* **Pla.to Technology at the K Trade Fair: Material cycling packaging multilayer films thanks to new separation system instead of downcycling**
* **From film to film – process with high separation efficiency for large volumes**

*Görlitz, September 5, 2022.* An innovative separation system that reduces the proportion of downcycling in packaging films made from multilayer materials is being presented by Pla.to Technology at the K Trade Fair. The process is suitable for food plastic films, the so-called 310 fraction, and enables a film-to-film material cycle.

It is characterized by high separation efficiency and large volume throughputs, which is why the recycling of films with low bulk densities is also economical. The system is suitable for series production and is based on a simple and resource-saving technology. It does not require complex NIR sorting technology or the use of water.

Pla.to Technology will present its newly developed separation process at the K Trade Fair from October 19th to 26th in Hall 9 at Booth D17, where the company will also showcase its recently introduced first industrial solution for bottle-to-bottle recycling of cosmetic bottles made of high-density polyethylene (HDPE).

**Cooperation with Zittau-Görlitz University of Applied Sciences**

The recycling specialist Pla.to developed the separation process as part of a joint research project with the Zittau Institute for Process Development, Recycling Management, Surface Technology and Natural Materials Research (ZIRKON) at the Zittau-Görlitz University of Applied Sciences. It makes a contribution to recovering Polyethylene for sustainable recycling and closing the material cycles of the corresponding polymers.

**Two-stage separation process is optimized for high film throughputs**

The process is based on two stages: in the first step, a new conditioning process changes the aerodynamic properties of the single and multilayer films to varying degrees. This allows the materials to be sorted in the second step in the air sifter. To enable this separation, Pla.to has adapted the separator to the materials to be processed and optimized it for small bulk densities.

**Material cycle from film to film**

The process was tested, among other things, on real material mixtures such as the Green Dot’s 310 film fraction from the post-consumer sector. The polyethylen (PE) recovered in this way were not only processed into reusable granules, but also successfully used to blow new films, completing the cycle from film-to-film.

**Efficient recycling of mixed film**

Plastic films are still dominant in food packaging. They keep the contents fresh and protect the aroma and appearance from environmental influences. High-performance laminates consisting of several film layers bonded together are used for this purpose, combining different protective properties with a low material input. Though their market share has increased in the past, these multilayer films in particular are problematic in terms of recyclability.

Unlike single-layer materials such as films made of polyolefins, for example polyethylene or polypropylene (PP), they cannot simply be melted down and recycled because the different polymers are generally not mixable. Therefore, downcycling usually takes place, which provides only a small added value for recycling companies.

**About Pla.to Technology**

Pla.to GmbH develops, manufactures and sells machines and systems for recycling plastics. The main focus is on low-wastewater cleaning, washing and separation of waste material. Systems from Pla.to Technology are usually customized for special plants.

With its innovative and efficient solutions, the company contributes to the sustainable and resource-saving use of plastics in industrial production. It supports processors in optimizing their production in terms of a circular economy. The company, based in Görlitz, Saxony, employs fourteen people. The export quota is 80%.

**Photos:**

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Photo 1:

Pla.to Technology is presenting an innovative system at the K Trade Fair that reduces the proportion of downcycling in packaging films made from multilayer materials. The photo shows the separator, which the company has adapted to the materials to be processed and optimized for high film throughputs (Photo: Pla.to Technology).

Ein Bild, das Essen, mehrere enthält.

Automatisch generierte Beschreibung Ein Bild, das Essen, Beläge enthält.

Automatisch generierte Beschreibung

Photo 2 (left) and 3 (right):

The pieces after air sifting: recyclable polyethylene (left) and material blend with multilayer films (right) (Photos: Pla.to Technology).

Ein Bild, das drinnen, Stuhl, Bekleidung enthält.

Automatisch generierte Beschreibung

Photo 4:

The material cycle from film to film: film extrusion with granules obtained from recycled multilayer films (fraction 310) with the help of the new Pla.to separation system (Photo: Pla.to Technology).

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