Steinhagen, Germany, August 15th, 2025

**HydroPlasma: Taking industrial surface cleaning to the next level**

At parts2clean 2025 (Hall 10, Booth D52), Plasmatreat will demonstrate how even stubborn residues can be reliably removed live.

**From October 7 to 9, 2025, Plasmatreat GmbH will present a pioneering solution for industrial surface cleaning at the parts2clean trade show in Stuttgart. This solution removes both stubborn organic and inorganic residues and will be showcased in Hall 10, Booth D52. The plasma specialist from Steinhagen, Germany has equipped its Plasma Treatment Unit (PTU) with the latest technology and will bring this system to Stuttgart. HydroPlasma — a combination of Openair-Plasma and distilled water — enables the efficient, environmentally friendly, and material-friendly preparation of substrates for demanding processes such as structural bonding, sealing, or coating.**

In many manufacturing processes, such as those in the automotive industry and renewable energy production, achieving absolute surface cleanliness is crucial for ensuring high-quality, long-lasting results. Residues that can negatively affect subsequent processes, such as fingerprints or oil residues, must be reliably removed. HydroPlasma, developed by Plasmatreat GmbH in Steinhagen, North Rhine-Westphalia, fills this gap by expanding the range of products with its new solution. This process effectively and environmentally friendly removes organic and inorganic residues from a variety of materials.

These basic tasks include ultra-fine cleaning, activation, reduction, and coatings for a wide range of industrial applications.

**HydroPlasma: Live Demo and Fluorescence Analysis**

Visitors can look forward to unique live demonstrations of the new HydroPlasma process at booth D52 in hall 10. The Plasma Treatment Unit (PTU) is equipped with Openair-Plasma and HydroPlasma technology. Metal parts contaminated with fingerprints or oil residues, such as release agents, will be cleaned and analyzed live. Fraunhofer IPM's fluorescence scanner will be used for analysis. The scanner's analysis will clearly show the difference in surface cleanliness before and after treatment by comparing images of the surface before and after cleaning. Visitors are also invited to bring their own flat material samples, which will be cleaned on-site and analyzed with the scanner.

The technology on display enables the highly effective, environmentally friendly cleaning of a wide variety of materials, from flat to complex or large-format components, and is particularly aimed at professionals in parts cleaning, quality assurance, and surface technology.

**How HydroPlasma Works**

HydroPlasma combines the physical cleaning effect of Openair-Plasma — also developed by Plasmatreat — with the chemical reactivity of water. When distilled water is fed into the plasma process, highly reactive oxygen and hydrogen radicals are created. These radicals dissolve residues on surfaces into water-soluble or gaseous components that can be easily removed. This environmentally friendly technology uses water, air, and electricity and does not require chemical solvents or emit VOCs. The water that is fed into the process cools the plasma jet that hits the surface, enabling the treatment of more temperature-sensitive materials.

**A wide range of industrial applications:**

HydroPlasma is suitable for a variety of surface materials:

• **Metal – Improved adhesion of coatings and seals:** Aluminum housings for control units or sensors in the automotive and electronics industries require absolutely clean surfaces to ensure the long-lasting adhesion of protective coatings or sealants. HydroPlasma reliably removes contaminants that impair adhesion or promote corrosion, such as oil residues, processing additives, and salts. The result is more stable bonds, less waste, and more durable components.

• **Plastic – No thermal damage or deformation:** Modern plastics used in medical technology or lightweight construction are often sensitive to heat. The cooling effect of the water used in the HydroPlasma process makes it particularly suitable for plastics with low processing temperatures.

• **Glass – Residue-free cleaning:** Many vehicle and oven windows have a black edge ("blackout") created with ceramic screen printing. This protects the adhesive behind the window from UV light and improves its appearance. However, fingerprints left behind during this process can lead to loss of adhesion or leaks. HydroPlasma offers an effective, environmentally friendly alternative to solvent-based cleaners.

"With HydroPlasma, we offer the industry a powerful, eco-friendly, and cost-effective solution to one of the greatest challenges of modern manufacturing — the reliable, chemical-free cleaning of a wide variety of surfaces. This opens up new avenues for quality and sustainability in production," explains Magnus Buske, managing director at Plasmatreat GmbH. “But our technology is not only suitable for cleaning; it can also be used for coatings. Our PlasmaPlus AntiCorr application is specifically designed for metal applications, such as housing seals in the automotive industry. In this case, we apply an ultra-thin, silicon-like layer that reliably and sustainably protects components from crevice corrosion. This process is already in widespread use and meets the usual climate and salt spray tests, such as PV1209 or the MeKo-S test."

More information: [www.plasmsatreat.com](http://www.plasmsatreat.com)

(approx. characters with spaces)

**Please find images and image caption on the last page of this document.**

***Info box Openair-Plasma:***

**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. Even oxide layers on metal surfaces can be reliably removed inline during the production process using plasma technology. 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. Plasmatreat's HydroPlasma® is used to remove stubborn organic and inorganic soils - an innovative cleaning method that uses only water, compressed air and electricity in an environmentally friendly manner.

(1,229 characters with spaces)

**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.

For more information, visit: [www.plasmatreat.com](http://www.plasmatreat.com)

(968 characters with spaces)

**Pictures and captions:**

Close-up of a machine

AI-generated content may be incorrect.

Cleaning with HydroPlasma before applying a seal. (Copyright: Plasmatreat GmbH)

A machine with a piece of metal

AI-generated content may be incorrect.

Removal of fingerprints on ceramic screen printing for optimal preparation of safety-related bonding. (Copyright: Plasmatreat GmbH)

A blue and green image

AI-generated content may be incorrect.

Fingerprints made visible – and removed: HydroPlasma removes even the finest residues from sensitive surfaces. (Copyright: Plasmatreat GmbH)