the logic of Taylorist rationalism (Kanigel, 2005); an austere and minimal space with clear desks apart from a sheet and a pencil and a folding chair. Then, there is the Enriched Office, a space inspired by the Design literature (Humphrey et al., 2007), decorated with plants, paintings and photographs. The third circumstance is the Empowered Office, which follows the Social identity principles (Haslam, 2004), giving people the possibility to set up the objects to their liking. Finally, the Disempowered Office, equipped by the experimenter, takes away the sense of autonomy within the workspace, as suggested by the research that claims the importance of management in establishing control over the office setting (Pruijt, 2003).

What we are more interested in are the results for the Disempowered Office compared to the Enriched one because it resembles the condition of office occupants after the implementation of the desk-sharing within a space reorganisation based on ABW. Workers in the Disempowered situation feel less psychologically comfortable and reported lower levels of job satisfaction. Individuals that were allowed to decorate the space took less time to complete their tasks, while those constricted in an already-set space performed worst and scored lower in organisational citizenship behaviour (OCB). Even though the worst results are found in the Lean kind of office, and the Enriched office demonstrates to make people more psychologically comfortable, the crucial variable is when workers have the control and freedom to customise their space.

So, when implementing ABW we have to take into consideration the possibility of resistance linked to the natural need of people of recreate personal spaces in the office and their sense of ownership toward them.

4.5 The Activity Based Working is not a One-Fit-All-Size model

As mentioned earlier, ABW research comes up with contrasting findings, with examples of both very successful and unsuccessful cases. Much seems to depend on how the concept is executed and implemented (De Been, 2016). In this sense, ABW is a model that should be applied in different companies according to their specificities. Every organisation should find its successful way to redesign its offices through ABW concepts. Underneath the design of a model for agile work and Activity Based workspace there is a great complexity that need to be addressed. In particular, there are three general areas to focus on when implementing ABW.

First of all, as we saw in the previous chapter, the renovation of workspace should always go hand in hand with interventions in technology and the development of the proper habits. The theory of the three B's, bricks, bytes and behaviours, suggests that just an integrated model of intervention that includes workspaces, technology and interactions can be effective (Clapperton & Vanhoutte, 2014). In this sense, a project should always start with an assessment phase to understand how the company is organised, its level of technology and the space in which it is based now.

Secondly, building an ABW office should begin with a quantitative and qualitative analysis that focuses on people activities and on their inclination to flexible work and environment.

Finally, as with every other change, the implementation of agile working and the task-based workplace renovation can lead to some resistance. So, it is important to take people on board and communicate clearly and with transparency. In this sense, change management is key: in particular, user involvement and communication are seen as critical change management activities (van Meel, 2019).

The changes that are taking place concern the world of work as a whole and not just spaces. Organisations should rethink and innovate their offices based on the dynamic concept of Activity Based Working. However, creating a variety of spaces is not enough: office renewing is just a tiny piece of a complex mosaic that includes a change in organisational culture, technology, leadership and collaborators behaviours (Chen, 2020). It is exactly about the people, the users of our spaces, on whom it is necessary to linger: analyse their activities, listen to their needs and the difficulties they come across every day in their workspace (van Meel, 2019).

The common conclusion of the majority of the already-cited research is that success of ABW depends on execution and implementation: it can work very well as long as it is implemented and executed correctly. Just through an in-depth analysis, we can create a tailored-made model on organisational and individual needs. The next chapters are dedicated to the tentative of structuring a possible integrated method for success.

After analysing the main characteristics of the Activity Based Working approach and considering its individual and organisational level benefits and its possible downsides, we use the model as the theoretical framework for our implementation method. In the following chapter, we will present the steps of effective workplace change management, in which the ABW model has a fundamental role.

Chapter 5. The Smart Working Journey: the steps of an effective workplace change management

The Smart Working Journey is a process that aims to co-design with companies a Smart Working model tailored to their features and needs and workspaces that support its employees' activities, supporting the change towards agile work.

Change management represents one of the main challenges, perhaps the most complex, because it affects the culture, which is the glue of the organisations, tied to all the norms, values and beliefs that are an integral part of the company. Changing the culture involves the mutation of language, behaviours, tones, communication, and objectives (Hartog et al., 2015).

Nowadays, economic, technological, societal changes are pressing on organisations to adapt (Taskin et al., 2017). It is necessary to rethink and completely redesign the operation and behaviour of your company. The implementation of change management processes thus becomes strategic to achieve the ultimate goals of change to survive in the contemporary changing labour market and global competition (Sica, 2020).

Change management means a structured approach to change in individuals, groups, organisations, and societies, making possible and guiding the transition from the current to the desired future set-up. Organisational change, which implies uncertainty and redistribution of resources, substantially impacts employees' willingness to cooperate. People always show a certain resistance to changes, and change management interventions are fundamental (Whelan-Berry & Somerville, 2010). Later in the chapter, we will see how the acceptance of change depends on the ambiguity, control and trust that people feel during the process (Turner & Myerson, 2000).

Organisational change management entails interventions intended to influence the task-related behaviour and associated results of an individual, team or entire organisation (Barends et al., 2014). We approach change in organisations with the typical method of unfreezing, moving and refreezing. This method starts moving the change at the group and individual level, making people adopt values, attitudes, and behaviours that entail the change, sustain the change implementation, and then institutionalise the transformation, ensuring that the desired revolution becomes part of the culture (Whelan-Berry & Somerville, 2010).

The other model to which we refer to implementing the Smart Working Journey is Kotter's (1996). According to the author, the organisational change should follow eight steps:

1. Create a sense of urgency, making change perceived as an obligatory and urgent need and not an option and identifying in advance the risks that it may generate if not implemented;
2. Set a team that will lead the process,
   - Change Agents, people who can facilitate the path of change;
   - Project team, composed of both internal and external resources;
   - Steering committee, the key decision-makers.
3. Develop a clear vision and strategy, defining the "drivers" for the change, the objectives, the phases and timing of the project;
4. Communicate the vision with transparency and clarity to reduce uncertainty over the change;
5. Remove physical obstacles and psychological resistances to change;
6. Set short-term, intermediate objectives, defining a clear timeline that shows the progress;
7. Consolidate results and bring about new changes because change is a process of continuous improvement, and every small step must be a new starting point;
8. Anchor change in culture, making sure that it will have a lasting impact on the organisation.

According to Turner & Myerson (2000), in the implementation of Smart Working, probably the office environment change is the scariest part of the entire change management process because it expresses all those issues about loss, letting go, the unknown and breaking down the old older that are integral to any change programme in very tangible and physical terms.

5.1 What is the Smart Working Journey?

The Smart Working Journey aims to co-design with companies a Smart Working model tailored to their features and needs and workspaces that support its employees' activities, supporting the change towards agile work. The Journey aspires to be a multidimensional approach, considering the three pillars of Smart Working, Behaviours, Bytes and Bricks (Clapperton & Vanhoutte, 2014). The idea is that each

of its milestones acknowledges that people, technologies and workspaces are the foundation of a successful Smart Working.

In the spectrum of the different models of change agent relationship, ours can be defined as a "Consultation Process" or "Therapist Model" (Schein, 1990). It is a process that focuses on joint diagnosis, and the passing on to the client of diagnostic skills. The key assumption is that clients see the problem for themselves, share them diagnosis, and are actively involved in generating a remedy, so that clients continue to own their own problems. The organisational change we implement is a planned strategy based on a collaborative approach with the client and a systemic view of the company.

We can define the Smart Working Journey as based on clear communication to people of the logic underneath change, participation and involvement of employees and change agents and facilitation and support toward change (Kotter & Schlesinger, 2008).

The process is composed of five phases:

1. Onboarding phase, to align and define the project's drivers;
2. Assessment phase, to photograph the organisational reality;
3. Listening phase, to involve people in the change process;
4. Decision-making phase, to decide the balance between days in presence and remote work and validate the office layout;
5. Implementation phase, to ground the project of intervention.

In the next part, we will go into detail into each phase, its objectives, meeting and modalities.

Figure 21 – The Smart Working Journey
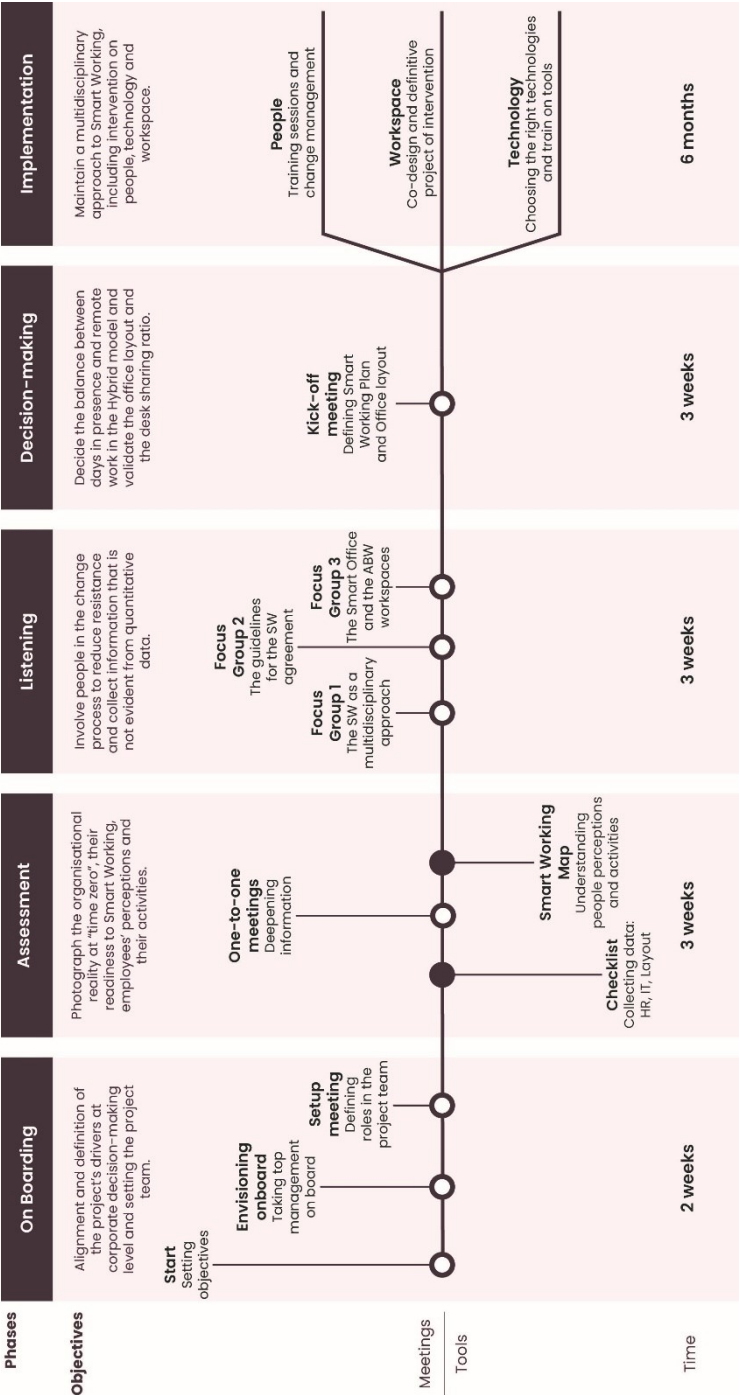
Source: Workitect

5.2 The Onboarding phase: the fundamental role of the top management

The first step in the Smart Working implementation path is to involve the corporate decision-making level. Aligning the decision-makers, defining the motivations that will guide the project, highlighting the criticalities, the doubts, the reservations of management are some of the key steps to the plan's success. In addition, defining a project team and the steps and times of the intervention is vital for its success. Engaging top management, sharing project strategy and miniating alignment between culture and business objectives make possible to define the ultimate driver of change.

The onboarding phase has the definitive goal of aligning the Smart Working project with the general organisation's plan for achieving its vision, mission, and goals. Considering this, we can define the purpose at the heart of the strategy. Involving the management at the first phase of the project is critical in providing the right direction to the process and creating the proper climate and inspiration to sustain change (Whelan-Barry & Somerville, 2010).

5.2.1 The On-Board meeting

During the first meeting with the top management, it is essential to set "coherence" within the group to lay the foundations to improve the level of awareness of each one concerning future action (Visentini & Cazzarolli, 2019). It is not uncommon to meet boards or groups of top managers with very different opinions or perceptions regarding, for example, the quality of the relationships between managers and employees, the effectiveness of technological tools, the adequacy of corporate spaces, the opportunities that Smart Working can offer them. Taking decision-makers at the same level of knowledge and awareness is at the base of concretely starting the process toward Smart Working that imply a cultural change that requires consciousness of the scope of the path and its implications to all levels of the organisation.

Through interviews with top management, it is crucial to share strategy, goals, and drivers of change. The Journey toward Smart Working will be addressed differently if, for example, the company's priority is saving on costs rather than the attraction of young talents or employees' well-being rather than space rationalisation.

Other than setting clear objectives, the On-Board meeting aims to pose the basis for the develop of a strategic leadership. Leaders' change positive related actions will "walk the talk throughout the change process" (Whelan-Barry & Somerville, 2010).

Engaged and committed executives create the right climate for change and publicise success (Turner & Myerson, 2000).

Moreover, Smart Working directly and heavily impact leadership and managerial style. In this sense, persuading the senior executives to reconsider their practices and management style will set a positive tone for the entire project because they will lead by example (Turner & Myerson, 2000).

Smart Working, understood as a new management philosophy, implies a paradigm change: managers cannot think of working smart with the same work modes in the presence. So, the shift in paradigm affects, indeed above all, the sphere of leadership. With the advent of the hybrid model that alternates days in presence and days remotely, the physical proximity is diminished or weakened, the basis for the development of authority, hierarchical power and control over people (Sica, 2020). In this sense, the increasingly important role of digital technologies changes the ground on which vertical relationships between managers and collaborators play. Managers must be the first to evolve: they must be able to operate based on authoritativeness, rather than authority, that is, the ability of the leader to be recognised as such and to be able to engage and motivate their collaborators (Sica, 2020).

However, managers may be unwilling and may even not understand the need to challenge the system that brought them into a commanding and often comfortable position (Turner & Myerson, 2000). To break this resistance, stimulate and encourage radical changes with all the uncertainty that brings it requires listening to managers and trying with them to reflect on the concept of Smart Working in each of its possible effects.

The role of management has become much more difficult in the current evolving reality, but managers should implement what we already defined as "transformational leadership", focus on listening, empower employees, give transparent and constructive feedbacks and be less interested in control. Management should be as open as possible, develop better formal and informal communication methods, and build trust-based relationships (Becker, 2005).

5.2.2   The Set-Up meeting

It is crucial in this first phase of the Journey to organise a Set-Up meeting to create a project team that acts as a temporary organisation that shares a common purpose and work in synergy.

As we already stated, we intend Smart Working as a multidisciplinary approach, which implies the involvement of the three managers of the most relevant functions, IT, HR and Facility. To avoid the risk of overlapping roles and decision stalling, a strong commitment of top management and clarity of the different roles within the project team is vital. Each member of the team should have a defined role and explicit responsibilities. It is essential that the consultants do not impose the parts but that the definition is done in collaboration, using techniques of agile project management and taking inspiration from organisational models of distributed governance, such as "holacracy" (Robertson, 2018).

Together with the members, we think about all the project's activities needed to achieve its ultimate purpose. Then, we list the activities with a standard formula, usually the action at the infinitive and the subject of the action. After having listed all the tasks, we cluster them into roles, and finally, we assign one or more names to the roles. In this way, the responsibilities are made explicit, and expectations are re-calibrated on them. All the project teammates now know exactly their own errands and who to contact to plan a meeting, decide the furniture, or make internal communication. Moreover, it is essential to define which tasks depend on each other. Project members, in turn, rely on the correct mapping of these dependencies to perform the work efficiently.

During the Set-Up meeting, the team should also approve an initial timeline and agree on the next steps. A final goal of the Set-Up meeting is to define working methods, collaborative tools and rules for communication, to guarantee efficiency.

5.3 The Assessment phase: maintaining a multidisciplinary approach

Before starting our Journey, it is crucial to photograph the organisational reality at "time zero". We need to collect as much data as possible on who is the company that wants to implement this change process, primarily to assess how ready they are to change. This step is fundamental, and it is more effective the higher the level of involvement of people and managerial figures. The Assessment phase includes both qualitative and quantitative methods of analysis. In particular, in the qualitative analysis, managers of the three organisational areas of interest, HR, IT and Layout, are called to provide information and data filling a Checklist; all the information collected are then deepened with one-to-one meetings. We refer to the quantitative analysis as the *Smart Working Map*, a tool composed of two surveys that allow us to collect quantitative data about employees' skills, perceptions, and inclinations related to Smart Working and map their working activities.

5.3.1 The Checklist and One-to-one meetings

The Checklist aims to collect information and business data about the three main areas of interest when implementing Smart Working, HR, IT, and Layout. We request directly that managers or directors of these three functions fill the form to ensure that the information is reliable. Afterwards, the data collected will be deepened during one-to-one meetings with individual area managers.

It is crucial to understand what kind of company we will embark on the Smart Working Journey with, considering all the three defining pillars of Smart Working, behaviours, bytes and bricks (Clapperton & Vanhoutte, 2014). In fact, there is a strong agreement in the literature about the essentiality of having a multidisciplinary approach with a systemic view when implementing a Smart Working project (Becker, 2005). The success of Smart Working appears to be associated with the correct interplay of the three different dimensions in its implementation (Blok et al., 2011).

i.   Behaviours: HR & Organisation

The type of business, the number of employees, the functional organisation chart, the data on the presence and the formal level of flexibility are all elements that allow us to start to have a complete vision of the company. Concerning flexibility, we want to know if the firm already adopted a regulation on Smart Working or has already signed individual Smart Working agreements. Moreover, working hours flexibility, management and evaluation system by objectives, welfare policies, mobility programs, or paperless projects are all matters of interests.

ii.   Bytes: Information Technology

The questions included in the IT section allow us to estimate the technological level of the company. An adequate digitalisation and Information Communication Technologies (ICT) systems are essential to implement Smart Working. First of all, we investigate the technological equipment provided to Smart workers, laptops, phones, and screens. Then, we focus on the collaboration systems, the channels of communication within employees and with customers. The most important question is whether all applications are remotely accessible to allow complete mobility to Smart workers.

iii.   *Bricks: Layout and Facility*

Finally, in the section dedicated to the Facility area, we try to understand the company's approach to office space. We analyse, in particular, the number of desks assigned and their size, the presence or not of desk sharing and the sharing ratio. We also ask for office plants to understand the structure of the building, the typology of the office and the distribution of support spaces. The information about layout will be deepened during the site visit to the corporate offices.

Once the Checklist has collected the organisational data concerning the three fields of interest, three experts analyse them. The three consultants assign a score from 1 to 3 for each area, basing their evaluation on a case-based assessment grid. With this system, we try to be more objective as possible in the assessment. Starting from the collected documents will be carried out in-depth interviews with the managers of the function. The ultimate aim is to acquire valuable information related to the company's history and deepen any decision-making and organizational dynamics "at the top" that can influence the process in the start-up and implementation phase.

5.3.2   The Workstyle analysis: the Smart Working Map

The Smart Working Map helps define the Workstyle scenario and office space layout in designing companies' Smart Working model. It is a tool that allows us to collect quantitative company data about employees' skills, perceptions and inclinations related to Smart Working and to map their working activities. In particular, we analyse and process the data about employees' activities within the framework of the Activity Based Working theoretical model to obtain a photograph of the company's current state. Starting from the status quo, the Map manages to draw the minimum number of days in the presence of each business units, giving us a guide in finding the right balance between working remotely and in the presence in our Hybrid Model. Concerning office layout, the Map helps us hypothesise the number of desks needed, the desk sharing ratio, the necessary square meters, and the Activity Based workspaces that best suit employees' activities, thus helping us define the numbers for the company's transformation towards the Smart office.

Figure 22 – The Smart Working Map
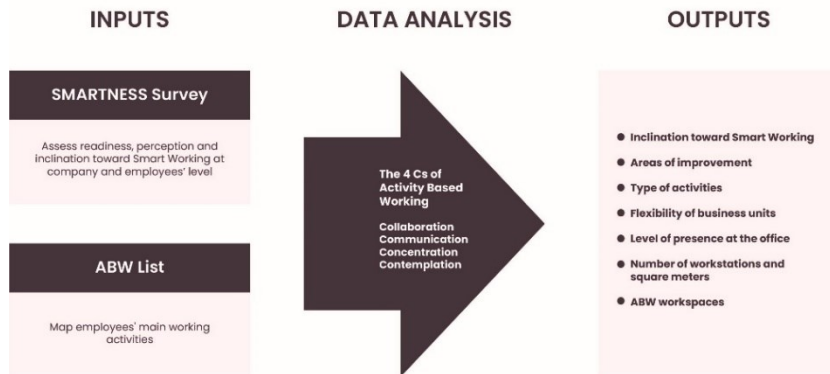
Source: Workitect

The Map consists of two inputs, the Smartness Survey and the ABW List, both surveys administered to all the company population. All the collected data pass through the filter of the 4 C defined by the Activity Based Working model, whose values are modified based on a coefficient of correction obtained in the Smartness Survey.

After processing the data, we get a corporate photograph: the predominant activities in the company, the level of the remote work of functions and the areas of improvement to focus on. From the company's "as is", the Map help us define the "to be": the steps of the change process.

In the following paragraphs, we will analyse the Smart Working Map in every part to understand its operating mechanisms and the potential of the tool in guiding companies toward the implementation of Smart Working and the design of their Smart Office.

5.3.2.1 The Smartness Survey

The Smartness survey is a questionnaire that aims to measure the level of "Smartness" of the company population and the organisation itself. The survey is structured in two factors: the first refers to the individual, "Smart worker"; the second to the organisation, "Smart company". Each factor is composed by four dimensions, each measured by six items, for a total of forty-eight. The survey results from the

reworking of scientific and literary research on crucial aspects that facilitate Smart Working at the individual and organisational level. Moreover, a pilot study was conducted before the actual administration to assess the degree of effectiveness regarding the items selected for the survey in question. A draft version of the survey was distributed to twenty-six HR or organisational experts. According to their knowledge and experience, we selected the most effective items that could comprehensively assess the readiness for Smart Working of a worker and an organisation. In addition, it was also requested to add, if considered appropriate, missing but relevant areas of investigation for this purpose. Thanks to this methodology, the number of items from 64 to 48.

The survey is administered to all company employees, including managers. It consists of statements to which participants must respond if they agree or disagree in a Likert scale from 1 to 4 or closed questions (yes/no). Each of the inserted elements is summarised in eight dimensions, four assessing individual smartness and four evaluating corporate smartness.

In particular, the "Smart worker" factor consists of the dimensions of:

- *Smart skills*. To investigate the readiness to embark on an agile model of work, it was considered appropriate to include this factor to offer a self-assessment of smart workers regarding the skills considered central in SW: technological and soft skills.
  - Techno skills, the basic technological skills, defined as "digital fluency". Thanks to the pilot study, three items were selected to evaluate the autonomy and mastery over the use of technologies. An example is "*I possess all the technological expertise necessary to carry out my work independently*".
  - Soft skills. Through the pilot study, between various items related to different soft skills, three were considered best: work by objective, time-management and remote communication. An example is "*I organise my work into specific, realistic, measurable and time-defined objectives*".
- *Openness to change*, that measures the personal attitude to positively accept and adapt to transformations, in line with the revolutionary approach of Smart Working. In particular, we investigate the quality of open-mindedness, the ability to be responsive to new stimuli and the readiness for change, that is the willingness to support the change and positive affect its consequences (Wanberg & Banas, 2000). The inclusion of this factor was the result of the theories inherent in SW and treated previously, from which openness to change has emerged as one of the most important predispositions to

effectively face the revolutionary change of the SW and any change management of such entity. In this case, the choice of items is derived from a reworking of one of the factors included in one of the most used personality tests, the Big-5 (McCrae & Costa, 1987), the "Openness". Even these items have been subjected to the pilot study arriving at the selection of six considered more valid. An example of reverse question is "*In doing my work, I do not devise thinking and acting out of the box*".

- *Remote work*, which considers employees' level of motivation and satisfaction toward remote work. It was considered appropriate to investigate the level of motivation and engagement concerning SW. As can be seen from motivational theories, moving towards a shared desire increases the motivation and the sense of participation of workers, thus facilitating change management. More in detail, we ask about the level of energy and focus in remote working, employees' preferences and perception of detachment from the organisation. An example is "*Working remotely allows me to face daily activities with more energy*".

- *Home office*, which assesses the adequacy of the workplace at home. As we already said, at this historic moment, Smart Working inevitably is strongly linked to "Home Working". Consequently, investigating the comfort of the workplace from home is essential. A dedicated space to work and an ergonomic chair are crucial as not being distracted from family matters and having a broadband connection. An example of close yes/no item is "*At home, I have a dedicated space for work.*"; an example of 1-4 reverse question is "*When working from home, I am distracted by extra-working incumbencies (e.g. family duties, children or not self-sufficient relatives, etc.)*".

 Instead, the "Smart company" factor focuses on:

o *Smart Leadership*, which allow employees to heterovalvate the general leadership style embraced by the company. The literature analysis described above shows that not all leadership styles are best suited to the new managerial philosophy of SW. Indeed, a transformational approach is more consistent: a leader oriented to employees' empowerment, feedback and trust is the ideal figure to guide and inspire smart teams. Therefore, through deep research, the model that best matched these characteristics is transformational and empowering leadership. Thus, the items result from a reworking of the questionnaire ELQ (Empowerment Leadership Questionnaire) of 24 questions proposed by Arnold (2000). It consists of an evaluation by the

collaborators of actions and practices that their leader more or less frequently adopts.

- o Responsibilities: the ability to delegate and to empower employees. An example is, "*Managers do not feel the need to frequently monitor the work of collaborators*".
- o Feedback: ability to periodically provide constructive feedback. An example is "*Managers are be able to provide constructive and effective feedback, both positive and negative*".
- o Transparency: transparent sharing of information, clearly set goals and communicate results. An example is "*All relevant information to my work, including data, documents and deadlines, are accessible and shared with transparency*".

- *Relations and climate*, which investigates the value of socialisation and informality in the organisation, the importance of teamwork, and relationships established between colleagues. In particular, we try to examine the influence of hierarchy and status on private and informal relationships, starting from studies that prove that a flat organisation facilitates SW implementation. An example is "*The company promotes and encourages informal moments involving both employees and managers*"; an example of a reverse item is "*I approach differently to my colleagues according to their hierarchical level*".

- *Flexibility*, which investigates the presence, but primarily the efficacy, of policies or good practices that meet the Smart context's new needs. A company that has already formalised processes to promote employees' work-life balance, time flexibility, data security, mobility, well-being, paperless, training and development is undoubtedly more in line with a model of SW. For this reason, it was considered valuable to include a factor that would investigate the level of policy in terms of flexibility that would facilitate Smart work management. An example is "*The company has adopted policies that guarantee working hours flexibility*".

- *Office spaces*, which measure the general condition of workspaces, the variety of support areas and their availability at need. As explained in chapter 3, the workspace is an important predictor of employees' performance and well-being. Consequently, we would like to understand if the offices are perceived as functional to employees and if there are some inefficiencies such as noise disturbance. Then, we want to know if there are support spaces for concentration, communication, collaboration and contemplation. An example is "*The corporate spaces are designed functionally for the type of activity I perform*"; an example of close yes/no item is "*In the office, there are support*

spaces to make calls in total privacy and without disturbing other colleagues".

After the questions about individual and organisational Smartness, there is a part dedicated to socio-anagraphical questions. In particular, gender, sex, level of education, contractual framework, business function, seniority, previous Smart Working experiences and cohabitation with people who work from home or do distance learning.

As we already specified, the Smartness Survey consists of statements to which participants must respond if they agree or disagree, some of which are reverse or closed questions (yes/no). Consequently, the Smartness Survey analysis begins with the recalculation of the values of each item: for the reverse, the value is inverted, and for closed questions is assigned 4 to "yes" and 1 to "no". The sum criterion was used to obtain the final averages of the two dimensions. The tool for the analysis is Excel. After calculating the average for each item, we consider the average of each dimension, sub-dimension, and the two factors, Smart worker and Smart company. In calculating the average of the dimensions, each item has the same weight, and each dimension has the same weight in the two factors' average. Through the analysis of the answers, it is also possible to compare socio-anagraphic subgroups and business functions.

5.3.2.2 The ABW List

The second input to our quantitative analysis process is the so-called ABW List, a name that refers to the theoretical model on which it is based, the Activity Based Working. The scope of this tool implies the administration of the survey to all employees who live in office environments. The ABW survey allows us to map employees' main working activities, defining the days of remote working and the presence in the hybrid model of Smart Working, and revealing how much space and which support workplaces the business functions need. Filling out the survey is intuitive. The respondents are invited to think about their five primary activities in terms of time-occupancy and work-relevance during their working day. With an open question, they are asked to briefly described the chosen task ("*Briefly describe your first activity*"). Then, they are asked to associate them with one of the twenty-one preselected activities reported in Figure 23 ("*Associate your activity with one of these macro groups*". After, respondents have to choose among a selection of sixteen workspaces reported in Figure 23 which one would be the ideal place of the office to carry out the activities mentioned effectively ("*Which is the ideal place to accomplish*

this activity?"). Finally, it is asked to indicate the physical presence's relevance to perform the tasks in a Likert scale from 1 to 4, where one means "not relevant at all" and four "extremely relevant" ("*How relevant is the physical presence to perform this activity?*").

The analysis of the ABW List is done in Excel and it is based on the Activity Based Working model, according to which all activities can be traced back to four macro-categories, collaboration, communication, concentration, and contemplation. Based on this assumption, the twenty-one general activities listed in the survey, as well as the sixteen workspaces, are divided by C. To the 4 C of the ABW model, we added two types of work activities that fall outside the model because they imply a 100% presence or a total absence from the office, the actions that require presence in the office and those of transfer.

Figure 23 – The 4 Cs: their related activities and workspaces

COMMUNICATION	CONCENTRATION	PRESENCE
Telephone conversations Videoconferences Private or confidencial work conversations Training sessions	Individual focus work Individual routine tasks (ex. answering to e-mail) Data analysis and process	Hosting visitors, clients or customers Using office technical equipment Other activities requiring presence
Phone booth Face-to-face Conference room Training room	Touch down Library Focus room	Presence activities

COLLABORATION	CONTEMPLATION	OUT OF OFFICE
Planned meetings Informal or unplanned meetings Collaboration activities Learning from others Urgent issues to be solved in team	Informal social interactions Individual creative thinking Brainstorming or creative group thinking Relaxing or taking an energising break	Working at clients' or suppliers' office Trade fairs or work travel
Meeting room Informal meeting Stand-up meeting Project room	Brainstorming Social area Relax area	External activities

Source: Workitect

As we will see in the next section, each C has different values of presence that allow us to define the minimum days of presence and the space needed by every function.

5.3.2.3 The values of the 4 Cs of the Activity Based Working model

As we have seen in Chapter 3, the theoretical model of Activity Based Working claim that all our work activities can be clustered in four macro dimensions, the 4 Cs: collaboration, contemplation, concentration and communication. Following this theoretical model, we have assigned to each C values that concern the mode in which they are carried out, individually or in a group, and their level of remote work. The latter element refers to the effectiveness of performing the activities involved in these four macro groups remotely. The values we attributed to the 4 Cs are driven by our experience with the Activity Based Working model and international research on the field.

A 2021 JLL's survey[47] demonstrated that people privilege some of their activities to be done at the office: socialisation, team building, innovation meetings, brainstorming, learning, problem-solving, and management of resources are some of them. With the Covid-19 experience, people understood that it is possible to carry out work activities entirely remotely. However, employees prefer to do mainly activities of collaboration and contemplation in presence because more effective and better supported at the office than at home. On the opposite, there are activities that people privilege as remote-working tasks, such as individual focus work, status update and sharing of information, that are essentially concentration and communication activities. We can extrapolate that primarily individual concentration activities have a significant component of remote working, while those of collaboration, actions to be carried out in teams, are more effective if in the presence.

Confirming the effectiveness of concentration activities at home, a survey from Cushman & Wakefield (2020)[48] states that 75% of the respondents feel they effectively focus at home and that their productivity has remained consistent and robust. On the contrary, 50% of interviewers struggle to communicate and connect with colleagues and the company and feel a substantial decrease in learning.

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[47] Luca Villani, Head of Corporate Solution JLL Italia, presented the results of the survey at the CVD conference "The future of the Offices: Investing in transformation: innovation, hybridisation and flexibility for new workspaces" (26.05.2021).

[48] Paola Migliavacca, Parten & Head of Office fit-out Cushman & Wakefield Italia, presented the results of the survey at the CVD conference "The future of the Offices: Investing in transformation: innovation, hybridisation and flexibility for new workspaces" (26.05.2021). The survey gathered 64,000 responses, in 99 countries, in 38 companies.

Moreover, according to Leesman (2020)[49], an excellent way to understand the remote level of work activities is to compare the strengths and weaknesses of home and office in support of each of them. Looking at their entire sample, the main takeaways are that, respondents:

- feel that most of the individual work activities are better supported at home than the office, particularly routinary individual tasks, data analysis, and reading;
- perceived all communication and work conversations to be more effective at home than at the office;
- sense collaboration activities to be better supported in the office than home, especially informal social interaction and learning from others;
- believe that creative thinking and brainstorming activities are best kept at the office.

From the researches and our work experience, we attributed the following values to the 4Cs of the Activity Based Working model:

Table 1 – The values of the 4Cs

	Individual	Team	Remotely	Presence
COLLABORATION	0	100	30	-70
COMMUNICATION	-80	20	80	-20
CONCENTRATION	-100	0	90	-10
CONTEMPLATION	-20	80	30	-70
PRESENCE	-80	20	0	-100
OUT OF OFFICE	-100	0	-100	0

Source: Workitect

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[49] Leesman (2020). Your workplace of the future. All you need to know to plan your future workplace strategy. The Leesman Office Survye gathered 800,000 responsed from employees across the world; the Leesman Home Working Survey, launched in March 2020, has already gathered more than 145,000 respondents at the end of Q3.

From this table, we claim that collaboration is a hundred per cent team activity that can be done remotely, but that is more effective when in the presence. On the opposite, concentration is a hundred per cent individual activity, with a high component of remote work. Then, communication and contemplation are cross activities which include both individual and team work elements: contemplation is better supported at the office, while communication has a higher remote work component.

Mapping employees' activities, especially calculate the proportion of the activities each employee selected, are individual and collaborative, is essential to understand the level of presence at the office. Starting from the analysis of the activities, we can then hypothesise the required level of presence for each business unit. Thus, the values of the 4 C act as a filter to all the company data we have collected so that we can process them through the theoretical model of Activity Based Working. However, the assumption that people perform better collaboration and contemplation activities at the office and concentration and communication remotely is not always the case. For each company or office, or department within that organisation, the results may show a different pattern. Consequently, we use the data gathered by the Smartness survey, especially those about "Home Office" and "Office Spaces", to adjust the values attributed to the 4 Cs.

5.3.2.4 Outputs: a company's photograph

i.   The level of Smartness

The Smartness survey provides interesting data to understand the level of Smartness of employees and the company and highlight areas of improvement. The total score obtained in the two factors, Smart Worker and Smart Company, outlines typical employee and organisation profiles.

The bar chart allows us to have an overview of the eight dimensions considered in the questionnaire divided into two factors. The value reported in the graph for each dimension of the two factors are obtain with the sum criteria, doing the average of the answers of each item. The graph provides a definite figure of the dimensions in which employees or the company are weak and those of strength. In Figure 24 we provide an example of the output.

Figure 24 – Bar Chart: Smartness Overview
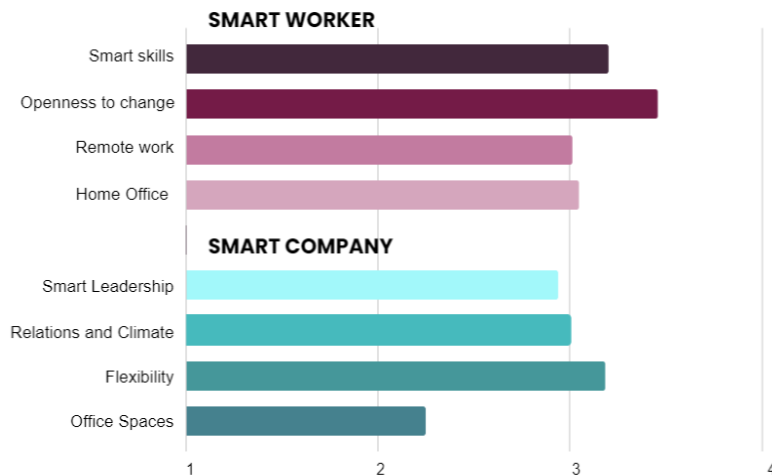
Source: Workitect

Highlighting the vulnerabilities of the workers and the organisation allow us to identify the dimensions in which it is necessary to intervene before implementing the Smart Working. Each dimension is then deepened by a circular graph showing the level of achievement of that given area in percentage. The average of each dimension is transformed in percentage to give a better understanding of the level of achievement. If sub-dimensions are present, they are also represented by circular diagrams.

ii.   The flexibility of business units

The bubble chart allows us to have an overview of the flexibility and mobility of all business functions. On the one hand, the x-axis indicates the mode of carrying out the activities, individually at the extreme left and in a group at the extreme right. On the other hand, the y-axis indicates the "remoteness" of the activities, remote at the top and in presence at the bottom. The size of the bubbles depends on business units' headcount: the greater the number of collaborators, the larger the bubble that represents them.

In general, the more individual the business units' activities are, the more remote they can be, and the bubbles will move to the first quadrant. On the contrary, the more their activities will be collective and collaborative, the more they will require physical

presence. In this case, the bubbles will be concentrated in the third quadrant. As already specified, individual activities can be efficiently carried out remotely, while collaborative ones seem to be most effective when done in the presence. In this sense, the graph shows this positive relationship between, respectively, individual activities and remote work and team activities and presence. Usually, from the result we see that the company functions are around the diagonal drawn in the cartesian chart. However, sometimes there are outliers or there is a strong centralisation of all the functions around the intersection of the axis. This particular case means that there is a strong homogeneity between business functions and that their activities are characterised by a split almost 50/50 between concentration, communication and out-of-office activities and those of collaboration, contemplation and presence. The bubble chart allows us to observe the degree of remoteness of the entire company. But more importantly, it places in the cartesian graph each business unit, facilitating the identification of groups with similar and comparable levels of flexibility. In Figure 25 an example of the output.

Figure 25 – Bubble Chart: Business Units' flexibility
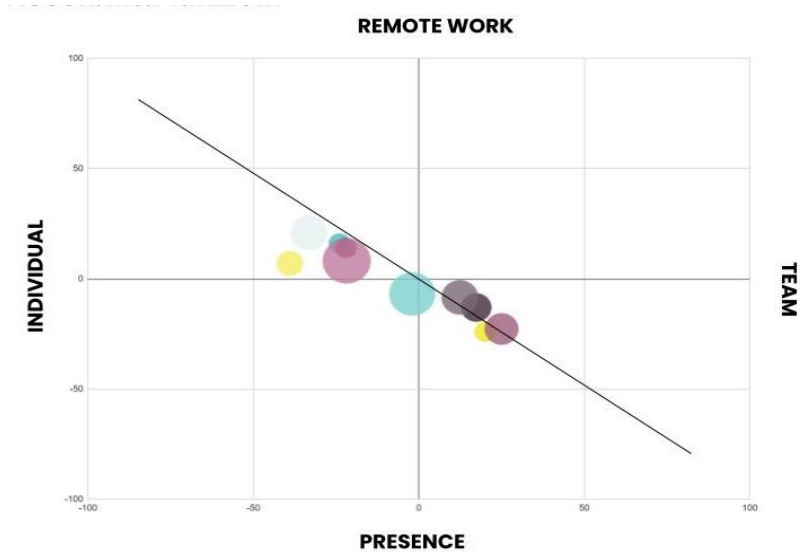
Source: Workitect

After focusing on the modality of carrying out the activities in the bubble chart, the pie chart allows us to analyse what type of activities are performed. As we have seen in the section dedicated to the ABW List analysis, each activity in the questionnaire is associated with one of the four C's. Referring each activity to one of these four macro-categories provides a broad vision of the company's and its functions' needs. In addition to the 4 C, we find the categories of "presence", referring to all those activities requiring supervision and excluding remote work a priori, and "out of office", including activities that presuppose absence from the office. A robust analysis must consider both the pie that refers to the entire company population to understand the predominant activities and the pie charts corresponding to each function to understand their peculiarities. In Figure 26 an example of the output.

Figure 26 – Pie Chart: Company's activities
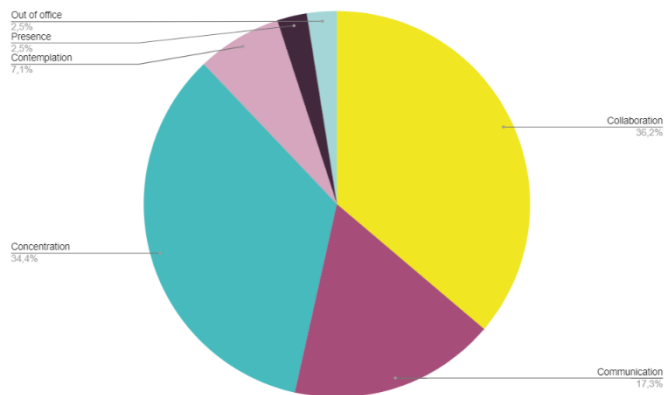
Source: Workitect

The pie chart reports the percentages of work activities that goes under the different Cs, weighted by their position in the ABW List[50]. The pie chart is strongly linked to the bubble chart: if the bubbles showed a strong remoteness resulting from mainly individual activities, we would see a preponderance of concentration, communication or out of office activities in the cake. On the contrary, if the functions were shifted to the third quadrant of the cartesian chart, a larger slice of collaboration or contemplation or presence activities will characterise them.

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[50] The weight for the answers is: 0.3 for the first position, 0.25 for the second position, 0.2 for the third position, 0.15 for the fourth position and 0.1 for the fifth position.

iv.   *The presence and its relevance*

Considering the activities and their working values in presence and remotely, we get average working days in presence required for each function from 1 to 5, that are the working days in a week. Therefore, the histogram indicates the number of minimum days that each unit should do in the presence to perform at best the activities.

The histogram is strongly linked to the two previous graphs: if the bubbles were positioned in the first quadrant and the cake was characterised by primary concentration, communication or out of office activities, the value of the presence will be lower. On the contrary, if the functions are concentrated in the third quadrant of the cartesian chart and the cake shows a large portion of collaboration, contemplation or presence activities, the level of days at the office will be more significant. In this sense, the histogram can be used as a guideline in the definition of a Smart Working policy, to set the right mix between work in the presence and remotely for each function according to their activities, that is according to the Activity Based Working model. In Figure 27 an example of the output.

Figure 27 – Histogram: Minimum Number of Days of Presence at the Office
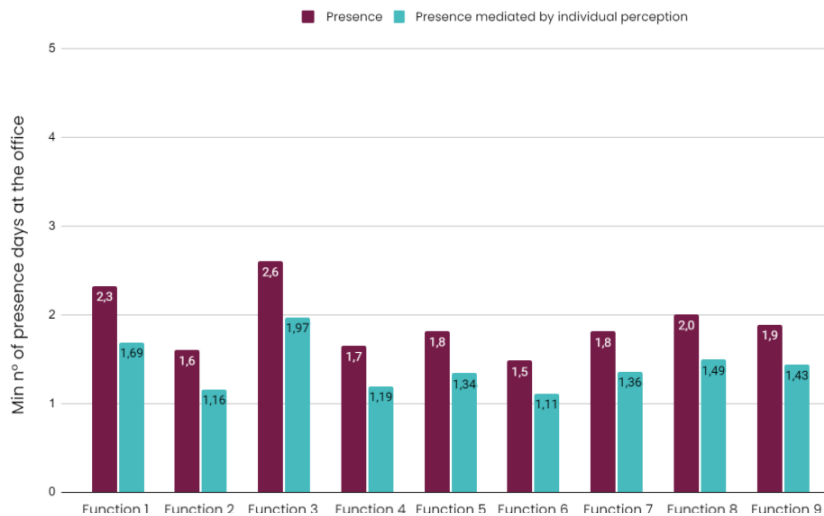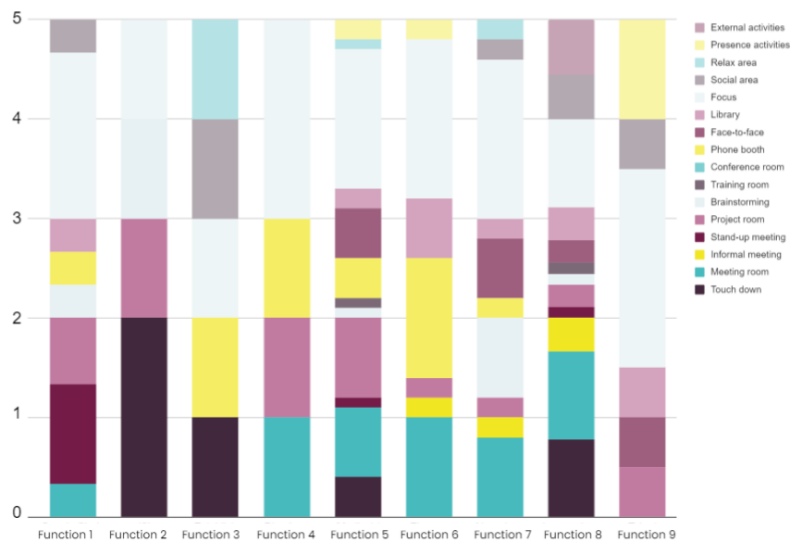

Source: Workitect

The blue column refers to the ABW List question about the relevance of the presence carrying out the selected activity. The level is calculated as the purple column result mediated by the physical presence indicated by the respondents at 30%.

Compared with the blue column, it allows to have a sense how important it is for employees to be physically in the office to carry out their main activities. If the blue columns are lower than the purple ones, as in Figure 27, people do not feel the need to be in person at the office for those particular activities. On the contrary, when blue columns are higher than the purple ones, workers feel they need to be at the office to carry their activities.

v.   *The Activity Based Working office spaces*

The piled graph shows in percentage how many times the respondents of a function have expressed their preference for one of the listed office spaces. The chart provides guidelines for understanding the support spaces that each business units demand. The needs about workspace and the peculiarities of the business functions will be one of the listening phase topics. Minimum one representative for each organisational area will be involved in the focus groups and in the co-design to create a space that responds to the particular necessities of the functions. In Figure 28 an example of the output.

Figure 28 – Pile Chart: Activity Based Working office workspaces by function

Source: Workitect

5.3.2.5 Outputs: the Direction of the change project

From the analysis of the data gathered by the Smartness Survey and the ABW List, we get the minimum numbers of days in the presence for each corporate function is assigned a *personas*, defined as workstyle archetypes. Each *personas* is characterised by a different number of days at the office, sharing ratio, square meters, desk format and office locations.

Traditionally, offices applied a Desk Based model characterised by assigned workstation, low internal mobility and few support areas, mostly meeting rooms. In these offices, the necessary square meters were approximately 56 in 1970s, and 40 in the 1990s. During the following decades, the office square metres per person decreased continuously, around 20-25 sqm/HC in 2010 (Gensler, 2014). Collaborative workspaces, community facilities, and other support areas were detached from the number of desks. Before the Covid outbreak, the trend was still to consider the headcount to calculate the correct number of workstations and square meters, which were usually 12 sqm/HC plus a small buffer for some meeting rooms. However, after the pandemic and the forced work-from-home experiment, the factors to consider to determine the number of desks and square meters changed profoundly. First of all, with the development of a Hybrid Model of Smart Working in many companies, people will not be at the office every day, leaving their desks empty. Moreover, the multidisciplinary approach to Smart Working implies rethinking and redesigning the workspace according to the Activity Based Working model, suggesting desk sharing in order to diminish the number of workstations favouring support areas for concentration, communication, collaboration and contemplation. Rather than calculating space based on the number of desks, since the desk is no longer the driving factor for the space arrangement, we need a different approach to office planning. Focusing on the number of seats instead will help us plan for a more variate set of spaces to support the workforce's evolving needs[51]. Consequent to the disconnection of people from their desk, companies should focus on seat and not on headcount to define the number of necessary square meters. In the Covid-19 afterwards, the definition of seats and square meters should start from the Smart Working policy and analyse employees' work activities. From our experience and an international benchmark, the trend is to assign around 12 sqm/seat plus 10-15% for the support areas or touch down zones to cover any presence peaks .

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[51] Gensler. (2020). Planning for the Future Workplace and a Distributed Workforce. https://www.gensler.com/blog/planning-for-the-future-workplace-and-a-distributed

It is from this reasoning and data that we built our *personas*. , Applying the filter of the personas to every business function, we derive the workstations and the square meters necessary for the business unit.

Table 2 – Personas

	FIELD	MOBILE	SMART WORKER	RESIDENT	PRESIDENT
DAYS AT OFFICE	1	2	3	4	5
% PRESENCE	<40%	<60%	<75%	>75%	100%
SHARING RATIO	1:2,5	1:1,7	1:1,25	01:01	01:01
FORMAT	hot desk	desk 140x60	desk 160x80	assigned desk 160x80	assigned office
LOCATION	open space / touch down	open space	open space	open space	closed office
SQUARE METERS	9 sqm	12 sqm	12 sqm	12 sqm	20 sqm

Source: Workitect

To summarise: from the business functions' activities, we calculated the minimum level of physical presence at the office. From the level of presence, we attribute to each function a *personas*, that is linked to different parameters, in particular a specific sharing ratio. Applying the sharing ratio to the headcount of each unit we get the number of seats required. To calculate the necessary quare meters, we simply multiply the number of seats of each function for their *personas*' value of quare meters.

In this way, we developed the direction for the change process of the company. We have the days of presence and remote work and we have the numbers for the new office layout. The results of the surveys are then corrected in the interpretation from a series of focus groups that have the objective to help understand better some dynamics that the data cannot grasp.

5.4 The listening phase: leaving the floor to people

To make the change within the company effective and successful, we have to make sure to create a sense of participation in the decision making among employees. Each change we implement in a firm will produce reactions by the workers that can be positive or negative feelings, thoughts and actions about the change. According to Simon (2013), human nature is not inherently hostile to change: whether their reactions will be positive or negative depends largely on the nature and extent of their participation in the change process. In particular, we would like to reach the most positive response to change, the "engagement", when employees agree and become committed to the change. However, on the opposite side of the spectrum of reactions, there is "resistance": the target is opposed and attempt to boycott the process with of the most powerful risks when implementing an organisational transformation that must be addressed in advance. Resistance to change was defined as the individual tendency to resist or avoid making adjustments and to devalue change generally (Oreg, 2003).

According to Kanter (1979), the main reasons why people could respond negatively to an organisational change are the loss of control over the events, the excessive uncertainty over the outcomes of the change, the extra effort they will have to put to re-adapt to the organisations and the threat that change represents over their power or status.

The most effective strategy to prevent resistance to change is "consultation", allowing employees to have a voice in change, hence giving them more control (Perdit, 2000). Facilitating employees' participation in the project gives them more control over the situation, reducing the uncertainty and allow them to understand the pro and cons of the change re-evaluating the sense of effort and threat. It is essential to engender a feeling among employees that they are helping to shape the changes (Turner & Myerson, 2000). Including and listening to people to make them feel like they are achieving things too is fundamental in putting the boundaries around kind of change is feasible, in what amount of time and requiring what amount of effort (Becker, 2005). Listening to people is the solution to prevent opposition and a way to have a sense of the resistance to change that is already spread among employees. This can make us defer a project or fundamentally redefine it in objectives and aspirations. In this sense, we always alternate listening moments with project check with the project team, constantly adjusting the project to actual conditions.

Enabling the participation of employees is at the heart of our environmental change agenda. For the very same reason, some people within the company population are spotted to become "change champions": key individuals that will have an essential

role in identifying significant issues and setting on the proposed workstyle changes throughout the organisation through workshops, one-to-one discussions and other listening moments (Turner & Myerson, 2000). We refer to these people as "Ambassadors", that have the responsibility to:

- Participate actively in the listening moments;
- Act as spokesman for collective needs, both collecting testimonies and communicating problems of their organisation;
- Share ideas and the progress of the project with colleagues.

Internal champions should include a mix of middle managers and junior staff from different business units to have the most comprehensive view of the company's and employees' needs.

To involve people actively in listening moments, we organise focus groups, and we use a particular technique to dig out resistances, the "tensions". In general, the focus group is a qualitative data collection technique based on information that emerges from a group discussion on a topic that the researcher wishes to investigate in depth. In particular, Corrao (2000) defines it as a technique for social research based on discussion between a small group of people, in the presence of one or more moderators, focused on a topic that wants to investigate in depth. Following a more or less structured track, the moderator proposes "stimuli" to participants to raise the discussion.

The characteristic and great value of the focus group lies precisely in the interaction created between the participants, which produces ideas to a much greater extent than the single interview both in terms of quantity and in-depth quality. The focus group allows recording relational dynamics, verbal and non-verbal elements, languages, behaviours, which are not evident from the questionnaire results. A focus group is a valuable tool to gain direct contact with the reality observed (Visentini & Cazzarolli, 2019).

During the focus groups, moments of training, inspirational parts, listening, discussion and co-design are alternated. The facilitator speaks about the different dimensions of Smart Working, including some of the most complicated and hard-to-accept related issues to stimulate people's resistances. To investigate participants' resistances, we invite them to write down their so-called "tensions". The "method of post its" hides several advantages: writing helps to clarify and to simplify a thought; everyone can express their opinion; and participants do not influence each other in the answers (Stagi, 2000).

A final remark should be made on clear communication to Ambassadors. The main idea of people involved is maintaining a clear overall objective while creating a sense of participation. Including people in the process does not mean that decisions have to be taken in a collegial manner, but that appropriate colleagues and subordinates participate in the light of understanding the issues (Turner & Myerson, 2000). We want to make people feel listened to and considered, but without rising expectations of their decision-making power. It has to be clear to the change champions that the company gave them the possibility to be listened to and that the decision-makers will consider their insight, but that at the end is the management that will make the final choice. This safeguards you from raising too many expectations among people about their influential power, which cannot be met.

5.5 The Decision-making phase

For the analysis of quantitative data, we developed a Workstyle scenario for the company, that include the balance between office and remote working days and the numbers to define the new office, number of seats and quare meters required. Then, we listened to people, we understood exceptions and we got a sense of different functions' needs and peculiarities. Starting from the combination of quantitative analysis and "bottom-up" involvement of the group of Ambassadors, we reroute the model of Smart Working and the project of intervention on office layout.

Usually, we get into this phase when we have two possible scenarios, and the company should decide which of them best suits its needs. Both scenarios comprehend a balance of days in presence and at the office and an office design project. In this ultimate phase, the management should decide both the Smart Working scenario and the office layout, starting from the guidelines we develop from the entire process.

The decision about the equilibrium between days in presence and remote work will highly impact the layout regarding the number of desks, square meters, and support areas. After deciding the balance of office and out-of-office days in their Hybrid Model, the organisation should focus on the other focal points of an agreement: the working hours flexibility, possible places to work, the technological tools to give smart workers, and the procedures to access the agile working modality. Those variabilities will define, with the help of a labour lawyer, the Smart Working policy.

Then, the company should decide which of the layouts best fits their idea of Flexible office. To help the management deciding, during the Kick-Off meeting, we usually compare the "as is", which is how the office is at the moment, with the "to

be", which is how the office will be after the space redesign. In Figure 29 an example of the output.

The comparison is done on both square meters dedicated to operative desks and to support areas and the number of seats. With Smart Working and desk sharing implementation, the area dedicated to operational desks is reduced, while the areas devoted to supporting workspaces increased. We want to highlight to the client an increment of the total number of seat and the substantial increase of square meters dedicated to workspaces of collaboration, communication, concentration and contemplation.

Figure 29 – The comparison between the "as is" and the "to be"
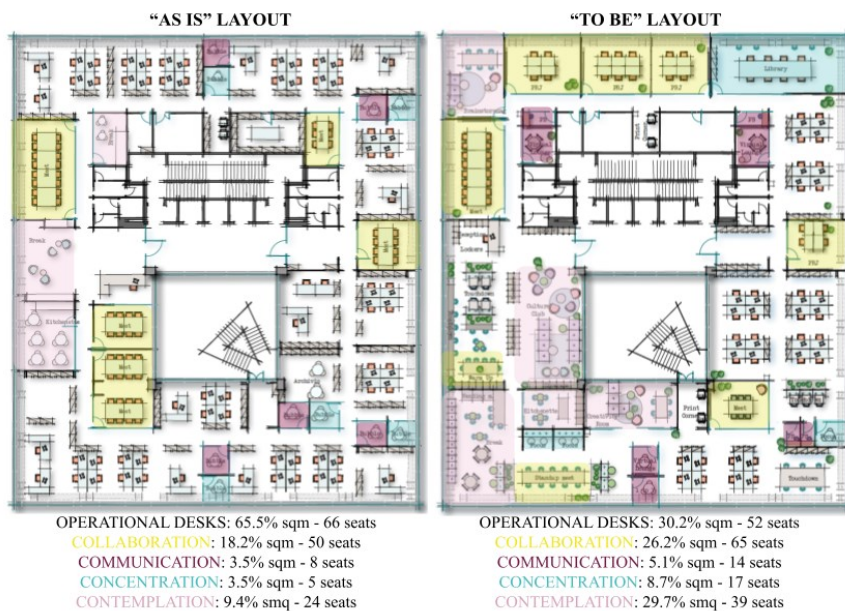
Source: Workitect

When decisions are taken, it is time to elaborate a plan for the implementation. As always, the implementation phase will maintain a multidisciplinary approach that includes behaviours, bytes and bricks. On the one hand, concerning people and behaviours, specific training interventions are structured according to the company's weak areas resulting from the analysis of the Smartness Survey. On the other hand, in

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terms of office layout, there will be co-design sessions to personalise the space involving employees and understand the enabling technologies. This allows us to have sensible feedback and bring out further needs and preferences that did not come to light in the analysis. The goal is to create a place designed following the business units' needs and at the same time that reflects the values and brand of the company in the interior design. After defining the final project and the budget for demolition, construction and furnishings, the realisation phase will start.

Chapter 6. STABILO Italia, from closed offices to desk sharing: a case study

In Chapter 5, we presented the Smart Working Journey, a model aimed to help companies to establish the right balance between working days in the presence and remotely in the definition of a hybrid model, to design workspaces functional to employees' activities and needs and to guide companies in the process of change towards agile work. The model provides guidelines for workplace change management, defines an organisation of resources and establishes strategies and analysis tools.

In this chapter, we intend to analyse this model through a case study. We will try to understand the model's implementation capacity and then highlight its strengths and criticalities by analysing a real case. The analysis of the case study is based on the results of quantitative analysis, participated observation in the strategic meetings and focus groups and an interview with Alberto Mazza, General Manager of STABILO Italia. The interview was individual and semi-structured, based on a flexible and non-standard scheme. Like other qualitative techniques, the primary purpose of the interview is to access the perspective of the subject studied (Mantovani & Spagnolli, 2003). In our case, we will use the interview only to enrich and detail the story of the case study.

After defining the organisational context, we will describe how the model has been implemented in each of its phases. Finally, we will discuss the results, trying to spot the strengths and the weaknesses of the Smart Working Journey as a model of workplace change management.

6.1 Company background and relevant information

i. STABILO: global leader of writing materials

STABILO is part of the Schwan-STABILO group, a German corporate group based in Heroldsberg still owned by the Schwanhäusser family. The multinational is one of the world's leading companies in the writing industry, including writing implements and other office supplies. STABILO Italia is one of the 22 sites that the company has worldwide.

The company was founded in Nuremberg in 1855 as a pencil manufacturer and, ten years later, Gustav Schwanhäusser purchased the company, renaming it after his family name, as "Schwan Bleistift Fabrik", and started using the swan logo referring to his surname and symbol of the values of purity and beauty. The company is still owned by the family and is now in the fifth generation. The Schwan-STABILO group describe itself as a "colourful diversity in a family firm", with about 610 million euros in turnover[1] and more than 4,500 employees worldwide. The company has local sales offices in Asia and Europe to ensure a country-specific appearance of the STABILO brand. STABILO Italia is one of them.

STABILO Italia is legally defined as a sales office of the Schwan-STABILO group abroad. We could define the relationship between headquarters and offices abroad as centralized. In Germany, there are both staff and business functions, such as R&D, IT and logistics. However, a "glocal" strategy, based on the creation or distribution of products and services designed for a global or international market, but adjusted to local culture, is applied. Countries are considered the real experts of their markets' demands, and they are included and consulted in every decision: in particular, the Italian market is the third globally after France and Germany and therefore has a significant weight in decision making.

ii. STABILO during the Covid-19 crisis

The Corona virus situation changed the social and economic life of Schwan-STABILO overnight. The Italian site was the first one to close at the end of February 2020. Starting from 2018, the company started a process of Smart Working implementation with one day of remote working, and the general manager was thinking of enlarging the work flexibility in the company. Before the Covid outbreak, already 13 workers of STABILO Italia had signed an individual Smart Working agreement. Surely, the forced remote working during the lockdown accelerated this process and made it clear that Smart Working would become part of the work organisation in the company.

The most significant difficulty during the Covid-19 was the fear both of the health situation and the business trend. Some collaborators were forced to take a day off a week, and others were under a similar scheme covered by the Social Security Fund. For this reason, all employees took part in a coaching project that helped them cooperate with the anxiety and uncertainty of the moment. Nevertheless, remote work during the crisis drove a substantial increment in revenues. The optimal results

obtained during this challenging period make people feel even closer to each other, working as a group with synergy and team spirit. However, the growth did not involve the whole market. In 2020 there was a contraction in the writing supplements of almost 12%. According to the general management, STABILO Italia grows because they are much more active than the competition and target a different cohort, from 14 to 29 years old.

Figure 30 – STABILO Italia revenue from 2009 to 2021
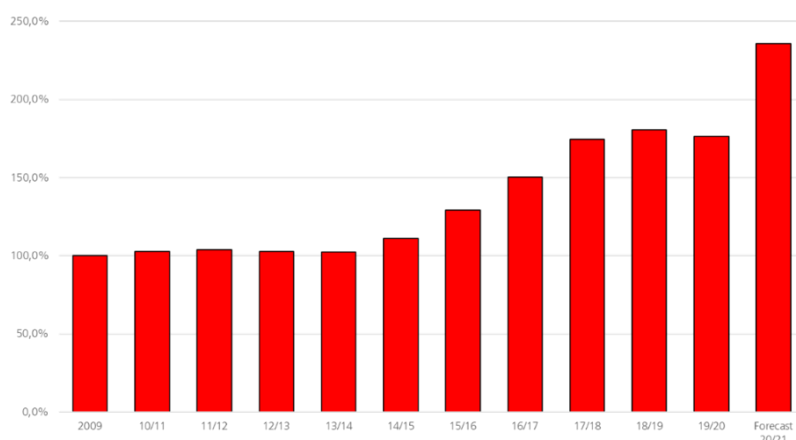
Source: STABILO Italia, revenue indexed in 2009 (100%)

iii. STABILO's corporate values and the central role of "flexibility"

STABILO group is built on trust and employees' empowerment and development. Their main pillars are "openness", "freedom", "wellbeing", and "support". Some of their values are "persistent curiosity" to always lookout for the latest trends, "entrepreneurial courage" to be open to new experiences, "vision and foresight" constantly thinking to the future and coming generations, "colourful" linked to their culture, their offices and their products, and "freedom of expression". "Flexibility" and "familial responsibility" are two of the core values of the group. As a family firm, the well-being of their employees is fundamental to them. A good work-life balance, fair working conditions and equal treatment of all employees are their top priority. They support their employees in reconciling family and career, with flexible working hours, the possibility of Home Working, sabbatical and many other measures, to guarantee maximum freedom and autonomy in work organisation.

6.2 The Smart Working Journey in STABILO Italia

In this section we will ground the Smart Working Journey model on STABILO Italia, to understand how each phase was implemented in the reality.

6.2.1 The Onboarding phase: setting the goals

The On-Board meeting helped us to define the project's priorities and objectives. The project was born as an office redesign one, but that would maintain a multidisciplinary approach, as the Board wanted their employees to increase awareness about the comprehensive concept of Smart Working, be highly involved in the change process, and draft some Smart Working agreement guidelines.

Concerning the redesign of the workspaces, the ultimate objective was to improve employees' work-life balance. In this sense, the Board wanted to implement a flexible workplace and dedicated to encounters, informal socialisation, team building and community. Thus, the idea in implementing Smart Working and redesign a smart office was to move from the number of office days toward the quality of the physical presence. The office has a symbolic role of representing the company and represents a reference point for all employees. According to the Board, the workspace redesign is part of the tentative work flexibilisation in STABILO Italia, aiming to provide workers with a better work-life balance. In fact, if the Smart way of work implies a high risk of people detachment from colleagues and the company, the office should be used to meet colleagues, collaborate, and work together. They expect space to positively impact the development of a new attitude to work and the vision of the business, generating a virtuous circle of increased well-being and performance.

Figure 31 – Smart Working Journey Timeline for STABILO Italia
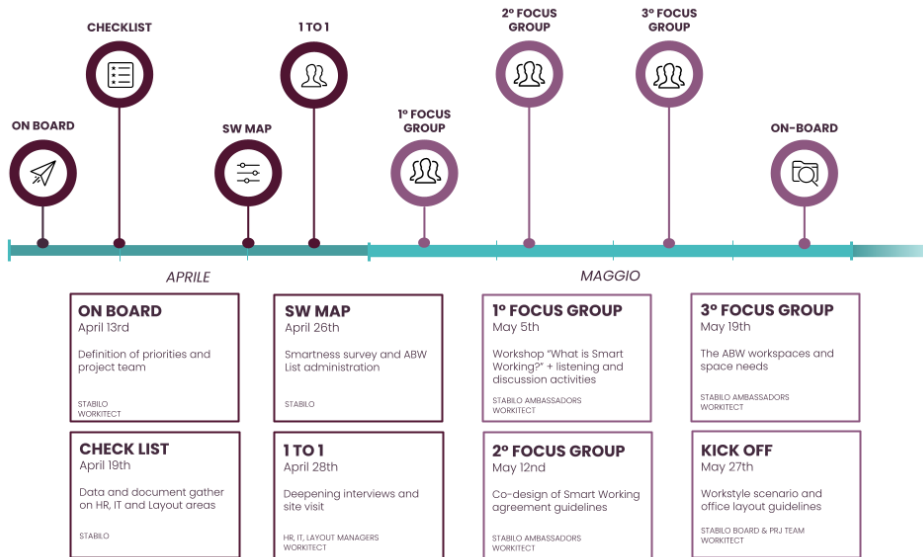
Source: Workitect

6.2.2 The assessment phase: collecting data

STABILO Italia has 21 collaborators, a general manager, seven middle managers and eleven employees. The Sales function is split into different distribution channels, namely e-commerce, traditional, office and large-scale. Under the various distribution channels, there are around thirty sales agents on the Italian territory.

All employees have laptops, and everyone who needs it has a company phone and a double screen. All the company applications are accessible remotely via VPN, but there is only the traditional switchboard. STABILO Italia's office is a one-floor traditional cellular office, characterised by close offices and few support areas. There are ten closed offices, seven of them for single-use and three team rooms. In total, there are 18 assigned desks and a reception. The person:desk ratio is 1:1, so there is no desk sharing.

Table 3 – STABILO Italia organisational functions

| Business functions	Full time	Part time	Sale agents	Future hiring
General Management	1	/	/	/
Receptionist	1	/	/	/
Finance	1	/	/	1
Customer Service	7	/	/	/
Marketing	4	/	/	/
Sales	5	/	1	1
Planning	/	1	/	/

Source: Workitect

In the following part, we will analyse the quantitative results of the Smartness survey and ABW List. As for the statistical analysis concerning the socio and personal data, no significant differences were found. Consequently, it is not considered appropriate to deepen the subject.

i. The smartness

The Smartness survey allows us to understand the level of Smartness of employees and the company and highlight areas of improvement. Looking at STABILO Italia overview of the eight dimensions considered in the questionnaire, we can highlight the strengths and the vulnerabilities of the workers and the organisation to identify the dimensions in which it is necessary to intervene before implementing the Smart Working.

Visually, the Smart worker's dimensions reach a higher score than the Smart company's, respectively 3.35 and 2.86. In particular, the areas of greatest weakness are the last three on the bar chart. Concerning relations and climate, which investigates the value of socialisation and informality in the organisation, the importance of teamwork, and relationships established between colleagues, 8 out of 18 people indicate that they do not agree or partially disagree with the statement "*There is a good climate in the company among most colleagues*".

Figure 32 – STABILO Bar Chart: Smartness Overview
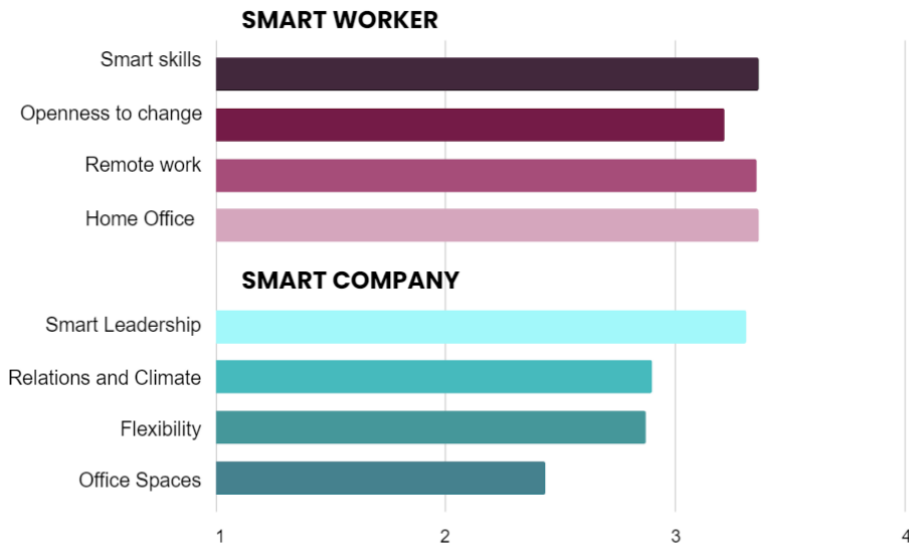
Source: Workitect

Turning to the dimension of "Flexibility", which investigates the presence, but primarily the efficacy, of policies or good practices that meet the Smart context's new needs, 9 of them disagree or partially disagree that "*Work is set more for objectives than for hours*" and that "*The company has adopted policies that guarantee flexibility in working hours*". By analysing people's responses with the lens of the data collected from the checklist, it could be assumed that a low level of achievement of the Flexibility dimension relates to the need of the company to review its legal agreements of Smart Working. One of the project's objectives is to include some of the respondents in the definition of the guidelines to define the company regulations and agreements for Smart Working. Finally, the dimension Office Spaces, which measure the general condition of workspaces, the variety of support areas and their availability at need, is the lowest one. Most respondents indicated the lack of concentration and collaboration spaces in their offices and demonstrate low satisfaction with support spaces in general, especially the break area. In the light of the site visit, it is clear that the STABILO Italia's office is a traditional one, composed of closed individual offices or closed team rooms, a single meeting room and a tiny space dedicated to the break area. Anyways, the project's ultimate goal is the redefinition of workspaces through the introduction of desk sharing and the decrease of desks favouring the increase of support areas.

ii. The flexibility of business units

The bubble chart provides an overview of the flexibility and mobility of all business functions. On the one hand, the x-axis indicates the mode of carrying out the activities, individually at the extreme left and in a group at the extreme right. On the other hand, the y-axis indicates the "remoteness" of the activities, remote at the top and in presence at the bottom. Most of the business functions are in the first quadrant, which means that their activities are primarily individual and can be done effectively remotely. In particular, Panning and Accounting functions are the ones that have the higher remote level. The Traditional Channel of Distribution and Marketing and Communication functions are in the third quadrant, close to the centre of the cartesian chart. Their activities should be collective and collaborative, and they will require a higher physical presence.

Figure 33 – STABILO Bubble Chart: Business Units' flexibility
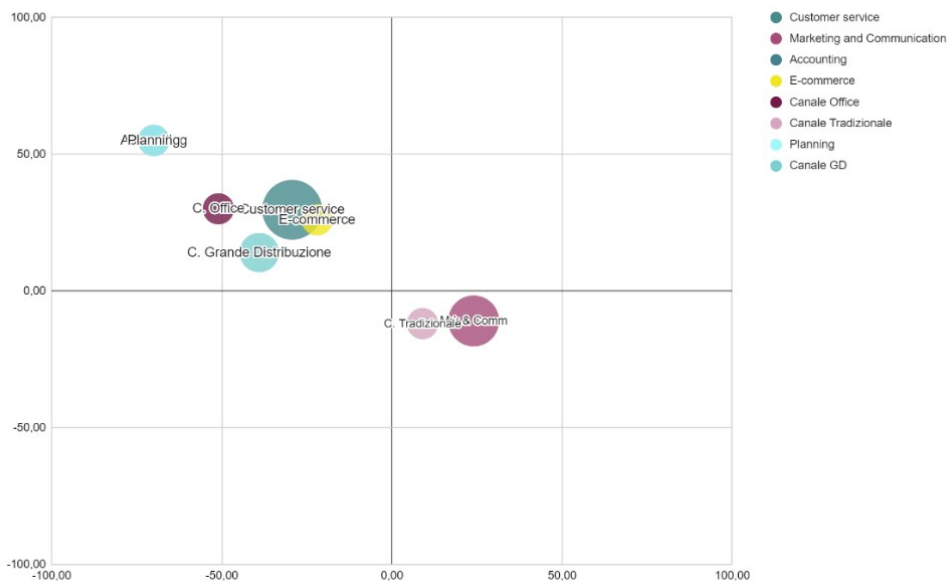
Source: Workitect

The bubble chart allows us to observe the degree of remoteness of the entire company. But more importantly, it places in the cartesian graph each business unit, facilitating the identification of groups with similar and comparable levels of flexibility. In this particular case, we can spot three groups, the one composed by

Planning and Accounting that is highly "remotable"; the one composed by Customer Service, E-commerce, Office Channel, Large-Scale retail channel with a medium level of remote work; and the Traditional Channel and Marketing and Communication with a higher level of presence.

iii. The company's and its functions' activities

After focusing on the modality of carrying out the activities in the bubble chart, the pie chart allows us to analyse what type of activities are performed, providing a broad vision of the company's and its functions' needs.

The pie chart clearly shows that most of the company's activities are concentration ones, in green blue (55.0%). The second-largest slice of the cake is the yellow one, which refers to collaboration activities (23.2%), which like the pink of contemplation (4.7%), imply a higher physical presence at the office. Communication activities are in the third position (12.1%) of the total, increasing, even more, the remote level of the company's activities. Finally, a relevant percentage of the cake is represented by Out of office activities (3.5%).

Figure 34 – STABILO Pie Chart: Company's activities
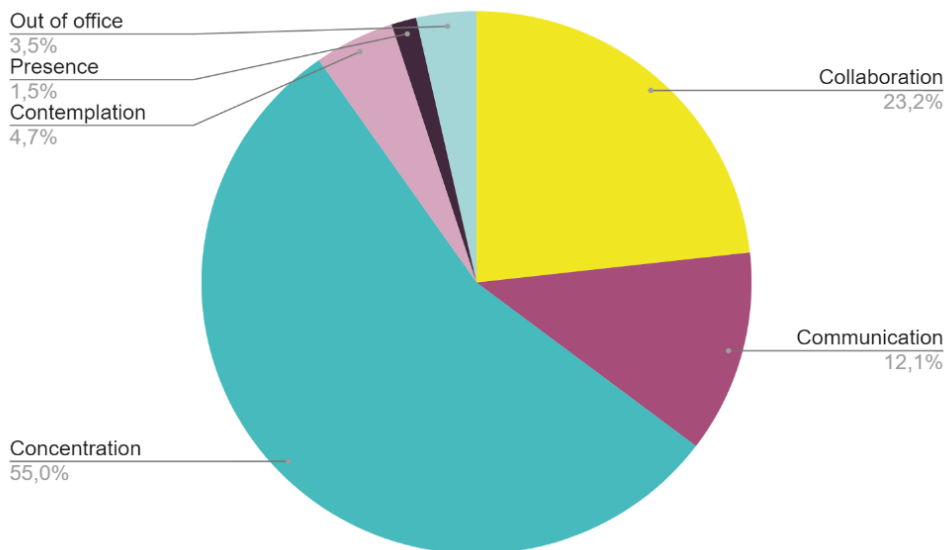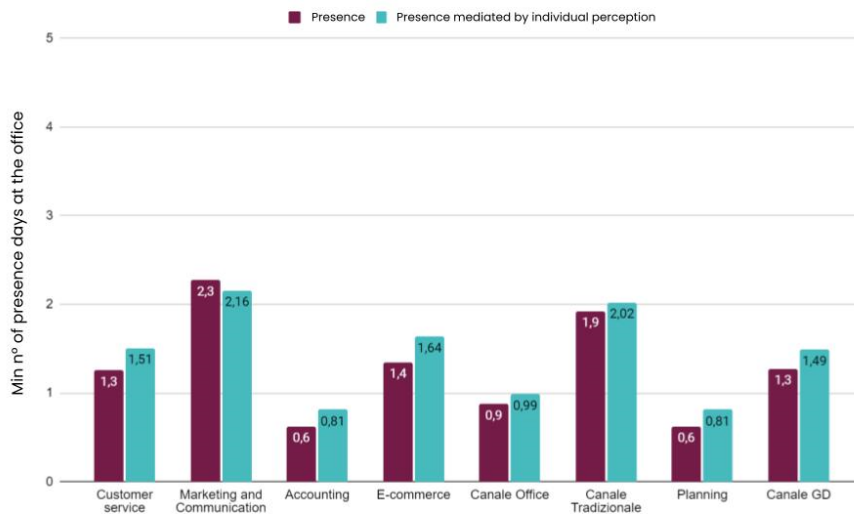

Source: Workitect

iv. The presence and its relevance

Considering the activities and the position in the bubble chart, we get the average working days in presence required for each function. Therefore, the histogram indicates the number of minimum days that each unit should do at the corporate offices to perform at best the activities it says to perform. The histogram is strongly linked to the two previous graphs: most of the bubbles were positioned in the first quadrant, and primary Concentration activities characterised the cake, so the value of the presence is relatively low. For the functions that were in the third quadrant of the cartesian chart and the cake shows a more significant portion of collaboration and contemplation, the level of days at the office is higher.

Finally, the blue column refers to the relevance of the presence carrying out activities, according to people perception. In this case, the column of presence rises for all business units except for Marketing and Communication. In general, workers feel they need more time at the office to carry their activities than the one they get purely from their primary tasks. On the contrary, we can say that the Marketing and Communication collaborators feel they do not need to be in person at the office, even for collaboration activities.

Figure 35 – STABILO Histogram: Minimum Number of Days of Presence at the Office

Source: Workitect

The minimum number of days in the presence of each corporate function is linked to a *personas*, defined as workstyle archetypes. Each *personas* is characterised by different days at the office, sharing ratio, square meters, desk format, and office locations. Applying the filter of the personas, we derive the workstations and the square meters necessary for the business unit.

Table 4 – STABILO necessary workstations and square meters

Business Functions	HC	Presence	Personas	Workstations	Square Meters
General manager	1	4	*Resident*	1	20
Customer service	7	1,51	*Field*	3	42
Receptionist	1	5	*Resident*	1	20
Marketing and Communication	4	2,16	*Mobile*	3	36
Accounting	1	0,81	*Field*	2	24
E-commerce	1	1,64	*Field*	1	14
Office Channel	1	0,99	*Field*	1	14
Traditional Channel	1	2,02	*Mobile*	1	12
Planning	1	0,81	*Field*	1	14
Large-Scale retail Channel	2	1,49	*Field*	2	14
TOT	18			**14**	**210**

Source: Workitect

vi. The Activity Based Working office workspaces

The piled graph shows in percentage how many times the respondents of a function have expressed their preference for one of the listed office spaces. The pile graph shows the prevalence of concentration workspaces, the focus room (total 37%) and library (total 17%) in concordance with most concentration and individual activities. Then, there is a relevant percentage of phone booth and one-to-one. Finally,

the respondent chose some support spaces for collaborative and team activities, such as the project and the meeting room. The chart provides guidelines for understanding the support spaces that each business units demand. Nevertheless, the needs about workspace and the peculiarities of the business functions will be one of the listening phase topics and the focus of the co-design during the implementation.

Figure 36 – STABILO Pile Chart: Activity Based Working office workspaces by function
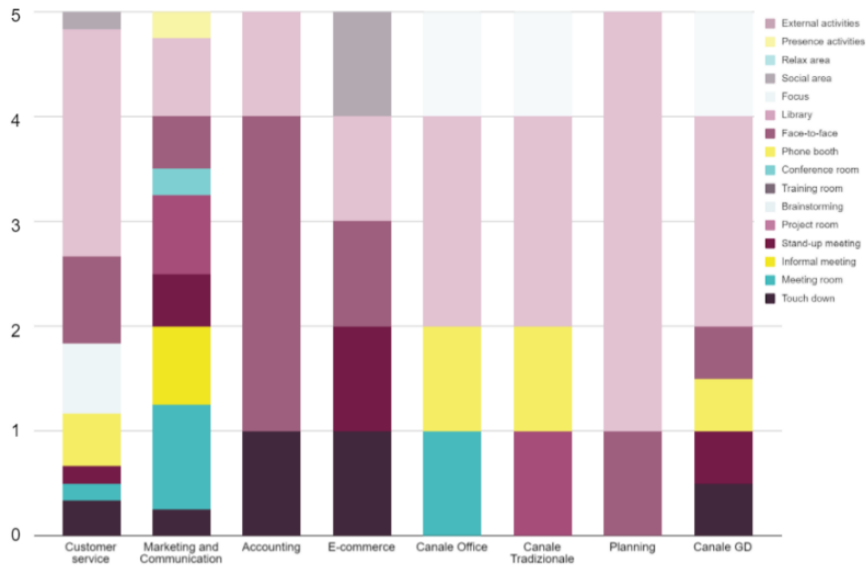
Source: Workitect

With the data we gather, we formulate a hypothetical Workstyle scenario that suggests the balance between days in the presence and remote work, the number of seats, and the necessary square meters. Indeed, the final draft we will present for STABILO Italia will be enriched and modified according to focus groups' insights and the company's strategic objectives and decisions. In the following part we will analyse the outcomes of the listening phase that will help us in achieving our goal, defining the Hybrid model for STABILO Italia and designing their future office.

6.2.3   The Listening phase: leaving the floor to people

As we already specified, involve people in the change process and make them feel listened is fundamental for the acceptance and embracement of change. In particular, the Board make it clear that include employees in moments of listening

was important to align their expectation about the project, to increase their consciousness about the Smart Working's related concepts and to gather their opinions about the change process.

i.   The first Focus group

The main objectives of the first focus group were to understand Ambassadors' level of knowledge about and their perceptions and attitude over the concept of the Smart Working and increase their awareness of its multidimensional character. Deepening in the issues related to Smart Working dimensions, culture, leadership, enable technologies and workspaces, we shared needs, desires and concerns through the so-called "tensions". The preponderant issues that came out from the discussion were:

- *Rules vs Freedom*: rules and necessary to work together, but they should not limit the individuals' flexibility and autonomy in the organisation of their work.
- *Control vs Trust*: Smart work should be based on complete trust between colleagues and between managers and collaborators.
- *Desk sharing and Clean Desk Policy*: leaving the desks empty during the remote work days is an absolute waste. However, it's hard to unty yourself from your desk: it will mean losing control over the space and impossibility of space personalisation.
- *Fear of change*: Smart Working is a breakthrough change in mindset, working conditions, culture, tools, and space and, especially the idea of desk sharing, generate fear.

At the end of the listening moment, we asked the participants to fill in this table, which summarises their perception about the benefits and constraints, the opportunities, and the obstacles of Smart Working implementation for both employees and the company.

ii.   The second Focus group

The main objective of the second focus group was to co-design the guidelines for the legal agreement on Smart Working. In particular, we made the Ambassador reflect on the most critical parts of the company Smart Working agreement starting from some questions. Following the questions asked and their collective answer to them.

How many days employees should go to the office? How to organise them?
- One day a week in the presence for all business units;

- A weekly organisation of the days at the office;
- Half-day as a minimum unit;
- Tool of booking and monitoring of people at the office;
- Minimum three people on site each day.

From which space is it possible to carry activities?
- Within the Italian territory;
- Private spaces, such as the house and the second house;
- Public spaces, with the commitment by the smart worker to ensure the security and privacy of data and information;
- Possibility to work exceptionally outside the Italian territory.

Which should be the working hours in Smart Working?
- 8h guaranteed work per day;
- Flexibility band from 7.00 am to 7:00 pm;
- Common availability band from 9:00 am to 4:00 pm;
- Lunch break from 12 am to 3:00 pm;
- Communicate availability and working hours through a shared calendar.

Which are the tools the company should give you?
- Laptop;
- Smartphone;
- Ergonomic chair;
- Second monitor.

iii.   The third Focus group

The last focus group was centred on workspacesì. The objectives were presenting Activity Based office support workspaces and investigating the needs of each business function in terms of space.

First of all, the Ambassadors were called to reflect on what they usually do at the office, with whom and in which space. According to them, their office needs a project room to collaborate with the team on operative tasks and a meeting room for a formal meeting with clients.

Both should be highly technologically equipped, and they should have a foldable partition to create a bigger space at the need for monthly plenary sessions. For impromptu meetings or short updates, they thought that the stand-up meeting was the best solution for quick and efficient conversation. Moreover, participants made clear the necessity of focus rooms or a library for concentration and individual tasks in closed and single offices. For the same reason, they felt the need for a virtual or phone booth to take short calls or longer video calls not to disturb others working in the open space. The other area they required for small group meetings, mostly one-to-ones, is

the face-to-face. Finally, all the business units' representatives strongly stressed the necessity to have a larger and more functional social or break area that could be used both for the lunch or coffee break and for socialising and informal meetings. The Ambassadors had the opportunity to bring at the table their function peculiarities in terms of space. In particular, the Customer Service function needs an area in the open space that will guarantee adequate acoustic isolation. The Accounting function needs a closed office or a reserved area in the open space because of the sensitivity of the documents they work with and the privacy of their conversations. The different channel functions asked for a touchdown, where they can work in between clients' meetings. Other essential necessities were a space for archive, product samples and space for incoming packages.

Then, we decided to dedicate a part of the focus group to one of the preeminent "tension" that exploded in the first meeting, the Desk sharing and the resistance to leaving one's desk, defining together the best practice of Desk sharing. Some of the best practices refer to the necessity of keeping clean common areas and respect others that work in the open space. Some claim the rules to book and cancel the booking of support workspaces. Finally, we decided to close our last listening moment, asking them which keywords for their future office. According to the Ambassadors, the new office's values should reflect: stimulating, efficient, innovative, open, free, green and customised. Highlighting the resistance of part of the Ambassadors to the change again, one responded "equal", meaning he/she would like that the office remains the same as now.

6.2.4 The decision-making phase: Smart Working and smart office

According to the guidelines developed with the Ambassadors, STABILO Italia opted for setting one day in the presence and four days of remote working of all employees as their Hybrid Model. This choice delineates a flat and highly flexible Smart Working system: it is equal for every function and requires the office's minimum presence. In line with this view, it will be applied a desk sharing, except for some business units. The general manager will be at the office most of the time, so we assigned him a personal desk in the open space. The receptionist will be at the office five days out of five, so we gave her a workstation at the reception.

The Accounting unit will stay, as suggested both by Ambassadors and the management, in a close office with two desks, both for privacy reasons and for the necessity of training a new resource starting from September. All the other functions will work in the open space with a semi-total desk sharing, as Customer Service will

have an acoustically isolated area in the open plan. The total number of desks will be 15, 2 assigned, one in the open space and the other at the reception, and 2 in a closed office. The total square meters for the project are 185. STABILO Italia office is significantly larger: consequently, we made a fit-out test on the current spaces, but we are also helping the company with real estate research. Moving to another office will be more functional and will allow them to reduce space-related costs.

Table 5 – STABILO Workstations and Square Meters of the Smart Office

Business Functions	HC	Workstations	Square Meters	Space
General manager	1	1	20	Assigned desk in open space
Customer service	7	1	20	Reception
Receptionist	1	3	42	Separate area in open space
Marketing and Communication	4	2	30	Open space
Accounting	1	2	18	Close office
E-commerce	1	1	9	Open space
Office Channel	1	1	9	Open space
Traditional Channel	1	1	10	Open space
Planning	1	1	9	Open space
Large-Scale retail Channel	2	2	18	Open space
TOT	18	**15**	**185**	

Source: Workitect

With the data we gather from our quantitative and qualitative analysis, we draft a hypothetical office layout. The idea behind the office design was to create a reference point and a magnet for employees. Accordingly, the first area is conceptualised as the pulsing heart of the office, with the reception, the social / break area, the showroom and two meeting rooms. In the left part of the office, separated by the social zone by glass walls, is the operational area. There are three open spaces in this part, one entirely free, one with two desks assigned to the Finance, one with four

desks dedicated to Customer Service. We tried to accommodate their necessities, providing the Finance more privacy and space for archive and acoustic isolation to the Customer Service. There are also two one to one meetings and a small focus room. There is also a space dedicated to printing and one to the archive in this part of the office.

Figure 37 – STABILO comparison between the "as is" and the "to be"
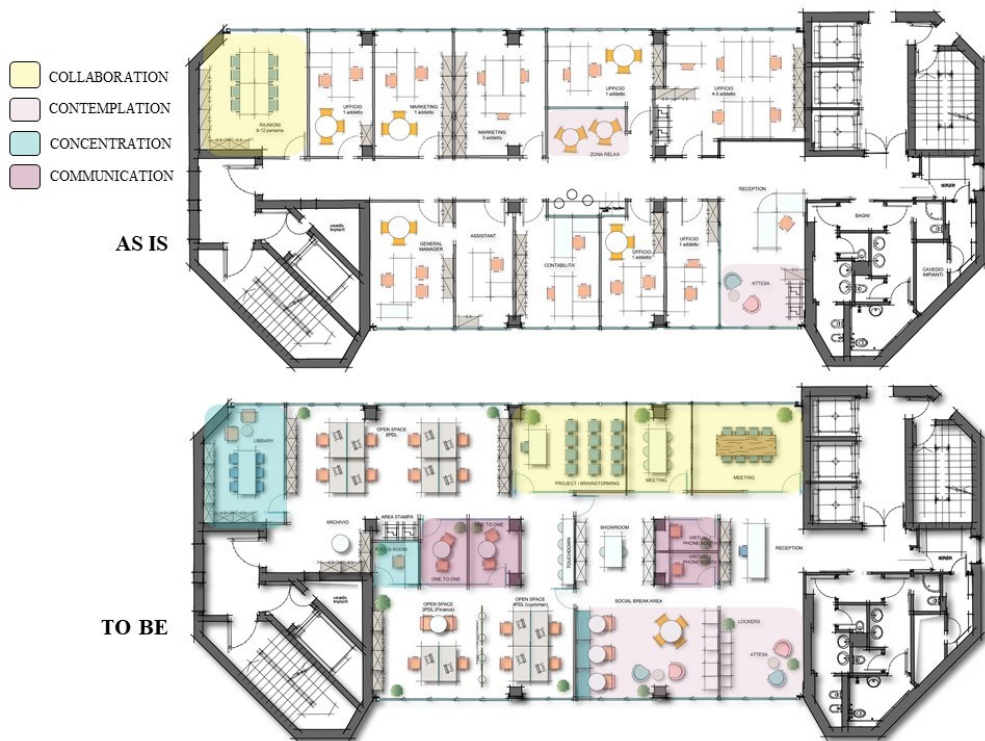
Source: Workitect

In the left corner, we predisposed a library with six spots for complete concentration. We compare the "as is", how the office is at the moment, with the "to be", how the office will be after the space redesign, both on square meters and number of seats. The first evident change of the office layout is removing closed offices and team rooms and implementing desk sharing. Consequently, we save space and

136 at the bottom

designate it to support areas. In particular, we increase the collaboration areas and the contemplation ones, and we introduce areas for communication and concentration.

With Smart Working and desk sharing implementation, the area dedicated to operational desks is reduced in square meters, but the number of seats is maintained, 14 operational desk and 4 seats in touchdown. Areas devoted to collaboration and contemplation increased significantly both in terms of square meters and seats, and we add spaces for communication and concentration.

As a result of the process, STABILO Italia decided to enlarge and improve their Smart Working plan and re-think their workspaces from an Activity Based Working perspective. STABILO Italia adopt a Hybrid model with four days of remote working and the redesign of their workspaces that eliminate closed and individual offices favouring desk sharing and support areas.

At the space level, but also at the cultural one, this is a revolutionary change. For this reason, the implementation phase in STABILO will comprehend a multidisciplinary approach to change management. In particular, at people level we will pay attention in the acceptance to the change toward Smart Working and in building best practice for the use of the new workspaces.

Figure 38 – STABILO comparison between the "as is" and the "to be" by square meters dedicated to the 4Cs
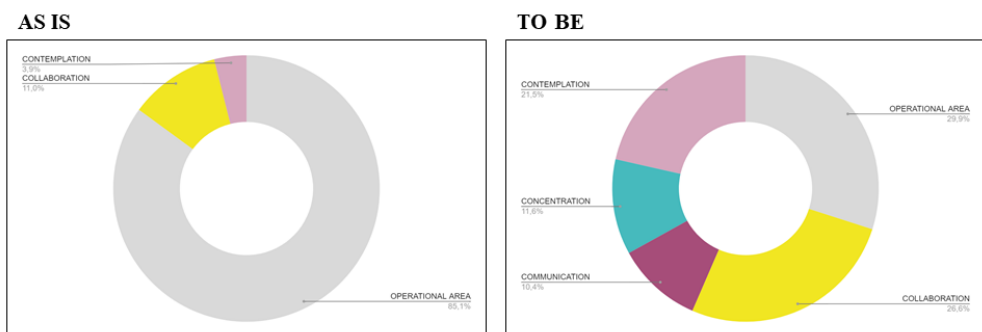
Source: Workitect

Figure 39 – STABILO comparison between the "as is" and the "to be" by seats dedicated to the 4Cs
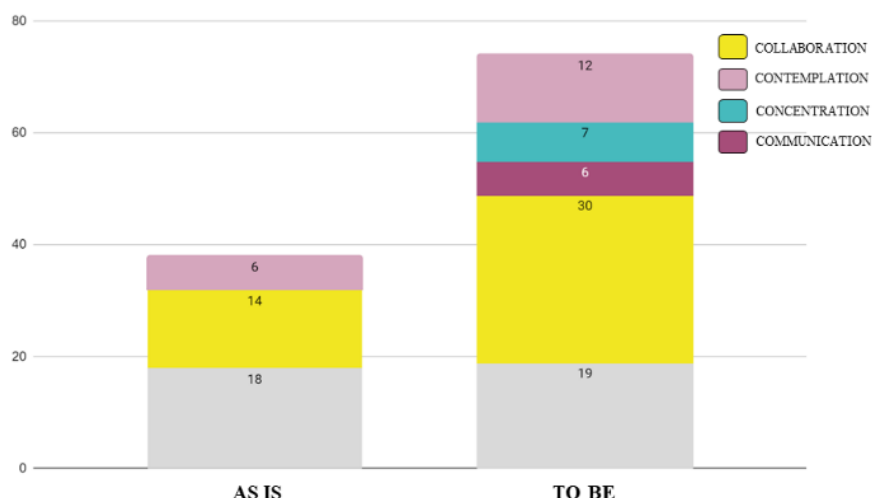
At the end of the Decision-making phase, STABILO Italia has a new smart and flexible office dedicated to encounters, informal socialisation, team building and community. This was one of their primary objectives set at the beginning of the process. To assess the ultimate goal, which was to improve employees' work-life balance through an extensive flexibilisation of work, we will have to wait until after the implementation phase. In fact, only through a further assessment will it be possible to understand if the workspace led to developing a new attitude to work, generating a virtuous circle of increased well-being and performance.

6.2.5   Implementation phase: the next steps

For STABILO Italia, we planned intervention on the three pillars of Smart Working, behaviours, bytes and bricks.

People. We planned a change management intervention based on employees' involvement. The ultimate aim is to increase corporate engagement, a sense of belonging, the value of relationships at work and the openness to change. According to our qualitative and quantitative analysis, those were the weakest areas linked to people and their behaviours. We will implement this process through plenary meetings, individual counselling and focus groups.

Workspace. We thought of an in-depth co-design during the implementation concerning office space. Their office has no structural limits, and the organisation has not placed strict guidelines to office redesign. In this sense, we will involve employees in the definition of support ABW spaces, furniture type, and interior design, including colours and materials. In particular, they will have a fundamental role in defining the values of the office and how they can be mirrored in the physical environment. These moments of feedback and listening will be alternated with project checks. When the project is definitive, we will start the executive design and the implementation phase.

Technology. We planned a process to improve technological support at the office. Employees will be involved in focus groups aimed to understand which are their technological needs and which are the criticalities of current support. Consequently, we will choose the new support technologies in consultancy with the IT function in Germany. The ultimate objective is to build a phygital workplace that creates a continuum between the online and the physical experience and makes the office attractive. After choosing the technologies, we will set training sessions on tools for the whole organisational population.

6.3 Discussion: strengthens and limits of the Smart Working Journey model

When we explained the model of the Smart Working Journey, we justified every phase of it, starting from literature about change management. Seeing the model applied to a real case allows us to draw relevant conclusions about its strengthens and areas of improvement.

One of the most significant strengths of the model is the bottom-up strategy, which involves people in every stage of the method. As explained above, this generates a greater motivation and acceptance of change, thus decreasing the resistance. However, on a psychological level, this could create high expectations in people who, if not met, could generate discontent and dissatisfaction. In this sense, it would be appropriate to think of listening strategies that often clarify the participants' role and their power of manoeuvre and influence on company choices.

Concerning analytical data collection tools, their strong point is to be created by the reworking of already validated surveys or by the critical study of literature regarding the main areas of Smart Working. However, the two instruments used hide substantial limitations for the model: the validation of data collection tools and the administration of the survey. In particular, the Smartness survey results from a reworking of other tests and the formulation of *ad hoc* questions starting from

literature. However, it is necessary to continue with a psychometric and factorial verification to validate its content and adequacy in measuring the actual main variables to consider when implementing Smart Working. The validation would also allow exploiting the tool to the full of its potential. Moreover, in many cases, people found it difficult to fill out the ABW List. Two can be the causes of the trouble encountered by respondents: the first is the different knowledge of people who are called to respond to the survey at the very beginning of the process; the second concerns the administration tool of the survey itself. Concerning the first point, one could think of preparing an online training on the ABW model and its workspaces for all employees before the survey administration. Regarding the second point, more user-friendly solutions could be envisaged for the ABW List administration, enhancing its user experience.

A third aspect of paying attention to is the change management path itself. The Smart Working Journey seems to be interrupted by the multidisciplinary implementation phase regarding people and behaviours, enabling technologies and functional workspaces. Instead, it might be interesting to further develop the process by including a pilot phase that may cover the three areas of intervention. Concerning people, it could be possible to apply an individual agreement of Smart Working only to a representative percentage of the company population to monitor the consequences, become fully aware of the advantages and disadvantages, and improve it for the rest of the employees. About technologies, the same reasoning applies: equip only smart workers under an individual agreement of enabling technologies to assess their effectiveness. Finally, based on the final project of space intervention, it is possible to choose only some areas to intervene primarily, allowing business continuity, thus ensuring space for everyone in the office. In this way, people would gradually get used to the change and experience the ABW office spaces and the activity-based work only in some office areas. Only these areas should be equipped with the necessary technologies to assess their effectiveness. Once the impact of these changes is established, the intervention can be adjusted and then delivered to the entire company population. Following the pilot phase, we should also consider adding an assessment and monitoring phase with assessments over time to fully understands the effects of the Smart Working Journey.

A final strength, the one that I want to conclude with, is the multidisciplinary approach to change. Throughout the thesis, we repletely highlight how important it was to maintain an interdisciplinary approach when implementing organisational change and Smart Working. Having a single team of professionals in the different areas of

intervention promotes internal project coherence and responds to the request for multidisciplinarity of the Smart Working itself.

Conclusion

The work aimed to reflect on the role and the value of office spaces in the era of remote working and to define a possible method for designing the future office. Economic, social, technological and demographical changes had a critical role in developing a flexible way of working and, in particular, Smart Working. In this context of transformation, the Convid-19 act as a catalysator, making people understand the benefits of remote working and accelerating Smart Working. What is delineating as the future of work is the Hybrid Model, the mix between work remotely and in the presence synthesising the best of the two experiences. One of the focal points related to a successful implementation of the Hybrid Model of Smart Working is maintaining a systemic a multidisciplinary approach. A flexible approach to work can be applied only through the effective interaction between people and processes, technology and workspace.

The analysis highlighted that the physical working space has a fundamental role for people and organisations: it positively affects people's well-being and performance, and it stimulates a culture of trust and a sense of community. Consequently, we answered the question "Do we still need an office?" with a strong "Yes".

The first main contribution of this work was discovering the role and the value of the office in the era of flexible working. Within the framework of the Hybrid Model, work in the presence alternates with remote work. In this sense, the purpose of the office today is to accommodate what people cannot do efficiently outside of the office and align with the organisation's strategy. Informal exchange helps develop a strong sense of belonging to the organisation and to develop an agile culture. Face-to-face meeting is essential for effective teamwork and collaboration. In addition, workspaces that facilitate and support people's activities are functional in terms of performance and well-being. They encourage creativity, the development of new ideas and innovation.

The second noteworthy contribution of this work was defining a method of redesign of workspaces. Once we understood the added value that meeting in a workplace has on critical aspects for organisation and individuals, we consider the Activity Based Working approach as the one design strategy that best answers the office need to impersonate its new role. According to the Activity Based Working approach, each work activity can be clustered in four macro-categories best supported by different environments. Then, based on this theoretical framework, we

outlined a possible method for redesigning offices tailored to companies need and features. The Smart Working Journey is based on clear communication to people of the logic underneath change, participation and involvement of employees, change agents, and support toward change. In this way, we defined the steps for successful workplace change management. We also evaluated the implementation capacity of the model from the analysis of a real case and we highlight its areas of improvement, in particular the necessity of data analysis tools validation and the need for a pilot and monitoring phase at the end of the process.

The third significant contribution was hypothesise which characteristics the new office should have at the time of hybrid work. Keeping in mind the new role of the physical workplace and a possible implementation method, we tried to outline how the office should change to adapt to current changes, embodying at best its new value, asking some experts in the field[52]. Generally speaking, the future of work will be the equilibrium between presence and remote work, a Hybrid Model. Moreover, the workplace ecosystem will always be more open to other spaces, such as coworking. Consequently, companies will reduce their desks, implement a desk sharing probably at 60-70% of occupancy and increase the support spaces, particularly collaborative and social areas. The pandemic has denied one of the most important added values that the office offers, namely the opportunity to meet. In a post-pandemic scenario, the study of human behaviour, combined with technology and design, allows you to build a new dimension of *well-being*. The perception of spaces has changed: new fears and new needs must be addressed with an office in which people feel safe and protected, from a physical, psychological, and relational perspective. This is accompanied by a renewed attention to employees' work-life balance. The future office would be *human-centred* and *flexible*. It would guarantee individuals the possibility to choose among various versatile, fluid and intuitive spaces. The physical environment would encourage people mobility inside the office. People would have complete control over where to work and on lighting, ventilation, and temperature. We hypothesise that the office will try to become more attractive for employees and talents in the next future, projecting in its design the corporate image, generating a sense of belonging, enhancing engagement, and building a collective identity. A process of "*hotelification*" will probably encourage this trend, offering services and experiences to attract employees, being a reference

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[52] Interview to Fabio della Fiorentina, Regional Sales Director at Steelcase (November 2020); Interview to Simone Giacalone, Specifier Account Manager at Herman Miller (November 2020); Interview to Annemieke Garskamp, Workplace Consultant at Steelcase (December 2020); CVD conference "The future of the Offices: Investing in transformation: innovation, hybridisation and flexibility for new workspaces" (May 2021).

point for clients and society. During the pandemic, people were forced to take their work home for a long time, sacrificing their private space to dedicate corners of their houses to the office. Now the trend is inverted as we are moving from a working space to a living space. The office will perhaps experience a process of "*housification*", bringing a domestic look and feel in the workspaces. The design will be familiar to facilitate collaboration and informal exchange. A friendly environment also encourages the development of a culture of trust. Finally, the future office will surely be hyperconnected, bringing virtuality in the workspace. To be digitally functional and technological attractive, the future workplace should increase the continuity between the physical and digital working experience. As the future of work will be hybrid, the future workplace will try to create a "*phygital workplace*" that connects the physical and digital world, enhancing customer experience by choosing working methods.

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