



MITIGATING COVID-19 RISK IN INDOOR ENVIRONMENTS

Air and Surface Disinfection Methods for a
Safe Workplace

A GREEN FACILITIES PUBLICATION

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Introduction



Finally, there's a feeling of hope in the air. As spring 2021 approaches we're all getting a sense that a return to near-normal life is on the horizon.

At the time of writing, just over 23 million doses of [COVID-19](#) vaccine have been administered in the UK, which is a phenomenal feat just a year after the outbreak of the coronavirus.

Politicians and commentators are discussing opening up the country, a primary objective of which is getting the economy moving. However, opening up offices and other workplaces is being planned with caution – and rightly so!

[The latest data from Public Health England](#) suggests that indoor transmission of the virus can be particularly high, and offices are the biggest culprits.

In the second half of 2020 there were 500 outbreaks or suspected outbreaks in offices. That's more than the total combined from supermarkets, construction sites, warehouses, restaurants and cafes.

The reason for this, according to Professor Cath Noakes, is that tiny airborne virus particles in a poorly ventilated office can increase infection rates by up to 70%.

Poor Ventilation

It's thought that offices in the UK are especially prone to having poor air ventilation. Whether it's windows that don't open, air conditioning units that re-circulate infected air or contain filters that collect and spread the virus, conditions within offices can create an ideal environment for many people to become infected.

Washing your hands, social distancing and not touching your face are certainly important ways to manage infection, but if you're sat in an office where COVID-19 particles are circulating in the air, even wearing a face mask isn't going to protect you sufficiently.





Finding better hygiene solutions

Until everyone is vaccinated in the UK, there's going to be a risk of gathering together in indoor spaces. Even after this is achieved (projected for July 2021) it's not known how long immunity lasts for the different vaccines or what new strains the virus may mutate into.

So vaccines aren't the be-all and end-all of fighting COVID-19, and we'll probably have to deal with the illness for many years to come.

Since offices have been such a hotbed of infection during the pandemic, ensuring we have proper disinfection measures in place at work is of the highest priority.



In this guide we'll take a deep dive at the various ways to create a healthy workplace and mitigate infection from both airborne and surface sources.

We'll cover some standard measures, such as what **administrative controls** to put in place and how to provide effective **PPE**. But we'll also outline 3 advanced strategies, which include technological solutions and treatments to keep coronavirus infection rates under control:

- **Preventive cleaning measures**
- **Disinfecting surfaces**
- **Disinfecting the air**



By tackling the disinfection of offices from each of these 3 angles, we at Green Facilities believe that we have the most powerful strategy possible to safely make that all-important transition back to work.

How to create a welcoming and healthy workplace

The UK remains in lockdown. The current rules still recommend working from home wherever possible. As long as there are relatively high infection rates, staying at home away from other people is always going to be the safest strategy to avoid contracting and spreading COVID-19.

However, some workplaces have to remain open, and before long now (we hope) other offices will be able to have staff returning to their desks – even if it's on a part-time or flexible basis alongside a degree of home working.



Nonetheless, sooner or later most people will be going back to the office. And when they do, even if everybody is vaccinated, it's going to be important to maintain a healthy environment for all staff.

After living with the COVID-19 for so long now, putting in place some of the basic measures we've got used to for our safety will at the very least help settle people returning to the office. At best, it'll also prevent outbreaks of the virus from recurring in these infection hotspots.

Administrative controls

We're all used to taking COVID precautions now. Whether it's putting a mask on before you go into a shop or sanitising your hands when getting on public transport, we've now lived with a state of special health measures for long enough that we don't have to think much about them any more.

In the office, [hygiene-aware ways of working are now the norm](#). As an employer or facilities manager, it's your responsibility to put administrative controls in place to minimise contact between individuals, objects and surfaces.

Here are some examples:

Adapt and open up

An open-plan office that reduces the need for people to touch door handles, stair rails, lift buttons and the like will make staff more at ease. This might involve moving handles from cupboards, making spaces better ventilated for example. Adapting the office environment is crucial to make it touch-free and the air as clean as possible.

Physical distancing

Reducing maximum occupancies of rooms, spreading desks further away from each other, putting up screens and signage for social distancing is a simple but essential measure. One-way foot traffic is still useful as is limiting the number of people allowed in break rooms and toilets.

Some workplaces have managed to be creative about zoning and signage, incorporating it into the new layout of their offices with furniture positioning, plants, paint effects or quirky, attention-grabbing signs. Just because it's health and safety, doesn't mean it has to be dull!

Updated work practices

Besides the flexible or part-remote working options we mentioned above, there are other means of minimising contact between employees. Removing hot-desking or communal workstations, staggering start and end times for staff, and discouraging shared food and drink areas are all ways to keep people from interacting unnecessarily.

Sanitiser

Hand gel dispensers are ubiquitous if you step anywhere outside your house. Though not quite as effective as proper handwashing with soap and water, hand sanitiser is a must-have in the office. Make sure everyone has access to dispensers wherever they are in the building, as well as soap in the toilets, paper towels rather than electric dryers (which blow airborne particles around) and disinfectant to clean down areas after use.

Green Facilities Management offers hand sanitiser dispensers through the smart, touch-free Savortex systems.

General wellbeing

Don't forget that staff care and health extend beyond preventing viral infection. It's been a difficult year for so many of us, mentally as well as physically. Do what you can to make the office a more homely, relaxed place to be in.

Introduce plants, redecorate in calming colour palettes, move office furniture to allow more breathing space per person. In addition, consider how working patterns, breaks and employee wellbeing sessions or perks can make staff happier and more productive.



Savortex touch-free hand sanitiser dispenser

Personal Protective Equipment (PPE)

Mask wearing will likely continue to be recommended at least until all adults have had their vaccinations. Wearing PPE like masks, visors, face shields and gloves has been one of the most effective methods of reducing infections when out in public – especially airborne infections.

In a busy office environment where ventilation is limited, workers are going to be sharing the air in a space for a number of hours. This is why offices have been so prevalent as sources of outbreaks.



It just takes one person to have the virus (perhaps pre-symptomatically) for the virus to spread through air around them to everybody else in an enclosed space.

By now everyone owns face masks and it's still a requirement in workplaces and on public transport. As long as this continues to be mandatory (or maybe longer) it's advisable to let your staff know when/where mask wearing will be required.

Keep a stock of disposable masks and gloves in the office for staff and visitors. It's not always possible to maintain social distancing, and some tasks inevitably require touching common surfaces. In addition, some people may just be remain comfortable with these outward signs of hygiene for a while longer.

Green Facilities can provide you with supplies of PPE. [Get in touch to place an order:](#)

- **Face masks**
- **Gloves**
- **Sanitisers**
- **COVID-19 test kits**
- **Ready to use disinfectant**



Preventive Cleaning Measures

The first and most fundamental aspect of Green Facilities' 3 approaches to mitigating indoor infections is effective cleaning. It's where our true expertise lies and it's what we do best.

Of course, every workplace requires regular cleaning in normal times. During the pandemic, offices that have had to stay open have enhanced their cleaning measures significantly.

We recommend and provide **preventive** cleaning techniques – to stop any virus establishing itself in an indoor environment in the first place. As they rightly say, *prevention is better than cure*.

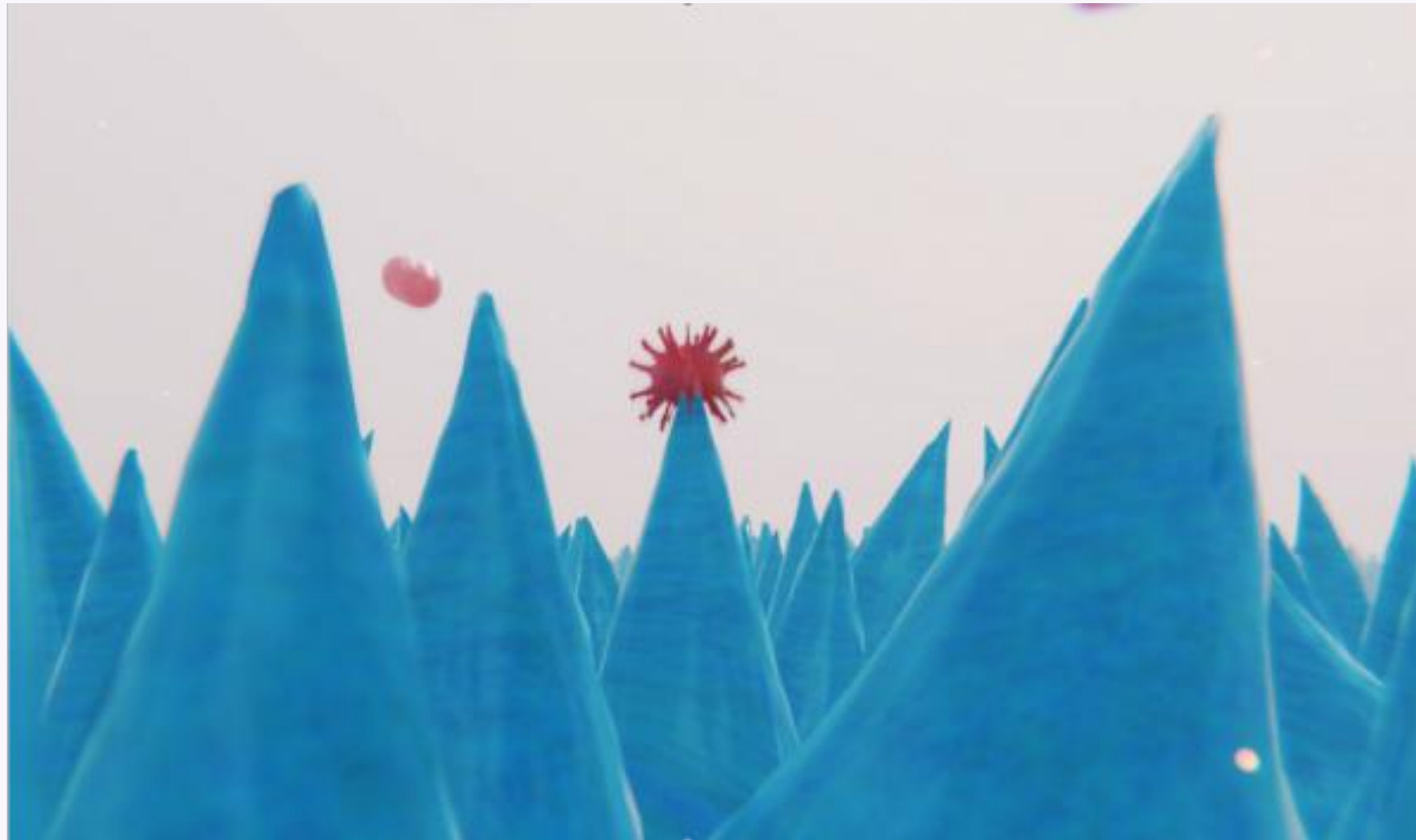
Our preventive measures are:

- i. Infect Protect Professional Long-lasting Antimicrobial Treatment – with 90 days of protection against pathogens**
- ii. Nanoksi Photocatalysis Self Disinfection – providing 12 months' protection from viruses and pathogens**
- iii. Regular COVID-Specific Bespoke Cleaning for Businesses**

These are the 3 most important preventive cleaning services Green Facilities Management can provide to ensure COVID-19 can't survive in your office:

1. Protect Professional from Infect Protect

Infect Protect have developed their latest formula over 20 years in the textile industry. Its water-based, proven solution kills microbes on contact immediately with a physical rather than chemical mechanism.



Protect Professional nano-spikes kill the coronavirus on impact

Protect Professional is sprayed directly onto any porous or non-porous surface. The positively charged particles stick to the surfaces, and when it dries, form a layer of invisible “nano-spikes”.

These attract negatively charged micro-organisms, penetrating their membranes on contact and destroying the cells of bacteria, viruses and other pathogens instantly.

With the active ingredient known as quarternary ammonium silicone compounds, the Protect Professional coating lasts and remains effective for a guaranteed 90 days.

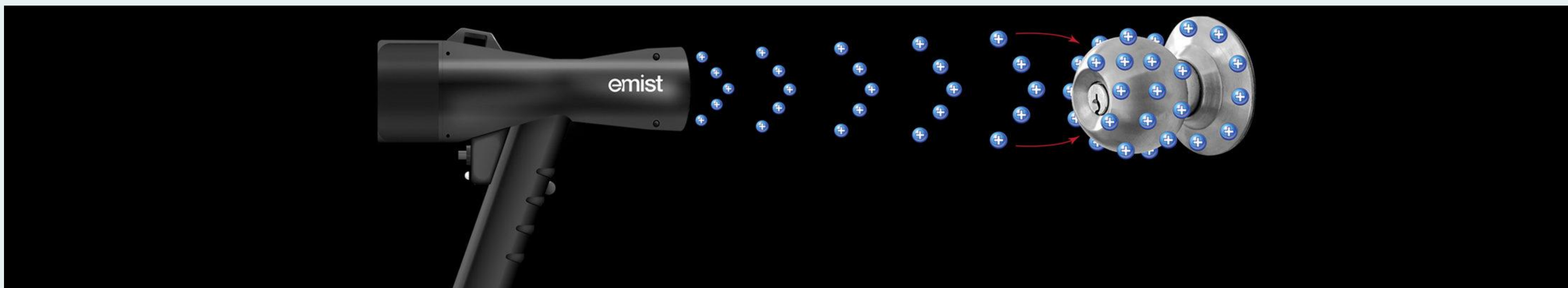
It's independently tested on enveloped viruses and bacteria, and applicable for use on stone, glass, wood, plastic as well as fabric. This non-toxic formula is a revolutionary anti-microbial solution that gives 24/7 protection for your office.

Emist Electrostatic Sprayer

When it comes to applying any form of disinfectant solution, it's crucial to ensure maximum coverage. To ensure the Protect Professional formula works on every surface, we employ the world's most effective cleaning dispenser: the [EMist Electrostatic Sprayer](#).

The EMist positively charges the particles of disinfectant solution, making it naturally attracted to negatively charged surfaces and microbes. So rather than just falling where gravity drops it, the disinfectant actually moves towards the surfaces.

The result is a much more comprehensive, protective clean than someone using a normal spray and a cloth could ever do. Using the Emist Electrostatic Sprayer in conjunction with an innovative disinfection solution is a powerful combination to protect your office surfaces against COVID-19.



2. Nanoksi Photocatalytic Coating

For a longer-lasting solution, Nanoksi from Finland have developed a self-disinfecting treatment. The photocatalysis property of their coating means that exposure to light causes a chemical reaction, forming oxygen radicals that destroy microbes.

Keep Surfaces Infection-Free with Nanoksi Photocatalysis Self-Disinfection coating Solution

Viruses and pathogens typically transmit from surfaces which are used and touched by users on regular basis. Green FM's Nanoksi catalytic coating is installed by spraying the substance on high-touch surfaces.

The coating keeps, for example, walls, door handles, handrails and other bacterial colonies more hygienic. This can have a significant impact in combatting the current coronavirus epidemic.



nanoksi



In addition, the photocatalytic coating of Nanoksi's solution effectively and safely cleans the indoor air. It oxidises molecules that cause unpleasant odours, causing them to be destroyed.

The coating destroys allergens, food and animal odours and various air pollutants. The cleansing is done without chemicals and is completely harmless to humans and the environment.

Care homes, Surgeries, School & Colleges, Health Clubs, Retail Stores and other business sectors can benefit from this treatment. After only a few hours after spraying, Nanoksi coating provides anti-microbial coverage for at least 12 months, working 24 hours a day.

This revolutionary technology works against viruses, bacteria, mould spores and other volatile organic compounds, as proven by researchers at the University of Tampere in Finland.



Case Study: Viola Care Home

Customer Challenge

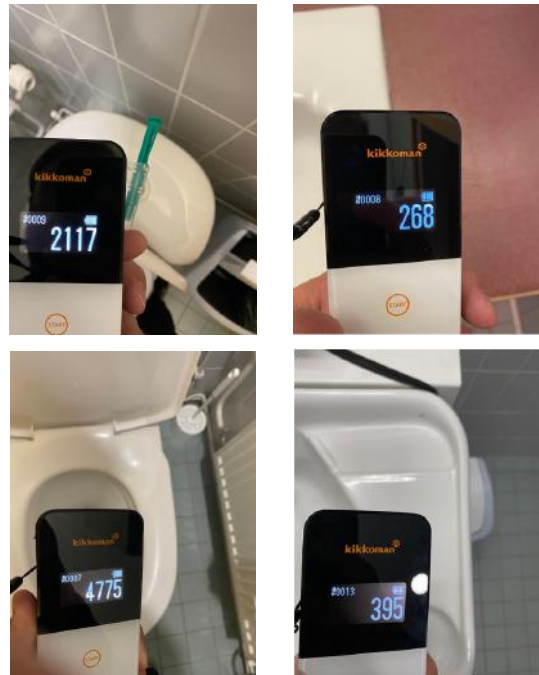
Viola Care Home, a Finnish company providing care for the elderly, were faced with yearly outbreaks of Norovirus and Influenza A virus. These outbreaks significantly impacted the people they cared for, so they were determined to find a solution.

Nanoksi's Solution

After trialing multiple solutions, mid 2017, they reached out to Nanoksi and applied their photocatalytic coating in common areas and restrooms. Nanoksi's photocatalytic coating is a, breakthrough, antimicrobial solution that activates with light and kills all viruses & bacteria for long periods of time (12+months).

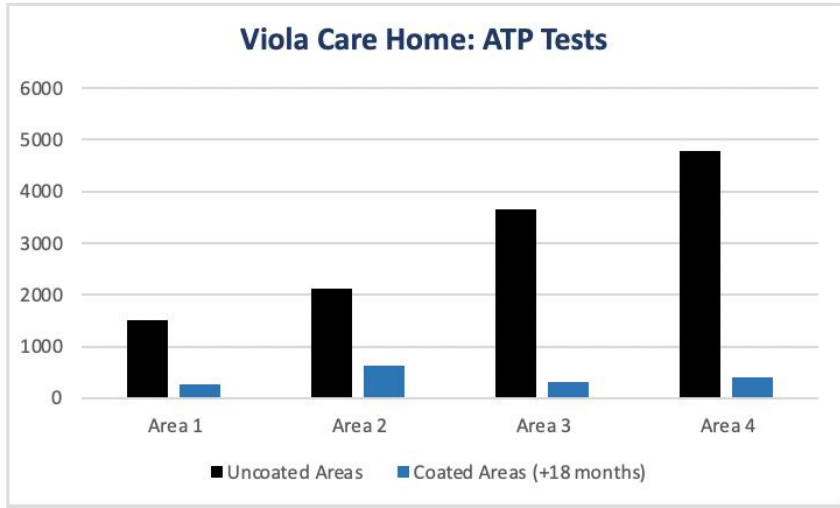
Results

Since Nanoksi's coating was applied, they haven't had a single virus outbreak. Today, 36 months later, the coating is still active and effectively continues to protect surfaces and people against bacteria and viruses.



Uncoated Areas Coated Areas

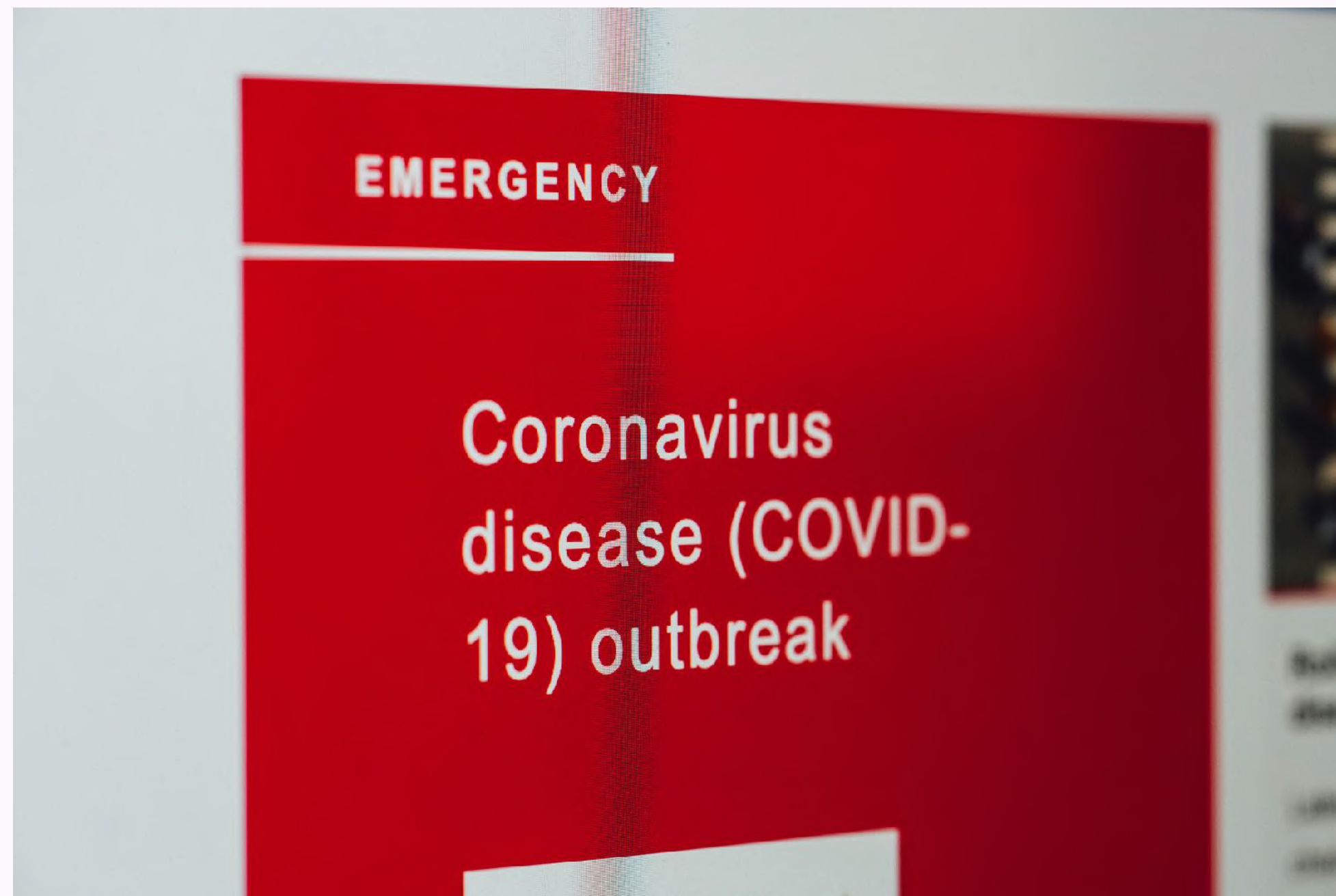
- We conducted ATP tests to measure germ-count on various surfaces and found that 36 months after application, the coating was still effective. See below, a graph highlighting the difference between coated and non-coated areas.



3. Bespoke regular cleaning

All that's required to complete the treatment is capable, BICSc trained operatives to give the highest level of bespoke COVID-secure cleaning. All our staff at Green Facilities are specially trained to apply Protect Professional and Nanoksi treatments, as well as delivering comprehensive cleaning to any workplace.

Request a callback from our team to discuss how we can bring our advanced formulas to your workplace and give it a thorough service. Whether you work in an office, gym, shop, school, restaurant, pub or anywhere – we'll have a bespoke solution for you!



Affordable Hygiene Solution for Critical Touch Points

As discussed, surfaces are amongst the biggest culprits when it comes to spreading COVID-19 and other infections.

Someone with the virus touches a door handle or a communal kitchen worktop, leaves viral particles there, which are then picked up when one of their colleagues touches the same spot.

Then all it takes is that colleague to touch their face or touch another surface and the virus has been passed on.

The preventative cleaning measures in the previous section are very effective, but you can never be sure that you're reaching total surfaces coverage with your anti-microbial disinfectant treatments.

Inevitably spots will be missed, or high viral loads will find a way to survive on small areas.

The main problem is that once applied, liquid coatings are invisible. What can't be missed is a physical barrier on common touch points that make sure microbes can't survive from one person's contact to another's.

This is where our surface disinfection measures come in:

1. Safe Pads & Safe Wrap

One of the most common spots of cross contamination in the workplace is doors. Unless all your doors are automatic or motion sensor operated, anyone entering the office has to make physical contact with a handle or door surface to pull or push it open.

Studies have shown that the coronavirus can survive on some surfaces and remain infectious for [up to 9 days](#). All it takes is for a COVID-positive individual to touch the door, followed by someone else who then touches their face. Then the virus has been transmitted.

The Safe Pad is a self-adhesive anti-microbial covering for door pads. It's available in a range of sizes and its high-visibility yellow or steel patterned design draws attention – highlighting it as a safe spot to make contact with the door.

The antibacterial coating contains silver ions, which are well known microbe-killing compounds, meaning nobody will pick up any live viruses deposited by an infected person.

Fixing a Safe Pad to the push plates of office doors can greatly reduce the infection rate from this all-too-common source of viral transmission. This is a cheap and simple option and its high visibility also gives germ-conscious staff and visitors peace of mind.



In addition to the Safe Pad, the same company produces the [Safe Wrap](#) in identical pathogen-resistant material and eye-catching colour.

Effective against the coronavirus, as well as other viruses and common bacteria, the safe wrap comes in different dimensions so it can be fitted safely to door handles, stairway rails, and even supermarket trolleys and basket handles.



Even when the pandemic ends, 95% of people on average fail to wash their hands thoroughly enough to kill harmful bacteria. Wrapping common surfaces around the office in this conspicuous, easy to use self-adhesive layer will kill dangerous and infection-causing microbes on contact.



2. Purehold Hygiene Door Handle Covers



Disinfectant spray can easily cover the outward-facing surface of a door handle, but miss the inner edges where your hand naturally reaches – even with the advanced ionising EMist sprayer technology. Therefore, the most effective solution is to cover all 360 degrees of a cylindrical door handle with an anti-microbial substance.

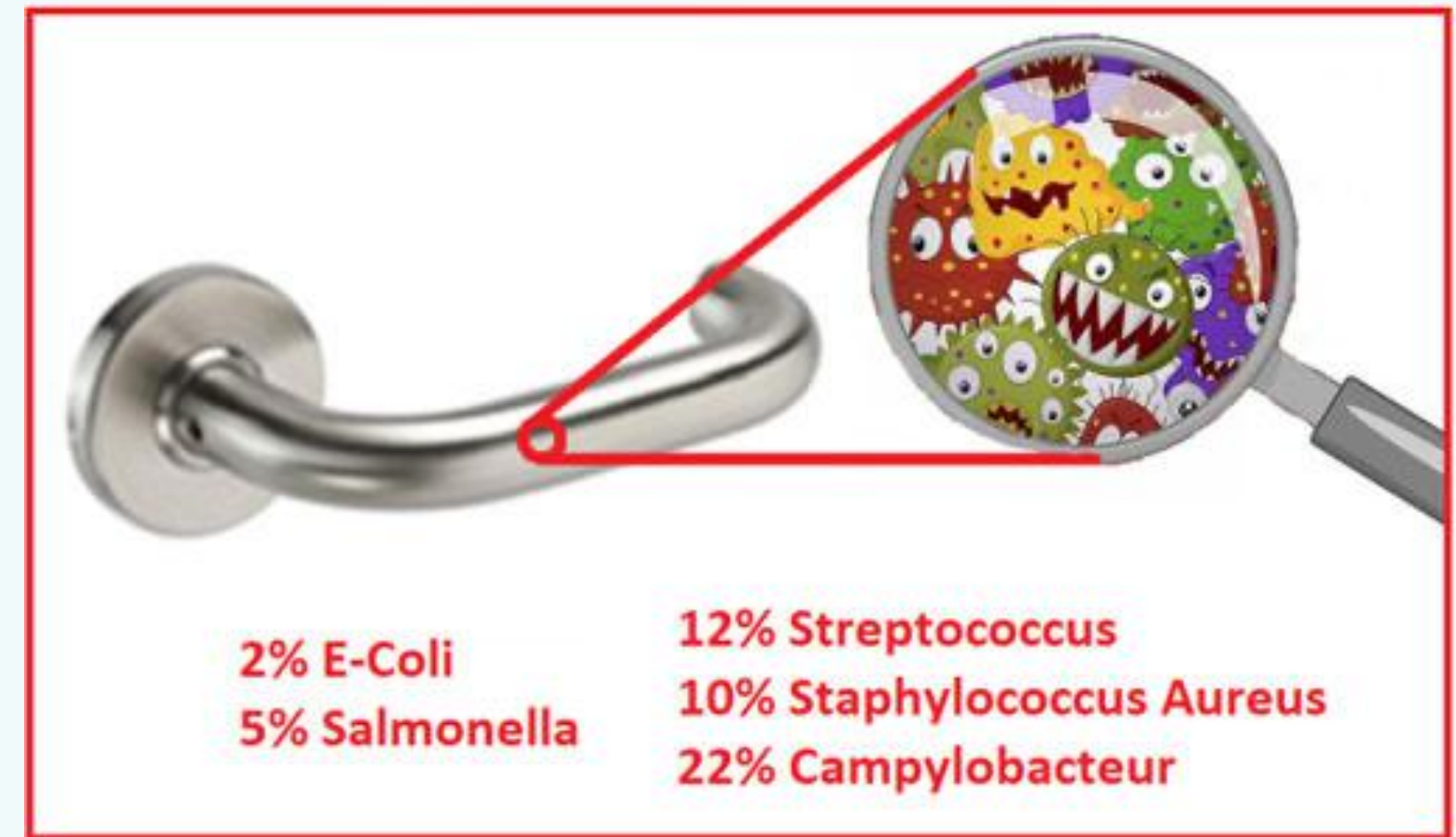
Like the Safe Wrap above, door handle covers from Purehold Hygiene completely encompass the area around a door handle.

Green Facilities stock and install these simple attachments containing microbe-killing silver technology. Used in combination with Purehold antiviral pads for push-doors, these cost-effective, toxin-free items can ensure that entering or leaving a premises is safe.

Purehold covers fit to most kinds of door handle with a simple attachment, killing pathogens like COVID-19 on contact by silver ions penetrating microbe membranes.

They don't replace the need for manual cleaning, but they are many times safer than leaving a normal metal handle uncovered when multiple office users are present.

Purehold also produce Push plates to cover doors that open away from you. Using the same silver ion technology, these pads act against surface microbes to reduce COVID-19 risk common entryways and exits.



Air Purification and Sterilisation

Improving the quality of the air in the workplace

With PPE and social distances measures, appropriate levels of cleaning and surfaces protected, you are preventing the main causes of COVID-19 infection in your office already.

However, we know that airborne particles are also responsible for significant spread of the virus, especially with the newer, more infectious strains. Coughs and sneezes can shoot moisture into a wide space, especially in enclosed environments. Even just speaking or breathing without a mask on can emit dangerous levels of virus from an infected person.

Therefore, disinfecting the air in your workplace will reduce the amount of coronavirus flying around and minimise this final route through which the disease is spread.

We have 3 groundbreaking technologies to cleanse the atmosphere in your office:

1. Purer Clean Air Products



What if you could filter all harmful pathogens from the air and turn them into oxygen and water? That's exactly what the remarkable DNO filters do in Purer Clean Air products.

These state-of-the-art machines have been tested by a 3rd party lab and shown to kill more than 99.9% of coronavirus particles. With this equipment, you can have medical-grade air purification in your office – they already supply to GP surgeries, dental practices and other businesses around the UK.

With Purer Clean Air you can also be assured that there are no harmful by-products or toxic chemicals involved – all air passes through their unique filters and any airborne pollutants are instantly oxidised and killed. You can even change the filters without wearing PPE.

2. Rensair Air Purifier

For hospital-grade air purification, the portable unit from Rensair is a simple, 99.97% effective microbe killing solution. You just wheel the unit into a room, plug it in and turn it on, and it can run for 9000 hours before needing any maintenance, filtering 560m³ of air per hour.



— INTRODUCTION

RENSAIR

Clean air for every space

Clean air has never been more important. We have made hospital-grade air purifiers available globally.

The Rensair air purification technology was originally developed for Scandinavian hospitals, meeting strict air quality requirements.

It is a patented solution that uses the most advanced purification technology and the efficacy is documented by independent laboratories.

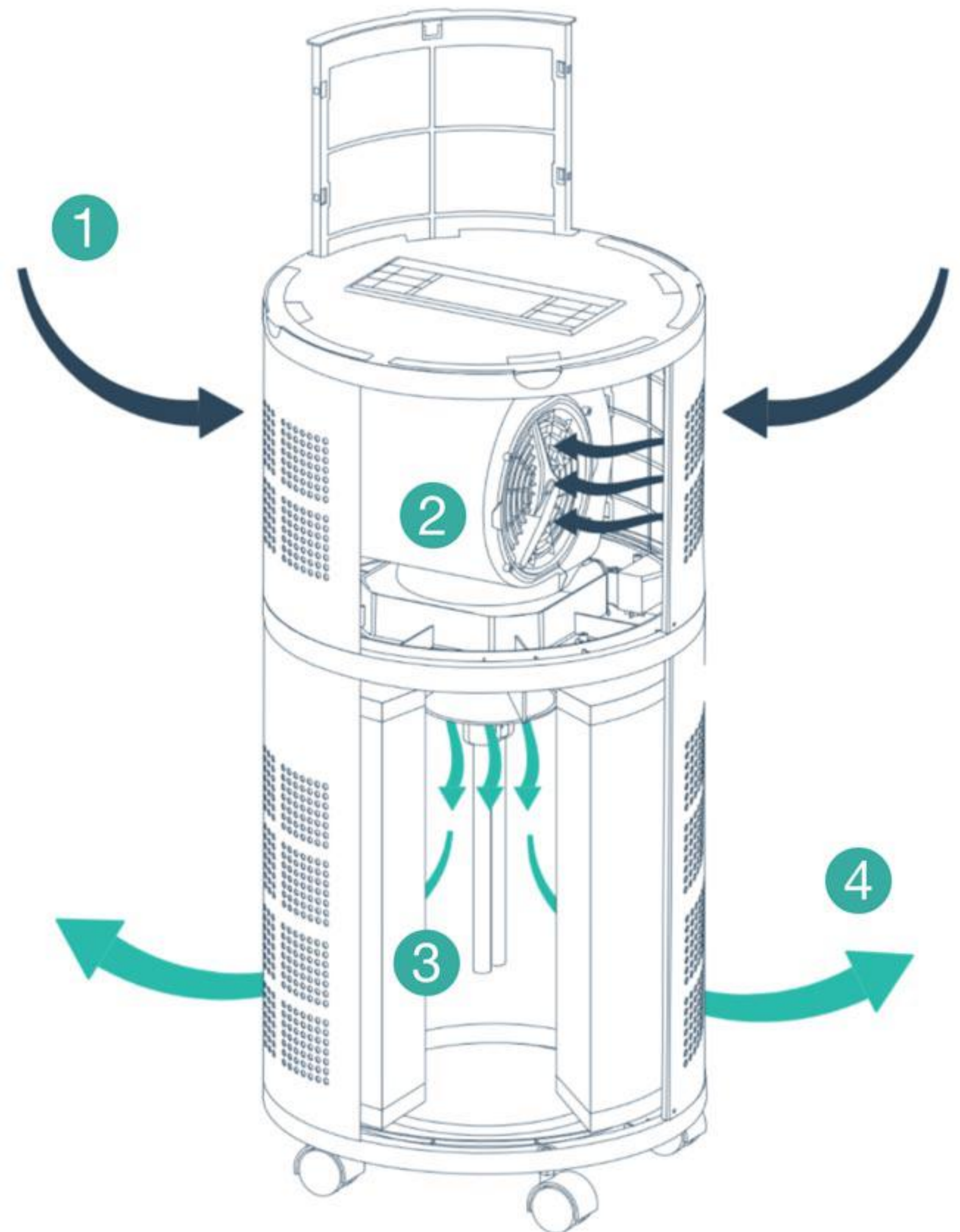
rensair.com

The image shows a white, cylindrical Rensair air purifier with a perforated metal mesh on its sides. It has a top handle and four casters at the base. The background is a light gray gradient.

With an elegant design, the Rensair fan takes air into its circular filter, and there microorganisms are hit with a permanently illuminated UVC lamp, destroying their DNA. The clean air is then emitted from the unit in 360 degrees.

Tested for efficacy by multiple bodies including Oslo University Hospital, the Rensair purifier can adjust its airflow based on the level of impurities it finds in the air.

It also doesn't matter where in the room you position the unit. We recommend Rensair for any office where you just want a simple, easy air purification system – plug it in, let it run, and be assured of a COVID-free office airspace.



3. Viralair-UV ISG Air Sterilisation



Another portable unit using UVC radiation to safely kill microbes is the Viralair-UV from ISG. With a higher capacity of 800 cubic metres per hour, we'd recommend using this product for larger, open plan office spaces.

Like the Rensair, the Viralair can be easily plugged in and safely, quietly run while people are in the room, as the UV lamp is securely contained inside the unit. Unlike its competitor, however, there are no filters to replace and no need for annual servicing.

Drawing in air, the Viralair unit sterilises SARS-CoV-2 viruses and other pathogens inside the unit with UVC, then expels the clean air into the room. Its compact size and portability make it perfect for hospitals, dental surgeries and office spaces.

Conclusion

Creating a safe environment for staff to return to is going to be one of the biggest challenges for 2021 as offices reopen. Now the government has a plan to get the country moving again as vaccines increase and infection rates decline, it's up to business owners and facilities managers to prepare their buildings and workplaces.

If you follow the Green Facilities 3-pronged approach, you'll be in an excellent position to keep the coronavirus from spreading in your office, regardless of your business sector.

Our 3-point strategy is designed for all kinds of workplaces, including:

- **Offices**
- **Retail stores**
- **Restaurants**
- **Salons**
- **Gyms**
- **Schools & colleges**
- **Cinemas & theatres**

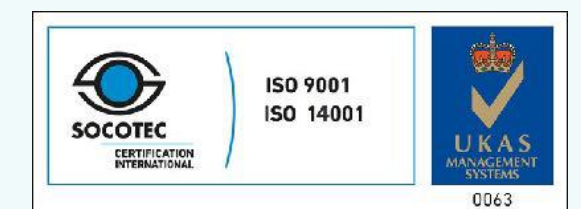
We hope we've given you helpful tips in this guide on stocking up PPE, arranging effective cleaning programmes and using the latest technology to mitigate the chance of spreading infection in your workplace. Remember:

- 1. Preventive Cleaning**
- 2. Surfaces disinfectant**
- 3. Air sterilisation**

As a modern commercial cleaning company we're committed to using the latest innovations to promote hygiene and fight infection. Our 10 years of experience have given us expertise on what works and what doesn't, and we're a trusted partner for a range of workplaces and businesses, from leisure centres to medical surgeries.

We're also proud of our environmental credentials – we're called *Green* Facilities Management for a reason! We take our responsibilities as a green cleaner very seriously, consistently maintaining the standards required of us by our ISO9001, ISO14001 and ISO45001 certifications.

We'll leave you with a helpful checklist of COVID-19 minimising practices and solutions at the end of this guide. But if you want any more information about the products mentioned in this eBook or any of our services, don't hesitate to get in touch. We're committed to helping you keep your workplace safe and sterile as we look forward to a post-pandemic future.



COVID-19 Facilities Management Checklist

Personnel

- Working from home – is everybody remote who can be?
- Work rota/teams – are those who have to come to work scheduled at different times? Does the rota ensure not all staff are present at once (in case an outbreak occurs amongst half the team)?

Work space organisation

- One way system – does your space need one and is it clearly marked out?
- Entry/Exit points – are there separate entrances and exits and are these signposted?
- Visitor routes – where can external people go/not go?
- Social distancing – are work stations sufficiently far apart?
- Signage – is there clear, consistent information throughout the office for staff and visitors to learn new measures?

Other areas of the building

- Washrooms/toilets – are social distancing measures in place (e.g. closing every other sink)?

- Communal areas – kitchens, break rooms: How many people are allowed in at a time? Is there a procedure and equipment for individuals to clean down areas after they've used them? Can lifts be used? Is there a contactless system in place to access different parts of the building?

Personal Protective Equipment and sanitising products

- Face masks – what is the company policy for wearing them? Do you have spare stock for visitors/clients?
- Other PPE provision – does your business need to provide gloves, gowns, face masks, shields, or visors?
- Hand sanitiser – is this accessible for everyone? How much will be required? Is a procedure in place for who/when/how to use it?
- Alcohol wipes for workstations – do staff have the means to clean their keyboards, phones, desks, etc.
- Cleaning equipment for kitchen surfaces and communal areas – do employees have the means to contribute to disinfectant efforts where required?

- Doors – are Safe Pads or handle covers being installed on all doors? Is there a way to keep doors open (without breaking fire regulations)?

Cleaning

- Schedule – how often will your cleaning services provider visit and when are the optimum times? How long will their visits take? Will the space need to be free of staff to carry out thorough cleaning?
- Areas – which areas need special attention? Do some places need more cleaning than normal? What does the cleaning provider recommend? What hotspots can you highlight specifically related to your workspace?
- Equipment – do you need to install a sterilisation system (like Viralair), use UV lamps, and is the cleaning provider using the most effective technology to ensure COVID-security?

Cleaning technology

- Preventive Measures – stop COVID-19 from establishing itself in your office in the first place. Consider: Protect Professional anti-microbial coating or Nanoksi photocatalytic coating – with EMist sprayer
- Surface Cleaning – 80% of common infections come from touch. Prevent passing on the virus through surfaces with: Safe Pads, Safe Wraps, Purehold Pads and Door Handle Covers.

- Air Sterilisation – prevent airborne coronavirus and other pathogens spreading from infected breath. Clean the air with 99%+ effectiveness using: Purer Clean Air, Rensair or ISG Viralair-UV units

Miscellaneous

- Track and trace – does the business need to take contact details for customers? What's the company procedure if an infected person reports their visit?
- Swab tests – do you need to regularly test employees for COVID-19? If so, how often and what is the procedure if someone tests positive?
- Communication/information – as well as signage, is there sufficient training and educational resources for staff and visitors to take on board new health & safety measures such as handwashing, social distancing, etc?
- Quarantine/self-isolation procedure – who needs to isolate and when? Check the latest government guidelines. Do any customers or visitors need to be informed if they have been in contact with an infected member of staff?