



PCS Biosecurity and Plasmacluster Technology Applications in Server/Data Centers

There is a new technology application regarding the prevention of ESD (electrostatic discharge) in server/data rooms and data centers: It is called “plasmacluster” technology. It is proven to mitigate nearly all ESD potentials on surfaces and in the air. ESD is a leading cause of many types of computer equipment failures within server/data centers.



What is the history of this technology?

Plasmacluster ESD mitigation technology has been widely used in industry for over two decades, primarily in small scale tabletop electronics manufacturing. It is an industry standard for ESD control for sheeted material manufacturing such as tape, saran wrap, and packaging. Many manufacturers of electronic equipment utilize plasmacluster ESD mitigation technology when building circuit boards or handling sensitive electronic equipment, but current plasmacluster ESD mitigation technology requires close proximity to be effective.



Plasmacluster technology has been utilized for decades. Only recently having been introduced to server and data center applications. Why is that and what are the new developments?

Until recently there has been little research regarding the extended deployment of plasmacluster technology. PCS Biosecurity solved this issue through years of testing and research involving the behavior of the ionic cluster-field charges, both positive and negative, or plasmaclusters.

PCS Biosecurity developed a process to deploy plasmaclusters in large scale targeted environments at proper density concentrations for maximum ESD mitigation efficacy. The deployment process was developed to run in conjunction with existing HVAC systems, reduce humidity levels, or even replace humidifiers altogether. PCS Biosecurity holds the United States and international patents on the direct deployment process and are the world leading experts regarding that process.



Is this an alternative to humidification?

Yes, however, server/data rooms are typically redundant in HVAC, power supply and humidity. Integrating PCS Biosecurity plasmacluster systems would provide an extra layer of defense against ESD ensuring complete security for server/data rooms.



How does PCS Biosecurity plasmacluster technology compare to humidification regarding ESD mitigation?

Current humidification designs fail to remove ESD potential between some dissimilar plastics, vinyl, and other composites. PCS Biosecurity plasmacluster technology protects the majority of materials found in data centers. Plasmacluster technology is more effective for ESD control with dissimilar plastics and the static charge they produce. In the event of a humidifier failure, plasmacluster technology will protect data centers from ESD events.



How do we know plasmacluster technology is working to mitigate ESD threats?

PCS Biosecurity uses a sensor that measures the plasmacluster density in the data center environment and can provide real time monitoring. Real time data can be sent to the cloud, IoT, PC or cellphone applications. Automated triggers will be established to alarm operators of failures within seconds. PCS Biosecurity systems measure temperature, humidity, and plasmacluster density in real time. The data center will now have a redundant, real-time system for these important metrics.



Will this technology go into any data center or server room?

Yes. PCS Biosecurity has ESD mitigation solutions tailored to meet the needs of existing and future data centers. These include direct deployment plasmacluster solutions to treat server racks as well as point of entry ESD safety stops.



Will the plasmacluster system work with new humidifiers?

Yes. Whether it be electric heating, natural gas, propane, or electro-static humidifiers, PCS Biosecurity systems will work in conjunction with all ESD mitigation systems.



Where is the technology installed?

The PCS Biosecurity systems are typically installed below the false floor of the server racks within the server room. PCS Biosecurity will work with the existing HVAC contractor or engineers to ensure the technology is designed and implemented properly to ensure maximum efficacy.



Does PCS Biosecurity plasmacluster technology require consumables?

No.



What maintenance is required for PCS Biosecurity technology?

Maintenance will consist of periodically replacing easily accessible air filters.



We have an existing mechanical contractor and a service agreement. Is this something they could manage or install?

Yes. A PCS Biosecurity representative will coordinate with mechanical contractors to review existing HVAC systems and determine optimal equipment specifications and placement.



How do we get started with an evaluation?

Contact the PCS Biosecurity team and be ready to answer some simple questions regarding your data center's existing HVAC equipment. The PCS Biosecurity team will then specify the ESD system tailored to meet your specific needs and coordinate an install date.



PCS Biosecurity aspires to become the leader in electrostatic discharge (ESD) mitigation by offering patented, innovative solutions that will revolutionize electrostatic discharge mitigation processes globally.

For more information, please contact us:

info@pcsbiosecurity.com

Aldo Dominguez, CEO
adominguez@pcsbiosecurity.com
417-529-1944