



VENTILATION

The trouble with meeting rooms ... are they the final frontier?

The return to office revival has stalled before it got off the ground. Why is this? Well, many people have clearly adapted to home working and many companies now see benefits in providing more flexibility to staff. The reality, however, is that many people still don't feel safe coming into the office. While the hygiene theatre of signage and hand sanitisers is still with us, the fact that Covid was, and is, airborne and that poor ventilation is in part (at least) responsible for the spread of this and many other diseases, is not lost on people, writes *Simon Jones, Head of Air Quality, Ambisense.*

Over the past year, we at Ambisense have been lucky enough to be involved in a number of large projects where customers installed air quality monitors around their offices and campuses to understand and improve ventilation levels. For the most part, particularly in large open-plan areas, the data has shown that ventilation levels were often reasonable and this has helped enormously in returning staff and students to work and university.

However, the data also highlighted something else. When we look across customers, deployments, projects and locations, over 80% of the spaces we monitor where there is a ventilation issue are meeting rooms, staff rooms and conference rooms. This makes sense of course. These small spaces often have lots of people in them



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and, in many cases, the building HVAC systems were designed and commissioned before the rooms were constructed ... that's if they have HVAC systems at all. So, effective airflows can be much lower than the rest of the building. As a result, most buildings have pockets of localised air quality issues posing a risk to staff, customers and visitors.

We all know these spaces, and we have all spent afternoons with two unsatisfactory choices. Either sit there falling asleep or deal with traffic noise, heat or cold when you open the windows. I call these meeting rooms the final frontier for three reasons.

First, they are the hardest locations to solve. It is generally either obscenely expensive or technically non-viable to deliver more fresh air to these locations, and very often there are too many of them to implement localised filtration/purification solutions in the short term. "Hard" engineering solutions are, for the most part, ruled out. Using natural ventilation is really the only viable way ... that is, creating air flow by managing occupancy and leaving doors and windows open to allow CO2 levels to dissipate.

Second, the ventilation requirements of these locations are hugely variable based on the number of people in these spaces, how heavily utilised they are, and how often the external weather plays a role too. Some spaces have a two-person, one-two-one for an hour, followed by a three-hour, 10-person sales meeting, followed by a two-hour, six-person training session. At some meetings people talk a lot (sales meeting), while at others only one person does most of the talking (training session).

Third, meeting rooms are where companies conduct their most important tasks such as sales and customer meetings, board meetings, investment committees, training sessions. These are locations where companies need people to be together.

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The virtual version of all of these types of meetings are objectively worse.

Simply put, the "return to office nut" is not cracked until people feel comfortable using these spaces.

Managing and predicting ventilation risks is a function of knowing how many people are, and will be, using a space, the actual ventilation levels, and the impact of outside factors like weather. Under the hierarchy of controls, when it comes to air quality, our ability to remove or substitute an air quality hazard is often very

limited. Consequently, it falls to engineering and administrative controls to do the heavy lifting, especially if we want to avoid PPE.

But in order to define the engineering and administrative controls required, in our experience, a number of missing jigsaw pieces from an environmental risk management perspective need to be understood. These include:

- Real-world ACHs;
- Real-time and predicted AQ issues;
- Intelligence to optimise how a space should be used;
- If a meeting room is heavily utilised, what should the fallow time be between meetings, could alternative spaces be used?

Whatever the future holds for the new hybrid work environment we all now face into, understanding the spaces we occupy will have to be addressed if the workforce is going to be comfortable using them. Understanding the quality of the air we are breathing and managing environmental risk with a good dose of transparency and intelligence will be critical in my opinion. ■



Whatever the system or mechanisms used in this meeting room, the ventilation designers obviously got it right.