Milan, June 16th, 2023

**PLAST 2023: Plasma technology - the environmentally friendly "signpost" revolutionizes plastics processing**

**The performance of plasma in the processing of plastics solves many questions: Plasma specifically changes the surface properties of the non-polar material and turns it into a surface that can be easily printed, bonded, painted and sealed. But what exactly happens during plasma treatment and how can it be used industrially? Plasmatreat Italia, subsidiary of Plasmatreat GmbH, the world market leader for atmospheric plasma technology, will provide answers at its booth C51 in hall 11 at PLAST 2023, which takes place in Milan from September 5th – 8th.**

Plasma pretreatment is the key technology for ultra-fine cleaning, activation and coating of almost all materials. At PLAST 2023, Plasmatreat, a specialist in atmospheric plasma processes (Openair-Plasma), will be demonstrating how it can be used with plastics to solve many problems: Plasma makes completely new materials and material combinations industrially usable, enables the use of solvent-free coatings and adhesives, and makes processes more efficient and environmentally friendly. In addition, previously incompatible materials can be processed together, creating entirely new material composites.

**Activation: Non-polar surface becomes polar**

Plasma is very reactive and can interact with surfaces, liquids or microorganisms. If it comes into contact with solid materials, e.g. plastics, the applied plasma changes important properties. The surfaces of most plastics are mostly non-polar, i.e. they have only a low surface energy. With Plasmatreat's patented Openair-Plasma technology, atmospheric plasma is applied with pinpoint accuracy and gently to the material surface to be treated using simple compressed air. In the process, the reactive plasma components cause chemical reactions in which oxygen- and nitrogen-containing groupings, the two main components of the process gas air, are incorporated into the surface - the surface energy is significantly increased and a so-called activation takes place. This ensures significantly improved wettability of the substrate and increases adhesion: adhesives, inks or coatings achieve strong adhesion - without the need for conventional pretreatments, e.g. solvent-based primers.

**Coating: Effect further increased**

The effect of plasma can be increased even further: With the PlasmaPlus technology developed by Plasmatreat, nanocoatings are applied to the surface which, for example, can be both superhydrophobic and super hydrophilic. A special nozzle head is used to inject the plasma jet with an additional precursor tailored to the specific application. The precursor is excited by the plasma so that the substance attaches to the material surface as an extremely thin layer, binds firmly and produces functional surface properties individually tailored to the process. The nanocoating can, for example, result in even better bonding or painting of the plastic.

**Lively demonstration of plasma activation and coating**

At its booth C51 in hall 11, Plasmatreat will demonstrate the various possibilities and applications that Openair-Plasma opens up for the industrial processing of plastics in different industries. "With our plasma live table for vivid demonstrations, we will show how our Openair-Plasma technology can be used to join and process originally incompatible materials (e.g. PMMA and PP)," explains Omar Falconelli, Managing Director of Plasmatreat Italia. "In addition, plasma treatment improves the processing of recycled materials, achieves high quality printing results, allows industrial processes to switch from a high-priced engineering plastic to a lower-priced plastic (ABS to PP), and eliminates environmentally harmful processes."

Plasmatreat at PLAST 2023 from September 5th – 8th, 2023 in Milan, booth C51, hall 11.

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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.

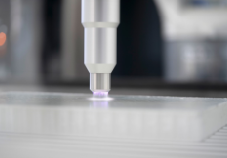
Openair-Plasma® technology is used in automated and continuous manufacturing processes in almost every industrial sector. Examples include the automotive, electronics, transportation, packaging, consumer goods and textile industry, but the technology, cost and environmental advantages of the plasma technology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

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

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**Images:**

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Plasma makes completely new materials and material combinations industrially usable, enables the use of solvent-free coatings and adhesives, and makes processes more efficient and environmentally friendly. (Copyright: Plasmatreat)

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Plasmatreat's PlasmaPlus technology is used to apply nanocoatings to surfaces that can be, for example, both superhydrophobic and superhydrophilic. (Copyright: Plasmatreat)