

# **FLY INTO A NEW AGE OF DISINFECTING**

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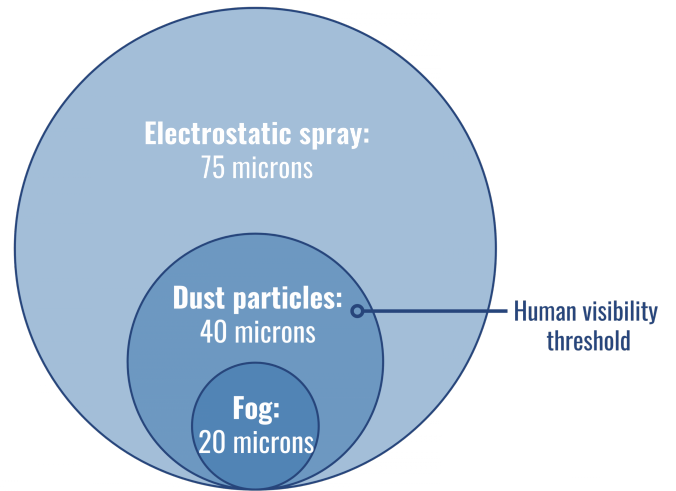
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# AT A GLANCE

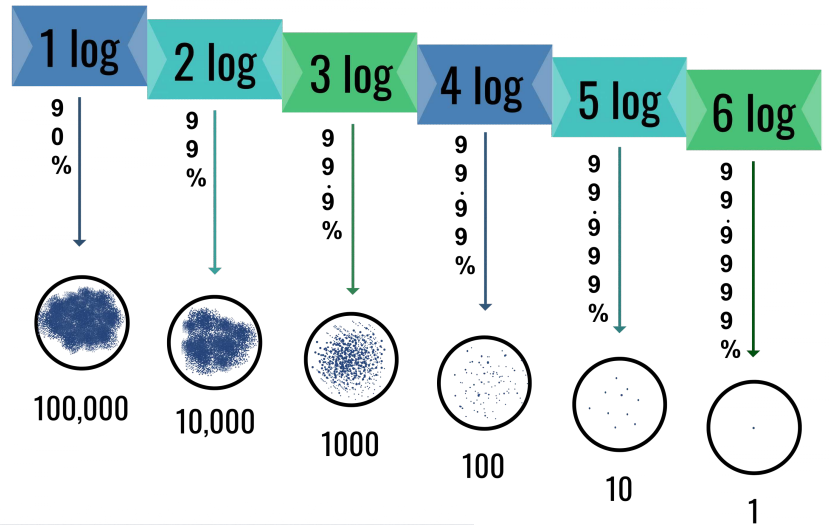
## THE AUTONOMOUS DISINFECTING ROBOT



Extensive disinfection techniques are better for business.



*“Knowing that Breezy One is sanitizing everything before I come to work gives me peace of mind.”*



Feature	Breezy One	UV Robots
Exposed vertical surface coverage	100%	100%
Horizontal and porous surface coverage	100%	50-95%
"Shadow Zone" coverage	100%	0%
Time to treat 100,000 sq. ft.	1 hour	20 hours
Pathogen Elimination*	99.9999%	up to 99%

# SUMMARY

Health and safety are never going to stop being important. The COVID-19 pandemic showed the world that improvements in cleaning and disinfecting were necessary, and that janitorial staff have a dangerous yet essential job. Innovative disinfection techniques are coming into the picture to make their jobs easier and to keep everyone safer. Disinfecting robots and electrostatic sprays are just some of the options that businesses can choose from to keep their customers and

employees safe. Breezy One™, the autonomous disinfecting robot, is a great tool for the routine cleaning of large spaces while still getting all the hard-to-reach areas. The disinfectant even removes germs in the air. The Albuquerque International Sunport has already seen the benefits of Breezy One™, and other airports are also using new forms of technology to keep their establishments clean and safe.

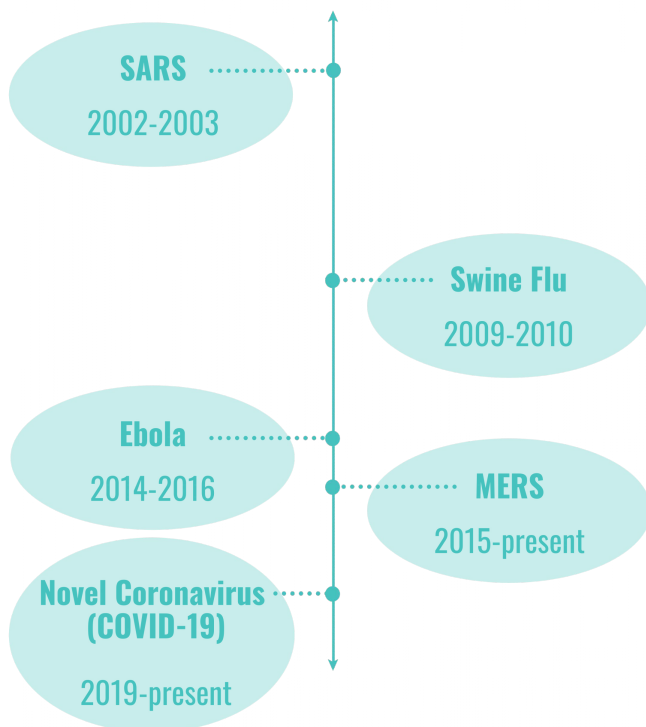
# THE PROBLEM

Over the past year, the cleaning products industry has boomed, workers got accustomed to wearing masks, and people have learned to limit time outside of their homes. As the world moves back into pre-pandemic normalcy, businesses need to continue prioritizing health and safety for multiple reasons. COVID-19 is not gone yet, nor will it be the last virus to worry about. Before COVID-19, there was MERS, Ebola, swine flu, and SARS - and this is just since the year 2000. With air traveler volumes hitting the highest levels since pre-COVID-19, a greater effort can and should be

made to reduce transmission of all other illnesses.

**Many people want to believe that this period of prioritizing cleaning and disinfecting will be temporary.** In reality, COVID-19 was just a wake-up call, an opportunity for change. Health and safety must remain at the forefront of everyone's minds. For businesses, understanding the terminology and proper methods will allow them to continue making the right decisions regarding the health of their employees and customers.

## PANDEMICS IN THE 2000S

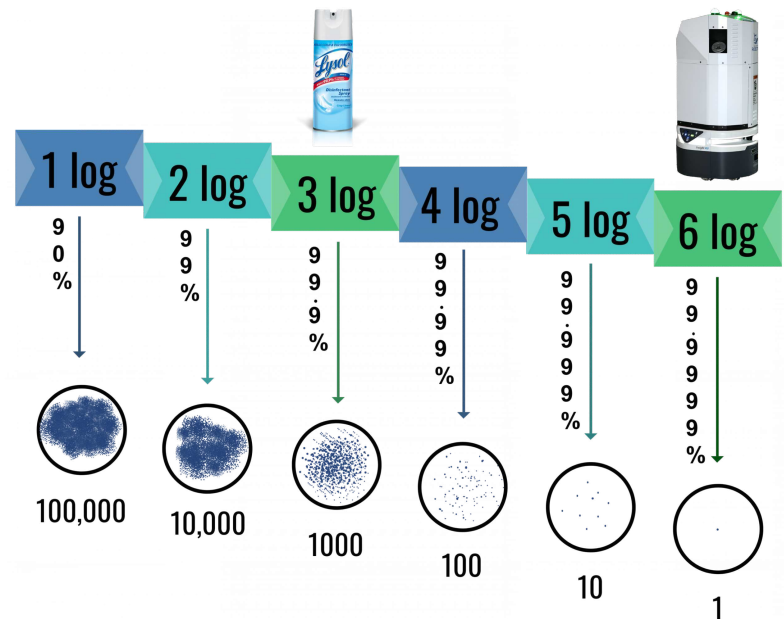


### Hygiene Terminology

**Understanding the separate functions of cleaning and disinfecting is the first step towards maintaining a safe business and workplace.** Cleaning is the removal of visible particles, such as dirt and dust, from surfaces and objects (CDC 2016), whereas disinfecting actually kills germs and bacteria with chemicals. These chemicals require certain dwell times in order to properly decontaminate a surface (MedlinePlus, 2020). Together, these two actions can make any surface highly hygienic.

# THE PROBLEM

A log kill, or log reduction, is a mathematical term that shows the number of live bacteria eliminated through disinfecting. If a surface starts with one million colony-forming units (CFUs), a 1-log reduction (90%) would leave 100,000 CFUs, a 2-log reduction (99%) leaves 10,000 CFUs, and so on (Kochelek, 2019). Lysol wipes and other “disinfecting” products have a 3-log kill, meaning they reduce bacteria by 99.9%. However, the EPA guidelines require a 6-log kill (99.9999%) in order to qualify a chemical as a disinfectant. This knowledge is crucial when choosing how to keep any place safe.



## Protecting Those who Perform the Work

Another issue to be addressed is the health of janitors. Everyone who continued working in-person through the pandemic put themselves at risk, but janitorial staff were particularly likely to be infected since they handle trash, clean up bodily fluids, and are required to look after places that hold high numbers of people (CDC, 2021). In the case of airport staff, the

workplace is going to continue to grow busier. Air travel is expected to surge in the second half of 2021 (ACI, 2021), so the number of people and germs that janitors will be exposed to will likely increase. **This occupation is valuable and indispensable, but the risks can be reduced.**

# THE SOLUTION

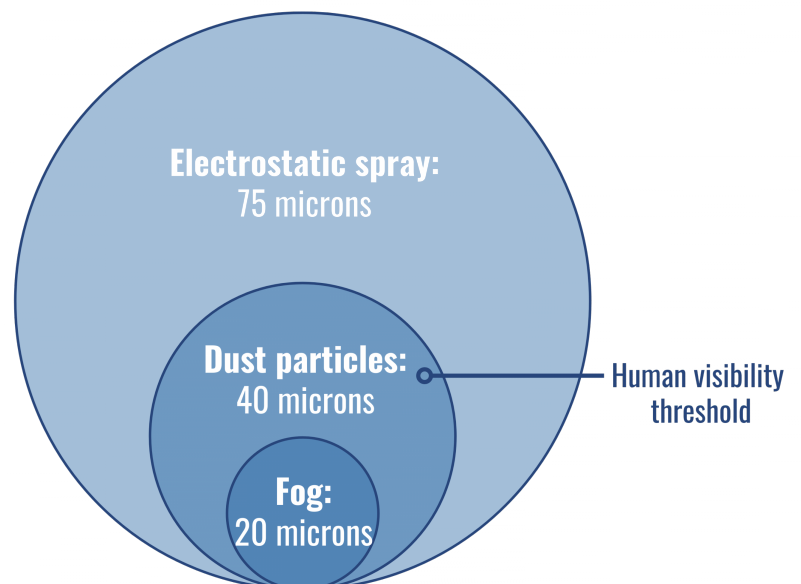
Autonomous robots are advancing, and they are being designed to help people at scale. Breezy One™ is a disinfecting robot, and its function is to work alongside janitors to take the danger and risk out of their work. Breezy One™ can disinfect large areas before the cleaning team goes in, ensuring their safety. Each robot is quick and efficient, **disinfecting 100,000 square feet in less than one hour.**

Breezy One™ uses DF-500 disinfectant, an EPA List-N approved chemical with a 6-log kill (99.9999% reduction). The disinfectant was designed by Sandia National Laboratories for the fast and efficient decontamination of large areas, and it is certified by the Green Clean Institute.

Breezy One's disinfectant **penetrates fabrics and gets under surfaces and around fixtures, killing off viruses, bacteria, and spores.** When individuals are tasked with cleaning and disinfecting, it is tedious to get every chair handle, chair back, table surface, keyboard, door handle, and the other tiny spaces where germs and bacteria live and grow. Expecting janitors to do this every day is unrealistic, but Breezy One™ does this and more, **disinfecting upholstery, vents, and**

**even the air.** The dwell time is relatively short, so people can return to an area thirty minutes after Breezy One™ rolls through. The fog is safe around items such as electronics since the particles are extremely small, appearing more similar to a mist than a heavy fog.

An important distinction to be made is between using a disinfecting fog as opposed to a spray. Foggers produce particles in the 10 to 30 micron range, whereas sprays have larger particles (40 to 160 microns). For reference, the human visibility threshold is around 40 microns, which is about the size of dust particles. Electrostatic sprays have grown popular because they use charged particles that stick to and spread equally across surfaces with great disinfecting coverage. These sprays are typically between 65 and 85



# THE SOLUTION

microns, which is more than twice the size of fog particles. This difference means that electrostatic sprays fall immediately to surfaces, whereas **fog has the ability to stay in the air for tens of minutes, combatting both surfaces and airborne illnesses such as COVID-19.**

## Alternatively...

UV robots use UV radiation to disinfect water, air, surfaces, and more (CDC, 2016). While UV robots can decontaminate surfaces well, they do not have the same amount of coverage that Breezy One™ can reach. There is no dwelling time, but their pathogen elimination rate is 99% or less, only a 2-log kill, whereas Breezy One™ has a 6-log kill.

Another alternative to Breezy One™ is manual fogging. However, this requires people in HazMat suits, taking ten hours to do what a robot could do in one. Hiring a team to fog a building is expensive, and it is impractical to do this every day. Asking people to do the labor can be costly and dangerous, and in this day and age, it is just unnecessary.

Fogging, electrostatic sprays, and UV disinfecting all have their benefits and drawbacks. Breezy One™ was designed through years of research, and it works efficiently to disinfect every surface, as well as the air. Every business has different needs and preferences, so pick what is right for you.

Feature	Breezy One	UV Robots	Manual Fogging
Exposed vertical surface coverage	<b>100%</b>	<b>100%</b>	<b>100%</b>
Horizontal and porous surface coverage	<b>100%</b>	50-95%	<b>100%</b>
"Shadow Zone" coverage	<b>100%</b>	0%	<b>100%</b>
Time to treat 100,000 sq. ft.	<b>1 hour</b>	20 hours	10 hours
Pathogen Elimination*	<b>99.9999%</b>	up to 99%	<b>99.9999%</b>
Amount of time space is uninhabited	20+ minutes	<b>During use</b>	60+ minutes
Post-treatment anti-microbial protection	<b>Yes*</b>	No	<b>Yes*</b>
Remote monitoring and reporting	<b>Yes</b>	?	No
Fully automated	<b>Yes</b>	<b>Yes</b>	No
Consistent application	<b>Yes</b>	<b>Yes</b>	No
Efficacy testing	<b>Yes</b>	?	No



# THE OPPORTUNITY

In addition to all of this, your customers need to feel safe in your establishment. Most people are visual learners and trust what they see. Any company can claim that they have put new measures in place to ensure customers' safety, and this is something that has been said repeatedly. However, seeing physical evidence of change and of safety is what will allow many people to trust an establishment. If an airport hires a few new janitors and improves the cleaning requirements, most of their customers will not be aware of this. Seeing an autonomous robot roaming around will show people that new methods of cleaning are being implemented, and this fact will stick in their mind.

## Accreditations

Breezy One™ can also assist in gaining GBAC STAR Facility Accreditation, ACI Airport Health Accreditation, and more. These programs:

- Validate an airport's safety measures and disease prevention techniques,
- Ensure that a facility uses proper cleaning/disinfecting protocols and appropriate work practices to reduce biohazard risks,

- Promote professional excellence regarding hygiene, and
- Demonstrate to passengers, staff, and regulators that the facility prioritizes health and safety (ACI & GBAC, 2021)

Autonomous disinfecting robots can help you accomplish this. Using tools like Breezy One™ will elevate your business by demonstrating your commitment to keeping your staff and visitors safe and healthy.



# THE OPPORTUNITY

## Albuquerque International Sunport

New Mexico's largest commercial airport, the Albuquerque International Sunport, was one of the first places to use Breezy One™. With four Breezy Ones around the airport, nightly sanitizing runs are quick and easy, and keep the Sunport clean and safe for the passengers and employees. The custodial staff is protected from exposure to germs and harsh chemicals, and they no longer need to spend extra time on rigorous sanitation procedures (ABQ Sunport, 2020). The janitors themselves agree that Breezy One™ not only makes their jobs easier, but it helps them feel safer from the risk of COVID-19, giving them peace of mind.

***“Knowing that Breezy One is sanitizing everything before I come to work gives me peace of mind.”***



***“You have peace of mind, you feel safe, and you have nothing to worry about.”***



***“It's good to have someone care about our safety. It means something; it means a great deal to me.”***

# THE NEW AGE OF DISINFECTING

Adaptability is an essential skill for businesses. The pandemic has changed the way people think about germs and disinfecting, and it will have a lasting effect on cleaning expectations and methods.

Returning to business as usual should not mean easing up on sanitation requirements. New problems will arise, and old issues will persist. Moving forward, technology will continue to assist in

making life easier and safer. Disinfection methods have been evolving slowly over time, but only recently has it been at the forefront of most people's minds.

As travel increases, airports are looking into new ways to keep their employees and customers safe, so don't get left behind. Fly into the new age of disinfecting with Breezy One™.

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