Let's talk about solutions!

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The Covid 19 pandemic has brought the hospitality industry to a virtual standstill and the meeting and events industry has been severely impacted. A core element of our business at PKF hotelexperts is knowledge and networking. Every year our teams host more than 40 roundtables in hotels and several larger conferences. On top of this, our consultants attend dozens of industry events to network and learn about the latest trends, and innovations from our peers.

The health crisis has forced us all to innovate, and to bring many of these events online, but we are strong believers that the hotel industry will recover and it is our wish to get back to in person meetings as soon as it is safe to do so. Hoteliers and event organisers need to demonstrate to their guests that the benefits of travel and face to face meetings outweigh the risks.

In this interview with Friedhelm Koch a veteran expert in air conditioning, filtration and ventilation, we learn what one of our industry partners has done to help protect hotels and their guests from an airborne particle such as Corona Virus.

Friedhelm Koch is a long time executive at Kampmann, a leading room climate air conditioning and ventilation solution provider and an important industry partner of the PKF hotelexperts group. Friedhelm was interviewed by Adam Maclennan, Head of UK & Ireland at PKF hotelexperts.

Q: We've heard a lot about the dangers of Covid-19 and that the virus transmits through the air. This is particularly problematic for businesses that rely on people getting together indoors such as hotels and restaurants, can you help us to understand the science behind the issue, and what does it mean for hotels?

A: Aerosols are mixtures of solid and liquid suspended particles, small droplets that can spread viruses like Covid-19. These small particles are created in the air when speaking, breathing, coughing, sneezing and especially when singing. In fact, there is a very high probability that normal speaking in restricted environments will cause these viruses to be transmitted in the air.

In closed rooms (e.g. living room, offices, cafes, hotel rooms, waiting rooms etc.) the concentration of these potentially harmful particles and gases is between 2 to 5 times as high as outdoors. They only disappear in closed rooms after 8 to 14 minutes and can even accumulate there for hours and be infectious. Thus, even maintaining the minimum recommended distance might no longer be sufficient. The issue is poorly ventilated rooms or ones that are not ventilated at all, because then the probability of transmission can also exceed a distance of 2 metres. Especially when the infectious person releases aerosols and the exposed person inhales a lot.

The corona virus can spread through the air. An infected person can emit droplets containing the virus through coughing and sneezing, thus spreading it to others, which is more likely in a poorly ventilated room.

Q: This is obviously concerning and it is understandable that guests will want to avoid confined spaces and public areas while the Virus is widespread. So what can hotel owners do to mitigate this risk to their guests, other than open their windows to improve ventilation?

A: From a general room climate point of view air is polluted by people with viruses and bacteria. A sufficient air change is subsequently the most important factor for clean indoor air when there are several people or when there is a change of people. This is most effectively achieved through controlled ventilation.

The ventilation unit can be equipped with appropriate filters. However, special particulate filters that can catch viruses are, on one hand, quite expensive. On the other hand, permanent and area-wide operation is not sensible, because even during the current situation, not all areas in the hotel require permanent air purification with particulate filters.

For example, the necessary air change in unused rooms would also act on air filters and this would require shorter maintenance intervals and earlier filter changes. A better solution would be the separation of ventilation and air purifying with particulate filters only when necessary.

A proper filter can reduce these harmful airborne germs. A particulate filter is particularly suitable for this. So-called particulate filters allow an almost complete cut off of submicron particles. Ultrafine micro-glass papers are used, which are pleated into filter media surfaces. This ensures a particularly long flow.

You can help improve air quality by using an air purifier. These have a significantly higher filter efficiency and can always be used exactly where many people come together in a confined space (e.g. in restaurants and meeting rooms) and where it is easy to spread the droplets. High air conversions and high filter efficiency make it possible to reduce contamination in such a room by 90% or more.

Q: Are all filters equal and how effective can they be specifically in removing corona virus particles from the air?

A: So-called HEPA filters (high-efficiency particulate air filters), i.e. particulate filters, have proven themselves over many decades in a large number of facilities because they reduce the spread of particles and organisms such as viruses and bacteria via the air. In times of Corona, such a filter is more important than ever. HEPA filters can remove even the smallest microbes in the air and thus reduce the harmful airborne germs. This includes not only cold or flu viruses, but also dust, pollen, mould spores and smoke particles. HEPA filters cannot actively kill living organisms. But once a virus has settled in the filter, it quickly loses its infectious effect. After a good hour, there is no longer any risk of infection from the virus.

The efficiency of HEPA filtering is indicated with the particle size with the greatest penetration. The particle size is usually 0.1-0.2 microns. Bacteria and viruses are often smaller, but typically bind to larger particles. The size of the corona virus, however, is around 150 nanometers. In order to ensure an efficient cut-off of 99.95% for particles of this size, at least HEPA filters of filter class H13 are necessary.

While these filters are used in many hygienic areas, they would generate too high a differential pressure in most other HVAC applications.

The filter media used for the HEPA filter are ultra-fine micro-glass papers that are pleated into filter media areas that are 40 to 100 times the inflow area. This results in a particularly long flow, which supports the diffusion cut-off of the submicron particles.

Q: That sounds like good news. Do these filters kill the viruses and bacteria? How should they be handled?

A: An air filter is an effective solution to catch these viruses. However, bound viruses cannot dissolve there. They are strongly bound to the fibres in the filter medium and once they are found there they remain in the air filter.

Used air filters should always be treated with a good hygiene practice. The filter should always be replaced with complete protective equipment, including gloves, a respirator and protective glasses. The equipment should only be put down again after leaving the ventilation room. After the used filter has been removed from the ventilation system, it must be placed in a well-sealed plastic bag. If possible, it makes sense to leave the ventilation system switched off overnight, this significantly reduces the risk of infection. It is important that the SARS-CoV viruses can only be retained with a minimum filter class of H13, which is integrated as a HEPA filter in the KA-520 developed by Kampmann.

Q: Tell us a little more about this system and how it works across various hospitality settings.

A: The current situation around the Corona topic understandably creates a lot of uncertainty. The issue of ventilation is undeniably central to a safe revitalization of the hotel industry. However, it is important not to get into actionism! Ventilation should be integrated into a room climate system that is long-lasting and should adapt to changing requirements. It must be able to serve the current "Corona requirements", but also have to be able to return to regular operation - and unfortunately also vice versa…

"Currently important are sensible solutions for existing hotels that promise security to guests and keep their promise. But that should not mean that hoteliers now have to dramatically increase their expenses for room ventilation. That is the reason why Kampmann has launched a mobile air purifier on the market".

The Kampmann air purifier uses HEPA air filter, filter class H13, which filter out 99.95% of particles, which contain as a large part viruses, bacteria and germs. This in turn should help the hotel operator to reduce uncertainty among potential guests.

The Kampmann air purifier is a decentralized, mobile device in four sizes that can be purchased directly from the manufacturer. The air purifier KA-520 S is designed for smaller hotel room sizes, the air purifier KA-520 M is designed for common hotel room sizes, the model KA-520 L is suitable for meeting rooms, for example, and the model KA-520 XL is used in large rooms such as the lobbies or restaurant areas.

As long as the corona load persists, a continuous operation is sensible in case of the KA-520 L and the KA-520 XL air purifiers, when there is constant passenger traffic in the application areas. In the hotel room, there may be a main requirement during service hours, or else after the guest checks out.

To learn more about Kampmann and their work please contact Friedhelm Koch - friedhelm.koch@kampmann.de or visit the Kampmann website https://www.kampmanngroup.com/

About PKF hotelexperts

The PKF hotelexperts group, the first fully integrated global advisory firm to serve the hospitality, tourism & leisure and serviced living sectors, traces its roots back to New York in 1927, when William J. Forster (of Pannell Kerr Forster) created the global standard for accounting and benchmarking – the Uniform System of Accounts for the Lodging Industry or USALI – which is still in use today.

Currently, the PKF hotelexperts group has 14 offices worldwide, including Argentina (Buenos Aires), Austria (Vienna), China (Hong Kong, Shanghai) Germany (Berlin – hotelforum), Italy (Milan), South Africa (Cape Town), Turkey (Istanbul), Ukraine (Kiev), United Arab Emirates (Dubai) United Kingdom (London) and the United States (New York, Los Angeles, Miami) with more than 100 consultants providing advisory services including feasibilities studies, valuations and appraisals, operator search, project development, asset management, financing and investment, and strategic advice.

In addition, the PKF hotelexperts group includes PKF tourismexperts, focusing on master plans for regional tourism infrastructure, and PKF livingexperts, which advises on serviced living concepts (membership clubs, student and senior living, and serviced residential).

If you are interested in becoming a partner of the PKF hotelexperts knowledge and networking group and talking about your solutions to challenges that the hotel industry faces, please contact Tanja Millner tanja.millner@pkfhotels.com