

PALSOO Aims for the CES 2025 Innovation Award with a Plasma Sterilization Sprayer That Uses Only Water and Air

At the Global Media Meetup Season 2, Palsoo proposed an innovative approach to sustainable ecosystem conservation using natural and public resources.

SEOUL, SOUTH KOREA, September 23, 2024 /EINPresswire.com/ -- From August 27th (Tuesday) to 28th (Wednesday), [PALSOO](#) (CEO Palsoo Jang) participated in the 'Global Media Meetup' Season 2 event at the MIK Basecamp in Seocho District, Seoul, targeting Korean startups. This event, co-organized by [AVING News](#) and the American tech media [Ubergizmo](#), focused on introducing Korean startups' products and technologies to the global market. It targets to expand business opportunities by preemptively reporting through global media about startups applying for the CES 2025 Innovation Award and participating in CES.

Since 2022, PALSOO has been developing a portable plasma sterilization sprayer, completing over two years of R&D. The company is preparing for its first product launch in December. The patented plasma sterilization sprayer, described as the world's first technology to generate and immediately spray sterilizing water using only water and air, has received certification for



On August 27th (Tuesday), Palsoo Jang, CEO of PALSOO, pitched at the Global Media Meetup Season 2 at the MIK Basecamp, organized by AVING News with the American tech media Ubergizmo.



FRIRUS portable sprayer

killing over 99.5% of airborne viruses among more than three international standards (KOLAS certification, KTL (Korea Industrial Technology Test Institute): SPS-KOUVA AS 01-1889 Air Sterilizer, KRIBS (Microbiome Center): Analytical Method (ASTM E2315-16)).

From the plasma sterilization sprayer's development stage, PALSOO has conducted online and offline consultations with various countries. As a result, in 2023, PALSOO signed an MOU and Letter of Intent to Purchase with HOME N STYLE TEXTILES CEO Balaji Rajagopal of India. Furthermore, consultations at CES 2023 led to sharing an export database with companies such as MedScenker Inc. of the USA, RAAS PAL Co., Ltd of Thailand, and TechBlick of Germany. In 2024, prototype supplies are planned through consultations with ESPADA MEDICAL of Turkey and Hijaz Medical Supplies Trading LLC of the UAE.

PALSOO plans to showcase the plasma sterilization sprayer at CES 2025 in Las Vegas early next year and is also challenging for an innovation award.

The portable plasma sterilization sprayer, measuring 485x180x250mm and weighing 3.5kg, is a compact product suitable for all ages, designed with an ergonomic grip at the handle.

The pesticide-free backpack-type sprayer is designed with a 15-degree angle for user comfort, reducing fatigue during prolonged use. The sprayer stick (1m) is made of ultra-lightweight stainless steel, and the backpack's design shifts the center of gravity upwards to minimize fatigue. It can spray continuously for over 60 minutes with a battery charging system and be fully charged (60 minutes) using solar power.

Additionally, when plasma-activated water is aerosolized into droplets, it can remain suspended for an extended period, effectively reducing odors and sterilizing viruses in the air. The system converts water and air into sterilizing water without chemical agents, significantly reducing



ECORO backpack-type sprayer



PALSOO and Ubergizmo during the Q&A session at the 'Global Media Meetup' Season 2.

costs.

This patented plasma sterilization sprayer generates oxygen-based active species such as OH⁻, O₃, and H₂O₂ and nitrogen-based active species such as NO₂⁻, NO₃⁻, and ONOOH through atmospheric pressure corona discharge. These active species react with water to create plasma-activated water, which possesses strong antimicrobial properties and can disinfect substances. The nitrogen in the water also acts as an eco-friendly liquid fertilizer.

The use of eco-friendly materials is also notable. The material of the plasma sprayer is eco-friendly, and the sprayer body, packaging box, portable bag, and catalog are made from biodegradable materials.

CEO Palsoo Jang stated, "The emergence of COVID-19 variants continues to pose a constant threat, while traditional disinfection systems rely on chemical agents, leading to high production and distribution costs. Additionally, these chemicals can be harmful to human health due to inhalation toxicity and residual toxicity. Our plasma sterilization sprayer combines plasma-activated water with a special spray nozzle, using only water and air to enable immediate sterilization and disinfection."

He added, "Our plasma-activated water has been certified to reduce airborne viruses by 99.5% and airborne bacteria by 99.2%. It has also been proven to kill over 95% of E. coli, Pseudomonas aeruginosa, Staphylococcus aureus, and Streptococcus pyogenes within 40 seconds after application. Our certified technology effectively responds to the emergence of coronavirus variants."

This environmentally friendly technology also introduces a new paradigm in organic farming. Applying plasma-activated water to crops promotes healthy roots, stems, and leaves growth by 30-50% or more. Moreover, CEO Jang emphasized that PALSOO's technology effectively protects workers from residual, inhalation, and contact toxicity caused by chemical use in traditional agriculture. Additionally, using various chemical agents leads to soil acidification and water pollution, but the portable plasma sterilization sprayer avoids these concerns.

CEO Palsoo Jang explained, "Recent climate changes have led to more frequent natural disasters such as droughts and floods. Especially in underdeveloped countries, poor sanitary conditions



Palsoo Jang, CEO of PALSOO, Hubert Nguyen, CTO of Ubergizmo, and Seong-Tae Lee, Vice President of PALSOO, posing for a commemorative photo after the Global Media Meetup Season 2.

expose them to the spread of waterborne diseases like malaria, cholera, and typhoid. Our product meets the hygiene needs of the most vulnerable populations in children, the elderly, and developing countries with innovative cost savings."

He continued, "The FRIRUS_24 brand holds a patent for instantly generating and spraying sterilizing water using only water and air. This technology utilizes infinite natural public resources to sterilize and disinfect, presenting an innovative approach to sustainable ecosystem conservation."

At the 'Global Media Meetup' Season 2 event with Ubergizmo held on August 27th, pitching based on these details was followed by a Q&A session. In response to a question about the definition of plasma, PALSOO explained, "Plasma is defined as an ionized state of gas. Just as ice (solid) melts into water (liquid) when heated, and water turns into steam (gas) when heated further, plasma is a state where gas atoms receive sufficient electrical energy to change into electrons, ions, and excited radicals."

They stated that lifespan "varies depending on the temperature and type of plasma. If in a gaseous state, the lifespan is longer but shortens when converted to activated water. It lengthens at lower temperatures and shortens at higher temperatures. Typically, plasma-activated water has a lifespan of about 15 minutes at 25 degrees Celsius, which is sufficient to kill bacteria and is better as it disappears quickly, posing no harm to humans. While plasma and plasma-activated water were discovered long ago, plasma-activated aerosol is new. The lifespan of plasma is very short and difficult to store, but our technology immediately activates the plasma aerosol, making it more effective than other products."

They also noted that any water could be used as long as it does not clog the nozzle, but cleaner water, like tap water, is preferable. In response to a question about usability, they mentioned, "It can also be used in the medical industry, and some hospitals have sought it as a disinfectant. Additionally, if drones are used, they can be utilized in rural areas. The oxygen type kills bacteria, and the nitrogen type acts as a fertilizer, promoting plant growth while killing viruses and bacteria, but it also promotes seed germination."

Finally, PALSOO shared their goal of contributing to society. They stated, "For example, in underdeveloped countries, when floods occur and waterborne diseases break out without medical facilities, our product can be sterilized using only water and air, preventing waterborne diseases. An earthquake that causes buildings to collapse can also be used as a social public good. Secondly, it can contribute to carbon-neutral policies and carbon reduction for global warming. The main body of our machine is biodegradable, and the packaging box also utilizes recycled paper. In this way, we are striving to achieve RE100."

Meanwhile, Ubergizmo, founded in 2005, operates the Silicon Valley Post and posts in six languages, targeting 200 countries worldwide. Focusing on electronics and tech, it covers major international exhibitions such as CES, IFA, and MWC. Hubert Nguyen, CTO and co-founder of

Ubergizmo, attended the event. Hubert Nguyen has worked as a programming engineer at NVIDIA, managed developer education programs, and has been a 3D graphics programmer. He also attends CES annually to cover products and technologies from companies worldwide.

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