Steinhagen, July 14th, 2023

**MoPlas2Dekon-PRO: Plasmatreat investigates mobile plasma system for room disinfection**

The first tests of this joint project produced satisfactory results.

**Plasma is an innovative alternative to conventional disinfection methods:**

**The antimicrobial effectiveness of plasma has been scientifically proven.**

**Plasmatreat GmbH of Steinhagen, Germany, the world market leader in atmospheric plasma technology, is researching the development of mobile plasma systems for room disinfection in a joint project funded by the German Federal Ministry of Education and Research (BMBF), which is intended to provide valuable support in the fight against fast-spreading pathogens. The joint project is one of five projects funded under the SIFO (German Federal Security Research Organization) call for proposals "Innovations in Operations -Practical Lighthouses of Civil Security".**

Unlike traditional disinfection methods, plasma technology does not use heat, pressure, radiation or chemicals. The fast and environmentally friendly method requires only air, water and electricity. Plasmatreat, a specialist in atmospheric plasma technology, researched mobile plasma systems for disinfecting personal protective equipment for emergency responders in biohazard situations in the successfully completed MoPlasDekon collaborative project. This technology is now to be further developed in the current follow-up project MoPlas2Dekon-PRO, also funded by the BMBF: MoPlas2Dekon-PRO is concerned with the development of compact, mobile and easy-to-use plasma generators with powerful nozzles, which generate reactive plasma gases from normal ambient air by means of a dielectric barrier discharge. In the future, it should be possible to disinfect contaminated rooms in buildings, e.g. clinics, and vehicles (ambulances, public transport) or aircraft within a very short time.

The project team has already started with the first test runs under practical conditions. The new Plasmatreat MoPlas2Dekon-PRO prototype has decontaminated all surfaces in a 30m3 office container at the Fraunhofer IVV in Freising within 30 minutes under real-life conditions.

**In the network to mobile systems for plasma disinfection**

The overall project consists of four subprojects that build on each other and is coordinated by Prof. Dr. Thomas Schmitt-John, head of the Plasma Life Science department at Plasmatreat. Plasmatreat is responsible for the development of the mobile system with high-performance nozzles as well as the initial microbiological evaluation. Other partners in the project are the Fraunhofer Institute for Process Engineering and Packaging in Freising, Germany, which is also involved in the microbiological evaluation. Knestel GmbH, an expert in special electronic and mechatronic solutions, is responsible for the development of a gas sensor integrated into the plasma system for process control and monitoring. Finally, the Bavarian Red Cross will carry out the field tests. The chemical and physical plasma analysis will take place at the Chair of "General Electrical Engineering and Plasma Technology" at the Ruhr University in Bochum.

"We have already proven with the previous project that plasma-activated humidity can be used to increase disinfection performance. The aim of this project is to develop a simple and safe system that can be used to decontaminate rooms in a short time, thus increasing the ability of emergency services to act and counteracting the spread of epidemics. The entire project team is pleased that the first tests for room disinfection have gone well," explains Prof. Dr. Thomas Schmitt-John.

More information is available at: [www.plasmatreat.com](http://www.plasmatreat.com)

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***Info box:***

**How Openair-Plasma and PlasmaPlus optimize industrial processes.**

When plasma with its high energy level comes into contact with materials, it changes the surface properties, for example from hydrophobic to hydrophilic. Plasma technology requires only compressed air and electricity for operation. Fine cleaning with Openair-Plasma gently and reliably removes dust, release agents, additives, plasticizers and hydrocarbons from surfaces. Especially with non-polar plastics, plasma treatment achieves surface activation. It supports the increase of surface energy by introducing hydroxyl groups and thus improves adhesion in subsequent processes such as bonding, printing, painting and sealing. Plasmatreat's PlasmaPlus technology can also be used to create targeted functionalized surfaces with defined properties by applying (depositing) nanocoatings, e.g. as an additional adhesion promoter layer.

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**About Plasmatreat**

Plasmatreat is an international leader in the development and manufacture of atmospheric plasma systems for the pretreatment of substrate surfaces.

Whether plastic, metal, glass or paper – the industrial use of plasma technology modifies the properties of the surface in favor of the process requirements.

Openair-Plasma® technology is used in automated and continuous manufacturing processes in almost every industrial sector. Examples include the automotive, electronics, transportation, packaging, consumer goods and textile industry, but the technology, cost and environmental advantages of the plasma technology are used in medical technology and in the renewable energy sector as well.

The Plasmatreat Group has technology centers in Germany, USA, Canada, China, and Japan. With its worldwide sales and service network, the company is represented in more than 30 countries by subsidiaries and sales partners.

More information is available at: [www.plasmatreat.com](http://www.plasmatreat.com)

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**Images:**



The entire project team is pleased that the first tests under real-life conditions have been extremely positive. (Copyright: Fraunhofer IVV)



Plasmatreat was in charge of the development of the mobile plasma system with powerful nozzles as well as the initial microbiological evaluation.

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