Health is in the air

SANITIZING TECHNOLOGIES AND EQUIPMENTS

CSA SYSTEM S14000

JUST BECAUSE YOU DON'T SEE THE PROBLEM, DOESN'T MEAN IT ISN'T THERE.

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We are an innovative start-up and spin-off of the University of Urbino Carlo Bo. We arose from the merging between university researchers and experts in the aeraulic systems and aerobiology fields. We design, produce and sell the latest generation air sanitizers suitable for indoor environments.

PRODUCTION PROCESS

Research → **Planning** → **Production** → **Validation and certification**

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CSA System Technology

Our patented technology combines continuous air sanitization and purification in presence of people, to achieve maximum health benefits. Moreover, the **CSA SYSTEM** technology is **chemical-free** and **safe** for people.

The **CSA SYSTEM** technology has a **low environmental impact**, being perfectly in line with the ecological transition.
In fact, thanks to the use of the latest generation components, our technology is able to achieve high levels of microbiological inactivation and abatement of the airborne particulate matter, with **minimal energy consumption**.

Our patent is valid in more than 10 Countries on 3 Continents

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OUR PRODUCTS

Our innovative **CSA SYSTEM**s are based on three different methods of sanitization and purification, integrating them within a single device.
The use of UV-C LEDs, ionisation systems and self-sanitising filtration enables a microbial abatement of over 99%.

Eco-Friendly Solution

Our systems are environmentally friendly: the eco-friendly components can be disposed of in a sustainable way and the use of UV-C LEDs technology allows significant energy savings.

Real-time monitoring

A sensor platform allows the effectiveness of the system to be continuously monitored.

Real-Time Monitoring

Our devices are equipped with a **sensor platform** to continuously monitor air quality parameters such as **pressure, airflow speed, temperature, relative humidity, atmospheric particulate matters** (PM10, PM2.5, PM1) and **gaseous pollutants** (VOC, CO2).

Through these sensors, users can view air quality data in **real time** on different platforms, including smartphones. Moreover, data from several devices located in different environments **can be monitored simultaneously** using a single screen. In the future, our systems will be able, through artificial intelligence, to adjust their performances according to air quality parameters and the number of people in the environment.

Features

Reliable

Connected

Easy to use

Modular

Customisable

Measured parameters

CO2

Moisture

Temperature

PM

Noise

Brightness

TVOC

Air pressure

CSA SYSTEM S14000

The **CSA SYSTEM S14000** is a viable solution for sanitising and purifying air in large rooms with a high rate of crowding, such as:

Offices

Industries

Recreational places

By integrating our **CSA SYSTEM S14000** within the heating, ventilation and air conditioning (HVAC) system, it is possible to sanitise and purify the air continuously, even in these environments where, due to the high number of occupants, indoor pollutant concentrations reach high levels.

Recent surveys have shown that the level of **formaldehyde** in workplaces such as offices is about five times higher than the World Health Organisation (WHO) guideline value of 100 µg/m³.

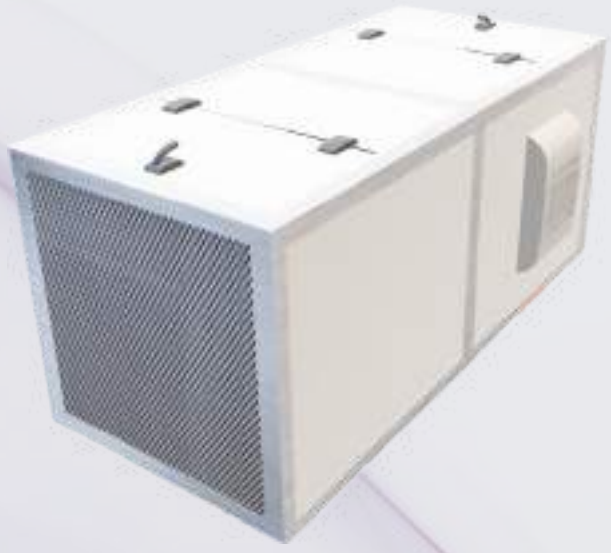
High levels of pollutants are also observed in these crowded places for atmospheric particulate matter:
the maximum indoor concentration of **PM2.5** (199 µg/m³) corresponds to eight and twenty times the daily and annual limits suggested by the WHO for outdoor air; for **PM10** both the minimum and maximum values are higher than the outdoor limits set by the regulations.

Installing our CSA SYSTEM S14000 allows to:

- Sanitize and purify up to 14000m³ of air per hour;
- Monitor indoor air quality in real time with an Artificial Intelligence system;
- Keep the air ducts in clean conditions;
- Reduce energy consumption thanks to UV-C LEDs technology.

The **CSA S14000** can be interfaced or integrated with Air Handling Units (AHUs)

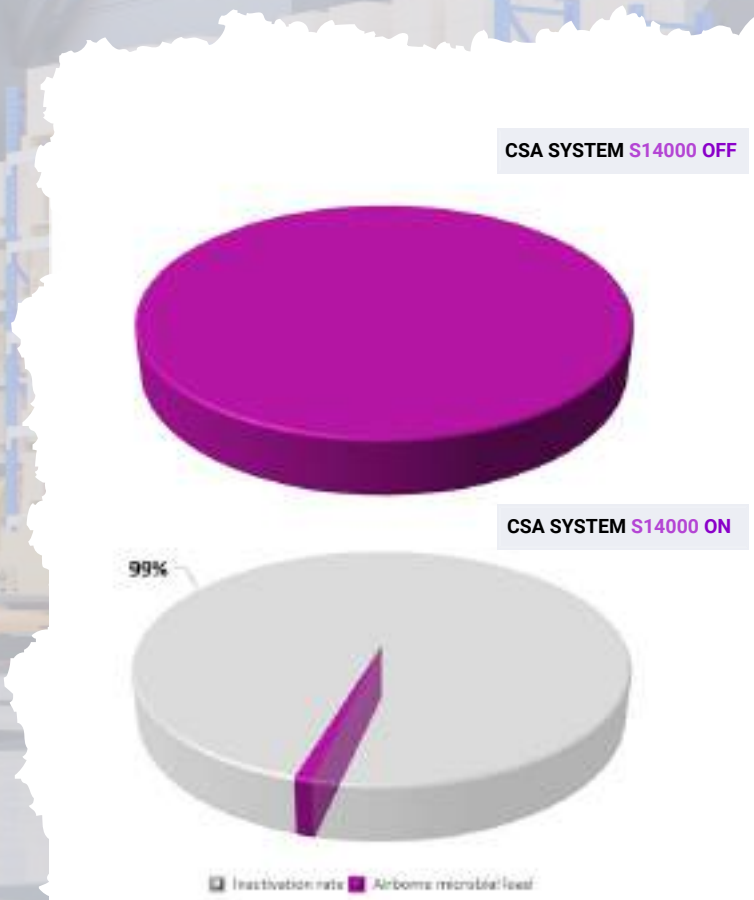
Interfaced



Integrated

Results

The effectiveness of the product was verified through microbial tests conducted in collaboration with researchers at the **University of Urbino Carlo Bo**. **CSA SYSTEM S14000** showed a **microbial abatement efficacy of over 99%.**



Other possible applications

The **CSA SYSTEM S14000** is a valid solution for ensuring a high level of air healthiness also in other places of daily life, where optimal sanitisation and purification are not always guaranteed.
A clear example may be:

Production lines

Airports

Hospitals

Sports facilities

SCIENTIFIC PUBLICATIONS

As a university spin-off, STE develops products and offers services with scientifically validated solutions. In addition, **our products are the subject of many scientific publications** in international journals, available on our website.

Read our scientific publications:

- Baldelli, G., Aliano, M.P., Amagliani, G., Torresan, G., Magnani, M., Brandi, G., Schiavano, G.F. Airborne microorganisms inactivation with a UV-C led and ionizer-based Continuous Sanitation Air (CSA) system in trains environment. Journal of preventive medicine and hygiene. 2021; Vol.62 N.1.

- Baldelli, G., Aliano, M.P., Amagliani, G., Magnani, M., Brandi, G., Pennino, C., Schiavano, G.F. Airborne Microorganism Inactivation by a UV-C LED and Ionizer-Based Continuous Sanitation Air (CSA) System in Train Environments. Int J Environ Res Public Health. 2022;19(3):1559.

- Palma, F., Baldelli, G., Amagliani, G., Aliano, M.P., Brandi, G., Schiavano, G.F. Use of an eco-sustainable UV-C LED continuous sanitation air (CSA) system in indoor sport environments. Journal of preventive medicine and hygiene. 2022; Vol.63 N.2S1.

- Palma, F., Baldelli, G., Schiavano, G. F., Amagliani, G., Aliano, M. P., & Brandi, G. Use of Eco-Friendly UV-C LEDs for Indoor Environment Sanitization: A Narrative Review. Atmosphere. 2022; 13(9), 1411.

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