

Neurodiversity and Biophilia: the Future of the Workspace in the Post-Pandemic Era



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The [Coronavirus](#) pandemic demanded new needs and significant changes in our lives: in relationships, at work, in consumption habits, in increasing inequality. Indeed, the theme of workspaces came up in a historical moment when people saw their own freedoms limited for the first time in the postmodern era.

Most people were forced to work from home, and since the beginning of quarantine, reflection on the future of workspaces has become inevitable. Some interesting data show that the [Coronavirus](#) only boosted

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One of the biggest global surveys on post-pandemic work, the [Global Work-from-Home Experience Survey](#), shows that 77% of nearly 3,000 employees who answered the survey from March 30 to April 24, 2020, want to continue working from home after [COVID-19](#). Research indicates that people are more productive and happier at home. Despite the positive answers on this matter, our understanding is that the [office space](#) will continue to exist but will be deeply modified. Today, the office exists to incorporate the company's values and culture, experience the collective, boost and empower the community. The human being is by nature a social being and needs meeting spaces.

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Thinking about the human experience in the workspaces will be a fundamental change in the next decades. The key subjects will be Artificial Intelligence, Automation, Demography, and Sustainability. Our buildings should be smart and healthy responding to the requirements of their employees for welfare.

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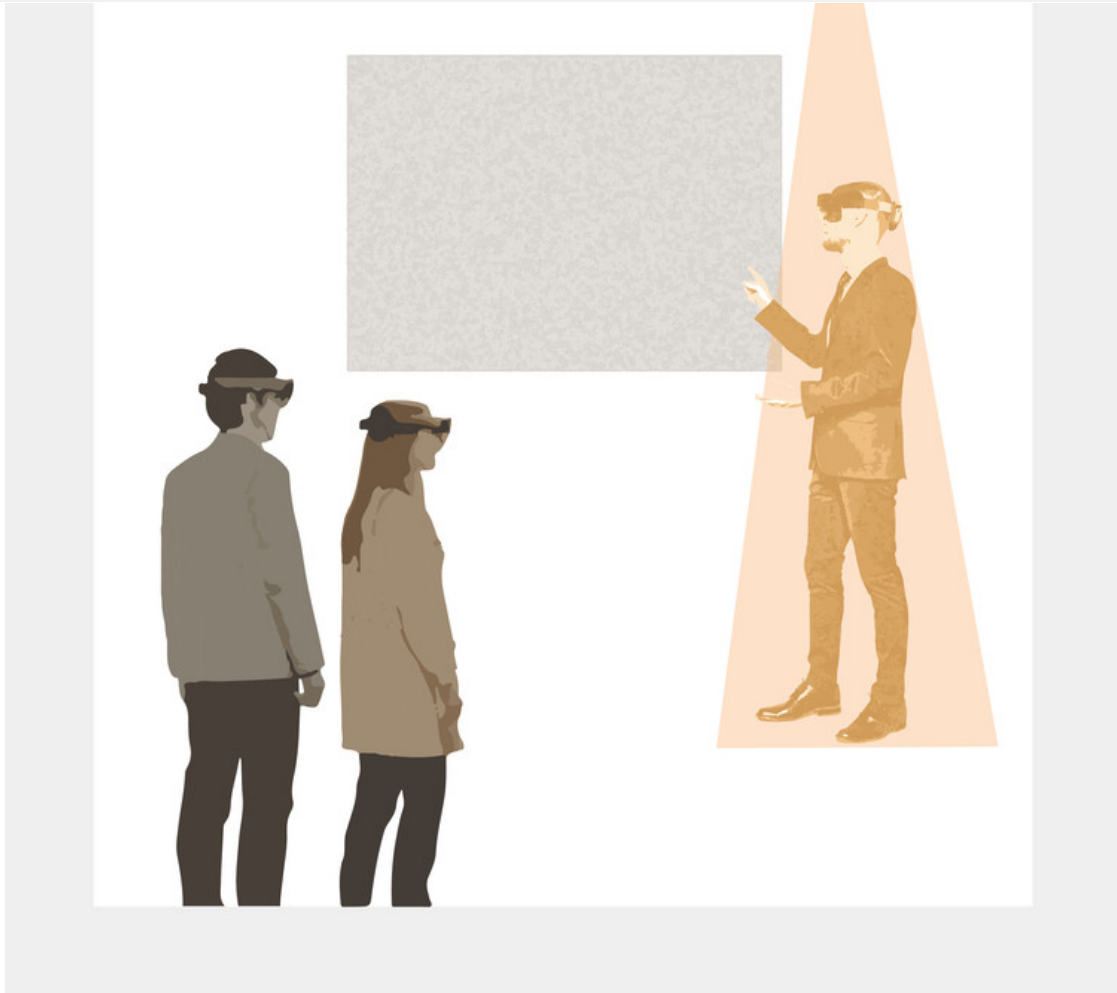
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Neurodiversity

The term refers to the natural variations in the human brain of each individual in relation to sociability, learning, attention, mood, and other cognitive functions. [According to Key Sargent](#), director of WorkPlace at the international HOK office, new generations are increasingly aware of their diagnoses and prepared to request more inclusive spaces. As reported by Sargent, recent research shows that people who have had the coronavirus are now considered long-haulers - individuals that have some lingering ramifications or side effects of the virus. Many of those happen to be neurological. In addition, symptoms of depression and anxiety increased 4 times in June 2020 compared to 2019, increasing attention on the subject. Therefore, understanding these spectrums and discussing inclusive design solutions are basic premises for designing post-pandemic work environments.

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Following the broader spectrum of the term, [demographic studies](#) present interesting data about human



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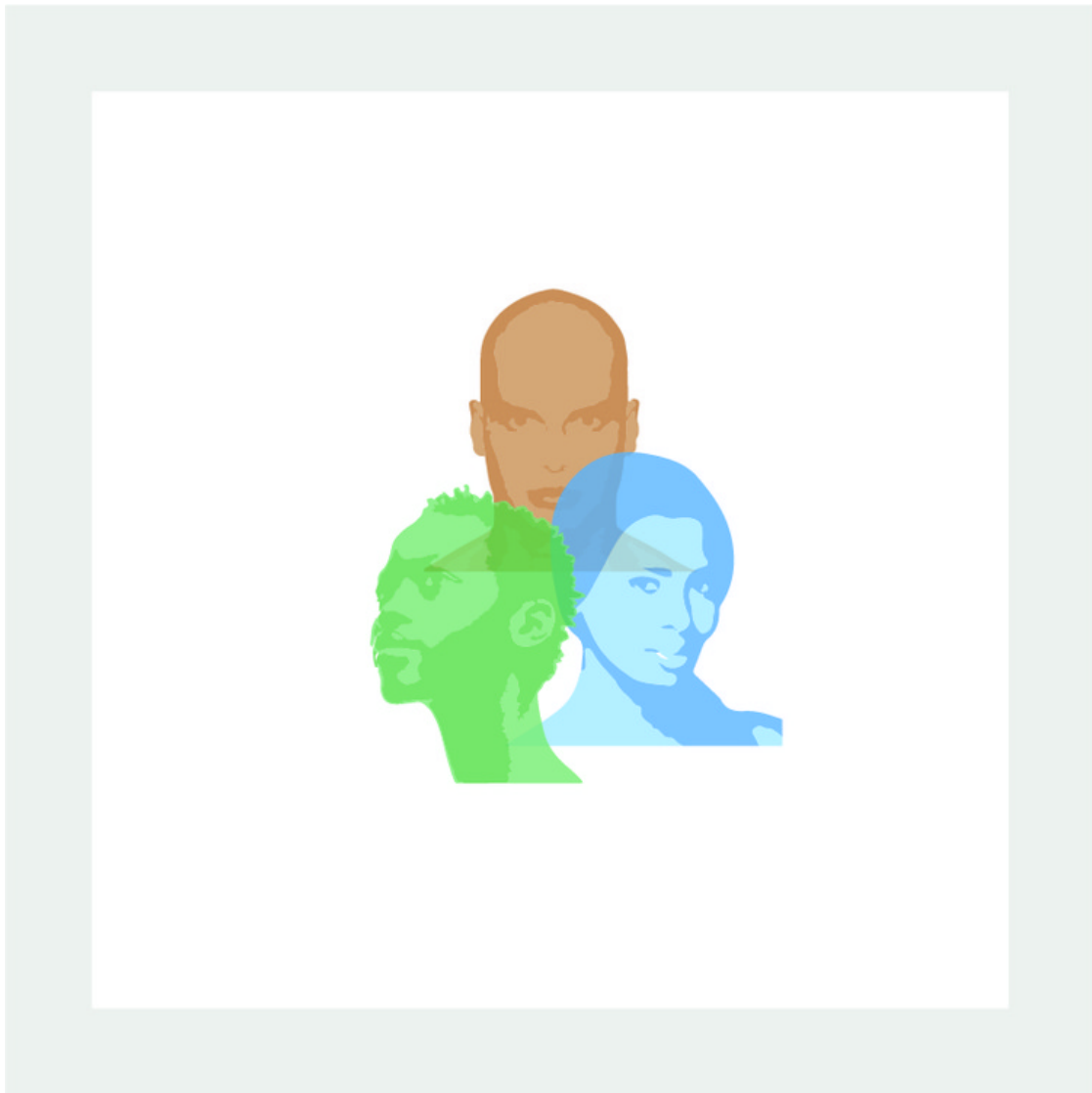


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The Agile methodology encourages collaborative, dynamic, and participative work processes and finds its physical transposition in the so-called Agile spaces. It is characterized by the organization of spaces to offer favorable environments for certain types of work: individual, group, creation, concentration, aggregation, exchange. The need to provide a context that empowers employees based on their diversity is clear. Is it possible to create a more personalized experience in workspaces?

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Seeing workspaces as a large ecosystem allows us to realize the value of each individual, optimizing their time, improving their work environment, and supporting their lifestyle. A wide perspective on the corporate environment generates benefits for everyone involved: employees, customers, and employers. The new values support business flexibility, improves employees' well-being and their sense of belonging, increasing access and retention of talents, and enhancing the company's image. More than ever, it is necessary to have a more holistic view of spaces and people so we can move forward in discussions about the resumption of workspaces after overcoming the pandemic.

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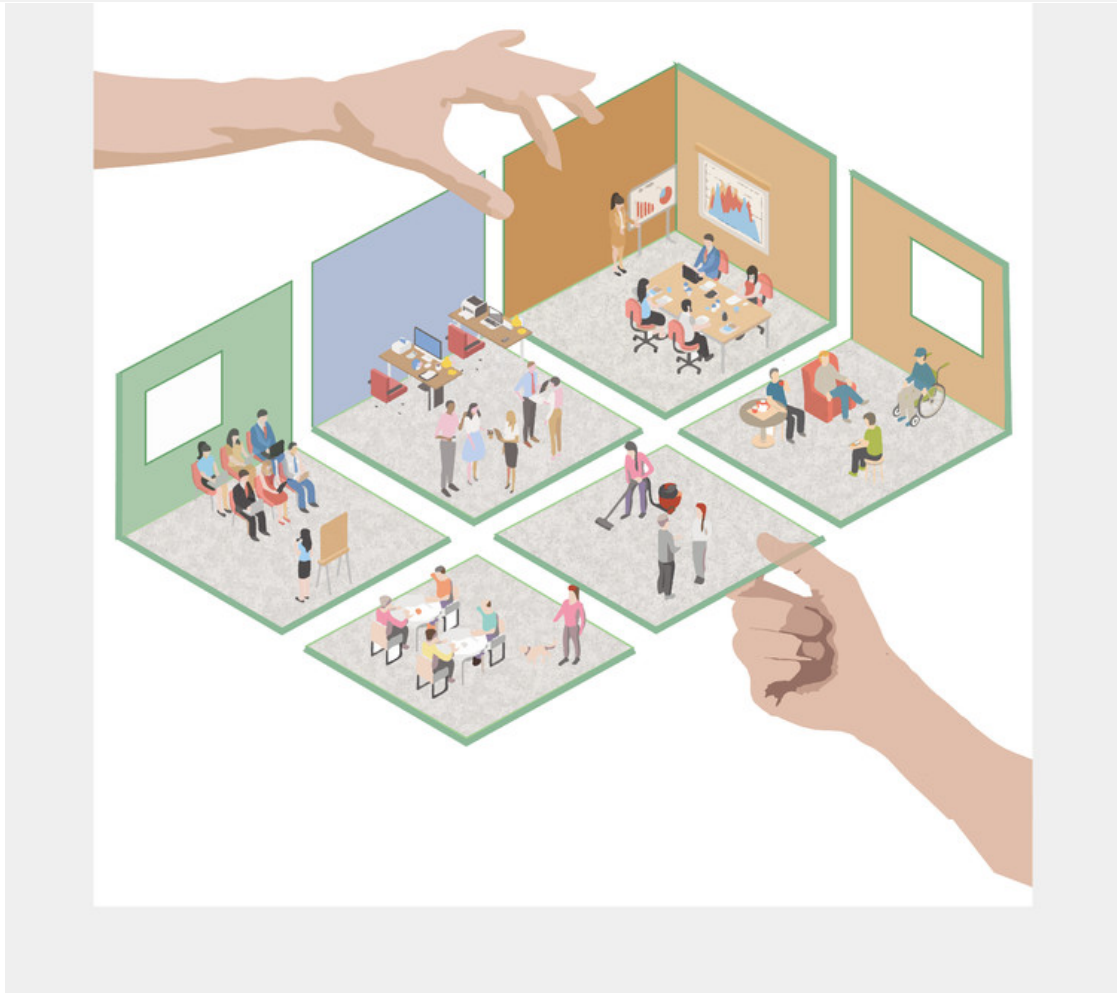
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Analyses show that people's reactions are multiple. Some want to continue working from home, recognizing the ability to concentrate without distractions, the freedom to have their own schedules, the possibility to avoid long commutes, and to watch an episode of their favorite series at any time. Others have managed to adapt working from home but miss the meeting, the exchange, and a more dynamic and collaborative process. They are struggling with a choice that is not of their own free will but made by imposition.

From this analysis of reactions we can identify three possible post-pandemic attitudes:

- the conventional choice to return to the fixed work routine;
- the obligation to continue working at a distance;
- empowerment through the possibility of choice.

For companies that decide to retake their physical spaces, it will be necessary to undergo radical changes in the way they operate and offer services. A recent survey by [GP PRO](#), a company that supplies hygienic

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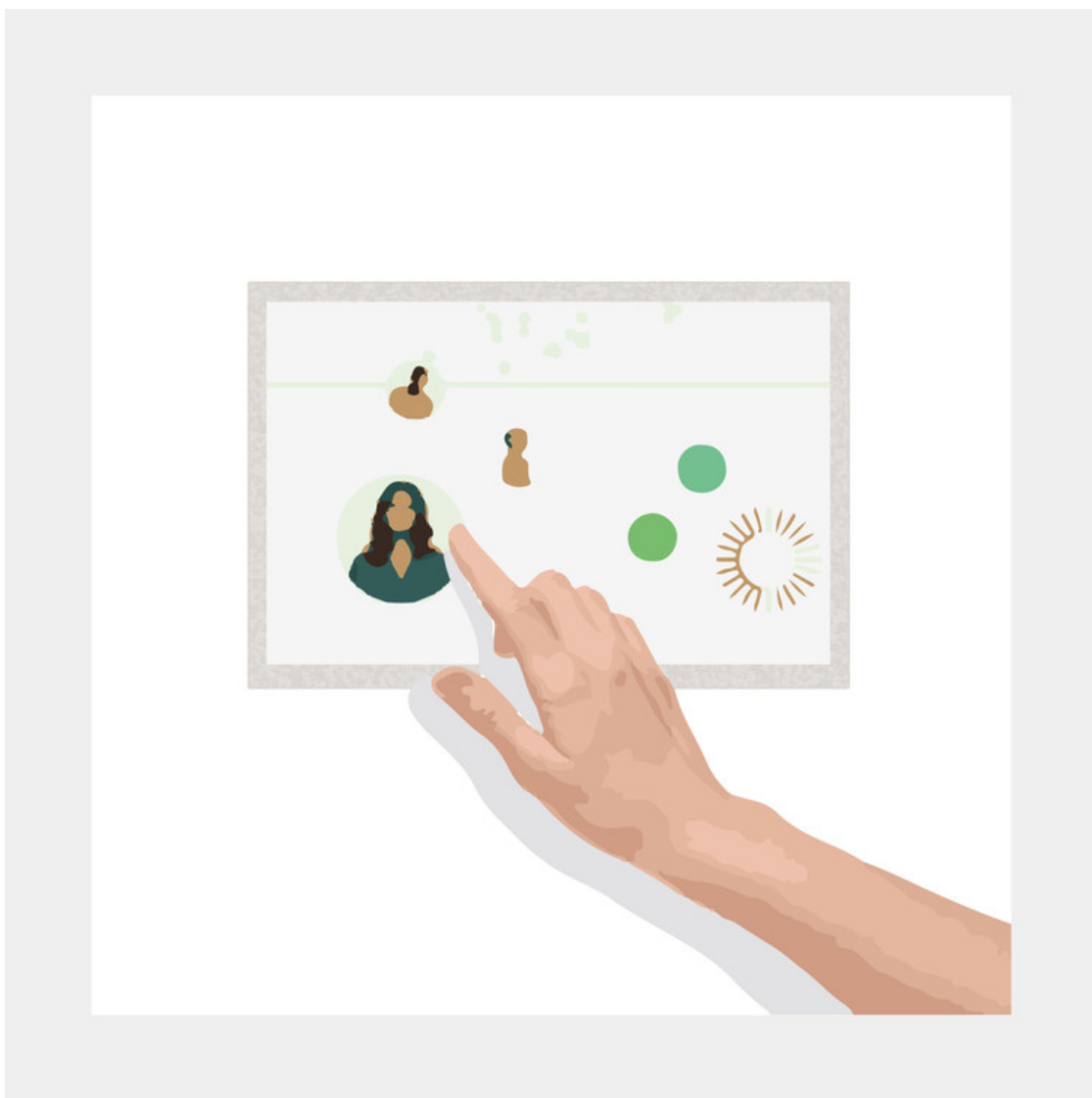
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predicts that up to 30% of people will continue to work from home and, therefore, the resumption of workspaces will have to be planned as a hybrid dynamic in which the technological tools continue to become more and more important.

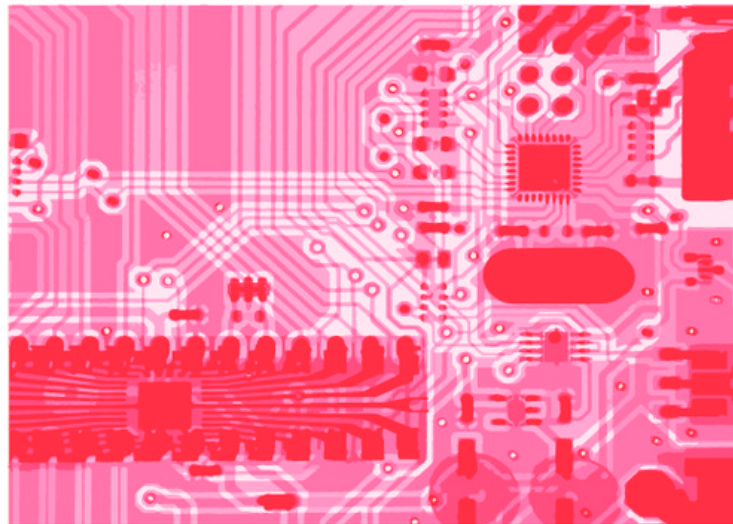
It will be necessary for companies to develop mapping systems to help knowing where people are, at what time, when they should be together and when they can be separated. The possibility of working in different contexts will flex all relations between the employee and the workspace and perhaps it will be possible to really discuss flexible and agile spaces.



Technology that brings us together

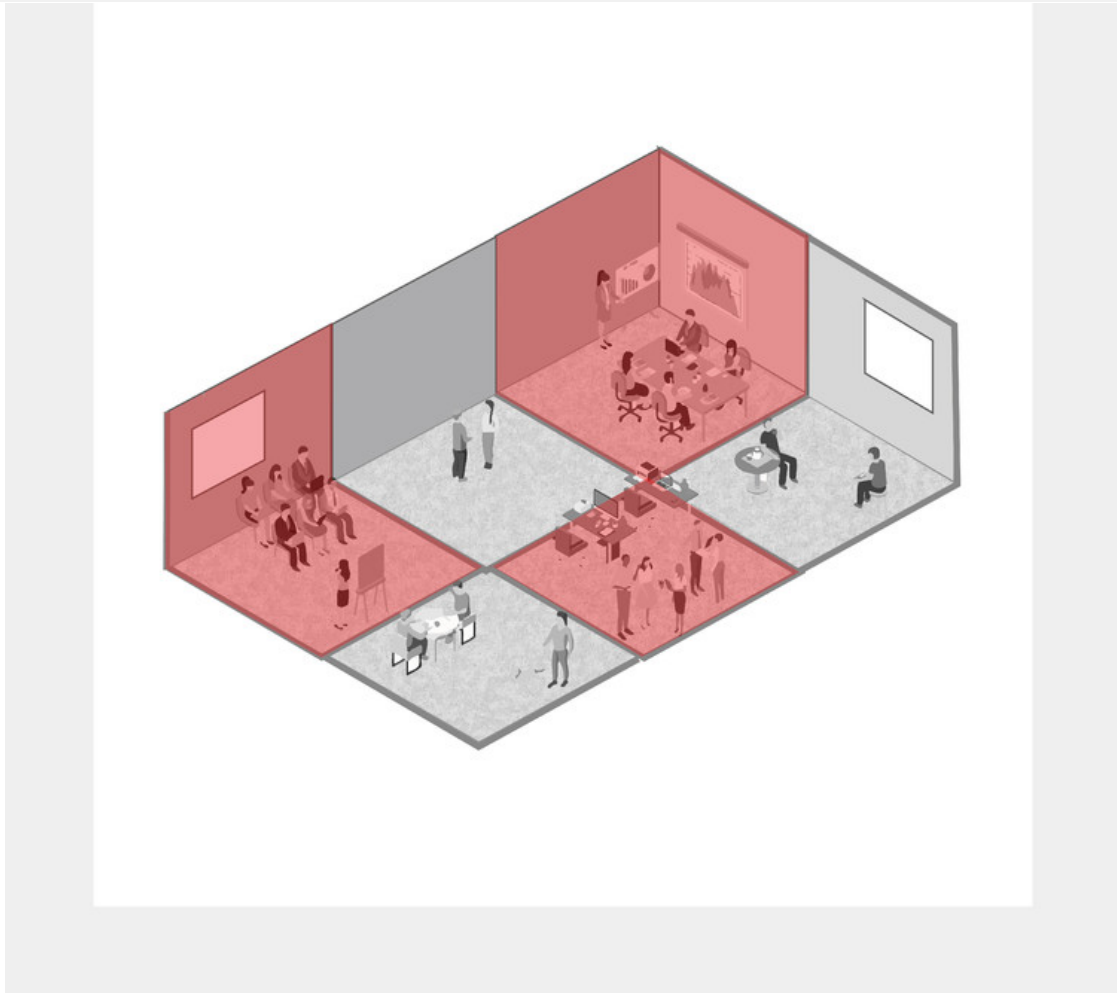
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as the voice command technologies applied in residential and domestic interfaces.



Analyses by the [Gartner Group](#) before the pandemic highlight that a quarter of employee/software interactions will be based on voice command in 2023 despite a timid start of just 3% in 2019. In the past, companies used to have sensors to map the underutilization of spaces. Today this technology can be used for the opposite purpose: do we have the right distance? Do we have any congestion areas?

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This “choreographic” work format, where people will be spread out in different work contexts it will be common to use mapping devices, digital interfaces, real-time visualizations, and even holographs as solutions incorporated into the architecture that will help people to feel more involved and closer in their interactions.

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Some physical measures can be taken quickly by companies:

- intensification of signage and visual communication, clarifying the distance rules;
- increasing the width of workbenches;
- wider corridors and doors;
- shift rotation

Besides, the use of remote controls activated by sensors may increase, reducing the number of surfaces that need to be touched and allowing, for example, employees to use elevators and pass-through doors without touching them.

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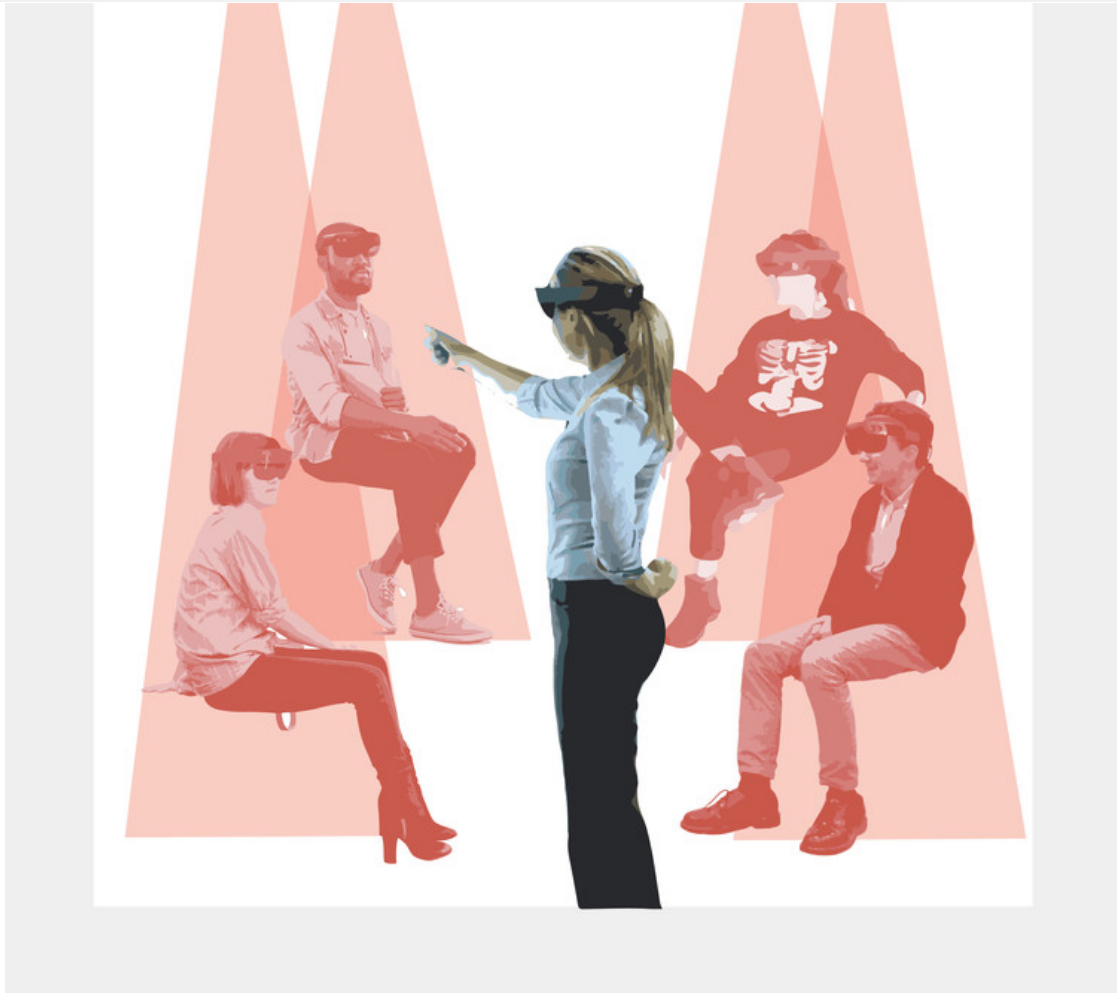
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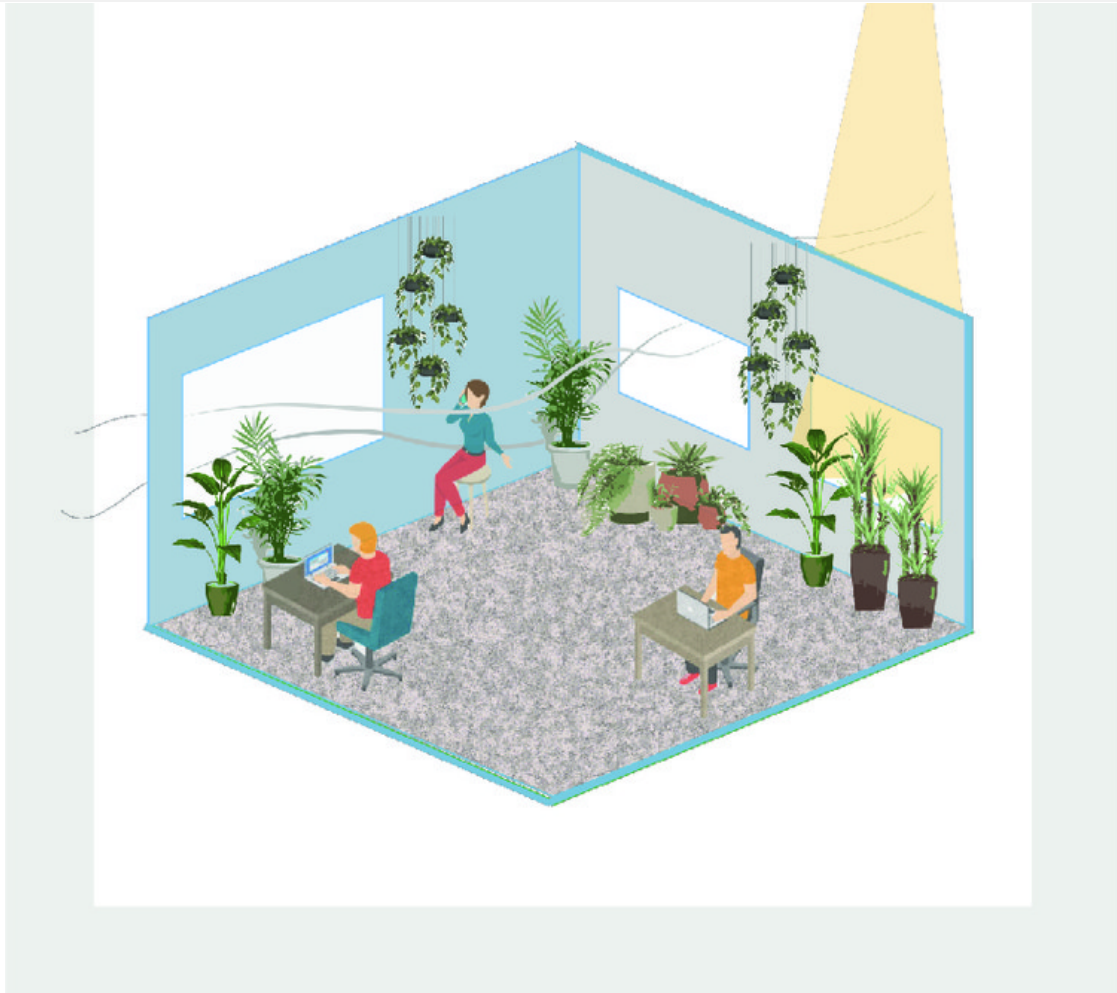
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Biophilia to avoid the “sick building syndrome”

According to *The New York Times* publication, if the September 11, 2001 attacks led to the creation of tighter control systems and the flooding of Hurricane Sandy in 2012 caused the rise of mechanical systems, the [Coronavirus](#) is likely to focus attention on the circulation of indoor air and its filtration.

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Most people spend 90% of their time indoors and the exposure to which they are exposed is very little analyzed. A study published last year in [Nature](#) shows how air pollution is linked to a notable decline in cognitive performance, in addition to contributing to respiratory and cardiovascular diseases.

While outdoor air pollution is always in the headlines, indoor air pollution is four or fifteen times greater, according to the [US Environmental Protection Agency](#). It is the central contribution of the so-called “sick building syndrome”. Data analysis from the [German Institute of Global and Area Studies](#) has shown that working in an office with a high level of air filtration can increase an employee's life expectancy. A [Harvard School Health](#) study points out that the improvement in internal air circulation increases cognitive abilities by approximately 61%.

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The renewed interest in the discussion on indoor air quality will boost strategies to solve it and should influence the choice of materials and furniture used. Upholstery, carpeting, and traditional curtains have always been famous for accumulating dust. Furniture with natural materials plays an increasingly promising role. Smooth and easily washable surfaces will be preferred over porous surfaces that can retain microbes. Antimicrobial materials used in hospitals and laboratories may find new applications in interior design, as according to *Sharklet Technologies*, the interest in new materials in which bacteria do not adhere has increased significantly.

Spaces with well-positioned windows that can be opened is a low-tech solution that guarantees the recycling of air and soften the separations between interior and exterior, construction and landscape, allowing significant environmental improvements. Incorporating Biophilic concepts in work environments based on the use of natural elements, we can develop positive emotional experiences with a direct impact on interpersonal relationships and production.

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Investing in biophilia makes a lot of sense in the post-pandemic, thinking about the symbiosis between nature and the built space and the development of projects that insert buildings and users in the biological world. Research published by the polish office [Workplace](#) points out that 58% of workspaces in the world have no vegetation.

Scientific analyzes raise clear data about the benefits in the physical and psychological health of being in spaces designed with vegetation: research from the [University of Exeter \(EU\)](#) shows that employees in contact with nature are 15% more productive and motivated than those who work in a sterile environment; report called [The Global Impact of Biophilic Design in the Workplace](#) records a 15% increase in creativity in people who work in environments with natural plants; it is estimated that in a room with a sufficient number of plants, the amount of bacterial colonies is reduced by 60%; it was observed that headaches decrease by 24% and eye irritation by 52%.

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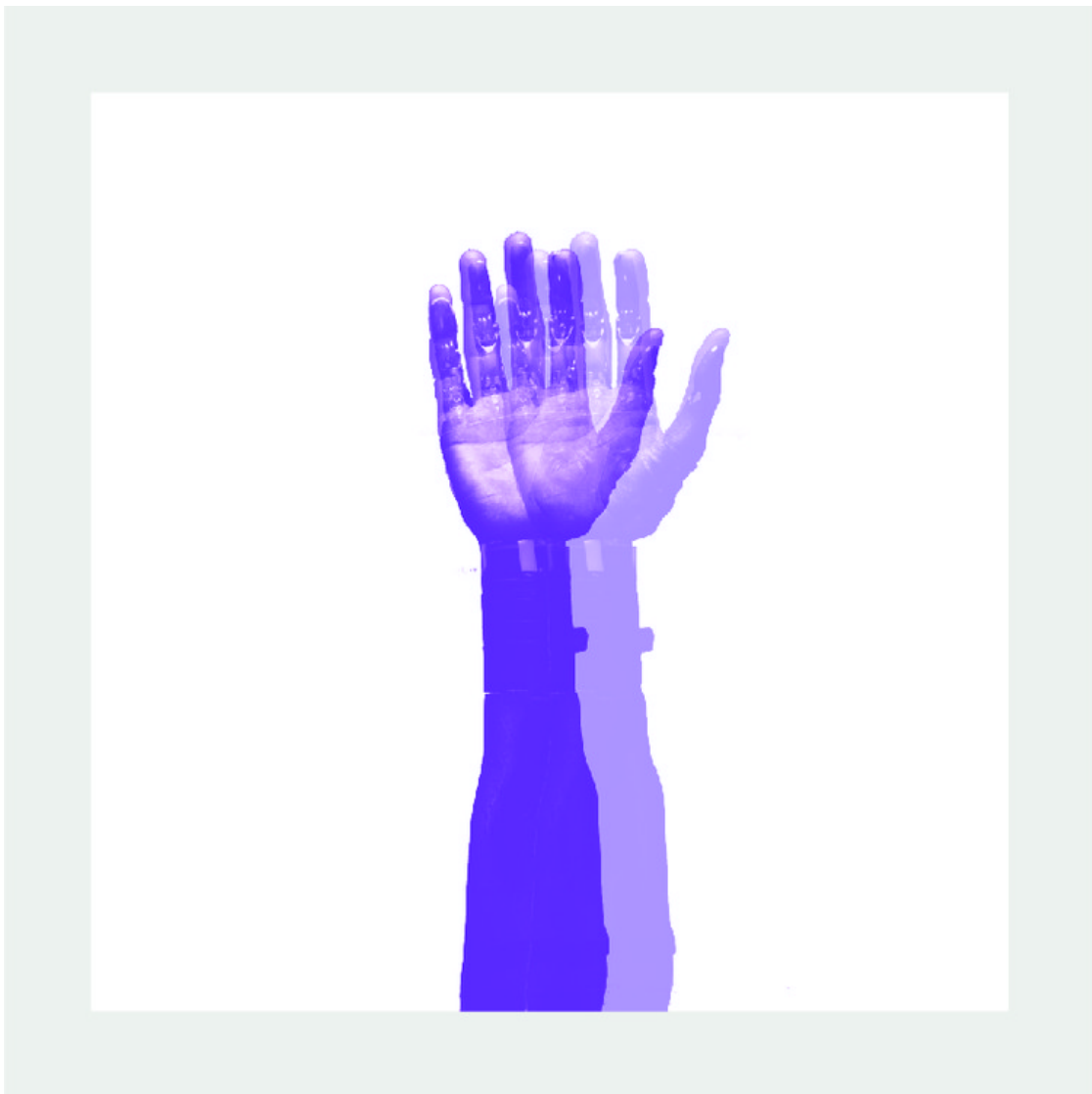
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visually contribute to the environment and generate a positive change in the perception of the workspace.

Other studies have been developed and among them, research by [Harvard's Center for Health and the Global Environment](#) demonstrated that the user of a building with high performance in sustainability has high cognitive functions, fewer symptoms of diseases, and a better quality of life. An *American Psychological Society* report suggests that an office with many plants increases employee engagement, productivity, and well-being.



A hybrid experience

In an era where city dwellers have limited access to outside areas, the best trick for employees to still want to

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collaboration will be transformed. Still, we will continue to need offices. During the quarantine, it became clear that we need physical space as a place for meeting, experience, and interaction.

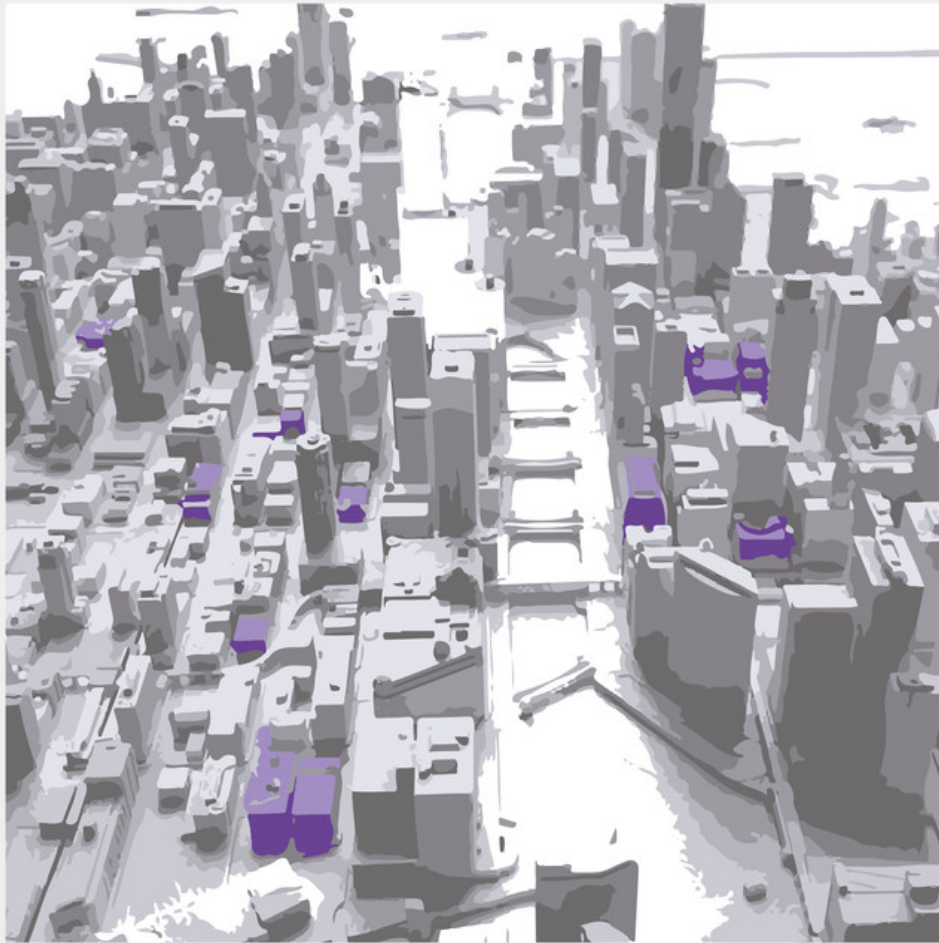
Besides interactions through digital interfaces do not seem to provide a necessary level of experience, they created new proximity through the visualization of familiar environments and scenes that transformed the meaning of "social distance" to the concept of social connection with physical distance. Thinking about new organizational models of work where people work remotely but need meeting spaces opens up possibilities for a new, hybrid office format that prioritizes the user experience, which encourages exchange, creativity, coexistence, socialization, and that is flexible and adaptable to needs.



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If we reflect on the scale of the city, decentralizing large headquarters into smaller units, interspersed in the

intensified the transformations in the work environments that were already being used, such as the flexibility of spaces, access to nature, and remote work, as they made us a question: What will be the real function of a physical space for a corporate headquarters?

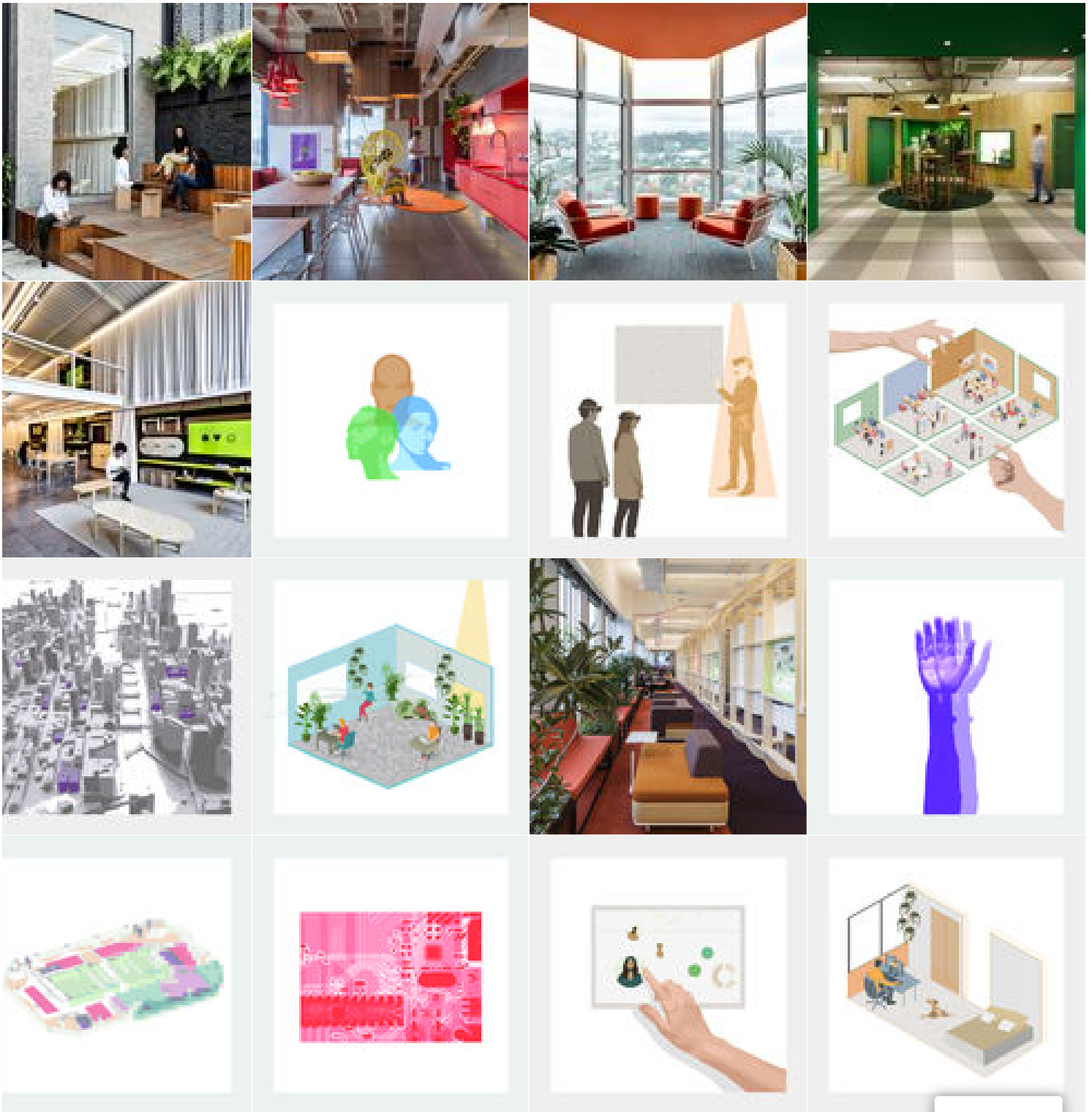


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Editor's Note: This research is ongoing and is being developed by Estudio [Guto Requena](#). The content of this article was originally published in five chapters sent by email between March and April 2021.

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Technology was the reason for people to separate physically & the new technology will connect them remotely. Our designs are based on the wrong principles, they defy nature which is the essence of life. Architecture should be born from the womb of nature as the baby is born from the womb of the mother. The work place should be the place where all workers would use their potentials without imposing what is foreign for them or else the work would be disastrous. Superficial solutions wont solve our problems.

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