

Transform the way people work.

2021

Getting back to growth

The workplace remains relevant



The normalization of remote work has shifted the need to be in the office from a requirement to a conscious choice.

Yet, even with this remarkable change, the vast majority of companies and employees believe that the corporate workplace will remain highly relevant in the future.

M Moser's proprietary algorithm defines the most cost effective and efficient ways to provide safe air quality in buildings. In this white paper, you'll learn why this is of critical importance both now and in the future, and how you can create a safer workplace, fostering productivity and future growth.

Remote work surveys show 87% of employees identifying the office as critical for collaboration and building relationships - their top-rated needs for the office. The challenges of 2020 have proved that the workplace enables human interaction, innovation and knowledge sharing in a way that is difficult or impossible to achieve when people are remote, even with sophisticated virtual collaboration tools. For effective interactions, most research shows that the people need to be linked by two critical attributes:

1. Physical proximity
2. Social connections

Today's engineering and design challenge is to define the criteria for bringing people together safely, within pandemic constraints. In the future, providing a high level of air quality will be expected or required as a part of ongoing health and wellness initiatives.

*Source: PwC January 2021 US Remote Work Survey



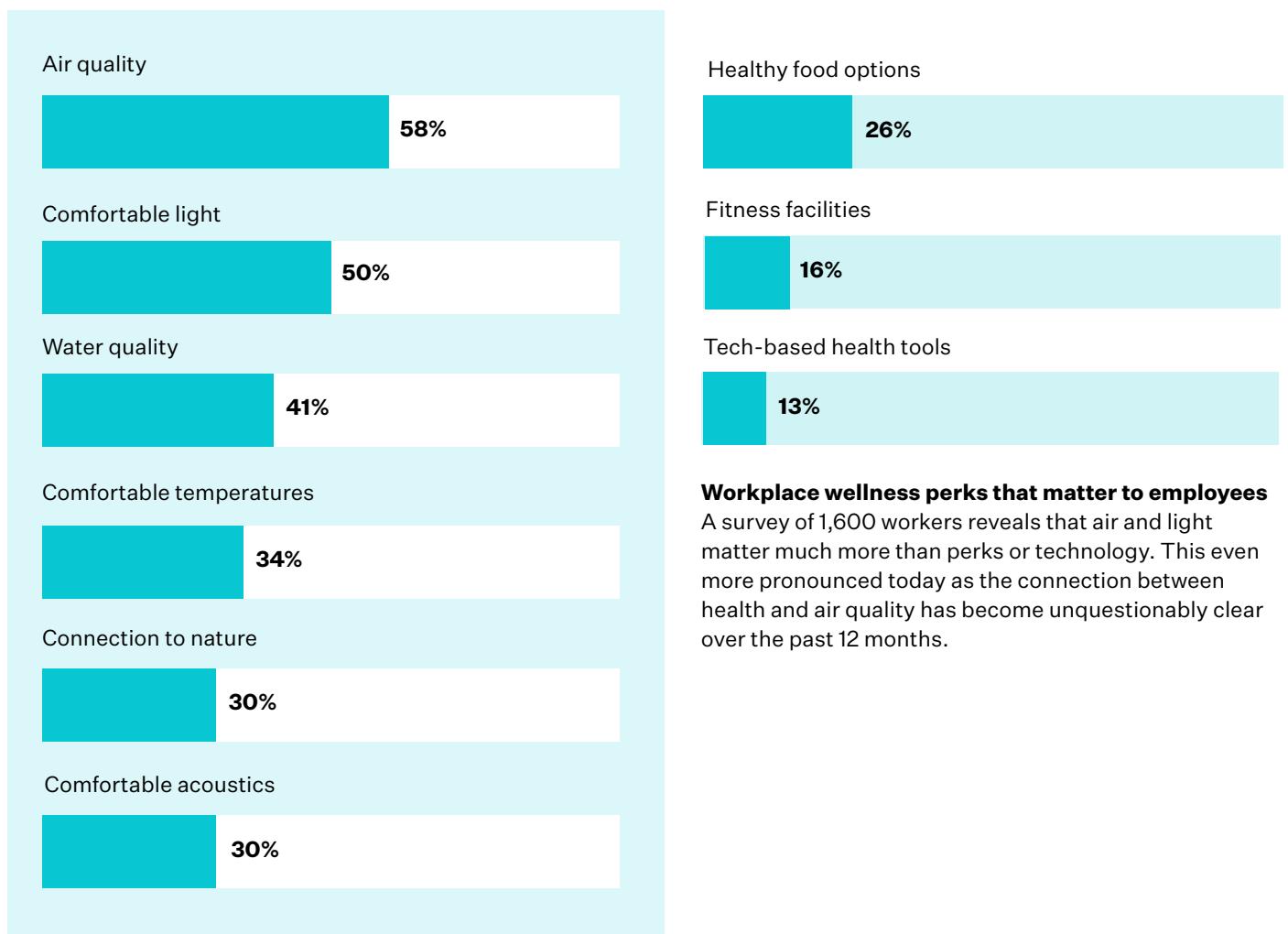
Air quality matters

Team productivity, innovation and cultural cohesion are linked to being together in one place. Organisations need to know how many people can safely work together in a space, or to put it another way, what density of employees complies with safety criteria?

While employers are furiously adapting offices to comply with government advice, M Moser is working with clients on two key questions:

1. What are the most effective interventions to enable teams to come together safely?
2. How can we communicate this in a way that instils confidence in employees to return to work?

Our research has yielded insights to provide practical options for occupiers. First, the permanence of safety precautions will depend on a heightened awareness of health risks. Most clients believe that a need for protection is here to stay, and that a return to the pre-COVID workplace is unlikely to be acceptable. This means that some interventions will be needed for the long-term, especially the provision of clean healthy air. Our research shows that high quality air in the workplace is not only essential for any return to work, but is a persistent demand from employees that will continue beyond the current pandemic. A future workplace study conducted by Harvard Business Review in 2019 demonstrated the importance of indoor environmental quality, or IEQ, prior to the pandemic with the top six design amenities requested by employees related to IEQ.



Focusing on solutions

Social and operational measures such as hygiene and occupant distancing only address the threat of infection through droplets, which are relatively heavy particles emitted when people cough, sneeze, laugh or speak loudly. These basic precautions ignore the exposure to microscopic airborne pathogens that are suspended in the air like smoke particles and travel much greater distances.

These are called aerosols and pose a risk to anyone who inhales them and present a more pervasive threat than droplets. The importance of aerosols is increasingly recognized by epidemiologists, and is the focus of our recently developed proprietary models and tools for occupiers. With occupants' expectation for improved air quality, a comprehensive IEQ program to is expected to be a key design requirement for the foreseeable future, outlasting requirements for PPE and social distancing. As most employers are betting on a continuation of remote working patterns, this will place a greater demand on the workplace for social interaction and collaboration, which are more difficult to accommodate when working remotely. Key to bringing us back together safely is the air quality in the workplace, which directly protects staff, clients and customers. Over the past year, M Moser has developed a suite of analytical tools enabling our clients to study safe occupancy levels, evaluate the air quality provided by their current state and compare options to arrive on multidisciplinary solutions to improve air quality and safety.



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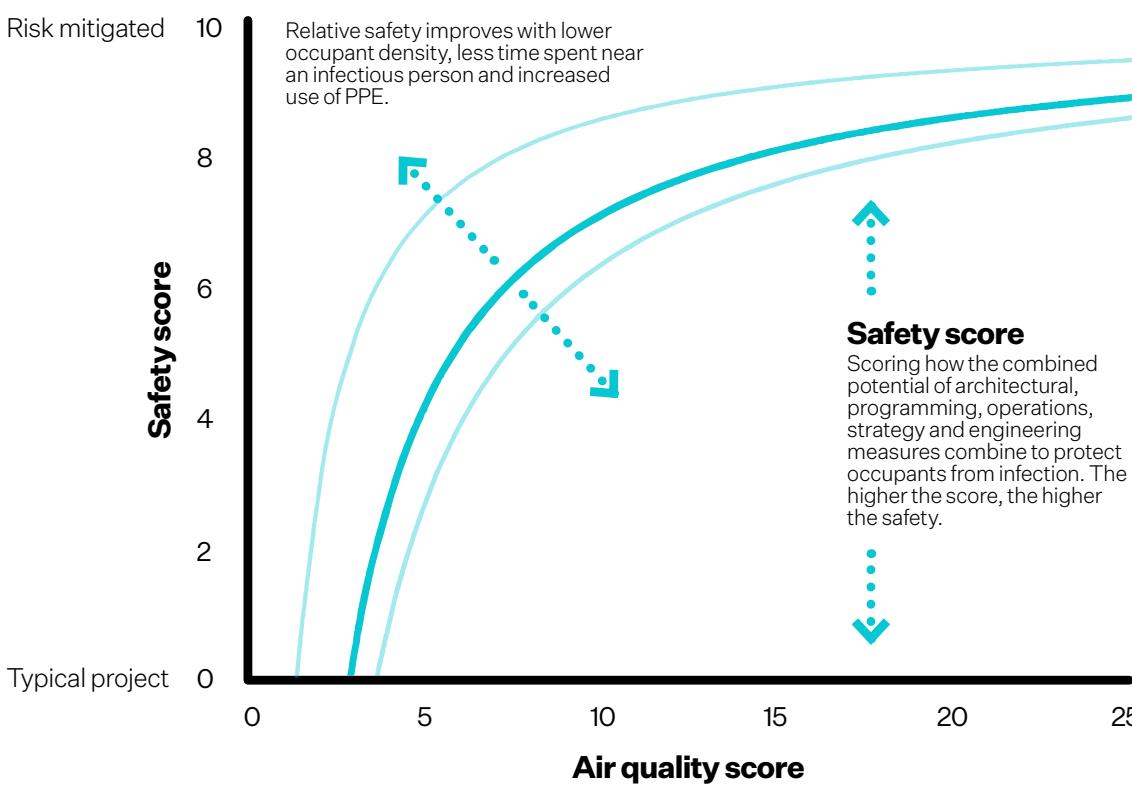
Focusing on solutions

The risk of infection by aerosol transmission is dependent on many factors including:

- Occupant density
- Time spent in a space
- The number of infectious occupants
- The type of illness potentially be spread to others
- The rate at which infectious particles are being introduced to, and removed from, the space

Air quality score

These factors are affected by various measures including operations (such as PPE and cleaning), workplace technology and space programming (such as occupancy management control), and engineering measures (such as supplying additional outdoor air or filtering air being recirculated). The effect of these measures are quantifiable, as are their impact on each other. The M Moser algorithm helps to determine the optimal mix of measures for a particular project by scoring their ability to reduce an occupant's exposure to harmful aerosols. This score is called the M Moser Air Quality Score, shown on the horizontal axis in Figure 2.



How the combined potential of architectural, programming, operations, strategy and engineering measures combine to protect occupants from infection.

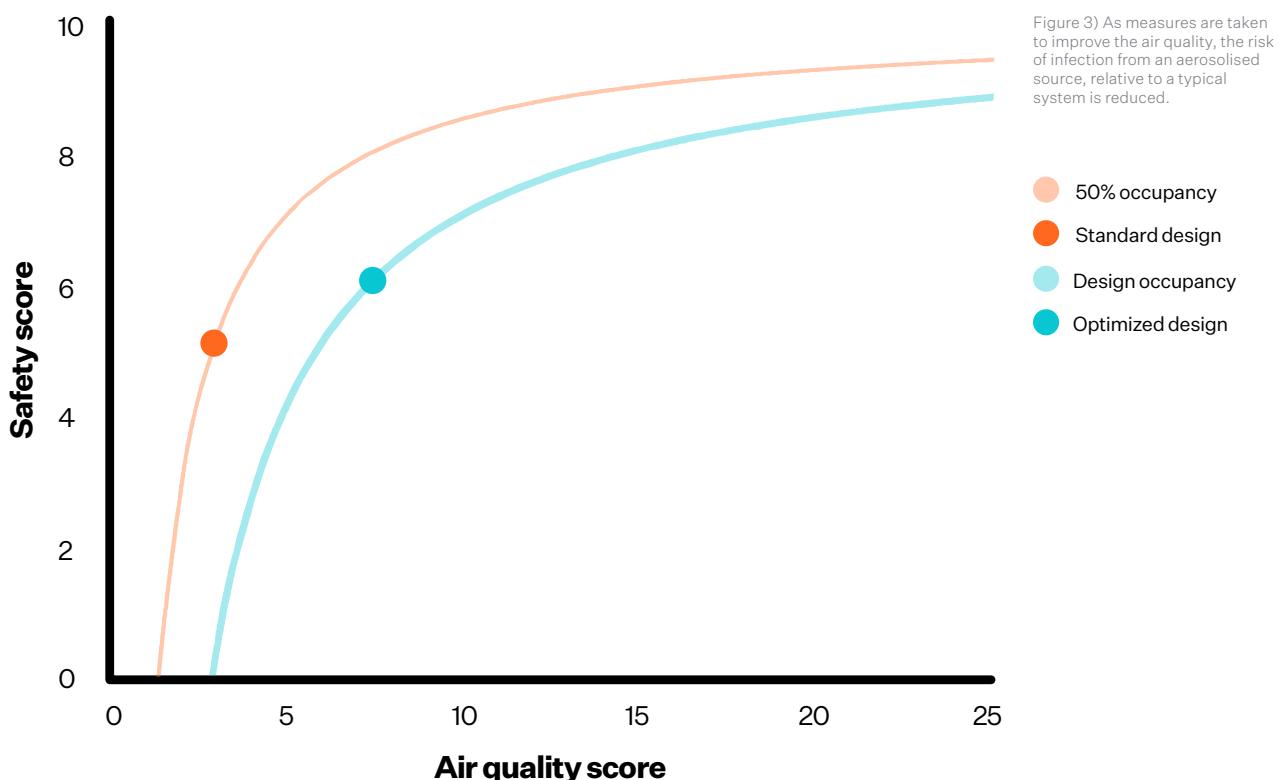
Reducing risk

The heart of our model is an algorithm which assesses a building's protection from aerosol transmission of disease. It's derived from tested scientific models, current research, and our team's deep workplace and engineering knowledge. It allows us to study the combined effect of operational, programmatical and engineering measures to create a protective environment.

For each client, project and space program, a unique curve relating the air quality score to safety is generated, shown in Figure 2. M Moser's algorithm allows our team to compare the cumulative effect of measures taken together. As a result, we are better able to maximize the quality of the environment, while optimizing the design to address budget, schedule and cultural considerations.

The curve in Figure 3 was developed for a global financial services client and shows how improved air quality affects safety score through the reduction of airborne disease transmission. The standard design is a well-designed, class A, code-compliant office space with typical customer support center programming. The optimized design features a broad range of operational, programmatic, technological and engineering measures, implemented to improve the quality of the indoor environment. This client had asked us to evaluate whether they should be running A/B teams on rotation – where half of their staff would be assigned to each team and alternate between working in the office and working remotely. This is represented by the two curves shown in Figure 3 – the solid curve for 100% design occupancy, the dashed line for 50% occupancy. The blue dots indicate the air quality and safety scores for the standard design and the optimized design.

For this example project, the improvement in air quality from the optimized design led to a higher possible occupant density with a higher level of air safety as the 50% occupancy baseline case, achieved for very little additional cost.



Reoccupying safely

With spending time together being so crucial to business growth, it is common for M Moser to study how combinations of measures affect the number of occupants who can come together safely.

In Figure 4, the Air quality score is related to occupant density, which can increase as the air quality is increased. As noted in the chart, the higher the air quality score, the closer a space can get to its design occupancy from perspective of aerosol transmission.

This, in combination with M Moser distancing studies and operational recommendations to address droplet, direct, and fomite transmission, would determine the overall occupant density profile for a set of client-driven parameters. Employers today have significant decisions to make about how to reoccupy offices. Deciding on the number of measures to incorporate into the workplace in response to this is not a straightforward exercise and is highly dependent on culture, geographical location and the client's overarching workplace strategy. Complicating matters is that the effect of measures doesn't simply sum with many combinations reducing the effectiveness of others when used together. The holistic approach offered by the M Moser algorithm helps navigate this complex area.

The effects of 2020 on the construction market are hard to overstate. Real estate portfolios are being reconsidered and the where, when and how's of welcoming employees back into the workplace are just now starting to come into focus. Finding ways to returning to a safe and healthy workplace is key to enabling innovation and business growth but will only be possible through data and validated models used to inform real estate decisions. Ultimately, the combination of reconnecting in-person, along with well-designed remote working strategies, will enable individuals and teams to perform at their best and set business back on the track for growth.

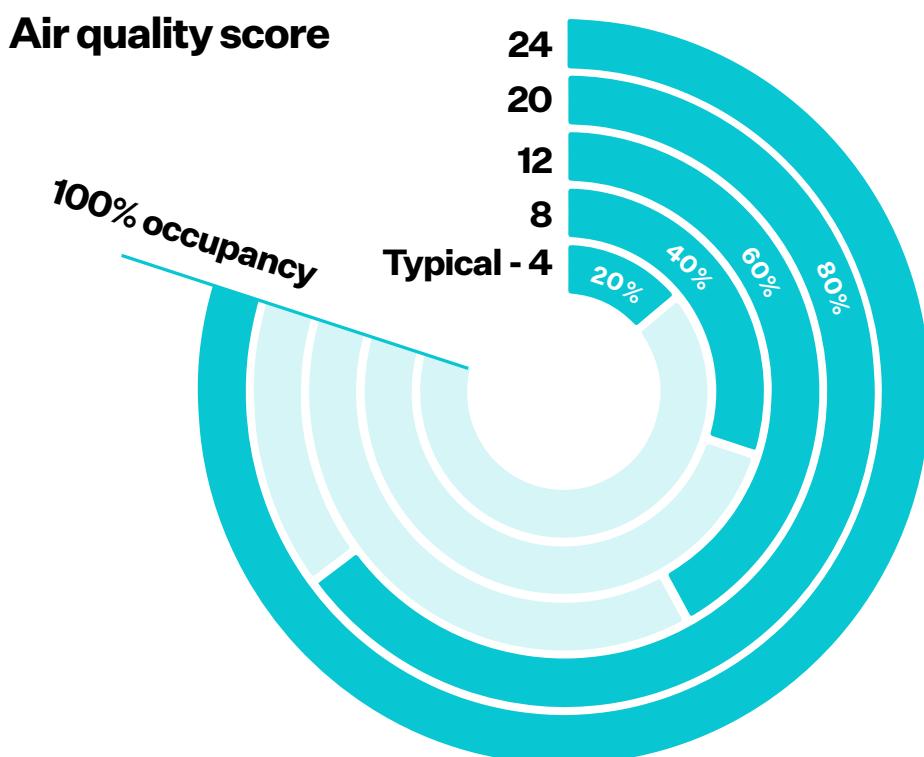


Figure 4) By using measures in combination to reduce risk of transmission, we can bring more people into the office for an equivalent level of safety.

Since 1981

At M Moser, we design and build humancentric workplace environments. By bringing out the best in people and their work, we create space for organisations to transform.

As a global community of strategists, designers and builders, we thrive on bringing big ideas to life in new ways. We help you uncover potential and reframe what your workplace should be.

People are our priority. Because their health, happiness and performance at work is the key to your success.

Get in touch

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