



1990–2020

IMPACT OF TECHNOLOGY ON THE COVID-19 WORKPLACE

Many discussions are currently taking place about how technology is responding to the needs of those who continue to work in the COVID-19 age. Workplace environments and cognitive technology can work together to support organisations with large offices to effectively maximise available spaces and support employees in getting back to work safely.

As we move into the next phase of COVID-19, our experience is growing and our thoughts are turning to a relaxation of the lockdown measures. Our use of technology will have to adapt again to support these new and changing measures, as it has with home working. Existing and new technologies can be used to create new support mechanisms for organisations at short notice.

We were seeing a trend even before COVID-19 that organisations were treating buildings almost as an airline books seats on aircraft, in that they would deliberately drive up building utilisation by creating an environment with sometimes only enough space to house 60% of the total workforce at any one time. Add into that equation the 'Friday factor' and the start of the week, and utilisation factors vary wildly.

The primary driver for organisations to create buildings that purposely do not provide enough space for every employee is to maximise the cost per square foot and match costs more closely to utilisation. In the COVID-19 age, this metric is likely to be applied in reverse, in that it will only be possible to use 60% of the available space at any one time. In a simple equation, the amount of space given over to social distancing will be subtracted from the total square footage to produce the available utilisation. And, of course, the social distancing rules can change overnight, so having the ability to adapt a building quickly, to tune it according to new rules, demands and other factors will be an important consideration – and technology has a key role to play in making this possible, while keeping those within the workplace safe.

Building owners and occupiers are now seeing a tsunami of point solutions, each addressing a different area of concern, with many bewildered as to how all this will work



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together. How do you get your room-booking system to automatically modify air flow based on the number of people expected to attend a meeting? How can sometimes disparate services be integrated to bring about a safer, better and efficient working environment?

The integration of technologies is key. For a new build, this can be designed and planned from the outset, often reaching back into base-build systems and building management systems. However, integration is much harder to achieve in a retrofit, and there may be a sweet spot of achievable, affordable solutions that brings the largest benefit.

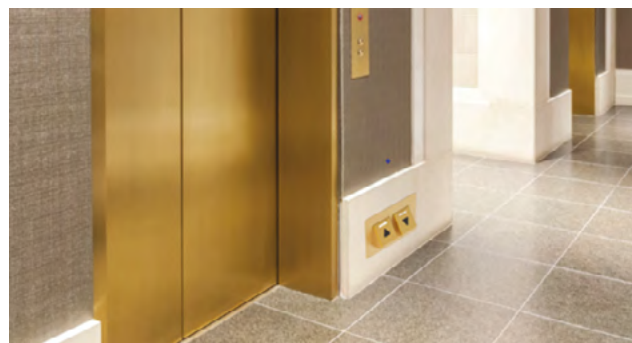
Below we have set out a number of the point solutions that are currently in existence or emerging. It will be the job of technology consultants and designers to identify what is achievable for a given client situation and what brings true benefit.

- **Desk booking.** Redeployment of room-booking apps to include desks on floors will make those desks available for people to enter offices safely. Start times can be altered depending on the zone, and therefore arrivals. These can also work in reverse by contacting teams and advertising that spaces are available, or by creating project zones for teams that need to work in agile project support, for example.

- **Occupancy sensors.** Deploying temporary sensors that count occupancy (anonymously) will show the hot-spots within a building, and can be used to create alerts for building management. Large congregations of people can be flagged, and algorithms changed to reduce the number available spaces to ensure that occupancy remains at a safe level. Cleaning and prep alerts could also be generated when the sensor system recognises that a desk or room has become vacant. Connected to existing Wi-Fi access points and battery operated, these sensors can be quickly deployed to create heat maps, without the need for large-scale IT projects.
- **Workplace apps.** Based on the data available from occupancy sensors, alerts can be sent to teams informing them to when areas are quiet or over-populated, and advising them of when the best time to use collaboration spaces would be. By using the information available and applying business rules, information can be pushed to users to assist them in making decisions. For example, rather than physically searching for a room they can easily retrieve the necessary information, and so reduce the amount of time they spend in physical proximity to other people. Building-based track and trace systems could also be deployed using this technology.
- **Touch-free interfaces.** Based on workplace apps, personal smart devices and voice activation can be used to interface with the building. Lift call, light switches and other physical touch points can be operated by an individual using their own personal switch on their own device, or by voice activation.
- **Lone working.** Knowing who is on site is also a positive aspect of this technology. As working practices change, and potentially working hours as well, to reduce peaks in building occupancy, building teams can safely see who is on site or if someone will need assistance. Rather than sending people to check areas, the sensors will tell if people are still in an area long after their booked time has ended or at times when the building is closing.
- **Building management.** The team managing a building will be able to see who is working where and the cohort on particular floors, and this will help to intelligently manage the flow of people within the building. It will also help the deployment of resources for security or support, and to close areas if occupancy is low by removing those areas from desk-booking apps



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Toe-to-Go foot-activated elevator
Courtesy of Mad Elevator Inc., source

and containing areas efficiently. In addition, airflow, lighting and other building operations could respond to information from other systems and sensors.

- **Visitor management.** In the longer term, visitor management could be accommodated by integrating booking information with allocated times to enter and available spaces for workers. When entering the building by, for instance, scanning a QR code specific to an individual, the building can cognitively allocate space based on building occupancy, current availability, and the ongoing real-time situation and utilisation. In this way the building can be filled intelligently, and the property teams can be informed about how the building is performing in real time.

* Source: J. Brenner, New Chicago office building is one of the first in the U.S. designed for post COVID-19 environment. *Forbes*, 15 June 2020. Available at: <https://www.forbes.com/sites/juliabrenner/2020/06/15/new-chicago-office-building-is-one-of-the-first-in-the-us-designed-for-post-covid-19-environment/#5441f87b63a4> (accessed 21 October 2020).

These are just a few of the ways in which we can see technology and the application of existing solutions being used to support the exit from lockdown. In the short term, investment in these technologies will help manage the immediate and gradual return to work and any further changes imposed on working patterns in the handling of this pandemic. In the longer term, it will be beneficial to have these facilities to manage any further pandemic restrictions, and will also improve sustainability, reduce costs and enhance employee and guest experience.

As mentioned, some of these systems provide a simple retro-fit to an existing building, however those refurbishing or fitting out new premises should consider more fundamental adoption of smart technology to provide greater control of the building, energy consumption and seamless services to improve wellbeing, safety and experience.

For those organisations deploying ‘smart building’ technology, this will be an opportunity to think about the rationale for this technology and to invert the reasons for occupancy levels and monitoring. No longer will it be about overbooking buildings to increase utilisation, but the focus will be on consciously underbooking to keep utilisation and occupancy at a safe level while allowing the company to function as a business.

Some developers are already considering how they can improve the basebuild technology to offer more advanced services to attract occupiers. These include seamless mobile wireless coverage, advanced guest management, proactive control of fresh air supply, digital signage, automated fault reporting and the ability for new occupiers to easily connect into ‘house’ systems to provide integrated on-floor services. It is expected by many that COVID-19 will sound the death knell for dumb buildings. Both building managers and occupiers would be involved in managing and using these services. ■

ABOUT THE BCO

The BCO is the UK’s leading forum for the discussion and debate of issues affecting the office sector. Established in 1990, its membership base comprises organisations involved in creating, acquiring or occupying office space, including architects, lawyers, surveyors, financial institutions and public agencies.

The BCO recognises that offices don’t just house companies, they hold people and so what goes on inside them is paramount to workplace wellbeing.

ABOUT THE AUTHORS

Cordless Consultants is an independent consultancy focusing on workplace technology and innovation. Since 2005 Nigel Miller has led the company to deliver independent consultancy on IT, AV and smart technology innovation for projects aligned to workplace change, technology refresh, construction and relocation.

Nigel’s career spans 30 years in IT, having held senior managerial positions in Hurleypalmerflatt, HP, Unisys and Digital. He is today recognised throughout the industry for his knowledge of technology innovation in the workplace, and is a regular commentator, writer and presenter on technology developments. He is a member of the BCO Research Committee.

CITATION

BCO (2020) *Impact of Technology on the COVID-19 Workplace*.

http://www.bco.org.uk/Research/Publications/Impact_of_Technology_on_the_COVID-19_Workplace.aspx

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