FAQs

Have a question? See if we answered it below. If we missed something, feel free to get in touch with us.

SYNEXIS ESSENTIALS: Who we are, what we do, and how we do it

+ What is Synexis?

Founded in 2008, Synexis® LLC is a pioneer in the microbial reduction of occupied spaces. Using our patented technology, Synexis is the sole developer of the process by which naturally occurring oxygen and humidity are taken from the air to create Dry Hydrogen Peroxide (H_2O_2), otherwise known as DHP™. Wherever air goes in an indoor facility, so too will DHP™ to help reduce the presence of viruses, bacteria, mold, odors, and insects.

The Synexis BioDefense System also underwent rigorous testing by Underwriters Laboratories (UL) and was certified to meet UL2998 for zero ozone emissions—working continuously without disruptions or changes in workflow. Synexis currently holds 16 granted US patents with 17 pending.

+ How did Synexis get started?

Jim Lee, the Founder of Synexis, attended West Point where he studied Radiological, Chemical, and Biological Defense. After serving in the Army, Jim returned to West Point to the Chemistry Department, where he directed the academy's largest academic course. During this time, Jim was charged with creating more robust means for biological detection; this proved to be inefficient and uneconomical. Jim then switched the approach by developing a prophylactic means for mitigating biological contaminants. This is how the Synexis technology known as Dry Hydrogen Peroxide was invented.

+ What is Synexis DHP™ Technology?

Synexis DHP™ technology, also known as Dry Hydrogen Peroxide, is the true gas form of hydrogen peroxide, created by our patented technology—which uses oxygen and humidity naturally present in the environment. Check out our patents here.

Our Synexis devices are designed to have air flow across our polyester fiber mesh sail (coated with our proprietary catalyst). Synexis devices reconfigure ambient oxygen and humidity into DHP™ molecules.

Since it's a true gas, DHP™ flows unaided to every corner of the occupied space, reducing viruses, bacteria, mold, odors, and insects in the air, on surfaces, and the most hard-to-reach places. When Synexis technology is installed, it operates safely, effectively, and continuously, requiring maintenance only once every 90 days.

+ Is it safe?

Synexis DHP™ technology is present at concentrations well below those naturally maintained inside the lungs. Our DHP™ is never present at levels that exceed the OSHA limit for hydrogen peroxide in the workplace.

Additionally, the Synexis BioDefense System also underwent rigorous testing by Underwriters Laboratories (UL) and was certified to meet UL2998 for zero ozone emissions.

+ Where can Synexis technology be deployed?

Synexis is ideal indoor spaces of any size—including retail stores, restaurants, fast food chains, university housing, professional sports facilities, corporate office buildings, hospitals, nursing homes, and film & television production lots.

SCIENTIFIC INQUIRY: A deeper dive into the smart science of Synexis

+ Does Synexis have data to support its efficacy claims?

Yes, Synexis has conducted numerous studies with controlled and uncontrolled (real-world) environments. Check out our data and our peer-reviewed, published studies. Get in touch as well to see more of our findings.

+ How does it work to reduce the presence of microbes in air and on surfaces?

Our DHP™ molecule has a structure similar to a water molecule. All microbes (like viruses and bacteria) are attracted to our DHP™ molecule just like water. However, unlike water molecules, hydrogen peroxide oxidizes the microbes' cell membrane and disrupts their chemical structure.

Synexis DHP™ technology denatures critical components of the microbe's outer cell membrane leading to its destruction.

Liquid hydrogen peroxide, like the kind that's sitting in a brown bottle in your medicine cabinet for cleaning cuts and scrapes, must compete with water molecules for access to these points on a microbe's cell membrane. DHP™ is effective at lower concentrations because it is a true gas and non-aqueous.

+ Does DHP™ reduce the presence of fleas, flies, mosquitos, and other insects?

Many insects breathe via tracheal tubes which are irritated by DHP™. They respond to this by either going into dormant and dying, or fleeing the DHP™ environment altogether. Dig into our data for more.

+ Is equipment oxidation a problem with this technology?

No, oxidation and degradation of materials is not a problem with our technology. Because there's no water associated with our product, it's non-acidic and noncorrosive. Synexis DHP™ technology is a true dry gas.

+ What is the difference between an enveloped and a non-enveloped virus?

All viruses are protected by a shell made out of protein. Enveloped viruses have an additional covering, like Coronavirus (including SARS-CoV-2). This extra layer helps trick the host's immune system by making the virus look similar to a host cell. This envelope is fragile, however, making the virus an easy target when it is outside the host, like in the air and on surfaces.[2,3]

If there's only one shell protecting the virus, it's called a non-enveloped virus, like Norovirus. Even though these viruses are often more difficult to inactivate, Synexis has plenty of data demonstrating efficacy against them. Visit our data page to check it out.

OUR DEVICES: The inner-workings of our Synexis BioDefense System

+ How do we know Synexis is working?

Provided your Synexis system is properly maintained, Synexis DHP™ technology will deploy throughout your space. To optimize performance, consult with a Synexis sales representative before installing to make sure your space is suitable for our technology.

+ Do room dimensions determine how many devices are needed?

Room size, configuration, and ceiling height all factor into the number of devices required to reach the proper coverage of Synexis DHP™ technology. We look at each building layout on an individual basis—there is no hard and fast rule for the number of devices required to treat a space. This is why it's important to assess how your building 'breathes' and its configuration. We do this by conducting a comprehensive assessment of your space to determine the solution that ensures our technology gives you the best results.

PURCHASING: How to get Synexis into your facility

+ How much would it cost to install the Synexis technology in my business?

The cost of our technology varies, based on the needs of the facility and client. Depending on your facility's needs, there may be little to no installation cost with standalone devices. On the other hand, our in-duct (HVAC) option, the Blade, will require mechanical and electrical installation.

Just get in touch and one of our representatives will be happy to assess the best approach for your needs and provide quotes free of charge.

+ Where can I find the financial terms and conditions?

For specifics around sale, delivery, and equipment, review our financial terms and conditions.

+ Does Synexis have any authorized distribution partners?

Synexis has authorized partnerships with our distributors, TRANE, Roof Care, Reimagined Office Furnishings, Maven, Olivier BioDefense®, Prevenitas, Impact Restaurants, Bentz Jaz, and Capitol International Productions. If you'd like to confirm that you're getting our patented DHP™ technology, just get in touch with us.

+ The oil and gas industry is one of the most heavily regulated industries. Does Synexis have the expertise to partner with this industry?

Synexis has established an exclusive partnership with Olivier Biodefense® as the worldwide distributor of the Synexis BioDefense System for the oil and gas industry. You can contact Olivier Biodefense® directly for more information.

UPKEEP: The simple ways to maintain microbial reduction

+ Does Synexis require maintenance?

While maintenance is a reality for all microbial reduction systems, our devices are designed for ease of use. Your facilities department can likely handle most of the maintenance themselves. Our product manuals can help guide you through the basic steps. To keep your Synexis system in top condition, we recommend following the assigned maintenance schedule.

+ When do I perform maintenance?

Unless you have a unique environment, you'll be on a quarterly maintenance schedule. After "Go Live" (the date your brand new Synexis system is up and running for the first time), routine maintenance is:

Every 90 days: Swap out the old catalyst Sail and MERV 11 filter* with replacements
Every 180 days: Swap out the old carbon filter* with replacement
Every 2 years: Replace the bulb

*For the Blade unit, no additional filters are needed. Your building's HVAC system has its own filters which we rely on to push filtered air through the Blade.

+ Who should I contact for questions and concerns about my Synexis BioDefense System?

Your client service associate is an excellent primary contact. If you're not sure you have one, you can always reach out to us here or call us at 844-352-7680.

+ Would construction in my building affect this technology's efficiency?

We know that you know that major renovations affect pretty much everything. But there are ways we can adjust our technology to compensate. Be sure to let your client service associate know if you are planning on performing construction so we can adjust your maintenance plan accordingly. Your associate will also provide you with tips on keeping your device safe during renovations.

References: **1**. "Hydrogen Peroxide," *Occupational Safety and Health Administration*, 2018, www.osha.gov/chemicaldata/chemResult.html?recNo=630 **2.** "Structure of Viruses, " *Lumen Microbiology [Master]*. https://courses.lumenlearning.com/trident-boundless-microbiology/chapter/structure-of-viruses/ **3.** Zheng J. (2020). SARS-CoV-2: an Emerging Coronavirus that Causes a Global Threat. *International journal of biological sciences*, 16(10), 1678–1685. https://doi.org/10.7150/ijbs.45053