FUTURE WORKPLACES

Shaped by the Pandemic

ABSTRACT

This thesis is about future workplace design and how it has been reshaped by Covid-19. The thesis was born from a determination to find solutions for relevant and worldwide issues. Moreover, the interest in the subject grew during my internship program at Agile Work, a workplace transformation company.

In addition to past and rising workplace trends, this thesis covers the subject from various dimensions. The design presented at the end of the thesis is a future workplace concept for Agile Work. Although the assignment was commissioned by Agile Work, the objective was decided in cooperation. The goal was to design a concept that focuses on office design.

Key words

future workplace, office, pandemic, scenario, hybrid work

TIIVISTELMÄ

Tämä opinnäytetyö käsittelee tulevaisuuden työympäristösuunnittelua ja kuinka Covid-19 on muuttanut sitä. Opinnäytetyö sai alkunsa määrätietoisuudesta löytää ratkaisuja ajankohtaisiin ja maailmanlaajuisiin kysymyksiin. Lisäksi mielenkiinto aiheeseen syveni työharjoitteluni aikana työympäristömuutoksiin keskittyvässä yrityksessä, Agile Workillä.

Menneiden ja nousevien työympäristötrendien lisäksi opinnäytetyö tarkastelee aihetta useasta näkökulmasta. Opinnäytetyön lopussa esitetty suunnitelma on tulevaisuuden työympäristökonsepti Agile Workille. Vaikka Agile Work oli tehtävän toimeksiantaja, työn päämäärä päätettiin yhteistyössä. Tavoitteena oli suunnitella konsepti, jonka pääpaino on toimistosuunnittelussa.

Avainsanat

tulevaisuuden työympäristö, toimisto, pandemia, skenaario, hybridityö

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VOCABULARY

Agile working

Agile working refers to finding the most suitable and efficient way of working for a task. It is about creating different working areas that ensures freedom and flexibility to choose the location for working and when to work. (Allsopp; Office Principles 2020.) The term is commonly used when designing workplace experiences where key features include activity-based design (*see chapter 2.3*), hot desking, remote working and optimizing spaces (Advanced Workplace).

Remote working

Remote working means working outside the head office, for example at home or in another location (Tekes 2011, 18).

Co-working

Co-working space refers to an environment where members such as freelancers can use the space in exchange for a membership fee (Nenonen & Niemi 2013, 100).

Hybrid working

Hybrid work refers to work activities in both physical and virtual environments (Danivska 2020; Nenonen 2020).

VR

Virtual Reality (VR) refers to a computer-generated environment which can be accessed through a Virtual Reality headset or helmet. For example, it can be used to help architects to design spaces and present the work to their clients. (Iberdrola.)

Virtualization

Virtualization and digitalization are two different things: Whereas virtual activity only takes place through technology, digital tasks can be executed both remotely and physically by utilizing different devices (Mäkitalo 2020).

Trend

A trend indicates a direction of change which may continue in the future (Hiltunen 2012, 94-95). The existence of a trend is proven by multiple sources and they have an important role in foresight (Stucki 2021). The most efficient way to find trends is to look for weak signals that could indicate future changes (Hiltunen 2012, 102).

Scenario

Creating scenarios means thinking of alternative futures. Instead of being predictions or visions, scenarios are views of the effects of key events that might occur on the way to the future state. Scenarios can be used, for example, to test strategies and new innovations. (Hiltunen 2012, 130 & 180-181.)

1 INTRODUCTION

1.1 THESIS

Approach

Since the pandemic has led to a rapid increase in remote working, the relevancy of offices has been questioned. The issue was discussed even before Covid-19. However, there have been concerns about the lack of face-to-face socialization and how it affects not only communities of organizations, but also the mental health of employees. There is an urge to find functional solutions that would enable efficient working with new technology without forgetting the value of basic human needs.

In the fall of 2020, the second wave of Covid-19 was rapidly spreading in Finland. Meanwhile, it was the time when my internship at Agile Work began. This company shared an interest in the subject of future workplaces shaped by the pandemic and, as a result, the decision to collaborate took place. It was an opportunity to dive into the world of workplace design as an intern while writing this thesis.

Purpose

The purpose of this thesis is to research how Covid-19 has changed the design of future workplaces. The research question is how to create a workplace design that serves future needs.

While this thesis provides solutions for the Agile Work, it will hopefully help other workplace designers and specialists and, in addition, raise new discussions about the future of work.

Research

The research is mostly based on electronic sources that vary from writings by professionals to reports. In addition, 5 interviews were conducted with experts of different fields.

The paper covers briefly the general development of workplaces to underline the rapidness of the change since the outbreak of Covid-19. However, the focus of the research is on the future.

1.2 CASE COMPANY

Agile Work is a company that specializes in workplace developments *(figure 1)*. Their clients consist of global organizations and growing SME companies. Agile Work was founded by Esa Santamäki and Antti Pitkänen in 2015, and the company office is located in Vallila, Helsinki. (Agile Work; Agile Work Oy.)

The aim of the company is to increase happiness and productivity of people by creating agile workplaces. Agile Work helps organizations to reach their full potential and optimize for change. The company values digital approach and they involve their clients throughout the whole development process. Agile Work has a large network that they utilize in collaboration. (Agile Work; Agile Work Oy.)

Pitkänen took part in this thesis as a thesis supervisor. On top of being one of the founders, he works as the chairman of the board and is the Chief Experience Officer for the company (Agile Work Oy).

1.3 COMMISSION

The commission of the thesis was decided in cooperation with Pitkänen. It was agreed that the aim of my thesis is to research how Covid-19 has changed the design of future workplaces. To gain the relevant knowledge for the work, the plan is to foresee the future of Agile Work and use that information to discover the requirements of the company's future workplace.

The final product is to be a future workplace concept that focuses on the future *office* of Agile Work. The concept should demonstrate how the office is used in the future. The concept is to be applicable to ensure the utility in the work of Agile Work. The company hopes to use this work as a beneficial tool when defining a future workplace concept that would support interaction with their clients.

FIGURE 1. THE COMPANY LOGO (Agile Work)

2 DEVELOPMENT OF WORKPLACES

"Work is the key to connecting people and creating a better world. By increasing productivity, creativity and human connectivity, we have the ability to develop sustainable solutions for global challenges."

(Gielgen 2020, 2.)

2.1. EVOLUTION BEFORE COVID-19

This section covers how workplaces have changed throughout the last decades and the key workplace concepts that have emerged. To acquire a comprehensive understanding of future workspaces, it is relevant to learn about the development of workplaces over the last few decades *(figure 2)*. The aim is to understand the big picture and learn from the past since the plan is to discover the future workplace.

1900-50s

At the beginning of the 20th century, spacious open-plan offices were common, especially in the United States. The way of working was efficient but strongly controlled by the manager, who led the work in front of the employees. (Tekes 2011, 14; Nenonen & Niemi 2013.)

In the 1950s, managers moved into their personal office rooms and the open space remained for the employees. Having an office room to oneself became a symbol of status and appeared as a progression up the hierarchy. This development phase was driven by advanced economy and construction technology. (Tekes 2011, 14; Nenonen & Niemi 2013, 99.)

60s-80s

A new space concept from Germany made Europe the pioneer of workplaces in the 1960s. *Bürolandschaft*, office landscaping, provided more interaction: Managers were pulled out of their offices and the layout of the offices changed. The plan became more organic and natural, and working areas were separated by plants and temporary screens. The change was caused by the desire to lower the hierarchy and support cooperation. The concept spread rapidly to North-European organizations. However, open spaces and similar workstations were not seen as platforms for sociality and friendliness, but as a place for brutal efficiency. In addition, companies were not yet ready to give up status-indicating office spaces. (Tekes 2011, 14; Nenonen & Niemi 2013, 99; Berry 2018.)

In the 1970s, as employees' rights became a new driving factor, the *Bürolandschaft* phase decreased and personal office rooms made a return to the Nordic countries. The employees did not want hectic spaces with little natural light. Therefore, various regulations were developed on natural light and number of people in the same room. Furthermore, during this decade, the combi-office concept was introduced in Sweden. The concept combines both closure and open space in the office. Meanwhile in the United States, office partitions were developed to divide open space into smaller spaces. (Tekes 2011, 15; Nenonen & Niemi 2013, 99.)

Smart offices sparked interest in the 1980s. Smart building adapts to the needs of the users. This change was driven by the development of construction technology and economic growth. Technology made it possible to anticipate situations, meet user expectations, and learn from recurring events. The goal was to improve user conditions in an economic way and increase productivity. For example, developed HVAC systems enabled new solutions for offices. In addition, the personal computers became relevant tools in the office. (Tekes 2011, 15; Nenonen & Niemi 2013, 99-100.)

90s-2000s

The development of information and communication technology allowed the virtual operating environment to be alongside the physical space in the 1990s. Due to the evolvement of mobile technology, the amount of space needed at the office became less relevant since the employees were no longer tied to time and place. The Nordic approach to design spaces for various uses became more common. A lot of information and communication technology was still invested in the offices, but the work environments changed more significantly as the result of mobile technology. (Tekes 2011, 15; Nenonen & Niemi 2013, 99-100.)

By the new millennium, cubicle offices faded away and, in the early 2000s, there was a rise of open-floor plans and remote working (Atlassian). Moreover, multi-space office was introduced during the decade. Driven by mobility and movability, multi-space offices allow the
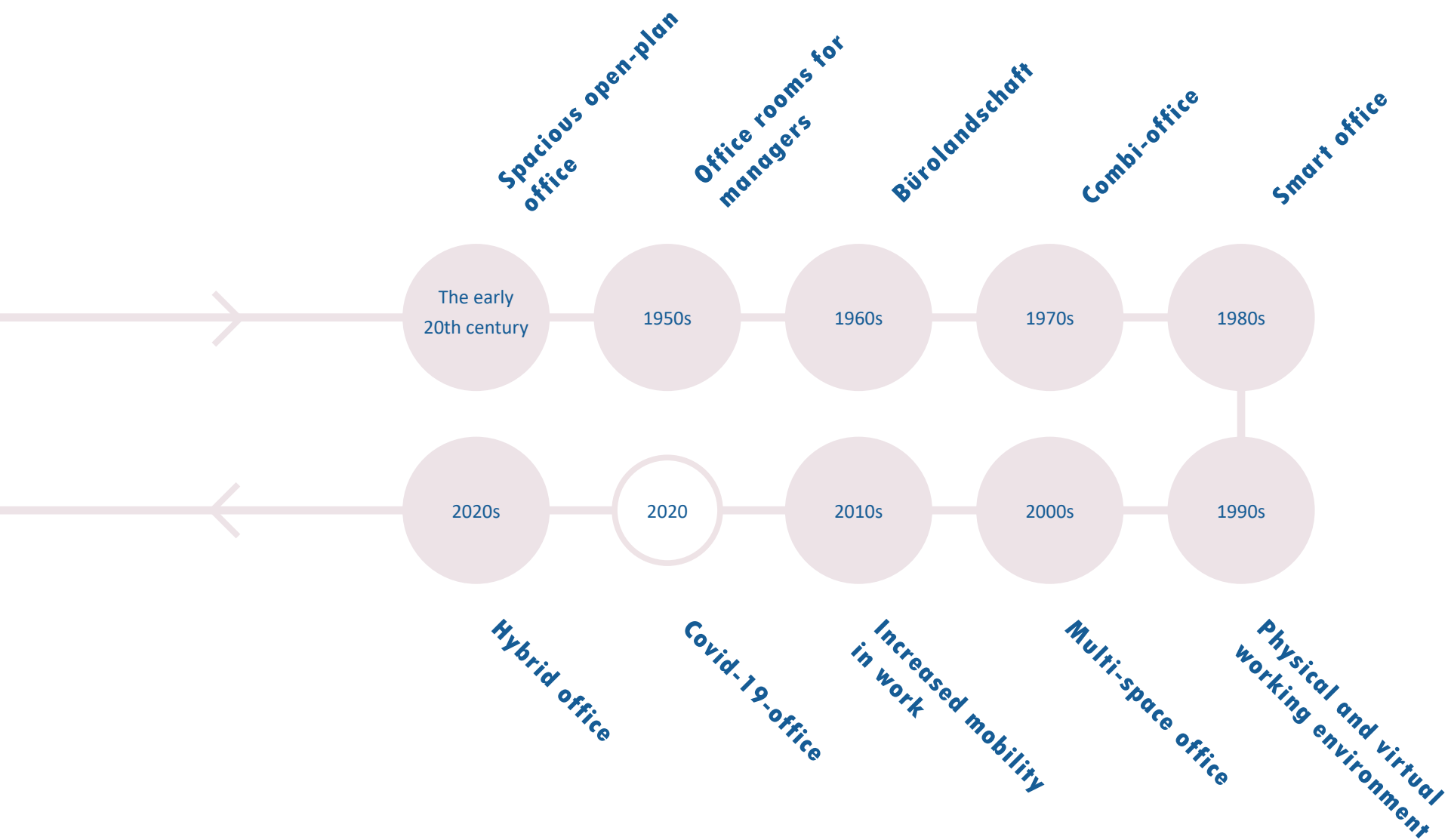
FIGURE 2 THE KEY WORKPLACE CONCEPTS (Tekes 2011, 14-15; Nenonen & Niemi 2013, 99; Nenonen 2020)

users to choose their workstation or space according to the current work task. The idea is to utilize different spaces or zones for different needs of different organizations. As a space concept, a multi-space office is flexible and adjustable. There are areas for working, meeting places, quiet rooms, support spaces like retreat spaces, et cetera. Multi-space offices are typically divided into public, semi-public and private zones. Co-working spaces are often multi-space offices. (Nenonen & Niemi 2013, 99-101; Rakennustieto Oy 2014, 2-3.)

In addition, many leading technologies that are still used today for working emerged in the 2000s: For example, Skype, Gmail, Facebook, and iPhone (Atlassian).

2010s

The increase of Information and Communication Technologies (ICT) changed the ways of working unprecedentedly (Van Yperen et al. 2014). In the 2010s, artificial intelligence began to connect everything. There was growth in the usage of workplace productivity tools such as Slack, Microsoft Team and Google Docs. Moreover, mobile apps and the cloud were adapted to the business world. (Atlassian.)

The workforce became increasingly mobile, collaborative and technology enabled. Employees were less dependent on location and had more control over their work. (Harris 2016, 11.) Location-independency refers to work that can be performed in any location

and multi-location enables one to work in multiple locations (Danivska 2020).

In 2019, The Ministry of Employment and the Economy of Finland invited Tytti Määttä, the mayor of Kuhmo, to investigate the potential of location-independent and multi-location work within the organizations of Ministry of Economic Affairs. According to the study, completed in 2020, it is possible to increase the regional presence and location-independency. (Ministry of Economic Affairs and Employment of Finland 2020.) Määttä (2019) believes that location independent work can create opportunities to return to one's domicile or it can provide an opportunity to advance in your career without having to move. This allows to recruit the most qualified people for the places despite home location. However, adapting multi-location and location-independent ways of working on a larger scale requires decisions, common ground rules and support for leadership (Ministry of Economic Affairs and Employment of Finland 2020).

Moreover, many other concepts, like co-working and agile working, increased even before Covid-19. Agile working was introduced by Michael Joroff as early as 2003, but has become more popular, driven by mobile work and increased flexibility. (Nenonen 2020.)

"Cognitive distortions make us, roughly speaking, idiots. We look at the future through glasses that sadly distort the landscape of the future."

(Hiltunen 2012, 156, author's translation.)

2.2 DRIVER OF CHANGE: COVID-19

Wild card

A sudden change to the expected course of events can happen as a result of surprising and rare cases. Wild card is the term futurists use to indicate such events. (Hiltunen 2020.) However, despite the previous disease outbreaks–Ebola in 1976 and again in 2014, first SARS in 2002 or the "swine flu" pandemic in 2009–the world was not able to cope with Covid-19 effectively in the short term since it was not prepared (Goldman 2020, 68 & 75).

The fact that the complications caused by Covid-19 came as a surprise was not because they were surprising, but because there was not enough attention being paid to the weak signals (Hiltunen 2020). Weak signals are the first observations of changes that are potentially significant in the future (Sitra).

Hiltunen (2012, 145-146) states that it is possible to notice weak signals both from wild cards and step-by-step changes, but the relevant difference between these two phenomena is the period which describes the time to react to the change *(figure 3)*.
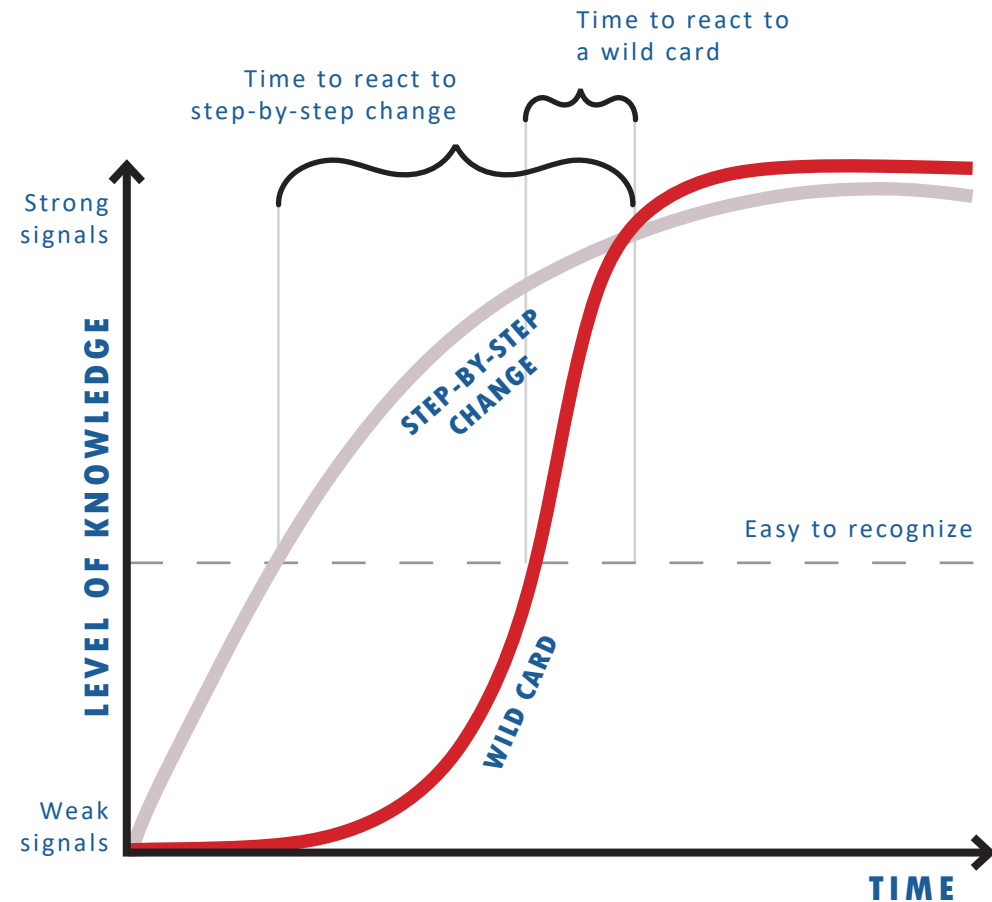
FIGURE 3. THE DIFFERENCE BETWEEN WILD CARDS AND USUAL CHANGES (adapted from Hiltunen 2012, 146)

QUESTION: How often did you work remotely before COVID-19? How many days a week would you like to work remotely after COVID-19?

BEFORE COVID-19　　　**AFTER COVID-19**

25%
Regularly

75%
Never or
infrequently

66%
Regularly

34%
Never or
infrequently

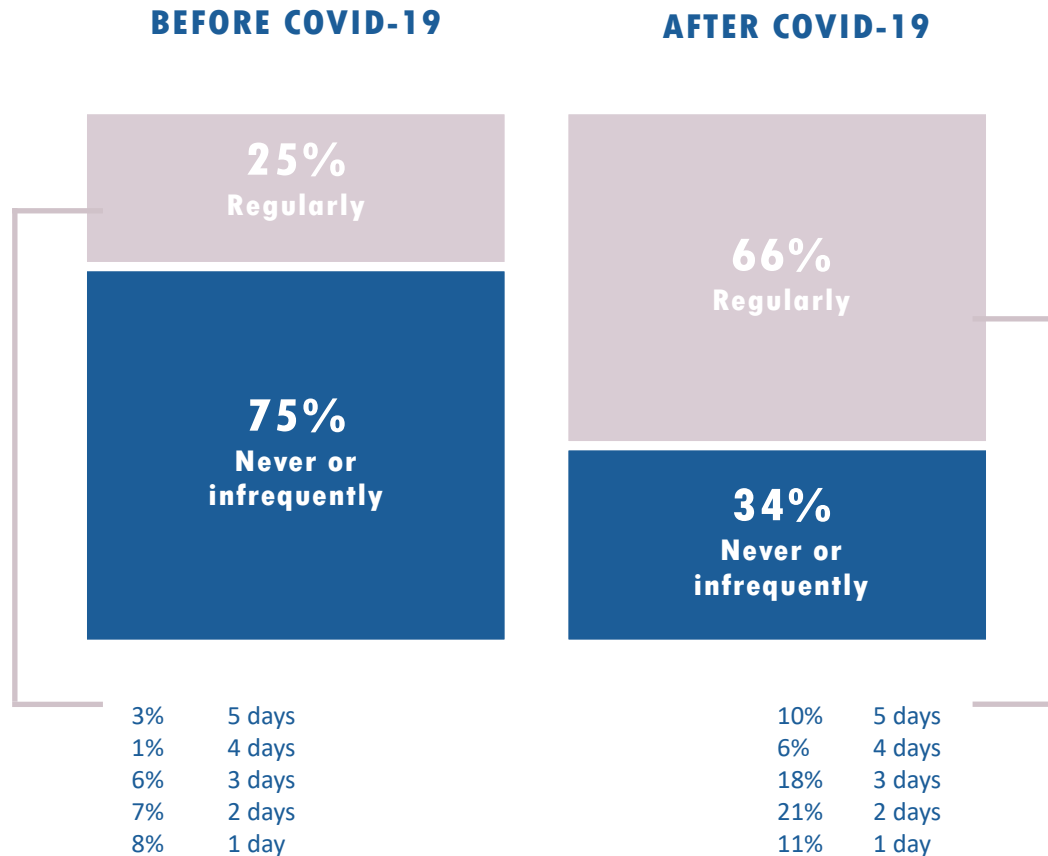|				
3%	5 days		10%	5 days
1%	4 days		6%	4 days
6%	3 days		18%	3 days
7%	2 days		21%	2 days
8%	1 day		11%	1 day

FIGURE 4. SURVEY RESULT ON WORK-FROM-HOME FREQUENCY (adapted from JLL 2020a, 6)

Whenever a pandemic emerges, it causes rapid changes (Salmirs 2020, 7). According to Tiia Rauhamäki from Technopolis (2020), the changes of workplaces were already on their way even before the pandemic, but everything is only changing faster. Moreover, Antti Pitkänen states that, as a positive result of Covid-19, valuable things have been implemented, such as new innovations and new ways of working, that normally would have taken years to adapt to. Since the outbreak, organizations started suddenly taking 10 to 20 year leaps into the future.

Covid-19-office

Rising in 2020, the "Covid-19-office" refers to remote working and infection-control at offices (European Parliament 2020, 33). The crisis required the traditional way of working to be separated from the company office. (JLL 2020, 9).

Due to Covid-19, remote working normalised *(figure 4)*, causing concerns about its consequences, such as the lack of social interactions (BBC). In cultures where physical closeness is part of encounters, remote working has been even more challenging (Agile Work 2020, 27). To fight the issue, many companies, such as Agile Work, included daily informal remote sessions to the workdays and other remote occassions to maintain the community spirit. It is necessary to reserve time for encounters and informal discussions (Agile Work 2020, 46).

Furthermore, bad home-office ergonomics and pandemic stress can lead to health problems. There has been people suffering from mental problems during the pandemic and there may be people suffering even after Covid-19. (Wilser 2020; Tucker & Czapla 2021.)
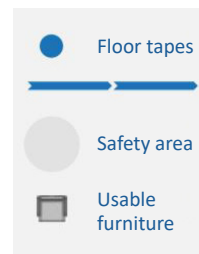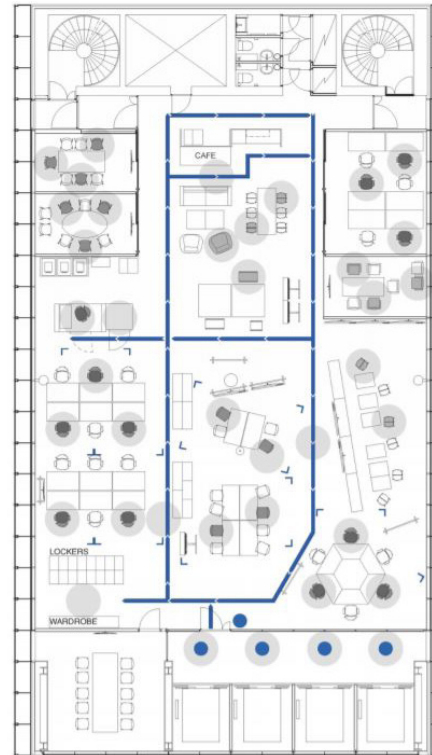
Hot desks (unassigned desks) were not very popular before the pandemic but, according to the survey by JLL, the majority of employees are willing to switch to a hot-desking environment (JLL 2020, 19). On the other hand, according to Perttu Ahvenainen from Taitori, the reservation function for workstations that was almost abandoned before the pandemic is increasing again (Agile Work 2020, 34).

Guides and signage

Although Covid-19 will be eventually over, pandemics will occur again in the future. Improved preparedness for future outbreaks is a lesson to be learned from Covid-19. (Goldman 2020, 11 & 68.)

Offices do not necessarily need to create their own social distancing strategies but need to be able to see the best solutions even from different types of spaces. For example, during Covid-19, restaurants relaxed the use of space while creating safe spaces and they utilized outdoor spaces as much as possible. (Nenonen 2020.)

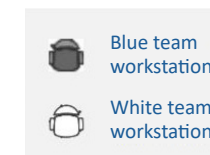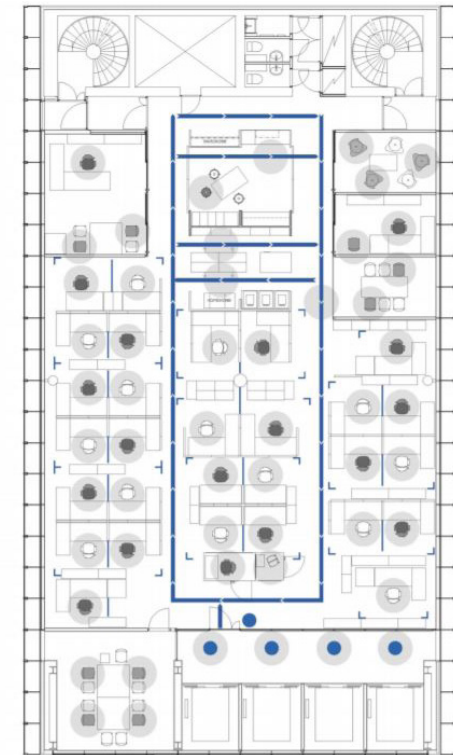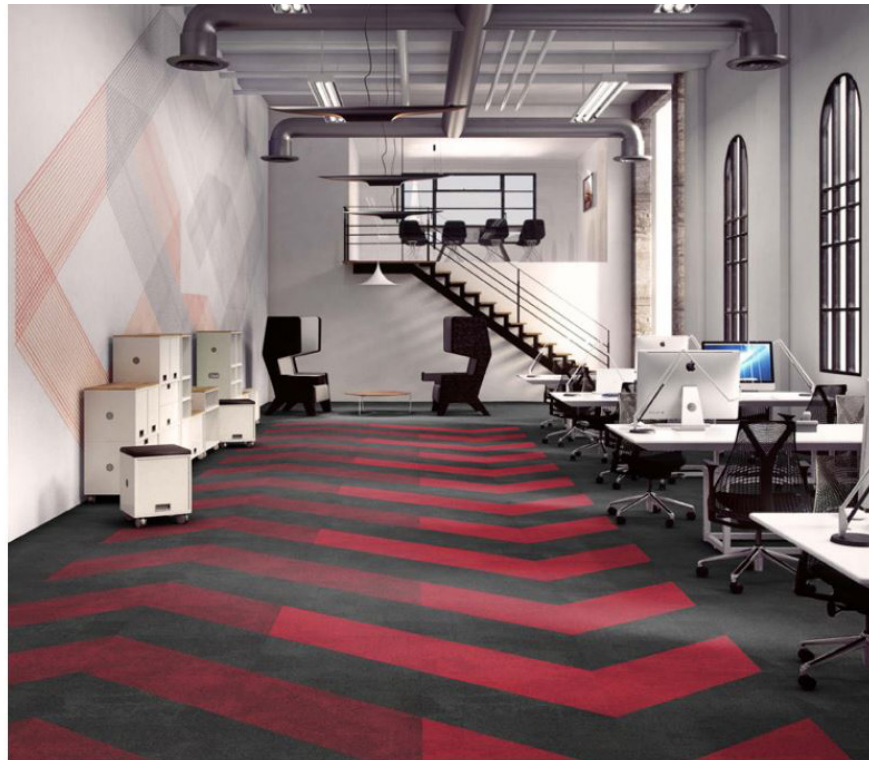**Flex-use workstations**   **Dedicated workstations**

Floor tapes

Safety area

Usable furniture

Blue team workstation

White team workstation

FIGURE 5. EXAMPLES OF SIGNAGE AND GUIDANCE (adapted from KONE 2020, 25)

FIGURE 6. EXAMPLE OF
ARROWS BY INTERFACE
(Interface b, 18)

FIGURE 7. CREATIVE USE
OF MODULAR FLOORING
(Interface c, 21)

After the outbreak, many organizations published their own guides or manuals regarding the pandemic. For example, KONE has shared their insights on spatial guidelines and signage *(figure 5)* (KONE 2020a, 4, 7-8). Moreover, Interface created standard arrows that can be dropped into existing modular flooring *(figure 6)* (Interface a). The company also presented other ways of wayfinding that blends into the interior *(figure 7)*.

Hannakaisa Länsiniemi from OP Financial Group states that an employer must ensure the health and safety of its employees but, in order to succeed in this, it requires the staff to adhere to the common rules (Elinkeinoelämän Keskusliitto EK 2020).

"The workplace of the future will have to be more human-centric than ever"

(JLL 2020, 14).

2.3 INCREASING TYPES OF WORKING

Active-based work (ABW)

The ABW concept provides a shared diversity of work settings that support various ways of working. Active-based working has many different interpretations: Agile working, lean office, smart working, et cetera. These are all somewhat alternative terms to ABW. (van Meel 4-10.)

In the ABW approach, people are seen performing different activities in their daily work lives. Therefore, they need different kinds of work settings equipped with the technology needed. Moreover, the workplace culture supports working efficiently. (Veldhoen Company.) ABW offices provide both open and enclosed workspaces and there are several different zoning principles: Activity *(figure 8)*, organizational *(figure 9)*, spatial and security zoning (van Meel, 10 & 58-62.)

Active-based working goes back to the 1970s, but from the 1990s onwards it has become increasingly popular. In the 2020s, the world is more adaptive to the ABW concept since many of the challenges caused by technological and practical issues have disappeared. There was a desire for exciting and innovative spaces, driven by economic expansion, ICT revolution and internet. The concept could be on its way of becoming a mainstream solution. (van Meel, 7, 13-14.)

Focus area

Quiet area

Active area

Anchor point

1st floor

0   20m

FIGURE 8. ABW PLAN EXAMPLE - DANISH BUILDING AND PROPERTY AGENCY (adapted from DFM 2019, 4; van Meel, 105)
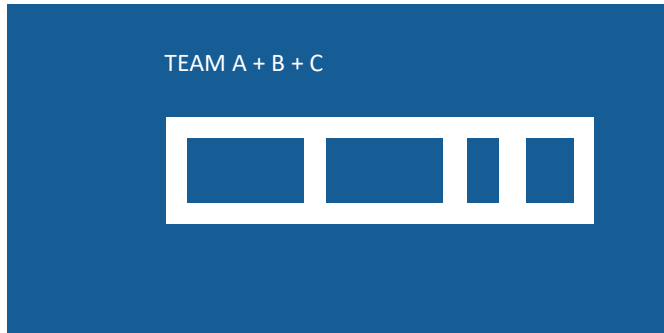
Free range

No team has a fixed position.

TEAM A + B + C
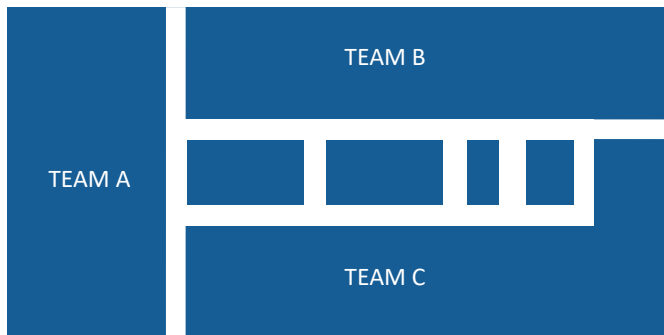
Team zones

Teams have a dedicated "team home".

TEAM B

TEAM A

TEAM C
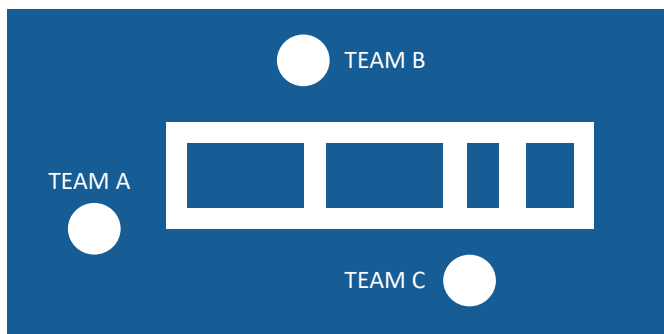
Team anchors

Teams have an "anchor point" with lockers and shared storage.

TEAM B

TEAM A

TEAM C

As mobile working, working from home and co-working have become more popular, it might cause a reduction of personal workstations at the office. Some organizations provide their employees with memberships to co-working spaces to enable working in a more diverse environment. However, the separation of these two spaces is changing, since there are organizations that are creating their own co-workspaces, aiming for combined action with external parties. (van Meel 14-16.)

FIGURE 9. ORGANIZATIONAL ZONING VARIATIONS (adapted from van Meel, 59)

Examples of different space types in ABW offices
(figure 10).

Workspaces

Spaces for desk and computer based tasks, such as focus rooms, phone booths and project rooms.

Collaboration

Spaces for interactive working, such as meeting rooms of different sizes, booths and stand-up spaces.
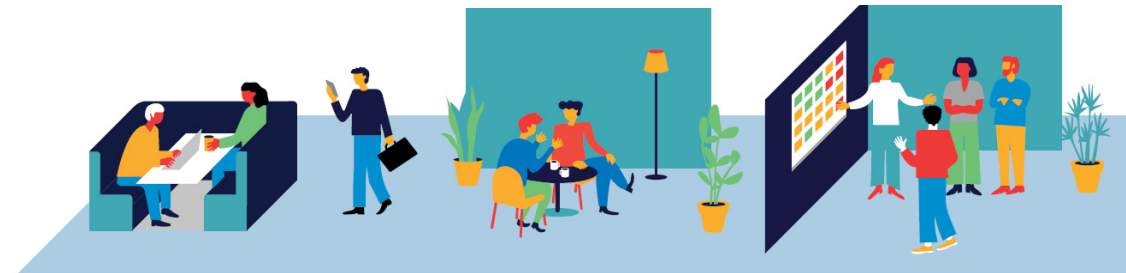
Support

Spaces for supporting activities at the office, such as using the kitchenette or storage.

(van Meel, 63-68.)

FIGURE 10. SPACE TYPES IN ABW OFFICES (adapted from van Meel, 64-68)

Hybrid working

When it comes to concepts related to activity-based working, hybrid working has sparked interest due to Covid-19 (Rainio 2020; Nenonen 2020). According to Parekh & Teh (2020), many companies are adopting a hybrid workplace model because of the widespread shift to remote work.

It is not likely that organizations insist on employees to fully return to offices (Rainio 2020). The offices are going to be modified strategically, and there will be new practices, protocols, and technologies. In addition to the awareness of future diseases and pandemics, these changes are a result of lessons learnt from working from home. (Tranel 2020.)

In a hybrid workplace, employees can work at the office or remotely–home or other locations. Hybrid workplace offers a blend of working from home and working at the office *(figure 11)*. (Parekh & Teh 2020; Rainio 2020.) Enabling this combination of working, the hybrid model is seen adaptable for occupations with high potential for working remotely (Lund et al. 2020). Flexible work and therefore adaption of a hybrid working model for the long-term are likely to attract more talent and, since commuting is decreasing, employees can live further from city centers. (Parekh & Teh 2020.) Moreover, the model provides increased productivity, decreased costs, more flexibility, and better employee experiences (Alexander et al. 2020).

OPEN OFFICE
Reduced furniture density and sensors for real-time utilization data

OPEN OFFICE
Personalized, adaptive workstation

WAR ROOM
Gesture controlled digital boards for impromptu team collaboration sessions

SENSOR
Remote team members location

CONFERENCE
Mixed-reality conference room to bridge virtual and physical worlds

Gensler

FIGURE 11. HYBRID REALITY (Gensler 2020a)

Moreover, the concept enables the ability to develop culture, collaboration, and connections. The key purposes of the hybrid model include socialization, collaboration, culture building, and opportunities for learning and mentorship. (Parekh & Teh 2020.)

However, the amount of flexibility and autonomy in a hybrid workplace can vary in different organizations (Parekh & Teh 2020). Hybrid working patterns do not suit everyone for practical reasons like a poor internet connection and, in addition, some people appreciate having fixed work settings *(figure 12)* (Ro 2020).

According to the research by JLL (2020, 5-18), hybrid approach is the preferred way of working amongst employees. Moreover, since employees have shown their loyalty and commitment even through these challenging times, they are expressing their new expectations in return. For example, there appears to be a growing demand for new "experience" services, such as well-being services, advanced food services and health services. Furthermore, due to the pandemic, employees are driven to prioritize their desires of workplaces.
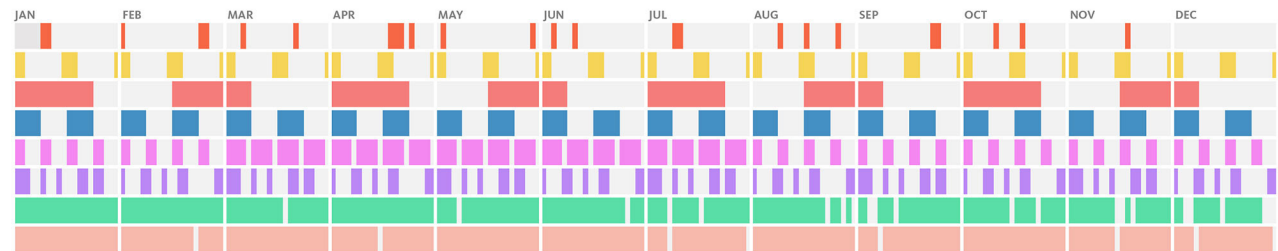
THE
HOMEBODY
In the office only when a meeting or event requires it.

THE
SQUAD MEMBER
During agile sprint cycles, the team gathers together in the office.

THE
FIXED ROTATION
Working from the office 2-3 weeks each month, as scheduled.

THE
HALF-N-HALF
Half the team is in office every alternate week.

THE
SEASONAL
In the office more regularly during peak periods.

THE
FLUID ADAPTOR
2-3 days a week in the office, depending on each week's schedule.

THE
NEW HIRE
In the office for the first 6 months before trying out WFH few days a week.

THE
OFFICE ADVOCATE
Would prefer to be in office rather than work from home.

FIGURE 12. EXAMPLE OF THE DIVERSITY OF OFFICE USAGE (Gensler 2020b)

"What if the uniquely human qualities that make people essential to the future of work are the key resource for corporate progress?"

(Gielgen 2020, 6.)

2.4   RELEVANCY OF OFFICES

The relevancy of offices has been questioned for a while, but especially recently due to the consequences of Covid-19. The rapid increase of remote work makes it a relevant issue to consider.

Rainio and Pitkänen state that there is a need to repurpose offices and find new uses for the workplace. To pull people back to the offices, they need to be shown good reasons why. (Technopolis 2020; Rainio 2020.)

According to Pitkänen, workplaces have been seen three dimensionally in the past years with social, virtual and physical dimensions. However, today, the need to re-evaluate the financial aspect can be seen as well. (Technopolis 2020.) The following part of this chapter is an overview of these four workplace dimensions. It is important to recognize the threats of future offices and, in addition, why offices are still relevant in the future and what the future requires from workplaces.
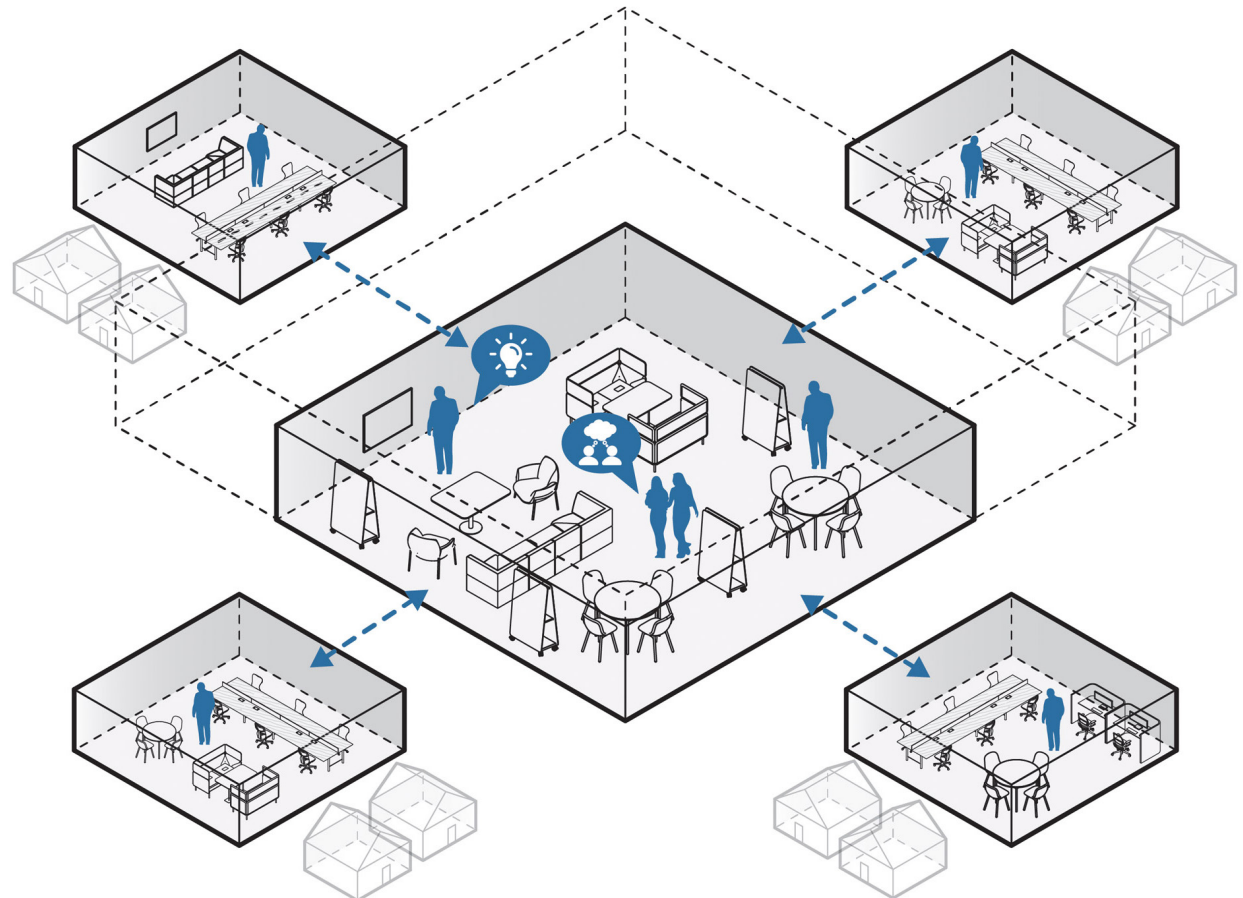

FIGURE 13. SMALLER HUBS CLOSER TO HOMES (Woods Bagot)

2.4.1 PHYSICAL DIMENSION

Where one works is not an issue anymore - the roles of offices are changing (Agile Work 2020, 41). The future workplace will be much more distributed and physical working will happen in multiple locations *(figure 14)*. The employees have the power to define their workplace and tasks within the framework of the organization in the future. Although the traditional office remains, the definition of the office will change. (Danivska 2020; Nenonen 2020.) According to Dale Sinclair from AECOM, the times when we went to the office to work in front of our laptops are in the past. Offices will from now on be for collaboration. (BBC Visual and Data Journalism Team 2020.)

As a threat to offices, it seems that since technology, global working routines and office design is developing, workplaces and their ability to adjust to the future requirements and uncertainty is quite limited (Gielgen 2020, 2). However, remote work from home is not always the option for some people and, therefore, many offices are here to stay. Moreover, creative thinking and new technology keep the offices relevant even today. (BBC Visual and Data Journalism Team 2020.)

Whether one can work remotely depends on the tasks and activities, not occupations (Lund et al. 2020). The need of office space depends on an individual or a team. For some employees, the office is a tool for building and organizing work, and the value of this tool differs amongst the employees. People can have different life situations and their homes can be very

different from each other. For example, the home office might not be ergonomic, big enough or functional enough when it comes to digitality. On the other hand, some employees are not willing to leave the offices and change their working habits. (Mäkitalo 2020; Nenonen 2020.)

In the future, it seems that there will be a city-wide network, where different services provide workplaces close to home (Agile Work 2020, 36). According to Danivska (2020), there will be more smaller hubs, such as co-working spaces, closer to neighborhoods and peripheries *(figure 13)*. A new network of workplaces consists of the office, home, place close to home and movement between these places (Nenonen 2020). Headquarters are not vanishing completely, but they are becoming smaller (Danivska 2020). While the routine work can be handled at home offices, it is believed that workstations at offices are not vanishing completely either (Agile Work 2020, 41).
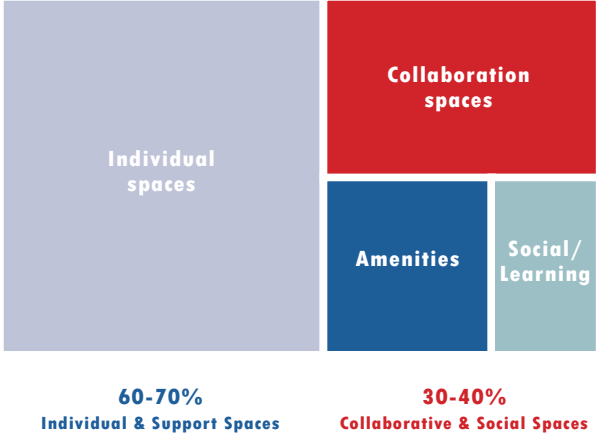
There is a need to rethink space allocations, workplace solutions and to provide diversity in the office (JLL 2020, 19). The interrelationships between different spatial types are renewed and changed *(figure 15)* (Nenonen 2020). Artificial intelligence will provide data that helps the management to foresee spatial needs in the future. When management knows how the spaces are being used and whether more spaces are needed, it will be possible to create user-centered, safe and flexible working environments. Moreover, it is estimated that there will be a need for technology with the ability of making people change their behavior and guide to act correctly. For example, the data could let employees
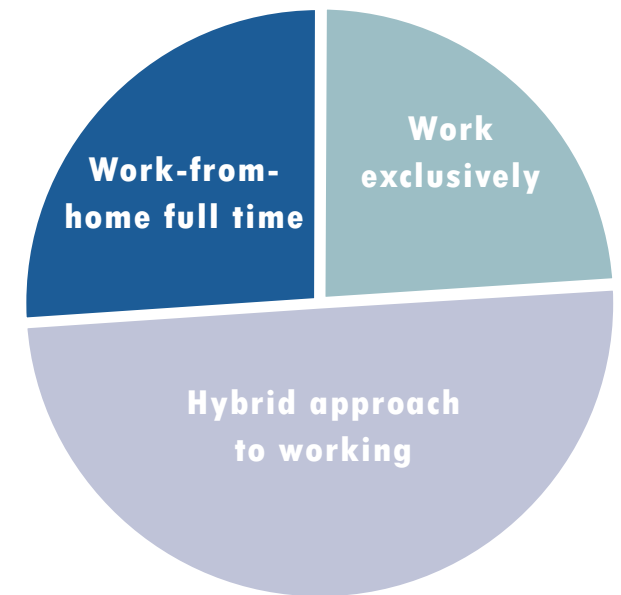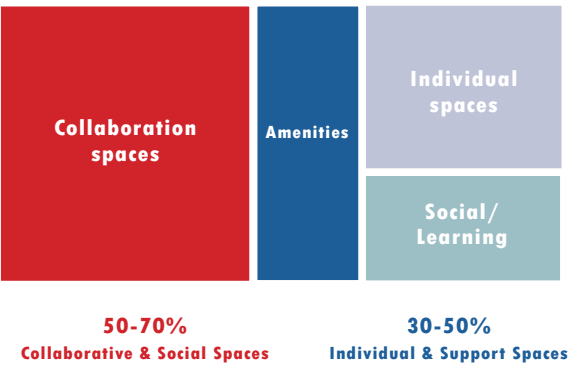

74% of respondents want to work from the office in some capacity

FIGURE 14. A SURVEY RESULT ON PREFERED WAY OF WORKING (adapted from JLL 2020b)

Historical Office / Workplace Allocation

60-70%
Individual & Support Spaces

30-40%
Collaborative & Social Spaces

Future Office/ Workplace Allocation

50-70%
Collaborative & Social Spaces

30-50%
Individual & Support Spaces

FIGURE 15. CHANGES IN SPACE ALLOCATIONS IN THE FUTURE (adapted from JLL/ Technologies 2021, 14)

know is it worthwhile to commute if, for example, all the desks are reserved or if there is a traffic jam on the way. This would improve work efficiency. Moreover, the smart office data enables employees to see when the workstations or spaces have been cleaned (Agile Work 2020, 34.)

In addition, there is a need for different types of spaces to support diverse collaboration. The future workplace is a combination of physical spaces for both synchronous and asynchronous working, face-to-face or virtually. Digital tools will function according to the task or way of working, enabling well-being at work. When designing offices, having hybrid space users will affect the physical space–it has to be taken into account how the spaces look like from the perspective of those who work virtually. Digital environment will be the primary way of working, alone or together. It defines the characteristics of physical spaces in work with multiple locations. (Nenonen 2020.)

Ville Tolvanen from Virtual Activist (2020) points out that, when it comes to ways of working, there should not be talk about opposite concepts like remote work and office work. Organizations should look at the ways of working from a new perspective. They are not going to develop as a company productively if they cannot let go of their old ways. Therefore, now is the great opportunity to act rapidly.

In the future of interior design, non-permanence will be the key (Rainio 2020). When it comes to the awareness of future disease outbreaks, some experts believe that

the open plan offices could work in the future if, for example, partitions could be installed and removed easily depending on the situation (BBC Visual and Data Journalism Team 2020.)

The workplace of the future is an experience-producing environment. The use of the facilities involves flexibility and supportive services and solutions. There is a need for experiences that energize, uplift which can be shared. (Nenonen 2020.) According to a survey by JLL/ Technologies (2021, 9), the top spaces to boost the human experience in the office are socialization spaces, such as coffee and tea areas, lounges and terraces.

It is suggested that there are new types of spaces being conceptualized, such as single-person conference rooms, webinar theaters and recording spaces (Nenonen 2020). Moreover, as the workplaces are becoming more humane, there will be equal emphasis put on relaxation zones as much as work-oriented spaces. Workplaces are also becoming more welcoming and homelike environments to motivate employees to return to offices. (Farooque 2021.) Offices need to be able to compete with homes that allow comfortable working conditions (Mäkitalo 2020).

Well-being will become a guideline for workplace design and it will no longer be only seen as luxury. For example, although workplaces have seen nature elements and biophilic workplace design before, Covid-19 has made people even more aware of human reliance on nature. As a trend, workplaces are becoming more connected to nature and there will be

organic design aesthetics in the office. (Farooque 2021.)

When it comes to materials of future workspaces, all the touchable surfaces must be considered more specifically –door handles, elevator buttons, tables, et cetera (Agile Work 2020, 43). Ben Channon, the head of wellbeing at Assael Architecture, supports naturally antimicrobial materials such as copper and its alloys. These should be used on surfaces that are constantly exposed to contact, such as the handles of doors and drawers. While copper is expensive, companies now see its value. (BBC Visual and Data Journalism Team 2020.)

To reduce the spread of viruses, shifting the control of the workplace environment from shared devices to each employees' own smart device is one option (Billington 2020). For example, since elevators are ideal places for viruses to spread, KONE app, allows users to call an elevator using their own device instead of touching common surfaces *(figure 16)*. (KONE 2020b.) Furthermore, Sinclair predicts significant increase in automation technology in the offices, especially when it comes to touch-free technology and greater use of data (BBC Visual and Data Journalism Team 2020). However, the technology and building components that would allow a comprehensive touch-free environment already exist, but the challenge is that, instead of designed as a single architectural solution, they are pulled together separately (Goldstein 2020).

Moreover, touch-free experiences like voice command and facial recognition should be considered (Billington 2020). According to Sinclair, there will also be an
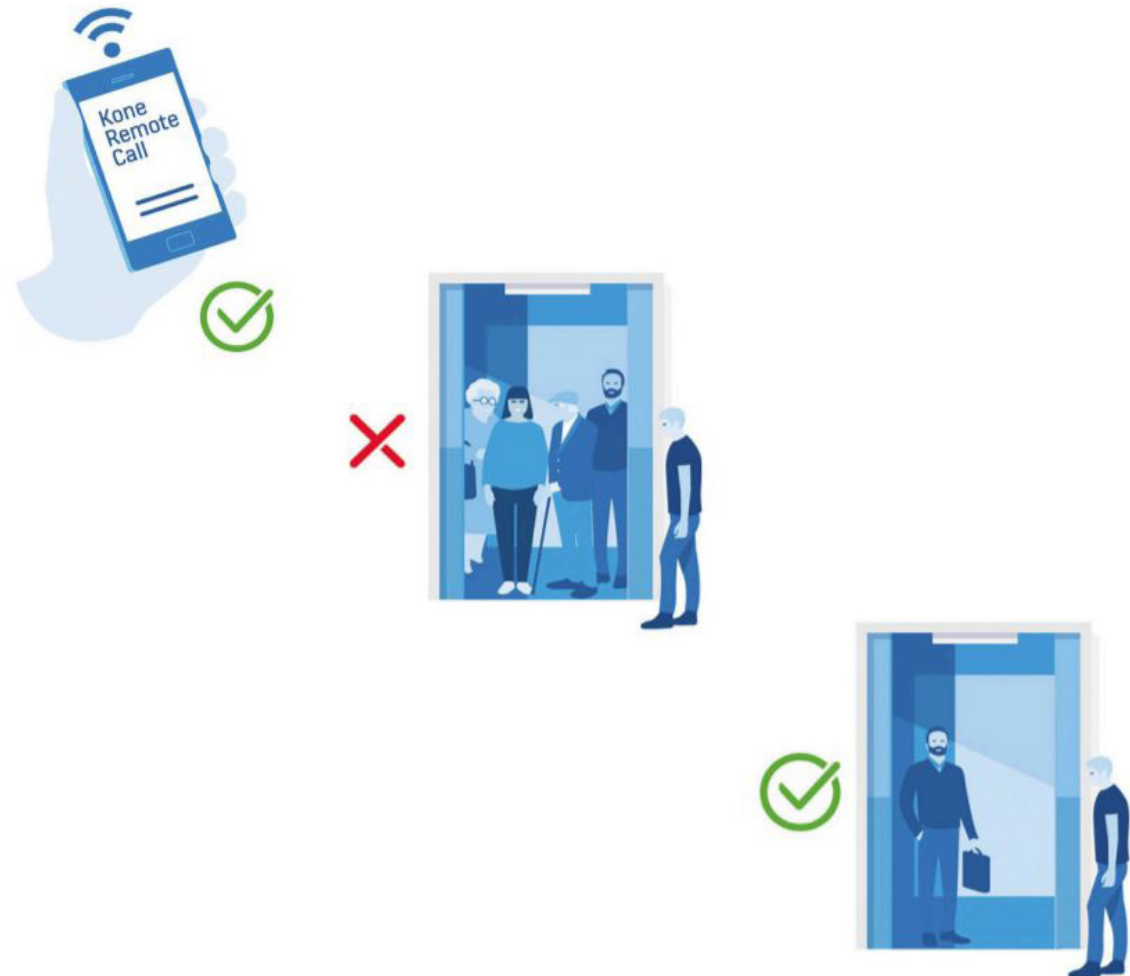

FIGURE 16. THE KONE REMOTE CALL APP AND ELEVATOR SIGNAGE (adapted from KONE 2020, 18)

Question:

After your recent homeworking experience, where would you prefer to do the following tasks in the future? At home, in the office or in a third-party place?
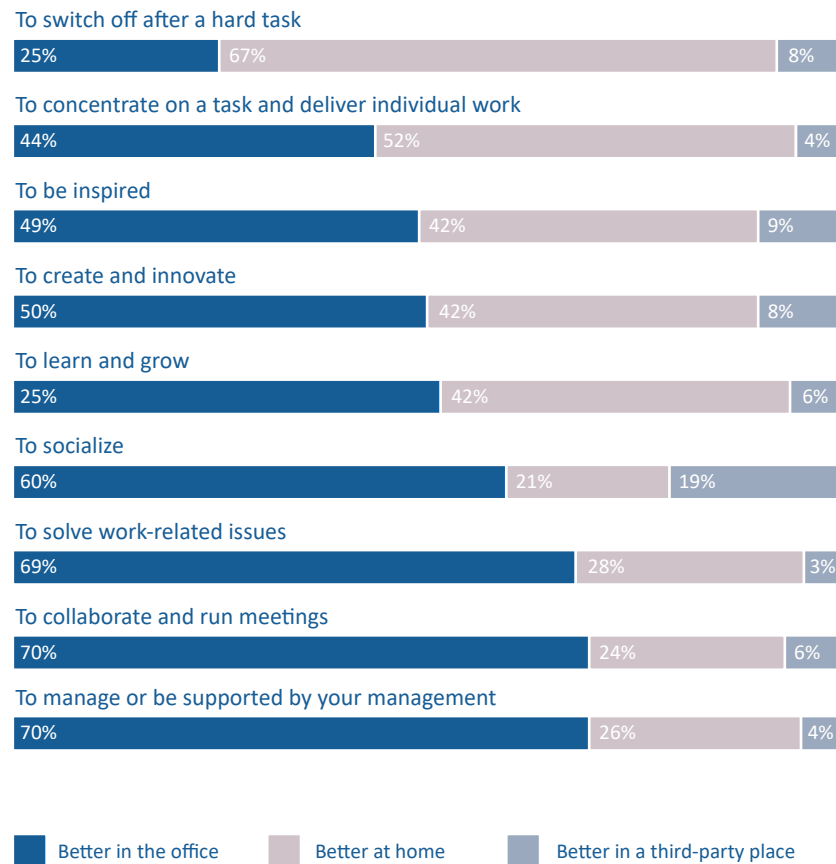
To switch off after a hard task

| 25% | 67% | 8% |

To concentrate on a task and deliver individual work

| 44% | 52% | 4% |

To be inspired

| 49% | 42% | 9% |

To create and innovate

| 50% | 42% | 8% |

To learn and grow

| 25% | 42% | 6% |

To socialize

| 60% | 21% | 19% |

To solve work-related issues

| 69% | 28% | 3% |

To collaborate and run meetings

| 70% | 24% | 6% |

To manage or be supported by your management

| 70% | 26% | 4% |

■ Better in the office   ■ Better at home   ■ Better in a third-party place

FIGURE 17. SURVEY RESULTS ON THE PREFERED LOCATION OF WORKING (adapted from JLL 2020a, 9 & 17)

increase in robot assistants. Moreover, there are air conditioning systems already in use that utilize UV light to kill bacteria and some viruses (BBC Visual and Data Journalism Team 2020).

Since workplaces will need to grow technology-wise, technology will be implemented to design thinking. Experiencing safety will rely on technology and this experience will determine the future office. (Nenonen 2020; Farooque 2021.)

2.4.2 SOCIAL DIMENSION

The value of communities is increasing since the meaning of people has been noticed. In the future, the offices will be places for effective collaboration and interaction. (Agile Work 2020, 36 & 41.) Instead of focusing on everyday tasks, headquarters will become more about socialising and the community spirit (Danivska 2020).

According to Sadie Morgan from drMM, interaction in the real world is still relevant to human psychology, although working remotely has increased. Creativity and taking risks generally take place in real environments, in groups and shared spaces, not in the virtual environment. (BBC Visual and Data Journalism Team 2020.)

There are downsides when working from home full time. Although working from home works for most tasks, it can limit the potential results of working

> **"Clearly, we will have to retool the workplace for more virtual collaboration. What will that look like?"**
>
> **(Tranel, 2020.)**

together. For example, without offices, there would be no informal encounters that happen before and after meetings or by the coffee machine. Those are the moments when innovations and new ideas are developed, and they build the office culture. (Tranel, 2020.) Increased full time remote work, because of the pandemic, has caused less spontaneous working and early involvement in tasks and, in addition, there has been issues in strengthening the network of contacts (Nenonen 2020).

Nenonen predicts that there will be a new type of design guidance for office environments. For example, as staff cafeterias and coffee machines are the sort of facilities that attract employees and areas where they interact with others, it should be taken into account when designing the spaces. (Agile Work 2020, 43.) There will be a need for an intermediary that encourages these sorts of encounters to take place (Danivska 2020). One other way to increase occasional encounters is by planning randomness and directing people to walk through the premises so that they cannot miss each other. However, there should be consideration on how to enable concentration and what kind of conditions are sufficient in fragmented work. (Mäkitalo 2020.)

Although the layer of technology will be strong in the future, it will enable a lot of things that are inherent for human beings, such as interaction, socialization, and the feeling of community. These things will not happen only face-to-face any longer. (Rainio 2020.)

2.4.3 VIRTUAL DIMENSION

According to Juho Jokinen from Virtual Activist (2020), virtualization means that the world is constantly learning to work better without the need of physical structures, opening new possibilities. In addition, Tolvanen states that virtualization enables more things and better life with less consumption.

In the future, companies will be investing more in mobile tools for remote working (Danivska 2020). In addition, keeping up with digitalization and the development of technology is vital. Companies must adapt XR-technology (extended reality) to their operation in the near future if they want to do it in the most efficient way. AR (augmented reality) and VR (virtual reality) technologies are becoming significant part of taking ways of working further. (Zimmermann 2020, 33.) Moreover, having a VR technology should be taken into account in physical spaces. When setting up a VR room, the play zone needs to be clear of anything that might cause an injury (O'Donnel 2020).

However, Riikka Manninen (2021) from Senate Properties states that when it comes to virtual facilities, it should be further investigated what the added value of 3D environments actually is. Moreover, when working in a virtual environment, this should be taken into account in training. Instead of imitating physical work tasks in a virtual environment, it will be needed to educate employees how to work virtually. (Danivska 2020.)

In many cases, the ones that work remotely in workshops are easily left out or cannot participate fully to, for example, the meeting agenda. Hence, it can be easier to arrange workshops where everyone participates remotely. However, as hybrid work is increasing in the future, there is a need to learn a new way of working where one's location will not cause a negative impact on working. (Manninen 2021.)

Mäkitalo (2020) hopes that, in the future, the line between face-to-face interaction and virtuality will become blurred, as if they would be part of each other's territory. For example, in a larger organization, one could come to the company office and, meanwhile, be part of other agencies of the same organization as well, without having to switch on anything.

After the outbreak of Covid-19, working turned into continuous online meetings. It is hard to find the time to do the actual job. Having a constantly full calender leaves no room for autonomy, which is associated with internal motivation. What is more, breaks are often forgotten. Therefore, there is a need to think about alternative ways of working together. Working together does not necessarily have to mean meetings–it could mean working together, but not simultaneously. There is a need for tools to support the feeling of control even when the collaboration does not occur at the same time. If all collaboration takes place according to a calendar, intuition disappears. (Mäkitalo 2020.)

There is a need to enable encounters that are, despite being virtual, occasional, and natural. However,

nowadays, equipment and constant connectivity allow spaces outside the office to play an important role. For example, many go for a walk outdoors when attending a meeting. (Mäkitalo 2020.)

2.4.4 FINANCIAL DIMENSION

Since the world did not cope very well with the Covid-19 pandemic in the short term, the economic consequences were enormous (Goldman 2020, 75). If increased vulnerability to risks are noted before they happen, it can help to minimize affects to business (JLL & Bloomberg Green).

Flexible solutions are increasing and are likely more cost-effective, but fixed costs will continue to be part of organizations space budgets. The associated factors of additional value are taken into account. (Nenonen, 2020.) Moreover, in the future, real estate developers are facing the situation where there must be taken more risks when it comes to leases and they must be capable of explaining these risks to investors. Leases tied to sales volume are going to increase in the office environments. (Agile Work 2020, 36; Technopolis 2020.) There will be an increase in shorter lease agreements. However, this has already been a trend in the Nordic countries for a while. In the future, companies need to gain flexibility through financial commitments. The movement towards on-demand space and service delivery will continue. (Danivska 2020.)

In the future, there will be services that provide

functional spaces for working close to home. Flexibility in working locations and the ability to adjust costs in the short term are emphasized for large user organizations. (Agile Work 2020, 36.) Organizations are thinking about the costs of fixed environments compared to shared working environments *(figure 18)*. Furthermore, the costs of commuting compared to hybrid work will be re-parsed into a new entity where alternatives for working from home and working close to home are also measured economically. For example, if working from home, how is the home "wearing" or the internet connection been payed for. (Nenonen 2020.)
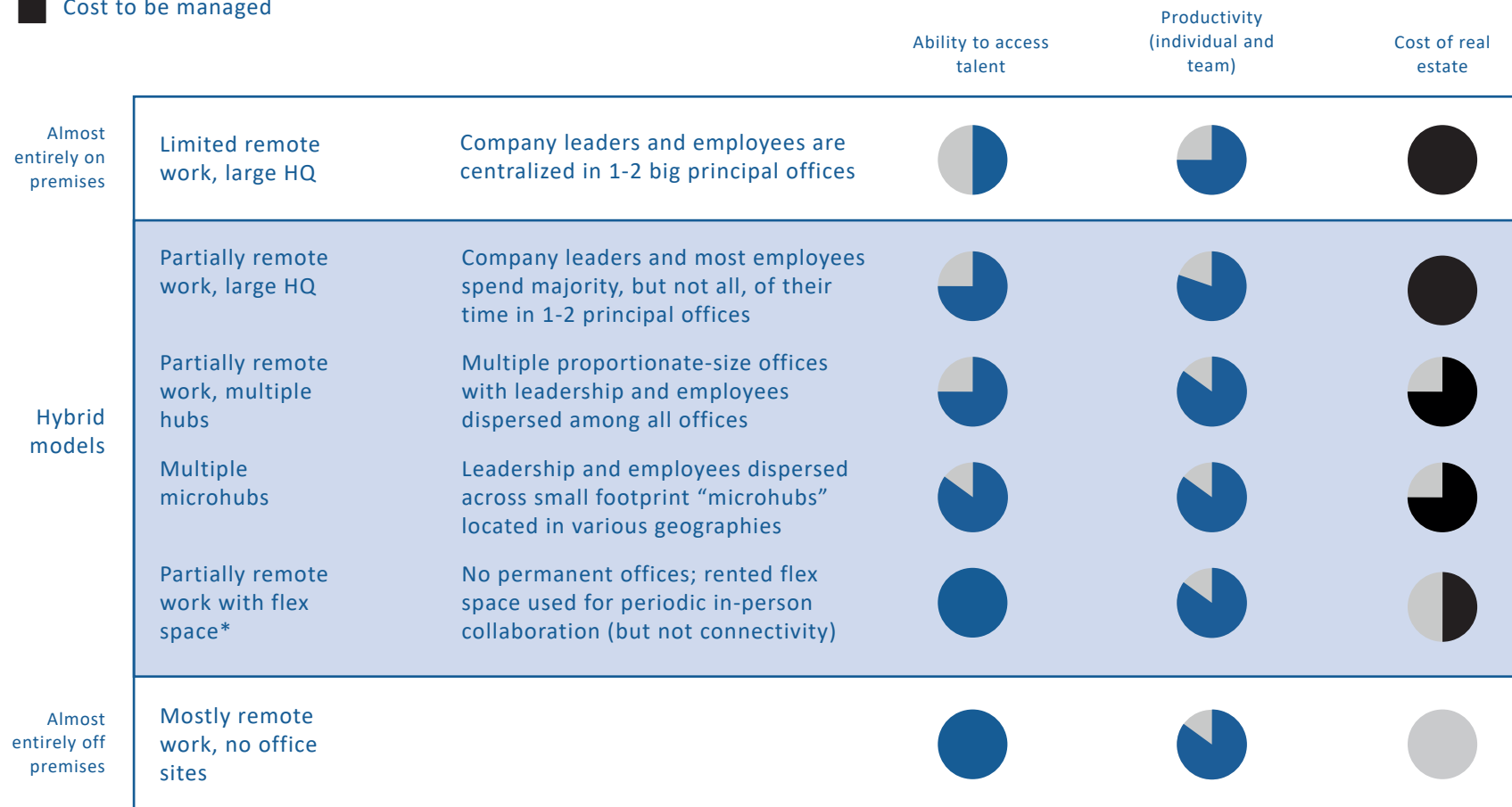
In addition, financial costs are affected by energy consumption. Although less commuting reduces climate impacts, according to the studies, many employees working from home in comparison to a shared location, increases energy consumption. This is an issue especially in countries that rely on heat in the winter or air conditioning in the summer. It is not only environmentally unfriendly, but it costs more, and individuals are less likely to invest in more sustainable energy. (Turits 2020; WSP 2020.)

When it comes to data security and protection, there will be a need for development since enabling distributed offices requires an ensured access to fast and secured internet connection. Therefore, property developers will be investing into this as well. (Danivska 2020.)

Optimizing the hybrid virtual continuum

Six models reflecting a mix of on-site and remote working.

■ Desirable outcome

■ Cost to be managed

			Ability to access talent	Productivity (individual and team)	Cost of real estate
Almost entirely on premises	Limited remote work, large HQ	Company leaders and employees are centralized in 1-2 big principal offices			
Hybrid models	Partially remote work, large HQ	Company leaders and most employees spend majority, but not all, of their time in 1-2 principal offices			
	Partially remote work, multiple hubs	Multiple proportionate-size offices with leadership and employees dispersed among all offices			
	Multiple microhubs	Leadership and employees dispersed across small footprint "microhubs" located in various geographies			
	Partially remote work with flex space*	No permanent offices; rented flex space used for periodic in-person collaboration (but not connectivity)			
Almost entirely off premises	Mostly remote work, no office sites				

*Flex space includes temporarily (eg. monthly) rented space used in select cities for periodic gathering and collaboration.

FIGURE 18. WAYS OF WORKING AND THEIR IMPACT (adapted from McKinsey & Company 2020)

3 DESIGN PROCESS

3.1 BRIEF

This chapter of the thesis describes the design process of the final product, a future workplace concept for Agile Work. Although the final concept focuses on the office, it was essential to think about the overall picture. To kick off the process, I facilitated a workshop for Agile Workers that was held remotely. After summarizing the material from the workshop, I began to define the structure of the concept and design the future office. Moreover, the client was involved throughout the process to receive feedback for further development. There were draft plans presented for the client and one of them was chosen for further development.

3.2   REMOTE WORKSHOP

3.2.1 INTRODUCTION

The theme of the workshop was a future workplace concept of Agile Work. One of the reasons for having the workshop remotely was because of Covid-19, but also to learn new ways of arranging workshops.

The aim of the workshop was to involve the client in the design process and discover the future needs as a team that would provide a guideline for designing. The plan

was to create alternative scenarios of the theme that would raise discussions and inspiration. The participants (8 Agile Workers) formed a combination of different roles in the company, allowing a diverse discussion in each session. In addition to scenarios, additional questions were asked about the future hopes and needs.

Since Agile Workers were already familiar with Howspace, a digital platform, it was natural to use it as a workspace of the workshop. Although I was provided with the access to the platform, it was my job as the facilitator to create the entire workshop content. The aim was to not only use Howspace workspace for the actual workshop, but to share relevant material for the participants beforehand. Instructions, schedule and additional reading related to the theme were gathered to the workspace in writing, videos and links uploaded to the site *(figure 19)*. Moreover, after the workshop, the workspace was still utilized in the design process.

The main workshop process itself was based on Lean Futures Creation (LFC) canvases that were modified into a digital form. Although the workshop consisted of various interesting tasks, only the key phases that are relevant to this thesis are presented in the following part of the design process. Before the tasks, the methods and tools used for the workshop are explained in more detail to clarify their impact to the process.
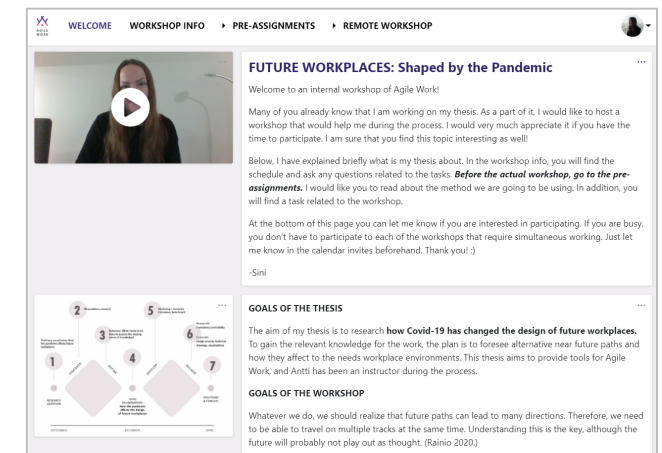

FIGURE 19. WORKSPACE WELCOME PAGE CREATED IN HOWSPACE.

Howspace and Miro

Howspace is a cloud service that can be basically used on any device that has access to internet. It is a browser-based software and it adjusts to any screen size. The core of Howspace is how a group of people with a shared mission understand each other and end up making decisions together. The aim is to get attendants to participate, be heard and achieve a common idea. The progress of this set of dialogue is to be led or facilitated. (Mäkitalo 2020.)

Creating workspaces in Howspace is simple and does not require coding skills (Howspace). The users can create their Howspace pages using widgets, such as poles, text and video, that can be dragged to the page layout. "Embed" widget allows users to embed third party software to the workspace. For example, Miro can be embedded to Howspace *(figure 20).* (Mäkitalo 2020.) Miro is a collaborative whiteboard tool online (Miro). Mostly, the tasks created required working with Miro. Moreover, Zoom was used for the discussion and dividing participants into groups using the breakout room option.

FIGURE 20. ONE OF THE WORKSHOP SESSIONS ON-GOING.

"As the world gets more volatile every day, proactive futures thinking and creation — or "futuring" as we like to call it — can save us from potentially incorrect assumptions that are based on today's practices and beliefs"

(Rainio et al., 2).

Possible
All that is possible

Plausible
All that is believable

Probable
Most likely to happen

Preferable
The futures we would
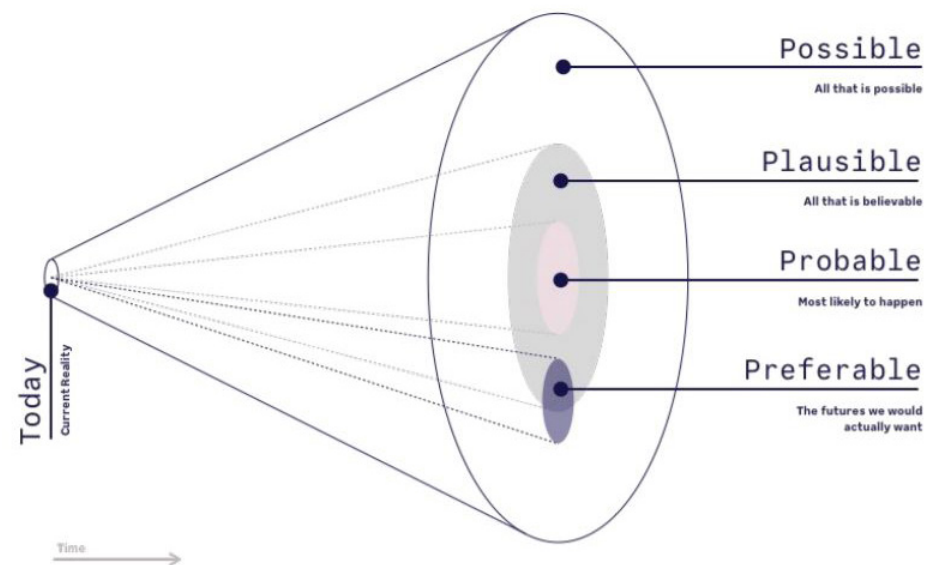actually want

Today
Current Reality

Time

FIGURE 21. DIFFERENT KINDS OF SCENARIOS (Futurice, 1)

Futuring and LFC

Ida Rainio from Futurice is one of the creators of Lean Futures Creation toolkit. According to Rainio (2020), the purpose of future work is not only to tell that things can be different in the future, but to show how they can be different. Furthermore, the ability of reading the future is necessary in the middle of rapid changes. Today, people are interested in ensuring that when the next unexpected event or pandemic hits, it would not come out of nowhere and they do not have to come up with new solutions from scratch.

It should be realized that future paths can lead to many directions. Therefore, one needs to be able to travel on multiple tracks at the same time. Understanding this idea is the key, although the future will probably not play out as thought. "Futuring" is not predicting – the idea is to understand the potential long-term impacts, imagine alternative futures and, as a result, make better decisions. (Rainio et al. 2; Rainio 2020.)

The first version of LFC toolkit by Futurice was published in spring 2020 and utilized in this workshop. The purpose of LFC is to guide teams to futures thinking and creation. LFC is a process that provides a simple framework for what needs to be done and in which order. No previous training or experience of futuring is required. (Rainio et al. 2; Rainio 2020.)

With LFC, one can explore multiple scenarios of the future *(see figure 21 for examples)*. Scenarios are tools for decision making today which can be used for different purposes, such as creating an organizational survival plans. As the future will be more astonishing than ever imagined on many scales, the mindset and realization are more important than the actual result when it comes to the benefits of the method. (Rainio 2020.)

A scenario consists of a view of the future and a path that leads there. Rainio believes that every scenario should be plausible, but there are several opinions on this subject. For example, some experts believe that every scenario should be preferable, but looking at the future only through a positive lens is not always suitable, for example, when it comes to business strategies. (Rainio 2020.) Although creating the pathway to the future was part of the workshop, it provided more information on the company strategy than the final concept itself and, therefore, is not included in this thesis.

3.2.2 TASKS

When choosing the time span for the tasks, 10 years into the future is a common approach–things do not change too much but the change is enough to be clearly noticed. When the pace of the change is rapid, having a shorter time span is worth considering. (Rainio 2020.) However, to get the most out of the workshop, it was decided that year 2030 would be a good approach (9 years). The aim of this was to keep participants minds open and not too focused on the near-future, despite the exceptional times.

Schedule of the Workshop

Pre-assignments: Tues 5.1. - Tues 12.1.

Session 1: Tues 12.1. 12-1pm

Session 2: Fri 15.1. 1pm-2.30pm

Session 3: Mon 18.1. 1.30pm-2.30pm

Session 4: Tues 19.1. 12-1.20pm

Pre-assignments

In addition to reading the instructions for the workshop, the participants were asked to gather relevant trends that might have an impact on future workplaces in general *(figure 22)*. The target was to choose trends from different sources, from relevant trends today to trends that are potentially emerging in the upcoming 9 years.

Working with trends

The first session began by applying the trends found in the pre-assignment to a PESTLE board *(figure 23)*. A PESTLE board consists of six categories: Politics, economic & companies, society & individual, technology & innovation, legal and environment (Rainio etc, 7). The idea was to see that all the categories were taken into account. After this task, utilizing the discoveries from the PESTLE board, the participants were asked to pick the most relevant trends regarding the theme of the workshop, the future workplace concept of *Agile Work* for the next task.
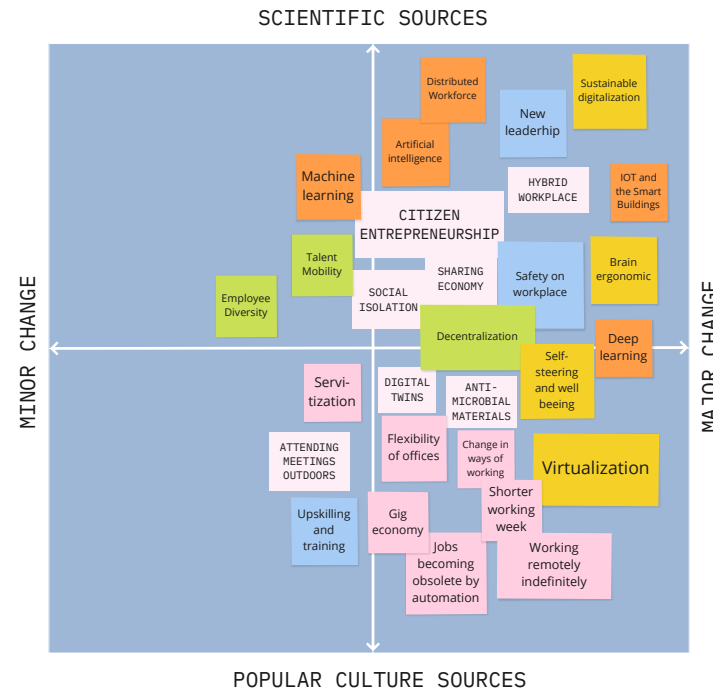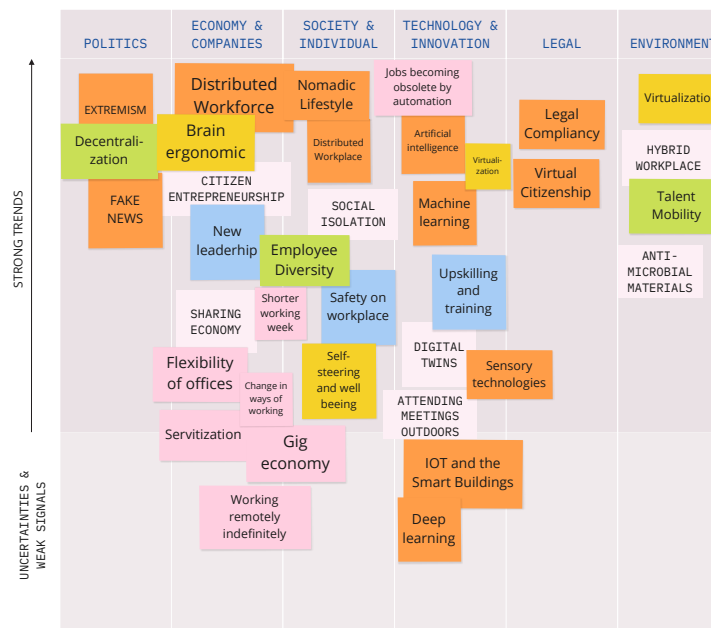

FIGURE 22.
THE TREND ANALYSIS IN PROGESS

FIGURE 23.
PESTLE BOARD TASK IN PROGRESS

During the second session, the task was to think of different outcomes for each trend that could occur in the timespan, from the present moment until 2030 *(figure 24)*. The participants were divided into two groups for this phase. After imagining alternate outcomes for each topic, the groups were to create different storylines by choosing one outcome from each topic.

As the facilitator, I decided the different types of storylines beforehand. They were based on the material of the LFC handbook and discussions with Rainio. For example, according to Rainio (2020), it is also important to think about the worst things that could happen in the future to recognize potential risks. Moreover, to get everything out of the workshop, the scenarios must differ significantly from each other since different scenarios will work as tools and guide thinking towards the right way.

During the third session, the groups were to carry on working with the four storylines created in the previous task. The groups were to describe each future outcome and think about how it would affect the people of Agile Work *(figure 25)*. I summarized these descriptions and, based on the summary, presented a future vision of Agile Work in 2030 *(figure 26)*. Vision is a tool that helps to see what kind of future is wanted (Laine). The vision of Agile Work provided a guideline the future concept.
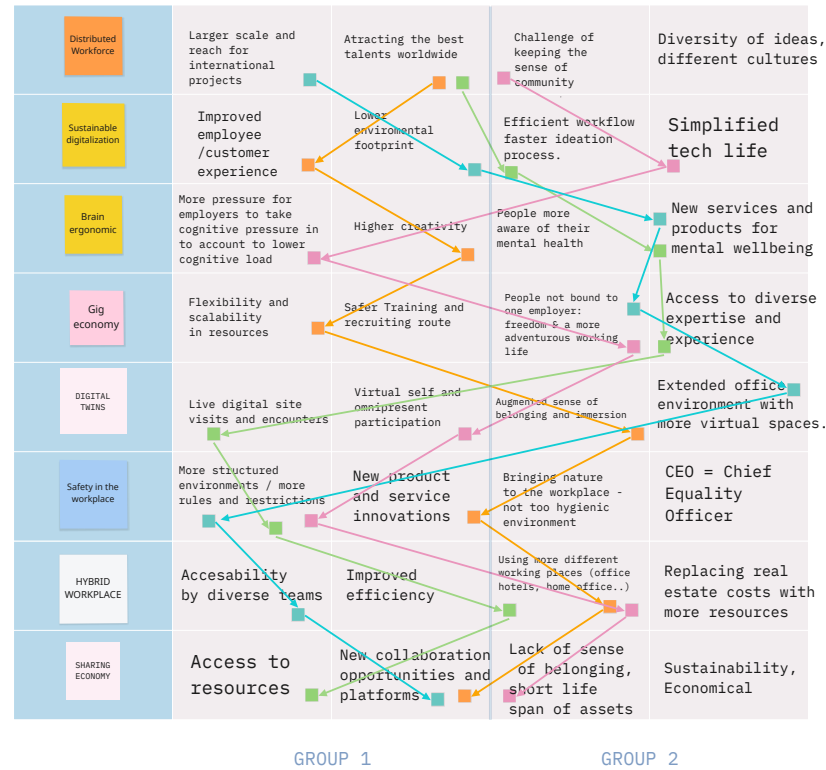
GROUP 1   GROUP 2

GROUP 1 could think of storylines related to:

a. *Preferable future* - what we would actually want
b. *Probable future* - most likely to happen

GROUP 2 could think of storylines related to:

c. *Worst case scenario*
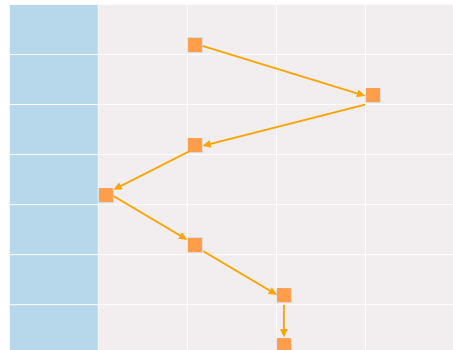d. *Possible future* - all that could be possible

example of phase 2.

FIGURE 24. ALTERNATE FUTURES BOARD

GROUP 1 - PRERABLE

OUTCOMES	DESCRIPTIONS
Atracting the best talents worldwide	Improved competitiveness, blitzscale growth
Improved employee/customer experience	Closer to customers, Focus on what is relevant/important
Higher creativity	Differentiation, efficiency and more innovative
Flexibility and scalability in resources	Cost efficiency, growth, on the other hand more management,
Augmented sense of belonging and immersion	Gamified experience internally and for customers
New product and service innovations	Phygital safety & security standards for company and individual
Using more different working places (office hotels, home office..)	Access to global co-working platforms
New collaboration opportunities and platforms	Local networks of collaboration to get things done.

GROUP 1 - PROBABLE

OUTCOMES	DESCRIPTIONS
Larger scale and reach for international projects	Large network of partners clients, and talents. Locally and Europe.
Lower enviromental footprint	Close to 0 emission organization. Providing sustainable and green solutions.
New services and products for mental wellbeing	Network of partners for well being services and products. R&D department for innovations.
People not bound to one employer: freedom & a more adventurous working life	Clear structure of working and easy to use freelance designers and specialist. Investing in new ideas and talents through research grants
Extended office environment with more virtual spaces.	Digital clubhouse. additional Digital event spaces, workshop rooms, meeting areas.
More structured environments / more rules and restrictions	Phygital safety & security standards for company and individual. Responsible person for ensuring happiness (Chief of Happiness)
Accesability by diverse teams	Flexible space, ability to choose your workspace, hybrid space services for customers. Equal participation for meetings etc.
New collaboration opportunities and platforms	Local networks. Resources and tools bank for employees and partners. Network shared spaces for customers.

GROUP 2 - WORST CASE

OUTCOMES	DESCRIPTIONS
Challenge of keeping the sense of community	People are more lonely and less committed & motivated, less exchange of knowledge and experiences
Simplified tech life	People are slaves of technology, more dependant on digital tools
More pressure for employers to take cognitive pressure into account. Lower cognitive load	More burnouts, more sick leaves, more resignations - more responsibility for the employer
People not bound to one employer: freedom & a more adventurous working life	Instability of personal finances and uncertain future. Always seeking for new resources > tedious.
Virtual self and omnipresent participation	Evil twin, identity crisis. Inequality in the know-how in using the technology. No real-life interaction. Lost in translation.
More structured environments / more rules and restrictions	Free flow of working lacking & creativity missing, lack of freedom and sense of humour, over hygiene > super bacteria
Using more different working places (office hotels, home office..)	Hectic lifestyle, no possibility to concentrate, time lost in moving around, no control over employees
Lack of sense of belonging, short life span of assets	No responsibility for shared assets (it's not mine), more rules & guidelines, takes time, more strenuous, availability

GROUP 2 - POSSIBLE

OUTCOMES	DESCRIPTIONS
Atracting the best talents worldwide	More competition for the doers, wide talent pool available, demand for different kind of expertise
Efficient workflow faster ideation process.	Saving time and recourses when using certain tools -> Mentally healthy and economical. Employees can concentrate on their work better.
New services and products for mental wellbeing	Mentally healthy and happier employee > more productive employees. New service area for AW.
Access to diverse expertise and experience	More experts in projects, more high quality design/work (experts)
Live digital site visits and encounters	No time spending for traveling, can get more information from site (engeneering /other designers work, also inside the walls), not have to be on site same time with other designers or client
More structured environments / more rules and restrictions	People know what to do, when and how, more organised and planned workday, no fear / uncertainty > safe feeling
Using more different working places (office hotels, home office..)	Time saved from travelling and commuting, better working-private life balance, cost saving from smaller offices
Access to resources	Wider variety of tools available that might otherwise be too expensive

FIGURE 25. DESCRIPTIONS OF FUTURE OUTCOMES

FIGURE 26. FUTURE VISION OF AGILE WORK

FUTURE VISION OF AGILE WORK IN 2030

Agile Work is a pioneer organization in providing global services and research development for workplaces. As a service, Agile Work continues creating **flexible and hybrid** workplaces and they provide **green solutions.** Moreover, Agile Work provides access to **co-working** spaces in the future.

Agile Work is much **closer to their customers**. The company offers differentiation, efficiency, and more innovative ways of working and outcomes to support customers. What is more, Agile Work wants to provide **experiences** internally and for customers. The company has **a large network** of clients, partners and talents, like freelance designers and specialists, locally and internationally. Agile Work also has a **bank of resources** and tools for both employees and partners. The company has

invested in employees' health and has partners for **well-being** services and products. The company wants to prevent issues related to isolation, for example, by having a responsible person for ensuring happiness.

Agile Work office is even more digital than in 2021 and they have created "phygital" safety and security standards. This framework enables hybrid working and **equal participation**, despite the occasion. In the future, there will be spaces for digital events, workshops and meetings that provide **functional facilities for virtual communication.**

Moreover, in the future, the company has improved competitiveness and enabled a major scale **growth** for their operations.

Future characters created by the participants

The last session of the workshop focused on creating live-in scenarios based on the future vision. One of the tasks was to create potential future characters of Agile Work. The participants were asked to list professions that could be part of the future workplace of Agile Work. After this, four interesting professions were chosen for the next phase.

The participants were divided into four groups and the task was to create a persona for one of the professions with likes, dislikes and hopes *(figure 27)*. The use of imagination was encouraged when thinking of the characters.

Finally, the participants produced live-in stories that described interaction between the characters. After the workshop I summarized the thoughts and stories emerged and created one example of a live-in scenario *(figure 28)*. The live-in-scenario formed a basis for a network principle of the future workplace concept and the potential interaction between the characters inspired the office design.

| PERSONA	LIKES	DISLIKES	HOPES
Chief of Happiness	Brain ergonomics development, well-being	Lack of sense of community, too much digital environments and no psychical contact	Community gatherings, happy customers and employees, better balance in virtual and physical way
Virtual Worlds Coordinator	Having the access to the latest tools and being able to collaborate with the best talent internationally	The fact that the others are not so interested in virtual tools.	The others would see the benefits of virtual world
Designer	Having an international community with a humane approach and big, global customers.	Lack of close daily leadership and seeing the colleagues in person.	A lot of collaboration with colleagues and partners. Physical office for meetings and creative work.
Customer	Appreciates outsourcing workplace services	Inefficiency, slow pace and long processes	Great service from A-Z

FIGURE 27. CHARACTERS CREATED DURING THE WORKSHOP.

Example live-in scenario

Virtual Worlds Coordinator

1. Starts the workday in Bahamas. The current tasks do not require working at the office so that has given an opportunity to work abroad.
2. Meets the customer online and they decide to collaborate on a workplace transformation project. Together they visit the Agile Work office virtually to look at the latest version of a hybrid office.
3. Has a meeting with Chief of Happiness about the impact of digitalization to well-being and how to include the humane approach to the design.
4. Briefs Designer with the new project.

Designer

1. Commutes to the office.
2. Has a meeting with Virtual Worlds Coordinator and starts brainstorming together with two other designer colleagues at the office.
3. Because the delivery of the new project is in couple of days, Designer has a meeting online with Customer about the final touches of the project.
4. Designer and Customer decide to meet half-way at a co-working hub and look at some material samples face-to-face.

Customer

1. Commutes to the company office.
2. Meets Virtual Worlds Coordinator virtually.
3. Has a meeting with Designer.
4. Although the schedule of the project is tight, Customer wants to participate in the design process and meets Designer in person at a co-working hub.

Chief of Happiness

1. Commutes to the office of Agile Work and meets colleagues.
2. Has a meeting with Virtual Worlds Coordinator.
3. Joins the meeting in the co-working hub remotely.

FIGURE 28. EXAMPLE OF THE INTERACTION IN FUTURE NETWORK

3.2.3 HOPES

At the end of the remote workshop, a few questions
were presented to the participants in Howspace
regarding the office of Agile Work, about the current
situation *(figure 29)* and the special future needs.
At the time of writing this thesis, a tool that measures
space utilization was not yet in use.

For example, Agile Workers were asked what is not
working in the current office. According to the answers,
it turned out that the lobby area is quite unused space.
Moreover, the back office is usually more occupied than
the project corner or the VR lounge. In the VR lounge,
there is a rather large couch that is hardly ever used
and it is not suitable for working or and the space is not
ideal for relaxing. Moreover, the focus area is located at
the back office where designers usually work since the
material library is there. The guiet work is usually hard
to manage in this particular area since the designers
need the same room for collaborative design work.
In addition, the sun terrace is a popular space for
working and internal events in the warm weathers.

More answers are gathered on the next pages that
show *(figures 30 and 31)*.
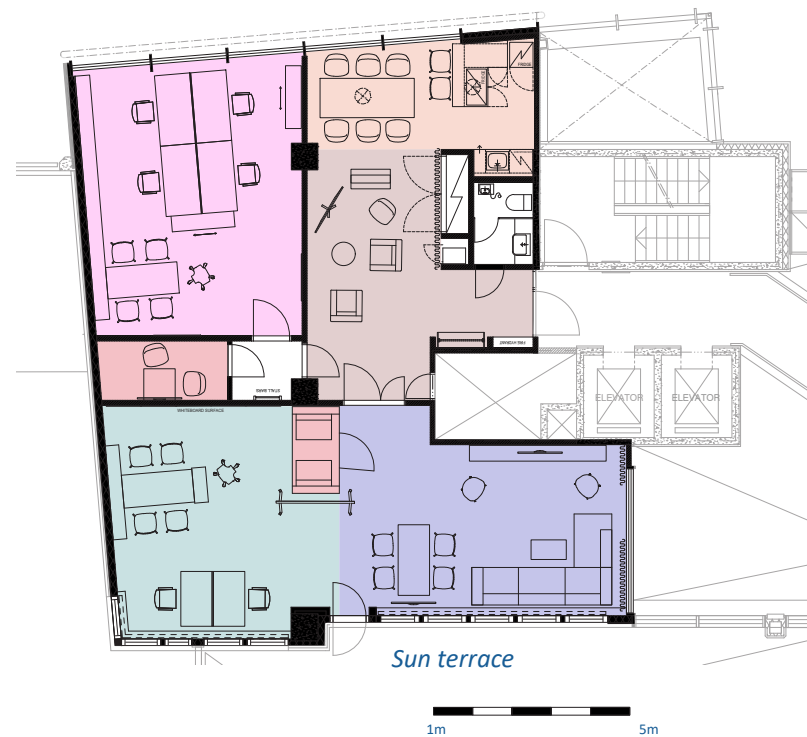
THE CURRENT OFFICE
Helsinki, Vallila, ~160m²

LOBBY

BACK OFFICE (DESIGN WORK)

WORKING CAFE

CLOSED MEETING SPACES

PROJECT CORNER

VR LOUNGE

Sun terrace

1m   5m

FIGURE 29. THE CURRENT
OFFICE OF AGILE WORK.

Question:

What kind of wishes do you have for the future office?

VIRTUALITY

"Virtual facilitation enabled"

"Using virtual tools more to demonstrate new furniture, layout and design variations"

"Smarter and more user-friendly virtual communication space for meetings"

"Inviting video and project room"

"Separate focus work area"

"Hybrid"

"Space that can work 24:7 with different users"

"A clear Agile Work concept that could be used in the office as well"

"Functional material library"

"Improved overall customer and employee experience"

"More creative and versatile collaboration space."

"More storage and working space for ongoing projects. Some solution to display the projects easily."

"Integration of the house rules for the office concept."

"Increased flexibility"

"More meeting rooms"

"Some spaces for prototyping and testing new, in constant development"

"Several different rooms with different purposes, fun and traditional ones"

CONCEPT

THE OFFICE

FIGURE 30. ANSWERS FROM AGILE WORKERS.
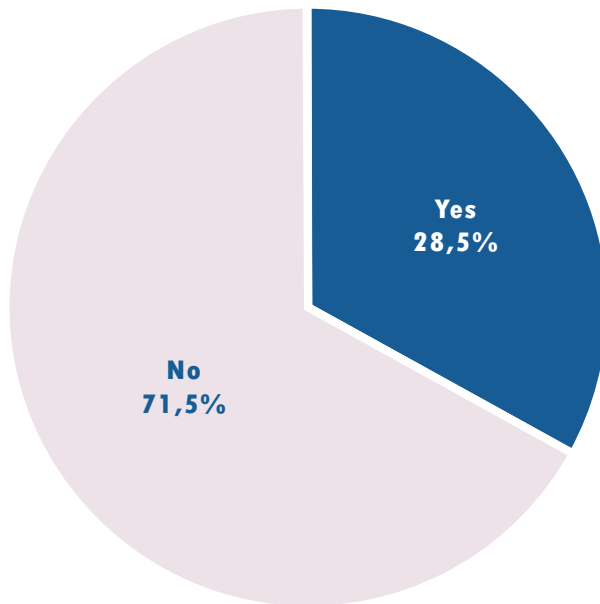
Question:
Agile Work is growing. Do you think the size of the current office will work in the future?

FIGURE 31. QUESTION FOR AGILE WORKERS.

3.2.4 SUMMARY OF NEEDS

Workplace concept

The future workplace concept is a network that should be built around a hybrid model that enables flexibility in the workforce. In addition to the office and employees' homes, the company will provide access to co-working spaces closer to neighborhoods. Although remote working will continue being partly the way of working in the future, the answers show the relevancy of the office for Agile Work. Moreover, it was hoped that the future concept of Agile Work would improve the overall user experience and put even more emphasis on well-being.

Office

There is a need for an office that enables practical ways of hybrid working. The office should provide equal participation to work virtually, despite the location of the employee. Currently, having multiple locations works with meetings, but there are issues when it comes to workshops and other creative work.

The office should enable an efficient use of space and it should be kept in mind which tasks actually require working there. However, some people or tasks need the office space more than others. There is already a need for a bigger office despite the increase of remote working and the use of third party locations. While

the office will not likely be fully occupied every day, it should enable those situations as well. In addition, the office is to be future-proof and flexibility should be applied to the design as much as possible.

When it comes to new space allocations, there needs to be a bigger kitchen at the future office. Before Covid-19, the company had a habit of arranging a cooking night once a week at the office and would like to do so when it is safe again. These sort of internal events boost the feeling of community in the company.

There is also a need to improve working conditions of designers and, although the future office will be more for socializing and collaboration, it still needs to provide enclosed spaces for concentration and meetings. In addition, there is a need for a larger and more functional project room compared to the one at the current office, not only for VR use, but other purposes as well. Moreover, the future office should provide quality facilities for pre-recorded and live hybrid events. For example, Agile Work has recorded podcasts and hosted webinars in the past and will continue to do so in the future.

Moreover, the increase of online meetings has led to forgetting to have breaks and the office design should answer this issue as well. What is more, the sun terrace as the only relaxation area at the current office is an issue since it can not be used throughout the whole year.

3.3. PLANNING THE OFFICE

As Agile Work aims to provide hybrid and future-proof offices for customers, their office should be the latest version of that. In addition to Covid-19, it should be able to learn from the past. For example, although the future offices in general seem to have some similarities to the Bürolandschaft concept *(see chapter 2.1)*, the future office should be a place that genuinely supports interaction. Although the concept is to fulfill the future needs of Agile Work, the key elements should be easily applicable for customers as well. Therefore, the future office of Agile Work could serve as an diverse example of future-orientated office spaces, like a showroom.

The future office should provide an interactive space that functions both physically and virtually without forcing employees to act unnaturally. This can be solved by having multiple loose and adjustable cameras that can be instantly re-positioned. Moreover, the cameras can be adjusted to point to different directions. For example, by pointing a camera downwards on top of a table, an employee can communicate traditionally despite the hybrid setting, such as, sketching by hand.

The future office should have a workstation reservation system that enables efficient use of even a small place and, in addition, it enables better controlling of hygiene issues *(figure 32)*. In this case, there is no need to separate focus and quiet area from each other.

Hybrid model is related to ABW concept *(see chapter 2.3)* that uses both closure and open space in the office.
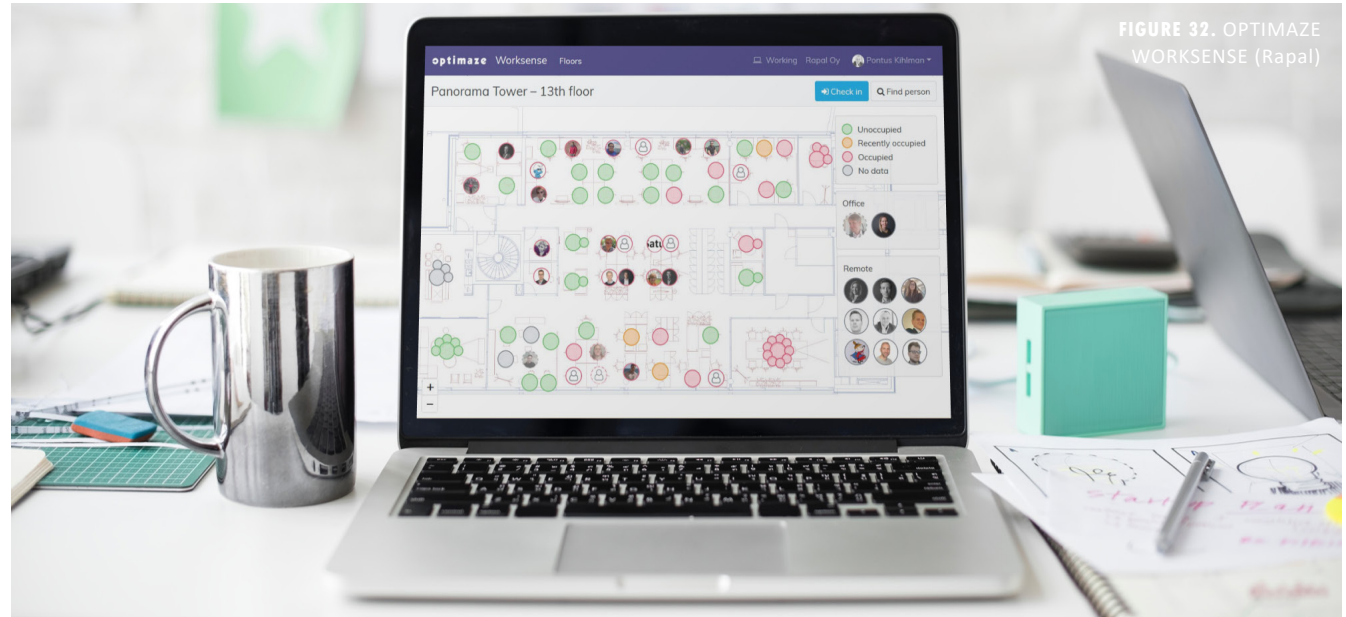
FIGURE 32. OPTIMAZE WORKSENSE (Rapal)

Although open-plan enables the maximum flexibility, it could lead to an unstable and messy impression in reality when it comes to the positions of the pieces of furniture. Not to mention, it is harder to create a homy impression. Therefore, some stability at the office is justified.

A humane approach and finding natural ways to encounter colleagues is essential. The future office will be the main intermediary for the feeling of community and boost employee experience. There should be a place that ties these aspects together. A "heart of the community" would be, in Agile Work's case, a kitchen and working cafe area. This area would support interactive working and arranging special occasions and, not to mention, attract employees to the office. Moreover, the coffee machine should be placed to a spot where people will randomly encounter more often.

As the future office should put more emphasis on well-being, it should enable relaxation, connection to the nature and ergonomic working. To encourage Agile Workers not to forget to have breaks, there should be an inviting place reserved for that that serves the purpose all year round.

It was up to me to decide the number of people using the future office for the sake of this thesis. It was decided that the future office should serve about 20 employees, keeping in mind the hybrid concept. Moreover, in this design case, there will be shared workstations and the office follows a free range zoning principle (no fixed positions). To help creating the first drafts of the office, a space analysis was created based on the needs emerged *(figure 33)*. After creating three draft plans *(figure 34)*, the plans were presented in Howspace for comments.

Space analysis

SPACES	FUNCTION	IMPRESSION	SOLUTIONS
Lobby	Storage for coats, bathrooms, information on office occupancy	Practical, informative, welcoming	Both regular and accessible bathrooms, racks for outdoor clothing and storage for personal items, info screen
Kitchen & cafe	Facilities for cooking nights and can be used for different occasions	Attractive, uplifting	Rich use of colors, green and fresh impression, both fixed and flexible furniture solutions
Project room	Enables hybrid work and multiple ways of working and virtual projects, stimulative	Diverse, flexible, inspiring	Movable furniture solutions and digital tools
Material library	Storage for samples and a table for working with them	Neat, practical	Adjustable storage for samples and enough workspace
Meeting spaces	Different sizes of meeting spaces for 1-4 people. One of the rooms functions as a recording space for podcasts.	Different impressions: cosy, technical, traditional, et cetera.	Spaces with different colors, equipped with screens and cameras.
Focus space	Ergonomic workstations for work that requires concentration	Calm, stable, access to natural light	Calming colors and elements such as plants, adjustable and electrical furniture solutions
Retreat space (relaxation)	Resting, reading or light exercise and stretching between tasks. Digital tool free zone.	Relaxing, fresh, cosy, forest vibes	Lots of plants, natural colors, and cosy pieces of furniture.
Other (support)	Printing and recycling, storage	Practical	Both fixed and flexible solutions

FIGURE 33. SPACE ANALYSIS

A.

B.

C.

MEETING

COLLABORATION

FOCUS

INTERACTION

RETREAT

SUPPORT

ROOM/POD RESERVATION
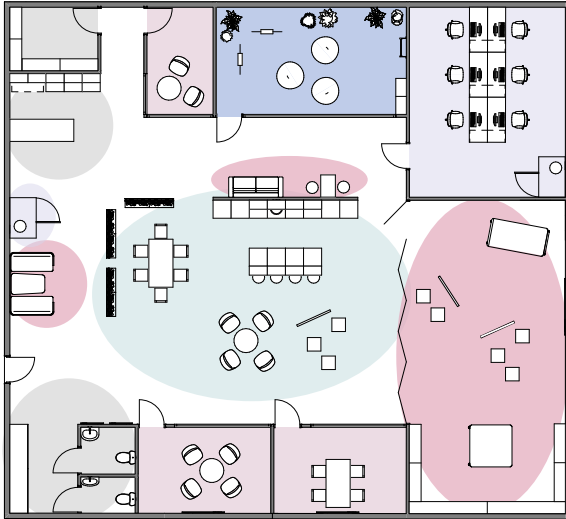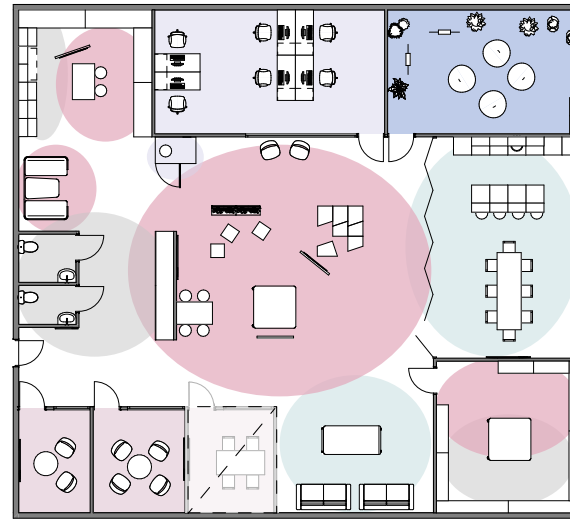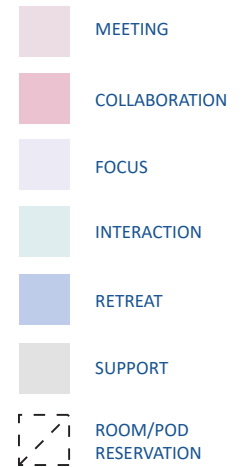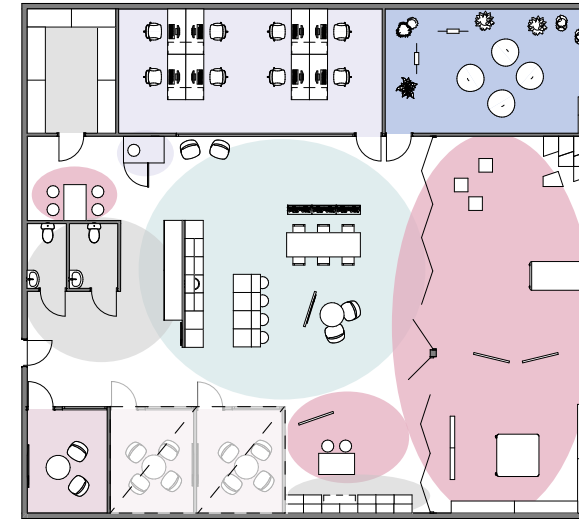
The furniture presented is referential only!

Overviews for the client, plans ~300m² each

+ The heart of the community (kitchen) at the center of the space

+ The collaboration space can be a separated from the huge space

+ Material library and collaboration area share the same space, improving team work conditions for designers.

+ Potentially provides diverse circulation and increases informal encounters physically

- Wasted space

- Lack of flexibility

+ Calm kitchen area that can still be connected to the huge space

+ One of the small meeting spaces can be left out or replaced with a pod

+ Material library is a separate space which allows the designers to leave unfinished work there

+ Lots of storage space. Printing area and storage work as a collaborative area as well

- The heart of the community not at the center. This could decrease the number of informal encounters as it is harder to see others in passing.

- Collaboration space in the center could be messy in reality

- Lack of flexibility

+ The heart of the community (kitchen) at the   center of the space

+ Two of the small meeting spaces can be left out or replaced with a pod

+ Material library and collaboration space are in a shared space

+ The printing area is located next to the material library enabling better conditions for prototyping and hand-crafting things

+ Openness

- The amount of fixed storage furniture

FIGURE 34.
PLAN DRAFTS

Figure 35 demonstrates a rough circulation towards the kitchen (and a coffee machine) to clarify the impact of kitchen's location on the functionality of the space.
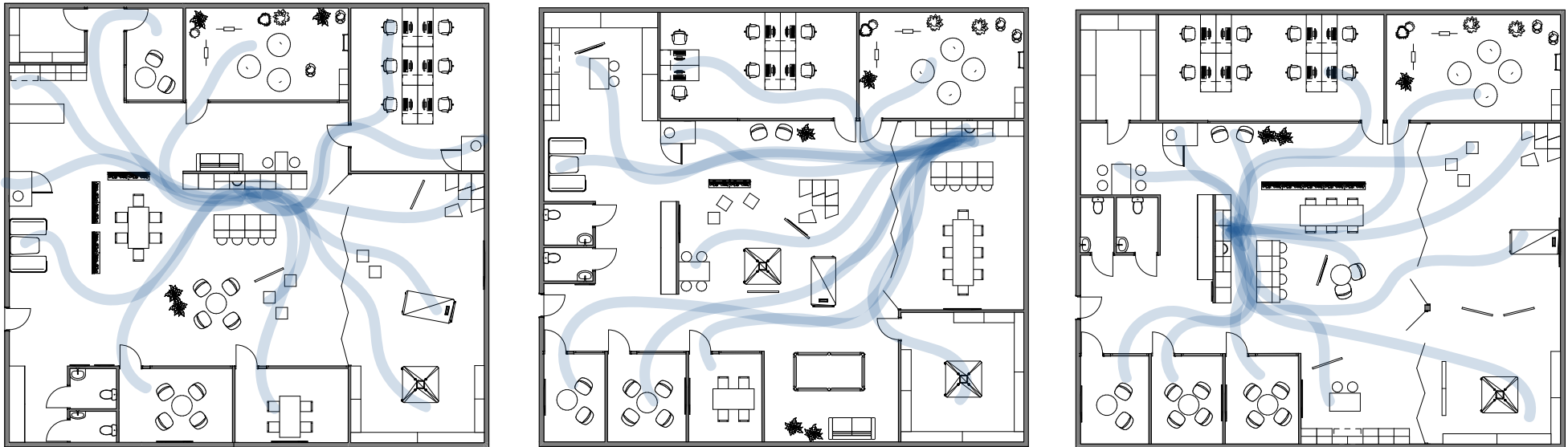
FIGURE 35.
CIRCULATION EXAMPLE

Comments and further development

Out of the three variations, Agile Workers liked variant C the most because of the flexibility of the office and improved working conditions for designers. Therefore, plan C was chosen for further development *(figure 36)*. The general changes involved, for example, increasing flexibility and efficient use of space.

According to the comments, the client hoped for less fixed walls and having pods instead. However, some employees of Agile Work did not feel comfortable working in an open-plan office with only space within space type of concept. Therefore, some walls were to stay in the plan. However, to function as a future-proof office, some fixed walls were replaced with modular walls, that can be removed and there are reservations for new modular walls if they become necessary.

It was hoped that there would be lots of whiteboards in the project room and easy access to touch screens and video connection. There was also hoped to have the possibility to transform one space to a project room for a while if necessary. According to the comments, 6-8 workstations in the focus area would work. Moreover, there should be ergonomic workstations outside the focus area as well and perhaps an opportunity to work at the desk using a treadmill.

In addition, it was hoped that there should be a place reserved for a terrace in the concept although the details of the area is left out of this thesis due to the delimitation of the work.

MEETING ~ 17m²

COLLABORATION ~ 118m²

FOCUS ~ 28m²

INTERACTION ~ 69m²

RECOVERY* ~ 28m²

SUPPORT ~ 18m²

= **278 m²**

* sun terrace not included

1m 5m
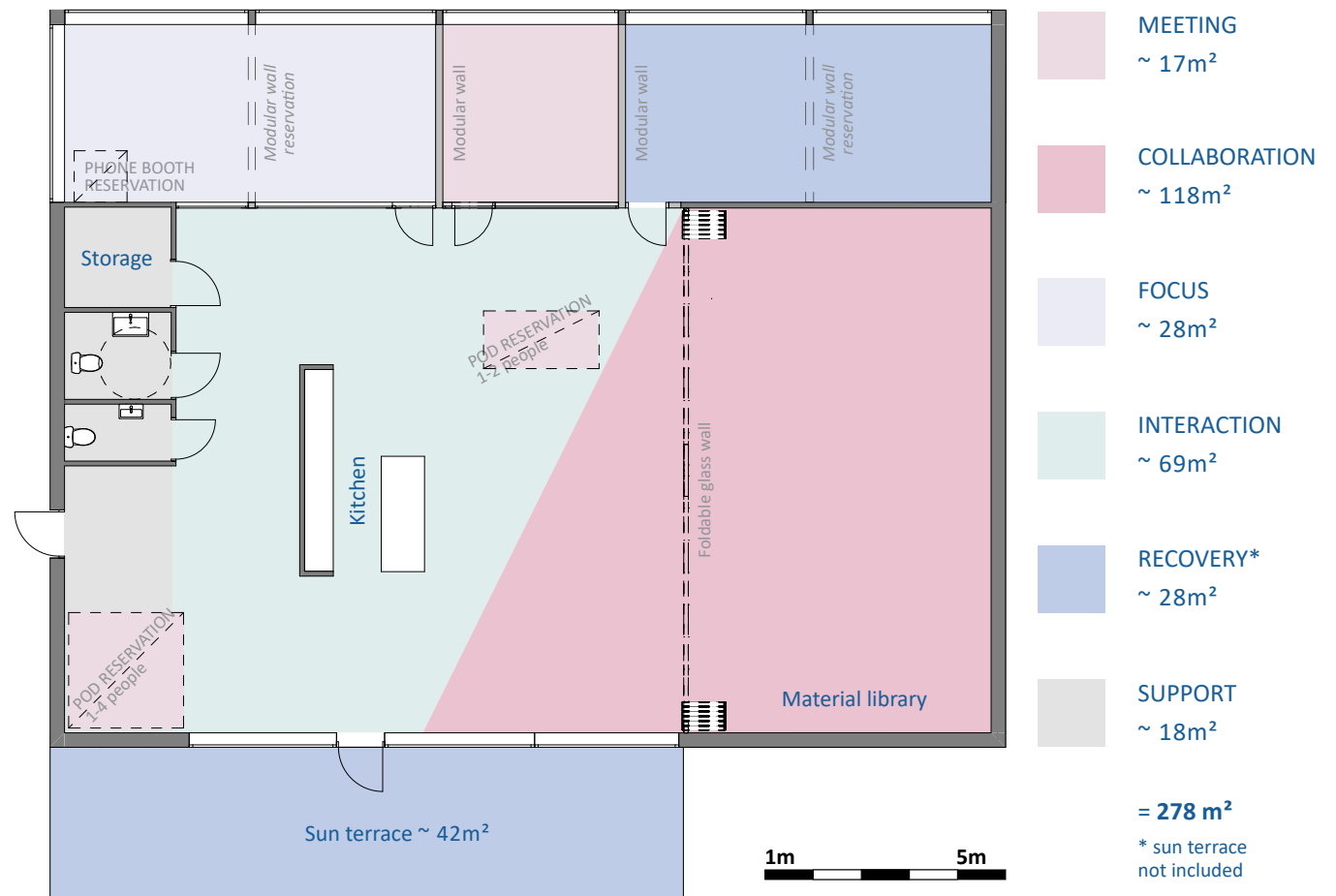
FIGURE 36. DEVELOPED PLAN

Materials and furniture

As Agile Work aims to provide more green solutions in the future, the materials of the office should emphasize sustainability. Interface textile and vinyl tiles are carbon neutral throughout their calculated life cycle *(figures 37 and 38)*. Textile tiles can be fully recycled. (Laattapiste 2018.) Moreover, there should be durable *(figures 40 and 41)* and anti-microbial materials *(figure 39)*.

There should be fixed furniture only when it is necessary. The loose furniture should be easily movable and multi-functional. Moreover, the pods should have wheels under to enable better movability. In this particular office concept, the pods do not need to be connected to a sprinkler system. As for audiovisual equipment, most of them should also be movable.

There should be greenery that is not only visually pleasant to look at, but also naturalizes indoor air. However, there could be artificial plants used in some places to give an impression of overall greenery but to keep the office easier to maintain. Connection to nature can also be created with natural color and material choices.

In addition, to create an uplifting office space and an impression that fits the company brand, some contrast color choices resemble the brand colors *(figures 42 and 43)*.

FIGURE 37. Interface Textured Stones vinyl tile, Light Concrete
(Laattapiste d)

FIGURE 38. Interface Employ Loop textile tile, Eden
(Laattapiste e)

FIGURE 39. Copper
(Myfreetextures)
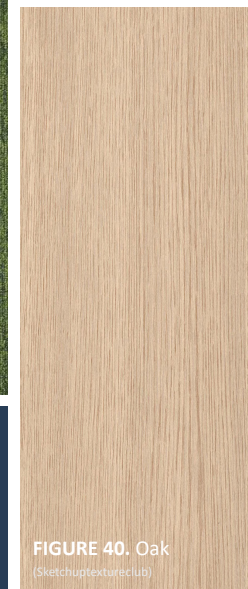
FIGURE 40. Oak
(Sketchuptextureclub)

FIGURE 41. HI-MACS Arctic Granite
(Buildasurface.com)

FIGURE 42. Tikkurila M388

FIGURE 43. RAL 630-6

VR

VR can be used when sitting, standing or moving around in the space. The boundaries of the physical area needed can be defined digitally. Using VR requires at least 1,5 x 2 meter area in the space (Vive). This area does not necessarily have to be cleared out all the time, but easily organized with movable furniture.

For the equipment to work, there needs to be base stations installed that send signals to the headset and controllers *(figure 44)*. Mounting the base stations on walls is the recommended option and they should be placed on opposite corners of the room, 5 meters apart from each other in maximum. Moreover, they should be assembled at least 2 meters high for accurate tracking. (Vive.)

FIGURE 44. HP HTC Vive VR Headset Business Edition (Bhphotovideo)

4 FUTURE WORKPLACE CONCEPT

Future Network of the Agile Work
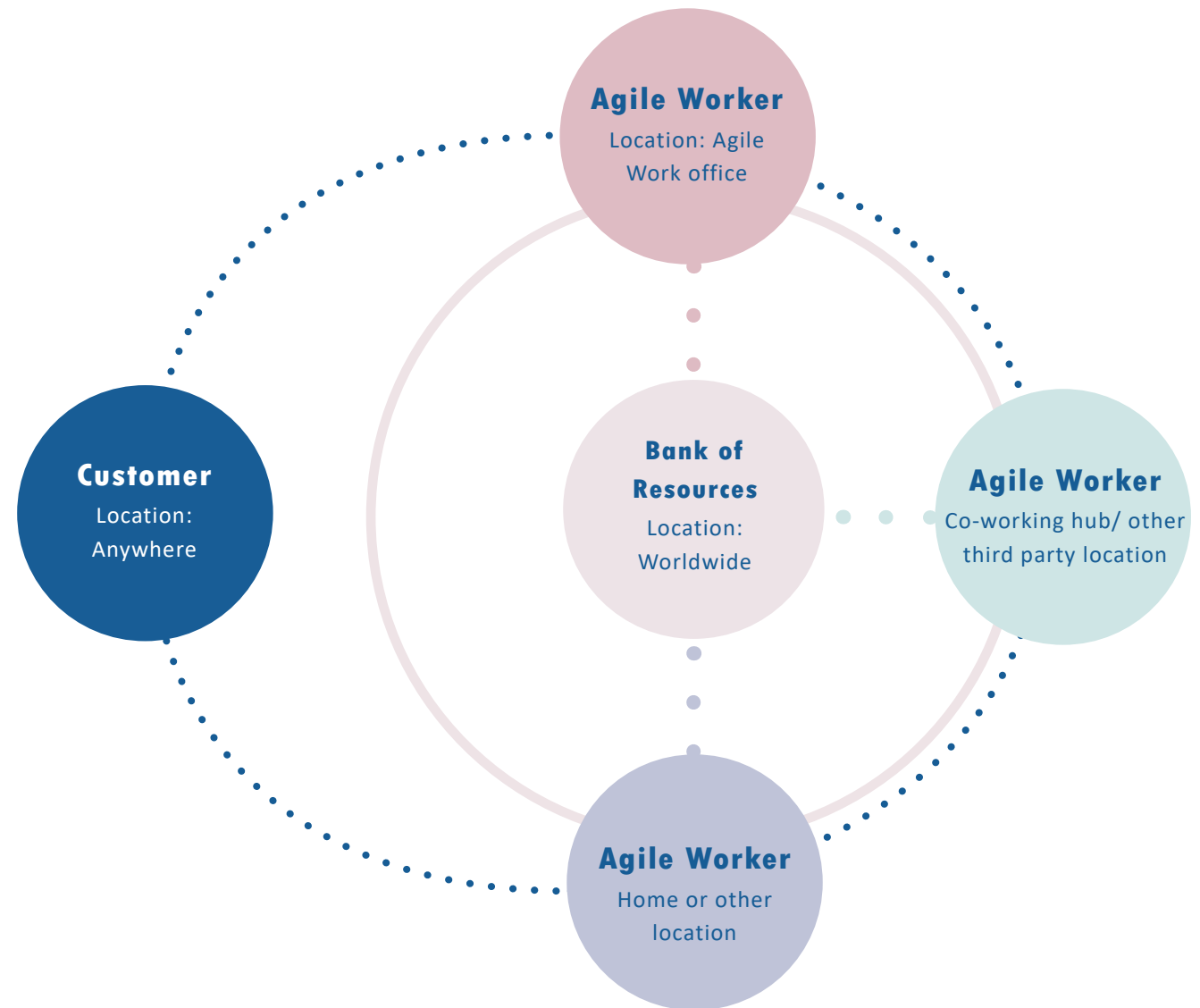
4.1 CONCEPT PRINCIPLES

Network

The future workplace of Agile Work is a showpiece of a hybrid model that consists of a large network and a future-proof hybrid office. For a hybrid model to run smoothly in the office, everything needs to be looked at from a broader perspective and have all components considered *(figure 45)*.

The concept enables Agile Workers to constantly collaborate internally and involve the customers efficiently in the projects. Moreover, Agile Workers can broaden their connections effortlessly and be able to utilize resources worldwide that include tools, workforce and well-being services.

Agile Worker
Location: Agile
Work office

Customer
Location:
Anywhere

**Bank of
Resources**
Location:
Worldwide

Agile Worker
Co-working hub/ other
third party location

Agile Worker
Home or other
location

FIGURE 45.
FUTURE NETWORK OF AGILE WORK.

Office

While the entire network provides an effective framework for working, the office still has a special role to play for Agile Work. Some tasks and lifestyles require working at the office from time to time and, in addition, the office is an essential tool for keeping up the feeling of community and providing inspiration.

Although the location of the employees is irrelevant, face-to-face meetings are encouraged at least on some level to fulfill basic social needs and informal encounters. However, the concept allows effortless encounters and participation in work between those who work remotely and those at the office.

Space allocations of the future office emphasize collaborative and social spaces *(figure 46)*.

Future Office Space Allocations

Collaboration 42%

Interaction 25%

Focus 10%

Recovery* 10%

Support 7%

Meeting 6%

+ sun terrace*
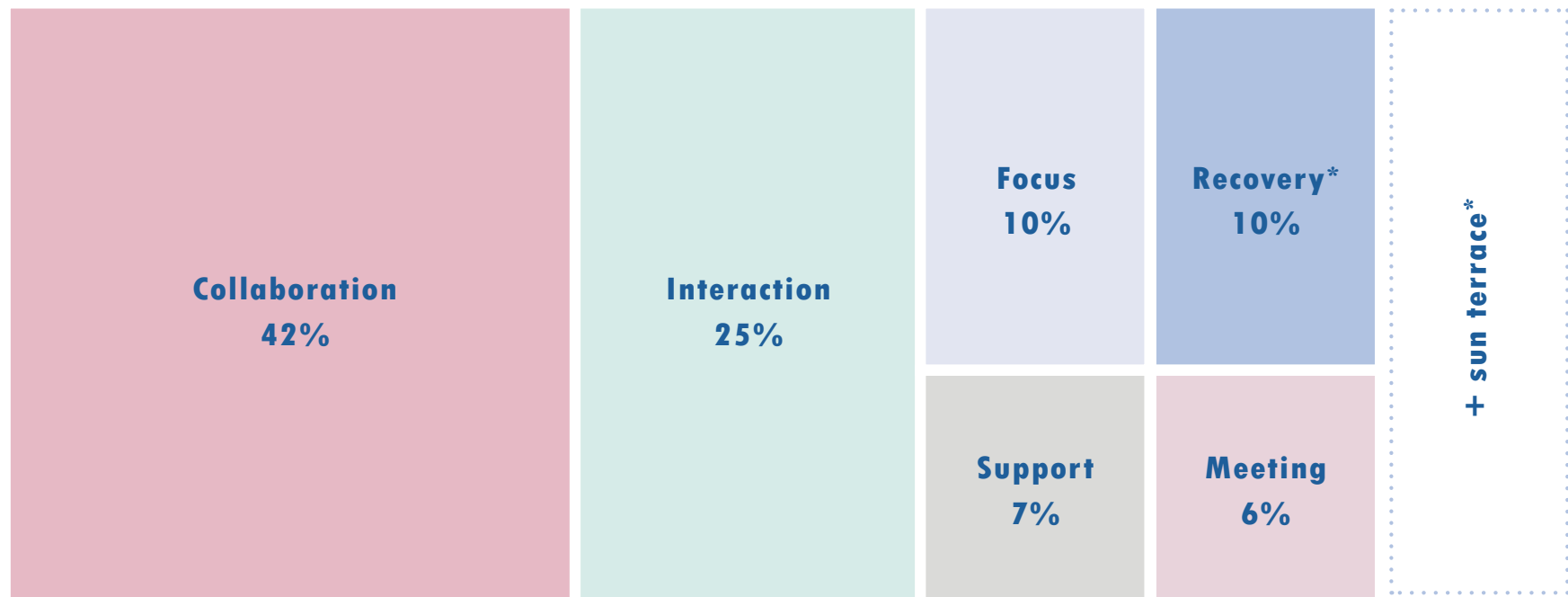
FIGURE 46. DIAGRAM OF SPACE ALLOCATIONS IN THE FUTURE OFFICE

4.1 THE FUTURE OFFICE
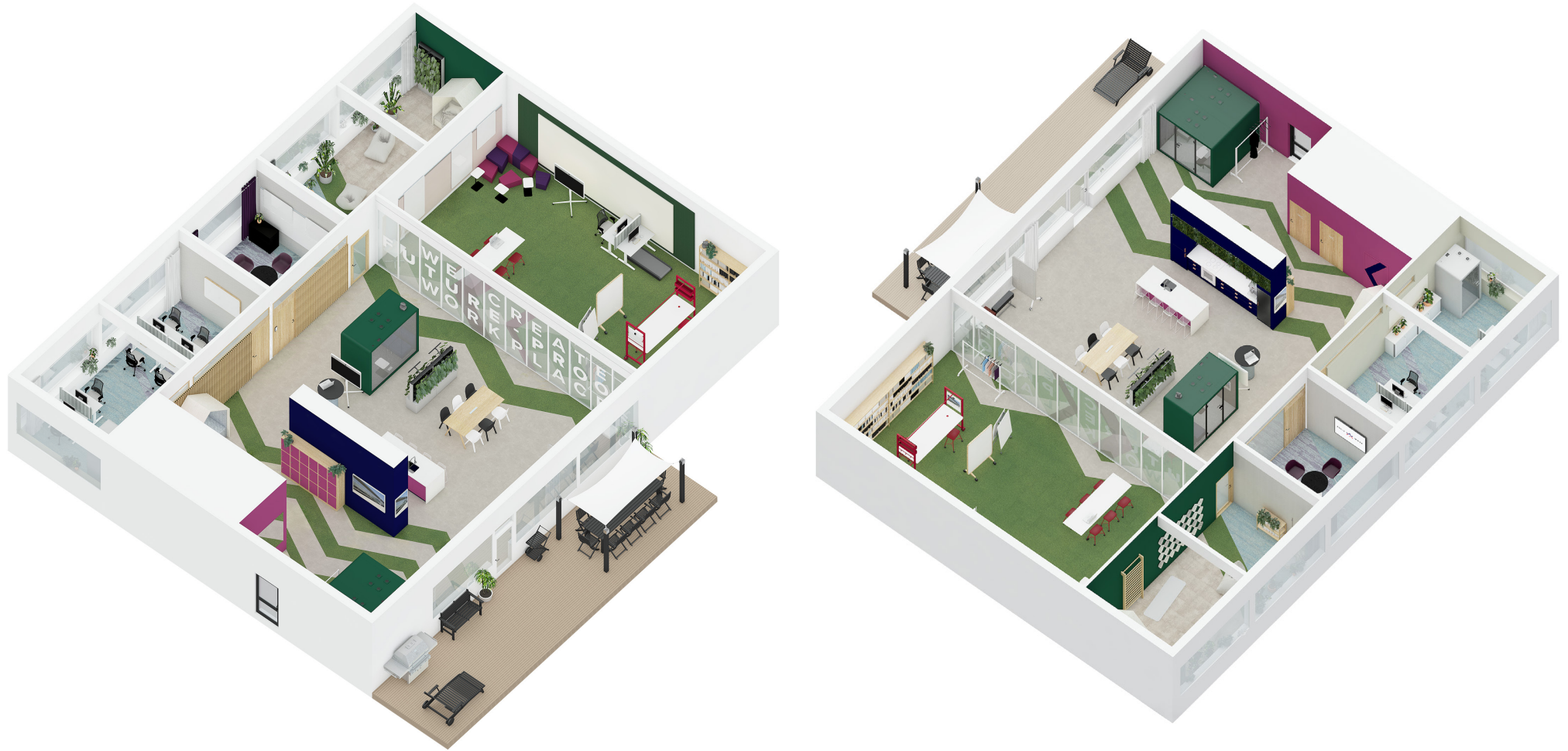
FIGURE 47
BIRD-EYE VIEW

KEY PRINCIPLES

Flexible & functional

Feeling of community

Employee experience

Well-being

Hybrid work

Future-proof

AGILE WORK

FIGURE 48
Lobby

4.2.1 PLAN AND FURNITURE

The space allocations and furniture solutions enable flexibility where only one's imagination is the limit. It can provide facilities to a variety of events and circumstances *(figures 47-51)*. The office is equipped with both digital and traditional tools that can be used for working at the office physically and virtually. The future office provides a functional focus area and there are more small and diverse meeting spaces. The future office offers a place for relaxing throughout the year and, in addition, a sun terrace for warmer seasons. The enclosed meeting room can be turned into a long-term project room if needed or a recording space for podcasts.

MEETING

COLLABORATION

FOCUS

INTERACTION

RECOVERY

SUPPORT

FIGURE 49 Plan

28m²

7m²

1-2 people

28m²

Storage & recycling
5m²

1-2 people

4m²

3m²

Hand sanitizer

Lobby

1-2 people

Kitchen

69m²

128m²

1-4 people

Printers

Material library

Terrace
42m²

1m   5m
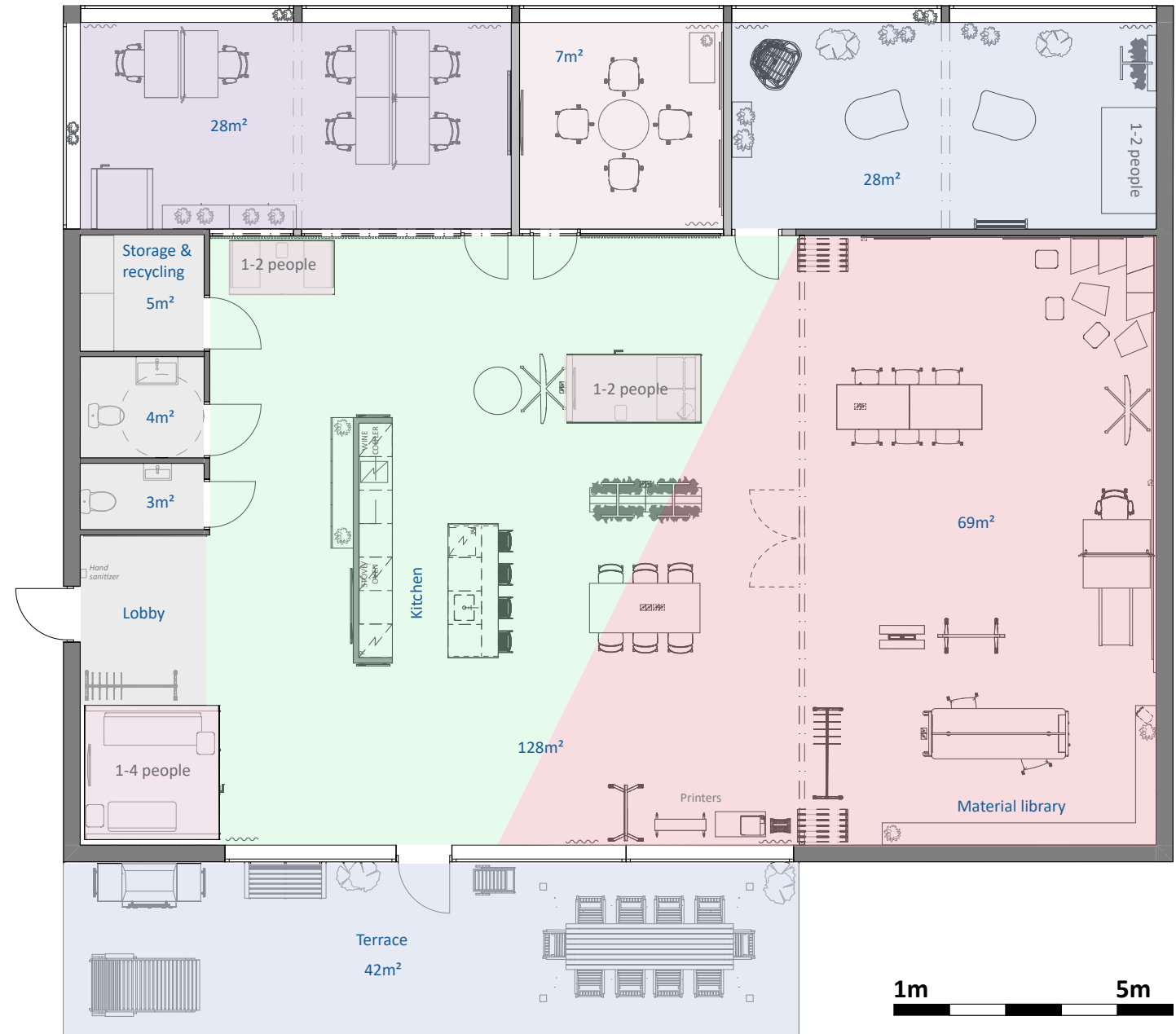
In addition to loose plants and Naava products *(see figures 65-66)*, there is a moss wall in the kitchen that is long lasting and maintance free. Silk plants in the ceiling that resemble authentic plants enable greenery even in the challenging spaces. (Innogreen a; Innogreen b.)

FIGURE 50 Kitchen

FIGURE 51 View from the kitchen to the project room

Bathrooms and the kitchen are equipped with copper (antibacterial) handles and touchless faucets.

Flexible furniture choices

Table functions as a whiteboard as well

FIGURE 52. VAGABOND (Materia a)
FIGURE 53. LEVEL SIDE TABLE (Icons Of Denmark)
FIGURE 54. MOTUS (Materia b)
FIGURE 55. TAITE (Visual Concept)
FIGURE 56. FRAME MOBILE (Lintex)

There are multiple ways of
collaborating with the colleagues, such
as using a telepresence robot.

FIGURE 57 Project room

FIGURES 58-59. HALF A HUT (Götessons)
FIGURE 60. MOOW WHITEBOARDS (Abstracta)
FIGURE 61. KIVIKKO SEATING (Isku a)

The boards can be can be easily lifted off the rail (Abstracta).

An ecological product that is available with antimicrobial upholstery (Isku).
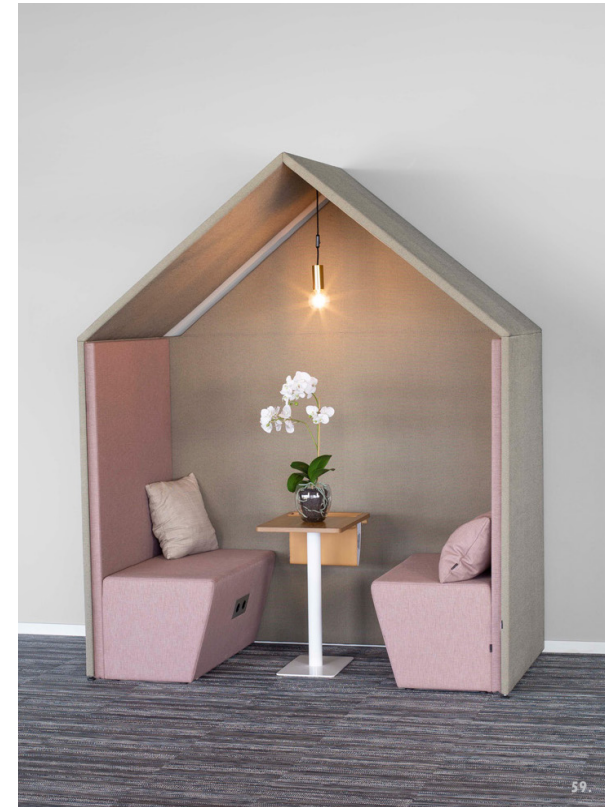
The Silen Space products have hidden wheels that enable easy movability. The noise level inside the pods are up to 43 dB. They also have antibacterial exteriors and handles and there is antibacterial upholstery available for the pieces of furniture. Moreover, the Silen Space has an automated air circulation system *(figures 62-64)*. (Silen.)

FIGURE 62. SILEN SPACE 1 (Workspace)
FIGURE 63. SILEN SPACE 2 (Wallenium)
FIGURE 64. SILEN SPACE 4 (DPJ Workspace)

Elements increasing well-being

Naava products have many benefits for indoor spaces
(figures 65-66). For example, Naava naturalizes the
indoor air, keeps space users healthy and they improve
cognitive performance. Moreover, Naava products are
fully automated. (Naava.)

There are ergonomic, adjustable electric desks both
in the focus area and project room. In addition, there
is a treadmill that can be moved to different locations
(figures 67-69).

65.

66.

67.

68.

FIGURE 65. NAAVA FLOW DUO (Naava)
FIGURE 66. NAAVA ONE SLIM (Naava)
FIGURE 67. ISKU STYLE ELECTRIC TABLE (ISKU b)
FIGURE 68. WALKRO (Kuntokauppa.fi)

FIGURE 69 Project room

FIGURE 70 Recovery space

FIGURE 71 Audiovisual equipment

4.2.2 HYBRID WORKING

Audiovisual equipment

There are multiple tools that enable smooth hybrid working at the office *(figures 71-75)*. There are loose cameras, microphones, speakers and touch screens. Moreover, some screens are fixed on walls or a piece of furniture. There are devices that enable recording events as well, from small to big occasions. The boundaries of the VR will be up to the client to decide, but the minimum space required is taken into consideration. The positioning of floor sockets enable moving the pieces of furniture, that require power, even in the middle of the floor without loose cables that cause a risk of injuries.

Minimum space required for VR 1,5m x 2m

Distance=5m

MOVABLE PIECE OF FURNITURE
Accessories: screen and camera

SCREEN ON WALL
Accessory: camera

MOVABLE SCREEN
Accessory: camera

VR BASE STATION

INFO SCREEN

FLOOR SOCKET

1m   5m
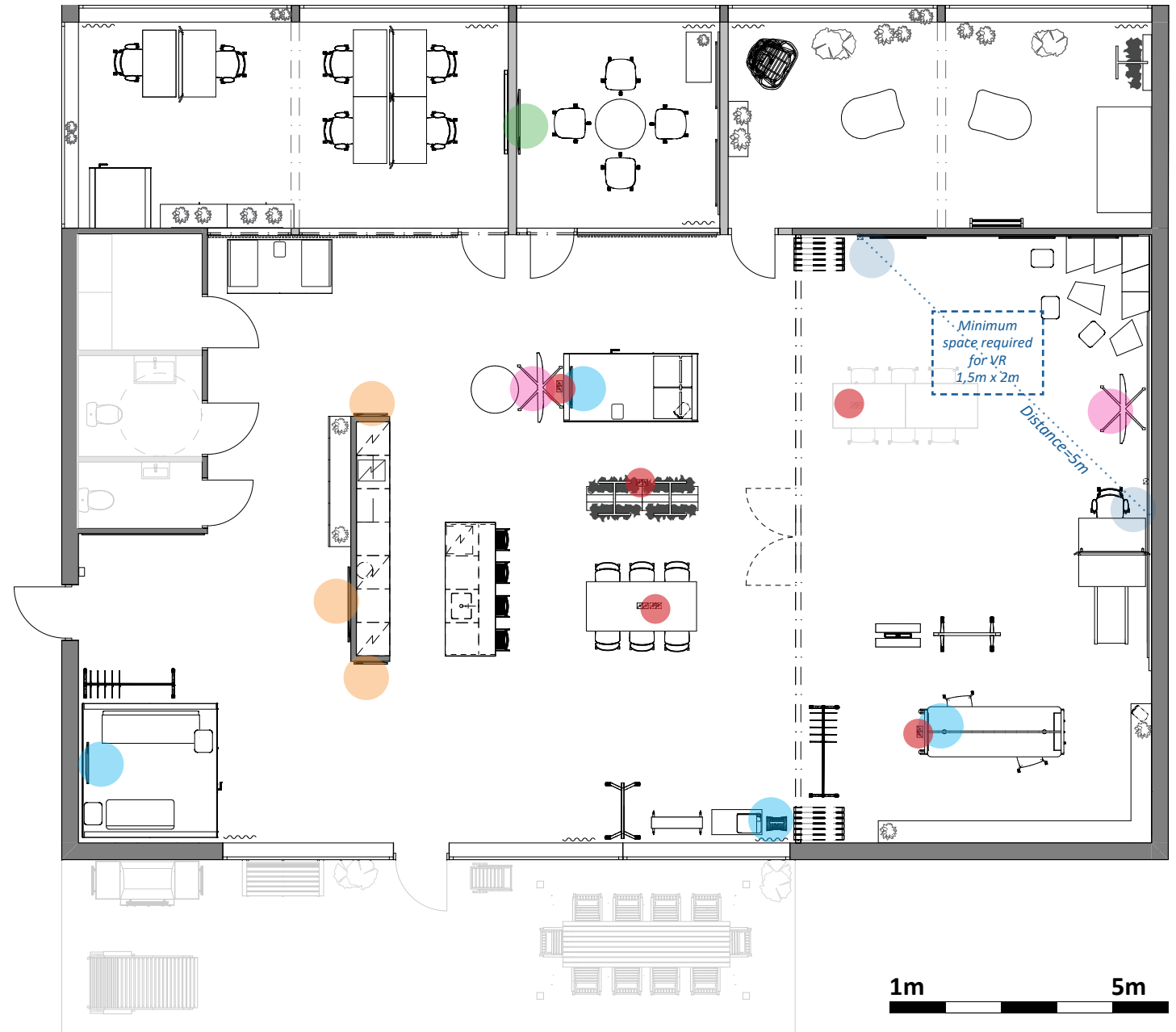
Examples of loose devices

72.

Separate microphones with mute buttons enable effortless participating to a bigger meeting at the office

74.

A throwable, soft microphone for bigger events, such as streamed occasions

75.

73.

FIGURE 72. ALL-IN-ONE BROADCAST VIDEO STREAMING SYSTEM, MARANTZ TURRET (Coolshop)
FIGURE 73. MEETING OWL PRO: 360° CAMERA, MIC, AND SPEAKER (Owl Labs)
FIGURE 74. MODULAR VIDEO CONFERENCING SYSTEM, RALLY PLUS (Logitech)
FIGURE 75. CATCHBOX MOD (Catchbox)

In the office, there are diverse solutions for how to work as a team from multiple locations *(figure 77)*. For example, designers of Agile Work can work traditionally sketching by hand or work with material samples efficiently with those that are not at the office. This can be achieved by applying cameras with, for example, RAM mounts and screens to pieces of furniture *(figure 76)*.

Camera pointing down, movable horizontally

Camera pointing forward

Screen
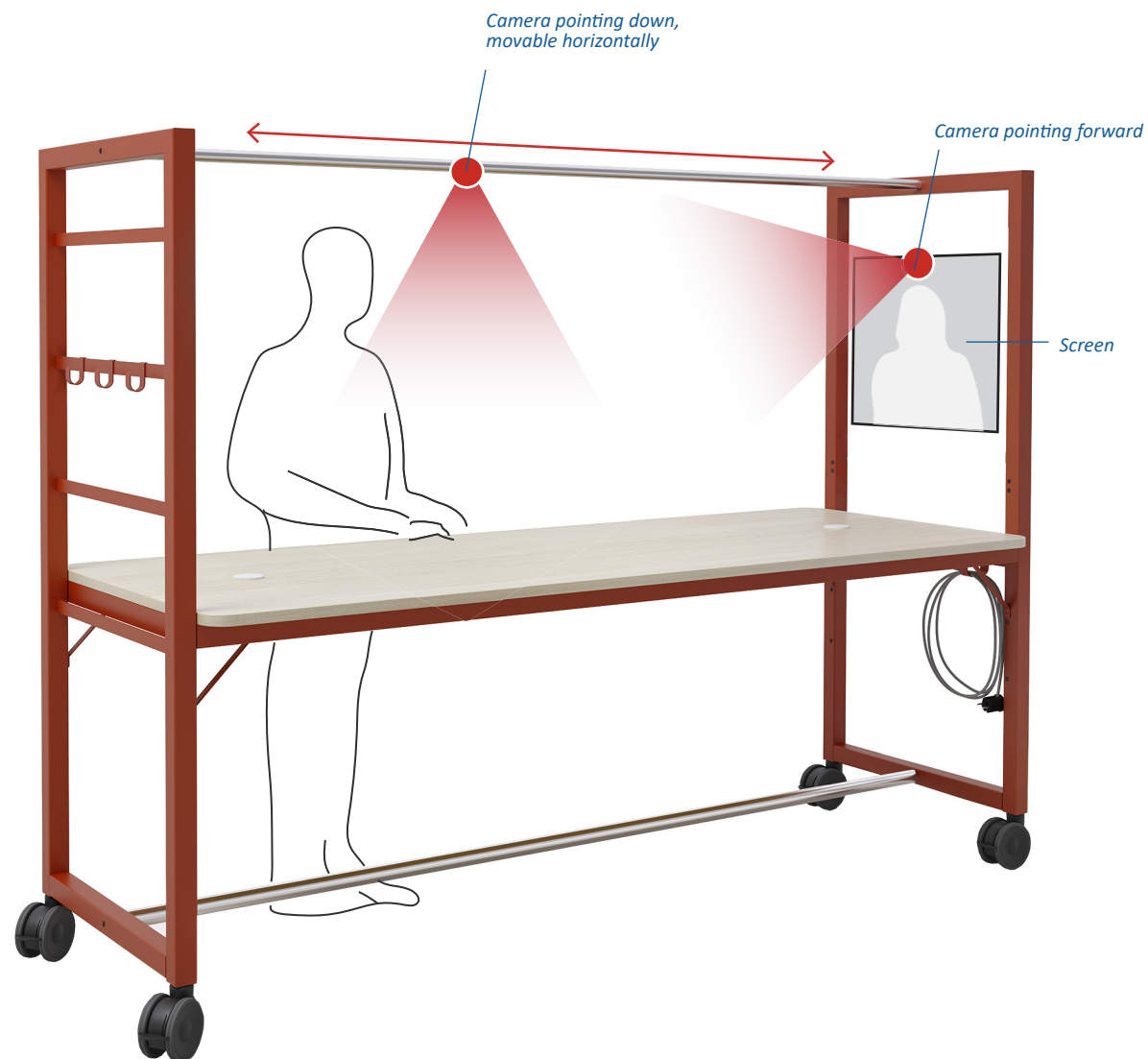
FIGURE 76.
(adapted from Materia c)

Circulation example of hybrid work with potential future characters

(see chapter 3.2.2)

CHIEF OF HAPPINESS

1. Gets contacted by a client after recording a podcast. Moves to the project room (collaboration area) to meet the client using VR.
2. Has a cup of coffee with the colleagues.
3. Relaxes in a calm environment (recovery space) before moving onto the next task.

DESIGNER

1. Comes to the office and has a cup of tea with the colleagues.
2. Moves to the project room and starts working with Virtual Worlds Coordinator (who is not physically at the office). They work with material samples by using both digital and traditional tools.
3. Moves to the focus area to concentrate on 3D renderings.

VIRTUAL WORLDS COORDINATOR

1. Partipates in recording a podcast
2. Meets colleagues in the kitchen by using a telepresence robot.
3. Collaborates in the project room with Designer by using different cameras and screens.

1m   5m
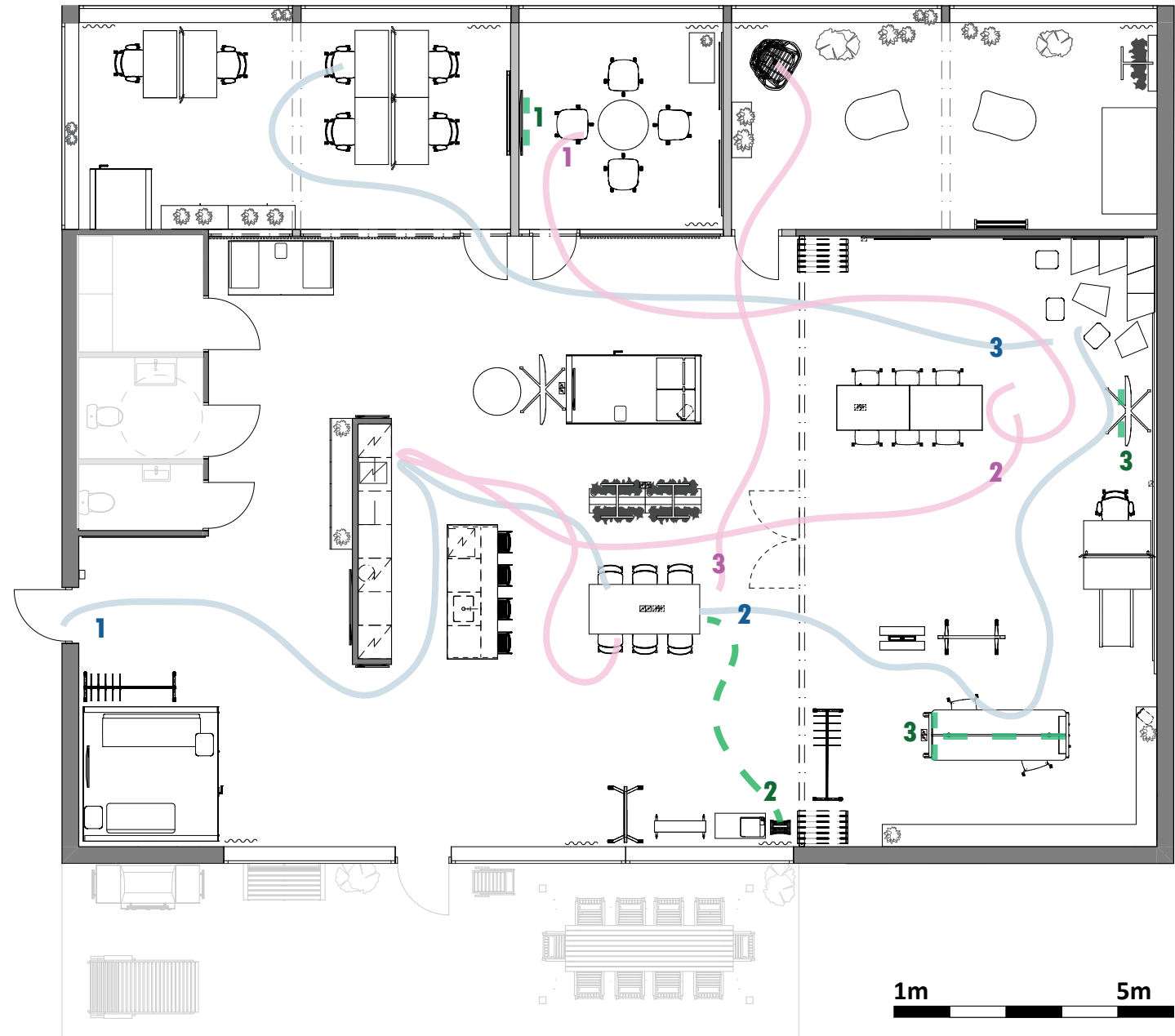
FIGURE 77 HYBRID CIRCULATION

4.2.3 FUTURE-PROOFING

Flexible wall solutions

Luomoa Modular *(figures 78-81)* is an interior construction system that is movable when required. In this office design partition walls, doors and glass walls have been used. Sound reduction is up to 48 dB. (Luomoa.)

Moreover, there is a foldable glass wall with double doors in the middle. The sound reduction of the glass wall is Rw 47 dB (FP-tuotteet).
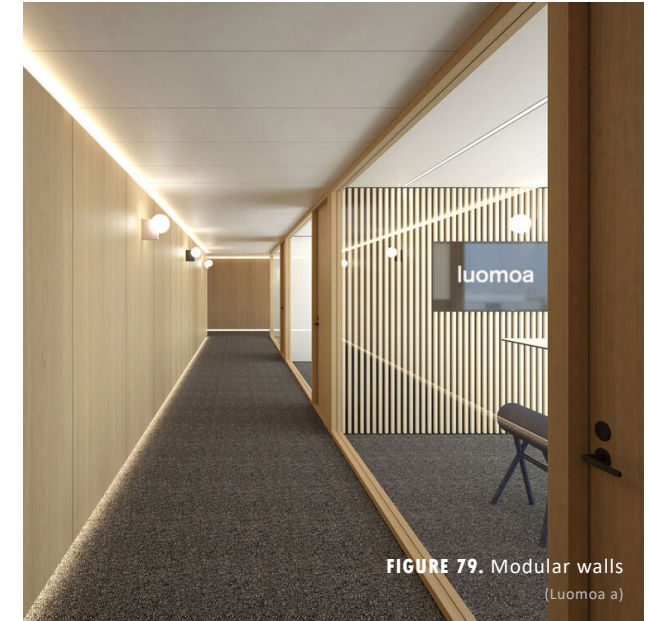

FIGURE 78. Modular walls
(Luomoa a)

FIGURE 79. Modular walls
(Luomoa a)

FIGURE 80. Modular walls
(Luomoa b, 23)

FIGURE 81. Modular walls
(Luomoa b, 23)

Flexible walls plan

Modular walls, Luomoa

Foldable glass wall

1m 5m
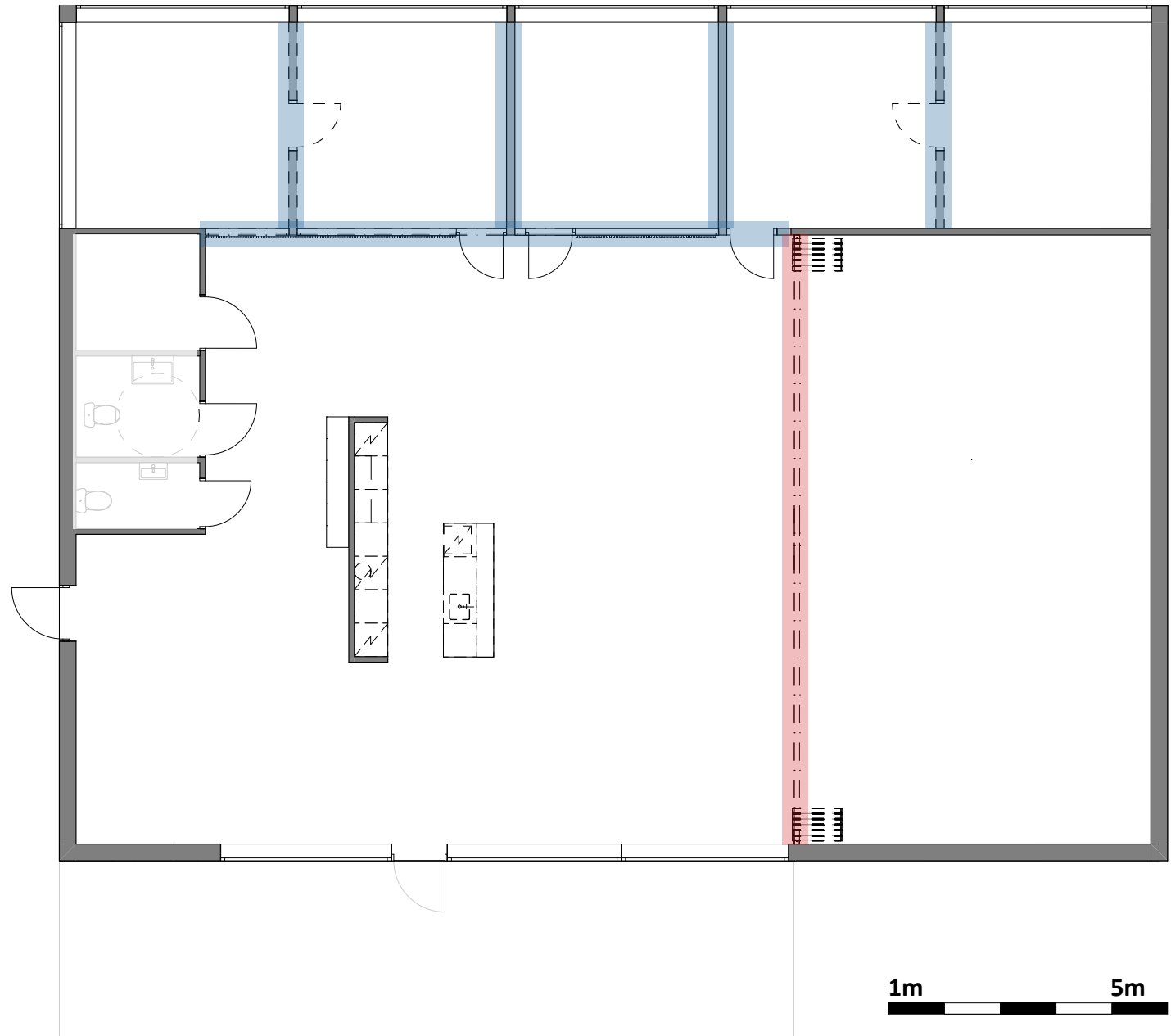
FIGURE 82. FLEXIBLE WALLS PLAN

Flooring

Interface textile tiles absorb indoor air dirt and dust. They reduce the amount of dust in indoor air by up to 60% (Laattapiste 2018). The vinyl used (floor 1) tolerates heavy wear and the acoustic base layer softens the sounds of foot steps (Laattapiste). An Interface Carbon Neutral Floors certificate is available for this flooring design (Käyhkö 2021). Inspired by Interface's wayfinding solutions *(see figure 7),* the patterns of the floor work as a spatial guide. In the event of a pandemic people can follow the signage on the floor *(figures 83 and 85)* for preliminary circulation in the space *(see figure 84 for additional graphics)*. However, when the guidance is not necessary, the patterns are abstract enough to blend into the interior and suit any situation.The design takes into consideration the potential removal of the modular walls. Moreover, as most of the pieces of furniture in the space are movable, the shapes on the floor help to identify their original positions.

FLOOR 1 Interface Textured Stones, vinyl tile, Light Concrete

FLOOR 2 Interface Employ Loop, textile tile, Eden

FLOOR 3 Interface Works Flow, textile tile, Cobalt

FLOOR 4 Interface Works Flow, textile tile, Violet
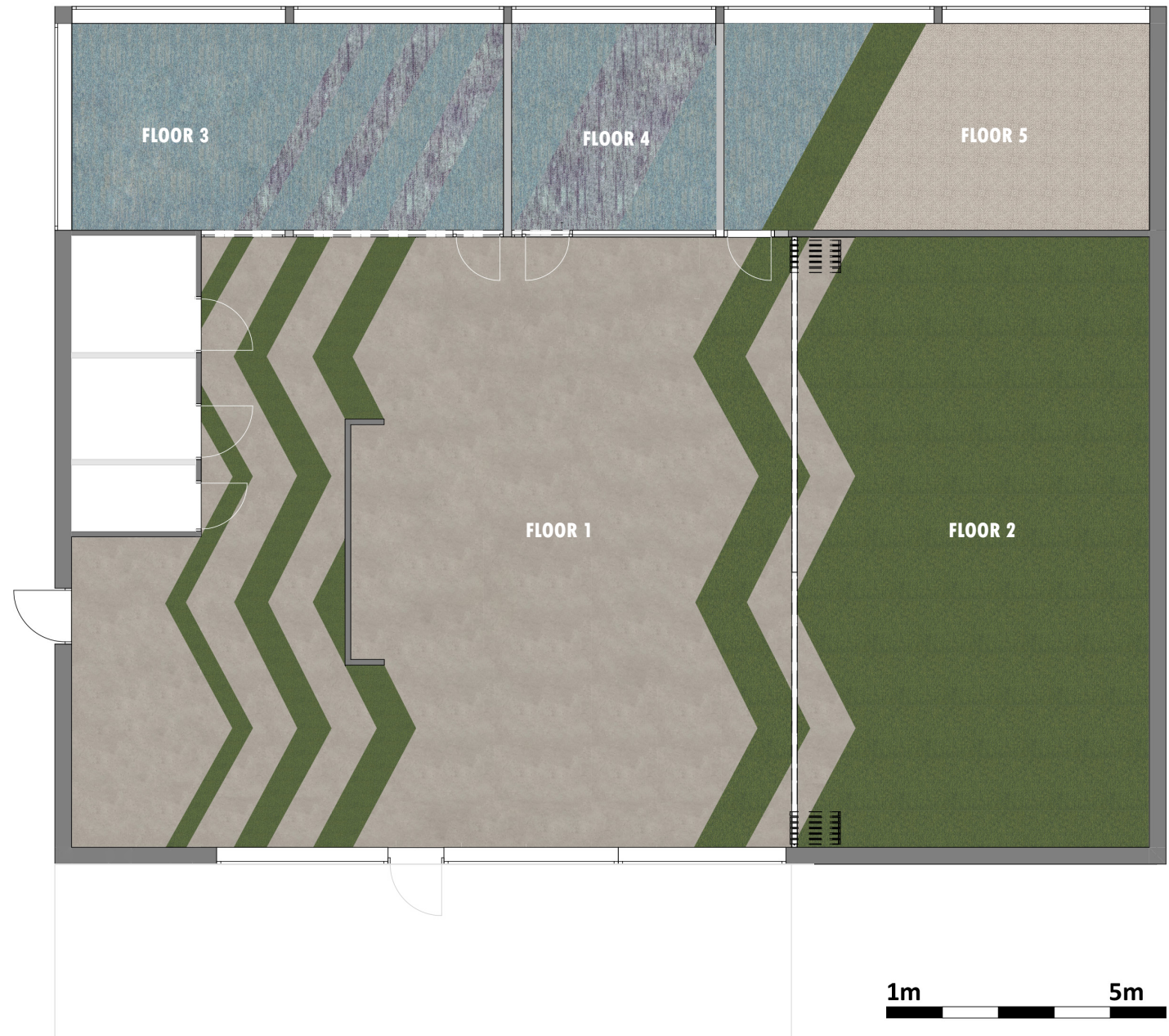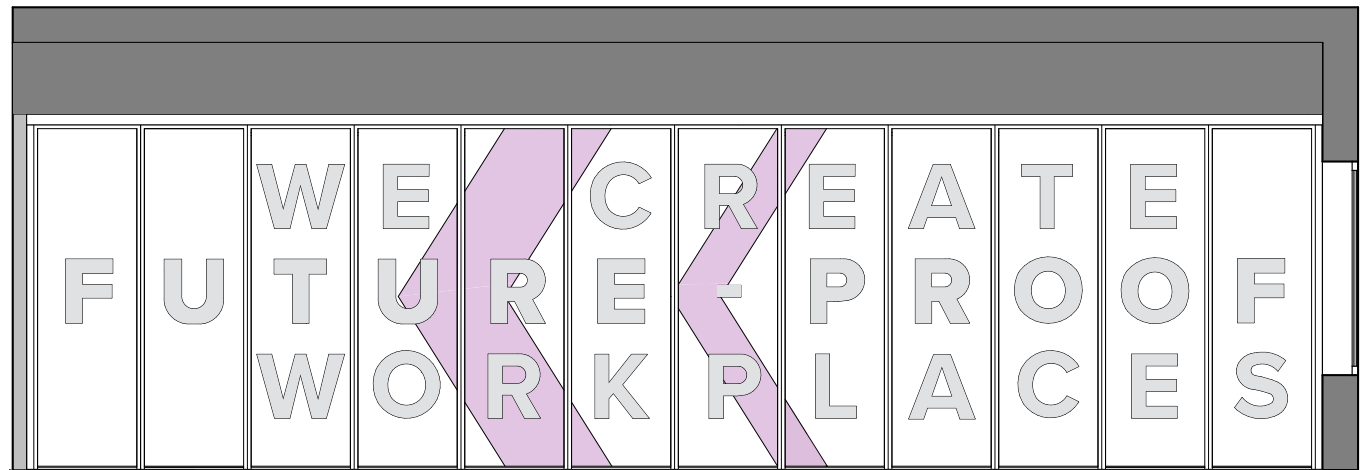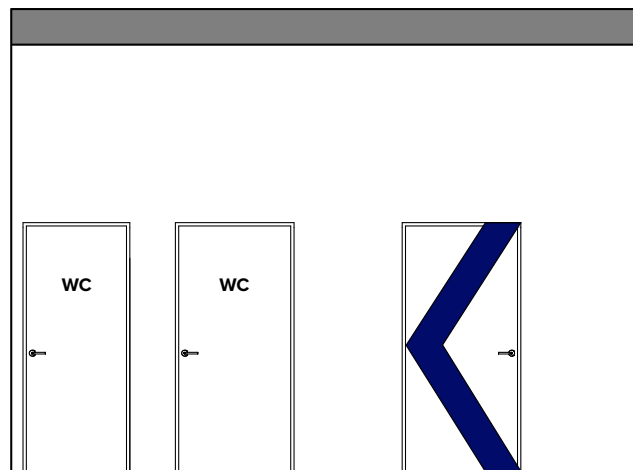
FLOOR 5 Interface Composure textile tile, Contemplate

FLOOR 3

FLOOR 4

FLOOR 5

FLOOR 1

FLOOR 2

1m   5m

FIGURE 83. FLOOR PLAN

Graphics

In addition to the floor patterns, the glass wall and the corridor close to the bathrooms also guide people in the space in an event of a pandemic.
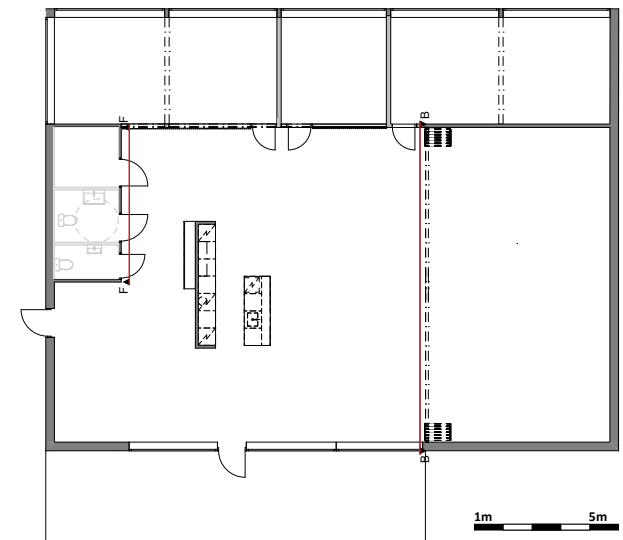
WE CREATE FUTURE-PROOF WORKPLACES

B-B

WC   WC

F-F

1m   5m

FIGURE 84. GRAPHICS

In case of a new pandemic

Figure 85 presents a variety of ways to prevent the spread of a pandemic. The "heart of the community" does not necessarily require additional signage, but more signage and guidance can be put up, for example, on the screens the employees see immediately once they enter the office.

Additional walls can be installed in the places reserved for them. Moreover, repositioning of the furniture as dividers controls the circulation in the space. The dining table chairs are intentionally in two colors, as either white or black chairs can be used in a pandemic situation. Unused pieces of furniture can be placed in the storage room.
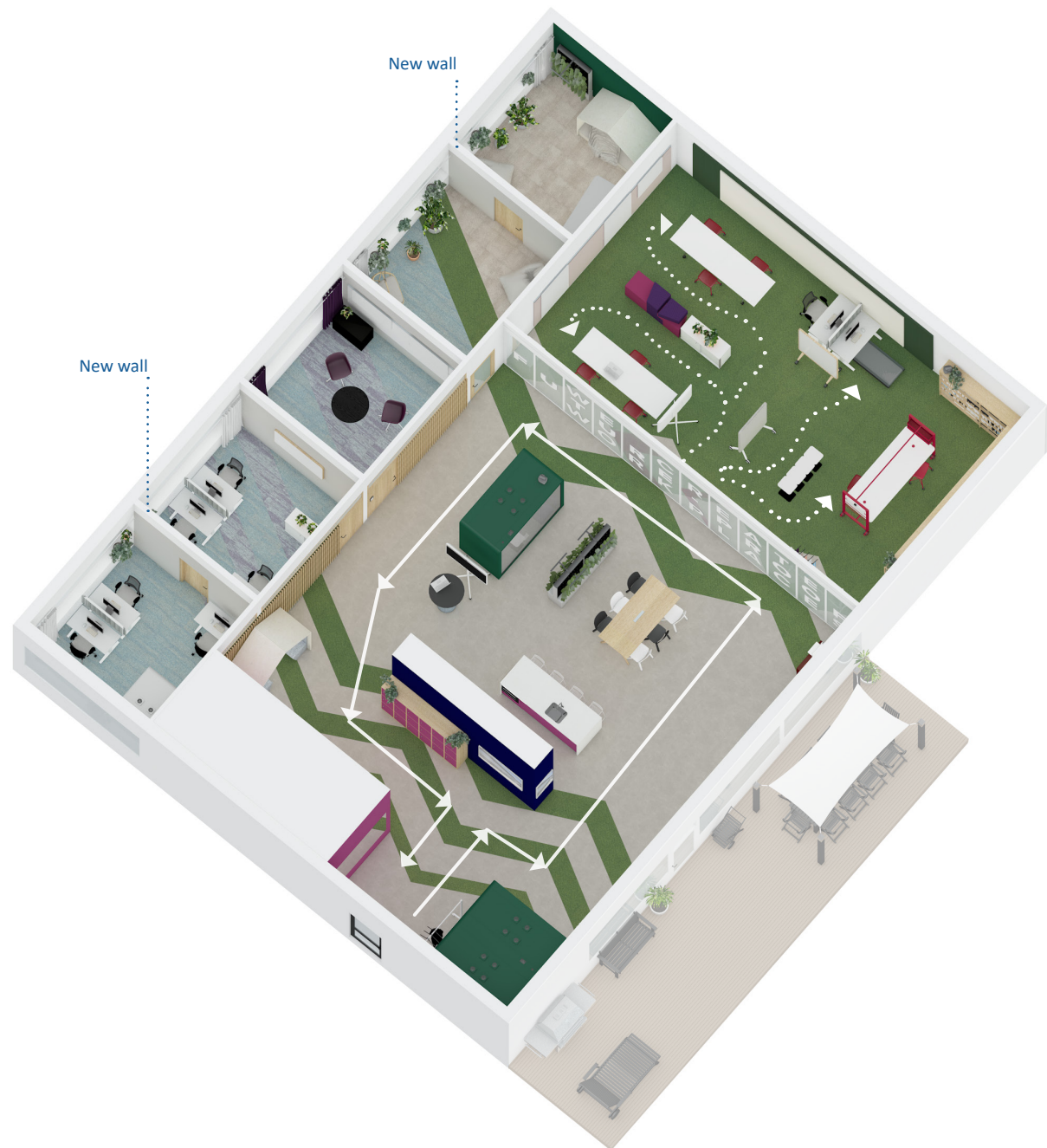
New wall

New wall

FIGURE 85. PANDEMIC

In case of increased workforce

Figure 86 presents the variety of ways to provide working conditions for more employees if needed. For example, by removing one of the modular walls, there is space for more workstations in the focus area. Additional workstations in the office area would be the only new investment as other pieces of furniture can be used in multiple ways.

Wall removed

FIGURE 86. INCREASED WORKFORCE

In case of workshops or other events

Figure 87 presents an example of a workshop situation.

🟡   MOVABLE CAMERA

🔵   MOVABLE CAMERA AND SCREEN

When the space needs a *reset* to the basic furniture plan, the green shapes on the floor help to identify the original positions of the key furniture.

Naavas back here

Pod here

Design table here*

Dining table here

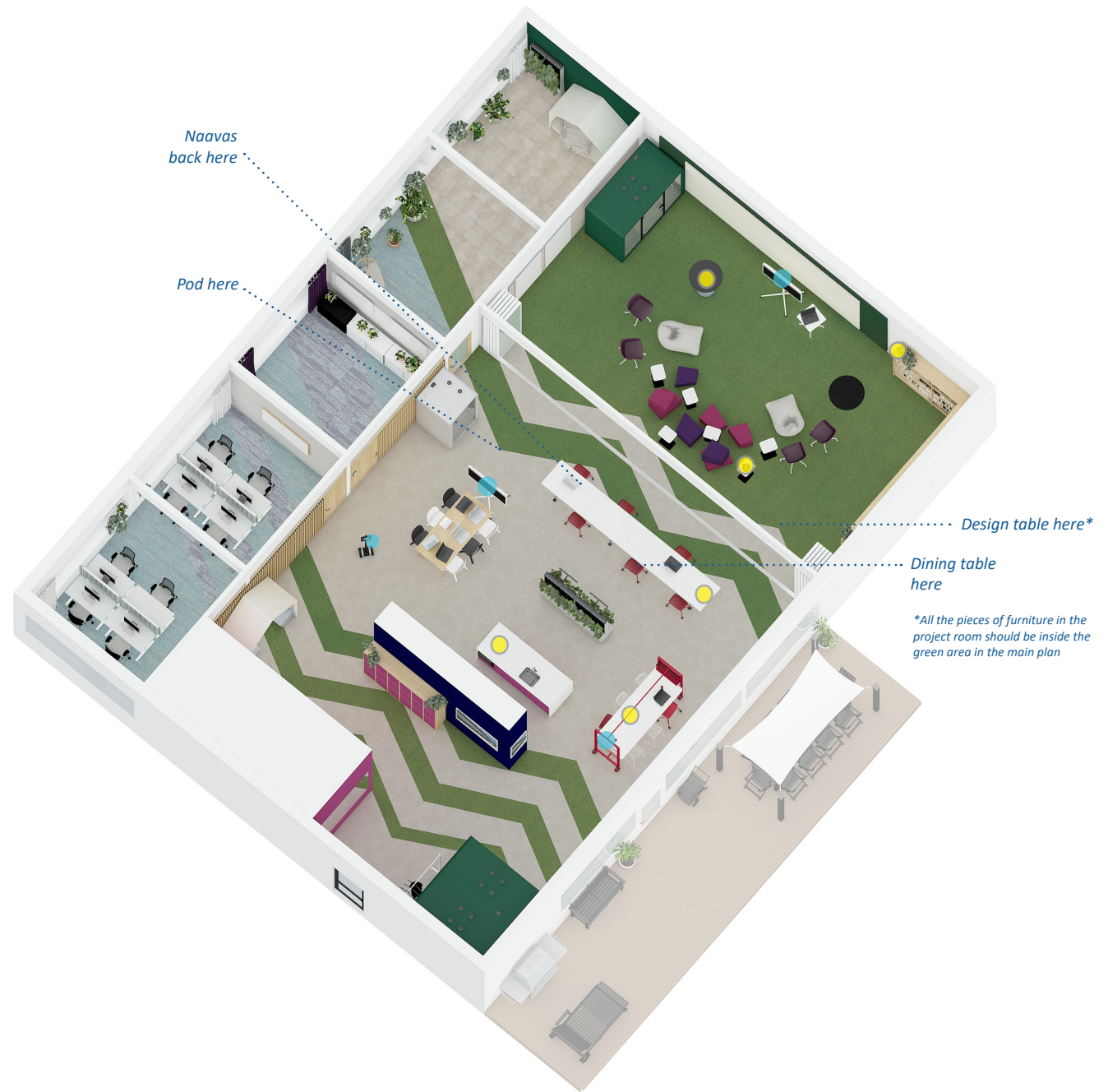**All the pieces of furniture in the project room should be inside the green area in the main plan*

FIGURE 87. EVENTS

In case of new purposes of the office

Figure 88 presents how the office can easily be turned into a whole new space without breaking down walls - whether it is an open-plan concept or some other new future purpose.
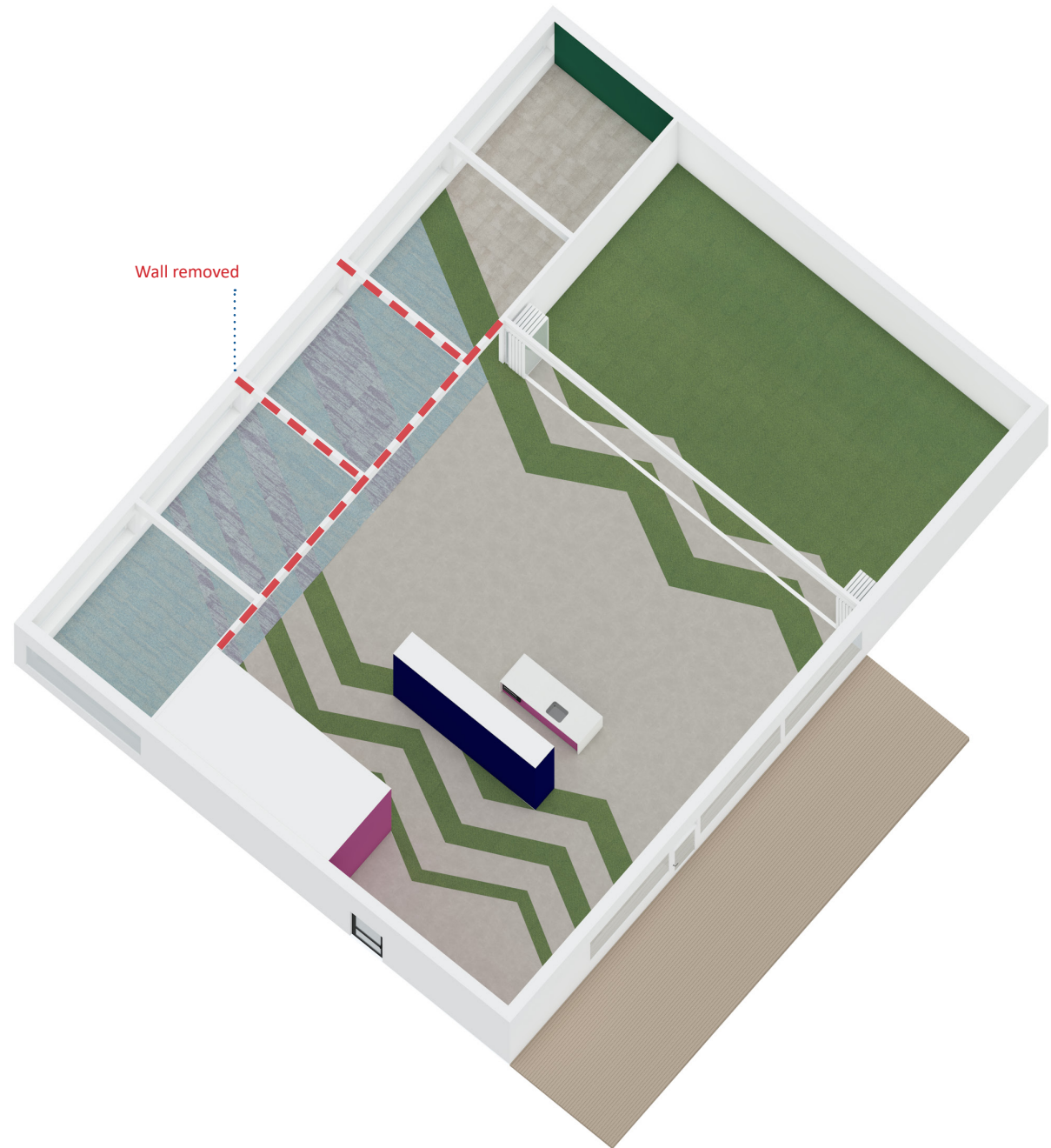
Wall removed

FIGURE 88. NEW PURPOSES

5 SUMMARY & EVALUATION

5.1 SUMMARY

This thesis examines how Covid-19 has changed the design of future workplaces and how to create a workplace design that serves future needs. The final product is a future workplace concept that focuses on the office design of Agile Work. The concept demonstrates how the future office is used in the future.

In the future, offices will be smaller but become parts of larger networks where employees can choose between working in the office, at home or in a third-party location. The key word of the future office is hybrid. The factors that enable a flexible working in a hybrid model and make the office future-proof are part of the interior in a functional but natural way.

5.2 EVALUATION

Research

As the subject of this thesis is related to Covid-19 and post-pandemic offices, working on it was both interesting and challenging. Interviews with different professionals provided essential material for this thesis and I am very grateful for that. Overall, I think I succeeded in finding the key points of how the pandemic has changed future workplace design.

There was a lot of material on Covid-19, but the plan was to keep this part as brief as possible. The target was to focus on the affects of the pandemic on the future office, not too much on the current state of the world. It was sometimes hard to leave some things out but, in the end, I think the amount of scoping turned out to be a good choice since it ensures better clarity, makes this piece of work more coherent and kept the size of the work appropriate. Moreover, many publications that came out before and during the writing process were quite similar or filled with questions rather than answers. This is understandable considering the times of writing the thesis.

It was surprising how hard it was to find clear information of the evolution of workplaces when it came to the years after the 2000s. There was a puzzle of different terms in a short period of time, but not always clear indications of when these concepts appeared. Luckily, interviews with Nenonen and Danivska helped me to complete the gaps in my research. Moreover, many sources used digitalization and virtualization as synonyms. Despite this, there was a determination to specify their meanings for the sake of clarity, and hopefully this was successful.

Design process: Workshop

From the beginning of doing this thesis I wanted to use the opportunity of working at Agile Work to try out new tools and methods. I started planning the workshop in December and interviews with Mäkitalo and Rainio

provided valuable details about the tools, facilitating and methods. I was very privileged to have 8 Agile Workers who had the time to participate in the workshop and I hope that the process gave them inspiration and new ideas for the future. In my opinion, the workshop went well considering my lack of previous experience with facilitating such events. The main problem was time management.

When the workshop was about to begin in January, new plans came along. Originally, the commission was to focus on future workplaces only in general and not specify the final product as the future concept of Agile Work. If the changes of the commission would have been made earlier, some of the tasks of the event and questions in the end could have been planned differently and with more thought. In addition, although all parts of the workshop were interesting and important discussions about the future of Agile Work, they were left out due to them not being relevant to this paper. However, while this workshop aimed to provide information for the design process, the event also became the first prototype of this kind of workshop for Agile Work that has been utilized and developed since.

Design process: Planning the Office

The design process was challenging schedule-wise. However, I took a conscious risk when I decided to combine my internship and doing my thesis at the same time. Overall, the design process proceeded efficiently

despite the rapid pace. It was beneficial to use Howspace as a channel for comments during the entire process.

Although the number of people using the space and the size of the office was fictitious, I wanted to be realistic. However, I think that creating spaces for about 20 employees was a good start to test out the usage of the hybrid model.

Final concept

Overall I think that the final concept responds to the assignment. In addition, I was determined to create an office design that would be unique but realistic to execute and appropriate budgetwise. I think I fullfilled these personal targets.

In further development of the office, I would continue with the hybrid tools and create even more functional facilities for the designers. Another thing I would consider as the client is the usage of the modular walls— there needs to be a contingency plan where they can be stored if they are not needed.

5.3 COMMENTS FROM AGILE WORK

"Sini Kuusisto's work during her apprenticeship and job towards the final thesis provided a valuable opportunity to reflect the past, present and future of Agile Work and our concept of the workplace.

While writing her thesis, we have lived through times of changes of pandemic proportions, which has made us rethink and redesign the ways we support our customers in their workplace transformation projects. Sini has worked relentlessly to help in practical workplace design projects, developed as a designer and proved her critical thinking and learning ability in a hectic professional environment.

I recommend her thesis to be granted a distinction and pursue her development after her bachelor's degree."

Antti Pitkänen
Thesis supervisor
Co-Founder | Chairman | Chief Experience Officer

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FIGURE 3. Hiltunen, E. 2012. Villin kortin ja asteittaisen muutoksen erot. Matkaopas tulevaisuuteen. Helsinki: Talentum. 146.

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FIGURE 5. KONE 2020. Workstations & office area – marking. Retrieved on 16 October 2020. Available at https://enter2020.fi/wp-content/uploads/2020/05/KONE-Facility-Safety-Plan-1.pdf

FIGURE 6. Interface b. Arrow inlay tiles LVT. Retrieved on 23 March 2021. Available at https://interfaceinc.scene7.com/s7viewers/html5/eCatalogViewer.html?asset=InterfaceInc/ec_eu-anewwayforward-en&config=InterfaceInc/Universal_HTML5_eCatalog_Adv_2 KONE 2020b. Elevators.

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FIGURE 8.
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Thank you

**Antti Pitkänen
& Agile Work**

Interviewees

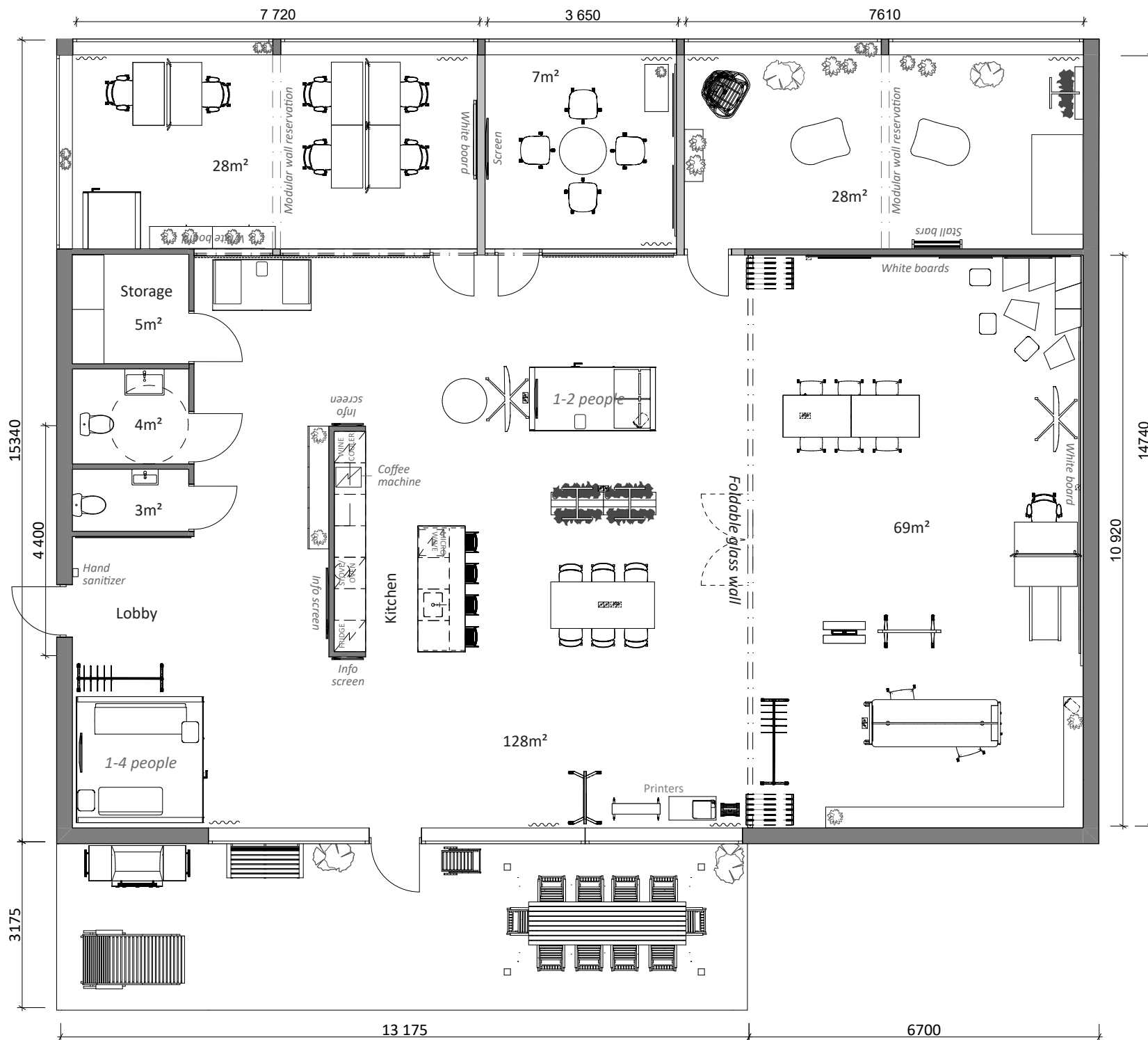**Teachers Sari Anttonen
& Harri Kalliomäki**

LIST OF APPENDICES

	DRAWING NUMBER	CONTENT	PAPER SIZE	SCALE
APPENDIX 1	5111-100	Loose furniture	A4	1:100
APPENDIX 2	1318-100	Special walls	A4	1:200
APPENDIX 3	1322-100	Flooring	A4	1:100
APPENDIX 4	1335-100	Graphics	A4	1:60
APPENDIX 5	5111-100	Lighting	A4	1:100

Floor plan

Dimensions (top): 7 720 | 3 650 | 7610

- 28m²
- *Modular wall reservation*
- *White board*
- *Screen*
- 7m²
- *Modular wall reservation*
- 28m²
- *Stall bars*
- *White boards*
- *White board*

- Storage 5m²
- *White board*
- 4m²
- 3m²
- *Hand sanitizer*
- Lobby
- 1-4 people
- *Info screen*
- *Info screen*
- *Coffee machine*
- WINE COOLER
- STOVE/OVEN
- FRIDGE
- MICROWAVE
- Kitchen
- *Info screen*
- 1-2 people
- *Foldable glass wall*
- 69m²
- 128m²
- Printers

Dimensions (left): 15340 | 4 400 | 3175

Dimensions (right): 14740 | 10 920

Dimensions (bottom): 13 175 | 6700

DIMENSIONS MUST BE CHECKED ON THE SITE!

	Drawing number
	5111-100
AGILE WORK OY	**Scale**
Helsinki	1:100
	Date
	Helsinki 19.4.2021
Designer	**Content**
Sini Kuusisto	Loose furniture

APPENDIX 2

Modular walls

150 · 1 400 · 150 · 3 700 · 150 · 150 · 900 · 1 400

A — A · C — C · B · B

1500 · 3900 · 3 800 · 300 · 900 · 1 800 · 10 920 · 640

Section A-A

Structural wall · Structural wall · Structural wall · Structural wall
Suspended ceiling

3 600 · 25 · 600 · 2 800 · 1 800 · 3 000

Reservation for a wall with a door, Modular · Modular wall · Modular wall · *Reservation for a wall with a door, Modular*

3820 · 3750 · 3 650 · 3 750 · 3710

Section C-C

Structural wall

3 600 · 3 000 · 2 800

1 500 · 3 000 · 900 · 3 800 · 1300 · 900
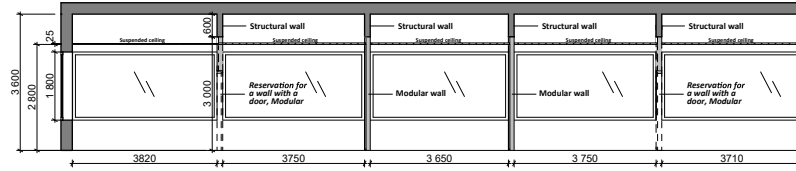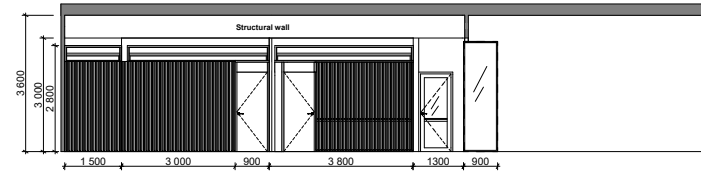
Modular, Luomoa

Modular walls in section A-A
Upholstery: Textile F2 Pellava, beige
(Wall reservations equipped with doors)

Modular walls in section C-C
Slatted walls: Oak / textile F11, Havu, green
Modular wall (not slatted): Oak, glass door

All production drawings must be proven by the designer before manufacturing!

Foldable glasswall

Section B-B

3 600 · 3 000
640 · Floor track · 10 920

Section B-B

3 600 · 3 000
640 · 900 · Floor track · 10 920 · 60
10 920
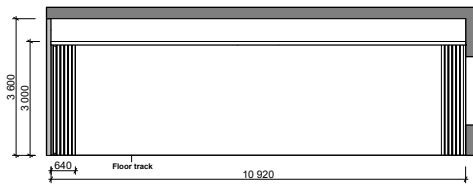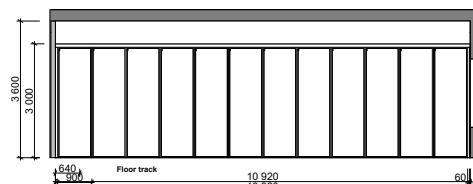
Winab, FP-tuotteet or similar

The aluminum parts are painted white.

DIMENSIONS MUST BE CHECKED ON THE SITE!

AGILE WORK OY	Drawing number
Helsinki	1318-100
	Scale
	1:200
	Date
	Helsinki 19.4.2021
Designer	Content
Sini Kuusisto	Special walls

F3

F4 F3 F4 F3 F4

F3

F4

F3

F2

F5

F3

F3

F2

F2

F2

F2

F1

F2

F2

F2

F2
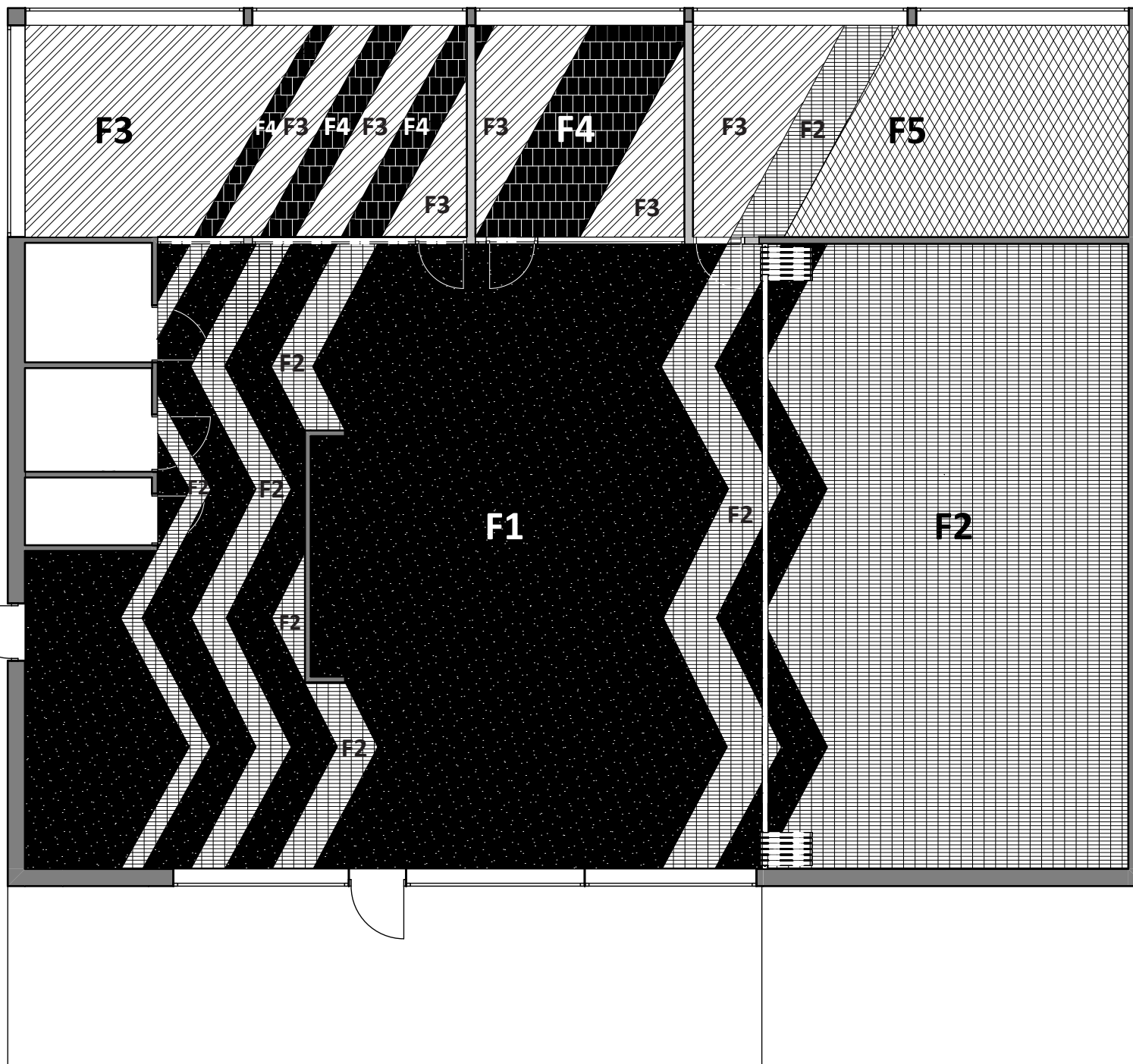
F1 Interface Textured Stones vinyl tile
A00308 Light Concrete 50X50, beige

F2 Interface Employ Loop textile tile
4197018 Eden 50X50, green

F3 Interface Works Flow textile tile
4276012 Cobalt 50X50, light blue

F4 Interface Works Flow textile tile
4276011 Violet 50X50, violet/blue

F5 Interface Composure textile tile
4169014 Contemplate 50X50, light brown

DIMENSIONS MUST BE CHECKED ON THE SITE!

	Drawing number
AGILE WORK OY	1322-100
	Scale
Helsinki	1:100
	Date
	Helsinki 19.4.2021
Designer	Content
Sini Kuusisto	Flooring

APPENDIX 4
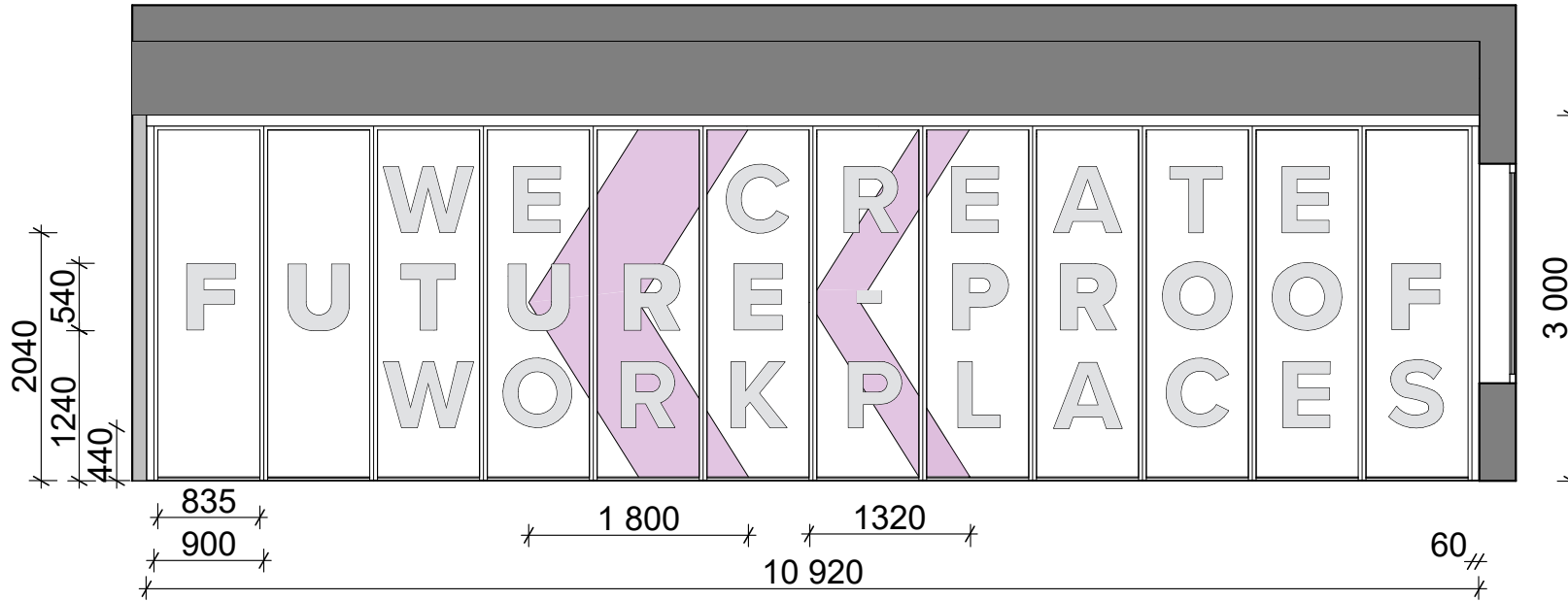
Glass wall B-B

Top and bottom row:
Proxima Nova Bold
Middle row:
Proxima Nova Extrabold
Text height: 540mm
Text color: White

Arrow color: RAL 4008, violet
See through, visibility: 15%
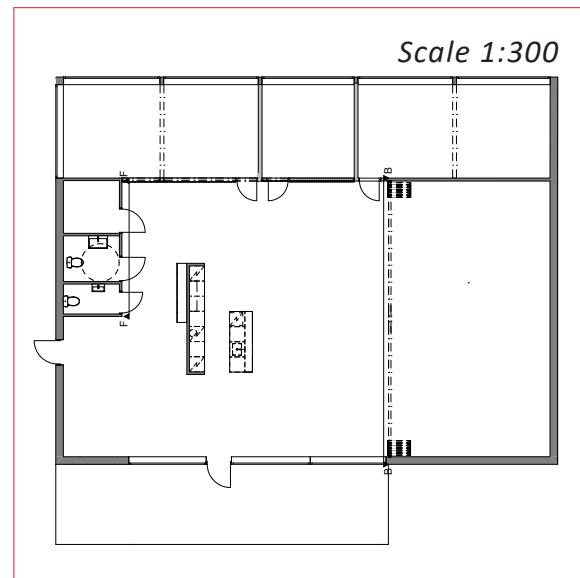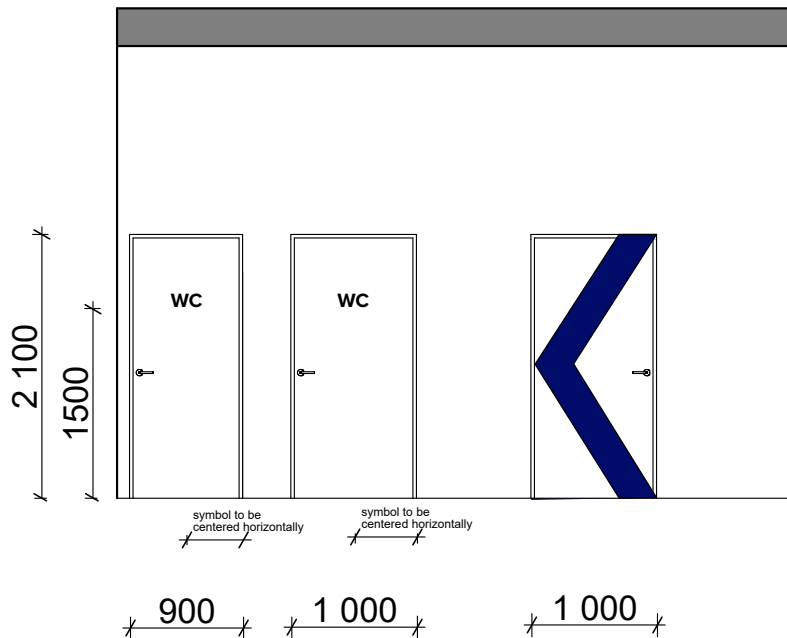
Lobby / corridor F-F

Bathroom signs, front:
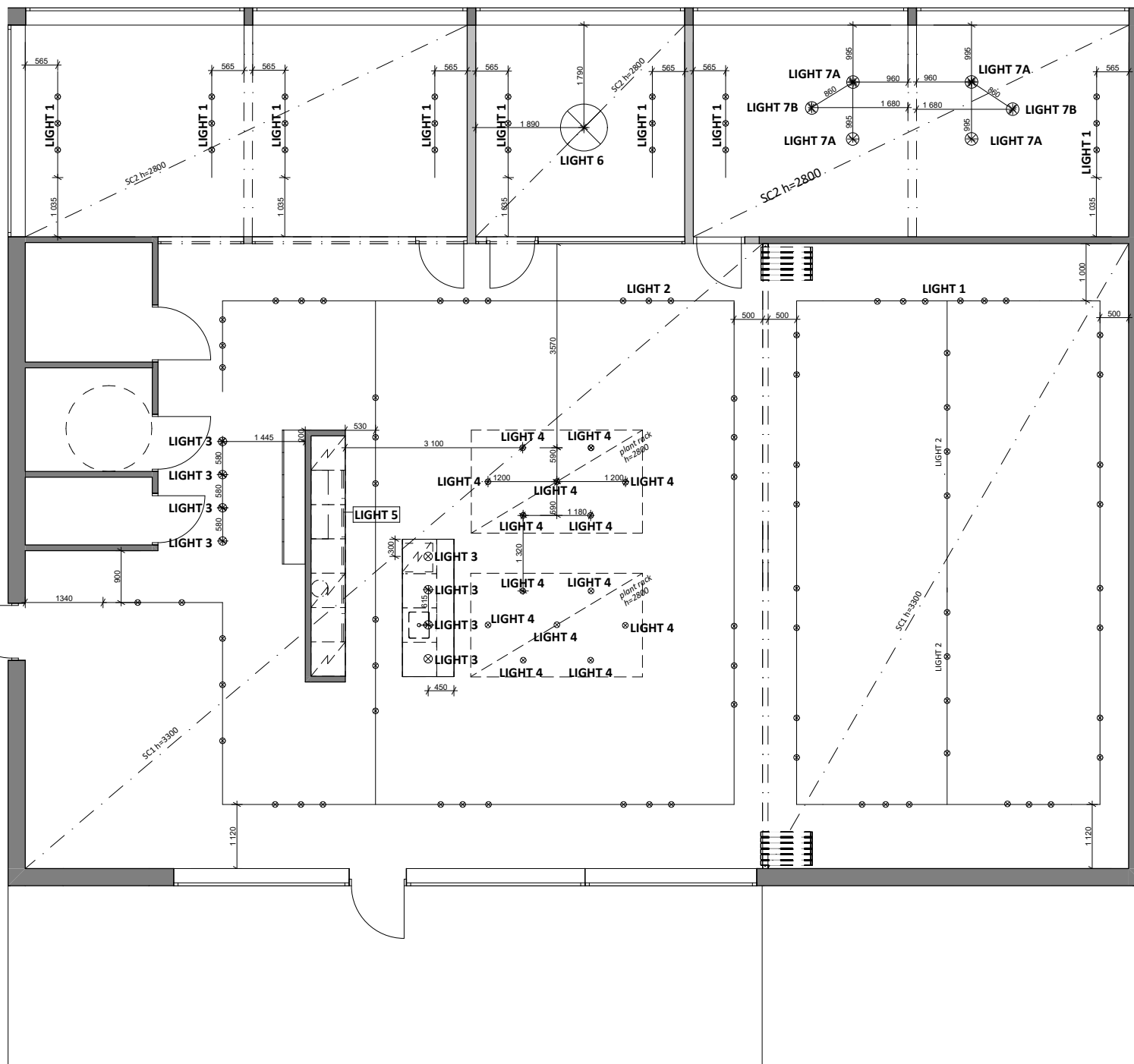**Proxima Nova Bold**
Text height: 100mm
Text color: White

Arrow color: RAL 630-6, dark blue

DIMENSIONS MUST BE CHECKED ON THE SITE!

AGILE WORK OY	Drawing number
Helsinki	1335-100
	Scale
	1:60
	Date
	Helsinki 19.4.2021
Designer	Content
Sini Kuusisto	Graphics

Scale 1:300

LIGHT 1 Cylindrical spotlight
Quantity: 60 lights
Installed to the ceiling
Product: Connor for 1-circuit tracks
Manufacturer: Rendl Light Studio
Color: White
Details: LED, GU10

LIGHT 2 Cylindrical spotlight
Quantity: 38 lights
Installed to the ceiling
Product: Connor for 1-circuit tracks
Manufactor: Rendl Light Studio
Color: Black
Details: LED, GU10

LIGHT 3 Pendant light
Quantity: 8
Installation heights (from the floor)
 - kitchen: 1800
 - lobby: 2600
Product: Globe
Manufacturer: Paulmann GmbH
Details: LED, IP44, E27

LIGHT 4 Pendant light
Quantity: 14 lights
Installation height: 2765
Product: MIB 6
Manufacturer: Nordlux
Color: White
Details: LED, GU10

LIGHT 5 LED strip
Quantity: 3 meters
Installation: On the lower surface of the upper
 cover surface. The strip must be hidden
 (milled groove, etc. solution)
Details: Plastic opal diffuser

LIGHT 6 Pendant light
Quantity: 1
Installation height: 1500
Diameter: 820
Product: Under The Bell
Manufacturer: Muuto
Color: Grey
Details: LED, E27

LIGHT 7 Pendant light
Quantity: 6
Installation height: 7A: 2100, 7B: 2300
Diameter: 230
Product: Fluid pendant light, small
Manufacturer: Muuto
Details: LED, E27

NOTE: All lights must be CRI>90, 4000K and dimmable.
Detailed electrical plans from the electrical designer!

SC 1 Suspended ceiling
Ecophon Focus Dg, 1200x1200x25
Installation height: 3300

SC2 Suspended ceiling
Ecophon Focus Dg, 1200x1200x25
Installation height: 2800

DIMENSIONS MUST BE CHECKED ON THE SITE!

AGILE WORK OY Helsinki	Drawing number **1318-100**
	Scale **1:100**
	Date **Helsinki 19.4.2021**
Designer Sini Kuusisto	Content Lighting