matterr GmbH

Company Backgrounder

Overview:

matterr GmbH is a German cleantech company that specializes in chemical recycling of polyester (PET) waste. Headquartered in Braunschweig, the company uses its proprietary depolymerization process to convert mixed textile and multi-layer packaging waste back into its original building blocks, terephthalic acid and ethylene glycol.

After purification, the covered monomers can be processed in existing polyester production assets to produce virgin-quality polymer. In doing so, **matterr** enables polyester to be recycled again and again, replacing fossil raw materials in the long term.

Technology & Products:

matterr's patented depolymerization technology operates under atmospheric pressure and moderate temperature. It is specifically designed to process complex material streams that are incompatible with mechanical recycling methods. Key features include:

- **Mixed-stream capability:** Handles a wide range of PET-rich waste—from packaging to apparel to technical textiles. Even with up to 20% non-PET content, matterr's technology delivers consistent monomer quality.
- **High-purity output:** The recovered monomers are chemically identical to those from virgin PET (drop-in quality) and can be used in standard polyester production.
- **Rapid processing:** PET waste is broken down in under one minute at moderate temperatures and in a continuous process. High selectivity ensures efficient recovery of valuable components at high purity.
- **Scalable efficiency:** By keeping carbon in the loop, matterr prevents PET waste from ending up in landfills or incinerators while achieving high material yields and lowering the carbon footprint of polyester production.

These capabilities allow matterr to offer recycled PET feedstock for multiple markets. The company targets the packaging and textile industries, where

demand for circular materials is increasing. Its recycled monomers are fully compatible with existing polyester plants, allowing seamless integration and large-scale use of recycled content in both polymer and fiber production.

Recent Milestones:

- **2025:** Awarded major funding and partnerships. In mid-2025, matterr secured a €30 million EU grant (via the NRW EFRE/JTF program) to build its first industrial-scale plant. In August 2025, matterr announced a strategic partnership with the family-owned international fashion group BESTSELLER, whose investment is made through its innovation and investment platform Invest FWD. Together, these public and private funds lay the foundation for matterr's first small-scale industrial plant.
- **2026–2027 (planned):** Construction of matterr's blueprint plant is scheduled to begin in 2026 at Chemiepark Knapsack (Hürth, NRW). The facility will have a nameplate capacity of ~10,000 tons of polyester-rich waste per year.

Outlook:

matterr's near-term focus is on proving its technology at industrial scale. The plant at Chemiepark Knapsack (10,000 tons per year) will serve as a blueprint for larger facilities.

matterr's mission is to enable polyester to be recycled again and again– combining technological excellence, measurable environmental impact, and scalable industrial solutions.

Following successful industrial deployment in Germany, the company plans to license its technology globally, accelerating adoption and supporting the transition toward a circular polyester economy.